

# Harmonized MHAS Documentation

**VERSION C.2 (2001-2019), AUGUST 2023**

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# Preface

The Mexican Health and Aging Study (MHAS) is a longitudinal household survey dataset for the study of health, economic position, and quality of life among the elderly. It was modeled after the Health and Retirement Study (HRS), a similar longitudinal survey dataset in the United States. Part of the reason for the close connection is to allow cross-country comparisons using these data.

In order to make the data more accessible to researchers and to facilitate such comparisons, we, the USC Gateway to Global Aging Data team, created the Harmonized MHAS, a user-friendly version of a subset of the MHAS Interviews. The Harmonized MHAS initiative is part of a larger set of projects. With funding and support from the National Institute on Aging, we have also created the Harmonized HRS (United States), Harmonized ELSA (England), Harmonized SHARE (Europe + Israel), Harmonized CRELES (Costa Rica), Harmonized KLoSA (South Korea), Harmonized JSTAR (Japan), Harmonized TILDA (Ireland), Harmonized CHARLS (China), Harmonized MARS (Malaysia), and Harmonized LASI (India) data. Further information about these Harmonized data files with questionnaires and other metadata is available on our searchable website, <https://g2aging.org/>.

In creating the Harmonized data files, we have followed the RAND HRS and Harmonized HRS conventions of variable naming and data structure. The RAND HRS is a user-friendly version of a subset of the HRS that the RAND Center for the Study of Aging created to increase usability. The Harmonized HRS is a supplementary dataset to the RAND HRS, which also includes a subset of the HRS data, that the Gateway to Global Aging Data team has created to increase usability of a greater number of HRS variables. The Harmonized MHAS includes variables with a similar naming convention that mimics the RAND HRS, Harmonized HRS, and other Harmonized variables. This document describes these data.

Note, however, that MHAS license agreements do not allow us to disseminate the data directly. Instead, MHAS distributes the Harmonized MHAS dataset. We also make available a Stata script ("do file") that generates these derived variables from the original MHAS data files. Additional information about MHAS can be obtained from the MHAS website at <http://www.mhasweb.org/>.

We are grateful for the continuing support of and funding from NIA. In interpreting the MHAS data, we greatly benefited from the help and insights of MHAS staff members. We have greatly benefited from the discussions with and the suggestions from our colleagues at the University of Southern California and RAND Corporation.

## Requested Acknowledgment

We ask all users of the Harmonized MHAS to please inform our team of any written analysis using data from the Harmonized MHAS or information from the Harmonized MHAS Codebook by sending an email to [papers@g2aging.org](mailto:papers@g2aging.org). We also ask users to include the following acknowledgement in their written work: “This analysis uses data or information from the Harmonized MHAS dataset and Codebook, Version C.2 as of August 2023 developed by the Gateway to Global Aging Data in collaboration with the MHAS research team. The development of the Harmonized MHAS was funded by the National Institute on Aging (R01 AG030153). The Harmonized MHAS data files and documentation are public use and available at [www.MHASweb.org](http://www.MHASweb.org). The MHAS (Mexican Health and Aging Study) receives support from the National Institutes of Health/National Institute on Aging (R01 AG018016) in the United States and the Instituto Nacional de Estadística y Geografía (INEGI) in Mexico. For more information about the Harmonization project, please refer to [www.g2aging.org](http://www.g2aging.org).”

## MHAS Version and Acknowledgment

This document uses data from the MHAS datasets as of July 2020. The MHAS (Mexican Health and Aging Study) is partly sponsored by the National Institutes of Health/National Institute on Aging (grant number NIH R01AG018016) in the United States and the Instituto Nacional de Estadística y Geografía (INEGI) in Mexico. Data files and documentation are public use and available at [www.MHASweb.org](http://www.MHASweb.org).

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# What's New in Version C.2 of the Harmonized MHAS?

Version C.2 incorporates the latest released version of MHAS data, and adds several new variables. It contains 26,839 observations or rows. It is a Respondent-level file so each row represents a unique Respondent. It also makes adjustments and corrections.

We have added the following variables to the file:

## Health:

- We added new variables indicating any difficulty for existing summary measures in all available waves: **RwADLWAA**, **RwADLAA**, **RwADLAA\_M**, **RwADLFIVEA**, **RwADLTOTA\_M**, **RwIADLFOURA**, **RwMOBILAA**, **RwLGMUSAA**, **RwGROSSAA**, **RwFINEAA**, **RwMOBILSEVA**, **RwUPPERMOBA**, and **RwLOWERMObA**.
- We added new summary measures indicating difficulty with other functional limitations originally proposed by Nagi (1976): **RwNAGI10**, **RwNAGI10M**, **RwNAGI10A**, **RwNAGI8**, **RwNAGI8M**, and **RwNAGI8A**.

## Healthcare Utilization and Insurance:

- We added individual out-of-pocket expense and flag variables for all available waves: **RwOOPHOS1Y**, **RwOOPHOSF1Y**, **RwOOPFHHO1Y**, **RwOOPFHOF1Y**, **RwOOPDEN1Y**, **RwOOPDENF1Y**, **RwOOPOSRG1Y**, **RwOOPOSRGF1Y**, **RwOOPDOC1Y**, and **RwOOPDOCF1Y**.

## Cognition:

- We added variables indicating the proxy's rating of different aspects of the respondent's cognition, and incorporating flag variables and a summary score in all available waves: **RwIQSCORE1 – RwIQSCORE16**, **RwFIQSCORE1 – RwFIQSCORE16**, **RwJORMSCORE**, **RwPRMEM**, **RwPRCHMEM**, **RwRJUDG**, **RwRORGNZ**, **RwLOST**, **RwWANDER**, **RwALONE**, **RwHALUC**, **RwOANGRY**, **RwOSLEEP**, **RwODNGR**, **RwOPACE**, **RwOPLOT**, and **RwOALCHL**.

## Financial and Housing Wealth:

- We added **HwHOWNRNT** in all available waves, which indicates whether the respondent and their spouse own or rent their residence or have another arrangement.

## Family Structure:

- We added **RwRELGIMP** in all available waves, indicating the importance of religion to the respondent.

## Assistance and Caregiving:

- We added **RwGCARESCK** and **RwGCARESCKD\_M** in all available waves, indicating whether and the frequency with which the respondent cared for a sick or disabled adult.

## Psychosocial:

- We added **RwSATLIFE** starting in Wave 3, indicating the respondent's rating of their satisfaction with life.
- We added **RwCANTRIL** in Wave 2, indicating the respondent's rating of their position in comparison to all other people in Mexico.

We have made the following adjustments, improvements, and corrections to the data and documentation:

## Demographics:

- We corrected an error in **R4IWSTAT** in which people who had passed away during Wave 3 were assigned a value of 0 and are now assigned a value of 6.
- We corrected **RwIWY** in Waves 3 and 4 to assign plain missing (.) instead of special missing .m for those who did not participate in the given wave.

### Health:

- We adjusted the coding for the following variables in Wave 4 to bring forward reports from previous waves, and removed overassignments of 1 values for respondents who did not participate in the given wave in Waves 2 through 4: **RwHIBPE**, **RwDIABE**, **RwCANCRE**, **RwLUNGE\_M**, and **RwARTHRE**.
- We adjusted the coding for **RwSTROKE** to remove overassignments of 1 values for respondents who did not participate in the given wave in Waves 2 through 4.
- We adjusted the coding for **RwSMOKEF** to remove the assignment of special missing value .p in Waves 1 through 4.
- We renamed **RwADLTOT\_M**, **RwADLTOTM\_M**, and **RwADLTOTA\_M** to **RwADLTOT6**, **RwADLTOT6M**, and **RwADLTOT6A** to emphasize their comparability with other Harmonized datasets.
- We renamed **RwLUNGE\_M**, **RwRXLUNG\_M**, and **RwLUNGLMT\_M**, which represents the respondent's experience with respiratory disease including asthma rather than lung disease excluding asthma, to **RwRESPE**, **RwRXRESP**, and **RwRESPLMT** to make the naming comparable with other studies asking about respiratory disease.
- We renamed **RwHIPE\_M** to **RwHIP50E** to make the naming comparable with other studies asking about breaking bones, including the hip, after their 50<sup>th</sup> birthday.

### Healthcare Utilization and Insurance:

- We renamed **RwOOPMD** to **RwOOPMD1Y** to better account for the time period of the expenses, and adjusted it in Waves 2 through 4 to incorporate dental expenses, including newly available imputed values for Wave 2.
- We corrected **RwCOVR\_M** and **RwCOVS\_M** in Waves 3 and 4 to refer to Pemex/Defensa/Marina instead of Seguro Popular for some special missing .d and .r and 0 assignments.

### Cognition:

- We changed the label for **RwFBWC20\_M** to properly indicate backwards counting instead of drawing.
- We renamed **RwIMRC\_M**, **RwFIMRC\_M**, **RwDLRC\_M**, **RwFDLRC\_M**, **RwTR8\_M** and **RwFTR8\_M** to **RwIMRC8**, **RwFIMRC8**, **RwDLRC8**, **RwFDLRC8**, **RwTR16**, and **RwFTR16** to make the naming comparable with other studies asking 8-item word recall.
- We renamed **RwIQSCORE#**, **RwFIQSCORE#**, and **RwJORMSCORE** to **RwCIQSCORE#**, **RwFCIQSCORE#**, and **RwCJORMSCORE** to avoid confusion from using the same variable names if the Harmonized MHAS is merged with the Harmonized Mex-Cog.

### Income:

- We adjusted the coding for **RwIFPENT** in Wave 4 to correctly indicate if the total income from total public pensions was constructed using imputed variables.

### Family Structure:

- We replaced .n special missing values with 0 values for **RwTPANY** and **RwTPAMT** in all available waves for consistency with other Harmonized datasets.
- We replaced .k special missing values with 0 values for **HwFCANY**, **HwFCAMT**, **HwTCANY**, and **HwTCAMT** in all available waves for consistency with other Harmonized datasets.
- We adjusted **HwKCNT** in all available waves so that contact 52 times a year is counted as weekly, rather than 30 times a year.
- We corrected **RwRFCNTX** and **RwRFCNT** to use the raw variables indicating contact with friends and relatives rather than those indicating caring for sick or disabled adults, and reorganized the categories for **RwRFCNTX** to be in order of frequency.

- We adjusted **RwSOCACT\_M** and **RwSOCWK** to include the additional categories of caring for sick or disabled adults and activities with children for consistency with other Harmonized datasets. We also reorganized the categories for **RwSOCACT\_M** to be in order of frequency.
- We adjusted **R4DAU** to properly account for the number of daughters in the follow-up sample.
- We adjusted the calculation of **RwDCHILD** to account for all possible reports of deceased children.
- We corrected **HwHHRES** in Waves 2 through 5 to take the sum of the number of respondents and number of other people in the household (beside the respondents), whereas it previously only took the number of other people in the household (beside the respondents).

#### **Employment History:**

- We have adjusted **RwJCTEN** to include a special missing .i value if the respondent's job tenure is greater than their current age in all available waves.
- We have adjusted **RwJLASTY** to include a special missing .i value if the year the respondent last worked is greater than the interview year in Waves 3 through 5.

#### **Assistance and Caregiving:**

- We corrected a merging error in Wave 2 that resulted in almost no occurrences for all informal and formal help variables.
- We adjusted the coding for the assignment of spouse helpers in all waves, but which particularly impacts the values of **RwRASCARE**, **RwRISCARE**, **RwRSCARE**, and their associated variables in Wave 3.
- We changed **RwGPCARE** and **RwGPCAREHR** to **HwGAPCARE** and **HwGAPCAREHR** because the variables represent care the respondent and/or their spouse give to their parents, not that the respondent and spouse give separately. We also adjusted the naming in an ongoing effort to clarify the type of care provided to others, in this case personal care.
- We removed **HwGCAANY** to avoid combining different types of care provision.

#### **Stress:**

- We changed the special missing .f values to special missing .n values for all friend, child, and spouse support variables in all waves for consistency with other Harmonized datasets.
- We changed **RwCHDEATHE** to **HwCHDEATHE** and based it off of the count of deceased children rather than questions from the fertility section of the interview.

#### **Psychosocial:**

- We reversed the coding for **RwSATLIFEZ** so that lower values now indicate agreement and higher values indicate disagreement based on a forthcoming user guide for the creation of Harmonized Subjective Well-Being variables.
- We renamed **RwSATLIFE** to **RwSATLIFE\_M** to emphasize that the answer scale is different than in other Harmonized datasets.



# 1. Introduction and Overview

This report documents the Harmonized MHAS data files, a streamlined collection of variables derived from the Mexican Health and Aging Study (MHAS). The MHAS is a panel survey of people aged 50 and over and their partners, living in private dwellings in both urban and rural areas in Mexico. The study was designed to prospectively evaluate the impact of disease on the health, function and mortality of adults. The overall goal of the study is to examine the aging process, and the disease and disability burden in a large representative panel of older Mexicans, using a wide socioeconomic perspective. The study protocols and survey instruments are highly comparable to the U.S. Health and Retirement Study (HRS). The data files and documentation are available free of charge at the study website [www.MHASweb.org](http://www.MHASweb.org). For more details on the study background and design, see Wong, Michaels-Obregon, and Palloni (2017).

The initial MHAS sample was drawn from the 2000 National Survey of Employment (ENE), carried out by the INEGI (Instituto Nacional de Estadística y Geografía) in Mexico. The first wave of the MHAS was conducted in the summer of 2001. This initial sample included 15,186 respondents aged 50 and over and their spouses, regardless of age, as of the year 2001. The second wave of MHAS followed-up with the Wave 1 respondents and was conducted in the summer of 2003. The second wave of MHAS included follow-ups with 13,431 respondents from the initial sample, 273 new respondents including new spouses, and 546 next-of-kin interviews regarding deceased participants. The 2012 survey was conducted in the fall of 2012, it followed-up the original MHAS sample and included a refreshment sample. This refreshment sample included persons 50 to 60 years old, selected from the 2012 National Occupation and Employment Survey (ENOE). The third wave included 9,634 follow-up respondents and 5,912 new respondents including the refreshment sample and new spouses, and 2,742 next-of-kin interviews. The fourth wave of the MHAS, in 2015, included the follow-up of 16,983 subjects interviewed in the previous waves, 306 new spouses, and 697 new subjects selected in 2012 for the refresher sample but without an interview in Wave 3, and 1,209 next-of-kin interviews. The fifth wave of the MHAS, in 2018, included the follow-up of 12,305 subjects interviewed in the previous waves, 5,725 new respondents including the refreshment sample and new spouses, and 1,135 next-of-kin interviews. The MHAS is a collaborative effort among researchers from the University of Texas Medical Branch (UTMB), the Instituto Nacional de Estadística y Geografía (INEGI, Mexico), the University of Wisconsin, the Instituto Nacional de Geriatria (INGER, Mexico), the Instituto Nacional de Salud Pública (INSP, México), and University of California Los Angeles (UCLA).

The data include any individual interviewed at least once. This includes selected subjects, spouses regardless of their age, new spouses of selected subjects, and former spouses of the selected subject.

The MHAS data are contained in several files. The Harmonized MHAS data file incorporates data from the core interview data, the master follow-up file, household roster data, and next-of-kin data. It does not include any data which is not public release.

Documentation of the MHAS methodology can be found in Mexican Health and Aging Study 2018, Methodological Document (2018).

## 1.1 Gateway to Global Aging Data

The Health and Retirement Study (HRS) has achieved remarkable scientific success, as demonstrated by an impressive number of users, research studies, and publications using it. Its success has generated substantial interest in collecting similar data as population aging has progressed in every region of the world.

The result has been a number of surveys designed to be comparable with the HRS: the Mexican Health and Aging Survey (MHAS), the English Longitudinal Study of Ageing (ELSA), the Survey of Health, Ageing and Retirement in Europe (SHARE), the Korean Longitudinal Study of Aging (KLoSA), the Japanese Study on Aging and Retirement (JSTAR), the Irish Longitudinal Study on Ageing (TILDA), the China Health and Retirement Longitudinal Study (CHARLS), the Brazilian Longitudinal Study of Ageing (ELSI), the Northern Ireland Cohort Longitudinal Study of Ageing (NICOLA), the Chilean Social Protection Survey (SPS), the Malaysia Ageing and Retirement Survey (MARS), and the Longitudinal Aging Study in India (LASI). The overview of this family of surveys, including their research designs, samples, and key domains can be found in Lee et al. (2019).

As these surveys were partly designed with harmonization as a goal, they provide remarkable opportunities for cross-country studies. The value of comparative analyses, especially the opportunities they offer for learning lessons resulting from policies adopted elsewhere, is widely recognized. Yet there are only a limited number of empirical studies exploiting such opportunities. This is partly due to the difficulty associated with learning multiple surveys and the policies and institutions of each country.

Identifying comparable questions across surveys is the first step toward cross-country analyses. The Gateway to Global Aging Data (Gateway) helps users understand and use these large-scale population surveys on health and retirement. The Gateway includes several tools to facilitate cross-national health and retirement research. It includes a digital library of survey questions for all participating surveys. Its search engine enables users to find relevant survey questions. The Gateway also includes a concordance with information comparing measures within and across surveys over time. Using these tools, researchers can identify all questions related to particular key words or within a domain. The Gateway also includes population and sub-population estimates for key harmonized variables and presents them in graphs and tables that can be downloaded.

The Gateway can be accessed at <https://g2aging.org>. For more information about using the Gateway visit the Help page. For more information about obtaining the Harmonized MHAS from MHAS or downloading the Stata file used to create the Harmonized MHAS using the Gateway see "Chapter 4. Distribution and Technical Notes."

## 1.2 Unit of Observation

We distinguish between two units of observation: individual and household. A "household" in this sense means "single individual, or individual with his/her spouse", whatever applicable.

This is the same design as the HRS, where an age-eligible individual is sampled and then this individual and his or her spouse or partner is interviewed, but no other household members, even if they are age-eligible. Thus, in the HRS and in MHAS, there is no distinction between a "couple" and a "household".

MHAS provides a limited amount of information about household members who are not interviewed. The household respondent provides information on all household members including, age, sex, and marital or partner status. Only individuals over 50 and their spouses or partners are selected for a subsequent interview.

In our files, we do not include non-respondents, and thus in particular we do not include the information about household members who were not eligible to be interviewed.

### 1.3 Data File Structure

The Harmonized MHAS data are contained in a single file which includes the first five waves of MHAS. The data are stored in a “fat format” where each observation represents one respondent. There are three types of variables for the individual record: “R” respondent variables, “S” spouse variables, and “H” household variables. Respondent variables represent the respondent of the individual record. Spouse variables represent the spouse of the respondent of the individual record, if there is a spouse. Household variables represent the household of the individual record which is the respondent and their spouse, if there is a spouse. The value of household variables is the same for both a respondent and their spouse. If the respondent does not have a spouse the household variables represent just the respondent of the individual record.

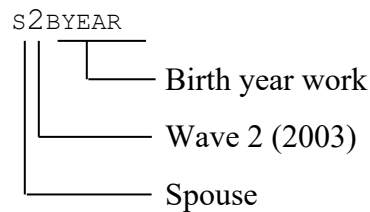
The household and person identification variables changed between different waves of the MHAS and changed in different files of the same wave of MHAS. In Wave 1, households are identified by the unique household identification *unhhid* (same as *cunicah*) and persons in the study within the household are identified by *codent01* (same as *ps3*). In Wave 2, households are uniquely identified by the combination of *unhhid* (or *cunicah*) and *acthog* – a sub-household id that indicates changes in the household between Waves 1 and 2. Also, individuals are uniquely identified by *codent03* (same as *ent2*). In Wave 3, households are uniquely identified by the combination of *unhhid* (or *cunicah*) and *subhog\_12* – a sub-household id that indicates changes in the household between Waves 2 and 3. In Wave 4, households are uniquely identified by the combination of *unhhid* (or *cunicah*) and *subhog\_15* – a sub-household id that indicates changes in the household between Waves 3 and 4. In Wave 5, households are uniquely identified by the combination of *unhhid* (or *cunicah*) and *subhog\_18* – a sub-household id that indicates changes in the household between Waves 4 and 5. Persons are uniquely identified by *np*. This file may be merged with other MHAS data using the combination of survey-specific household and person identification variables available in the MHAS Master Follow-up File, available at [www.MHASweb.org](http://www.MHASweb.org).

### 1.4 Variable Naming Convention

With few exceptions, variable names in the Harmonized MHAS Data follow a consistent pattern. The first character indicates whether the variable refers to the reference person (“r”), spouse (“s”), or household (“h”).<sup>1</sup> The second character indicates the wave to which the variable pertains: “1”, “2”, “3”, “4”, “5”, or “A”. The “A” indicates “all,” i.e., the variable is not specific to any single wave. An example is *rabyear*, the birth year of the respondent. The remaining characters describe the concept that the variable captures. For example:

---

<sup>1</sup> The reference person need not be the person who responded to the question. It is the person whose information is central to the data file observation.



Variable `s2byear` captures the birth year of the spouse of the reference person. The name of the variable does not indicate who provided the information. For example, the spouse's birth year may have been reported by the spouse himself or herself, or it may have been reported by the reference person as a proxy. The MHAS obtains many variables, particularly on financial and family matters, reported by a proxy.

In the text below, we may refer to variables such as `SwBYEAR` for example, without specifying the wave. This reference points at the group of variables `s1byear`, `s2byear`, `s3byear`, `s4byear`, `s5byear`.

Variable labels also follow a consistent pattern. The first characters denote the name of the variable, followed by a colon. Then the wave to which the variable pertains (w1, w2, w3, w4, or w5) follows. The remainder of the label describes the concept that the variable captures. For example, the variable label of `s2byear` is:

`S2BYEAR:W2 S Birth year`

It may seem duplicative to include the name of the variable and the wave in the variable label. However, statistical packages often suppress the variable name and instead use its label in the presentation of results.

Variable names in the Harmonized MHAS are generally based on the variable name used in the RAND HRS or Harmonized HRS for the same measure. Measures which are exactly or near-exactly comparable between the Harmonized MHAS and RAND HRS or Harmonized HRS use the exact same name. For instance `RABYEAR` is the variable name for the respondent birth year in both the Harmonized MHAS as well as the RAND HRS. If the Harmonized MHAS measure is deemed only somewhat comparable with the RAND HRS or Harmonized HRS version of that measure, the variable name in the Harmonized MHAS will often end in “\_M.” This variable name suffix indicates some MHAS-specific difference with the RAND HRS or Harmonized HRS version of this measure. For instance the Harmonized MHAS variable labor force status is named `RwLBRF_M` while the RAND HRS variable for respondent cohort is named `RwLBRF`. The reason for this difference in variable name is that the MHAS used a different set of labor force statuses than the HRS. Other reasons for Harmonized MHAS-specific variable names include: differences in survey questions, differences in survey routing, and whether both sets of variables use imputed values. Harmonized MHAS-specific variable names are used to notify the user that there are substantial differences between the RAND HRS or Harmonized HRS and Harmonized MHAS measure and clean harmonization between these measures is not possible.

The Harmonized MHAS includes some variables without Harmonized MHAS-specific variable names even though the Harmonized MHAS measure is significantly different from the RAND HRS or Harmonized HRS measure of the same name. In particular wealth and income measures in the Harmonized MHAS do not use Harmonized MHAS-specific variable names even though wealth and income measures in the Harmonized MHAS are expressed in nominal pesos while income and wealth measures in the RAND HRS are always

expressed in nominal dollars. Users should always check the “Differences with RAND HRS/Harmonized HRS” section of each measure before comparing any Harmonized MHAS measure to the RAND HRS or Harmonized HRS version of the same measures or any other Harmonized Dataset version of the same measure.

## 1.5 Missing Values, Nonresponse and Imputations

Variables may contain missing values for several reasons. SAS, Stata, and SPSS offer the capability to distinguish multiple types of missing values, and we have attempted to record as much information as possible. Generally, the codes adhere to the classification in Table 1.

**Table 1. Missing Codes**

Code	Reason for missing
.	Reference person did not respond to this wave
.a	Age ineligible
.d	Don't know
.i	Invalid value
.k	No kids
.m	Other missing
.r	Refused
.s	Information not available due to skip patterns
.u	Reference person is not married (for spouse variables)
.v	Spouse did not respond this wave (for spouse variables)

The coding scheme varies across variables. Consult the Data Codebook for details on individual variables.

Item nonresponse for many variables is handled by imputation. MHAS uses a multiple imputation technique, involving the regression sequencing method with a SAS-based software routine (IVEware) developed by researchers at the Survey Methodology Program, Survey Research Center, Institute for Social Research at the University of Michigan. Imputations were completed for economic variables such as income, assets, health care expenditures, and monetary help received. Please see the [2001](#), [2003](#), [2012](#), [2015](#), and [2018](#) MHAS documents titled "Imputation of Non-Response on Economic Variables in the MHAS", available in the study website [www.MHASweb.org](http://www.MHASweb.org) for more details on the imputation method used, variables imputed, and covariates included.

## 1.6. Availability of Stress Measures

In 2015, Drs. Elissa Epel and Wendy Mendes partnered with the Gateway to Global Aging Data team to form the Stress Measurement Network, funded by the National Institute on Aging (NIA/NIH R24 AG048024). The goal of the Stress Network is to promote better theory and measurement of psychosocial stress in population-based studies. One of the specific aims is to facilitate the use of stress measures in population based studies, which was led by Drs. Tara Gruenewald, Alexandra Crosswell, and Jinkook Lee. It is hoped that identification of such measures will facilitate examination of the association of stressor conditions with cognitive-affective and

physiological distress experience and poor psychological and physical health states hypothesized to follow from stressor exposure.

As a result of the work of the NIA Stress Measurement Network, the Harmonized MHAS provides harmonized stress measures beginning in 2001, MHAS Wave 1, and through 2018, MHAS Wave 5. The majority of stress measures are available between MHAS Waves 2 and 3. The stress measures are collected in the core interview, both in the Social Support and Satisfaction module and in the Fertility module.

MHAS queried information on discrete events that can be categorized as major life stressors or traumatic events (e.g., death of a child). MHAS included 4 measures of social strain and relationship support quality. Common indicators of social strain include assessments of social relationship targets as having their feelings understood, the ability to confide in others, to rely on them for serious problems, and being disappointed when counting on others.

For more specific information about all stress measures included in the MHAS, as well as comparable stress measures in HRS sister studies, please refer to the Measures of Stress in the Health and Retirement Study (HRS) and the HRS Family of Studies (2020) user guide available from <https://g2aging.org/index.php?section=documentation>.

## 2. Wealth and Income Variables

### 2.1 Units of Observation and financial respondent

It is important to distinguish the unit of observation for MHAS financial measures because financial questions can be asked about the individual, the spouse, the individual and their spouse, and the full household.

For married or partnered couples, MHAS asks income and asset questions at the individual level (respondent or spouse) or at the couple level.

Pension questions are always asked to the financial respondent at the individual level.

The total consumption question is asked to the financial respondent about the full-household.

For harmonization purposes, we need to use the same unit of observation in the different harmonized data sets. For this reason, we combine the individual-level asset and income variables into couple-level variables for those variables for which the RAND HRS provides couple-level variables.

### 2.2. Currency

All MHAS financial variables are expressed in nominal pesos.

MHAS asset questions are asked about current asset values.

MHAS income questions use more than one type of timing. Some income questions ask for total income in the last 12 months and some questions ask for the average monthly income during the last 12 months. Even though MHAS uses different timings when asking income questions, for Harmonization purposes, all financial variables in the Harmonized MHAS are expressed in yearly equivalents. These income variables expressed in yearly equivalents can be compared to the RAND HRS income measures.

### 2.3. Differences between Harmonized MHAS and RAND HRS or Harmonized HRS

Harmonized MHAS is intended to be as comparable to the RAND HRS and Harmonized HRS as possible. See Bugliari et al. (2023) for the documentation of the RAND HRS and Wang et al. (2023) for the documentation of the Harmonized HRS. However, there inevitably remain some differences between the two data sets. In the codebook, notable differences in definition, construction, or question text between the variables in Harmonized MHAS and the corresponding variables in the RAND HRS or Harmonized HRS are indicated on a per variable basis. For a full list of those RAND HRS or Harmonized HRS measures which are not available in the Harmonized MHAS see <http://g2aging.org>.

Furthermore, the imputation flags in the Harmonized MHAS are different from the imputation flags in the RAND HRS. This is because the imputation flags in the RAND HRS categorize the imputed values by the amount of information used in the imputation procedure (e.g. whether information from an unfolding bracket

sequence, whether bracket was complete or incomplete bracket). The imputation flags in the Harmonized MHAS only identify whether the values was imputed or not



## 3. Structure of Codebook

The Data Codebook contains the codebook documenting all variables in the Harmonized MHAS Data. This section explains how to interpret the codebook entries. The figure below shows a typical codebook page; the numbers in circles correspond to comments below.

1

Self-Report of Health

2

Wave

Variable

Label

Type

2

1

2

3

4

5

R1SHLT

R2SHLT

R3SHLT

R4SHLT

R5SHLT

R1SHLT:W1

R2SHLT:W2

R3SHLT:W3

R4SHLT:W4

R5SHLT:W5

Self-report of health

Self-report of health

Self-report of health

Self-report of health

Self-report of health

Categ

Categ

Categ

Categ

Categ

3

1

2

3

4

5

S1SHLT

S2SHLT

S3SHLT

S4SHLT

S5SHLT

S1SHLT:W1

S2SHLT:W2

S3SHLT:W3

S4SHLT:W4

S5SHLT:W5

Self-report of health

Self-report of health

Self-report of health

Self-report of health

Self-report of health

Categ

Categ

Categ

Categ

Categ

5

Descriptive Statistics

Variable

N

Mean

Std Dev

Minimum

Maximum

R1SHLT

14147

3.69

0.85

1.00

5.00

R2SHLT

12521

3.78

0.82

1.00

5.00

R3SHLT

14445

3.66

0.85

1.00

5.00

R4SHLT

13847

3.73

0.83

1.00

5.00

R5SHLT

15783

3.61

0.83

1.00

5.00

S1SHLT

9983

3.66

0.85

1.00

5.00

S2SHLT

8739

3.76

0.81

1.00

5.00

S3SHLT

9864

3.64

0.84

1.00

5.00

S4SHLT

9181

3.71

0.83

1.00

5.00

S5SHLT

7073

3.66

0.81

1.00

5.00

6

Categorical Variable Codes

Value-----

R1SHLT

R2SHLT

R3SHLT

R4SHLT

R5SHLT

.d:DK

1

4

1

3

1

.m:Missing

4

.p:Proxy interview, not asked

1032

1178

1275

929

1328

.r:Refuse

2

1

2

2

1.Excellent

271

189

363

342

445

2.Very good

627

396

646

465

796

3.Good

4495

3559

4303

3710

4670

4.Fair

6585

6204

7316

7347

8381

5.Poor

2169

2173

1817

1983

1491

Value-----

S1SHLT

S2SHLT

S3SHLT

S4SHLT

S5SHLT

.d:DK

1

4

1

1

1

.m:Missing

3

.p:Proxy interview, not asked

660

821

726

470

563

.r:Refuse

1

1

1

.u:Unmar

4205

4009

4782

4847

5227

.v:SP NR

333

131

349

280

501

1.Excellent

195

122

251

232

179

2.Very good

464

281

467

325

312

3.Good

3316

2583

2987

2513

1932

4.Fair

4600

4346

5017

4905

3967

5.Poor

1408

1407

1142

1206

683

### 7 → How Constructed

RwSHLT is the respondent's self-reported general health status using the following scale: 1 for Excellent, 2 for Very good, 3 for Good, 4 for Fair, and 5 for Poor. When respondents don't know or refuse to answer, RwSHLT is assigned special missing values .d or .r, respectively. Other missing responses are assigned special missing .m. Also, RwSHLT is set to the special missing .p if the current interview was completed by proxy. RwSHLT is assigned plain missing (.) if the respondent did not participate in the current wave.

The SwSHLT variables are taken from the Wave 'w' spouse's self-reported RwSHLT variables. In addition to the special missing codes used in RwSHLT, SwSHLT employs the special missing value .u, when the respondent does not report being coupled in the current wave, and the special missing value .v, when the respondent reports being coupled in the current wave but their spouse is not interviewed.

### 8 → Cross-Wave Differences in MHAS

No differences known.

### 9 → Differences with the RAND HRS/Harmonized HRS

No differences known.

### 10 → MHAS Variables Used

Wave 1:	
C1	quality of health
Wave 2:	
C1	health status
Wave 3:	
C1_12	Global self-reported quality of health
Wave 4:	
C1_15	respondent's self-reported health
Wave 5:	
C1_18	R's self-reported health

**1** *Title:* The variables are documented in groups according to the concept that they measure. For example, there are ten variables related to self-reported health, corresponding to five waves and respondent/spouse. The title is often followed by a short description of the concept that is captured.

**2** *Variable Names:* This entry shows the waves of variables in the group. Not all waves are present for all variables.

**3** *Variable Labels:* This entry shows the Stata variable labels. As discussed above, the labels typically include the name of the variable, the file on which it is present, and a description of its contents.

**4** *Variable Type:* This entry indicates the type of variable. It may be continuous (Cont), categorical (Categ), or character (Char).

**5** *Descriptive Statistics:* This entry shows descriptive statistics on each variable. They include the number of nonmissing values, the mean, standard deviation, minimum value, and maximum value.

- 6 *Categorical Value Codes:* This entry shows the value label codes. These are only relevant for categorical variables. The first character(s) of the value labels indicate the value to which each label has been assigned. For example, value “1” is mapped into “1. Excellent” (not just “Excellent”). The entry also indicates which labels are assigned to which variables, and shows frequency tabulations for all categorical variables.
- 7 *How Constructed:* This entry provides background on the manner in which variables were constructed.
- 8 *Cross-Wave Differences in MHAS:* This entry briefly describes differences in question wording or content between interview waves.
- 9 *Differences with the RAND HRS/Harmonized HRS:* This entry describes any differences between the RAND HRS or Harmonized HRS version of the variable and the Harmonized MHAS version of the variable. It is imperative these differences are understood when using harmonized measures.
- 10 *MHAS Variables Used:* This entry provides the names and labels of raw MHAS variables that were used to construct the new variables.

## 4. Distribution and Technical Notes

The Harmonized MHAS Data file is distributed by the Mexican Health and Aging Study. The Harmonized MHAS Data file is made available free of charge but only to users who register with MHAS and agree to the standard conditions. For more information on obtaining access to the MHAS data visit:

<http://www.mhasweb.org/DataDocumentationNew.aspx> and select the Data tab on the top, and then Constructed/Harmonized on the right side of the page.

This is version **C.2** of the Harmonized MHAS Data.

A copy of the Stata programs used to create the Harmonized MHAS and a copy of this Harmonized MHAS Codebook can be obtained on the Gateway to Global Aging Data (<http://g2aging.org>) under the Download page or from the MHAS website (<http://www.mhasweb.org>).

## 5. Data Codebook

**Section A: Demographics, Identifiers, and Weights**

Person Specific Identifier

Wave	Variable	Label	Type
1	CODENT01	Person identification code 2001 (=ps3)	Categ
1	CODENT03	Person identification code 2003 (=ent2)	Categ
1	PS3	Person identification code 2001 (=codent01)	Cont
1	ENT2	Person identification code 2003 (=codent03)	Cont
1	NP	Person Number/ Numero de Persona	Cont
1	UNHHIDNP	UNHHIDNP: Unique Person Identifier (HH ID + Person Number)/	Cont
1	RAHHIDNP	RAHHIDNP: Unique Person Identifier (HH ID + Person Number)/	Char
1	TIPENT_01	Type of interview 2001	Categ
1	TIPENT_03	Type of interview 2003	Categ
1	TIPENT_12	Type of interview 2012	Categ
1	TIPENT_15	Type of interview 2015	Categ
1	TIPENT_18	Type of interview 2018	Categ

Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
CODENT01	15365	1.36	0.48	1.00	2.00
CODENT03	15230	1.37	0.50	1.00	4.00
PS3	15365	1.36	0.48	1.00	2.00
ENT2	15230	1.37	0.50	1.00	4.00
NP	26839	13.79	4.85	10.00	44.00
UNHHIDNP	26839	945986.39	557672.68	110.00	2021820.00
TIPENT_01	15186	12.03	2.62	11.00	22.00
TIPENT_03	13704	12.21	2.92	11.00	22.00
TIPENT_12	15723	1.54	0.70	1.00	4.00
TIPENT_15	14779	1.17	0.53	1.00	4.00
TIPENT_18	17114	1.44	0.67	1.00	4.00

Categorical Variable Codes

Value-----	CODENT01
1.Selected person	9795
2.Spouse of selected person	5570
Value-----	CODENT03
1.Selected person in 2001	9653

2.Spouse of selected person in 2001		5477
3.New spouse of selected person in 2001		93
4.New spouse-of-spouse of selected perso		7

Value-----	TIPENT_01
11.Direct, first interview	9424
12.Direct, second interview	4730
21.Proxy, first interview	438
22.Proxy, second interview	594

Value-----	TIPENT_03
11.Direct, first interview	8465
12.Direct, second interview	4061
21.Proxy, first interview	457
22.Proxy, second interview	721

Value-----	TIPENT_12
1.Direct, follow-up interview	8868
2.Direct, new sample interview	5580
3.Proxy, follow-up interview	959
4.Proxy, new sample interview	316

Value-----	TIPENT_15
1.Direct, follow-up interview	13254
2.Direct, new spouse interview	596
3.Proxy, follow-up interview	884
4.Proxy, new spouse interview	45

Value-----	TIPENT_18
1.Direct, follow-up interview	11183
2.Direct, new sample interview	4603
3.Proxy, follow-up interview	1122
4.Proxy, new sample interview	206

## How Constructed

At baseline, the unique within-household person ID CODENT01 (also equal to PS3) is assigned to identify the selected individual and their spouses inside the household. In Wave 2, a new unique within-household person ID CODENT03 (also equal to ENT2) was created to identify the respondents inside the household. In addition to the 2 codes of CODENT01 from Wave 1, two more codes were added to CODENT03 to identify the new spouse of the selected person in Wave 1 and the new spouse of the spouse in Wave 1. Together, CUNICAH (also equal to UNHHID) and CODENT01 uniquely identify each individual at baseline, while CUNICAH and CODENT03 identify each individual at Wave 2.

Starting in 2012, a new variable NP was created to uniquely identify each person. Together, CUNICAH and NP uniquely identify each individual in the MHAS data. UNHHIDNP is the numeric value of the combination of CUNICAH and NP, and uniquely identify each respondent. The variable is set to CUNICAH\*100+NP. Also, RAHHIDNP is the 7-digit character version of the UNHHIDNP.

TIPENT\_01, TIPENT\_03, TIPENT\_12, TIPENT\_15, and TIPENT\_18 indicate the interview type for the corresponding wave and are necessary to merge certain MHAS data files in conjunction with other identifiers. TIPENT\_01 indicates the interview type for Wave 1 and is coded as follows: 11.Direct, first interview, 12.Direct, second interview, 21.Proxy, first interview, 22.Proxy, second interview. TIPENT\_03 indicates the interview type for Wave 2 and is coded as follows: 11.Direct, first interview, 12.Direct, second interview, 21.Proxy, first interview, 22.Proxy, second interview, 31.Next-of-kin interview, first interview, 32.Next-of-kin interview, second interview, 33.Next-of-kin interview, third interview, 42.Non-response, second interview. TIPENT\_12, TIPENT\_15, and TIPENT\_18 indicate the interview type for Waves 3, 4, and 5 and are coded as follows: 1.Direct, follow-up interview, 2.Direct, new sample interview, 3.Proxy, follow-up interview, 4.Proxy, new sample interview, 5.Next-of-kin. TIPENT\_15 describes options 2 and 4 as "new spouse" interviews, whereas TIPENT\_12 and TIPENT\_18 describe options 2 and 4 as "new sample" interviews.

## Cross Wave Differences in MHAS

No differences known.



Differences with the RAND HRS/Harmonized HRS

No differences known.

MHAS Variables Used

Wave 1:	
CODENT01	Person identification code 2001 (=ps3)
CUNICAH	Clave Unica del Hogar (=unhhid)
PS3	Person identification code 2001 (=codent01)
TIPENT_01	Type of interview 2001
Wave 2:	
ACTHOG	Update household code 2003
CODENT03	Person identification code 2003 (=ent2)
CUNICAH	Clave Unica del Hogar (=unhhid)
ENT2	Person identification code 2003 (=codent03)
TIPENT_03	Type of interview 2003
Wave 3:	
CUNICAH	Clave Unica del Hogar (=unhhid)
NP	Person Number/ Numero de Persona
TIPENT_12	Type of interview 2012
Wave 4:	
CUNICAH	Clave Unica del Hogar (=unhhid)
NP	Person Number/ Numero de Persona
TIPENT_15	Type of interview 2015
Wave 5:	
CUNICAH	Clave Unica del Hogar (=unhhid)
NP	Person Number/ Numero de Persona
TIPENT_18	Type of interview 2018

Household Identifier

Wave	Variable	Label	Type
1	UNHHID	Clave Unica del Hogar (=cunicah)	Cont
1	CUNICAH	Clave Unica del Hogar (=unhhid)	Cont
1	H1HHID	h1hhid: w1 Unique Household Identifier (HH ID + SubHH) / Num	Cont
2	H2HHID	h2hhid: w2 Unique Household Identifier (HH ID + SubHH) / Num	Cont
3	H3HHID	h3hhid: w3 Unique Household Identifier (HH ID + SubHH) / Num	Cont
4	H4HHID	h4hhid: w4 Unique Household Identifier (HH ID + SubHH) / Num	Cont
5	H5HHID	h5hhid: w5 Unique Household Identifier (HH ID + SubHH) / Num	Cont
1	H1HHIDC	h1hhidc: w1 Unique Household Identifier (HH ID + SubHH) / 7-C	Char
2	H2HHIDC	h2hhidc: w2 Unique Household Identifier (HH ID + SubHH) / 7-C	Char
3	H3HHIDC	h3hhidc: w3 Unique Household Identifier (HH ID + SubHH) / 7-C	Char
4	H4HHIDC	h4hhidc: w4 Unique Household Identifier (HH ID + SubHH) / 7-C	Char
5	H5HHIDC	h5hhidc: w5 Unique Household Identifier (HH ID + SubHH) / 7-C	Char
1	ACTHOG	Update household code 2003	Char
1	SUBHOG_01	2001 sub-household identifier	Categ
1	SUBHOG_03	2003 sub-household identifier	Categ
1	SUBHOG_12	2012 sub-household identifier	Categ
1	SUBHOG_15	2015 sub-household identifier	Categ
1	SUBHOG_18	2018 sub-household identifier	Categ

Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
UNHHID	26839	9459.73	5576.73	1.00	20218.00
CUNICAH	26839	9459.73	5576.73	1.00	20218.00
H1HHID	26839	94639.56	55807.52	10.00	202279.00
H2HHID	26839	94642.39	55803.53	11.00	202279.00
H3HHID	26839	94629.88	55785.33	11.00	202279.00
H4HHID	26839	94633.30	55781.75	21.00	202279.00
H5HHID	26839	94625.62	55750.28	22.00	202180.00
SUBHOG_01	26839	42.30	48.96	0.00	99.00
SUBHOG_03	26839	45.13	47.30	0.00	99.00
SUBHOG_12	26839	32.62	40.76	0.00	99.00
SUBHOG_15	26839	36.04	41.19	0.00	99.00
SUBHOG_18	26839	28.36	41.49	0.00	99.00

Categorical Variable Codes

Value-----	SUBHOG_01
00.Baseline HH	15365
77.HH lost to follow-up/Not contacted	25
99.Not part of the study	11449

Value-----	SUBHOG_03
00.Baseline HH	406
01.No change, HH contains NP=010	13260
11.New HH contains NP=010	243
12.New HH contains NP=020	58
13.New HH contains NP=011	5
14.New HH contains NP=021	1
31.NP=010 Deceased	528
32.NP=020 Deceased	278
77.HH lost to follow-up/Not contacted	1117
99.Not part of the study	10943

Value-----	SUBHOG_12
00.Baseline HH	5754
01.No change, HH contains NP=010	8222
02.No change, HH contains NP=020	117
11.New HH contains NP=010	832
12.New HH contains NP=020	766
13.New HH contains NP=011	20
14.New HH contains NP=021	3
31.NP=010 Deceased	1938
32.NP=020 Deceased	790
33.NP=011 Deceased	12
70.NP=010 & NP=020 separated, reunited	4
71.Subsequent NP=010 HH separated, reunit	2
77.HH lost to follow-up/Not contacted	2790
88.Deceased before current wave	542
99.Not part of the study	5047

Value-----	SUBHOG_15
00.Baseline HH	586
01.No change, HH contains NP=010	12332
02.No change, HH contains NP=020	91
11.New HH contains NP=010	1299
12.New HH contains NP=020	1095
13.New HH contains NP=011	20
14.New HH contains NP=021	7
15.New HH contains NP=012	29
31.NP=010 Deceased	793
32.NP=020 Deceased	400
33.NP=011 Deceased	11
34.NP=021 Deceased	2
70.NP=010 & NP=020 separated, reunited	44
77.HH lost to follow-up/Not contacted	5332
99.Not part of the study	4798

Value-----	SUBHOG_18
00.Baseline HH	4913
01.No change, HH contains NP=010	10902
02.No change, HH contains NP=020	74
11.New HH contains NP=010	1394
12.New HH contains NP=020	1266
13.New HH contains NP=011	32
14.New HH contains NP=021	6
15.New HH contains NP=012	19
19. New HH contains NP=014	14
20.New HH contains NP=024	4
31.NP=010 Deceased	784
32.NP=020 Deceased	360
33.NP=011 Deceased	7
34.NP=021 Deceased	2
39.NP=014 Deceased	4
40.NP=024 Deceased	3
70.NP=010 & NP=020 separated, reunited	53
77.HH lost to follow-up/Not contacted	675
99.Not part of the study	6327

## How Constructed

HwHHID uniquely identifies a household in a given wave. HwHHID consists of the household identifier (CUNICAH=UNHHID)\*10 + the sub-household identifier (SUBHOG\_01 in Wave 1, SUBHOG\_03 in Wave 2, SUBHOG\_12

in Wave 3, SUBHOG\_15 in Wave 4, and SUBHOG\_18 in Wave 5). The household identifier (CUNICAH) is a random sequential 5-digit number that ranges from 00001 to 11000 created to identify each household at baseline. After Wave 3, CUNICAH was also assigned to the new refresher sample. The new sample was assigned a value starting from 11001 to identify each new household.

The set of sub-household variables (SUBHOG\_01, SUBHOG\_03, SUBHOG\_12, SUBHOG\_15, SUBHOG\_18) were created after the third wave and are all included in the 2012, 2015, and 2018 Master Follow-up files. The variables were created to follow the modifications of the original household and new households that result from household changes. These changes include: divorce/separation, death, or new spouse of the original subjects. The last two digits of the variable indicate the year of the respective wave. Also, the variable SUBHOG\_03 was created to replace the "updated household" ID (ACTHOG) used in 2003.

HwHHIDC is a 9-digit character version of HwHHID. HwHHIDC is created by exactly the same standards as HwHHID but is stored as a character.

Cross Wave Differences in MHAS

The household code ACTHOG was created in 2003 to capture changes in the situation of the individual or couple interviewed in 2001. This variable is referred to as "updated household" and the codes reflect the type of change experienced, including divorce/separation, death, or new spouse. The updated-household codes also capture whether the household observed in 2003 contains the baseline sampled respondent, or the baseline spouse of the selected person. In 2003, the unique household identifier CUNICAH used in 2001 must be supplemented with ACTHOG to form the unique household identifier. These two variables, in combination with the person identifier for the 2003 given by CODENT03 (also called ENT2) serve as unique identifiers for the second wave.

In 2012 a set of sub-household IDs (SUBHOG\_XX) was introduced to follow the modifications of the original household and new households that result from household changes. The last two digits of the variable indicate the year of the respective survey. One variable has been created for each wave (SUBHOG\_01, SUBHOG\_03, SUBHOG\_12, SUBHOG\_15, SUBHOG\_18), each of them reflecting the changes in the household recorded for 2001, 2003, 2012, 2015 and 2018 respectively. This new identifier was created to replace the "updated household" ID (ACTHOG) used in 2003. The unique household identifier CUNICAH must be supplemented with SUBHOG\_03, SUBHOG\_12, SUBHOG\_15, and SUBHOG\_18 to form the unique household identifier for 2003, 2012, 2015, and 2018 respectively.

Differences with the RAND HRS/Harmonized HRS

No differences known.

MHAS Variables Used

Wave 1:	
CUNICAH	Clave Unica del Hogar (=unhhid)
Wave 2:	
ACTHOG	Update household code 2003
CUNICAH	Clave Unica del Hogar (=unhhid)
Wave 3:	
CUNICAH	Clave Unica del Hogar (=unhhid)
SUBHOG_12	2012 sub-household identifier
Wave 4:	
CUNICAH	Clave Unica del Hogar (=unhhid)
SUBHOG_15	2015 sub-household identifier
Wave 5:	
CUNICAH	Clave Unica del Hogar (=unhhid)
SUBHOG_18	2018 sub-household identifier

Spouse Identifier

Wave	Variable	Label	Type
1	S1HHIDNP	s1hhidnp: w1 S Unique Person Identifier	Cont
2	S2HHIDNP	s2hhidnp: w2 S Unique Person Identifier	Cont
3	S3HHIDNP	s3hhidnp: w3 S Unique Person Identifier	Cont
4	S4HHIDNP	s4hhidnp: w4 S Unique Person Identifier	Cont
5	S5HHIDNP	s5hhidnp: w5 S Unique Person Identifier	Cont

Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
S1HHIDNP	11075	548360.35	316747.65	110.00	1100020.00
S2HHIDNP	9945	547336.90	315189.55	110.00	1100020.00
S3HHIDNP	10592	860869.11	454646.53	110.00	1513020.00
S4HHIDNP	9863	881061.35	454348.75	210.00	1513020.00
S5HHIDNP	8687	900574.16	453817.05	310.00	1513020.00

How Constructed

SwHHIDNP gives the UNHHIDNP of the spouse in Wave 'w'.

If there is no spouse in a given wave, SwHHIDPN is set to zero. If SwHHIDPN is unknown, and the marital status in a particular wave is either missing or married, SwHHIDPN is set to a special missing code of .m. SwHHIDPN is set to plain missing (.) for respondents who did not respond to the current wave.

Cross Wave Differences in MHAS

No differences known

Differences with the RAND HRS/Harmonized HRS

No differences known.

MHAS Variables Used

Wave 1:	
CODENT01	Person identification code 2001 (=ps3)
CUNICAH	Clave Unica del Hogar (=unhhid)
PS3	Person identification code 2001 (=codent01)
Wave 2:	
ACTHOG	Update household code 2003
CODENT03	Person identification code 2003 (=ent2)
CUNICAH	Clave Unica del Hogar (=unhhid)
ENT2	Person identification code 2003 (=codent03)
Wave 3:	
CUNICAH	Clave Unica del Hogar (=unhhid)
NP	Person Number/ Numero de Persona
Wave 4:	
CUNICAH	Clave Unica del Hogar (=unhhid)
NP	Person Number/ Numero de Persona
Wave 5:	
CUNICAH	Clave Unica del Hogar (=unhhid)
NP	Person Number/ Numero de Persona

Wave Status: Response Indicator

Wave Variable		Label	Type
1	INW1	inw1: w1 Response Indicator	Categ
2	INW2	inw2: w2 Response Indicator	Categ
3	INW3	inw3: w3 Response Indicator	Categ
4	INW4	inw4: w4 Response Indicator	Categ
5	INW5	inw5: w5 Response Indicator	Categ

Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
INW1	26839	0.57	0.50	0.00	1.00
INW2	26839	0.51	0.50	0.00	1.00
INW3	26839	0.59	0.49	0.00	1.00
INW4	26839	0.55	0.50	0.00	1.00
INW5	26839	0.64	0.48	0.00	1.00

Categorical Variable Codes

Value-----	INW1	INW2	INW3	INW4	INW5
0.Non, resp	11653	13135	11116	12060	9725
1.Resp, alive	15186	13704	15723	14779	17114

How Constructed

These variables indicate whether an individual responded to a particular wave. INWw is derived from information in the MHAS master follow-up file. Respondents identified as having either a full or partial interview either in person or through a proxy are considered to have responded, without considering the order of the interview. Interviews for the deceased are not considered to have responded.

Cross Wave Differences in MHAS

No differences known.

Differences with the RAND HRS/Harmonized HRS

No differences known.

MHAS Variables Used

Wave 1:	
TIPENT_01	Type of interview 2001
Wave 2:	
TIPENT_03	Type of interview 2003
Wave 3:	
TIPENT_12	Type of interview 2012
Wave 4:	
TIPENT_15	Type of interview 2015
Wave 5:	
TIPENT_18	Type of interview 2018

Wave Status: Interview Status

Wave	Variable	Label	Type
1	R1IWSTAT	r1iwstat: w1 R Interview Status	Categ
2	R2IWSTAT	r2iwstat: w2 R Interview Status	Categ
3	R3IWSTAT	r3iwstat: w3 R Interview Status	Categ
4	R4IWSTAT	r4iwstat: w4 R Interview Status	Categ
5	R5IWSTAT	r5iwstat: w5 R Interview Status	Categ
1	S1IWSTAT	s1iwstat: w1 S Interview Status	Categ
2	S2IWSTAT	s2iwstat: w2 S Interview Status	Categ
3	S3IWSTAT	s3iwstat: w3 S Interview Status	Categ
4	S4IWSTAT	s4iwstat: w4 S Interview Status	Categ
5	S5IWSTAT	s5iwstat: w5 S Interview Status	Categ

Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R1IWSTAT	26839	0.59	0.57	0.00	4.00
R2IWSTAT	26839	0.83	1.35	0.00	9.00
R3IWSTAT	26839	1.47	1.83	0.00	9.00
R4IWSTAT	26839	1.96	2.37	0.00	9.00
R5IWSTAT	26839	2.41	2.42	0.00	9.00
S1IWSTAT	11075	1.02	0.45	0.00	4.00
S2IWSTAT	9945	1.14	0.71	0.00	5.00
S3IWSTAT	10592	1.00	0.00	1.00	1.00
S4IWSTAT	9863	1.07	0.48	1.00	9.00
S5IWSTAT	8687	1.57	1.75	1.00	9.00

Categorical Variable Codes

Value-----	R1IWSTAT	R2IWSTAT	R3IWSTAT	R4IWSTAT	R5IWSTAT
0.Inap	11474	11609	6644	5770	1678
1.Resp, alive	15186	13704	15723	14779	17114
4.NR, alive	179	597	674	731	1270
5.NR, died this wave		563	2867	1219	1146
6.NR, died prev wave			563	3430	4649
9.NR, dk if alive or died		366	368	910	982
Value-----	S1IWSTAT	S2IWSTAT	S3IWSTAT	S4IWSTAT	S5IWSTAT
.u:Unmar	4040	3752	4782	4844	5224
.v:SP NR	71	7	349	72	307
0.Inap	358	1			
1.Resp, alive	10506	9561	10592	9652	7638
4.NR, alive	211	128		203	684
5.NR, died this wave		255		1	
9.NR, dk if alive or died				7	365

How Constructed

The R*w*IWSTAT variable gives the response and mortality status of the respondent at each wave. Respondents are identified by code 1, non-respondents are identified by codes 4-6 and 9.

Mortality status is taken from the Follow-up Master File. Known alive and presumed alive are both treated as an indication that the respondent is living. Non-response code 4 means that the respondent is alive so far as we know but did not respond. A code of 5 means that the respondent died between the last interview and the current one, and 6 means that the respondent had died before a previous wave. A code of 9 means that we don't know if the individual is alive or not.

SwIWSTAT gives the response and mortality status of the current wave's spouse. It is taken from the spouse's RwiWSTAT. Note that when a spouse dies the spouse interview status for the surviving spouse will have a code of .u, respondent unmarried, if the widow does not remarry. A .v missing code indicates that there is no information in the Master file on why the spouse did not respond. Note also that SwIWSTAT is set to plain missing (.) if an individual did not respond at a particular interview, including if they died.

Cross Wave Differences in MHAS

No differences known.

Differences with the RAND HRS/Harmonized HRS

No differences known.

MHAS Variables Used

Wave 1:	
TIPNE_01	Type of household non-interview 2001
Wave 2:	
TIPNE_03	Type of non-interview 2003
Wave 3:	
TIPNE_12	Type of non-interview 2012
Wave 4:	
TIPNE_15	Type of non-interview 2015
Wave 5:	
TIPNE_18	Type of non-interview 2018



Sample Cohort

Wave	Variable	Label	Type
1	HACOHORT	HACOHORT: Sample Cohort	Categ

Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
HACOHORT	26839	1.59	0.77	1.00	3.00

Categorical Variable Codes

Value-----	HACOHORT
Baseline sample	15721
2012 Refresher sample	6382
2018 Refresher sample	4736

How Constructed

HACOHORT identifies the cohort in which the household was originally sampled. HACOHORT is assigned a 1 if the household was sampled with the original cohort in Wave 1 (2001). HACOHORT is assigned a 2 if the household was added to the sample in Wave 3 (2012) and a 3 if the household was added to the sample in Wave 5 (2018).

Cross Wave Differences in MHAS

No differences known.

Differences with the RAND HRS/Harmonized HRS

No differences known.

MHAS Variables Used

Wave 1:	
TIPNE_01	Type of household non-interview 2001
Wave 2:	
TIPNE_03	Type of non-interview 2003
Wave 3:	
NEW_SAMPLE_12	Follow-up and new sample 2012
Wave 4:	
NEW_SAMPLE_15	Follow-up and new sample/spouses 2015
Wave 5:	
NEW_SAMPLE_18	Follow-up and new sample/spouses 2018

Whether Proxy Interview

Wave	Variable	Label	Type
1	R1PROXY	r1proxy: w1 R Whether Proxy Interview	Categ
2	R2PROXY	r2proxy: w3 R Whether Proxy Interview	Categ
3	R3PROXY	r3proxy: w3 R Whether Proxy Interview	Categ
4	R4PROXY	r4proxy: w4 R Whether Proxy Interview	Categ
5	R5PROXY	r5proxy: w5 R Whether Proxy Interview	Categ
1	S1PROXY	s1proxy: w1 S Whether Proxy Interview	Categ
2	S2PROXY	s2proxy: w2 S Whether Proxy Interview	Categ
3	S3PROXY	s3proxy: w3 S Whether Proxy Interview	Categ
4	S4PROXY	s4proxy: w4 S Whether Proxy Interview	Categ
5	S5PROXY	s5proxy: w5 S Whether Proxy Interview	Categ

Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R1PROXY	15186	0.07	0.25	0.00	1.00
R2PROXY	13704	0.09	0.28	0.00	1.00
R3PROXY	15723	0.08	0.27	0.00	1.00
R4PROXY	14779	0.06	0.24	0.00	1.00
R5PROXY	17114	0.08	0.27	0.00	1.00
S1PROXY	10648	0.06	0.24	0.00	1.00
S2PROXY	9564	0.09	0.28	0.00	1.00
S3PROXY	10592	0.07	0.25	0.00	1.00
S4PROXY	9652	0.05	0.22	0.00	1.00
S5PROXY	7638	0.07	0.26	0.00	1.00

Categorical Variable Codes

Value-----	R1PROXY	R2PROXY	R3PROXY	R4PROXY	R5PROXY
0.Not proxy	14154	12526	14448	13850	15786
1.Proxy	1032	1178	1275	929	1328
Value-----	S1PROXY	S2PROXY	S3PROXY	S4PROXY	S5PROXY
.u:Unmar	4205	4009	4782	4847	5227
.v:SP NR	333	131	349	280	501
0.Not proxy	9988	8743	9866	9182	7075
1.Proxy	660	821	726	470	563

How Constructed

RwPROXY is set to 1 if the interview is by proxy in the current wave. A code of 0 is used if the respondent was not a proxy and a code of 1 is used when the interview was completed by proxy. RwPROXY is set to plain missing (.) for respondents who did not respond to the current wave.

SwPROXY indicates whether the current wave's spouse's interview is by proxy. It is taken from the spouse's RwPROXY. Special missing value .u is used when the respondent does not report being coupled in the current wave. Special missing value .v is used when the respondent reports being coupled in the current wave but their spouse is not interviewed.

Cross Wave Differences in MHAS

No differences known.

Differences with the RAND HRS/Harmonized HRS

No differences known.

MHAS Variables Used

Wave 1:	
TIPENT_01	Type of interview 2001
Wave 2:	
TIPENT_03	Type of interview 2003
Wave 3:	
TIPENT_12	Type of interview 2012
Wave 4:	
TIPENT_15	Type of interview 2015
Wave 5:	
TIPENT_18	Type of interview 2018

Number of Household Respondents

Wave	Variable	Label	Type
1	H1HHRESP	h1hhresp: w1 # Core Respondents in hh	Cont
2	H2HHRESP	h2hhresp: w2 # Core Respondents in hh	Cont
3	H3HHRESP	h3hhresp: w3 # Core Respondents in hh	Cont
4	H4HHRESP	h4hhresp: w4 # Core Respondents in hh	Cont
5	H5HHRESP	h5hhresp: w5 # Core Respondents in hh	Cont

Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
H1HHRESP	15186	1.70	0.46	1.00	2.00
H2HHRESP	13704	1.70	0.46	1.00	2.00
H3HHRESP	15723	1.67	0.47	1.00	2.00
H4HHRESP	14779	1.65	0.48	1.00	2.00
H5HHRESP	17114	1.67	0.47	1.00	2.00

How Constructed

HwHHRESP is the number of individuals in the household who actually responded at each wave. It counts the number of respondents sharing the same household ID. It counts the respondent and spouse, if any and if the spouse responded, taking on a value of 1 or 2. Individuals with a value greater than zero for INWw are counted by wave-specific household that is by household ID (CUNICAH/UNHHID) and sub-household ID (ACTHOG in Wave 2, SUBHOG\_12 in Wave 3, SUBHOG\_15 in Wave 4, and SUBHOG\_18 in Wave 5). HwHHRESP is set to plain missing (.) for respondents who did not respond to the current wave.

Cross Wave Differences in MHAS

No differences known.

Differences with the RAND HRS/Harmonized HRS

No differences known.

MHAS Variables Used

Wave 1:	
TIPENT_01	Type of interview 2001
Wave 2:	
TIPENT_03	Type of interview 2003
Wave 3:	
TIPENT_12	Type of interview 2012
Wave 4:	
TIPENT_15	Type of interview 2015
Wave 5:	
TIPENT_18	Type of interview 2018

Whether Couple Household

Wave	Variable	Label	Type
1	H1CPL	h1cpl: w1 Whether a Couple hh	Categ
2	H2CPL	h2cpl: w2 Whether a Couple hh	Categ
3	H3CPL	h3cpl: w3 Whether a Couple hh	Categ
4	H4CPL	h4cpl: w4 Whether a Couple hh	Categ
5	H5CPL	h5cpl: w5 Whether a Couple hh	Categ

Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
H1CPL	15186	0.70	0.46	0.00	1.00
H2CPL	13704	0.70	0.46	0.00	1.00
H3CPL	15723	0.67	0.47	0.00	1.00
H4CPL	14779	0.65	0.48	0.00	1.00
H5CPL	17114	0.67	0.47	0.00	1.00

Categorical Variable Codes

Value-----	H1CPL	H2CPL	H3CPL	H4CPL	H5CPL
0.No	4538	4140	5131	5127	5728
1.Yes	10648	9564	10592	9652	11386

How Constructed

HwCPL indicates whether the respondent is treated as coupled or not. HwCPL is set to one if the respondent is coupled with another respondent in the current wave. HwCPL is set to zero if the respondent is not coupled with any other respondent in the current wave. HwCPL is set to plain missing (.) for respondents who did not respond to the current wave.

Cross Wave Differences in MHAS

No differences known.

Differences with the RAND HRS/Harmonized HRS

No differences known.

MHAS Variables Used

Wave 1:	
TIPENT_01	Type of interview 2001
Wave 2:	
TIPENT_03	Type of interview 2003
Wave 3:	
TIPENT_12	Type of interview 2012
Wave 4:	
TIPENT_15	Type of interview 2015
Wave 5:	
TIPENT_18	Type of interview 2018

Household Analysis Weight

Wave	Variable	Label	Type
1	R1WTHH	r1wthh: w1 Household Analysis Weight	Cont
2	R2WTHH	r2wthh: w2 Household Analysis Weight	Cont
3	R3WTHH	r3wthh: w3 Household Analysis Weight	Cont
4	R4WTHH	r4wthh: w4 Household Analysis Weight	Cont
5	R5WTHH	r5wthh: w5 Household Analysis Weight	Cont

Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R1WTHH	15365	1014.49	1578.44	16.00	35360.00
R2WTHH	15479	903.19	1733.85	0.00	46315.00
R3WTHH	20582	1412.93	2841.96	0.00	72628.00
R4WTHH	17639	1514.81	2777.29	0.00	51137.00
R5WTHH	20512	1310.32	2460.81	0.00	90984.00

How Constructed

RwWTHH is the household analysis weight. The household weights are taken directly from household weights, FACTORH, in the MHAS Follow-up Master File. The MHAS household weights are based on the sample design and sample selection criteria, and the calibration variables of all community dwelling households with at least one resident 50 years or older, based on the household composition, the place of residence (urban and rural areas), and geographic area.

Cross Wave Differences in MHAS

No differences known.

Differences with the RAND HRS/Harmonized HRS

No differences known.

MHAS Variables Used

Wave 1:	
FACTORH_01	Household weight 2001
Wave 2:	
FACTORH_03	Household weight 2003
Wave 3:	
FACTORH_12	Household weight 2012
Wave 4:	
FACTORH_15	Household weight 2015
Wave 5:	
FACTORH_18	Household weight 2018

<b>Person-Level Analysis Weight</b>
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Wave	Variable	Label	Type
1	R1WTRESP	r1wtresp: w1 R Person-Level Analysis Weight	Cont
2	R2WTRESP	r2wtresp: w2 R Person-Level Analysis Weight	Cont
3	R3WTRESP	r3wtresp: w3 R Person-Level Analysis Weight	Cont
4	R4WTRESP	r4wtresp: w4 R Person-Level Analysis Weight	Cont
5	R5WTRESP	r5wtresp: w5 R Person-Level Analysis Weight	Cont
1	S1WTRESP	s1wtresp: w1 S Person-Level Analysis Weight	Cont
2	S2WTRESP	s2wtresp: w2 S Person-Level Analysis Weight	Cont
3	S3WTRESP	s3wtresp: w3 S Person-Level Analysis Weight	Cont
4	S4WTRESP	s4wtresp: w4 S Person-Level Analysis Weight	Cont
5	S5WTRESP	s5wtresp: w5 S Person-Level Analysis Weight	Cont

### Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R1WTRESP	15365	950.58	1688.14	0.00	44177.00
R2WTRESP	15479	909.73	1748.52	0.00	46315.00
R3WTRESP	20582	1393.20	3046.60	0.00	97546.00
R4WTRESP	17639	1279.44	2661.28	0.00	90984.00
R5WTRESP	20512	1511.16	2917.52	0.00	98699.00
S1WTRESP	10864	868.58	1499.98	0.00	29742.00
S2WTRESP	9945	922.69	1634.30	0.00	33620.00
S3WTRESP	10592	1654.21	3316.51	0.00	97546.00
S4WTRESP	9863	1434.40	2690.97	0.00	43969.00
S5WTRESP	8687	1615.51	3098.62	0.00	53376.00

### How Constructed

RwWTRESP is the person-level analysis weight. The person-level weights are taken directly from individual weights, FACTORI, in the MHAS Follow-up Master File. The MHAS person-level weights are based on the birth cohort, household composition, the place of residence (in urban and rural areas), and geographic area. Wave 1 and Wave 2 weights were calibrated for the baseline sample, and are only generated for age-eligible respondents. All selected respondents who are not age-eligible are assigned 0 as the weight. At baseline, the calibration was based on the size of the Mexican population of individuals born prior to 1951, that is, the population aged 50 or older as of 2001. In Wave 3, the sample was refreshed adding a representative sample of the population from the 1952-1962 birth cohort as well as their spouses/partners regardless of age. The Waves 3 and 4 weights were assigned to the new age-eligible respondents as well, and were calibrated to represent the population aged 50 or older as of 2012. In Wave 5, the sample was refreshed adding a representative sample of the population from the 1963-1968 birth cohort as well as their spouses/partners regardless of age. The Wave 5 weights were assigned to the new age-eligible respondents, and were calibrated to represent the population aged 50 or older as of 2018.

SwWTRESP is the current wave's spouse's person-level analysis weight. It is taken directly from the spouse's RwWTRESP. If the respondent is not designated as coupled in the current wave and assumed to be single, a special missing value of .u is used. If the respondent is not designated as coupled in the current wave but reports being married, a special missing value of .v is used.

### Cross Wave Differences in MHAS

No differences known.

### Differences with the RAND HRS/Harmonized HRS

No differences known.

MHAS Variables Used

Wave 1:		
	FACTORI_01	Person weight 2001
Wave 2:		
	FACTORI_03	Person weight 2003
Wave 3:		
	FACTORI_12	Individual weight 2012
Wave 4:		
	FACTORI_15	Individual weight 2015
Wave 5:		
	FACTORI_18	Individual weight 2018



Interview Dates

Wave	Variable	Label		Type
1	R1IWM	r1iwm: w1	R Interview Month	Cont
2	R2IWM	r2iwm: w2	R Interview Month	Cont
3	R3IWM	r3iwm: w3	R Interview Month	Cont
4	R4IWM	r4iwm: w4	R Interview Month	Cont
5	R5IWM	r5iwm: w5	R Interview Month	Cont
1	S1IWM	s1iwm: w1	S Interview Month	Cont
2	S2IWM	s2iwm: w2	S Interview Month	Cont
3	S3IWM	s3iwm: w3	S Interview Month	Cont
4	S4IWM	s4iwm: w4	S Interview Month	Cont
5	S5IWM	s5iwm: w5	S Interview Month	Cont
1	R1IWY	r1iwy: w1	R Interview Year	Cont
2	R2IWY	r2iwy: w2	R Interview Year	Cont
3	R3IWY	r3iwy: w3	R Interview Year	Cont
4	R4IWY	r4iwy: w4	R Interview Year	Cont
5	R5IWY	r5iwy: w5	R Interview Year	Cont
1	S1IWY	s1iwy: w1	S Interview Year	Cont
2	S2IWY	s2iwy: w2	S Interview Year	Cont
3	S3IWY	s3iwy: w3	S interview Year	Cont
4	S4IWY	s4iwy: w4	S interview Year	Cont
5	S5IWY	s5iwy: w5	S interview Year	Cont
1	R1IWF	r1iwf: w1	R Interview Date Flag	Categ
2	R2IWF	r2iwf: w1	R Interview Date Flag	Categ
3	R3IWF	r3iwf: w3	R Interview Date Flag	Categ
4	R4IWF	r4iwf: w4	R Interview Date Flag	Categ
5	R5IWF	r5iwf: w5	R Interview Date Flag	Categ
1	S1IWF	s1iwf: w1	S Interview Date Flag	Categ
2	S2IWF	s2iwf: w2	S Interview Date Flag	Categ
3	S3IWF	s3iwf: w3	S Interview Date Flag	Categ
4	S4IWF	s4iwf: w4	S Interview Date Flag	Categ
5	S5IWF	s5iwf: w5	S Interview Date Flag	Categ

Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R1IWM	15186	6.51	0.82	1.00	10.00
R2IWM	13704	6.75	0.70	6.00	9.00
R3IWM	15714	10.59	0.64	1.00	12.00
R4IWM	14779	10.63	0.59	10.00	12.00
R5IWM	17114	11.23	1.65	1.00	12.00
S1IWM	10648	6.54	0.82	1.00	10.00
S2IWM	9564	6.76	0.69	6.00	9.00
S3IWM	10584	10.58	0.62	1.00	12.00
S4IWM	9652	10.63	0.58	10.00	12.00
S5IWM	7638	11.26	1.62	1.00	12.00
R1IWY	15186	2001.00	0.00	2001.00	2001.00
R2IWY	13704	2003.00	0.00	2003.00	2003.00
R3IWY	15711	2012.00	0.03	2012.00	2013.00
R4IWY	14779	2015.00	0.00	2015.00	2015.00
R5IWY	17114	2018.02	0.15	2018.00	2019.00

S1IWY	10648	2001.00	0.00	2001.00	2001.00
S2IWY	9564	2003.00	0.00	2003.00	2003.00
S3IWY	10581	2012.00	0.03	2012.00	2013.00
S4IWY	9652	2015.00	0.00	2015.00	2015.00
S5IWY	7638	2018.02	0.15	2018.00	2019.00
R1IWF	15186	0.00	0.00	0.00	0.00
R2IWF	13704	0.00	0.00	0.00	0.00
R3IWF	15723	0.00	0.06	0.00	2.00
R4IWF	14779	0.00	0.00	0.00	0.00
R5IWF	17114	0.00	0.00	0.00	0.00
S1IWF	10648	0.00	0.00	0.00	0.00
S2IWF	9564	0.00	0.00	0.00	0.00
S3IWF	10592	0.00	0.06	0.00	2.00
S4IWF	9652	0.00	0.00	0.00	0.00
S5IWF	7638	0.00	0.00	0.00	0.00

Categorical Variable Codes

Value-----	R1IWF	R2IWF	R3IWF	R4IWF	R5IWF
0.m/y ok	15186	13704	15711	14779	17114
2.mon/yr miss			12		
Value-----	S1IWF	S2IWF	S3IWF	S4IWF	S5IWF
.u:Unmar	4205	4009	4782	4847	5227
.v:SP NR	333	131	349	280	501
0.m/y ok	10648	9564	10581	9652	7638
2.mon/yr miss			11		

How Constructed

These variables are derived from the reported month and year when the interview took place. RwIWM and Rwiwy indicate the interview month and year, respectively. Rwiwm and Rwiwy are set to plain missing (.) for respondents who did not respond to the current wave.

SwIWM and Swiwy indicate the current wave’s spouse’s interview month and year, respectively. They are taken from the spouse's Rwiwm and Rwiwy, respectively. If the respondent is not designated as coupled in the current wave and assumed to be single, a special missing value of .u is used. If the respondent is not designated as coupled in the current wave but reports being married, a special missing value of .v is used.

Rwiwf flags interview dates when information on either month or year is missing. A code of 0 indicates that information on both month and year was available. A code of 1 indicates that the interview month was not available. A code of 2 indicates that the interview year was missing, possibly in addition to a missing interview month. Rwiwf is set to plain missing (.) for respondents who did not respond to the current wave.

Swiwf flags the current wave’s spouse’s interview date. It is taken from the spouse's Rwiwf. If the respondent is not designated as coupled in the current wave and assumed to be single, a special missing value of .v is used. If the respondent is not designated as coupled in the current wave but reports being married, a special missing value of .v is used.

Cross Wave Differences in MHAS

No differences known.

Differences with the RAND HRS/Harmonized HRS

Unlike the HRS, MHAS does not mark interviews with beginning and ending dates. Instead, MHAS provides information down to the year, month, and day when the interview was completed. Thus, unlike in the RAND HRS where interview dates are derived as midpoint between the reported beginning and ending dates, there are no midpoint calculations for the interview date variables in the Harmonized MHAS.

MHAS Variables Used

Wave 1:		
	PS31_1	day of interview
Wave 2:		
	ENT4_2	month of interview
Wave 3:		
	INT_DATE_12	Interview date 2012
Wave 4:		
	INT_DATE_15	Interview date 2015
Wave 5:		
	INT_DATE_18	Interview date 2018

<b>Birth Date: Month and Year</b>
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Wave	Variable	Label	Type
1	RABYEAR	rabyear: R Birth Year	Cont
1	S1BYEAR	s1byear: w1 S Birth Year	Cont
2	S2BYEAR	s2byear: w2 S Birth Year	Cont
3	S3BYEAR	s3byear: w3 S Birth Year	Cont
4	S4BYEAR	s4byear: w4 S Birth Year	Cont
5	S5BYEAR	s5byear: w5 S Birth Year	Cont
1	RABMONTH	rabmonth: R Birth Month	Cont
1	S1BMONTH	s1bmonth: w1 S Birth Month	Cont
2	S2BMONTH	s2bmonth: w2 S Birth Month	Cont
3	S3BMONTH	s3bmonth: w3 S Birth Month	Cont
4	S4BMONTH	s4bmonth: w4 S Birth Month	Cont
5	S5BMONTH	s5bmonth: w5 S Birth Month	Cont

### Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
RABYEAR	26771	1948.69	14.04	1895.00	2001.00
S1BYEAR	10648	1941.83	10.08	1895.00	1982.00
S2BYEAR	9846	1941.68	9.95	1895.00	1982.00
S3BYEAR	10578	1949.99	10.19	1898.00	1992.00
S4BYEAR	9815	1950.87	9.72	1913.00	1992.00
S5BYEAR	8668	1951.61	9.43	1918.00	1999.00
RABMONTH	26602	6.51	3.41	1.00	12.00
S1BMONTH	10596	6.45	3.40	1.00	12.00
S2BMONTH	9791	6.45	3.41	1.00	12.00
S3BMONTH	10567	6.51	3.43	1.00	12.00
S4BMONTH	9716	6.51	3.43	1.00	12.00
S5BMONTH	8605	6.52	3.43	1.00	12.00

### How Constructed

RABYEAR is the respondent's reported birth year. RABMONTH is the respondent's reported month of birth. RABYEAR and RABMONTH are taken from the first non-missing value of birth data. Don't know responses are assigned special missing .d. Invalid birth dates are assigned special missing .i. RABYEAR and RABMONTH are set to plain missing (.) for respondents who did not respond to the current wave.

SwBYEAR and SwBMONTH indicate the current wave's spouse's birth year and month, respectively. They are taken from the spouse's RABYEAR and RABMONTH. If the respondent is not designated as coupled in the current wave and assumed to be single a special missing value of .u is used. If the respondent is not designated as coupled in the current wave but reports being married a special missing value of .v is used.

### Cross Wave Differences in MHAS

No differences known.

### Differences with the RAND HRS/Harmonized HRS

Unlike the HRS, the MHAS asked the respondent's birthdate only during the first interview. However, starting in Wave 3, follow-up respondents were asked: "During the last interview, you said your birth

date was \_\_. Is this correct?". Respondents could indicate whether the date was correct or not, and were allowed to correct the information provided.

MHAS Variables Used

Wave 1:	
A1_2	month of birth
A1_3	year of birth
Wave 2:	
AA2_2	dob - month
AA2_3	dob - year
Wave 3:	
A2A2_2_12	Correct month of birth
A2A2_3_12	Correct year of birth
AA2_2_12	Month of birth
AA2_3_12	Year of birth
Wave 4:	
A2A1_15	Respondent's original stated birthday - Correct
A2A2_3_15	Correct year of birth
A2A2_3_15	Correct year of birth
AA2_2_15	Month of birth
AA2_3_15	Year of birth
Wave 5:	
A2A1_18	R's original stated birthday - Correct
A2A2_3_18	Correct year of birth
A2A2_3_18	Correct year of birth
AA2_2_18	Month of birth
AA2_3_18	Year of birth

<b>Death Date: Month and Year</b>
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Wave	Variable	Label	Type
1	RADYEAR	radyear: R Death Year	Cont
1	S1DYEAR	s1dyear: w1 S Death Year	Cont
2	S2DYEAR	s2dyear: w2 S Death Year	Cont
3	S3DYEAR	s3dyear: w3 S Death Year	Cont
4	S4DYEAR	s4dyear: w4 S Death Year	Cont
5	S5DYEAR	s5dyear: w5 S Death Year	Cont
1	RADMONTH	radmonth: R Death Month	Cont
1	S1DMONTH	s1dmonth: w1 S Death Month	Cont
2	S2DMONTH	s2dmonth: w2 S Death Month	Cont
3	S3DMONTH	s3dmonth: w3 S Death Month	Cont
4	S4DMONTH	s4dmonth: w4 S Death Month	Cont
5	S5DMONTH	s5dmonth: w5 S Death Month	Cont

### Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
RADYEAR	5545	2010.36	4.90	2001.00	2018.00
S1DYEAR	3268	2010.40	4.86	2001.00	2018.00
S2DYEAR	3135	2010.42	4.85	2001.00	2018.00
S3DYEAR	1163	2015.33	1.75	2010.00	2018.00
S4DYEAR	542	2016.80	0.93	2015.00	2018.00
S5DYEAR	0	.	.	.	.
RADMONTH	5446	6.61	3.54	1.00	12.00
S1DMONTH	3226	6.61	3.54	1.00	12.00
S2DMONTH	3090	6.57	3.53	1.00	12.00
S3DMONTH	1161	6.55	3.59	1.00	12.00
S4DMONTH	539	6.50	3.57	1.00	12.00
S5DMONTH	0	.	.	.	.

### How Constructed

RADYEAR is the respondent's reported death year. RADMONTH is the respondent's reported month of death.

RADYEAR and RADMONTH are based on questions asked as part of the Next-of-Kin interview asked at each wave starting with Wave 2. The Next-of-Kin interview is conducted in the case the subject is reported no longer alive.

RADYEAR and RADMONTH are assigned special missing values .d or .r, if the answer was don't know or refused, respectively. In Wave 2, RADYEAR and RADMONTH are also assigned the special missing value .s if the date of death question is skipped; that is if the cause of death was "Accident or violence" or "Other Cause" (and not from sickness). The variables are set to special missing .x if the respondent has not yet passed away.

SwDYEAR and SwDMONTH indicate the spouse's death year and month. They are taken from the respondent's spouse's RADYEAR and RADMONTH. If the respondent is not designated as coupled in the current wave and assumed to be single, a special missing value of .u is used. If the respondent is not designated as coupled in the current wave but reports being married, a special missing value of .v is used.

### Cross Wave Differences in MHAS

In Wave 2, the date of death question is skipped if the reported cause of death was "Accident or violence" or "Other Cause" (and not from sickness).

Starting in Wave 3, date of death was asked in all these cases.

Differences with the RAND HRS/Harmonized HRS

No differences known.

MHAS Variables Used

Wave 2:	
SA8A_1	when did (name) die - month
SA8A_2	when did (name) die - year
Wave 3:	
SA8_1_12	Month deceased passed away
SA8_2_12	Year deceased passed away
Wave 4:	
SA8_1_15	Month deceased passed away
SA8_2_15	Year deceased passed away
Wave 5:	
SA8_1_18	Month deceased passed away
SA8_2_18	Year deceased passed away

Age at Interview (Months and Years)

Wave	Variable	Label	Type
1	R1AGEY	rlagey: w1 R Age (years) at ivw	Cont
2	R2AGEY	r2agey: w2 R Age (years) at ivw	Cont
3	R3AGEY	r3agey: w3 R Age (years) at ivw	Cont
4	R4AGEY	r4agey: w4 R Age (years) at ivw	Cont
5	R5AGEY	r5agey: w5 R Age (years) at ivw	Cont
1	S1AGEY	slagey: w1 S Age (years) at ivw	Cont
2	S2AGEY	s2agey: w2 S Age (years) at ivw	Cont
3	S3AGEY	s3agey: w3 S Age (years) at ivw	Cont
4	S4AGEY	s4agey: w4 S Age (years) at ivw	Cont
5	S5AGEY	s5agey: w5 S Age (years) at ivw	Cont

Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R1AGEY	15186	60.26	10.84	18.00	105.00
R2AGEY	13700	62.59	10.51	21.00	107.00
R3AGEY	15716	64.33	10.78	21.00	115.00
R4AGEY	14776	66.13	10.66	22.00	113.00
R5AGEY	17094	63.95	11.72	16.00	107.00
S1AGEY	10648	58.16	10.08	18.00	105.00
S2AGEY	9561	60.57	9.82	21.00	107.00
S3AGEY	10588	62.26	9.89	21.00	115.00
S4AGEY	9650	63.98	9.78	22.00	101.00
S5AGEY	7637	66.53	9.39	18.00	100.00

How Constructed

RwAGEY is the respondent's age in years at the time of the current wave's interview and it comes from the recorded age in the sampling directory. If RwAGEY is missing, it is calculated using the self-reported birth year, RABYEAR, and the year of interview, RwiWY. RwAGEY is assigned special missing values .d or .r, respectively, if respondents don't know or refuse to answer the date of birth or if the interview data is missing. RwAGEY is set to plain missing (.) for respondents who did not respond to any waves.

SwAGEY is the current spouse's age in years at the time of the current wave's interview and is taken from the spouse's RwAGEY. If the respondent is not designated as coupled in the current wave and assumed to be single, a special missing value of .u is used. If the respondent is not designated as coupled in the current wave but reports being married, a special missing value of .v is used.

Cross Wave Differences in MHAS

No differences known.

Differences with the RAND HRS/Harmonized HRS

Unlike the HRS, the respondent's age in the Harmonized MHAS is taken from the reported age and is not calculated using the date of birth and date of interview unless the reported age is missing.

MHAS Variables Used

Wave 1:	
EDAD_01	Age 2001
Wave 2:	
EDAD_03	Age on sample list
Wave 3:	



AGE_12	Age
Wave 4:	
AGE_15	Age 2015
Wave 5:	
AGE_18	Age 2018

Gender

Wave	Variable	Label	Type
1	RAGENDER	ragender: R Gender	Categ
1	S1GENDER	s1gender: w1 S Gender	Categ
2	S2GENDER	s2gender: w2 S Gender	Categ
3	S3GENDER	s3gender: w3 S Gender	Categ
4	S4GENDER	s4gender: w4 S Gender	Categ
5	S5GENDER	s5gender: w5 S Gender	Categ
2	R2GENDERF	r2genderf: w2 R Gender Report Update Flag	Categ
3	R3GENDERF	r3genderf: w3 R Gender Report Update Flag	Categ
4	R4GENDERF	r4genderf: w4 R Gender Report Update Flag	Categ
5	R5GENDERF	r5genderf: w5 R Gender Report Update Flag	Categ
2	S2GENDERF	s2genderf: w2 S Gender Report Update Flag	Categ
3	S3GENDERF	s3genderf: w3 S Gender Report Update Flag	Categ
4	S4GENDERF	s4genderf: w4 S Gender Report Update Flag	Categ
5	S5GENDERF	s5genderf: w5 S Gender Report Update Flag	Categ

Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
RAGENDER	26839	1.56	0.50	1.00	2.00
S1GENDER	10864	1.50	0.50	1.00	2.00
S2GENDER	9940	1.49	0.50	1.00	2.00
S3GENDER	10592	1.50	0.50	1.00	2.00
S4GENDER	9823	1.50	0.50	1.00	2.00
S5GENDER	8675	1.50	0.50	1.00	2.00
R2GENDERF	25064	0.00	0.00	0.00	0.00
R3GENDERF	21187	0.00	0.01	0.00	1.00
R4GENDERF	19602	0.00	0.03	0.00	1.00
R5GENDERF	17114	0.00	0.01	0.00	1.00
S2GENDERF	9569	0.00	0.00	0.00	0.00
S3GENDERF	10592	0.00	0.01	0.00	1.00
S4GENDERF	9692	0.00	0.03	0.00	1.00
S5GENDERF	7638	0.00	0.01	0.00	1.00

Categorical Variable Codes

Value-----	RAGENDER				
1.Man	11790				
2.Woman	15049				
Value-----	S1GENDER	S2GENDER	S3GENDER	S4GENDER	S5GENDER
.u:Unmar	4197	3753	4782	4845	5224
.v:SP NR	125	11	349	111	316
1.Man	5471	5036	5297	4934	4355
2.Woman	5393	4904	5295	4889	4320
Value-----	R2GENDERF	R3GENDERF	R4GENDERF	R5GENDERF	
0.no gender problem	25064	21184	19588	17113	
1.gender prob, used first		3	14	1	
Value-----	S2GENDERF	S3GENDERF	S4GENDERF	S5GENDERF	
.u:Unmar	4008	4782	4846	5227	
.v:SP NR	127	349	241	501	

0.no gender problem		9569	10590	9684	7637
1.gender prob, used first			2	8	1

How Constructed

Gender was derived by looking at reports from all waves of data. The latest report of non-missing gender was always used. In addition, RAGENDERF is a flag variable which indicates whether a contradiction between reports was found. RAGENDERF was set to 0 for no contradictions or if they were part of the new sample, and to 1 if contradictions between reports were found.

RAGENDER is set to 1 for man and 2 for woman. RAGENDER is set to plain missing (.) for respondents who did not respond to any waves.

SwGENDER indicates the current wave's spouses' gender. It is taken from the spouse's RAGENDER. If the respondent is not designated as coupled in the current wave and assumed to be single, a special missing value of .u is used. If the respondent is not designated as coupled in the current wave but reports being married, a special missing value of .v is used.

Cross Wave Differences in MHAS

RAGENDERF is available starting in Wave 2.

Differences with the RAND HRS/Harmonized HRS

The RAND HRS does not include a flag for differing reports of respondent gender.

MHAS Variables Used

Wave 1:	
SEX0	respondent's sex
Wave 2:	
AA1	gender
Wave 3:	
A1_12	Respondent's sex
AA1_12	Respondent's sex
Wave 4:	
A1_15	Respondent's sex
AA1_15	Respondent's sex
Wave 5:	
A1_18	R's sex
AA1_18	R's sex

Education

Wave	Variable	Label	Type
1	RAEDYRS	raedyrs: R Years of Education	Cont
1	S1EDYRS	s1edyrs: w1 S Years of Education	Cont
2	S2EDYRS	s2edyrs: w2 S Years of Education	Cont
3	S3EDYRS	s3edyrs: w3 S Years of Education	Cont
4	S4EDYRS	s4edyrs: w4 S Years of Education	Cont
5	S5EDYRS	s5edyrs: w5 S Years of Education	Cont

Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
RAEDYRS	26474	6.10	5.09	0.00	22.00
S1EDYRS	10639	4.87	4.52	0.00	19.00
S2EDYRS	9840	4.77	4.47	0.00	19.00
S3EDYRS	10540	5.94	4.79	0.00	22.00
S4EDYRS	9670	6.11	4.80	0.00	22.00
S5EDYRS	8526	6.29	4.84	0.00	22.00

How Constructed

RAEDYRS is the respondent's number of years of education. RAEDYRS is calculated using the report of the last year and grade that the respondent completed in school, collected in the Demographics section (Section A). Since the education question is only asked in the first interview, RAEDYRS takes the value of the respondent's first report throughout all waves of data. If the respondent reports a level completed, but not a grade completed, then the following values are assigned: 0 (no education), 3 (primary school), 7 (secondary of technical/commercial school), 10 (preparatory/high school), 11 (basic teaching school), 14 (college), 18 (graduate). If the respondent reports a level completed and a grade completed, then a base value is assigned for the level completed and the grade is added. The base values are assigned as follows: 0 (no education or primary school), 6 (secondary or technical/commerical school), 9 (preparatory/high school or basic teaching school), 12 (college), 16 (graduate school). When respondents don't know or refuse to answer the level of education, RAEDYRS is assigned special missing values .d or .r, respectively. Other missing values are assigned special missing value .m.

SwEDYRS indicates the current wave's spouse's years of education. It is taken from the spouse's RAEDYRS. If the respondent is not designated as coupled in the current wave and assumed to be single, a special missing value of .u is used. If the respondent is not designated as coupled in the current wave but reports being married, a special missing value of .v is used.

Cross Wave Differences in MHAS

In Waves 1 and 2 the number of years of education is calculated and released in the MHAS data set. Starting in Wave 3, MHAS releases the level and grade of education that the respondent completed separately, and the number of years of education is calculated using these variables for the Harmonized MHAS. Despite this difference, the questions are asked comparably across waves.

Differences with the RAND HRS/Harmonized HRS

In RAND HRS, the maximum value that RAEDYRS can take is 17, indicating 17 or more years of education. In the MHAS, there is no maximum number of years set.

MHAS Variables Used

Wave 1:	
ESCOLA	respondent's years of education
Wave 2:	

AA4A_3	new person's years of education
Wave 3:	
AA4A1_12	Level of education
AA4A2_12	Grade of education
Wave 4:	
AA4A1_15	Level of education
AA4A2_15	Grade of education
Wave 5:	
AA4A1_18	Level of education
AA4A2_18	Grade of education

<b>Education: Categories by ISCED Codes</b>
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Wave	Variable	Label	Type
1	RAEDISCED	raedisced: R Education by ISCED Code	Categ
1	S1EDISCED	s1edisced: w1 S Education by ISCED Code	Categ
2	S2EDISCED	s2edisced: w2 S Education by ISCED Code	Categ
3	S3EDISCED	s3edisced: w3 S Education by ISCED Code	Categ
4	S4EDISCED	s4edisced: w4 S Education by ISCED Code	Categ
5	S5EDISCED	s5edisced: w5 S Education by ISCED Code	Categ

## Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
RAEDISCED	26474	1.64	1.56	0.00	6.00
S1EDISCED	10639	1.30	1.32	0.00	6.00
S2EDISCED	9840	1.27	1.30	0.00	6.00
S3EDISCED	10540	1.55	1.44	0.00	6.00
S4EDISCED	9670	1.59	1.45	0.00	6.00
S5EDISCED	8526	1.64	1.47	0.00	6.00

## Categorical Variable Codes

Value-----	RAEDISCED
.d:DK	141
.m:Missing	114
.r:Refuse	110
0.Less than primary education	4596
1.Primary education	12421
2.Lower secondary education	5212
3.Upper secondary education	797
5.First stage of tertiary education	2638
6.Second stage of tertiary education	810

Value-----	S1EDISCED	S2EDISCED	S3EDISCED	S4EDISCED	S5EDISCED
.d:DK	8	16	10	107	103
.m:Missing		65	41	43	42
.r:Refuse	1	1	1	1	3
.u:Unmar	4205	3755	4782	4846	5224
.v:SP NR	333	27	349	112	317
0.Less than primary education	2326	2200	1665	1449	1190
1.Primary education	5744	5375	5421	4902	4281
2.Lower secondary education	1418	1249	1872	1804	1649
3.Upper secondary education	288	243	423	403	367
5.First stage of tertiary education	786	705	1025	995	922
6.Second stage of tertiary education	77	68	134	117	117

## How Constructed

RAEDISCED is constructed to provide a harmonized measure of education using the ISCED 1997 International Standard Classification of Education ISCED codes. For more information on ISCED codes see [www.uis.unesco.org](http://www.uis.unesco.org).

Respondents were asked the last year or grade that they completed in school. Since the education question is only asked in the first interview, RAEDISCED takes the value of the respondent's first report throughout all waves of data. RAEDISCED is coded as follows: 0.Less than primary education, 1.Primary education, 2.Lower secondary education, 3.Upper secondary education, 5.First stage of tertiary education, 6.Second stage of tertiary education. A value of 0 is assigned if no education was completed. A value of 1 is assigned if primary school was completed. A value of 2 is assigned if secondary, or technical or commercial school was completed. A value of 3 is assigned if preparatory or high school was completed. A value of 5 is assigned if basic teaching school or college was completed. A value of 6 is assigned if

graduate school was completed. A value of 4 is not assigned for RAEDISCED in the Harmonized MHAS. RAEDISCED is assigned special missing values .d or .r, if they answered don't know or refused, respectively. RAEDISCED is assigned the special missing value .m if the section was not completed. The variables are set to plain missing (.) for respondents who did not respond to the current wave.

SwEDISCED indicates the current wave's spouse's ISCED code. It is taken from the respondent's spouse's RAEDISCED. If the respondent is not designated as coupled in the current wave and assumed to be single, a special missing value of .u is used. If the respondent is not designated as coupled in the current wave but reports being married, a special missing value of .v is used.

Cross Wave Differences in MHAS

No differences known.

Differences with the RAND HRS/Harmonized HRS

The RAND HRS does not include an International Standard Classification of Education categorization of education achievements.

MHAS Variables Used

Wave 1:	
A3_1	level of education
Wave 2:	
AA4A_1	education level - level
Wave 3:	
AA4A1_12	Level of education
Wave 4:	
AA4A1_15	Level of education
Wave 5:	
AA4A1_18	Level of education

<b>Education: Harmonized Education</b>
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Wave	Variable	Label	Type
1	RAEDUCL	raeduc1: R Harmonized Education	Categ
1	S1EDUCL	s1educ1: w1 S Harmonized Education	Categ
2	S2EDUCL	s2educ1: w2 S Harmonized Education	Categ
3	S3EDUCL	s3educ1: w3 S Harmonized Education	Categ
4	S4EDUCL	s4educ1: w4 S Harmonized Education	Categ
5	S5EDUCL	s5educ1: w5 S Harmonized Education	Categ

## Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
RAEDUCL	26474	1.29	0.68	1.00	3.00
S1EDUCL	10918	1.19	0.56	1.00	3.00
S2EDUCL	9840	1.18	0.55	1.00	3.00
S3EDUCL	10540	1.26	0.64	1.00	3.00
S4EDUCL	9676	1.27	0.65	1.00	3.00
S5EDUCL	8526	1.29	0.67	1.00	3.00

## Categorical Variable Codes

Value-----	RAEDUCL
.d:DK	141
.m:Missing	114
.r:Refuse	110
1.Less than upper secondary	22229
2.Upper secondary and vocational	797
3.Tertiary	3448

Value-----	S1EDUCL	S2EDUCL	S3EDUCL	S4EDUCL	S5EDUCL
.d:DK	22	16	10	107	103
.m:Missing	88	73	41	48	42
.r:Refuse	1	1	1	2	3
.u:Unmar	4051	3754	4782	4845	5224
.v:SP NR	106	20	349	101	317
1.Less than upper secondary	9729	8824	8958	8161	7120
2.Upper secondary and vocational	299	243	423	403	367
3.Tertiary	890	773	1159	1112	1039

## How Constructed

RAEDUCL is a three-tier harmonized scale developed to compare education levels across countries. This Harmonized education scale is a simplified version of ISCED 1997 International Standard Classification of Education ISCED codes, used to construct RAEDISCED. For more information on ISCED codes see [www.uis.unesco.org](http://www.uis.unesco.org).

Respondents were asked the last year or grade that they completed in school. Since the education question is only asked in the first interview, RAEDUCL takes the value of the respondent's first report throughout all waves of data. RAEDUCL is coded as follows: 1.Less than upper secondary education, 2.Upper secondary & vocational training, and 3.Tertiary education. Respondents are assigned a code of 1 if the respondent has an educational level equivalent to a code of 0, 1, or 2 for RAEDISCED, corresponding to no school, primary school, secondary school, or technical or commercial school. Respondents are assigned a code of 2 if the respondent has an educational level equivalent to a code of 3 or 4 for RAEDISCED, corresponding to preparatory or high school. Respondents are assigned a code of 3 if the respondent has an educational level equivalent to a code of 5 or 6 for RAEDISCED, corresponding to college or graduate school. RAEDUCL is assigned special missing values .d or .r, if they answered don't know or refused, respectively. RAEDUCL is assigned the special missing value .m if the section was not completed. The variables are set to plain missing (.) for respondents who did not respond to the current wave.



SwEDUCL indicates the current wave’s spouse’s harmonized scale of education in each wave. It is taken from the respondent's spouse's RAEDUCL. If the respondent is not designated as coupled in the current wave and assumed to be single, a special missing value of .u is used. If the respondent is not designated as coupled in the current wave but reports being married, a special missing value of .v is used.

Cross Wave Differences in MHAS

No differences known.

Differences with the RAND HRS/Harmonized HRS

A comparable variable is available in the Harmonized HRS.

MHAS Variables Used

Wave 1:	
A3_1	level of education
Wave 2:	
AA4A_1	education level - level
Wave 3:	
AA4A1_12	Level of education
Wave 4:	
AA4A1_15	Level of education
Wave 5:	
AA4A1_18	Level of education

Literacy and Numeracy

Wave	Variable	Label	Type
1	RALITERATE	raliterate: R Knows how to read or write	Categ
1	S1LITERATE	s1literate: w1 S Knows how to read or write	Categ
2	S2LITERATE	s2literate: w2 S Knows how to read or write	Categ
3	S3LITERATE	s3literate: w3 S Knows how to read or write	Categ
4	S4LITERATE	s4literate: w4 S Knows how to read or write	Categ
5	S5LITERATE	s5literate: w5 S Knows how to read or write	Categ
1	RANUMERATE	ranumerate: R Knows how to count	Categ
1	S1NUMERATE	s1numerate: w1 S Knows how to count	Categ
2	S2NUMERATE	s2numerate: w2 S Knows how to count	Categ
3	S3NUMERATE	s3numerate: w3 S Knows how to count	Categ
4	S4NUMERATE	s4numerate: w4 S Knows how to count	Categ
5	S5NUMERATE	s5numerate: w5 S Knows how to count	Categ

Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
RALITERATE	26449	0.86	0.35	0.00	1.00
S1LITERATE	10609	0.83	0.37	0.00	1.00
S2LITERATE	9817	0.82	0.38	0.00	1.00
S3LITERATE	10529	0.87	0.34	0.00	1.00
S4LITERATE	9661	0.88	0.33	0.00	1.00
S5LITERATE	8519	0.88	0.32	0.00	1.00
RANUMERATE	26445	0.95	0.22	0.00	1.00
S1NUMERATE	10604	0.94	0.24	0.00	1.00
S2NUMERATE	9814	0.92	0.27	0.00	1.00
S3NUMERATE	10528	0.95	0.21	0.00	1.00
S4NUMERATE	9658	0.96	0.21	0.00	1.00
S5NUMERATE	8515	0.96	0.20	0.00	1.00

Categorical Variable Codes

Value-----	RALITERATE				
.d:DK	148				
.m:Missing	209				
.r:Refuse	33				
0.No	3726				
1.Yes	22723				
Value-----	S1LITERATE	S2LITERATE	S3LITERATE	S4LITERATE	S5LITERATE
.d:DK	22	24	13	111	108
.m:Missing		65	41	43	41
.r:Refuse	17	16	9	6	6
.u:Unmar	4205	3755	4782	4846	5224
.v:SP NR	333	27	349	112	317
0.No	1757	1739	1363	1199	989
1.Yes	8852	8078	9166	8462	7530
Value-----	RANUMERATE				
.d:DK	149				
.m:Missing	209				
.r:Refuse	36				
0.No	1401				
1.Yes	25044				

Value-----	S1NUMERATE	S2NUMERATE	S3NUMERATE	S4NUMERATE	S5NUMERATE
.d:DK	26	27	14	113	111
.m:Missing		65	41	43	41
.r:Refuse	18	16	9	7	7
.u:Unmar	4205	3755	4782	4846	5224
.v:SP NR	333	27	349	112	317
0.No	658	753	483	426	350
1.Yes	9946	9061	10045	9232	8165

How Constructed

RALITERATE indicates if the respondent knows how to read and write a message. RANUMERATE indicates if the respondent knows how to count from 1 to 10. RALITERATE and RANUMERATE are derived by looking at the report from the Demographics section (Section A/AA) and are only asked in the first interview. When respondents don’t know or refuse to answer the level of education, RALITERATE and RANUMERATE are assigned special missing values .d or .r, respectively. Missing responses are assigned special missing .m.

SwLITERATE and SwNUMERATE indicate whether the current wave’s spouse knows how to read and write a message and count from 1 to 10. They are taken from the spouse's RALITERATE and RANUMERATE variables, respectively. If the respondent is not designated as coupled in the current wave and assumed to be single, a special missing value of .u is used. If the respondent is not designated as coupled in the current wave but reports being married, a special missing value of .v is used.

Cross Wave Differences in MHAS

No differences known.

Differences with the RAND HRS/Harmonized HRS

Comparable variables are not available as part of the RAND HRS or Harmonized HRS.

MHAS Variables Used

Wave 1:	
A3_1	level of education
A4	literacy
A5	count 1 to 10
Wave 2:	
AA4A_1	education level - level
AA4B	read a note
AA5	count to 10
Wave 3:	
AA4A1_12	Level of education
AA4B_12	Respondent can read/write message
AA5_12	Respondent can count 1 to 10
Wave 4:	
AA4A1_15	Level of education
AA4B_15	Respondent knows how to read/write message
AA5_15	Respondent can count from 1 to 10
Wave 5:	
AA4A1_18	Level of education
AA4B_18	Respondent knows how to read/write message
AA5_18	Respondent can count from 1 to 10

Indigenous Language			
Wave	Variable	Label	Type
1	RAINDLANG	raindlang: R Speaks Indigenous Language	Categ
1	S1INDLANG	s1indlang: w1 S Speaks Indigenous Language	Categ
3	S3INDLANG	s3indlang: w3 S Speaks Indigenous Language	Categ
4	S4INDLANG	s4indlang: w4 S Speaks Indigenous Language	Categ
5	S5INDLANG	s5indlang: w5 S Speaks Indigenous Language	Categ

Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
RAINDLANG	25804	0.08	0.27	0.00	1.00
S1INDLANG	10616	0.08	0.27	0.00	1.00
S3INDLANG	10158	0.09	0.28	0.00	1.00
S4INDLANG	9329	0.08	0.28	0.00	1.00
S5INDLANG	8224	0.09	0.28	0.00	1.00

Categorical Variable Codes

Value-----	RAINDLANG			
.d:DK	122			
.m:Missing	299			
.p:Proxy interview, not asked	570			
.r:Refuse	44			
0.No	23803			
1.Yes	2001			
Value-----	S1INDLANG	S3INDLANG	S4INDLANG	S5INDLANG
.d:DK	14	7	98	96
.m:Missing		141	138	116
.p:Proxy interview, not asked		260	236	220
.r:Refuse	23	26	20	18
.u:Unmar	4205	4782	4846	5224
.v:SP NR	328	349	112	317
0.No	9785	9280	8537	7522
1.Yes	831	878	792	702

How Constructed

RAINDLANG indicates whether the respondent speaks any indigenous language. The question is part of the Demographics section (Section A/AA) and is only asked in the first interview. When respondents don’t know or refuse to answer, RAINDLANG is assigned special missing values .d or .r, respectively. Starting in Wave 3, the indigenous language question was only asked during direct interviews. A special missing value .p is assigned to indicate if the new interview was completed by proxy. Other missing responses are assigned special missing .m.

SwINDLANG indicates whether the current wave’s spouse speaks any indigenous language, and it is taken from the spouse's RAINDLANG variable. If the respondent is not designated as coupled in the current wave and assumed to be single, a special missing value of .u is used. If the respondent is not designated as coupled in the current wave but reports being married, a special missing value of .v is used.

Cross Wave Differences in MHAS

Respondents are asked if they speak any indigenous language as part of their baseline interview. In Wave 1, the question is asked during both direct and proxy interviews. This question was not asked in Wave 2. Starting in Wave 3, the indigenous language question was only asked during direct interviews.

Differences with the RAND HRS/Harmonized HRS

Comparable variables are not available as part of the RAND HRS or Harmonized HRS.

MHAS Variables Used

Wave 1:	
A38	speak indigenous dialect
Wave 3:	
AA37B_12	Respondent speaks indigenous language
Wave 4:	
AA37B_15	Respondent speaks indigenous language
Wave 5:	
AA37B_18	Respondent speaks indigenous language

Current Marital Status: Current Partnership Status

Wave	Variable	Label	Type
1	R1MPART	r1mpart: w1 R Current Partnership Status	Categ
2	R2MPART	r2mpart: w2 R Current Partnership Status	Categ
3	R3MPART	r3mpart: w3 R Current Partnership Status	Categ
4	R4MPART	r4mpart: w4 R Current Partnership Status	Categ
5	R5MPART	r5mpart: w5 R Current Partnership Status	Categ
1	S1MPART	s1mpart: w1 S Current Partnership Status	Categ
2	S2MPART	s2mpart: w2 S Current Partnership Status	Categ
3	S3MPART	s3mpart: w3 S Current Partnership Status	Categ
4	S4MPART	s4mpart: w4 S Current Partnership Status	Categ
5	S5MPART	s5mpart: w5 S Current Partnership Status	Categ

Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R1MPART	15184	0.03	0.17	0.00	1.00
R2MPART	13703	0.10	0.31	0.00	1.00
R3MPART	15723	0.07	0.26	0.00	1.00
R4MPART	14779	0.07	0.26	0.00	1.00
R5MPART	17114	0.09	0.28	0.00	1.00
S1MPART	10648	0.04	0.21	0.00	1.00
S2MPART	9740	0.14	0.35	0.00	1.00
S3MPART	10592	0.10	0.31	0.00	1.00
S4MPART	9652	0.11	0.31	0.00	1.00
S5MPART	7638	0.10	0.30	0.00	1.00

Categorical Variable Codes

Value-----	R1MPART	R2MPART	R3MPART	R4MPART	R5MPART
.d:DK		1			
.m:Missing	2				
0.No	14715	12278	14582	13673	15615
1.Yes	469	1425	1141	1106	1499
Value-----	S1MPART	S2MPART	S3MPART	S4MPART	S5MPART
.d:DK		1			
.u:Unmar	4205	4130	4782	4847	5227
.v:SP NR	333	149	349	280	501
0.No	10179	8369	9491	8587	6875
1.Yes	469	1371	1101	1065	763

How Constructed

Partnership is implied in all waves if the respondent reports being currently unmarried/unpartnered but is coupled with another respondent through HwCPL.

RwMPART indicates whether a respondent partnership is implied in the current wave. A code of 0 indicates it has not been implied that the respondent is partnered; a code of 1 indicates it has been implied that the respondent is partnered. When respondents don't know or refuse to answer, RwMPART is assigned special missing values .d or .r, respectively. Other missing responses are assigned special missing value .m. RwMPART is set to plain missing (.) for respondents who did not respond to the current wave.

SwMPART indicates whether the current wave's spouse is considered partnered. It is taken from the spouse's RwMPART. If the respondent is not designated as coupled in the current wave and assumed to be single, a special missing value of .u is used. If the respondent is not designated as coupled in the current wave but reports being married, a special missing value of .v is used.

Cross Wave Differences in MHAS

No differences known.

Differences with the RAND HRS/Harmonized HRS

No differences known.

MHAS Variables Used

Wave 1:		
A10	current marital status	
TIPENT_01	Type of interview 2001	
Wave 2:		
A3	respondent's marital status	
AA10	marital status	
TIPENT_03	Type of interview 2003	
Wave 3:		
A3_12	Current marital status	
AA10_12	Respondent's current marital status	
TIPENT_12	Type of interview 2012	
Wave 4:		
A3_15	Current marital status	
AA10_15	Respondent's current marital status	
TIPENT_15	Type of interview 2015	
Wave 5:		
A3_18	Current marital status	
AA10_18	R's current marital status	
TIPENT_18	Type of interview 2018	

Current Marital Status: With Partnership

Wave	Variable	Label	Type
1	R1MSTAT	r1mstat: w1 R Marital Status	Categ
2	R2MSTAT	r2mstat: w2 R Marital Status	Categ
3	R3MSTAT	r3mstat: w3 R Marital Status	Categ
4	R4MSTAT	r4mstat: w4 R Marital Status	Categ
5	R5MSTAT	r5mstat: w5 R Marital Status	Categ
1	S1MSTAT	s1mstat: w1 S Marital Status	Categ
2	S2MSTAT	s2mstat: w2 S Marital Status	Categ
3	S3MSTAT	s3mstat: w3 S Marital Status	Categ
4	S4MSTAT	s4mstat: w4 S Marital Status	Categ
5	S5MSTAT	s5mstat: w5 S Marital Status	Categ

Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R1MSTAT	15184	2.55	2.50	1.00	8.00
R2MSTAT	13703	2.81	2.53	1.00	8.00
R3MSTAT	15723	2.80	2.58	1.00	8.00
R4MSTAT	14779	2.90	2.57	1.00	8.00
R5MSTAT	17114	2.85	2.58	1.00	8.00
S1MSTAT	10648	1.09	0.41	1.00	3.00
S2MSTAT	9564	1.30	0.71	1.00	3.00
S3MSTAT	10592	1.21	0.61	1.00	3.00
S4MSTAT	9652	1.22	0.63	1.00	3.00
S5MSTAT	7638	1.20	0.60	1.00	5.00

Categorical Variable Codes

Value-----	R1MSTAT	R2MSTAT	R3MSTAT	R4MSTAT	R5MSTAT
.d:DK		1			
.m:Missing	2				
1.Married	10512	8270	9800	8826	10388
3.Partnered	469	1425	1141	1106	1499
4.Separated	931	760	922	1042	968
5.Divorced	205	185	290	383	338
7.Widowed	2532	2544	2850	2814	3044
8.Never married	535	519	720	608	877
Value-----	S1MSTAT	S2MSTAT	S3MSTAT	S4MSTAT	S5MSTAT
.u:Unmar	4205	4009	4782	4847	5227
.v:SP NR	333	131	349	280	501
1.Married	10179	8147	9491	8587	6872
3.Partnered	469	1417	1101	1065	763
4.Separated					2
5.Divorced					1

How Constructed

This variable is created using current marital status reported for each wave in the Demographics section. Partnership status is implied for respondents reporting being currently unmarried/unpartnered but coupled with another respondent through HwCPL.

RwMSTAT records the respondent's marital status in the current wave with implied partnership status, RwMPART. A code of 1 indicates that the respondent is married. A code of 3 indicates that the respondent is partnered, either through self-reported or implied partnership. A code of 4 indicates that the respondent is separated. A code of 5 indicates that the respondent is divorced. A code of 7 indicates that the respondent is widowed. A code of 8 indicates that the respondent has never been married. When



respondents don't know or refuse to answer, RWRMSTAT is assigned special missing values .d or .r, respectively. Other missing responses are assigned special missing value .m. RWRMSTAT is set to plain missing (.) for respondents who did not respond to the current wave.

SWMSTAT records the current wave's spouse's marital status. It is taken from the spouse's RWRMSTAT. In addition to special missing codes of RWRMSTAT, SWMSTAT employs two other special missing codes. If the respondent is not designated as coupled in the current wave and assumed to be single, a special missing value of .u is used. If the respondent is not designated as coupled in the current wave but reports being married, a special missing value of .v is used.

Cross Wave Differences in MHAS

No differences known.

Differences with the RAND HRS/Harmonized HRS

In the RAND HRS, the variable RWRMSTAT can take value 2, indicating that the respondent is married but the spouse is absent. The MHAS marital status variable does not ask respondents whether they are married but their spouse is absent. The variable RWRMSTAT is never equal to 2 in the Harmonized MHAS.

MHAS Variables Used

Wave 1:		
A10	current marital status	
TIPENT_01	Type of interview 2001	
Wave 2:		
A3	respondent's marital status	
AA10	marital status	
TIPENT_03	Type of interview 2003	
Wave 3:		
A3_12	Current marital status	
AA10_12	Respondent's current marital status	
TIPENT_12	Type of interview 2012	
Wave 4:		
A3_15	Current marital status	
AA10_15	Respondent's current marital status	
TIPENT_15	Type of interview 2015	
Wave 5:		
A3_18	Current marital status	
AA10_18	R's current marital status	
TIPENT_18	Type of interview 2018	

Current Marital Status: Without Partnership

Wave	Variable	Label	Type
1	R1MSTATH	r1mstath: w1 R Marital Status w/o Partnership Filled	Categ
2	R2MSTATH	r2mstath: w2 R Marital Status w/o Partnership Filled	Categ
3	R3MSTATH	r3mstath: w3 R Marital Status w/o Partnership Filled	Categ
4	R4MSTATH	r4mstath: w4 R Marital Status w/o Partnership Filled	Categ
5	R5MSTATH	r5mstath: w5 R Marital Status w/o Partnership Filled	Categ
1	S1MSTATH	s1mstath: w1 S Marital Status w/o Partnership Filled	Categ
2	S2MSTATH	s2mstath: w2 S Marital Status w/o Partnership Filled	Categ
3	S3MSTATH	s3mstath: w3 S Marital Status w/o Partnership Filled	Categ
4	S4MSTATH	s4mstath: w4 S Marital Status w/o Partnership Filled	Categ
5	S5MSTATH	s5mstath: w5 S Marital Status w/o Partnership Filled	Categ

Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R1MSTATH	14730	2.54	2.54	1.00	8.00
R2MSTATH	13703	2.73	2.56	1.00	8.00
R3MSTATH	15723	2.81	2.58	1.00	8.00
R4MSTATH	14779	2.91	2.58	1.00	8.00
R5MSTATH	17114	2.86	2.59	1.00	8.00
S1MSTATH	10194	1.01	0.20	1.00	8.00
S2MSTATH	9564	1.19	0.59	1.00	8.00
S3MSTATH	10592	1.21	0.65	1.00	8.00
S4MSTATH	9652	1.24	0.70	1.00	8.00
S5MSTATH	7638	1.22	0.71	1.00	8.00

Categorical Variable Codes

Value-----	R1MSTATH	R2MSTATH	R3MSTATH	R4MSTATH	R5MSTATH
.d:DK		1			
.m:Missing	456				
1.Married	10512	8808	9800	8826	10388
3.Partnered		881	1110	1036	1450
4.Separated	935	762	940	1088	982
5.Divorced	209	185	291	385	343
7.Widowed	2535	2545	2860	2829	3047
8.Never married	539	522	722	615	904
Value-----	S1MSTATH	S2MSTATH	S3MSTATH	S4MSTATH	S5MSTATH
.m:Missing	454				
.u:Unmar	4205	4009	4782	4847	5227
.v:SP NR	333	131	349	280	501
1.Married	10179	8685	9491	8587	6872
3.Partnered		873	1070	995	723
4.Separated	4	2	18	46	15
5.Divorced	4		1	2	4
7.Widowed	3	1	10	15	3
8.Never married	4	3	2	7	21

How Constructed

This variable is created using current marital status reported for each wave in the Demographic section. RwmSTATH ignores the implied partnership status, using the RwmPART variable, and indicates the reported marital status in the current wave. A code of 1 indicates that the respondent is married. A code of 3 indicates that the respondent is partnered, only through self-report. A code of 4 indicates that the respondent is separated. A code of 5 indicates that the respondent is divorced. A code of 7 indicates that the respondent is widowed. A code of 8 indicates that the respondent has never been married. When

respondents don’t know or refuse to answer, RwmSTATH is assigned special missing values .d or .r, respectively. Other missing responses are assigned special missing value .m. RwmSTATH is set to plain missing (.) for respondents who did not respond to the current wave.

SwmSTATH indicates the current wave’s spouse’s marital status without partnership. It is taken from the spouse's RwmSTATH. In addition to specific missing codes used for RwmSTATH, SwmSTATH employs two other special missing codes. If the respondent is not designated as coupled in the current wave and assumed to be single, a special missing value of .u is used. If the respondent is not designated as coupled in the current wave but reports being married, a special missing value of .v is used.

Cross Wave Differences in MHAS

No differences known.

Differences with the RAND HRS/Harmonized HRS

In the RAND HRS, the variable RwmSTATH can take value 2, indicating that the respondent is married but the spouse is absent. The MHAS marital status variable does not ask respondents whether they are married but their spouse is absent. The variable RwmSTATH is never equal to 2 in the Harmonized MHAS.

MHAS Variables Used

Wave 1:	
A10	current marital status
Wave 2:	
A3	respondent's marital status
AA10	marital status
Wave 3:	
A3_12	Current marital status
AA10_12	Respondent's current marital status
Wave 4:	
A3_15	Current marital status
AA10_15	Respondent's current marital status
Wave 5:	
A3_18	Current marital status
AA10_18	R's current marital status

<b>Number of Marriages</b>
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Wave	Variable	Label	Type
1	R1MRCT	r1mrct: w1 R Number of Marriages	Cont
2	R2MRCT	r2mrct: w2 R Number of Marriages	Cont
3	R3MRCT	r3mrct: w3 R Number of Marriages	Cont
4	R4MRCT	r4mrct: w4 R Number of Marriages	Cont
5	R5MRCT	r5mrct: w5 R Number of Marriages	Cont
1	S1MRCT	s1mrct: w1 S Number of Marriages	Cont
2	S2MRCT	s2mrct: w2 S Number of Marriages	Cont
3	S3MRCT	s3mrct: w3 S Number of Marriages	Cont
4	S4MRCT	s4mrct: w4 S Number of Marriages	Cont
5	S5MRCT	s5mrct: w5 S Number of Marriages	Cont

### Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R1MRCT	15121	1.13	0.55	0.00	11.00
R2MRCT	13572	1.15	0.56	0.00	11.00
R3MRCT	15347	1.15	0.61	0.00	29.00
R4MRCT	13874	1.16	0.59	0.00	11.00
R5MRCT	16167	1.16	0.66	0.00	24.00
S1MRCT	10596	1.17	0.50	0.00	11.00
S2MRCT	9623	1.18	0.52	0.00	11.00
S3MRCT	10316	1.18	0.50	0.00	11.00
S4MRCT	9056	1.21	0.53	0.00	11.00
S5MRCT	7170	1.21	0.59	0.00	24.00

### How Constructed

The number of marriages is asked at the first interview the respondent completed in the MHAS and then it is updated in the following interviews. If the respondent reports not being single in the first interview then they are asked their marital status before their current marriage/union and then the total number of times they were in an union or married (not including the current union/last union). These questions were used to derive Rwmrct.

After the first interview, Rwmrct is updated if the respondent reports being currently married/union, if their last marriage/union ended, and if their current marriage started since the last interview.

Rwmrct is assigned special missing values .d or .r, if they answered don't know or refused, respectively. Rwmrct is assigned the special missing value .m if the section was not completed. The variables are set to plain missing (.) for respondents who did not respond to the current wave.

Swmrct indicates the current wave's spouse's number of marriages. It is taken from the respondent's spouse's Rwmrct. If the respondent is not designated as coupled in the current wave and assumed to be single, a special missing value of .u is used. If the respondent is not designated as coupled in the current wave but reports being married, a special missing value of .v is used.

### Cross Wave Differences in MHAS

Marriage history, including number of marriages, is asked only during the first interview and the variable generally proceeds from current marital status and the number of marriages. However, in the follow-up interview the respondent is only asked about the changes in marital status, including current marital status, if the last marriage/union ended, and if the current marriage started since the last interview. These questions were used to update the number of marriages variable.

## Differences with the RAND HRS/Harmonized HRS

No differences known.

## MHAS Variables Used

Wave 1:	
A10	current marital status
A13	married before
A14	times married
Wave 2:	
A3	respondent's marital status
A4	still cohabitating with same person since 2001
A5	has last marriage/union ended since 2001
A6	current marriage/union started in last two years
AA10	marital status
AA13A	previous union
AA14	besides most recent, how many unions
Wave 3:	
A3_12	Current marital status
A4_12	Married/in union with same person from last interview
A5_12	Marriage/union ended since last interview
A6_12	Marriage/union started since last interview
AA10_12	Respondent's current marital status
AA13A_12	Respondent ever married/in union before current/last ma
AA13B_12	Respondent's marital status before current marriage/uni
AA14_12	Not including current/last marriage/union how many time
Wave 4:	
A3_15	Current marital status
A4_15	Married or in union with same person from last interview
A5_15	Marriage or union ended since last interview
A6_15	Marriage or union started since last interview
AA10_15	Respondent's current marital status
AA13A_15	Respondent ever married or in union before current/last
AA13B_15	Respondent's marital status before current marriage or
AA14_15	Not including current/last marriage or union how many t
Wave 5:	
A3_18	Current marital status
A4_18	Married or in union with same person from last interview
A5_18	Marriage or union ended since last interview
A6_18	Marriage or union started since last interview
AA10_18	R's current marital status
AA13A_18	R ever married or in union before current/last marriage
AA13B_18	R's marital status before current marriage or union
AA14_18	Not including current/last marriage or union how many t

Urban or Rural

Wave	Variable	Label	Type
1	H1RURAL	h1rural: w1 lives in rural or urban	Categ
3	H3RURAL	h3rural: w3 lives in rural or urban	Categ
4	H4RURAL	h4rural: w4 lives in rural or urban	Categ
5	H5RURAL	h5rural: w5 lives in rural or urban	Categ
1	H1RURAL_M	h1rural_m: w1 Size of Locality of Residence	Categ
3	H3RURAL_M	h3rural_m: w3 Size of Locality of Residence	Categ
4	H4RURAL_M	h4rural_m: w4 Size of Locality of Residence	Categ
5	H5RURAL_M	h5rural_m: w5 Size of Locality of Residence	Categ

Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
H1RURAL	15186	0.26	0.44	0.00	1.00
H3RURAL	15723	0.31	0.46	0.00	1.00
H4RURAL	14779	0.30	0.46	0.00	1.00
H5RURAL	17114	0.31	0.46	0.00	1.00
H1RURAL_M	15186	1.84	1.16	1.00	4.00
H3RURAL_M	15723	1.93	1.22	1.00	4.00
H4RURAL_M	14779	1.93	1.21	1.00	4.00
H5RURAL_M	17114	1.96	1.22	1.00	4.00

Categorical Variable Codes

Value-----	H1RURAL	H3RURAL	H4RURAL	H5RURAL
0.urban	11225	10864	10392	11742
1.rural	3961	4859	4387	5372
Value-----	H1RURAL_M	H3RURAL_M	H4RURAL_M	H5RURAL_M
1.Urban	8957	9123	8450	9524
2.Semi-urban	2268	1741	1942	2218
3.Semi-rural	1381	1738	1425	1885
4.Rural	2580	3121	2962	3487

How Constructed

HwRURAL indicates whether the respondent's household resides in an urban or rural location. HwRURAL is set to 0 if the respondent's household resides in an urban location, and is set to 1 if the respondent's household resides in a rural location. HwRURAL\_M indicates the locality size where the respondent's household resides. HwRURAL\_M is set to 1 to indicate if the household resides in an 'Urban' location, 2 if in a 'Semi-urban' location, 3 if in a 'Semi-rural' location, and 4 if in a 'Rural' location. Missing responses are assigned special missing .m. HwRURAL and HwRURAL\_M are set to plain missing (.) for respondents who did not respond to the current wave.

Cross Wave Differences in MHAS

This variable is not available in Wave 2.

Differences with the RAND HRS/Harmonized HRS

No differences known.

MHAS Variables Used

Wave 1:

TAMLOC_01	Locality size 2001
Wave 3:	
TAM_LOC_12	Locality Size 2012
Wave 4:	
TAM_LOC_15	Locality size 2015
Wave 5:	
TAM_LOC_18	Locality size 2018

**Section B: Health**



Self-Report of Health

Wave	Variable	Label	Type
1	R1SHLT	r1shlt: w1 R Self-report of health	Categ
2	R2SHLT	r2shlt: w2 R Self-report of health	Categ
3	R3SHLT	r3shlt: w3 R Self-report of health	Categ
4	R4SHLT	r4shlt: w4 R Self-report of health	Categ
5	R5SHLT	r5shlt: w5 R Self-report of health	Categ
1	S1SHLT	s1shlt: w1 S Self-report of health	Categ
2	S2SHLT	s2shlt: w2 S Self-report of health	Categ
3	S3SHLT	s3shlt: w3 S Self-report of health	Categ
4	S4SHLT	s4shlt: w4 S Self-report of health	Categ
5	S5SHLT	s5shlt: w5 S Self-report of health	Categ
1	R1HLTC	r1hltc: w1 R Self-report of health change	Categ
2	R2HLTC	r2hltc: w2 R Self-report of health change	Categ
3	R3HLTC	r3hltc: w3 R Self-report of health change	Categ
4	R4HLTC	r4hltc: w4 R Self-report of health change	Categ
5	R5HLTC	r5hltc: w5 R Self-report of health change	Categ
1	S1HLTC	s1hltc: w1 S Self-report of health change	Categ
2	S2HLTC	s2hltc: w2 S Self-report of health change	Categ
3	S3HLTC	s3hltc: w3 S Self-report of health change	Categ
4	S4HLTC	s4hltc: w4 S Self-report of health change	Categ
5	S5HLTC	s5hltc: w5 S Self-report of health change	Categ

Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R1SHLT	14147	3.69	0.85	1.00	5.00
R2SHLT	12521	3.78	0.82	1.00	5.00
R3SHLT	14445	3.66	0.85	1.00	5.00
R4SHLT	13847	3.73	0.83	1.00	5.00
R5SHLT	15783	3.61	0.83	1.00	5.00
S1SHLT	9983	3.66	0.85	1.00	5.00
S2SHLT	8739	3.76	0.81	1.00	5.00
S3SHLT	9864	3.64	0.84	1.00	5.00
S4SHLT	9181	3.71	0.83	1.00	5.00
S5SHLT	7073	3.66	0.81	1.00	5.00
R1HLTC	14107	3.23	0.77	1.00	5.00
R2HLTC	12521	3.28	0.79	1.00	5.00
R3HLTC	14447	3.15	0.80	1.00	5.00
R4HLTC	13847	3.18	0.80	1.00	5.00
R5HLTC	15772	3.14	0.80	1.00	5.00
S1HLTC	9953	3.22	0.76	1.00	5.00
S2HLTC	8738	3.27	0.78	1.00	5.00
S3HLTC	9866	3.13	0.79	1.00	5.00
S4HLTC	9181	3.17	0.78	1.00	5.00
S5HLTC	7068	3.19	0.78	1.00	5.00

Categorical Variable Codes

Value-----	R1SHLT	R2SHLT	R3SHLT	R4SHLT	R5SHLT
.d:DK	1	4	1	3	1
.m:Missing	4				
.p:Proxy interview, not asked	1032	1178	1275	929	1328

.r:Refuse		2	1	2	2
1.Excellent		271	189	363	342
2.Very good		627	396	646	465
3.Good		4495	3559	4303	3710
4.Fair		6585	6204	7316	7347
5.Poor		2169	2173	1817	1983
Value-----		S1SHLT	S2SHLT	S3SHLT	S4SHLT
.d:DK		1	4	1	1
.m:Missing		3			
.p:Proxy interview, not asked		660	821	726	470
.r:Refuse		1		1	1
.u:Unmar		4205	4009	4782	4847
.v:SP NR		333	131	349	280
1.Excellent		195	122	251	232
2.Very good		464	281	467	325
3.Good		3316	2583	2987	2513
4.Fair		4600	4346	5017	4905
5.Poor		1408	1407	1142	1206
Value-----		R1HLTC	R2HLTC	R3HLTC	R4HLTC
.d:DK		12	4	1	3
.m:Missing		4			
.p:Proxy interview, not asked		1032	1178	1275	929
.r:Refuse		31	1		
1.Much better		314	282	544	442
2.Somewhat better		1334	1110	1513	1526
3.More or less the same		7955	6608	8132	7479
4.Somewhat worse		3797	3837	3723	3853
5.Much worse		707	684	535	547
Value-----		S1HLTC	S2HLTC	S3HLTC	S4HLTC
.d:DK		9	4		1
.m:Missing		3			
.p:Proxy interview, not asked		660	821	726	470
.r:Refuse		23	1		
.u:Unmar		4205	4009	4782	4847
.v:SP NR		333	131	349	280
1.Much better		214	199	385	285
2.Somewhat better		919	747	1040	965
3.More or less the same		5767	4747	5656	5154
4.Somewhat worse		2589	2612	2449	2466
5.Much worse		464	433	336	311

## How Constructed

RwSHLT is the respondent's self-reported general health status using the following scale: 1 for Excellent, 2 for Very Good, 3 for Good, 4 for Fair, and 5 for Poor. When respondents don't know or refuse to answer, RwSHLT is assigned special missing values .d or .r, respectively. Other missing responses are assigned special missing .m. Also, RwSHLT is set to the special missing value .p if the current interview was completed by proxy. RwSHLT is assigned plain missing (.) if the respondent did not participate in the current wave.

The SwSHLT variables are taken from the Wave 'w' spouse's self-reported RwSHLT variables. In addition to the special missing codes used in RwSHLT, SwSHLT employs the special missing value .u, when the respondent does not report being coupled in the current wave, and the special missing value .v, when the respondent reports being coupled in the current wave but their spouse is not interviewed.

RwHLTC is the respondent's self-reported change in health compared to two years ago using the following scale: 1 for Much better, 2 for Somewhat better, 3 for More or less the same, 4 for Somewhat worse, and 5 for Much worse. When respondents don't know or refuse to answer, RwHLTC is assigned special missing values .d or .r, respectively. Other missing responses are assigned special missing .m. Also, RwHLTC is set to the special missing value .p if the current interview was completed by proxy. RwHLTC is assigned plain missing (.) if the respondent did not participate in the current wave.

The SwHLTC variables are taken from the Wave 'w' spouse's self-reported RwHLTC variables. In addition to the special missing codes used in RwHLTC, SwHLTC employs the special missing value .u, when the respondent does not report being coupled in the current wave, and the special missing value .v, when the respondent reports being coupled in the current wave but their spouse is not interviewed.

Cross Wave Differences in MHAS

No differences known.

Differences with the RAND HRS/Harmonized HRS

While RwhLTC in the Harmonized MHAS and RAND HRS use the same answer scale through Wave 6 of the HRS, starting in HRS Wave 7, the answer scale is limited to responses of better, about the same, and worse.

MHAS Variables Used

Wave 1:	
C1	quality of health
C2	changes in health
Wave 2:	
C1	health status
C2	health compared to two years ago
Wave 3:	
C1_12	Global self-reported quality of health
C2A_12	Compared to 2 years ago:Report your current health
Wave 4:	
C1_15	Respondent's self-reported health
C2A_15	Compared to 2 years ago: Respondent's current health
Wave 5:	
C1_18	R's self-reported health
C2A_18	Compared to 2 years ago: R's current health

<b>Activities of Daily Living (ADLs): Raw Recodes</b>
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Wave	Variable	Label	Type
1	R1DRESS	r1dress: w1 R Difficulty-Dressing	Categ
2	R2DRESS	r2dress: w2 R Difficulty-Dressing	Categ
3	R3DRESS	r3dress: w3 R Difficulty-Dressing	Categ
4	R4DRESS	r4dress: w4 R Difficulty-Dressing	Categ
5	R5DRESS	r5dress: w5 R Difficulty-Dressing	Categ
1	S1DRESS	s1dress: w1 S Difficulty-Dressing	Categ
2	S2DRESS	s2dress: w2 S Difficulty-Dressing	Categ
3	S3DRESS	s3dress: w3 S Difficulty-Dressing	Categ
4	S4DRESS	s4dress: w4 S Difficulty-Dressing	Categ
5	S5DRESS	s5dress: w5 S Difficulty-Dressing	Categ
1	R1WALKR	r1walkr: w1 R Difficulty-Walking across room	Categ
2	R2WALKR	r2walkr: w2 R Difficulty-Walking across room	Categ
3	R3WALKR	r3walkr: w3 R Difficulty-Walking across room	Categ
4	R4WALKR	r4walkr: w4 R Difficulty-Walking across room	Categ
5	R5WALKR	r5walkr: w5 R Difficulty-Walking across room	Categ
1	S1WALKR	s1walkr: w1 S Difficulty-Walking across room	Categ
2	S2WALKR	s2walkr: w2 S Difficulty-Walking across room	Categ
3	S3WALKR	s3walkr: w3 S Difficulty-Walking across room	Categ
4	S4WALKR	s4walkr: w4 S Difficulty-Walking across room	Categ
5	S5WALKR	s5walkr: w5 S Difficulty-Walking across room	Categ
1	R1BATH	r1bath: w1 R Difficulty-Bathing or showering	Categ
2	R2BATH	r2bath: w2 R Difficulty-Bathing or showering	Categ
3	R3BATH	r3bath: w3 R Difficulty-Bathing or showering	Categ
4	R4BATH	r4bath: w4 R Difficulty-Bathing or showering	Categ
5	R5BATH	r5bath: w5 R Difficulty-Bathing or showering	Categ
1	S1BATH	s1bath: w1 S Difficulty-Bathing or showering	Categ
2	S2BATH	s2bath: w2 S Difficulty-Bathing or showering	Categ
3	S3BATH	s3bath: w3 S Difficulty-Bathing or showering	Categ
4	S4BATH	s4bath: w4 S Difficulty-Bathing or showering	Categ
5	S5BATH	s5bath: w5 S Difficulty-Bathing or showering	Categ
1	R1EAT	r1eat: w1 R Difficulty-Eating	Categ
2	R2EAT	r2eat: w2 R Difficulty-Eating	Categ
3	R3EAT	r3eat: w3 R Difficulty-Eating	Categ
4	R4EAT	r4eat: w4 R Difficulty-Eating	Categ
5	R5EAT	r5eat: w5 R Difficulty-Eating	Categ
1	S1EAT	s1eat: w1 S Difficulty-Eating	Categ
2	S2EAT	s2eat: w2 S Difficulty-Eating	Categ
3	S3EAT	s3eat: w3 S Difficulty-Eating	Categ
4	S4EAT	s4eat: w4 S Difficulty-Eating	Categ
5	S5EAT	s5eat: w5 S Difficulty-Eating	Categ
1	R1BED	r1bed: w1 R Difficulty-Getting in/out of bed	Categ
2	R2BED	r2bed: w2 R Difficulty-Getting in/out of bed	Categ
3	R3BED	r3bed: w3 R Difficulty-Getting in/out of bed	Categ
4	R4BED	r4bed: w4 R Difficulty-Getting in/out of bed	Categ
5	R5BED	r5bed: w5 R Difficulty-Getting in/out of bed	Categ
1	S1BED	s1bed: w1 S Difficulty-Getting in/out of bed	Categ
2	S2BED	s2bed: w2 S Difficulty-Getting in/out of bed	Categ
3	S3BED	s3bed: w3 S Difficulty-Getting in/out of bed	Categ
4	S4BED	s4bed: w4 S Difficulty-Getting in/out of bed	Categ
5	S5BED	s5bed: w5 S Difficulty-Getting in/out of bed	Categ

1	R1TOILT	r1toilt: w1 R Difficulty-Using the toilet	Categ
2	R2TOILT	r2toilt: w2 R Difficulty-Using the toilet	Categ
3	R3TOILT	r3toilt: w3 R Difficulty-Using the toilet	Categ
4	R4TOILT	r4toilt: w4 R Difficulty-Using the toilet	Categ
5	R5TOILT	r5toilt: w5 R Difficulty-Using the toilet	Categ
1	S1TOILT	s1toilt: w1 S Difficulty-Using the toilet	Categ
2	S2TOILT	s2toilt: w2 S Difficulty-Using the toilet	Categ
3	S3TOILT	s3toilt: w3 S Difficulty-Using the toilet	Categ
4	S4TOILT	s4toilt: w4 S Difficulty-Using the toilet	Categ
5	S5TOILT	s5toilt: w5 S Difficulty-Using the toilet	Categ

## Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R1DRESS	14048	0.07	0.27	0.00	9.00
R2DRESS	12501	0.06	0.27	0.00	9.00
R3DRESS	14443	0.10	0.38	0.00	9.00
R4DRESS	13802	0.12	0.41	0.00	9.00
R5DRESS	15759	0.11	0.42	0.00	9.00
S1DRESS	9924	0.06	0.24	0.00	2.00
S2DRESS	8737	0.05	0.24	0.00	9.00
S3DRESS	9865	0.09	0.36	0.00	9.00
S4DRESS	9165	0.10	0.34	0.00	9.00
S5DRESS	7064	0.12	0.40	0.00	9.00
R1WALKR	8199	0.11	0.41	0.00	9.00
R2WALKR	7233	0.11	0.36	0.00	9.00
R3WALKR	9921	0.14	0.50	0.00	9.00
R4WALKR	9800	0.17	0.64	0.00	9.00
R5WALKR	10127	0.16	0.59	0.00	9.00
S1WALKR	5394	0.09	0.41	0.00	9.00
S2WALKR	4765	0.09	0.31	0.00	9.00
S3WALKR	6258	0.10	0.41	0.00	9.00
S4WALKR	6052	0.12	0.52	0.00	9.00
S5WALKR	4688	0.14	0.48	0.00	9.00
R1BATH	8198	0.08	0.33	0.00	9.00
R2BATH	7233	0.08	0.36	0.00	9.00
R3BATH	9923	0.10	0.52	0.00	9.00
R4BATH	9800	0.12	0.53	0.00	9.00
R5BATH	10128	0.11	0.45	0.00	9.00
S1BATH	5393	0.06	0.32	0.00	9.00
S2BATH	4765	0.06	0.24	0.00	2.00
S3BATH	6259	0.07	0.49	0.00	9.00
S4BATH	6052	0.10	0.54	0.00	9.00
S5BATH	4688	0.09	0.34	0.00	9.00
R1EAT	8199	0.05	0.40	0.00	9.00
R2EAT	7233	0.04	0.25	0.00	9.00
R3EAT	9923	0.08	0.49	0.00	9.00
R4EAT	9800	0.07	0.41	0.00	9.00
R5EAT	10128	0.06	0.43	0.00	9.00
S1EAT	5395	0.04	0.37	0.00	9.00
S2EAT	4765	0.03	0.22	0.00	9.00
S3EAT	6259	0.07	0.49	0.00	9.00
S4EAT	6052	0.06	0.41	0.00	9.00
S5EAT	4687	0.05	0.36	0.00	9.00

R1BED	8199	0.10	0.34	0.00	9.00
R2BED	7233	0.10	0.31	0.00	9.00
R3BED	9921	0.13	0.39	0.00	9.00
R4BED	9800	0.16	0.48	0.00	9.00
R5BED	10126	0.13	0.43	0.00	9.00
S1BED	5394	0.09	0.34	0.00	9.00
S2BED	4765	0.08	0.30	0.00	9.00
S3BED	6258	0.12	0.34	0.00	9.00
S4BED	6052	0.14	0.42	0.00	9.00
S5BED	4687	0.12	0.39	0.00	9.00
R1TOILT	8184	0.08	0.32	0.00	9.00
R2TOILT	7233	0.07	0.30	0.00	9.00
R3TOILT	9920	0.11	0.47	0.00	9.00
R4TOILT	9800	0.13	0.59	0.00	9.00
R5TOILT	10124	0.14	0.59	0.00	9.00
S1TOILT	5387	0.06	0.32	0.00	9.00
S2TOILT	4765	0.06	0.23	0.00	2.00
S3TOILT	6258	0.09	0.39	0.00	9.00
S4TOILT	6052	0.10	0.49	0.00	9.00
S5TOILT	4686	0.11	0.50	0.00	9.00

## Categorical Variable Codes

Value-----	R1DRESS	R2DRESS	R3DRESS	R4DRESS	R5DRESS
.d:DK	31		1	7	2
.m:Missing	38	25		40	17
.p:Proxy interview, not asked	1032	1178	1275	929	1328
.r:Refuse	37		4	1	8
0.No	13147	11745	13103	12296	14151
1.Yes	883	741	1307	1456	1530
2.Can't Do	16	13	22	39	63
9.Don't Do	2	2	11	11	15
Value-----	S1DRESS	S2DRESS	S3DRESS	S4DRESS	S5DRESS
.d:DK	26		1	7	1
.m:Missing	13	6		10	5
.p:Proxy interview, not asked	660	821	726	470	563
.r:Refuse	25				5
.u:Unmar	4205	4009	4782	4847	5227
.v:SP NR	333	131	349	280	501
0.No	9355	8285	9049	8290	6312
1.Yes	562	446	800	852	716
2.Can't Do	7	5	10	20	31
9.Don't Do		1	6	3	5
Value-----	R1WALKR	R2WALKR	R3WALKR	R4WALKR	R5WALKR
.d:DK	38		31	6	4
.m:Missing	40	47		40	18
.r:Refuse	138	5	4	1	85
.s:Skip	6771	6419	5767	4932	6880
0.No	7411	6461	8733	8521	8742
1.Yes	750	759	1142	1167	1311
2.Can't Do	31	10	28	77	46
9.Don't Do	7	3	18	35	28
Value-----	S1WALKR	S2WALKR	S3WALKR	S4WALKR	S5WALKR
.d:DK	22		25	5	
.m:Missing	14	23		10	6
.r:Refuse	89	3	2		56
.s:Skip	5129	4773	4307	3585	2888
.u:Unmar	4205	4009	4782	4847	5227
.v:SP NR	333	131	349	280	501
0.No	4965	4363	5663	5446	4110
1.Yes	409	393	575	561	559

2.Can't Do	14	8	14	32	12
9.Don't Do	6	1	6	13	7
Value-----	R1BATH	R2BATH	R3BATH	R4BATH	R5BATH
.d:DK	38		31	6	3
.m:Missing	40	47		40	18
.r:Refuse	139	5	2	1	85
.s:Skip	6771	6419	5767	4932	6880
0.No	7629	6702	9161	8834	9192
1.Yes	542	517	722	907	896
2.Can't Do	23	9	16	36	26
9.Don't Do	4	5	24	23	14
Value-----	S1BATH	S2BATH	S3BATH	S4BATH	S5BATH
.d:DK	22		25	5	
.m:Missing	14	23		10	6
.r:Refuse	90	3	1		56
.s:Skip	5129	4773	4307	3585	2888
.u:Unmar	4205	4009	4782	4847	5227
.v:SP NR	333	131	349	280	501
0.No	5099	4486	5923	5599	4310
1.Yes	281	272	313	425	368
2.Can't Do	10	7	8	11	8
9.Don't Do	3		15	17	2
Value-----	R1EAT	R2EAT	R3EAT	R4EAT	R5EAT
.d:DK	39		31	6	2
.m:Missing	40	47		40	18
.r:Refuse	137	5	2	1	86
.s:Skip	6771	6419	5767	4932	6880
0.No	7884	6959	9384	9248	9629
1.Yes	289	266	480	510	459
2.Can't Do	14	6	36	29	23
9.Don't Do	12	2	23	13	17
Value-----	S1EAT	S2EAT	S3EAT	S4EAT	S5EAT
.d:DK	22		25	5	
.m:Missing	14	23		10	6
.r:Refuse	88	3	1		57
.s:Skip	5129	4773	4307	3585	2888
.u:Unmar	4205	4009	4782	4847	5227
.v:SP NR	333	131	349	280	501
0.No	5242	4620	5993	5775	4509
1.Yes	140	140	224	251	164
2.Can't Do	6	4	27	17	9
9.Don't Do	7	1	15	9	5
Value-----	R1BED	R2BED	R3BED	R4BED	R5BED
.d:DK	38		32	6	3
.m:Missing	40	47		40	18
.r:Refuse	138	5	3	1	87
.s:Skip	6771	6419	5767	4932	6880
0.No	7403	6557	8662	8363	8886
1.Yes	775	669	1234	1383	1201
2.Can't Do	19	6	20	42	30
9.Don't Do	2	1	5	12	9
Value-----	S1BED	S2BED	S3BED	S4BED	S5BED
.d:DK	22		26	5	
.m:Missing	14	23		10	6
.r:Refuse	89	3	1		57
.s:Skip	5129	4773	4307	3585	2888
.u:Unmar	4205	4009	4782	4847	5227
.v:SP NR	333	131	349	280	501
0.No	4916	4385	5552	5269	4170
1.Yes	471	375	691	757	507
2.Can't Do	5	4	14	22	7
9.Don't Do	2	1	1	4	3
Value-----	R1TOILT	R2TOILT	R3TOILT	R4TOILT	R5TOILT
.d:DK	44		33	6	6
.m:Missing	40	47		40	18
.r:Refuse	147	5	3	1	86

.s:Skip		6771	6419	5767	4932	6880
0.No		7614	6737	8976	8851	9042
1.Yes		547	486	895	866	1004
2.Can't Do		20	8	33	52	47
9.Don't Do		3	2	16	31	31
Value-----		S1TOILT	S2TOILT	S3TOILT	S4TOILT	S5TOILT
.d:DK		25		26	5	1
.m:Missing		14	23		10	6
.r:Refuse		93	3	1		57
.s:Skip		5129	4773	4307	3585	2888
.u:Unmar		4205	4009	4782	4847	5227
.v:SP NR		333	131	349	280	501
0.No		5071	4503	5784	5565	4238
1.Yes		306	257	455	457	423
2.Can't Do		7	5	13	18	16
9.Don't Do		3		6	12	9

How Constructed

These variables recode the raw variables for difficulty with activities of daily living (ADLs) as they appear in the MHAS data except for missing values and accounting for skip patterns. The ADLs include dressing (RwDRESS), walking across a room (RwWALKR), bathing (RwBATH), eating (RwEAT), getting in and out of bed (RwBED), and using the toilet (RwTOILT). In the following, references to Rw[adl] apply to all these variables except RwDRESS.

For all waves, the ADL questions are skipped if no difficulty was reported with any of the tasks asked about earlier (questions H1 to H13), including the difficulty with dressing question. In these cases, Rw[adl] is set to a special missing .s. All the Rw[adl] and RwDRESS variables are set to 0 if the response is "no" difficulty; 1 if the response is "yes"; and 2 or 9 if the response is "can't do" or "don't do", respectively. These variables are coded .d for "don't know" and .r for refusals. If the difficulty question is skipped because of previous answers to the tasks asked about earlier (questions H1 to H13), then Rw[adl] is set to .s. If the answer is otherwise missing, then these variables are coded .m for "missing". In all waves, the question regarding difficulty dressing is part of the introductory questions asked at the beginning of the module (Section H). This question is skipped if interviews are completed by proxy and the variable RwDRESS is set to .p. These variables are assigned plain missing (.) if the respondent did not participate in the current wave.

SwWALKR, SwDRESS, SwBATH, SwEAT, SwBED, and SwTOILT indicate whether the respondent's spouse reported any difficulty with each one of these daily living activities and are taken directly from the spouse's Rw[adl] variables, respectively. In addition to the special missing codes used in the Rw[adl] variables, if the respondent is not designated as coupled in the current wave and assumed to be single, a special missing value of .u is used. Also, if the respondent is not designated as coupled in the current wave but reports being married, a special missing value of .v is used.

Cross Wave Differences in MHAS

No differences known.

Differences with the RAND HRS/Harmonized HRS

In the HRS introductory questions, respondents are asked whether they have difficulty jogging one mile. However, in the MHAS they ask if the respondent has any difficulty running or jogging one kilometer.

MHAS Variables Used

Wave 1:	
H1	long walk
H10	pulling
H11	picking up
H12	picking up a coin
H13	dressing
H15_1	difficult walking
H16_1	difficult bathing
H17_1	difficult eating



H18\_1 difficult getting in an out of bed  
 H19\_1 difficult using toilet  
 H4 sitting 2 hours  
 H5 getting up  
 H6 long climbing  
 H7 short climbing  
 H8 bending  
 H9 extending arms

## Wave 2:

H1 health problems-trouble walking blocks  
 H10 health problems-trouble pushing or pulling  
 H11 health problems-trouble carrying objects  
 H12 health problems-trouble picking up a coin  
 H13 health problems-trouble dressing self  
 H15A health problem-trouble walking  
 H15C has difficulties with activity  
 H16A health problem-have trouble bathing  
 H16C has difficulties with activity  
 H17A health problem-trouble eating or cutting  
 H17C has difficulties with activity  
 H18A health problem-get in/out of bed  
 H18C has difficulties with activity  
 H19A health problem-trouble going to bathroom  
 H19C has difficulties with activity  
 H4 health problems-trouble staying seated  
 H5 health problems-trouble getting up from chair  
 H6 health problems-trouble with flights of stairs  
 H7 health problems-trouble with 1 flight of stairs  
 H8 health problems-trouble sitting up  
 H9 health problems-trouble lifting arms

## Wave 3:

H10\_12 Because of health problem, difficulty pushing or pullin  
 H11\_12 Because of health problem, difficulty carrying objects  
 H12\_12 Because of health problem, difficulty picking up a coin  
 H13\_12 Because of health problem, difficulty dressing self  
 H15A\_12 Because of health problem, difficulty walking  
 H15C01\_12 You use guardrail to walk across room  
 H15C02\_12 You use walker to walk across room  
 H15C03\_12 You use staff to walk across room  
 H15C04\_12 You use crutches to walk across room  
 H15C05\_12 You use orthopedic shoes to walk across room  
 H15C06\_12 You use clamp to walk across room  
 H15C07\_12 You use prosthesis to walk across room  
 H15C08\_12 You use oxygen/respirator to walk across room  
 H15C09\_12 You use furniture/walls to walk across room  
 H15C10\_12 You use wheelchair/cart to walk across room  
 H15C11\_12 You use other to walk across room  
 H15C88\_12 RF equipment walk across room  
 H15C99\_12 DK equipment walk across room  
 H16A\_12 Because of health problem, difficulty bathing  
 H17A\_12 Because of health problem, difficulty eating or cutting  
 H18A\_12 Because of health problem, difficulty get in/out of bed  
 H18C01\_12 You use guardrail to get into or out of bed  
 H18C02\_12 You use walker to get into or out of bed  
 H18C03\_12 You use staff to get into or out of bed  
 H18C04\_12 You use crutches to get into or out of bed  
 H18C05\_12 You use orthopedic shoes to get into or out of bed  
 H18C06\_12 You use clamp to get into or out of bed  
 H18C07\_12 You use prosthesis to get into or out of bed  
 H18C08\_12 You use oxygen/respirator to get into or out of bed  
 H18C09\_12 You use furniture/walls to get into or out of bed  
 H18C10\_12 You use wheelchair/cart to get into or out of bed  
 H18C11\_12 You use other to get into or out of bed  
 H18C88\_12 RF equipment get into or out of bed

H18C99_12	DK equipment get into or out of bed
H19A_12	Because of health problem, difficulty going to the bath
H1_12	Because of health problem, difficulty walking blocks
H4_12	Because of health problem, difficulty staying seated
H5_12	Because of health problem, difficulty getting up from c
H6_12	Because of health problem, difficulty with flights of s
H7_12	Because of health problem, difficulty with 1 flight of
H8_12	Because of health problem, difficulty sitting up
H9_12	Because of health problem, difficulty lifting arms
Wave 4:	
H10_15	Because of health problem, does respondent have difficu
H11_15	Because of health problem, does respondent have difficu
H12_15	Because of health problem, does respondent have difficu
H13_15	Because of health problem, does respondent have difficu
H14_15	Does someone help respondent to get dressed
H15A_15	Because of health problem, does respondent have any dif
H15B_15	Does respondent ever use equipment (to walk across a ro
H15C01_15	Type of equipment respondent uses (to walk across a roo
H15C02_15	Type of equipment respondent uses (to walk across a roo
H15C03_15	Type of equipment respondent uses (to walk across a roo
H15C04_15	Type of equipment respondent uses (to walk across a roo
H15C05_15	Type of equipment respondent uses (to walk across a roo
H15C06_15	Type of equipment respondent uses (to walk across a roo
H15C07_15	Type of equipment respondent uses (to walk across a roo
H15C08_15	Type of equipment respondent uses (to walk across a roo
H15C09_15	Type of equipment respondent uses (to walk across a roo
H15C10_15	Type of equipment respondent uses (to walk across a roo
H15C11_15	Type of equipment respondent uses (to walk across a roo
H15C88_15	Type of equipment respondent uses (to walk across a roo
H15C99_15	Type of equipment respondent uses (to walk across a roo
H15D_15	Does someone help respondent walking across a room
H16A_15	Because of health problem, does respondent have any dif
H16D_15	Does someone help respondent bathing or showering
H17A_15	Because of health problem, does respondent have any dif
H17D_15	Does someone help respondent eating
H18A_15	Because of health problem, does respondent have any dif
H18B_15	Does respondent ever use equipment (to get in or out of
H18C01_15	Type of equipment respondent uses (to get in or out of
H18C02_15	Type of equipment respondent uses (to get in or out of
H18C03_15	Type of equipment respondent uses (to get in or out of
H18C04_15	Type of equipment respondent uses (to get in or out of
H18C05_15	Type of equipment respondent uses (to get in or out of
H18C06_15	Type of equipment respondent uses (to get in or out of
H18C07_15	Type of equipment respondent uses (to get in or out of
H18C08_15	Type of equipment respondent uses (to get in or out of
H18C09_15	Type of equipment respondent uses (to get in or out of
H18C10_15	Type of equipment respondent uses (to get in or out of
H18C11_15	Type of equipment respondent uses (to get in or out of
H18C88_15	Type of equipment respondent uses (to get in or out of
H18C99_15	Type of equipment respondent uses (to get in or out of
H18D_15	Does someone help respondent getting in or out of bed
H19A_15	Because of health problem, does respondent have any dif
H19D_15	Does someone help respondent using the toilet
H1_15	Because of health problem, does respondent have difficu
H4_15	Because of health problem, does respondent have difficu
H5_15	Because of health problem, does respondent have difficu
H6_15	Because of health problem, does respondent have difficu
H7_15	Because of health problem, does respondent have difficu
H8_15	Because of health problem, does respondent have difficu
H9_15	Because of health problem, does respondent have difficu
Wave 5:	
H10_18	Because of health problem, does R have difficulty pushi
H11_18	Due to health problem, difficult for R to lift/carry ob
H12_18	Due to health problem, does R have difficulty picking u

H13_18	Due to health problem, difficult for R to dress, includ
H14_18	Does someone help R to get dressed
H15A_18	Because of health problem, does R have any difficulty w
H15B_18	R ever uses equipment (to walk across room) such as can
H15C01_18	Type of equipment R uses (to walk across a room): Guard
H15C02_18	Type of equipment R uses (to walk across a room): Walke
H15C03_18	Type of equipment R uses (to walk across a room): Staff
H15C04_18	Type of equipment R uses (to walk across a room): Crutc
H15C05_18	Type of equipment R uses (to walk across a room): Ortho
H15C06_18	Type of equipment R uses (to walk across a room): Brace
H15C07_18	Type of equipment R uses (to walk across a room): Prost
H15C08_18	Type of equipment R uses (to walk across a room): Oxyge
H15C09_18	Type of equipment R uses (to walk across a room): Furni
H15C10_18	Type of equipment R uses (to walk across a room): Wheel
H15C11_18	Type of equipment R uses (to walk across a room): Other
H15C88_18	Type of equipment R uses (to walk across a room): RF
H15C99_18	Type of equipment R uses (to walk across a room): DK
H15D_18	Does someone help R walking across a room
H16A_18	Because of health problem, does R have any difficulty b
H16D_18	Does someone help R bathing or showering
H17A_18	Due to health problem, does R have any difficulty eatin
H17D_18	Does someone help R eating
H18A_18	Because of health problem, does R have any difficulty g
H18B_18	R ever uses equipment to get in or out of bed, e.g. can
H18C01_18	Type of equipment R uses (to get in or out of bed): Gua
H18C02_18	Type of equipment R uses (to get in or out of bed): Wal
H18C03_18	Type of equipment R uses (to get in or out of bed): Sta
H18C04_18	Type of equipment R uses (to get in or out of bed): Cru
H18C05_18	Type of equipment R uses (to get in or out of bed): Ort
H18C06_18	Type of equipment R uses (to get in or out of bed): Bra
H18C07_18	Type of equipment R uses (to get in or out of bed): Pro
H18C08_18	Type of equipment R uses (to get in or out of bed): Oxy
H18C09_18	Type of equipment R uses (to get in or out of bed): Fur
H18C10_18	Type of equipment R uses (to get in or out of bed): Whe
H18C11_18	Type of equipment R uses (to get in or out of bed): Oth
H18C88_18	Type of equipment R uses (to get in or out of bed): RF
H18C99_18	Type of equipment R uses (to get in or out of bed): DK
H18D_18	Does someone help R getting in or out of bed
H19A_18	Because of health problem, does R have any difficulty u
H19D_18	Does someone help R using the toilet
H1_18	Because of health problem, does R have difficulty walki
H4_18	Because of health problem, does R have difficulty sitti
H5_18	Due to health problem, difficult for R to get up from c
H6_18	Due to health problem, hard for R to climb several flig
H7_18	Due to health problem, difficult for R to climb 1 fligh
H8_18	Due to health problem, does R have difficulty stooping,
H9_18	Due to health problem, difficult for R to reach/extend

<b>Activities of Daily Living (ADLs): Some Difficulty</b>
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Wave	Variable	Label	Type
1	R1WALKRA	r1walkra: w1 R Some difficulty-Walking across room	Categ
2	R2WALKRA	r2walkra: w2 R Some difficulty-Walking across room	Categ
3	R3WALKRA	r3walkra: w3 R Some difficulty-Walking across room	Categ
4	R4WALKRA	r4walkra: w4 R Some difficulty-Walking across room	Categ
5	R5WALKRA	r5walkra: w5 R Some difficulty-Walking across room	Categ
1	S1WALKRA	s1walkra: w1 S Some difficulty-Walking across room	Categ
2	S2WALKRA	s2walkra: w2 S Some difficulty-Walking across room	Categ
3	S3WALKRA	s3walkra: w3 S Some difficulty-Walking across room	Categ
4	S4WALKRA	s4walkra: w4 S Some difficulty-Walking across room	Categ
5	S5WALKRA	s5walkra: w5 S Some difficulty-Walking across room	Categ
1	R1DRESSA	r1dressa: w1 R Some difficulty-Dressing	Categ
2	R2DRESSA	r2dressa: w2 R Some difficulty-Dressing	Categ
3	R3DRESSA	r3dressa: w3 R Some difficulty-Dressing	Categ
4	R4DRESSA	r4dressa: w4 R Some difficulty-Dressing	Categ
5	R5DRESSA	r5dressa: w5 R Some difficulty-Dressing	Categ
1	S1DRESSA	s1dressa: w1 S Some difficulty-Dressing	Categ
2	S2DRESSA	s2dressa: w2 S Some difficulty-Dressing	Categ
3	S3DRESSA	s3dressa: w3 S Some difficulty-Dressing	Categ
4	S4DRESSA	s4dressa: w4 S Some difficulty-Dressing	Categ
5	S5DRESSA	s5dressa: w5 S Some difficulty-Dressing	Categ
1	R1BATHA	r1batha: w1 R Some difficulty-Bathing or showering	Categ
2	R2BATHA	r2batha: w2 R Some difficulty-Bathing or showering	Categ
3	R3BATHA	r3batha: w3 R Some difficulty-Bathing or showering	Categ
4	R4BATHA	r4batha: w4 R Some difficulty-Bathing or showering	Categ
5	R5BATHA	r5batha: w5 R Some difficulty-Bathing or showering	Categ
1	S1BATHA	s1batha: w1 S Some difficulty-Bathing or showering	Categ
2	S2BATHA	s2batha: w2 S Some difficulty-Bathing or showering	Categ
3	S3BATHA	s3batha: w3 S Some difficulty-Bathing or showering	Categ
4	S4BATHA	s4batha: w4 S Some difficulty-Bathing or showering	Categ
5	S5BATHA	s5batha: w5 S Some difficulty-Bathing or showering	Categ
1	R1EATA	r1eata: w1 R Some difficulty-Eating	Categ
2	R2EATA	r2eata: w2 R Some difficulty-Eating	Categ
3	R3EATA	r3eata: w3 R Some difficulty-Eating	Categ
4	R4EATA	r4eata: w4 R Some difficulty-Eating	Categ
5	R5EATA	r5eata: w5 R Some difficulty-Eating	Categ
1	S1EATA	s1eata: w1 S Some difficulty-Eating	Categ
2	S2EATA	s2eata: w2 S Some difficulty-Eating	Categ
3	S3EATA	s3eata: w3 S Some difficulty-Eating	Categ
4	S4EATA	s4eata: w4 S Some difficulty-Eating	Categ
5	S5EATA	s5eata: w5 S Some difficulty-Eating	Categ
1	R1BEDA	r1beda: w1 R Some difficulty-Getting in/out of bed	Categ
2	R2BEDA	r2beda: w2 R Some difficulty-Getting in/out of bed	Categ
3	R3BEDA	r3beda: w3 R Some difficulty-Getting in/out of bed	Categ
4	R4BEDA	r4beda: w4 R Some difficulty-Getting in/out of bed	Categ
5	R5BEDA	r5beda: w5 R Some difficulty-Getting in/out of bed	Categ
1	S1BEDA	s1beda: w1 S Some difficulty-Getting in/out of bed	Categ
2	S2BEDA	s2beda: w2 S Some difficulty-Getting in/out of bed	Categ
3	S3BEDA	s3beda: w3 S Some difficulty-Getting in/out of bed	Categ
4	S4BEDA	s4beda: w4 S Some difficulty-Getting in/out of bed	Categ
5	S5BEDA	s5beda: w5 S Some difficulty-Getting in/out of bed	Categ

1	R1TOILTA	r1toilta: w1 R Some difficulty-Using the toilet	Categ
2	R2TOILTA	r2toilta: w2 R Some difficulty-Using the toilet	Categ
3	R3TOILTA	r3toilta: w3 R Some difficulty-Using the toilet	Categ
4	R4TOILTA	r4toilta: w4 R Some difficulty-Using the toilet	Categ
5	R5TOILTA	r5toilta: w5 R Some difficulty-Using the toilet	Categ
1	S1TOILTA	s1toilta: w1 S Some difficulty-Using the toilet	Categ
2	S2TOILTA	s2toilta: w2 S Some difficulty-Using the toilet	Categ
3	S3TOILTA	s3toilta: w3 S Some difficulty-Using the toilet	Categ
4	S4TOILTA	s4toilta: w4 S Some difficulty-Using the toilet	Categ
5	S5TOILTA	s5toilta: w5 S Some difficulty-Using the toilet	Categ

Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R1WALKRA	14966	0.05	0.22	0.00	1.00
R2WALKRA	13650	0.06	0.23	0.00	1.00
R3WALKRA	15680	0.08	0.26	0.00	1.00
R4WALKRA	14720	0.09	0.28	0.00	1.00
R5WALKRA	17000	0.08	0.27	0.00	1.00
S1WALKRA	10520	0.04	0.20	0.00	1.00
S2WALKRA	9537	0.04	0.20	0.00	1.00
S3WALKRA	10562	0.06	0.23	0.00	1.00
S4WALKRA	9632	0.06	0.24	0.00	1.00
S5WALKRA	7575	0.08	0.27	0.00	1.00
R1DRESSA	14046	0.06	0.24	0.00	1.00
R2DRESSA	12499	0.06	0.24	0.00	1.00
R3DRESSA	14434	0.09	0.29	0.00	1.00
R4DRESSA	13798	0.11	0.31	0.00	1.00
R5DRESSA	15752	0.10	0.30	0.00	1.00
S1DRESSA	9924	0.06	0.23	0.00	1.00
S2DRESSA	8736	0.05	0.22	0.00	1.00
S3DRESSA	9860	0.08	0.27	0.00	1.00
S4DRESSA	9164	0.10	0.29	0.00	1.00
S5DRESSA	7061	0.11	0.31	0.00	1.00
R1BATHA	14967	0.04	0.19	0.00	1.00
R2BATHA	13647	0.04	0.19	0.00	1.00
R3BATHA	15667	0.05	0.21	0.00	1.00
R4BATHA	14721	0.06	0.25	0.00	1.00
R5BATHA	17005	0.05	0.23	0.00	1.00
S1BATHA	10521	0.03	0.16	0.00	1.00
S2BATHA	9538	0.03	0.17	0.00	1.00
S3BATHA	10551	0.03	0.17	0.00	1.00
S4BATHA	9628	0.05	0.21	0.00	1.00
S5BATHA	7576	0.05	0.22	0.00	1.00
R1EATA	14965	0.02	0.14	0.00	1.00
R2EATA	13650	0.02	0.14	0.00	1.00
R3EATA	15671	0.03	0.18	0.00	1.00
R4EATA	14723	0.04	0.19	0.00	1.00
R5EATA	17001	0.03	0.17	0.00	1.00
S1EATA	10520	0.01	0.12	0.00	1.00
S2EATA	9537	0.02	0.12	0.00	1.00
S3EATA	10552	0.02	0.15	0.00	1.00
S4EATA	9630	0.03	0.17	0.00	1.00
S5EATA	7572	0.02	0.15	0.00	1.00

R1BEDA	14969	0.05	0.22	0.00	1.00
R2BEDA	13651	0.05	0.22	0.00	1.00
R3BEDA	15685	0.08	0.27	0.00	1.00
R4BEDA	14728	0.10	0.30	0.00	1.00
R5BEDA	17004	0.07	0.26	0.00	1.00
S1BEDA	10522	0.05	0.21	0.00	1.00
S2BEDA	9537	0.04	0.20	0.00	1.00
S3BEDA	10564	0.07	0.25	0.00	1.00
S4BEDA	9637	0.08	0.27	0.00	1.00
S5BEDA	7575	0.07	0.25	0.00	1.00
R1TOILTA	14955	0.04	0.19	0.00	1.00
R2TOILTA	13651	0.04	0.19	0.00	1.00
R3TOILTA	15677	0.06	0.24	0.00	1.00
R4TOILTA	14712	0.06	0.24	0.00	1.00
R5TOILTA	16993	0.06	0.24	0.00	1.00
S1TOILTA	10516	0.03	0.17	0.00	1.00
S2TOILTA	9538	0.03	0.16	0.00	1.00
S3TOILTA	10560	0.04	0.21	0.00	1.00
S4TOILTA	9631	0.05	0.22	0.00	1.00
S5TOILTA	7570	0.06	0.23	0.00	1.00

## Categorical Variable Codes

Value-----	R1WALKRA	R2WALKRA	R3WALKRA	R4WALKRA	R5WALKRA
.d:DK	38		31	6	4
.m:Missing	40	47		40	18
.r:Refuse	138	5	4	1	85
.x:Doesn't do	4	2	8	12	7
0.No	14182	12880	14500	13453	15622
1.Yes	784	770	1180	1267	1378
Value-----	S1WALKRA	S2WALKRA	S3WALKRA	S4WALKRA	S5WALKRA
.d:DK	22		25	5	
.m:Missing	14	23		10	6
.r:Refuse	89	3	2		56
.u:Unmar	4205	4009	4782	4847	5227
.v:SP NR	333	131	349	280	501
.x:Doesn't do	3	1	3	5	1
0.No	10094	9136	9970	9031	6998
1.Yes	426	401	592	601	577
Value-----	R1DRESSA	R2DRESSA	R3DRESSA	R4DRESSA	R5DRESSA
.d:DK	31		1	7	2
.m:Missing	38	25		40	17
.p:Proxy interview, not asked	1032	1178	1275	929	1328
.r:Refuse	37		4	1	8
.x:Doesn't do	2	2	9	4	7
0.No	13147	11745	13103	12296	14151
1.Yes	899	754	1331	1502	1601
Value-----	S1DRESSA	S2DRESSA	S3DRESSA	S4DRESSA	S5DRESSA
.d:DK	26		1	7	1
.m:Missing	13	6		10	5
.p:Proxy interview, not asked	660	821	726	470	563
.r:Refuse	25				5
.u:Unmar	4205	4009	4782	4847	5227
.v:SP NR	333	131	349	280	501
.x:Doesn't do		1	5	1	3
0.No	9355	8285	9049	8290	6312
1.Yes	569	451	811	874	749
Value-----	R1BATHA	R2BATHA	R3BATHA	R4BATHA	R5BATHA
.d:DK	38		31	6	3
.m:Missing	40	47		40	18

.r:Refuse		139	5	2	1	85
.x:Doesn't do		2	5	23	11	3
0.No		14400	13121	14928	13766	16072
1.Yes		567	526	739	955	933
Value-----		S1BATHA	S2BATHA	S3BATHA	S4BATHA	S5BATHA
.d:DK		22		25	5	
.m:Missing		14	23		10	6
.r:Refuse		90	3	1		56
.u:Unmar		4205	4009	4782	4847	5227
.v:SP NR		333	131	349	280	501
.x:Doesn't do		1		15	9	
0.No		10228	9259	10230	9184	7198
1.Yes		293	279	321	444	378
Value-----		R1EATA	R2EATA	R3EATA	R4EATA	R5EATA
.d:DK		39		31	6	2
.m:Missing		40	47		40	18
.r:Refuse		137	5	2	1	86
.x:Doesn't do		5	2	19	9	7
0.No		14655	13378	15151	14180	16509
1.Yes		310	272	520	543	492
Value-----		S1EATA	S2EATA	S3EATA	S4EATA	S5EATA
.d:DK		22		25	5	
.m:Missing		14	23		10	6
.r:Refuse		88	3	1		57
.u:Unmar		4205	4009	4782	4847	5227
.v:SP NR		333	131	349	280	501
.x:Doesn't do		4	1	14	7	3
0.No		10371	9393	10300	9360	7397
1.Yes		149	144	252	270	175
Value-----		R1BEDA	R2BEDA	R3BEDA	R4BEDA	R5BEDA
.d:DK		38		32	6	3
.m:Missing		40	47		40	18
.r:Refuse		138	5	3	1	87
.x:Doesn't do		1	1	3	4	2
0.No		14174	12976	14429	13295	15766
1.Yes		795	675	1256	1433	1238
Value-----		S1BEDA	S2BEDA	S3BEDA	S4BEDA	S5BEDA
.d:DK		22		26	5	
.m:Missing		14	23		10	6
.r:Refuse		89	3	1		57
.u:Unmar		4205	4009	4782	4847	5227
.v:SP NR		333	131	349	280	501
.x:Doesn't do		1	1	1		
0.No		10045	9158	9859	8854	7058
1.Yes		477	379	705	783	517
Value-----		R1TOILTA	R2TOILTA	R3TOILTA	R4TOILTA	R5TOILTA
.d:DK		44		33	6	6
.m:Missing		40	47		40	18
.r:Refuse		147	5	3	1	86
.x:Doesn't do			1	10	20	11
0.No		14385	13156	14743	13783	15922
1.Yes		570	495	934	929	1071
Value-----		S1TOILTA	S2TOILTA	S3TOILTA	S4TOILTA	S5TOILTA
.d:DK		25		26	5	1
.m:Missing		14	23		10	6
.r:Refuse		93	3	1		57
.u:Unmar		4205	4009	4782	4847	5227
.v:SP NR		333	131	349	280	501
.x:Doesn't do				5	6	4
0.No		10200	9276	10091	9150	7126
1.Yes		316	262	469	481	444

## How Constructed

These variables indicate difficulty with activities of daily living (ADLs). The ADL variables include walking across a room (RwWALKRA), dressing (RwDRESSA), bathing (RwBATHA), eating (RwEATA), getting in and out of bed (RwBEDA), and using the toilet (RwTOILTA). A code of 0 indicates that the respondent did not report any problems with the activity. A code of 1 indicates that the respondent reported some difficulty with the activity or if they reported "can't do". When respondents indicated "don't know" or refused to answer the Rw[adl]A variables are assigned special missing values .d or .r, respectively. Also, if the respondent reported "don't do" but received help, the ADL variables are set to 1, otherwise they are set to special missing value .x. The variables are also set to 0 if the difficulty question is skipped because of previous answers to the tasks asked about earlier (questions H1 to H13), indicating no difficulty. If the response is otherwise missing, then these variables are assigned special missing value .m. In all waves, the questions regarding difficulty dressing and help getting dressed are part of the introductory questions asked at the beginning of the module (Section H). This task is skipped if interviews are completed by proxy and the variable RwDRESSA and is set to .p. RwWALKRA, RwDRESSA, RwBATHA, RwEATA, RwBEDA, and RwTOILTA are set to plain missing (.) for respondents who did not respond to the current wave.

SwWALKRA, SwDRESSA, SwBATHA, SwEATA, SwBEDA, and SwTOILTA indicate whether the respondent's spouse reported any difficulty with each one of these daily living activities and are taken directly from the spouse's Rw[adl]A variables, respectively. In addition to the special missing codes used in the Rw[adl]A variables, if the respondent is not designated as coupled in the current wave and assumed to be single, a special missing value of .u is used. Also, if the respondent is not designated as coupled in the current wave but reports being married, a special missing value of .v is used.

These variables are used to construct a number of ADL summary indices. Please see "ADLs Summary" and "Other Summary Indices".

## Cross Wave Differences in MHAS

In Waves 1 and 2, two separate questions were asked regarding the help received with walking across the room, bathing or showering, eating, getting into or out of bed, or using the toilet. The first one is only asked if the respondent is married or in a union, and it says: "Does your spouse help you?". The second question is asked regardless of their marital status and it indicates if "anyone (else) ever help you?". These two questions are used to construct R1[adl]H and R2[adl]H and to determine if the respondent has some difficulty when they reported "Don't Do" when constructing R1[adl]A and R2[adl]A. Starting in Wave 3, only one question was asked regarding the help received: "Does someone help you?".

## Differences with the RAND HRS/Harmonized HRS

In the HRS introductory questions, respondents are asked whether they have difficulty jogging one mile. However, in the MHAS they ask if the respondent has any difficulty running or jogging one kilometer.

## MHAS Variables Used

Wave 1:

H1	long walk
H10	pulling
H11	picking up
H12	picking up a coin
H13	dressing
H14	help dressing
H15_1	difficult walking
H15_3	spouse helps walking
H15_4	other helps walking
H16_1	difficult bathing
H16_3	spouse helps bathing
H16_4	other helps bathing
H17_1	difficult eating
H17_3	spouse helps eating
H17_4	other helps eating
H18_1	difficult getting in an out of bed
H18_3	spouse helps getting in an out of bed
H18_4	other helps getting in an out of bed
H19_1	difficult using toilet



H19\_3 spouse helps using toilet  
 H19\_4 other helps using toilet  
 H4 sitting 2 hours  
 H5 getting up  
 H6 long climbing  
 H7 short climbing  
 H8 bending  
 H9 extending arms

## Wave 2:

H1 health problems-trouble walking blocks  
 H10 health problems-trouble pushing or pulling  
 H11 health problems-trouble carrying objects  
 H12 health problems-trouble picking up a coin  
 H13 health problems-trouble dressing self  
 H14 someone help you to get dressed  
 H15A health problem-trouble walking  
 H15E spouse helps  
 H15F additional person helps  
 H16A health problem-have trouble bathing  
 H16E spouse helps  
 H16F additional person helps  
 H17A health problem-trouble eating or cutting  
 H17E spouse helps  
 H17F additional person helps  
 H18A health problem-get in/out of bed  
 H18E spouse helps  
 H18F additional person helps  
 H19A health problem-trouble going to bathroom  
 H19E spouse helps  
 H19F additional person helps  
 H4 health problems-trouble staying seated  
 H5 health problems-trouble getting up from chair  
 H6 health problems-trouble with flights of stairs  
 H7 health problems-trouble with 1 flight of stairs  
 H8 health problems-trouble sitting up  
 H9 health problems-trouble lifting arms

## Wave 3:

H10\_12 Because of health problem, difficulty pushing or pullin  
 H11\_12 Because of health problem, difficulty carrying objects  
 H12\_12 Because of health problem, difficulty picking up a coin  
 H13\_12 Because of health problem, difficulty dressing self  
 H14\_12 Someone help you to get dressed  
 H15A\_12 Because of health problem, difficulty walking  
 H15D\_12 Someone help you walk across room  
 H16A\_12 Because of health problem, difficulty bathing  
 H16D\_12 Someone help you to bathe or shower  
 H17A\_12 Because of health problem, difficulty eating or cutting  
 H17D\_12 Does someone help you eat your food  
 H18A\_12 Because of health problem, difficulty get in/out of bed  
 H18D\_12 Does someone help you get into or out of bed  
 H19A\_12 Because of health problem, difficulty going to the bath  
 H19D\_12 Does someone help you use toilet, get on off  
 H1\_12 Because of health problem, difficulty walking blocks  
 H4\_12 Because of health problem, difficulty staying seated  
 H5\_12 Because of health problem, difficulty getting up from c  
 H6\_12 Because of health problem, difficulty with flights of s  
 H7\_12 Because of health problem, difficulty with 1 flight of  
 H8\_12 Because of health problem, difficulty sitting up  
 H9\_12 Because of health problem, difficulty lifting arms

## Wave 4:

H10\_15 Because of health problem, does respondent have difficu  
 H11\_15 Because of health problem, does respondent have difficu  
 H12\_15 Because of health problem, does respondent have difficu  
 H13\_15 Because of health problem, does respondent have difficu

H14_15	Does someone help respondent to get dressed
H15A_15	Because of health problem, does respondent have any dif
H15D_15	Does someone help respondent walking across a room
H16A_15	Because of health problem, does respondent have any dif
H16D_15	Does someone help respondent bathing or showering
H17A_15	Because of health problem, does respondent have any dif
H17D_15	Does someone help respondent eating
H18A_15	Because of health problem, does respondent have any dif
H18D_15	Does someone help respondent getting in or out of bed
H19A_15	Because of health problem, does respondent have any dif
H19D_15	Does someone help respondent using the toilet
H1_15	Because of health problem, does respondent have difficu
H4_15	Because of health problem, does respondent have difficu
H5_15	Because of health problem, does respondent have difficu
H6_15	Because of health problem, does respondent have difficu
H7_15	Because of health problem, does respondent have difficu
H8_15	Because of health problem, does respondent have difficu
H9_15	Because of health problem, does respondent have difficu
Wave 5:	
H10_18	Because of health problem, does R have difficulty pushi
H11_18	Due to health problem, difficult for R to lift/carry ob
H12_18	Due to health problem, does R have difficulty picking u
H13_18	Due to health problem, difficult for R to dress, includ
H14_18	Does someone help R to get dressed
H15A_18	Because of health problem, does R have any difficulty w
H15D_18	Does someone help R walking across a room
H16A_18	Because of health problem, does R have any difficulty b
H16D_18	Does someone help R bathing or showering
H17A_18	Due to health problem, does R have any difficulty eatin
H17D_18	Does someone help R eating
H18A_18	Because of health problem, does R have any difficulty g
H18D_18	Does someone help R getting in or out of bed
H19A_18	Because of health problem, does R have any difficulty u
H19D_18	Does someone help R using the toilet
H1_18	Because of health problem, does R have difficulty walki
H4_18	Because of health problem, does R have difficulty sitti
H5_18	Due to health problem, difficult for R to get up from c
H6_18	Due to health problem, hard for R to climb several flig
H7_18	Due to health problem, difficult for R to climb 1 fligh
H8_18	Due to health problem, does R have difficulty stooping,
H9_18	Due to health problem, difficult for R to reach/extend

<b>Instrumental Activities of Daily Living (IADLs): Raw Recodes</b>
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Wave	Variable	Label	Type
1	R1MONEY	r1money: w1 R Difficulty-Managing money	Categ
2	R2MONEY	r2money: w2 R Difficulty-Managing money	Categ
3	R3MONEY	r3money: w3 R Difficulty-Managing money	Categ
4	R4MONEY	r4money: w4 R Difficulty-Managing money	Categ
5	R5MONEY	r5money: w5 R Difficulty-Managing money	Categ
1	S1MONEY	s1money: w1 S Difficulty-Managing money	Categ
2	S2MONEY	s2money: w2 S Difficulty-Managing money	Categ
3	S3MONEY	s3money: w3 S Difficulty-Managing money	Categ
4	S4MONEY	s4money: w4 S Difficulty-Managing money	Categ
5	S5MONEY	s5money: w5 S Difficulty-Managing money	Categ
1	R1MEDS	r1meds: w1 R Difficulty-Taking medications	Categ
2	R2MEDS	r2meds: w2 R Difficulty-Taking medications	Categ
3	R3MEDS	r3meds: w3 R Difficulty-Taking medications	Categ
4	R4MEDS	r4meds: w4 R Difficulty-Taking medications	Categ
5	R5MEDS	r5meds: w5 R Difficulty-Taking medications	Categ
1	S1MEDS	s1meds: w1 S Difficulty-Taking medications	Categ
2	S2MEDS	s2meds: w2 S Difficulty-Taking medications	Categ
3	S3MEDS	s3meds: w3 S Difficulty-Taking medications	Categ
4	S4MEDS	s4meds: w4 S Difficulty-Taking medications	Categ
5	S5MEDS	s5meds: w5 S Difficulty-Taking medications	Categ
1	R1SHOP	r1shop: w1 R Difficulty-Shopping for groceries	Categ
2	R2SHOP	r2shop: w2 R Difficulty-Shopping for groceries	Categ
3	R3SHOP	r3shop: w3 R Difficulty-Shopping for groceries	Categ
4	R4SHOP	r4shop: w4 R Difficulty-Shopping for groceries	Categ
5	R5SHOP	r5shop: w5 R Difficulty-Shopping for groceries	Categ
1	S1SHOP	s1shop: w1 S Difficulty-Shopping for groceries	Categ
2	S2SHOP	s2shop: w2 S Difficulty-Shopping for groceries	Categ
3	S3SHOP	s3shop: w3 S Difficulty-Shopping for groceries	Categ
4	S4SHOP	s4shop: w4 S Difficulty-Shopping for groceries	Categ
5	S5SHOP	s5shop: w5 S Difficulty-Shopping for groceries	Categ
1	R1MEALS	r1meals: w1 R Difficulty-Preparing hot meals	Categ
2	R2MEALS	r2meals: w2 R Difficulty-Preparing hot meals	Categ
3	R3MEALS	r3meals: w3 R Difficulty-Preparing hot meals	Categ
4	R4MEALS	r4meals: w4 R Difficulty-Preparing hot meals	Categ
5	R5MEALS	r5meals: w5 R Difficulty-Preparing hot meals	Categ
1	S1MEALS	s1meals: w1 S Difficulty-Preparing hot meals	Categ
2	S2MEALS	s2meals: w2 S Difficulty-Preparing hot meals	Categ
3	S3MEALS	s3meals: w3 S Difficulty-Preparing hot meals	Categ
4	S4MEALS	s4meals: w4 S Difficulty-Preparing hot meals	Categ
5	S5MEALS	s5meals: w5 S Difficulty-Preparing hot meals	Categ

### Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R1MONEY	14052	0.05	0.51	0.00	9.00
R2MONEY	12516	0.05	0.48	0.00	9.00
R3MONEY	14439	0.05	0.50	0.00	9.00
R4MONEY	13801	0.07	0.63	0.00	9.00
R5MONEY	15754	0.05	0.45	0.00	9.00

S1MONEY	9929	0.04	0.46	0.00	9.00
S2MONEY	8742	0.04	0.42	0.00	9.00
S3MONEY	9862	0.04	0.47	0.00	9.00
S4MONEY	9167	0.06	0.60	0.00	9.00
S5MONEY	7063	0.04	0.43	0.00	9.00
R1MEDS	14056	0.04	0.44	0.00	9.00
R2MEDS	12516	0.06	0.59	0.00	9.00
R3MEDS	14445	0.13	0.98	0.00	9.00
R4MEDS	13802	0.15	1.04	0.00	9.00
R5MEDS	15753	0.06	0.58	0.00	9.00
S1MEDS	9934	0.03	0.40	0.00	9.00
S2MEDS	8743	0.05	0.59	0.00	9.00
S3MEDS	9864	0.12	0.98	0.00	9.00
S4MEDS	9165	0.14	1.01	0.00	9.00
S5MEDS	7062	0.05	0.49	0.00	9.00
R1SHOP	14016	0.27	1.35	0.00	9.00
R2SHOP	12515	0.26	1.29	0.00	9.00
R3SHOP	14440	0.25	1.20	0.00	9.00
R4SHOP	13801	0.30	1.30	0.00	9.00
R5SHOP	15754	0.19	1.01	0.00	9.00
S1SHOP	9898	0.26	1.38	0.00	9.00
S2SHOP	8742	0.24	1.30	0.00	9.00
S3SHOP	9863	0.22	1.17	0.00	9.00
S4SHOP	9166	0.24	1.19	0.00	9.00
S5SHOP	7062	0.19	1.02	0.00	9.00
R1MEALS	14001	0.47	1.91	0.00	9.00
R2MEALS	12514	0.48	1.93	0.00	9.00
R3MEALS	14440	0.44	1.85	0.00	9.00
R4MEALS	13801	0.40	1.73	0.00	9.00
R5MEALS	15440	0.09	0.67	0.00	9.00
S1MEALS	9880	0.53	2.06	0.00	9.00
S2MEALS	8742	0.54	2.07	0.00	9.00
S3MEALS	9860	0.50	2.00	0.00	9.00
S4MEALS	9165	0.42	1.81	0.00	9.00
S5MEALS	6881	0.09	0.71	0.00	9.00

## Categorical Variable Codes

Value-----	R1MONEY	R2MONEY	R3MONEY	R4MONEY	R5MONEY
.d:DK	17		8	7	2
.m:Missing	38	25		40	17
.p:Proxy interview, not asked	1032	1161	1275	929	1328
.r:Refuse	47	2	1	2	13
0.No	13693	12205	14056	13321	15350
1.Yes	282	240	331	383	333
2.Can't Do	37	40	12	35	37
9.Don't Do	40	31	40	62	34
Value-----	S1MONEY	S2MONEY	S3MONEY	S4MONEY	S5MONEY
.d:DK	13		4	5	
.m:Missing	13	6		10	5
.p:Proxy interview, not asked	660	814	726	470	563
.r:Refuse	33	2			7
.u:Unmar	4205	4009	4782	4847	5227
.v:SP NR	333	131	349	280	501
0.No	9747	8577	9650	8922	6887
1.Yes	143	128	182	191	148
2.Can't Do	15	20	6	16	14
9.Don't Do	24	17	24	38	14

Value-----	R1MEDS	R2MEDS	R3MEDS	R4MEDS	R5MEDS
.d:DK	16		1	6	3
.m:Missing	38	25		40	17
.p:Proxy interview, not asked	1032	1162	1275	929	1328
.r:Refuse	44	1	2	2	13
0.No	13692	12193	13944	13143	15328
1.Yes	314	252	327	462	350
2.Can't Do	21	20	5	14	14
9.Don't Do	29	51	169	183	61

Value-----	S1MEDS	S2MEDS	S3MEDS	S4MEDS	S5MEDS
.d:DK	11		1	6	
.m:Missing	13	6		10	5
.p:Proxy interview, not asked	660	814	726	470	563
.r:Refuse	30	1	1	1	8
.u:Unmar	4205	4009	4782	4847	5227
.v:SP NR	333	131	349	280	501
0.No	9745	8568	9573	8815	6896
1.Yes	165	128	174	228	143
2.Can't Do	7	11	1	7	4
9.Don't Do	17	36	116	115	19

Value-----	R1SHOP	R2SHOP	R3SHOP	R4SHOP	R5SHOP
.d:DK	30		3	8	2
.m:Missing	38	25		40	17
.p:Proxy interview, not asked	1032	1162	1275	929	1328
.r:Refuse	70	2	5	1	13
0.No	12858	11435	12924	12119	14362
1.Yes	693	687	1120	1153	1053
2.Can't Do	151	139	151	253	154
9.Don't Do	314	254	245	276	185

Value-----	S1SHOP	S2SHOP	S3SHOP	S4SHOP	S5SHOP
.d:DK	21		1	6	1
.m:Missing	13	6		10	5
.p:Proxy interview, not asked	660	814	726	470	563
.r:Refuse	56	2	2		7
.u:Unmar	4205	4009	4782	4847	5227
.v:SP NR	333	131	349	280	501
0.No	9207	8158	9062	8331	6462
1.Yes	379	330	567	569	450
2.Can't Do	81	72	72	112	64
9.Don't Do	231	182	162	154	86

Value-----	R1MEALS	R2MEALS	R3MEALS	R4MEALS	R5MEALS
.d:DK	34		3	7	315
.m:Missing	38	25		40	17
.p:Proxy interview, not asked	1032	1162	1275	929	1328
.r:Refuse	81	3	5	2	14
0.No	12841	11420	13190	12560	14701
1.Yes	411	404	528	545	585
2.Can't Do	91	90	87	176	77
9.Don't Do	658	600	635	520	77

Value-----	S1MEALS	S2MEALS	S3MEALS	S4MEALS	S5MEALS
.d:DK	28		3	7	182
.m:Missing	13	6		10	5
.p:Proxy interview, not asked	660	814	726	470	563
.r:Refuse	67	2	3		7
.u:Unmar	4205	4009	4782	4847	5227
.v:SP NR	333	131	349	280	501
0.No	9053	8016	9048	8452	6578
1.Yes	227	191	260	251	236
2.Can't Do	52	45	41	76	28
9.Don't Do	548	490	511	386	39

## How Constructed

These variables recode the raw variables for difficulty with instrumental activities of daily living (IADLs) as they appear in the MHAS data except for missing values and accounting for skip patterns. The IADLs include managing money (RwMONEY), taking medications (RwMEDS), shopping for groceries (RwSHOP), and

preparing meals (RwMEALS). All the Rw[iadl] variables are set to 0 if the response is "no" difficulty; 1 if the response is "yes"; and 2 or 9 if the response is "can't do" or "don't do", respectively. Rwmoney, Rwmeds, Rwsshop, and RwmEALS are assigned special missing values .d for "don't know", .r for refusals, and .p for proxy interviews. If the Respondent answers "can't do" or "don't do" to the first question, the second question asks if this is because of a health problem. If it is because of a health problem, Rw[iadl] is set to 2 for "can't do". If not, the answer is considered a "don't do" response and Rw[iadl] is set to 9. If the answer is otherwise missing, then these variables are assigned special missing .m. Rwmoney, Rwmeds, Rwsshop, and RwmEALS are set to plain missing (.) for respondents who did not respond to the current wave.

Swmoney, Swmeds, Swsshop, and SwmEALS indicate whether the respondent's spouse reported any difficulty with instrumental activities of daily living and are taken directly from the spouse's Rwmoney, Rwmeds, Rwsshop, and RwmEALS variables, respectively. In addition to the special missing codes used in the Rw[iadl] variables, if the respondent is not designated as coupled in the current wave and assumed to be single, a special missing value of .u is used. Also, if the respondent is not designated as coupled in the current wave but reports being married, a special missing value of .v is used.

## Cross Wave Differences in MHAS

No differences known.

## Differences with the RAND HRS/Harmonized HRS

Unlike the HRS, the MHAS does not include the instrumental activities of daily living (IADLs) regarding using the phone and using a map.

The HRS includes an additional question after the initial taking medication question if the respondent answered don't do to the first question. For these respondents the HRS asks "Do you think you would have any difficulty taking medications if you needed to do so?" If the respondent answered no, Rwmeds in the RAND HRS is set to .z to indicate the respondent doesn't take medications but says they wouldn't have difficulty if they did. If the respondent answered yes, they are then asked the follow up question of whether this is because of a health problem. For respondents who answered that they would have difficulty taking medication and answered that this was because of a health problem, Rwmeds in the RAND HRS is set to 1 for "yes". For respondents who answered that they would have difficulty taking medication and answered that this was not because of a health problem, Rwmeds in the RAND HRS is set to 9 for "don't do". The MHAS does not include a question about whether the respondent would have difficulty taking medication if they don't take medication so Rwmeds in the Harmonized MHAS does include any recoding based on this sort of question.

## MHAS Variables Used

Wave 1:	
H26_1	hot meal
H27_1	shopping
H28_1	taking medication
H29_1	managing money
Wave 2:	
H26A	trouble preparing hot food
H27A	trouble shopping
H28A	trouble taking medicine
H29A	trouble managing money
Wave 3:	
H26A_12	Difficulty preparing hot food
H27A_12	Difficulty shopping
H28A_12	Difficulty taking medications
H29A_12	Difficulty managing money
Wave 4:	
H26A_15	Because of health problem, does respondent have any dif
H27A_15	Because of health problem, does respondent have any dif
H28A_15	Because of health problem, does respondent have any dif
H29A_15	Because of health problem, does respondent have any dif
Wave 5:	
H26A_18	Because of health problem, does R have any difficulty p

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H27A_18	Because of health problem, does R have any difficulty s
H28A_18	Because of health problem, does R have any difficulty t
H29A_18	Because of health problem, does R have any difficulty m

<b>Instrumental Activities of Daily Living (IADLs): Some Difficulty</b>
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Wave	Variable	Label	Type
1	R1MONEYA	r1moneya: w1 R Some difficulty-Managing money	Categ
2	R2MONEYA	r2moneya: w2 R Some difficulty-Managing money	Categ
3	R3MONEYA	r3moneya: w3 R Some difficulty-Managing money	Categ
4	R4MONEYA	r4moneya: w4 R Some difficulty-Managing money	Categ
5	R5MONEYA	r5moneya: w5 R Some difficulty-Managing money	Categ
1	S1MONEYA	s1moneya: w1 S Some difficulty-Managing money	Categ
2	S2MONEYA	s2moneya: w2 S Some difficulty-Managing money	Categ
3	S3MONEYA	s3moneya: w3 S Some difficulty-Managing money	Categ
4	S4MONEYA	s4moneya: w4 S Some difficulty-Managing money	Categ
5	S5MONEYA	s5moneya: w5 S Some difficulty-Managing money	Categ
1	R1MEDSA	r1medsa: w1 R Some difficulty-Taking medications	Categ
2	R2MEDSA	r2medsa: w2 R Some difficulty-Taking medications	Categ
3	R3MEDSA	r3medsa: w3 R Some difficulty-Taking medications	Categ
4	R4MEDSA	r4medsa: w4 R Some difficulty-Taking medications	Categ
5	R5MEDSA	r5medsa: w5 R Some difficulty-Taking medications	Categ
1	S1MEDSA	s1medsa: w1 S Some difficulty-Taking medications	Categ
2	S2MEDSA	s2medsa: w2 S Some difficulty-Taking medications	Categ
3	S3MEDSA	s3medsa: w3 S Some difficulty-Taking medications	Categ
4	S4MEDSA	s4medsa: w4 S Some difficulty-Taking medications	Categ
5	S5MEDSA	s5medsa: w5 S Some difficulty-Taking medications	Categ
1	R1SHOPA	r1shopa: w1 R Some difficulty-Shopping for groceries	Categ
2	R2SHOPA	r2shopa: w2 R Some difficulty-Shopping for groceries	Categ
3	R3SHOPA	r3shopa: w3 R Some difficulty-Shopping for groceries	Categ
4	R4SHOPA	r4shopa: w4 R Some difficulty-Shopping for groceries	Categ
5	R5SHOPA	r5shopa: w5 R Some difficulty-Shopping for groceries	Categ
1	S1SHOPA	s1shopa: w1 S Some difficulty-Shopping for groceries	Categ
2	S2SHOPA	s2shopa: w2 S Some difficulty-Shopping for groceries	Categ
3	S3SHOPA	s3shopa: w3 S Some difficulty-Shopping for groceries	Categ
4	S4SHOPA	s4shopa: w4 S Some difficulty-Shopping for groceries	Categ
5	S5SHOPA	s5shopa: w5 S Some difficulty-Shopping for groceries	Categ
1	R1MEALSA	r1mealsa: w1 R Some difficulty-Preparing hot meals	Categ
2	R2MEALSA	r2mealsa: w2 R Some difficulty-Preparing hot meals	Categ
3	R3MEALSA	r3mealsa: w3 R Some difficulty-Preparing hot meals	Categ
4	R4MEALSA	r4mealsa: w4 R Some difficulty-Preparing hot meals	Categ
5	R5MEALSA	r5mealsa: w5 R Some difficulty-Preparing hot meals	Categ
1	S1MEALSA	s1mealsa: w1 S Some difficulty-Preparing hot meals	Categ
2	S2MEALSA	s2mealsa: w2 S Some difficulty-Preparing hot meals	Categ
3	S3MEALSA	s3mealsa: w3 S Some difficulty-Preparing hot meals	Categ
4	S4MEALSA	s4mealsa: w4 S Some difficulty-Preparing hot meals	Categ
5	S5MEALSA	s5mealsa: w5 S Some difficulty-Preparing hot meals	Categ

### Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R1MONEYA	14012	0.02	0.15	0.00	1.00
R2MONEYA	12485	0.02	0.15	0.00	1.00
R3MONEYA	14399	0.02	0.15	0.00	1.00
R4MONEYA	13739	0.03	0.17	0.00	1.00
R5MONEYA	15720	0.02	0.15	0.00	1.00



S1MONEYA	9905	0.02	0.13	0.00	1.00
S2MONEYA	8725	0.02	0.13	0.00	1.00
S3MONEYA	9838	0.02	0.14	0.00	1.00
S4MONEYA	9129	0.02	0.15	0.00	1.00
S5MONEYA	7049	0.02	0.15	0.00	1.00
R1MEDSA	14027	0.02	0.15	0.00	1.00
R2MEDSA	12465	0.02	0.15	0.00	1.00
R3MEDSA	14276	0.02	0.15	0.00	1.00
R4MEDSA	13619	0.03	0.18	0.00	1.00
R5MEDSA	15692	0.02	0.15	0.00	1.00
S1MEDSA	9917	0.02	0.13	0.00	1.00
S2MEDSA	8707	0.02	0.13	0.00	1.00
S3MEDSA	9748	0.02	0.13	0.00	1.00
S4MEDSA	9050	0.03	0.16	0.00	1.00
S5MEDSA	7043	0.02	0.14	0.00	1.00
R1SHOPA	13702	0.06	0.24	0.00	1.00
R2SHOPA	12261	0.07	0.25	0.00	1.00
R3SHOPA	14195	0.09	0.29	0.00	1.00
R4SHOPA	13525	0.10	0.31	0.00	1.00
R5SHOPA	15569	0.08	0.27	0.00	1.00
S1SHOPA	9667	0.05	0.21	0.00	1.00
S2SHOPA	8560	0.05	0.21	0.00	1.00
S3SHOPA	9701	0.07	0.25	0.00	1.00
S4SHOPA	9012	0.08	0.26	0.00	1.00
S5SHOPA	6976	0.07	0.26	0.00	1.00
R1MEALSA	13343	0.04	0.19	0.00	1.00
R2MEALSA	11914	0.04	0.20	0.00	1.00
R3MEALSA	13805	0.04	0.21	0.00	1.00
R4MEALSA	13281	0.05	0.23	0.00	1.00
R5MEALSA	15363	0.04	0.20	0.00	1.00
S1MEALSA	9332	0.03	0.17	0.00	1.00
S2MEALSA	8252	0.03	0.17	0.00	1.00
S3MEALSA	9349	0.03	0.18	0.00	1.00
S4MEALSA	8779	0.04	0.19	0.00	1.00
S5MEALSA	6842	0.04	0.19	0.00	1.00

Categorical Variable Codes

Value-----	R1MONEYA	R2MONEYA	R3MONEYA	R4MONEYA	R5MONEYA
.d:DK	17		8	7	2
.m:Missing	38	25		40	17
.p:Proxy interview, not asked	1032	1161	1275	929	1328
.r:Refuse	47	2	1	2	13
.x:Doesn't do	40	31	40	62	34
0.No	13693	12205	14056	13321	15350
1.Yes	319	280	343	418	370
Value-----	S1MONEYA	S2MONEYA	S3MONEYA	S4MONEYA	S5MONEYA
.d:DK	13		4	5	
.m:Missing	13	6		10	5
.p:Proxy interview, not asked	660	814	726	470	563
.r:Refuse	33	2			7
.u:Unmar	4205	4009	4782	4847	5227
.v:SP NR	333	131	349	280	501
.x:Doesn't do	24	17	24	38	14
0.No	9747	8577	9650	8922	6887
1.Yes	158	148	188	207	162
Value-----	R1MEDSA	R2MEDSA	R3MEDSA	R4MEDSA	R5MEDSA
.d:DK	16		1	6	3

.m:Missing		38	25	40	17	
.p:Proxy interview, not asked		1032	1162	1275	929	1328
.r:Refuse		44	1	2	2	13
.x:Doesn't do		29	51	169	183	61
0.No		13692	12193	13944	13143	15328
1.Yes		335	272	332	476	364
Value-----		S1MEDSA	S2MEDSA	S3MEDSA	S4MEDSA	S5MEDSA
.d:DK		11		1	6	
.m:Missing		13	6		10	5
.p:Proxy interview, not asked		660	814	726	470	563
.r:Refuse		30	1	1	1	8
.u:Unmar		4205	4009	4782	4847	5227
.v:SP NR		333	131	349	280	501
.x:Doesn't do		17	36	116	115	19
0.No		9745	8568	9573	8815	6896
1.Yes		172	139	175	235	147
Value-----		R1SHOPA	R2SHOPA	R3SHOPA	R4SHOPA	R5SHOPA
.d:DK		30		3	8	2
.m:Missing		38	25		40	17
.p:Proxy interview, not asked		1032	1162	1275	929	1328
.r:Refuse		70	2	5	1	13
.x:Doesn't do		314	254	245	276	185
0.No		12858	11435	12924	12119	14362
1.Yes		844	826	1271	1406	1207
Value-----		S1SHOPA	S2SHOPA	S3SHOPA	S4SHOPA	S5SHOPA
.d:DK		21		1	6	1
.m:Missing		13	6		10	5
.p:Proxy interview, not asked		660	814	726	470	563
.r:Refuse		56	2	2		7
.u:Unmar		4205	4009	4782	4847	5227
.v:SP NR		333	131	349	280	501
.x:Doesn't do		231	182	162	154	86
0.No		9207	8158	9062	8331	6462
1.Yes		460	402	639	681	514
Value-----		R1MEALSA	R2MEALSA	R3MEALSA	R4MEALSA	R5MEALSA
.d:DK		34		3	7	315
.m:Missing		38	25		40	17
.p:Proxy interview, not asked		1032	1162	1275	929	1328
.r:Refuse		81	3	5	2	14
.x:Doesn't do		658	600	635	520	77
0.No		12841	11420	13190	12560	14701
1.Yes		502	494	615	721	662
Value-----		S1MEALSA	S2MEALSA	S3MEALSA	S4MEALSA	S5MEALSA
.d:DK		28		3	7	182
.m:Missing		13	6		10	5
.p:Proxy interview, not asked		660	814	726	470	563
.r:Refuse		67	2	3		7
.u:Unmar		4205	4009	4782	4847	5227
.v:SP NR		333	131	349	280	501
.x:Doesn't do		548	490	511	386	39
0.No		9053	8016	9048	8452	6578
1.Yes		279	236	301	327	264

## How Constructed

These variables indicate difficulty with instrumental activities of daily living (IADLs). The IADL variables include managing money (RwMONEYA), taking medications (RwMEDSA), shopping for groceries (RwSHOPA), and preparing meals (RwMEALSA). A code of 0 indicates that the respondent did not report any problems with the activity. A code of 1 indicates that either the respondent reported some difficulty with the activity or the respondent answered "Can't Do" or "Don't do" to the initial question about the activity and they answered that this was because of a health problem in the follow-up question. A special missing value of .x indicates that the respondent answered "Can't Do" or "Don't do" to the initial question about the activity and they answered that this was not because of a health problem in the follow-up question. When respondents indicated "don't know" or refused to answer the Rw[iadl]A variables are assigned special missing values .d or .r, respectively. RwMONEYA, RwMEDSA, RwSHOPA, and RwMEALSA are

set to special missing .p for proxy interviews, to .m for other missing answers, and to plain missing (.) for respondents who did not respond to the current wave.

SwMONEYA, SwMEDSA, SwSHOPA, and SwMEALSA indicate whether the respondent's spouse reported any difficulty with each one of these instrumental activities of daily living and are taken directly from the spouse's Rw[iadl]A variables, respectively. In addition to the special missing codes used in the Rw[iadl]A variables, if the respondent is not designated as coupled in the current wave and assumed to be single, a special missing value of .u is used. Also, if the respondent is not designated as coupled in the current wave but reports being married, a special missing value of .v is used.

These variables are used to construct a number of IADL summary indices. Please see "IADLs Summary" and "Other Summary Indices".

## Cross Wave Differences in MHAS

No differences known.

## Differences with the RAND HRS/Harmonized HRS

Unlike the HRS, the MHAS does not include the instrumental activities of daily living (IADLs) regarding using the phone and using a map.

The HRS includes an additional question after the initial taking medication question if the respondent answered don't do to the first question. For these respondents the HRS asks "Do you think you would have any difficulty taking medications if you needed to do so?" If the respondent answered no, RwMEDSA in the RAND HRS is set to .z to indicate the respondent doesn't take medications but says they wouldn't have difficulty if they did. If the respondent answered yes, they are then asked the follow up question of whether this is because of a health problem. For respondents who answered that they would have difficulty taking medication and answered that this was because of a health problem, RwMEDSA in the RAND HRS is set to 1 for "yes". For respondents who answered that they would have difficulty taking medication and answered that this was not because of a health problem, RwMEDSA in the RAND HRS is set to .x. The MHAS does not include a question about whether the respondent would have difficulty taking medication if they don't take medication so RwMEDSA in the Harmonized MHAS does include any recoding based on this sort of question.

## MHAS Variables Used

### Wave 1:

H26_1	hot meal
H26_2	health prevents preparing hot meal
H27_1	shopping
H27_2	health prevents shopping
H28_1	taking medication
H28_2	health prevents taking medication
H29_1	managing money
H29_2	health prevents managing money

### Wave 2:

H26A	trouble preparing hot food
H26B	this is due to a health problem
H27A	trouble shopping
H27B	this is due to a health problem
H28A	trouble taking medicine
H28B	this is due to a health problem
H29A	trouble managing money
H29B	this is due to a health problem

### Wave 3:

H26A_12	Difficulty preparing hot food
H26B_12	Difficulty preparing hot food due to a health problem
H27A_12	Difficulty shopping
H27B_12	Difficulty shopping due to a health problem
H28A_12	Difficulty taking medications
H28B_12	Difficulty taking medications due to a health problem
H29A_12	Difficulty managing money

H29B_12	Difficulty managing money due to a health problem
Wave 4:	
H26A_15	Because of health problem, does respondent have any dif
H26B_15	Is this (difficulty preparing a hot meal) because of a
H27A_15	Because of health problem, does respondent have any dif
H27B_15	Is this (shopping for groceries) because of a health pr
H28A_15	Because of health problem, does respondent have any dif
H28B_15	Is this (taking medications) because of a health proble
H29A_15	Because of health problem, does respondent have any dif
H29B_15	Is this (managing his/her money) because of a health pr
Wave 5:	
H26A_18	Because of health problem, does R have any difficulty p
H26B_18	Is this (difficulty preparing a hot meal) because of a
H27A_18	Because of health problem, does R have any difficulty s
H27B_18	Is this (difficulty shopping for groceries) because of
H28A_18	Because of health problem, does R have any difficulty t
H28B_18	Is this (difficulty taking medications) because of a he
H29A_18	Because of health problem, does R have any difficulty m
H29B_18	Is this (difficulty managing his/her money) because of

<b>Other Functional Limitations: Raw Recodes</b>
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Wave	Variable	Label	Type
1	R1WALKS	r1walks: w1 R Difficulty-Walking several blocks	Categ
2	R2WALKS	r2walks: w2 R Difficulty-Walking several blocks	Categ
3	R3WALKS	r3walks: w3 R Difficulty-Walking several blocks	Categ
4	R4WALKS	r4walks: w4 R Difficulty-Walking several blocks	Categ
5	R5WALKS	r5walks: w5 R Difficulty-Walking several blocks	Categ
1	S1WALKS	s1walks: w1 S Difficulty-Walking several blocks	Categ
2	S2WALKS	s2walks: w2 S Difficulty-Walking several blocks	Categ
3	S3WALKS	s3walks: w3 S Difficulty-Walking several blocks	Categ
4	S4WALKS	s4walks: w4 S Difficulty-Walking several blocks	Categ
5	S5WALKS	s5walks: w5 S Difficulty-Walking several blocks	Categ
1	R1JOG	r1jog: w1 R Difficulty-Run/Jogging one km	Categ
2	R2JOG	r2jog: w2 R Difficulty-Run/Jogging one km	Categ
3	R3JOG	r3jog: w3 R Difficulty-Run/Jogging one km	Categ
4	R4JOG	r4jog: w4 R Difficulty-Run/Jogging one km	Categ
5	R5JOG	r5jog: w5 R Difficulty-Run/Jogging one km	Categ
1	S1JOG	s1jog: w1 S Difficulty-Run/Jogging one km	Categ
2	S2JOG	s2jog: w2 S Difficulty-Run/Jogging one km	Categ
3	S3JOG	s3jog: w3 S Difficulty-Run/Jogging one km	Categ
4	S4JOG	s4jog: w4 S Difficulty-Run/Jogging one km	Categ
5	S5JOG	s5jog: w5 S Difficulty-Run/Jogging one km	Categ
1	R1WALK1	r1walk1: w1 R Difficulty-Walking one block	Categ
2	R2WALK1	r2walk1: w2 R Difficulty-Walking one block	Categ
3	R3WALK1	r3walk1: w3 R Difficulty-Walking one block	Categ
4	R4WALK1	r4walk1: w4 R Difficulty-Walking one block	Categ
5	R5WALK1	r5walk1: w5 R Difficulty-Walking one block	Categ
1	S1WALK1	s1walk1: w1 S Difficulty-Walking one block	Categ
2	S2WALK1	s2walk1: w2 S Difficulty-Walking one block	Categ
3	S3WALK1	s3walk1: w3 S Difficulty-Walking one block	Categ
4	S4WALK1	s4walk1: w4 S Difficulty-Walking one block	Categ
5	S5WALK1	s5walk1: w5 S Difficulty-Walking one block	Categ
1	R1SIT	r1sit: w1 R Difficulty-Sitting for 2 hours	Categ
2	R2SIT	r2sit: w2 R Difficulty-Sitting for 2 hours	Categ
3	R3SIT	r3sit: w3 R Difficulty-Sitting for 2 hours	Categ
4	R4SIT	r4sit: w4 R Difficulty-Sitting for 2 hours	Categ
5	R5SIT	r5sit: w5 R Difficulty-Sitting for 2 hours	Categ
1	S1SIT	s1sit: w1 S Difficulty-Sitting for 2 hours	Categ
2	S2SIT	s2sit: w2 S Difficulty-Sitting for 2 hours	Categ
3	S3SIT	s3sit: w3 S Difficulty-Sitting for 2 hours	Categ
4	S4SIT	s4sit: w4 S Difficulty-Sitting for 2 hours	Categ
5	S5SIT	s5sit: w5 S Difficulty-Sitting for 2 hours	Categ
1	R1CHAIR	r1chair: w1 R Difficulty-Getting up from chair	Categ
2	R2CHAIR	r2chair: w2 R Difficulty-Getting up from chair	Categ
3	R3CHAIR	r3chair: w3 R Difficulty-Getting up from chair	Categ
4	R4CHAIR	r4chair: w4 R Difficulty-Getting up from chair	Categ
5	R5CHAIR	r5chair: w5 R Difficulty-Getting up from chair	Categ
1	S1CHAIR	s1chair: w1 S Difficulty-Getting up from chair	Categ
2	S2CHAIR	s2chair: w2 S Difficulty-Getting up from chair	Categ
3	S3CHAIR	s3chair: w3 S Difficulty-Getting up from chair	Categ
4	S4CHAIR	s4chair: w4 S Difficulty-Getting up from chair	Categ
5	S5CHAIR	s5chair: w5 S Difficulty-Getting up from chair	Categ

1	R1CLIMS	r1clims: w1 R Difficulty-Climbing sev flts stairs	Categ
2	R2CLIMS	r2clims: w2 R Difficulty-Climbing sev flts stairs	Categ
3	R3CLIMS	r3clims: w3 R Difficulty-Climbing sev flts stairs	Categ
4	R4CLIMS	r4clims: w4 R Difficulty-Climbing sev flts stairs	Categ
5	R5CLIMS	r5clims: w5 R Difficulty-Climbing sev flts stairs	Categ
1	S1CLIMS	s1clims: w1 S Difficulty-Climbing sev flts stairs	Categ
2	S2CLIMS	s2clims: w2 S Difficulty-Climbing sev flts stairs	Categ
3	S3CLIMS	s3clims: w3 S Difficulty-Climbing sev flts stairs	Categ
4	S4CLIMS	s4clims: w4 S Difficulty-Climbing sev flts stairs	Categ
5	S5CLIMS	s5clims: w5 S Difficulty-Climbing sev flts stairs	Categ
1	R1CLIM1	r1clim1: w1 R Difficulty-Climbing one flt stairs	Categ
2	R2CLIM1	r2clim1: w2 R Difficulty-Climbing one flt stairs	Categ
3	R3CLIM1	r3clim1: w3 R Difficulty-Climbing one flt stairs	Categ
4	R4CLIM1	r4clim1: w4 R Difficulty-Climbing one flt stairs	Categ
5	R5CLIM1	r5clim1: w5 R Difficulty-Climbing one flt stairs	Categ
1	S1CLIM1	s1clim1: w1 S Difficulty-Climbing one flt stairs	Categ
2	S2CLIM1	s2clim1: w2 S Difficulty-Climbing one flt stairs	Categ
3	S3CLIM1	s3clim1: w3 S Difficulty-Climbing one flt stairs	Categ
4	S4CLIM1	s4clim1: w4 S Difficulty-Climbing one flt stairs	Categ
5	S5CLIM1	s5clim1: w5 S Difficulty-Climbing one flt stairs	Categ
1	R1STOOP	r1stoop: w1 R Difficulty-Stoop/kneel/crouching	Categ
2	R2STOOP	r2stoop: w2 R Difficulty-Stoop/kneel/crouching	Categ
3	R3STOOP	r3stoop: w3 R Difficulty-Stoop/kneel/crouching	Categ
4	R4STOOP	r4stoop: w4 R Difficulty-Stoop/kneel/crouching	Categ
5	R5STOOP	r5stoop: w5 R Difficulty-Stoop/kneel/crouching	Categ
1	S1STOOP	s1stoop: w1 S Difficulty-Stoop/kneel/crouching	Categ
2	S2STOOP	s2stoop: w2 S Difficulty-Stoop/kneel/crouching	Categ
3	S3STOOP	s3stoop: w3 S Difficulty-Stoop/kneel/crouching	Categ
4	S4STOOP	s4stoop: w4 S Difficulty-Stoop/kneel/crouching	Categ
5	S5STOOP	s5stoop: w5 S Difficulty-Stoop/kneel/crouching	Categ
1	R1LIFT	r1lift: w1 R Difficulty-Lift/carrying 5 kgs	Categ
2	R2LIFT	r2lift: w2 R Difficulty-Lift/carrying 5 kgs	Categ
3	R3LIFT	r3lift: w3 R Difficulty-Lift/carrying 5 kgs	Categ
4	R4LIFT	r4lift: w4 R Difficulty-Lift/carrying 5 kgs	Categ
5	R5LIFT	r5lift: w5 R Difficulty-Lift/carrying 5 kgs	Categ
1	S1LIFT	s1lift: w1 S Difficulty-Lift/carrying 5 kgs	Categ
2	S2LIFT	s2lift: w2 S Difficulty-Lift/carrying 5 kgs	Categ
3	S3LIFT	s3lift: w3 S Difficulty-Lift/carrying 5 kgs	Categ
4	S4LIFT	s4lift: w4 S Difficulty-Lift/carrying 5 kgs	Categ
5	S5LIFT	s5lift: w5 S Difficulty-Lift/carrying 5 kgs	Categ
1	R1DIME	r1dime: w1 R Difficulty-Picking up a coin	Categ
2	R2DIME	r2dime: w2 R Difficulty-Picking up a coin	Categ
3	R3DIME	r3dime: w3 R Difficulty-Picking up a coin	Categ
4	R4DIME	r4dime: w4 R Difficulty-Picking up a coin	Categ
5	R5DIME	r5dime: w5 R Difficulty-Picking up a coin	Categ
1	S1DIME	s1dime: w1 S Difficulty-Picking up a coin	Categ
2	S2DIME	s2dime: w2 S Difficulty-Picking up a coin	Categ
3	S3DIME	s3dime: w3 S Difficulty-Picking up a coin	Categ
4	S4DIME	s4dime: w4 S Difficulty-Picking up a coin	Categ
5	S5DIME	s5dime: w5 S Difficulty-Picking up a coin	Categ
1	R1ARMS	r1arms: w1 R Difficulty-Reach/extending arms up	Categ
2	R2ARMS	r2arms: w2 R Difficulty-Reach/extending arms up	Categ
3	R3ARMS	r3arms: w3 R Difficulty-Reach/extending arms up	Categ

4	R4ARMS	r4arms: w4	R Difficulty-Reach/extending arms up	Categ
5	R5ARMS	r5arms: w5	R Difficulty-Reach/extending arms up	Categ
1	S1ARMS	s1arms: w1	S Difficulty-Reach/extending arms up	Categ
2	S2ARMS	s2arms: w2	S Difficulty-Reach/extending arms up	Categ
3	S3ARMS	s3arms: w3	S Difficulty-Reach/extending arms up	Categ
4	S4ARMS	s4arms: w4	S Difficulty-Reach/extending arms up	Categ
5	S5ARMS	s5arms: w5	S Difficulty-Reach/extending arms up	Categ
1	R1PUSH	r1push: w1	R Difficulty-Push/pulling large objects	Categ
2	R2PUSH	r2push: w2	R Difficulty-Push/pulling large objects	Categ
3	R3PUSH	r3push: w3	R Difficulty-Push/pulling large objects	Categ
4	R4PUSH	r4push: w4	R Difficulty-Push/pulling large objects	Categ
5	R5PUSH	r5push: w5	R Difficulty-Push/pulling large objects	Categ
1	S1PUSH	s1push: w1	S Difficulty-Push/pulling large objects	Categ
2	S2PUSH	s2push: w2	S Difficulty-Push/pulling large objects	Categ
3	S3PUSH	s3push: w3	S Difficulty-Push/pulling large objects	Categ
4	S4PUSH	s4push: w4	S Difficulty-Push/pulling large objects	Categ
5	S5PUSH	s5push: w5	S Difficulty-Push/pulling large objects	Categ

## Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R1WALKS	14098	0.30	0.80	0.00	9.00
R2WALKS	12500	0.33	0.93	0.00	9.00
R3WALKS	14444	0.32	0.76	0.00	9.00
R4WALKS	13804	0.39	1.00	0.00	9.00
R5WALKS	15763	0.30	0.73	0.00	9.00
S1WALKS	9964	0.26	0.73	0.00	9.00
S2WALKS	8736	0.28	0.82	0.00	9.00
S3WALKS	9865	0.27	0.67	0.00	9.00
S4WALKS	9167	0.33	0.87	0.00	9.00
S5WALKS	7066	0.31	0.64	0.00	9.00
R1JOG	13931	2.26	3.42	0.00	9.00
R2JOG	12431	2.35	3.46	0.00	9.00
R3JOG	14393	1.68	2.90	0.00	9.00
R4JOG	13790	1.90	3.06	0.00	9.00
R5JOG	15730	1.14	2.27	0.00	9.00
S1JOG	9845	2.20	3.41	0.00	9.00
S2JOG	8689	2.27	3.44	0.00	9.00
S3JOG	9828	1.61	2.87	0.00	9.00
S4JOG	9160	1.80	3.03	0.00	9.00
S5JOG	7047	1.16	2.25	0.00	9.00
R1WALK1	13999	0.16	0.73	0.00	9.00
R2WALK1	12500	0.16	0.75	0.00	9.00
R3WALK1	14443	0.15	0.56	0.00	9.00
R4WALK1	13804	0.19	0.72	0.00	9.00
R5WALK1	15761	0.16	0.56	0.00	9.00
S1WALK1	9894	0.13	0.68	0.00	9.00
S2WALK1	8736	0.13	0.62	0.00	9.00
S3WALK1	9864	0.12	0.46	0.00	9.00
S4WALK1	9167	0.15	0.61	0.00	9.00
S5WALK1	7065	0.16	0.53	0.00	9.00
R1SIT	14094	0.21	0.65	0.00	9.00
R2SIT	12501	0.18	0.55	0.00	9.00
R3SIT	14445	0.23	0.65	0.00	9.00

R4SIT	13801	0.24	0.62	0.00	9.00
R5SIT	15763	0.22	0.54	0.00	9.00
S1SIT	9958	0.19	0.63	0.00	9.00
S2SIT	8737	0.17	0.56	0.00	9.00
S3SIT	9864	0.21	0.64	0.00	9.00
S4SIT	9166	0.22	0.58	0.00	9.00
S5SIT	7066	0.22	0.50	0.00	9.00
R1CHAIR	14095	0.29	0.58	0.00	9.00
R2CHAIR	12499	0.25	0.54	0.00	9.00
R3CHAIR	14446	0.31	0.55	0.00	9.00
R4CHAIR	13803	0.36	0.60	0.00	9.00
R5CHAIR	15762	0.34	0.59	0.00	9.00
S1CHAIR	9959	0.27	0.57	0.00	9.00
S2CHAIR	8736	0.23	0.53	0.00	9.00
S3CHAIR	9865	0.29	0.57	0.00	9.00
S4CHAIR	9167	0.34	0.55	0.00	9.00
S5CHAIR	7065	0.34	0.55	0.00	9.00
R1CLIMS	13915	1.32	2.64	0.00	9.00
R2CLIMS	12437	1.42	2.80	0.00	9.00
R3CLIMS	14416	1.13	2.38	0.00	9.00
R4CLIMS	13794	1.14	2.32	0.00	9.00
R5CLIMS	15696	0.71	1.60	0.00	9.00
S1CLIMS	9828	1.29	2.66	0.00	9.00
S2CLIMS	8698	1.34	2.74	0.00	9.00
S3CLIMS	9845	1.06	2.34	0.00	9.00
S4CLIMS	9159	1.01	2.18	0.00	9.00
S5CLIMS	7029	0.73	1.62	0.00	9.00
R1CLIM1	13973	0.46	1.53	0.00	9.00
R2CLIM1	12477	0.48	1.59	0.00	9.00
R3CLIM1	14426	0.64	1.87	0.00	9.00
R4CLIM1	13798	0.61	1.75	0.00	9.00
R5CLIM1	15735	0.37	1.11	0.00	9.00
S1CLIM1	9871	0.41	1.46	0.00	9.00
S2CLIM1	8723	0.42	1.51	0.00	9.00
S3CLIM1	9853	0.59	1.82	0.00	9.00
S4CLIM1	9163	0.51	1.59	0.00	9.00
S5CLIM1	7053	0.37	1.09	0.00	9.00
R1STOOP	14095	0.40	0.78	0.00	9.00
R2STOOP	12496	0.39	0.81	0.00	9.00
R3STOOP	14445	0.47	0.82	0.00	9.00
R4STOOP	13803	0.54	0.92	0.00	9.00
R5STOOP	15760	0.46	0.79	0.00	9.00
S1STOOP	9958	0.37	0.74	0.00	9.00
S2STOOP	8734	0.35	0.76	0.00	9.00
S3STOOP	9865	0.42	0.74	0.00	9.00
S4STOOP	9167	0.48	0.79	0.00	9.00
S5STOOP	7064	0.48	0.76	0.00	9.00
R1LIFT	14102	0.29	1.02	0.00	9.00
R2LIFT	12494	0.30	1.04	0.00	9.00
R3LIFT	14442	0.37	1.14	0.00	9.00
R4LIFT	13803	0.49	1.41	0.00	9.00
R5LIFT	15760	0.34	0.96	0.00	9.00
S1LIFT	9967	0.23	0.87	0.00	9.00



S2LIFT	8734	0.23	0.88	0.00	9.00
S3LIFT	9864	0.30	0.99	0.00	9.00
S4LIFT	9167	0.37	1.18	0.00	9.00
S5LIFT	7065	0.32	0.89	0.00	9.00
R1DIME	14091	0.07	0.39	0.00	9.00
R2DIME	12501	0.07	0.37	0.00	9.00
R3DIME	14445	0.08	0.34	0.00	9.00
R4DIME	13802	0.08	0.40	0.00	9.00
R5DIME	15759	0.09	0.39	0.00	9.00
S1DIME	9960	0.05	0.34	0.00	9.00
S2DIME	8737	0.05	0.33	0.00	9.00
S3DIME	9864	0.07	0.31	0.00	9.00
S4DIME	9165	0.07	0.38	0.00	9.00
S5DIME	7064	0.10	0.35	0.00	9.00
R1ARMS	14097	0.12	0.47	0.00	9.00
R2ARMS	12500	0.11	0.36	0.00	9.00
R3ARMS	14446	0.14	0.39	0.00	9.00
R4ARMS	13804	0.16	0.44	0.00	9.00
R5ARMS	15761	0.15	0.45	0.00	9.00
S1ARMS	9961	0.11	0.41	0.00	9.00
S2ARMS	8736	0.09	0.31	0.00	9.00
S3ARMS	9865	0.12	0.36	0.00	9.00
S4ARMS	9167	0.14	0.40	0.00	9.00
S5ARMS	7065	0.15	0.44	0.00	9.00
R1PUSH	14098	0.35	1.19	0.00	9.00
R2PUSH	12499	0.34	1.21	0.00	9.00
R3PUSH	14445	0.43	1.32	0.00	9.00
R4PUSH	13803	0.49	1.41	0.00	9.00
R5PUSH	15757	0.35	1.05	0.00	9.00
S1PUSH	9963	0.28	1.04	0.00	9.00
S2PUSH	8737	0.28	1.08	0.00	9.00
S3PUSH	9865	0.36	1.17	0.00	9.00
S4PUSH	9166	0.39	1.22	0.00	9.00
S5PUSH	7063	0.35	1.01	0.00	9.00

Categorical Variable Codes

Value-----	R1WALKS	R2WALKS	R3WALKS	R4WALKS	R5WALKS
.d:DK	6	1	3	5	
.m:Missing	38	25		40	17
.p:Proxy interview, not asked	1032	1178	1275	929	1328
.r:Refuse	12		1	1	6
0.No	10634	9382	10487	9638	11576
1.Yes	3322	2950	3847	3893	4050
2.Can't Do	60	57	40	130	69
9.Don't Do	82	111	70	143	68
Value-----	S1WALKS	S2WALKS	S3WALKS	S4WALKS	S5WALKS
.d:DK	5	1	1	5	
.m:Missing	13	6		10	5
.p:Proxy interview, not asked	660	821	726	470	563
.r:Refuse	6				4
.u:Unmar	4205	4009	4782	4847	5227
.v:SP NR	333	131	349	280	501
0.No	7769	6811	7446	6722	5068
1.Yes	2116	1838	2365	2306	1956
2.Can't Do	33	31	20	73	23
9.Don't Do	46	56	34	66	19
Value-----	R1JOG	R2JOG	R3JOG	R4JOG	R5JOG

.d:DK	114	52	46	17	21
.m:Missing	38	25		40	17
.p:Proxy interview, not asked	1032	1178	1275	929	1328
.r:Refuse	71	18	9	3	18
0.No	5102	4358	5631	4881	7215
1.Yes	5802	5170	6694	6476	7212
2.Can't Do	219	299	164	320	148
9.Don't Do	2808	2604	1904	2113	1155
Value-----	S1JOG	S2JOG	S3JOG	S4JOG	S5JOG
.d:DK	85	35	34	10	11
.m:Missing	13	6		10	5
.p:Proxy interview, not asked	660	821	726	470	563
.r:Refuse	45	13	4	2	12
.u:Unmar	4205	4009	4782	4847	5227
.v:SP NR	333	131	349	280	501
0.No	3887	3340	4191	3588	2993
1.Yes	3867	3380	4279	4026	3485
2.Can't Do	142	194	100	201	57
9.Don't Do	1949	1775	1258	1345	512
Value-----	R1WALK1	R2WALK1	R3WALK1	R4WALK1	R5WALK1
.d:DK	26		3	5	1
.m:Missing	38	25		40	17
.p:Proxy interview, not asked	1032	1178	1275	929	1328
.r:Refuse	91	1	2	1	7
0.No	12476	11067	12559	11772	13695
1.Yes	1395	1311	1816	1856	1914
2.Can't Do	51	50	32	109	115
9.Don't Do	77	72	36	67	37
Value-----	S1WALK1	S2WALK1	S3WALK1	S4WALK1	S5WALK1
.d:DK	16		1	5	
.m:Missing	13	6		10	5
.p:Proxy interview, not asked	660	821	726	470	563
.r:Refuse	65	1	1		5
.u:Unmar	4205	4009	4782	4847	5227
.v:SP NR	333	131	349	280	501
0.No	8972	7929	8791	8049	6090
1.Yes	845	741	1045	1029	917
2.Can't Do	30	33	14	60	45
9.Don't Do	47	33	14	29	13
Value-----	R1SIT	R2SIT	R3SIT	R4SIT	R5SIT
.d:DK	7		2	8	1
.m:Missing	38	25		40	17
.p:Proxy interview, not asked	1032	1178	1275	929	1328
.r:Refuse	15		1	1	5
0.No	11560	10504	11594	10856	12677
1.Yes	2473	1945	2783	2890	2873
2.Can't Do	12	25	18	17	191
9.Don't Do	49	27	50	38	22
Value-----	S1SIT	S2SIT	S3SIT	S4SIT	S5SIT
.d:DK	4		2	6	1
.m:Missing	13	6		10	5
.p:Proxy interview, not asked	660	821	726	470	563
.r:Refuse	13				3
.u:Unmar	4205	4009	4782	4847	5227
.v:SP NR	333	131	349	280	501
0.No	8318	7430	8036	7289	5652
1.Yes	1599	1271	1782	1847	1332
2.Can't Do	7	15	13	9	76
9.Don't Do	34	21	33	21	6
Value-----	R1CHAIR	R2CHAIR	R3CHAIR	R4CHAIR	R5CHAIR
.d:DK	7	2	1	6	
.m:Missing	38	25		40	17
.p:Proxy interview, not asked	1032	1178	1275	929	1328
.r:Refuse	14		1	1	7
0.No	10272	9526	10089	9058	10747
1.Yes	3784	2933	4318	4675	4837
2.Can't Do	13	22	21	46	156

9.Don't Do	26	18	18	24	22
Value-----	S1CHAIR	S2CHAIR	S3CHAIR	S4CHAIR	S5CHAIR
.d:DK	5	1	1	5	
.m:Missing	13	6		10	5
.p:Proxy interview, not asked	660	821	726	470	563
.r:Refuse	11				5
.u:Unmar	4205	4009	4782	4847	5227
.v:SP NR	333	131	349	280	501
0.No	7459	6825	7089	6159	4756
1.Yes	2475	1885	2749	2976	2239
2.Can't Do	7	14	12	22	64
9.Don't Do	18	12	15	10	6
Value-----	R1CLIMS	R2CLIMS	R3CLIMS	R4CLIMS	R5CLIMS
.d:DK	115	61	30	15	33
.m:Missing	38	25		40	17
.p:Proxy interview, not asked	1032	1178	1275	929	1328
.r:Refuse	86	3	2	1	40
0.No	7158	6523	7491	6762	8864
1.Yes	5178	4275	5659	5715	6149
2.Can't Do	152	188	109	263	175
9.Don't Do	1427	1451	1157	1054	508
Value-----	S1CLIMS	S2CLIMS	S3CLIMS	S4CLIMS	S5CLIMS
.d:DK	85	36	20	13	16
.m:Missing	13	6		10	5
.p:Proxy interview, not asked	660	821	726	470	563
.r:Refuse	62	3	1		25
.u:Unmar	4205	4009	4782	4847	5227
.v:SP NR	333	131	349	280	501
0.No	5346	4842	5465	4875	3816
1.Yes	3370	2783	3576	3547	2903
2.Can't Do	95	115	50	138	76
9.Don't Do	1017	958	754	599	234
Value-----	R1CLIM1	R2CLIM1	R3CLIM1	R4CLIM1	R5CLIM1
.d:DK	58	19	20	10	15
.m:Missing	38	25		40	17
.p:Proxy interview, not asked	1032	1178	1275	929	1328
.r:Refuse	85	5	2	2	19
0.No	10848	9710	10474	9831	11871
1.Yes	2631	2283	3210	3224	3455
2.Can't Do	88	89	91	205	197
9.Don't Do	406	395	651	538	212
Value-----	S1CLIM1	S2CLIM1	S3CLIM1	S4CLIM1	S5CLIM1
.d:DK	46	10	12	9	9
.m:Missing	13	6		10	5
.p:Proxy interview, not asked	660	821	726	470	563
.r:Refuse	58	4	1		8
.u:Unmar	4205	4009	4782	4847	5227
.v:SP NR	333	131	349	280	501
0.No	7947	7053	7474	6900	5255
1.Yes	1614	1369	1918	1870	1631
2.Can't Do	52	57	41	108	76
9.Don't Do	258	244	420	285	91
Value-----	R1STOOP	R2STOOP	R3STOOP	R4STOOP	R5STOOP
.d:DK	9	4	2	5	1
.m:Missing	38	25		40	17
.p:Proxy interview, not asked	1032	1178	1275	929	1328
.r:Refuse	12	1	1	2	8
0.No	9071	8292	8446	7504	9238
1.Yes	4844	4036	5785	5935	6301
2.Can't Do	112	98	134	256	142
9.Don't Do	68	70	80	108	79
Value-----	S1STOOP	S2STOOP	S3STOOP	S4STOOP	S5STOOP
.d:DK	7	2	1	5	1
.m:Missing	13	6		10	5
.p:Proxy interview, not asked	660	821	726	470	563
.r:Refuse	10	1			5

.u:Unmar		4205	4009	4782	4847	5227
.v:SP NR		333	131	349	280	501
0.No		6704	6039	6114	5264	3966
1.Yes		3148	2598	3637	3731	3002
2.Can't Do		65	57	74	127	66
9.Don't Do		41	40	40	45	30
Value-----		R1LIFT	R2LIFT	R3LIFT	R4LIFT	R5LIFT
.d:DK		6	7	3	6	1
.m:Missing		38	25		40	17
.p:Proxy interview, not asked		1032	1178	1275	929	1328
.r:Refuse		8		3	1	8
0.No		11355	10094	10837	9855	11772
1.Yes		2500	2169	3289	3395	3730
2.Can't Do		88	80	104	224	109
9.Don't Do		159	151	212	329	149
Value-----		S1LIFT	S2LIFT	S3LIFT	S4LIFT	S5LIFT
.d:DK		3	3	2	5	
.m:Missing		13	6		10	5
.p:Proxy interview, not asked		660	821	726	470	563
.r:Refuse		5				5
.u:Unmar		4205	4009	4782	4847	5227
.v:SP NR		333	131	349	280	501
0.No		8378	7364	7803	7018	5295
1.Yes		1456	1253	1907	1900	1669
2.Can't Do		53	45	51	105	46
9.Don't Do		80	72	103	144	55
Value-----		R1DIME	R2DIME	R3DIME	R4DIME	R5DIME
.d:DK		9		2	7	
.m:Missing		38	25		40	17
.p:Proxy interview, not asked		1032	1178	1275	929	1328
.r:Refuse		16		1	1	10
0.No		13324	11785	13391	12796	14469
1.Yes		731	683	1014	956	1217
2.Can't Do		19	21	32	35	59
9.Don't Do		17	12	8	15	14
Value-----		S1DIME	S2DIME	S3DIME	S4DIME	S5DIME
.d:DK		5		2	7	
.m:Missing		13	6		10	5
.p:Proxy interview, not asked		660	821	726	470	563
.r:Refuse		10				6
.u:Unmar		4205	4009	4782	4847	5227
.v:SP NR		333	131	349	280	501
0.No		9513	8341	9245	8579	6437
1.Yes		431	378	596	557	600
2.Can't Do		7	11	19	20	24
9.Don't Do		9	7	4	9	3
Value-----		R1ARMS	R2ARMS	R3ARMS	R4ARMS	R5ARMS
.d:DK		7		1	5	
.m:Missing		38	25		40	17
.p:Proxy interview, not asked		1032	1178	1275	929	1328
.r:Refuse		12	1	1	1	8
0.No		12539	11238	12488	11721	13603
1.Yes		1514	1238	1921	2020	2094
2.Can't Do		23	18	32	53	49
9.Don't Do		21	6	5	10	15
Value-----		S1ARMS	S2ARMS	S3ARMS	S4ARMS	S5ARMS
.d:DK		4		1	5	
.m:Missing		13	6		10	5
.p:Proxy interview, not asked		660	821	726	470	563
.r:Refuse		10	1			5
.u:Unmar		4205	4009	4782	4847	5227
.v:SP NR		333	131	349	280	501
0.No		8990	7946	8672	7942	6071
1.Yes		944	777	1172	1192	971
2.Can't Do		17	12	19	29	17
9.Don't Do		10	1	2	4	6

Value-----	R1PUSH	R2PUSH	R3PUSH	R4PUSH	R5PUSH
.d:DK	7	2	2	5	2
.m:Missing	38	25		40	17
.p:Proxy interview, not asked	1032	1178	1275	929	1328
.r:Refuse	11		1	2	10
0.No	11096	10000	10663	9838	11790
1.Yes	2680	2210	3378	3429	3677
2.Can't Do	94	77	109	206	101
9.Don't Do	228	212	295	330	189

Value-----	S1PUSH	S2PUSH	S3PUSH	S4PUSH	S5PUSH
.d:DK	4		1	5	1
.m:Missing	13	6		10	5
.p:Proxy interview, not asked	660	821	726	470	563
.r:Refuse	8			1	6
.u:Unmar	4205	4009	4782	4847	5227
.v:SP NR	333	131	349	280	501
0.No	8175	7261	7641	6926	5231
1.Yes	1612	1316	2020	1978	1713
2.Can't Do	57	44	48	105	42
9.Don't Do	119	116	156	157	77

## How Constructed

These variables recode the raw variables for difficulty with functional limitations other than ADLs and IADLs as they appear in the MHAS data except for missing values and accounting for skip patterns. The other functional limitations include walking several blocks (RwWALKS), running and jogging one kilometer (RwJOG), walking one block (RwWALK1), sitting for about 2 hours (RwSIT), getting up from a chair after sitting for long periods (RwCHAIR), climbing several flights of stairs without resting (RwCLIMS), climbing one flight of stairs without resting (RwCLIM1), stooping/kneeling/or crouching (RwSTOOP), reaching arms above shoulder level (RwARMS), pushing or pulling large objects (RwPUSH), lifting or carrying weights over 5 kilos (RwLIFT), and picking up a small coin (one peso) from the table (RwDIME).

A code of 0 indicates that the respondent did not report any problems with the activity. A code of 1 indicates some difficulty with the activity, and 2 or 9 indicate "can't do" or "don't do", respectively. RwWALKS, RwJOG, RwWALK1, RwSIT, RwCHAIR, RwCLIMS, RwCLIM1, RwSTOOP, RwARMS, RwPUSH, RwLIFT, and RwDIME are assigned special missing values .d for "don't know", .r for refusals, .p for proxy interviews, .m for missing, and are set to plain missing (.) for respondents who did not respond to the current wave.

SwWALKS, SwJOG, SwWALK1, SwSIT, SwCHAIR, SwCLIMS, SwCLIM1, SwSTOOP, SwARMS, SwPUSH, SwLIFT, and SwDIME indicate whether the respondent's spouse reported any difficulty with such activities and are taken directly from the spouse's RwWALKS, RwJOG, RwWALK1, RwSIT, RwCHAIR, RwCLIMS, RwCLIM1, RwSTOOP, RwARMS, RwPUSH, RwLIFT, and RwDIME variables, respectively. In addition to the special missing codes used in the respondent variables, the spouse variables employ the special missing value .u, when the respondent does not report being coupled in the current wave, and the special missing value .v, when the respondent reports being coupled in the current wave but their spouse is not interviewed.

## Cross Wave Differences in MHAS

No differences known.

## Differences with the RAND HRS/Harmonized HRS

In the HRS introductory questions, respondents are asked whether they have difficulty jogging one mile. However, in the MHAS they ask if the respondent has any difficulty running or jogging one kilometer.

## MHAS Variables Used

Wave 1:	
H1	long walk
H10	pulling
H11	picking up
H12	picking up a coin
H2	running
H3	short walk
H4	sitting 2 hours

H5	getting up
H6	long climbing
H7	short climbing
H8	bending
H9	extending arms
Wave 2:	
H1	health problems-trouble walking blocks
H10	health problems-trouble pushing or pulling
H11	health problems-trouble carrying objects
H12	health problems-trouble picking up a coin
H2	health problems-trouble running
H3	health problems-trouble walking a block
H4	health problems-trouble staying seated
H5	health problems-trouble getting up from chair
H6	health problems-trouble with flights of stairs
H7	health problems-trouble with 1 flight of stairs
H8	health problems-trouble sitting up
H9	health problems-trouble lifting arms
Wave 3:	
H10_12	Because of health problem, difficulty pushing or pullin
H11_12	Because of health problem, difficulty carrying objects
H12_12	Because of health problem, difficulty picking up a coin
H1_12	Because of health problem, difficulty walking blocks
H2_12	Because of health problem, difficulty running
H3_12	Because of health problem, difficulty walking a block
H4_12	Because of health problem, difficulty staying seated
H5_12	Because of health problem, difficulty getting up from c
H6_12	Because of health problem, difficulty with flights of s
H7_12	Because of health problem, difficulty with 1 flight of
H8_12	Because of health problem, difficulty sitting up
H9_12	Because of health problem, difficulty lifting arms
Wave 4:	
H10_15	Because of health problem, does respondent have difficu
H11_15	Because of health problem, does respondent have difficu
H12_15	Because of health problem, does respondent have difficu
H1_15	Because of health problem, does respondent have difficu
H2_15	Because of health problem, does respondent have difficu
H3_15	Because of health problem, does respondent have difficu
H4_15	Because of health problem, does respondent have difficu
H5_15	Because of health problem, does respondent have difficu
H6_15	Because of health problem, does respondent have difficu
H7_15	Because of health problem, does respondent have difficu
H8_15	Because of health problem, does respondent have difficu
H9_15	Because of health problem, does respondent have difficu
Wave 5:	
H10_18	Because of health problem, does R have difficulty pushi
H11_18	Due to health problem, difficult for R to lift/carry ob
H12_18	Due to health problem, does R have difficulty picking u
H1_18	Because of health problem, does R have difficulty walki
H2_18	Because of health problem, does R have difficulty runni
H3_18	Because of health problem, does R have difficulty walki
H4_18	Because of health problem, does R have difficulty sitti
H5_18	Due to health problem, difficult for R to get up from c
H6_18	Due to health problem, hard for R to climb several flig
H7_18	Due to health problem, difficult for R to climb 1 fligh
H8_18	Due to health problem, does R have difficulty stooping,
H9_18	Due to health problem, difficult for R to reach/extend

<b>Other Functional Limitations: Some Difficulty</b>
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Wave	Variable	Label	Type
1	R1WALKSA	r1walksa: w1 R Some difficulty-Walking several blocks	Categ
2	R2WALKSA	r2walksa: w2 R Some difficulty-Walking several blocks	Categ
3	R3WALKSA	r3walksa: w3 R Some difficulty-Walking several blocks	Categ
4	R4WALKSA	r4walksa: w4 R Some difficulty-Walking several blocks	Categ
5	R5WALKSA	r5walksa: w5 R Some difficulty-Walking several blocks	Categ
1	S1WALKSA	s1walksa: w1 S Some difficulty-Walking several blocks	Categ
2	S2WALKSA	s2walksa: w2 S Some difficulty-Walking several blocks	Categ
3	S3WALKSA	s3walksa: w3 S Some difficulty-Walking several blocks	Categ
4	S4WALKSA	s4walksa: w4 S Some difficulty-Walking several blocks	Categ
5	S5WALKSA	s5walksa: w5 S Some difficulty-Walking several blocks	Categ
1	R1JOGA	r1joga: w1 R Some difficulty-Run/Jogging one km	Categ
2	R2JOGA	r2joga: w2 R Some difficulty-Run/Jogging one km	Categ
3	R3JOGA	r3joga: w3 R Some difficulty-Run/Jogging one km	Categ
4	R4JOGA	r4joga: w4 R Some difficulty-Run/Jogging one km	Categ
5	R5JOGA	r5joga: w5 R Some difficulty-Run/Jogging one km	Categ
1	S1JOGA	s1joga: w1 S Some difficulty-Run/Jogging one km	Categ
2	S2JOGA	s2joga: w2 S Some difficulty-Run/Jogging one km	Categ
3	S3JOGA	s3joga: w3 S Some difficulty-Run/Jogging one km	Categ
4	S4JOGA	s4joga: w4 S Some difficulty-Run/Jogging one km	Categ
5	S5JOGA	s5joga: w5 S Some difficulty-Run/Jogging one km	Categ
1	R1WALK1A	r1walk1a: w1 R Some difficulty-Walking one block	Categ
2	R2WALK1A	r2walk1a: w2 R Some difficulty-Walking one block	Categ
3	R3WALK1A	r3walk1a: w3 R Some difficulty-Walking one block	Categ
4	R4WALK1A	r4walk1a: w4 R Some difficulty-Walking one block	Categ
5	R5WALK1A	r5walk1a: w5 R Some difficulty-Walking one block	Categ
1	S1WALK1A	s1walk1a: w1 S Some difficulty-Walking one block	Categ
2	S2WALK1A	s2walk1a: w2 S Some difficulty-Walking one block	Categ
3	S3WALK1A	s3walk1a: w3 S Some difficulty-Walking one block	Categ
4	S4WALK1A	s4walk1a: w4 S Some difficulty-Walking one block	Categ
5	S5WALK1A	s5walk1a: w5 S Some difficulty-Walking one block	Categ
1	R1SITA	r1sita: w1 R Some difficulty-Sitting for 2 hours	Categ
2	R2SITA	r2sita: w2 R Some difficulty-Sitting for 2 hours	Categ
3	R3SITA	r3sita: w3 R Some difficulty-Sitting for 2 hours	Categ
4	R4SITA	r4sita: w4 R Some difficulty-Sitting for 2 hours	Categ
5	R5SITA	r5sita: w5 R Some difficulty-Sitting for 2 hours	Categ
1	S1SITA	s1sita: w1 S Some difficulty-Sitting for 2 hours	Categ
2	S2SITA	s2sita: w2 S Some difficulty-Sitting for 2 hours	Categ
3	S3SITA	s3sita: w3 S Some difficulty-Sitting for 2 hours	Categ
4	S4SITA	s4sita: w4 S Some difficulty-Sitting for 2 hours	Categ
5	S5SITA	s5sita: w5 S Some difficulty-Sitting for 2 hours	Categ
1	R1CHAIRA	r1chaira: w1 R Some difficulty-Getting up from chair	Categ
2	R2CHAIRA	r2chaira: w2 R Some difficulty-Getting up from chair	Categ
3	R3CHAIRA	r3chaira: w3 R Some difficulty-Getting up from chair	Categ
4	R4CHAIRA	r4chaira: w4 R Some difficulty-Getting up from chair	Categ
5	R5CHAIRA	r5chaira: w5 R Some difficulty-Getting up from chair	Categ
1	S1CHAIRA	s1chaira: w1 S Some difficulty-Getting up from chair	Categ
2	S2CHAIRA	s2chaira: w2 S Some difficulty-Getting up from chair	Categ
3	S3CHAIRA	s3chaira: w3 S Some difficulty-Getting up from chair	Categ
4	S4CHAIRA	s4chaira: w4 S Some difficulty-Getting up from chair	Categ
5	S5CHAIRA	s5chaira: w5 S Some difficulty-Getting up from chair	Categ

1	R1CLIMSA	r1climsa: w1	R	Some difficulty-Climbing	sev flts stairs	Categ
2	R2CLIMSA	r2climsa: w2	R	Some difficulty-Climbing	sev flts stairs	Categ
3	R3CLIMSA	r3climsa: w3	R	Some difficulty-Climbing	sev flts stairs	Categ
4	R4CLIMSA	r4climsa: w4	R	Some difficulty-Climbing	sev flts stairs	Categ
5	R5CLIMSA	r5climsa: w5	R	Some difficulty-Climbing	sev flts stairs	Categ
1	S1CLIMSA	s1climsa: w1	S	Some difficulty-Climbing	sev flts stairs	Categ
2	S2CLIMSA	s2climsa: w2	S	Some difficulty-Climbing	sev flts stairs	Categ
3	S3CLIMSA	s3climsa: w3	S	Some difficulty-Climbing	sev flts stairs	Categ
4	S4CLIMSA	s4climsa: w4	S	Some difficulty-Climbing	sev flts stairs	Categ
5	S5CLIMSA	s5climsa: w5	S	Some difficulty-Climbing	sev flts stairs	Categ
1	R1CLIM1A	r1clim1a: w1	R	Some difficulty-Climbing	one flt stairs	Categ
2	R2CLIM1A	r2clim1a: w2	R	Some difficulty-Climbing	one flt stairs	Categ
3	R3CLIM1A	r3clim1a: w3	R	Some difficulty-Climbing	one flt stairs	Categ
4	R4CLIM1A	r4clim1a: w4	R	Some difficulty-Climbing	one flt stairs	Categ
5	R5CLIM1A	r5clim1a: w5	R	Some difficulty-Climbing	one flt stairs	Categ
1	S1CLIM1A	s1clim1a: w1	S	Some difficulty-Climbing	one flt stairs	Categ
2	S2CLIM1A	s2clim1a: w2	S	Some difficulty-Climbing	one flt stairs	Categ
3	S3CLIM1A	s3clim1a: w3	S	Some difficulty-Climbing	one flt stairs	Categ
4	S4CLIM1A	s4clim1a: w4	S	Some difficulty-Climbing	one flt stairs	Categ
5	S5CLIM1A	s5clim1a: w5	S	Some difficulty-Climbing	one flt stairs	Categ
1	R1STOOPA	r1stoopa: w1	R	Some difficulty-Stoop/kneel/crouching		Categ
2	R2STOOPA	r2stoopa: w2	R	Some difficulty-Stoop/kneel/crouching		Categ
3	R3STOOPA	r3stoopa: w3	R	Some difficulty-Stoop/kneel/crouching		Categ
4	R4STOOPA	r4stoopa: w4	R	Some difficulty-Stoop/kneel/crouching		Categ
5	R5STOOPA	r5stoopa: w5	R	Some difficulty-Stoop/kneel/crouching		Categ
1	S1STOOPA	s1stoopa: w1	S	Some difficulty-Stoop/kneel/crouching		Categ
2	S2STOOPA	s2stoopa: w2	S	Some difficulty-Stoop/kneel/crouching		Categ
3	S3STOOPA	s3stoopa: w3	S	Some difficulty-Stoop/kneel/crouching		Categ
4	S4STOOPA	s4stoopa: w4	S	Some difficulty-Stoop/kneel/crouching		Categ
5	S5STOOPA	s5stoopa: w5	S	Some difficulty-Stoop/kneel/crouching		Categ
1	R1LIFTA	r1lifta: w1	R	Some difficulty-Lift/carrying	5 kgs	Categ
2	R2LIFTA	r2lifta: w2	R	Some difficulty-Lift/carrying	5 kgs	Categ
3	R3LIFTA	r3lifta: w3	R	Some difficulty-Lift/carrying	5 kgs	Categ
4	R4LIFTA	r4lifta: w4	R	Some difficulty-Lift/carrying	5 kgs	Categ
5	R5LIFTA	r5lifta: w5	R	Some difficulty-Lift/carrying	5 kgs	Categ
1	S1LIFTA	s1lifta: w1	S	Some difficulty-Lift/carrying	5 kgs	Categ
2	S2LIFTA	s2lifta: w2	S	Some difficulty-Lift/carrying	5 kgs	Categ
3	S3LIFTA	s3lifta: w3	S	Some difficulty-Lift/carrying	5 kgs	Categ
4	S4LIFTA	s4lifta: w4	S	Some difficulty-Lift/carrying	5 kgs	Categ
5	S5LIFTA	s5lifta: w5	S	Some difficulty-Lift/carrying	5 kgs	Categ
1	R1DIMEA	r1dimea: w1	R	Some difficulty-Picking up a coin		Categ
2	R2DIMEA	r2dimea: w2	R	Some difficulty-Picking up a coin		Categ
3	R3DIMEA	r3dimea: w3	R	Some difficulty-Picking up a coin		Categ
4	R4DIMEA	r4dimea: w4	R	Some difficulty-Picking up a coin		Categ
5	R5DIMEA	r5dimea: w5	R	Some difficulty-Picking up a coin		Categ
1	S1DIMEA	s1dimea: w1	S	Some difficulty-Picking up a coin		Categ
2	S2DIMEA	s2dimea: w2	S	Some difficulty-Picking up a coin		Categ
3	S3DIMEA	s3dimea: w3	S	Some difficulty-Picking up a coin		Categ
4	S4DIMEA	s4dimea: w4	S	Some difficulty-Picking up a coin		Categ
5	S5DIMEA	s5dimea: w5	S	Some difficulty-Picking up a coin		Categ
1	R1ARMSA	r1armsa: w1	R	Some difficulty-Reach/extending arms up		Categ
2	R2ARMSA	r2armsa: w2	R	Some difficulty-Reach/extending arms up		Categ
3	R3ARMSA	r3armsa: w3	R	Some difficulty-Reach/extending arms up		Categ



4	R4ARMSA	r4armsa: w4	R	Some difficulty-Reach/	extending arms up	Categ
5	R5ARMSA	r5armsa: w5	R	Some difficulty-Reach/	extending arms up	Categ
1	S1ARMSA	s1armsa: w1	S	Some difficulty-Reach/	extending arms up	Categ
2	S2ARMSA	s2armsa: w2	S	Some difficulty-Reach/	extending arms up	Categ
3	S3ARMSA	s3armsa: w3	S	Some difficulty-Reach/	extending arms up	Categ
4	S4ARMSA	s4armsa: w4	S	Some difficulty-Reach/	extending arms up	Categ
5	S5ARMSA	s5armsa: w5	S	Some difficulty-Reach/	extending arms up	Categ
1	R1PUSHA	r1pusha: w1	R	Some difficulty-Push/	pulling large objects	Categ
2	R2PUSHA	r2pusha: w2	R	Some difficulty-Push/	pulling large objects	Categ
3	R3PUSHA	r3pusha: w3	R	Some difficulty-Push/	pulling large objects	Categ
4	R4PUSHA	r4pusha: w4	R	Some difficulty-Push/	pulling large objects	Categ
5	R5PUSHA	r5pusha: w5	R	Some difficulty-Push/	pulling large objects	Categ
1	S1PUSHA	s1pusha: w1	S	Some difficulty-Push/	pulling large objects	Categ
2	S2PUSHA	s2pusha: w2	S	Some difficulty-Push/	pulling large objects	Categ
3	S3PUSHA	s3pusha: w3	S	Some difficulty-Push/	pulling large objects	Categ
4	S4PUSHA	s4pusha: w4	S	Some difficulty-Push/	pulling large objects	Categ
5	S5PUSHA	s5pusha: w5	S	Some difficulty-Push/	pulling large objects	Categ

## Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R1WALKSA	14016	0.24	0.43	0.00	1.00
R2WALKSA	12389	0.24	0.43	0.00	1.00
R3WALKSA	14374	0.27	0.44	0.00	1.00
R4WALKSA	13661	0.29	0.46	0.00	1.00
R5WALKSA	15695	0.26	0.44	0.00	1.00
S1WALKSA	9918	0.22	0.41	0.00	1.00
S2WALKSA	8680	0.22	0.41	0.00	1.00
S3WALKSA	9831	0.24	0.43	0.00	1.00
S4WALKSA	9101	0.26	0.44	0.00	1.00
S5WALKSA	7047	0.28	0.45	0.00	1.00
R1JOGA	11123	0.54	0.50	0.00	1.00
R2JOGA	9827	0.56	0.50	0.00	1.00
R3JOGA	12489	0.55	0.50	0.00	1.00
R4JOGA	11677	0.58	0.49	0.00	1.00
R5JOGA	14575	0.50	0.50	0.00	1.00
S1JOGA	7896	0.51	0.50	0.00	1.00
S2JOGA	6914	0.52	0.50	0.00	1.00
S3JOGA	8570	0.51	0.50	0.00	1.00
S4JOGA	7815	0.54	0.50	0.00	1.00
S5JOGA	6535	0.54	0.50	0.00	1.00
R1WALK1A	13922	0.10	0.31	0.00	1.00
R2WALK1A	12428	0.11	0.31	0.00	1.00
R3WALK1A	14407	0.13	0.33	0.00	1.00
R4WALK1A	13737	0.14	0.35	0.00	1.00
R5WALK1A	15724	0.13	0.34	0.00	1.00
S1WALK1A	9847	0.09	0.28	0.00	1.00
S2WALK1A	8703	0.09	0.28	0.00	1.00
S3WALK1A	9850	0.11	0.31	0.00	1.00
S4WALK1A	9138	0.12	0.32	0.00	1.00
S5WALK1A	7052	0.14	0.34	0.00	1.00
R1SITA	14045	0.18	0.38	0.00	1.00
R2SITA	12474	0.16	0.36	0.00	1.00
R3SITA	14395	0.19	0.40	0.00	1.00

R4SITA	13763	0.21	0.41	0.00	1.00
R5SITA	15741	0.19	0.40	0.00	1.00
S1SITA	9924	0.16	0.37	0.00	1.00
S2SITA	8716	0.15	0.35	0.00	1.00
S3SITA	9831	0.18	0.39	0.00	1.00
S4SITA	9145	0.20	0.40	0.00	1.00
S5SITA	7060	0.20	0.40	0.00	1.00
R1CHAIRA	14069	0.27	0.44	0.00	1.00
R2CHAIRA	12481	0.24	0.43	0.00	1.00
R3CHAIRA	14428	0.30	0.46	0.00	1.00
R4CHAIRA	13779	0.34	0.47	0.00	1.00
R5CHAIRA	15740	0.32	0.47	0.00	1.00
S1CHAIRA	9941	0.25	0.43	0.00	1.00
S2CHAIRA	8724	0.22	0.41	0.00	1.00
S3CHAIRA	9850	0.28	0.45	0.00	1.00
S4CHAIRA	9157	0.33	0.47	0.00	1.00
S5CHAIRA	7059	0.33	0.47	0.00	1.00
R1CLIMSA	12488	0.43	0.49	0.00	1.00
R2CLIMSA	10986	0.41	0.49	0.00	1.00
R3CLIMSA	13259	0.44	0.50	0.00	1.00
R4CLIMSA	12740	0.47	0.50	0.00	1.00
R5CLIMSA	15188	0.42	0.49	0.00	1.00
S1CLIMSA	8811	0.39	0.49	0.00	1.00
S2CLIMSA	7740	0.37	0.48	0.00	1.00
S3CLIMSA	9091	0.40	0.49	0.00	1.00
S4CLIMSA	8560	0.43	0.50	0.00	1.00
S5CLIMSA	6795	0.44	0.50	0.00	1.00
R1CLIM1A	13567	0.20	0.40	0.00	1.00
R2CLIM1A	12082	0.20	0.40	0.00	1.00
R3CLIM1A	13775	0.24	0.43	0.00	1.00
R4CLIM1A	13260	0.26	0.44	0.00	1.00
R5CLIM1A	15523	0.24	0.42	0.00	1.00
S1CLIM1A	9613	0.17	0.38	0.00	1.00
S2CLIM1A	8479	0.17	0.37	0.00	1.00
S3CLIM1A	9433	0.21	0.41	0.00	1.00
S4CLIM1A	8878	0.22	0.42	0.00	1.00
S5CLIM1A	6962	0.25	0.43	0.00	1.00
R1STOOPA	14027	0.35	0.48	0.00	1.00
R2STOOPA	12426	0.33	0.47	0.00	1.00
R3STOOPA	14365	0.41	0.49	0.00	1.00
R4STOOPA	13695	0.45	0.50	0.00	1.00
R5STOOPA	15681	0.41	0.49	0.00	1.00
S1STOOPA	9917	0.32	0.47	0.00	1.00
S2STOOPA	8694	0.31	0.46	0.00	1.00
S3STOOPA	9825	0.38	0.48	0.00	1.00
S4STOOPA	9122	0.42	0.49	0.00	1.00
S5STOOPA	7034	0.44	0.50	0.00	1.00
R1LIFTA	13943	0.19	0.39	0.00	1.00
R2LIFTA	12343	0.18	0.39	0.00	1.00
R3LIFTA	14230	0.24	0.43	0.00	1.00
R4LIFTA	13474	0.27	0.44	0.00	1.00
R5LIFTA	15611	0.25	0.43	0.00	1.00
S1LIFTA	9887	0.15	0.36	0.00	1.00

S2LIFTA	8662	0.15	0.36	0.00	1.00
S3LIFTA	9761	0.20	0.40	0.00	1.00
S4LIFTA	9023	0.22	0.42	0.00	1.00
S5LIFTA	7010	0.24	0.43	0.00	1.00
R1DIMEA	14074	0.05	0.22	0.00	1.00
R2DIMEA	12489	0.06	0.23	0.00	1.00
R3DIMEA	14437	0.07	0.26	0.00	1.00
R4DIMEA	13787	0.07	0.26	0.00	1.00
R5DIMEA	15745	0.08	0.27	0.00	1.00
S1DIMEA	9951	0.04	0.21	0.00	1.00
S2DIMEA	8730	0.04	0.21	0.00	1.00
S3DIMEA	9860	0.06	0.24	0.00	1.00
S4DIMEA	9156	0.06	0.24	0.00	1.00
S5DIMEA	7061	0.09	0.28	0.00	1.00
R1ARMSA	14076	0.11	0.31	0.00	1.00
R2ARMSA	12494	0.10	0.30	0.00	1.00
R3ARMSA	14441	0.14	0.34	0.00	1.00
R4ARMSA	13794	0.15	0.36	0.00	1.00
R5ARMSA	15746	0.14	0.34	0.00	1.00
S1ARMSA	9951	0.10	0.30	0.00	1.00
S2ARMSA	8735	0.09	0.29	0.00	1.00
S3ARMSA	9863	0.12	0.33	0.00	1.00
S4ARMSA	9163	0.13	0.34	0.00	1.00
S5ARMSA	7059	0.14	0.35	0.00	1.00
R1PUSHA	13870	0.20	0.40	0.00	1.00
R2PUSHA	12287	0.19	0.39	0.00	1.00
R3PUSHA	14150	0.25	0.43	0.00	1.00
R4PUSHA	13473	0.27	0.44	0.00	1.00
R5PUSHA	15568	0.24	0.43	0.00	1.00
S1PUSHA	9844	0.17	0.38	0.00	1.00
S2PUSHA	8621	0.16	0.36	0.00	1.00
S3PUSHA	9709	0.21	0.41	0.00	1.00
S4PUSHA	9009	0.23	0.42	0.00	1.00
S5PUSHA	6986	0.25	0.43	0.00	1.00

Categorical Variable Codes

Value-----	R1WALKSA	R2WALKSA	R3WALKSA	R4WALKSA	R5WALKSA
.d:DK	6	1	3	5	
.m:Missing	38	25		40	17
.p:Proxy interview, not asked	1032	1178	1275	929	1328
.r:Refuse	12		1	1	6
.x:Doesn't do	82	111	70	143	68
0.No	10634	9382	10487	9638	11576
1.Yes	3382	3007	3887	4023	4119
Value-----	S1WALKSA	S2WALKSA	S3WALKSA	S4WALKSA	S5WALKSA
.d:DK	5	1	1	5	
.m:Missing	13	6		10	5
.p:Proxy interview, not asked	660	821	726	470	563
.r:Refuse	6				4
.u:Unmar	4205	4009	4782	4847	5227
.v:SP NR	333	131	349	280	501
.x:Doesn't do	46	56	34	66	19
0.No	7769	6811	7446	6722	5068
1.Yes	2149	1869	2385	2379	1979
Value-----	R1JOGA	R2JOGA	R3JOGA	R4JOGA	R5JOGA
.d:DK	114	52	46	17	21
.m:Missing	38	25		40	17

.p:Proxy interview, not asked		1032	1178	1275	929	1328
.r:Refuse		71	18	9	3	18
.x:Doesn't do		2808	2604	1904	2113	1155
0.No		5102	4358	5631	4881	7215
1.Yes		6021	5469	6858	6796	7360
Value-----		S1JOGA	S2JOGA	S3JOGA	S4JOGA	S5JOGA
.d:DK		85	35	34	10	11
.m:Missing		13	6		10	5
.p:Proxy interview, not asked		660	821	726	470	563
.r:Refuse		45	13	4	2	12
.u:Unmar		4205	4009	4782	4847	5227
.v:SP NR		333	131	349	280	501
.x:Doesn't do		1949	1775	1258	1345	512
0.No		3887	3340	4191	3588	2993
1.Yes		4009	3574	4379	4227	3542
Value-----		R1WALK1A	R2WALK1A	R3WALK1A	R4WALK1A	R5WALK1A
.d:DK		26		3	5	1
.m:Missing		38	25		40	17
.p:Proxy interview, not asked		1032	1178	1275	929	1328
.r:Refuse		91	1	2	1	7
.x:Doesn't do		77	72	36	67	37
0.No		12476	11067	12559	11772	13695
1.Yes		1446	1361	1848	1965	2029
Value-----		S1WALK1A	S2WALK1A	S3WALK1A	S4WALK1A	S5WALK1A
.d:DK		16		1	5	
.m:Missing		13	6		10	5
.p:Proxy interview, not asked		660	821	726	470	563
.r:Refuse		65	1	1		5
.u:Unmar		4205	4009	4782	4847	5227
.v:SP NR		333	131	349	280	501
.x:Doesn't do		47	33	14	29	13
0.No		8972	7929	8791	8049	6090
1.Yes		875	774	1059	1089	962
Value-----		R1SITA	R2SITA	R3SITA	R4SITA	R5SITA
.d:DK		7		2	8	1
.m:Missing		38	25		40	17
.p:Proxy interview, not asked		1032	1178	1275	929	1328
.r:Refuse		15		1	1	5
.x:Doesn't do		49	27	50	38	22
0.No		11560	10504	11594	10856	12677
1.Yes		2485	1970	2801	2907	3064
Value-----		S1SITA	S2SITA	S3SITA	S4SITA	S5SITA
.d:DK		4		2	6	1
.m:Missing		13	6		10	5
.p:Proxy interview, not asked		660	821	726	470	563
.r:Refuse		13				3
.u:Unmar		4205	4009	4782	4847	5227
.v:SP NR		333	131	349	280	501
.x:Doesn't do		34	21	33	21	6
0.No		8318	7430	8036	7289	5652
1.Yes		1606	1286	1795	1856	1408
Value-----		R1CHAIRA	R2CHAIRA	R3CHAIRA	R4CHAIRA	R5CHAIRA
.d:DK		7	2	1	6	
.m:Missing		38	25		40	17
.p:Proxy interview, not asked		1032	1178	1275	929	1328
.r:Refuse		14		1	1	7
.x:Doesn't do		26	18	18	24	22
0.No		10272	9526	10089	9058	10747
1.Yes		3797	2955	4339	4721	4993
Value-----		S1CHAIRA	S2CHAIRA	S3CHAIRA	S4CHAIRA	S5CHAIRA
.d:DK		5	1	1	5	
.m:Missing		13	6		10	5
.p:Proxy interview, not asked		660	821	726	470	563
.r:Refuse		11				5
.u:Unmar		4205	4009	4782	4847	5227
.v:SP NR		333	131	349	280	501

.x:Doesn't do		18	12	15	10	6
0.No		7459	6825	7089	6159	4756
1.Yes		2482	1899	2761	2998	2303
Value-----		R1CLIMSA	R2CLIMSA	R3CLIMSA	R4CLIMSA	R5CLIMSA
.d:DK		115	61	30	15	33
.m:Missing		38	25		40	17
.p:Proxy interview, not asked		1032	1178	1275	929	1328
.r:Refuse		86	3	2	1	40
.x:Doesn't do		1427	1451	1157	1054	508
0.No		7158	6523	7491	6762	8864
1.Yes		5330	4463	5768	5978	6324
Value-----		S1CLIMSA	S2CLIMSA	S3CLIMSA	S4CLIMSA	S5CLIMSA
.d:DK		85	36	20	13	16
.m:Missing		13	6		10	5
.p:Proxy interview, not asked		660	821	726	470	563
.r:Refuse		62	3	1		25
.u:Unmar		4205	4009	4782	4847	5227
.v:SP NR		333	131	349	280	501
.x:Doesn't do		1017	958	754	599	234
0.No		5346	4842	5465	4875	3816
1.Yes		3465	2898	3626	3685	2979
Value-----		R1CLIM1A	R2CLIM1A	R3CLIM1A	R4CLIM1A	R5CLIM1A
.d:DK		58	19	20	10	15
.m:Missing		38	25		40	17
.p:Proxy interview, not asked		1032	1178	1275	929	1328
.r:Refuse		85	5	2	2	19
.x:Doesn't do		406	395	651	538	212
0.No		10848	9710	10474	9831	11871
1.Yes		2719	2372	3301	3429	3652
Value-----		S1CLIM1A	S2CLIM1A	S3CLIM1A	S4CLIM1A	S5CLIM1A
.d:DK		46	10	12	9	9
.m:Missing		13	6		10	5
.p:Proxy interview, not asked		660	821	726	470	563
.r:Refuse		58	4	1		8
.u:Unmar		4205	4009	4782	4847	5227
.v:SP NR		333	131	349	280	501
.x:Doesn't do		258	244	420	285	91
0.No		7947	7053	7474	6900	5255
1.Yes		1666	1426	1959	1978	1707
Value-----		R1STOOPA	R2STOOPA	R3STOOPA	R4STOOPA	R5STOOPA
.d:DK		9	4	2	5	1
.m:Missing		38	25		40	17
.p:Proxy interview, not asked		1032	1178	1275	929	1328
.r:Refuse		12	1	1	2	8
.x:Doesn't do		68	70	80	108	79
0.No		9071	8292	8446	7504	9238
1.Yes		4956	4134	5919	6191	6443
Value-----		S1STOOPA	S2STOOPA	S3STOOPA	S4STOOPA	S5STOOPA
.d:DK		7	2	1	5	1
.m:Missing		13	6		10	5
.p:Proxy interview, not asked		660	821	726	470	563
.r:Refuse		10	1			5
.u:Unmar		4205	4009	4782	4847	5227
.v:SP NR		333	131	349	280	501
.x:Doesn't do		41	40	40	45	30
0.No		6704	6039	6114	5264	3966
1.Yes		3213	2655	3711	3858	3068
Value-----		R1LIFTA	R2LIFTA	R3LIFTA	R4LIFTA	R5LIFTA
.d:DK		6	7	3	6	1
.m:Missing		38	25		40	17
.p:Proxy interview, not asked		1032	1178	1275	929	1328
.r:Refuse		8		3	1	8
.x:Doesn't do		159	151	212	329	149
0.No		11355	10094	10837	9855	11772
1.Yes		2588	2249	3393	3619	3839

Value-----	S1LIFTA	S2LIFTA	S3LIFTA	S4LIFTA	S5LIFTA
.d:DK	3	3	2	5	
.m:Missing	13	6		10	5
.p:Proxy interview, not asked	660	821	726	470	563
.r:Refuse	5				5
.u:Unmar	4205	4009	4782	4847	5227
.v:SP NR	333	131	349	280	501
.x:Doesn't do	80	72	103	144	55
0.No	8378	7364	7803	7018	5295
1.Yes	1509	1298	1958	2005	1715
Value-----	R1DIMEA	R2DIMEA	R3DIMEA	R4DIMEA	R5DIMEA
.d:DK	9		2	7	
.m:Missing	38	25		40	17
.p:Proxy interview, not asked	1032	1178	1275	929	1328
.r:Refuse	16		1	1	10
.x:Doesn't do	17	12	8	15	14
0.No	13324	11785	13391	12796	14469
1.Yes	750	704	1046	991	1276
Value-----	S1DIMEA	S2DIMEA	S3DIMEA	S4DIMEA	S5DIMEA
.d:DK	5		2	7	
.m:Missing	13	6		10	5
.p:Proxy interview, not asked	660	821	726	470	563
.r:Refuse	10				6
.u:Unmar	4205	4009	4782	4847	5227
.v:SP NR	333	131	349	280	501
.x:Doesn't do	9	7	4	9	3
0.No	9513	8341	9245	8579	6437
1.Yes	438	389	615	577	624
Value-----	R1ARMSA	R2ARMSA	R3ARMSA	R4ARMSA	R5ARMSA
.d:DK	7		1	5	
.m:Missing	38	25		40	17
.p:Proxy interview, not asked	1032	1178	1275	929	1328
.r:Refuse	12	1	1	1	8
.x:Doesn't do	21	6	5	10	15
0.No	12539	11238	12488	11721	13603
1.Yes	1537	1256	1953	2073	2143
Value-----	S1ARMSA	S2ARMSA	S3ARMSA	S4ARMSA	S5ARMSA
.d:DK	4		1	5	
.m:Missing	13	6		10	5
.p:Proxy interview, not asked	660	821	726	470	563
.r:Refuse	10	1			5
.u:Unmar	4205	4009	4782	4847	5227
.v:SP NR	333	131	349	280	501
.x:Doesn't do	10	1	2	4	6
0.No	8990	7946	8672	7942	6071
1.Yes	961	789	1191	1221	988
Value-----	R1PUSHA	R2PUSHA	R3PUSHA	R4PUSHA	R5PUSHA
.d:DK	7	2	2	5	2
.m:Missing	38	25		40	17
.p:Proxy interview, not asked	1032	1178	1275	929	1328
.r:Refuse	11		1	2	10
.x:Doesn't do	228	212	295	330	189
0.No	11096	10000	10663	9838	11790
1.Yes	2774	2287	3487	3635	3778
Value-----	S1PUSHA	S2PUSHA	S3PUSHA	S4PUSHA	S5PUSHA
.d:DK	4		1	5	1
.m:Missing	13	6		10	5
.p:Proxy interview, not asked	660	821	726	470	563
.r:Refuse	8			1	6
.u:Unmar	4205	4009	4782	4847	5227
.v:SP NR	333	131	349	280	501
.x:Doesn't do	119	116	156	157	77
0.No	8175	7261	7641	6926	5231
1.Yes	1669	1360	2068	2083	1755

## How Constructed

These variables indicate difficulty with functional limitations other than ADLs and IADLs. The other functional limitations include walking several blocks (RwWALKSA), running and jogging one kilometer (RwJOGA), walking one block (RwWALK1A), sitting for about 2 hours (RwSITA), getting up from a chair after sitting for long periods (RwCHAIRA), climbing several flights of stairs without resting (RwCLIMSA), climbing one flight of stairs without resting (RwCLIM1A), stooping/ kneeling/or crouching (RwSTOOPA), reaching arms above shoulder level (RwARMSA), pushing or pulling large objects (RwPUSHA), lifting or carrying weights over 5 kilos (RwLIFTA), and picking up a small coin (one peso) from the table (RwDIMEA).

A code of 0 indicates that the respondent did not report any problems with the activity. A code of 1 indicates that the respondent reported some difficulty with the activity or if they reported "can't do". When respondents indicated "don't know" or refused to answer, the RwWALKSA, RwJOGA, RwWALK1A, RwSITA, RwCHAIRA, RwCLIMSA, RwCLIM1A, RwSTOOPA, RwARMSA, RwPUSHA, RwLIFTA, and RwDIMEA variables are assigned special missing values .d or .r, respectively. Also, if the respondent reported "don't do" they are set to special missing value .x, missing answers are set to special missing .m, and they are set to plain missing (.) for respondents who did not respond to the current wave.

SwWALKSA, SwJOGA, SwWALK1A, SwSITA, SwCHAIRA, SwCLIMSA, SwCLIM1A, SwSTOOPA, SwARMSA, SwPUSHA, SwLIFTA, and SwDIMEA indicate whether the respondent's spouse reported any difficulty with such activities and are taken directly from the spouse's RwWALKSA, RwJOGA, RwWALK1A, RwSITA, RwCHAIRA, RwCLIMSA, RwCLIM1A, RwSTOOPA, RwARMSA, RwPUSHA, RwLIFTA, and RwDIMEA variables, respectively. In addition to the special missing codes used in the respondent variables, the spouse variables employ the special missing value .u, when the respondent does not report being coupled in the current wave, and the special missing value .v, when the respondent reports being coupled in the current wave but their spouse is not interviewed.

## Cross Wave Differences in MHAS

No differences known.

## Differences with the RAND HRS/Harmonized HRS

In the HRS introductory questions, respondents are asked whether they have difficulty jogging one mile. However, in the MHAS they ask if the respondent has any difficulty running or jogging one kilometer.

## MHAS Variables Used

### Wave 1:

H1	long walk
H10	pulling
H11	picking up
H12	picking up a coin
H2	running
H3	short walk
H4	sitting 2 hours
H5	getting up
H6	long climbing
H7	short climbing
H8	bending
H9	extending arms

### Wave 2:

H1	health problems-trouble walking blocks
H10	health problems-trouble pushing or pulling
H11	health problems-trouble carrying objects
H12	health problems-trouble picking up a coin
H2	health problems-trouble running
H3	health problems-trouble walking a block
H4	health problems-trouble staying seated
H5	health problems-trouble getting up from chair
H6	health problems-trouble with flights of stairs
H7	health problems-trouble with 1 flight of stairs
H8	health problems-trouble sitting up
H9	health problems-trouble lifting arms

## Wave 3:

H10_12	Because of health problem, difficulty pushing or pullin
H11_12	Because of health problem, difficulty carrying objects
H12_12	Because of health problem, difficulty picking up a coin
H1_12	Because of health problem, difficulty walking blocks
H2_12	Because of health problem, difficulty running
H3_12	Because of health problem, difficulty walking a block
H4_12	Because of health problem, difficulty staying seated
H5_12	Because of health problem, difficulty getting up from c
H6_12	Because of health problem, difficulty with flights of s
H7_12	Because of health problem, difficulty with 1 flight of
H8_12	Because of health problem, difficulty sitting up
H9_12	Because of health problem, difficulty lifting arms

## Wave 4:

H10_15	Because of health problem, does respondent have difficu
H11_15	Because of health problem, does respondent have difficu
H12_15	Because of health problem, does respondent have difficu
H1_15	Because of health problem, does respondent have difficu
H2_15	Because of health problem, does respondent have difficu
H3_15	Because of health problem, does respondent have difficu
H4_15	Because of health problem, does respondent have difficu
H5_15	Because of health problem, does respondent have difficu
H6_15	Because of health problem, does respondent have difficu
H7_15	Because of health problem, does respondent have difficu
H8_15	Because of health problem, does respondent have difficu
H9_15	Because of health problem, does respondent have difficu

## Wave 5:

H10_18	Because of health problem, does R have difficulty pushi
H11_18	Due to health problem, difficult for R to lift/carry ob
H12_18	Due to health problem, does R have difficulty picking u
H1_18	Because of health problem, does R have difficulty walki
H2_18	Because of health problem, does R have difficulty runni
H3_18	Because of health problem, does R have difficulty walki
H4_18	Because of health problem, does R have difficulty sitti
H5_18	Due to health problem, difficult for R to get up from c
H6_18	Due to health problem, hard for R to climb several flig
H7_18	Due to health problem, difficult for R to climb 1 fligh
H8_18	Due to health problem, does R have difficulty stooping,
H9_18	Due to health problem, difficult for R to reach/extend



<b>ADL Summary: Sum ADLs Where Respondent Reports Any Difficulty</b>
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Wave	Variable	Label	Type
1	R1ADLTOT6	r1adltot6: w1 R Some difficulty-Total ADLs 0-6	Cont
2	R2ADLTOT6	r2adltot6: w2 R Some difficulty-Total ADLs 0-6	Cont
3	R3ADLTOT6	r3adltot6: w3 R Some difficulty-Total ADLs 0-6	Cont
4	R4ADLTOT6	r4adltot6: w4 R Some difficulty-Total ADLs 0-6	Cont
5	R5ADLTOT6	r5adltot6: w5 R Some difficulty-Total ADLs 0-6	Cont
1	S1ADLTOT6	s1adltot6: w1 S Some difficulty-Total ADLs 0-6	Cont
2	S2ADLTOT6	s2adltot6: w2 S Some difficulty-Total ADLs 0-6	Cont
3	S3ADLTOT6	s3adltot6: w3 S Some difficulty-Total ADLs 0-6	Cont
4	S4ADLTOT6	s4adltot6: w4 S Some difficulty-Total ADLs 0-6	Cont
5	S5ADLTOT6	s5adltot6: w5 S Some difficulty-Total ADLs 0-6	Cont
1	R1ADLTOT6M	r1adltot6m: w1 R Some difficulty-Missings in Total ADLs 0-6	Cont
2	R2ADLTOT6M	r2adltot6m: w2 R Some difficulty-Missings in Total ADLs 0-6	Cont
3	R3ADLTOT6M	r3adltot6m: w3 R Some difficulty-Missings in Total ADLs 0-6	Cont
4	R4ADLTOT6M	r4adltot6m: w4 R Some difficulty-Missings in Total ADLs 0-6	Cont
5	R5ADLTOT6M	r5adltot6m: w5 R Some difficulty-Missings in Total ADLs 0-6	Cont
1	S1ADLTOT6M	s1adltot6m: w1 S Some difficulty-Missings in Total ADLs 0-6	Cont
2	S2ADLTOT6M	s2adltot6m: w2 S Some difficulty-Missings in Total ADLs 0-6	Cont
3	S3ADLTOT6M	s3adltot6m: w3 S Some difficulty-Missings in Total ADLs 0-6	Cont
4	S4ADLTOT6M	s4adltot6m: w4 S Some difficulty-Missings in Total ADLs 0-6	Cont
5	S5ADLTOT6M	s5adltot6m: w5 S Some difficulty-Missings in Total ADLs 0-6	Cont
1	R1ADLTOT6A	r1adltot6a: w1 R Any difficulty ADLs 0-6	Categ
2	R2ADLTOT6A	r2adltot6a: w2 R Any difficulty ADLs 0-6	Categ
3	R3ADLTOT6A	r3adltot6a: w3 R Any difficulty ADLs 0-6	Categ
4	R4ADLTOT6A	r4adltot6a: w4 R Any difficulty ADLs 0-6	Categ
5	R5ADLTOT6A	r5adltot6a: w5 R Any difficulty ADLs 0-6	Categ
1	S1ADLTOT6A	s1adltot6a: w1 S Any difficulty ADLs 0-6	Categ
2	S2ADLTOT6A	s2adltot6a: w2 S Any difficulty ADLs 0-6	Categ
3	S3ADLTOT6A	s3adltot6a: w3 S Any difficulty ADLs 0-6	Categ
4	S4ADLTOT6A	s4adltot6a: w4 S Any difficulty ADLs 0-6	Categ
5	S5ADLTOT6A	s5adltot6a: w5 S Any difficulty ADLs 0-6	Categ
1	R1ADLA	r1adla: w1 R Some difficulty-ADLs 0-5	Cont
2	R2ADLA	r2adla: w2 R Some difficulty-ADLs 0-5	Cont
3	R3ADLA	r3adla: w3 R Some difficulty-ADLs 0-5	Cont
4	R4ADLA	r4adla: w4 R Some difficulty-ADLs 0-5	Cont
5	R5ADLA	r5adla: w5 R Some difficulty-ADLs 0-5	Cont
1	S1ADLA	s1adla: w1 S Some difficulty-ADLs 0-5	Cont
2	S2ADLA	s2adla: w2 S Some difficulty-ADLs 0-5	Cont
3	S3ADLA	s3adla: w3 S Some difficulty-ADLs 0-5	Cont
4	S4ADLA	s4adla: w4 S Some difficulty-ADLs 0-5	Cont
5	S5ADLA	s5adla: w5 S Some difficulty-ADLs 0-5	Cont
1	R1ADLAM	r1adlam: w1 R Some difficulty-Missings in ADLs 0-5 Score	Cont
2	R2ADLAM	r2adlam: w2 R Some difficulty-Missings in ADLs 0-5 Score	Cont
3	R3ADLAM	r3adlam: w3 R Some difficulty-Missings in ADLs 0-5 Score	Cont
4	R4ADLAM	r4adlam: w4 R Some difficulty-Missings in ADLs 0-5 Score	Cont
5	R5ADLAM	r5adlam: w5 R Some difficulty-Missings in ADLs 0-5 Score	Cont
1	S1ADLAM	s1adlam: w1 S Some difficulty-Missings in ADLs 0-5 Score	Cont
2	S2ADLAM	s2adlam: w2 S Some difficulty-Missings in ADLs 0-5 Score	Cont
3	S3ADLAM	s3adlam: w3 S Some difficulty-Missings in ADLs 0-5 Score	Cont
4	S4ADLAM	s4adlam: w4 S Some difficulty-Missings in ADLs 0-5 Score	Cont
5	S5ADLAM	s5adlam: w5 S Some difficulty-Missings in ADLs 0-5 Score	Cont

1	R1ADLAA	r1adlaa: w1 R Any difficulty ADLs 0-5	Categ
2	R2ADLAA	r2adlaa: w2 R Any difficulty ADLs 0-5	Categ
3	R3ADLAA	r3adlaa: w3 R Any difficulty ADLs 0-5	Categ
4	R4ADLAA	r4adlaa: w4 R Any difficulty ADLs 0-5	Categ
5	R5ADLAA	r5adlaa: w5 R Any difficulty ADLs 0-5	Categ
1	S1ADLAA	s1adlaa: w1 S Any difficulty ADLs 0-5	Categ
2	S2ADLAA	s2adlaa: w2 S Any difficulty ADLs 0-5	Categ
3	S3ADLAA	s3adlaa: w3 S Any difficulty ADLs 0-5	Categ
4	S4ADLAA	s4adlaa: w4 S Any difficulty ADLs 0-5	Categ
5	S5ADLAA	s5adlaa: w5 S Any difficulty ADLs 0-5	Categ
1	R1ADLFIVE	r1adlfive: w1 R Some difficulty-ADLs 0-5 Alternate	Cont
2	R2ADLFIVE	r2adlfive: w2 R Some difficulty-ADLs 0-5 Alternate	Cont
3	R3ADLFIVE	r3adlfive: w3 R Some difficulty-ADLs 0-5 Alternate	Cont
4	R4ADLFIVE	r4adlfive: w4 R Some difficulty-ADLs 0-5 Alternate	Cont
5	R5ADLFIVE	r5adlfive: w5 R Some difficulty-ADLs 0-5 Alternate	Cont
1	S1ADLFIVE	s1adlfive: w1 S Some difficulty-ADLs 0-5 Alternate	Cont
2	S2ADLFIVE	s2adlfive: w2 S Some difficulty-ADLs 0-5 Alternate	Cont
3	S3ADLFIVE	s3adlfive: w3 S Some difficulty-ADLs 0-5 Alternate	Cont
4	S4ADLFIVE	s4adlfive: w4 S Some difficulty-ADLs 0-5 Alternate	Cont
5	S5ADLFIVE	s5adlfive: w5 S Some difficulty-ADLs 0-5 Alternate	Cont
1	R1ADLFIVEM	r1adlfivem: w1 R Some difficulty-Missings in ADLs 0-5 Score	Cont
2	R2ADLFIVEM	r2adlfivem: w2 R Some difficulty-Missings in ADLs 0-5 Score	Cont
3	R3ADLFIVEM	r3adlfivem: w3 R Some difficulty-Missings in ADLs 0-5 Score	Cont
4	R4ADLFIVEM	r4adlfivem: w4 R Some difficulty-Missings in ADLs 0-5 Score	Cont
5	R5ADLFIVEM	r5adlfivem: w5 R Some difficulty-Missings in ADLs 0-5 Score	Cont
1	S1ADLFIVEM	s1adlfivem: w1 S Some difficulty-Missings in ADLs 0-5 Score	Cont
2	S2ADLFIVEM	s2adlfivem: w2 S Some difficulty-Missings in ADLs 0-5 Score	Cont
3	S3ADLFIVEM	s3adlfivem: w3 S Some difficulty-Missings in ADLs 0-5 Score	Cont
4	S4ADLFIVEM	s4adlfivem: w4 S Some difficulty-Missings in ADLs 0-5 Score	Cont
5	S5ADLFIVEM	s5adlfivem: w5 S Some difficulty-Missings in ADLs 0-5 Score	Cont
1	R1ADLFIVEA	r1adlfivea: w1 R Any difficulty ADLs 0-5 Alternate	Categ
2	R2ADLFIVEA	r2adlfivea: w2 R Any difficulty ADLs 0-5 Alternate	Categ
3	R3ADLFIVEA	r3adlfivea: w3 R Any difficulty ADLs 0-5 Alternate	Categ
4	R4ADLFIVEA	r4adlfivea: w4 R Any difficulty ADLs 0-5 Alternate	Categ
5	R5ADLFIVEA	r5adlfivea: w5 R Any difficulty ADLs 0-5 Alternate	Categ
1	S1ADLFIVEA	s1adlfivea: w1 S Any difficulty ADLs 0-5 Alternate	Categ
2	S2ADLFIVEA	s2adlfivea: w2 S Any difficulty ADLs 0-5 Alternate	Categ
3	S3ADLFIVEA	s3adlfivea: w3 S Any difficulty ADLs 0-5 Alternate	Categ
4	S4ADLFIVEA	s4adlfivea: w4 S Any difficulty ADLs 0-5 Alternate	Categ
5	S5ADLFIVEA	s5adlfivea: w5 S Any difficulty ADLs 0-5 Alternate	Categ
1	R1ADLA_M	r1adla_m: w1 R Some difficulty-ADLs 0-4	Cont
2	R2ADLA_M	r2adla_m: w2 R Some difficulty-ADLs 0-4	Cont
3	R3ADLA_M	r3adla_m: w3 R Some difficulty-ADLs 0-4	Cont
4	R4ADLA_M	r4adla_m: w4 R Some difficulty-ADLs 0-4	Cont
5	R5ADLA_M	r5adla_m: w5 R Some difficulty-ADLs 0-4	Cont
1	S1ADLA_M	s1adla_m: w1 S Some difficulty-ADLs 0-4	Cont
2	S2ADLA_M	s2adla_m: w2 S Some difficulty-ADLs 0-4	Cont
3	S3ADLA_M	s3adla_m: w3 S Some difficulty-ADLs 0-4	Cont
4	S4ADLA_M	s4adla_m: w4 S Some difficulty-ADLs 0-4	Cont
5	S5ADLA_M	s5adla_m: w5 S Some difficulty-ADLs 0-4	Cont
1	R1ADLAM_M	r1adlam_m: w1 R Some difficulty-Missings in ADLs 0-4 Score	Cont
2	R2ADLAM_M	r2adlam_m: w2 R Some difficulty-Missings in ADLs 0-4 Score	Cont
3	R3ADLAM_M	r3adlam_m: w3 R Some difficulty-Missings in ADLs 0-4 Score	Cont

4	R4ADLAM_M	r4adlam_m: w4	R	Some difficulty-Missings in ADLs 0-4	Score	Cont
5	R5ADLAM_M	r5adlam_m: w5	R	Some difficulty-Missings in ADLs 0-4	Score	Cont
1	S1ADLAM_M	s1adlam_m: w1	S	Some difficulty-Missings in ADLs 0-4	Score	Cont
2	S2ADLAM_M	s2adlam_m: w2	S	Some difficulty-Missings in ADLs 0-4	Score	Cont
3	S3ADLAM_M	s3adlam_m: w3	S	Some difficulty-Missings in ADLs 0-4	Score	Cont
4	S4ADLAM_M	s4adlam_m: w4	S	Some difficulty-Missings in ADLs 0-4	Score	Cont
5	S5ADLAM_M	s5adlam_m: w5	S	Some difficulty-Missings in ADLs 0-4	Score	Cont
1	R1ADLAA_M	rladlaa_m: w1	R	Any difficulty ADLs 0-4		Categ
2	R2ADLAA_M	r2adlaa_m: w2	R	Any difficulty ADLs 0-4		Categ
3	R3ADLAA_M	r3adlaa_m: w3	R	Any difficulty ADLs 0-4		Categ
4	R4ADLAA_M	r4adlaa_m: w4	R	Any difficulty ADLs 0-4		Categ
5	R5ADLAA_M	r5adlaa_m: w5	R	Any difficulty ADLs 0-4		Categ
1	S1ADLAA_M	s1adlaa_m: w1	S	Any difficulty ADLs 0-4		Categ
2	S2ADLAA_M	s2adlaa_m: w2	S	Any difficulty ADLs 0-4		Categ
3	S3ADLAA_M	s3adlaa_m: w3	S	Any difficulty ADLs 0-4		Categ
4	S4ADLAA_M	s4adlaa_m: w4	S	Any difficulty ADLs 0-4		Categ
5	S5ADLAA_M	s5adlaa_m: w5	S	Any difficulty ADLs 0-4		Categ
1	R1ADLWA	rladlwa: w1	R	Some difficulty-ADLs: Wallace	0-3	Cont
2	R2ADLWA	r2adlwa: w2	R	Some difficulty-ADLs: Wallace	0-3	Cont
3	R3ADLWA	r3adlwa: w3	R	Some difficulty-ADLs: Wallace	0-3	Cont
4	R4ADLWA	r4adlwa: w4	R	Some difficulty-ADLs: Wallace	0-3	Cont
5	R5ADLWA	r5adlwa: w5	R	Some difficulty-ADLs: Wallace	0-3	Cont
1	S1ADLWA	s1adlwa: w1	S	Some difficulty-ADLs: Wallace	0-3	Cont
2	S2ADLWA	s2adlwa: w2	S	Some difficulty-ADLs: Wallace	0-3	Cont
3	S3ADLWA	s3adlwa: w3	S	Some difficulty-ADLs: Wallace	0-3	Cont
4	S4ADLWA	s4adlwa: w4	S	Some difficulty-ADLs: Wallace	0-3	Cont
5	S5ADLWA	s5adlwa: w5	S	Some difficulty-ADLs: Wallace	0-3	Cont
1	R1ADLWAM	rladlwam: w1	R	Some difficulty-Missings Wallace	Score 0-3	Cont
2	R2ADLWAM	r2adlwam: w2	R	Some difficulty-Missings Wallace	Score 0-3	Cont
3	R3ADLWAM	r3adlwam: w3	R	Some difficulty-Missings Wallace	Score 0-3	Cont
4	R4ADLWAM	r4adlwam: w4	R	Some difficulty-Missings Wallace	Score 0-3	Cont
5	R5ADLWAM	r5adlwam: w5	R	Some difficulty-Missings Wallace	Score 0-3	Cont
1	S1ADLWAM	s1adlwam: w1	S	Some difficulty-Missings Wallace	Score 0-3	Cont
2	S2ADLWAM	s2adlwam: w2	S	Some difficulty-Missings Wallace	Score 0-3	Cont
3	S3ADLWAM	s3adlwam: w3	S	Some difficulty-Missings Wallace	Score 0-3	Cont
4	S4ADLWAM	s4adlwam: w4	S	Some difficulty-Missings Wallace	Score 0-3	Cont
5	S5ADLWAM	s5adlwam: w5	S	Some difficulty-Missings Wallace	Score 0-3	Cont
1	R1ADLWAA	rladlwaa: w1	R	Any difficulty ADLs 0-3		Categ
2	R2ADLWAA	r2adlwaa: w2	R	Any difficulty ADLs 0-3		Categ
3	R3ADLWAA	r3adlwaa: w3	R	Any difficulty ADLs 0-3		Categ
4	R4ADLWAA	r4adlwaa: w4	R	Any difficulty ADLs 0-3		Categ
5	R5ADLWAA	r5adlwaa: w5	R	Any difficulty ADLs 0-3		Categ
1	S1ADLWAA	s1adlwaa: w1	S	Any difficulty ADLs 0-3		Categ
2	S2ADLWAA	s2adlwaa: w2	S	Any difficulty ADLs 0-3		Categ
3	S3ADLWAA	s3adlwaa: w3	S	Any difficulty ADLs 0-3		Categ
4	S4ADLWAA	s4adlwaa: w4	S	Any difficulty ADLs 0-3		Categ
5	S5ADLWAA	s5adlwaa: w5	S	Any difficulty ADLs 0-3		Categ

## Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R1ADLTOT6	14113	0.23	0.84	0.00	6.00
R2ADLTOT6	12501	0.22	0.82	0.00	6.00
R3ADLTOT6	14446	0.32	0.90	0.00	6.00

R4ADLTOT6	13804	0.38	1.02	0.00	6.00
R5ADLTOT6	15762	0.33	0.96	0.00	6.00
S1ADLTOT6	9974	0.19	0.76	0.00	6.00
S2ADLTOT6	8737	0.18	0.72	0.00	6.00
S3ADLTOT6	9865	0.27	0.81	0.00	6.00
S4ADLTOT6	9167	0.32	0.94	0.00	6.00
S5ADLTOT6	7065	0.33	0.96	0.00	6.00
R1ADLTOT6M	15186	0.15	0.66	0.00	6.00
R2ADLTOT6M	13704	0.11	0.44	0.00	6.00
R3ADLTOT6M	15723	0.10	0.37	0.00	6.00
R4ADLTOT6M	14779	0.09	0.42	0.00	6.00
R5ADLTOT6M	17114	0.11	0.53	0.00	6.00
S1ADLTOT6M	10648	0.13	0.60	0.00	6.00
S2ADLTOT6M	9564	0.10	0.39	0.00	6.00
S3ADLTOT6M	10592	0.09	0.36	0.00	6.00
S4ADLTOT6M	9652	0.06	0.33	0.00	6.00
S5ADLTOT6M	7638	0.12	0.59	0.00	6.00
R1ADLTOT6A	14113	0.10	0.30	0.00	1.00
R2ADLTOT6A	12501	0.10	0.30	0.00	1.00
R3ADLTOT6A	14446	0.16	0.37	0.00	1.00
R4ADLTOT6A	13804	0.18	0.39	0.00	1.00
R5ADLTOT6A	15762	0.16	0.37	0.00	1.00
S1ADLTOT6A	9974	0.09	0.29	0.00	1.00
S2ADLTOT6A	8737	0.08	0.28	0.00	1.00
S3ADLTOT6A	9865	0.14	0.35	0.00	1.00
S4ADLTOT6A	9167	0.16	0.36	0.00	1.00
S5ADLTOT6A	7065	0.16	0.36	0.00	1.00
R1ADLA	14113	0.20	0.72	0.00	5.00
R2ADLA	12501	0.19	0.70	0.00	5.00
R3ADLA	14446	0.27	0.77	0.00	5.00
R4ADLA	13804	0.33	0.89	0.00	5.00
R5ADLA	15762	0.28	0.82	0.00	5.00
S1ADLA	9974	0.17	0.65	0.00	5.00
S2ADLA	8737	0.15	0.62	0.00	5.00
S3ADLA	9865	0.23	0.70	0.00	5.00
S4ADLA	9167	0.28	0.81	0.00	5.00
S5ADLA	7065	0.28	0.81	0.00	5.00
R1ADLAM	15186	0.13	0.56	0.00	5.00
R2ADLAM	13704	0.10	0.39	0.00	5.00
R3ADLAM	15723	0.09	0.34	0.00	5.00
R4ADLAM	14779	0.08	0.38	0.00	5.00
R5ADLAM	17114	0.11	0.47	0.00	5.00
S1ADLAM	10648	0.12	0.50	0.00	5.00
S2ADLAM	9564	0.10	0.36	0.00	5.00
S3ADLAM	10592	0.08	0.33	0.00	5.00
S4ADLAM	9652	0.06	0.30	0.00	5.00
S5ADLAM	7638	0.11	0.51	0.00	5.00
R1ADLAA	14113	0.10	0.30	0.00	1.00
R2ADLAA	12501	0.10	0.30	0.00	1.00
R3ADLAA	14446	0.15	0.36	0.00	1.00
R4ADLAA	13804	0.17	0.38	0.00	1.00
R5ADLAA	15762	0.15	0.36	0.00	1.00
S1ADLAA	9974	0.09	0.28	0.00	1.00

S2ADLAA	8737	0.08	0.27	0.00	1.00
S3ADLAA	9865	0.13	0.34	0.00	1.00
S4ADLAA	9167	0.15	0.36	0.00	1.00
S5ADLAA	7065	0.15	0.36	0.00	1.00
R1ADLFIVE	14113	0.18	0.69	0.00	5.00
R2ADLFIVE	12501	0.18	0.67	0.00	5.00
R3ADLFIVE	14446	0.26	0.75	0.00	5.00
R4ADLFIVE	13804	0.32	0.86	0.00	5.00
R5ADLFIVE	15762	0.27	0.80	0.00	5.00
S1ADLFIVE	9974	0.16	0.63	0.00	5.00
S2ADLFIVE	8737	0.14	0.60	0.00	5.00
S3ADLFIVE	9865	0.22	0.68	0.00	5.00
S4ADLFIVE	9167	0.27	0.79	0.00	5.00
S5ADLFIVE	7065	0.27	0.79	0.00	5.00
R1ADLFIVEM	15186	0.13	0.56	0.00	5.00
R2ADLFIVEM	13704	0.10	0.39	0.00	5.00
R3ADLFIVEM	15723	0.09	0.34	0.00	5.00
R4ADLFIVEM	14779	0.08	0.38	0.00	5.00
R5ADLFIVEM	17114	0.11	0.47	0.00	5.00
S1ADLFIVEM	10648	0.12	0.50	0.00	5.00
S2ADLFIVEM	9564	0.10	0.36	0.00	5.00
S3ADLFIVEM	10592	0.08	0.33	0.00	5.00
S4ADLFIVEM	9652	0.06	0.30	0.00	5.00
S5ADLFIVEM	7638	0.11	0.51	0.00	5.00
R1ADLFIVEA	14113	0.10	0.29	0.00	1.00
R2ADLFIVEA	12501	0.09	0.29	0.00	1.00
R3ADLFIVEA	14446	0.15	0.36	0.00	1.00
R4ADLFIVEA	13804	0.17	0.37	0.00	1.00
R5ADLFIVEA	15762	0.14	0.35	0.00	1.00
S1ADLFIVEA	9974	0.08	0.28	0.00	1.00
S2ADLFIVEA	8737	0.07	0.26	0.00	1.00
S3ADLFIVEA	9865	0.13	0.34	0.00	1.00
S4ADLFIVEA	9167	0.15	0.35	0.00	1.00
S5ADLFIVEA	7065	0.15	0.35	0.00	1.00
R1ADLA_M	14971	0.16	0.64	0.00	4.00
R2ADLA_M	13652	0.16	0.63	0.00	4.00
R3ADLA_M	15690	0.24	0.71	0.00	4.00
R4ADLA_M	14732	0.28	0.79	0.00	4.00
R5ADLA_M	17009	0.24	0.74	0.00	4.00
S1ADLA_M	10524	0.13	0.56	0.00	4.00
S2ADLA_M	9538	0.13	0.55	0.00	4.00
S3ADLA_M	10566	0.18	0.60	0.00	4.00
S4ADLA_M	9637	0.22	0.68	0.00	4.00
S5ADLA_M	7576	0.22	0.71	0.00	4.00
R1ADLAM_M	15186	0.06	0.47	0.00	4.00
R2ADLAM_M	13704	0.02	0.25	0.00	4.00
R3ADLAM_M	15723	0.01	0.19	0.00	4.00
R4ADLAM_M	14779	0.02	0.23	0.00	4.00
R5ADLAM_M	17114	0.03	0.32	0.00	4.00
S1ADLAM_M	10648	0.05	0.43	0.00	4.00
S2ADLAM_M	9564	0.01	0.21	0.00	4.00
S3ADLAM_M	10592	0.01	0.21	0.00	4.00
S4ADLAM_M	9652	0.01	0.16	0.00	4.00
S5ADLAM_M	7638	0.03	0.36	0.00	4.00

R1ADLAA_M	14971	0.08	0.27	0.00	1.00
R2ADLAA_M	13652	0.08	0.28	0.00	1.00
R3ADLAA_M	15690	0.13	0.34	0.00	1.00
R4ADLAA_M	14732	0.15	0.36	0.00	1.00
R5ADLAA_M	17009	0.12	0.33	0.00	1.00
S1ADLAA_M	10524	0.07	0.25	0.00	1.00
S2ADLAA_M	9538	0.07	0.25	0.00	1.00
S3ADLAA_M	10566	0.11	0.31	0.00	1.00
S4ADLAA_M	9637	0.12	0.33	0.00	1.00
S5ADLAA_M	7576	0.11	0.32	0.00	1.00
R1ADLWA	14113	0.11	0.42	0.00	3.00
R2ADLWA	12501	0.10	0.42	0.00	3.00
R3ADLWA	14446	0.15	0.46	0.00	3.00
R4ADLWA	13804	0.18	0.53	0.00	3.00
R5ADLWA	15762	0.16	0.49	0.00	3.00
S1ADLWA	9974	0.09	0.38	0.00	3.00
S2ADLWA	8737	0.08	0.37	0.00	3.00
S3ADLWA	9865	0.12	0.41	0.00	3.00
S4ADLWA	9167	0.16	0.49	0.00	3.00
S5ADLWA	7065	0.16	0.48	0.00	3.00
R1ADLWAM	15186	0.10	0.37	0.00	3.00
R2ADLWAM	13704	0.10	0.32	0.00	3.00
R3ADLWAM	15723	0.09	0.29	0.00	3.00
R4ADLWAM	14779	0.07	0.30	0.00	3.00
R5ADLWAM	17114	0.09	0.35	0.00	3.00
S1ADLWAM	10648	0.09	0.34	0.00	3.00
S2ADLWAM	9564	0.09	0.30	0.00	3.00
S3ADLWAM	10592	0.08	0.28	0.00	3.00
S4ADLWAM	9652	0.06	0.25	0.00	3.00
S5ADLWAM	7638	0.09	0.36	0.00	3.00
R1ADLWAA	14113	0.08	0.26	0.00	1.00
R2ADLWAA	12501	0.07	0.26	0.00	1.00
R3ADLWAA	14446	0.11	0.31	0.00	1.00
R4ADLWAA	13804	0.13	0.34	0.00	1.00
R5ADLWAA	15762	0.11	0.32	0.00	1.00
S1ADLWAA	9974	0.07	0.25	0.00	1.00
S2ADLWAA	8737	0.06	0.24	0.00	1.00
S3ADLWAA	9865	0.10	0.30	0.00	1.00
S4ADLWAA	9167	0.11	0.32	0.00	1.00
S5ADLWAA	7065	0.12	0.32	0.00	1.00

## Categorical Variable Codes

Value-----	R1ADLTOT6A	R2ADLTOT6A	R3ADLTOT6A	R4ADLTOT6A	R5ADLTOT6A
.d:DK	1		1	5	
.m:Missing	38	25		40	17
.p:Proxy interview, not asked	1032	1178	1275	929	1328
.r:Refuse	2		1	1	7
0.No	12659	11224	12096	11305	13265
1.Yes	1454	1277	2350	2499	2497
Value-----	S1ADLTOT6A	S2ADLTOT6A	S3ADLTOT6A	S4ADLTOT6A	S5ADLTOT6A
.d:DK			1	5	
.m:Missing	13	6		10	5
.p:Proxy interview, not asked	660	821	726	470	563
.r:Refuse	1				5
.u:Unmar	4205	4009	4782	4847	5227

.v:SP NR	333	131	349	280	501
0.No	9073	8007	8446	7722	5947
1.Yes	901	730	1419	1445	1118
Value-----	R1ADLAA	R2ADLAA	R3ADLAA	R4ADLAA	R5ADLAA
.d:DK	1		1	5	
.m:Missing	38	25		40	17
.p:Proxy interview, not asked	1032	1178	1275	929	1328
.r:Refuse	2		1	1	7
0.No	12723	11266	12275	11435	13427
1.Yes	1390	1235	2171	2369	2335
Value-----	S1ADLAA	S2ADLAA	S3ADLAA	S4ADLAA	S5ADLAA
.d:DK			1	5	
.m:Missing	13	6		10	5
.p:Proxy interview, not asked	660	821	726	470	563
.r:Refuse	1				5
.u:Unmar	4205	4009	4782	4847	5227
.v:SP NR	333	131	349	280	501
0.No	9119	8026	8554	7805	6019
1.Yes	855	711	1311	1362	1046
Value-----	R1ADLFIVEA	R2ADLFIVEA	R3ADLFIVEA	R4ADLFIVEA	R5ADLFIVEA
.d:DK	1		1	5	
.m:Missing	38	25		40	17
.p:Proxy interview, not asked	1032	1178	1275	929	1328
.r:Refuse	2		1	1	7
0.No	12764	11370	12271	11493	13490
1.Yes	1349	1131	2175	2311	2272
Value-----	S1ADLFIVEA	S2ADLFIVEA	S3ADLFIVEA	S4ADLFIVEA	S5ADLFIVEA
.d:DK			1	5	
.m:Missing	13	6		10	5
.p:Proxy interview, not asked	660	821	726	470	563
.r:Refuse	1				5
.u:Unmar	4205	4009	4782	4847	5227
.v:SP NR	333	131	349	280	501
0.No	9132	8082	8543	7821	6032
1.Yes	842	655	1322	1346	1033
Value-----	R1ADLAA_M	R2ADLAA_M	R3ADLAA_M	R4ADLAA_M	R5ADLAA_M
.d:DK	38		31	6	2
.m:Missing	40	47		40	18
.r:Refuse	137	5	2	1	85
0.No	13767	12520	13639	12492	14943
1.Yes	1204	1132	2051	2240	2066
Value-----	S1ADLAA_M	S2ADLAA_M	S3ADLAA_M	S4ADLAA_M	S5ADLAA_M
.d:DK	22		25	5	
.m:Missing	14	23		10	6
.r:Refuse	88	3	1		56
.u:Unmar	4205	4009	4782	4847	5227
.v:SP NR	333	131	349	280	501
0.No	9838	8916	9452	8462	6727
1.Yes	686	622	1114	1175	849
Value-----	R1ADLWAA	R2ADLWAA	R3ADLWAA	R4ADLWAA	R5ADLWAA
.d:DK	1		1	5	
.m:Missing	38	25		40	17
.p:Proxy interview, not asked	1032	1178	1275	929	1328
.r:Refuse	2		1	1	7
0.No	13043	11603	12853	12025	13963
1.Yes	1070	898	1593	1779	1799
Value-----	S1ADLWAA	S2ADLWAA	S3ADLWAA	S4ADLWAA	S5ADLWAA
.d:DK			1	5	
.m:Missing	13	6		10	5
.p:Proxy interview, not asked	660	821	726	470	563
.r:Refuse	1				5
.u:Unmar	4205	4009	4782	4847	5227
.v:SP NR	333	131	349	280	501
0.No	9310	8213	8907	8141	6235
1.Yes	664	524	958	1026	830

## How Constructed

Five activities of daily living (ADL) summaries are derived from the `Rw[adl]A` variables.

The first one (`RwADLTOT6`) includes all available ADL measures: `RwBATHA`, `RwDRESSA`, `RwEATA`, `RwBEDA`, `RwWALKRA`, and `RwTOILTA`. The second one (`RwADLA`) includes the following five ADL measures: `RwBATHA`, `RwDRESSA`, `RwEATA`, `RwBEDA`, and `RwWALKRA`. The third one (`RwADLFIVE`) includes an alternative grouping of five ADL measures: `RwBATHA`, `RwDRESSA`, `RwEATA`, `RwBEDA`, and `RwTOILTA`. The fourth one (`RwADLA_M`) is an MHAS specific summary variable that includes the following four variables: `RwBATHA`, `RwEATA`, `RwBEDA`, and `RwWALKRA`. This variable was created excluding `RwDRESSA` since the difficulty with dressing variable was skipped for proxy interviews. The fifth summary measure uses the ADLs proposed by Wallace and Herzog in their paper (Wallace and Herzog, 1995) to define an ADL summary (`RwADLWA`): bathe, dress, and eat. In all waves the indicators of "some difficulty" are used to construct these summary measures. Each limitation adds one to the summary measures even if one or more measures have missing special values as long as at least one of the ADL components was completed, that is:

```
RwADLTOT6 = sum (RwBATHA, RwDRESSA, RwEATA, RwBEDA, RwWALKRA, RwTOILTA).
```

```
RwADLA = sum (RwBATHA, RwDRESSA, RwEATA, RwBEDA, RwWALKRA).
```

```
RwADLFIVE = sum (RwBATHA, RwDRESSA, RwEATA, RwBEDA, RwTOILTA).
```

```
RwADLA_M = sum (RwBATHA, RwEATA, RwBEDA, RwWALKRA).
```

```
RwADLWA = sum (RwBATHA, RwDRESSA, RwEATA).
```

Each of these summary variables is calculated as long as at least one of its components is not missing. `RwADLTOT6M`, `RwADLAM`, `RwADLFIVEM`, `RwADLAM_M`, and `RwADLWAM` count the number of missing components for each summary score. `RwADLTOT6A`, `RwADLAA`, `RwADLFIVEA`, `RwADLA_M`, and `RwADLWA` indicate whether the respondent had difficulty with any item in the summary. They are coded as 0 if they had no difficulty and 1 if they had difficulty with at least one item. `RwADLTOT6`, `RwADLA`, `RwADLFIVE`, `RwADLA_M`, `RwADLWA`, `RwADLTOT6A`, `RwADLAA`, `RwADLFIVEA`, `RwADLA_M`, and `RwADLWA` are assigned special missing `.d`, `.r`, `.x`, `.p`, `.m`, for don't know, refused, doesn't do, proxy, or otherwise missing responses, respectively. These variables are assigned a blank missing (`.`) for respondents who did not participate in the current wave.

`SwADLTOT6`, `SwADLA`, `SwADLFIVE`, `SwADLA_M`, and `SwADLWA` are the respondent's spouse's ADL summaries and are taken directly from the spouse's `RwADLTOT6`, `RwADLA`, `RwADLFIVE`, `RwADLA_M`, and `RwADLWA`, respectively. `SwADLTOT6M`, `SwADLAM`, `SwADLFIVEM`, `SwADLAM_M`, and `SwADLWAM` are the respondent's spouse's counts of missing values in the corresponding ADL summaries and are taken directly from the spouse's `RwADLTOT6M`, `RwADLAM`, `RwADLFIVEM`, `RwADLAM_M`, and `RwADLWAM`, respectively. `SwADLTOT6A`, `SwADLAA`, `SwADLFIVEA`, `SwADLA_M`, and `SwADLWA` are the respondent's spouse's indicators of any difficulty in the ADL summaries and are taken directly from the spouse's `RwADLTOT6A`, `RwADLAA`, `RwADLFIVEA`, `RwADLA_M`, and `RwADLWA`. In addition to the special missing codes used in the respondent variables, the spouse variables employ the special missing value `.u`, when the respondent does not report being coupled in the current wave, and the special missing value `.v`, when the respondent reports being coupled in the current wave but their spouse is not interviewed.

Please see "Activities of Daily Living (ADLs): Some difficulty" for a description of how the individual 0/1 indicators (`RwBATHA`, `RwDRESSA`, `RwEATA`, `RwBEDA`, `RwWALKRA`, and `RwTOILTA`) are constructed.

## Cross Wave Differences in MHAS

No differences known.

## Differences with the RAND HRS/Harmonized HRS

Unlike the HRS, the activities of daily living (ADLs) recodes for comparison to Wallace and Herzog and the ADL summary that includes these variables, were not created in the MHAS. These variables code a yes/no dummy that indicates "any difficulty" in a manner used by Wallace and Herzog in their paper (Wallace and Herzog, 1995). In the HRS, respondents are asked if the activity is "a little difficult", "somewhat difficult" or "very difficult/can't do". The ADL variables are recoded to 1 for "any difficulty" if the respondent answered "a little difficult", "somewhat difficult" or "very difficult/can't do" according to Wallace and Herzog. However, in the MHAS, respondents are only asked if they have "some difficulty" with the ADLs.



**MHAS Variables Used****Wave 1:**

H1	long walk
H10	pulling
H11	picking up
H12	picking up a coin
H13	dressing
H14	help dressing
H15_1	difficult walking
H15_3	spouse helps walking
H15_4	other helps walking
H16_1	difficult bathing
H16_3	spouse helps bathing
H16_4	other helps bathing
H17_1	difficult eating
H17_3	spouse helps eating
H17_4	other helps eating
H18_1	difficult getting in an out of bed
H18_3	spouse helps getting in an out of bed
H18_4	other helps getting in an out of bed
H19_1	difficult using toilet
H19_3	spouse helps using toilet
H19_4	other helps using toilet
H4	sitting 2 hours
H5	getting up
H6	long climbing
H7	short climbing
H8	bending
H9	extending arms

**Wave 2:**

H1	health problems-trouble walking blocks
H10	health problems-trouble pushing or pulling
H11	health problems-trouble carrying objects
H12	health problems-trouble picking up a coin
H13	health problems-trouble dressing self
H14	someone help you to get dressed
H15A	health problem-trouble walking
H15E	spouse helps
H15F	additional person helps
H16A	health problem-have trouble bathing
H16E	spouse helps
H16F	additional person helps
H17A	health problem-trouble eating or cutting
H17E	spouse helps
H17F	additional person helps
H18A	health problem-get in/out of bed
H18E	spouse helps
H18F	additional person helps
H19A	health problem-trouble going to bathroom
H19E	spouse helps
H19F	additional person helps
H4	health problems-trouble staying seated
H5	health problems-trouble getting up from chair
H6	health problems-trouble with flights of stairs
H7	health problems-trouble with 1 flight of stairs
H8	health problems-trouble sitting up
H9	health problems-trouble lifting arms

**Wave 3:**

H10_12	Because of health problem, difficulty pushing or pullin
H11_12	Because of health problem, difficulty carrying objects
H12_12	Because of health problem, difficulty picking up a coin
H13_12	Because of health problem, difficulty dressing self

H14_12	Someone help you to get dressed
H15A_12	Because of health problem, difficulty walking
H15D_12	Someone help you walk across room
H16A_12	Because of health problem, difficulty bathing
H16D_12	Someone help you to bathe or shower
H17A_12	Because of health problem, difficulty eating or cutting
H17D_12	Does someone help you eat your food
H18A_12	Because of health problem, difficulty get in/out of bed
H18D_12	Does someone help you get into or out of bed
H19A_12	Because of health problem, difficulty going to the bath
H19D_12	Does someone help you use toilet, get on off
H1_12	Because of health problem, difficulty walking blocks
H4_12	Because of health problem, difficulty staying seated
H5_12	Because of health problem, difficulty getting up from c
H6_12	Because of health problem, difficulty with flights of s
H7_12	Because of health problem, difficulty with 1 flight of
H8_12	Because of health problem, difficulty sitting up
H9_12	Because of health problem, difficulty lifting arms
Wave 4:	
H10_15	Because of health problem, does respondent have difficu
H11_15	Because of health problem, does respondent have difficu
H12_15	Because of health problem, does respondent have difficu
H13_15	Because of health problem, does respondent have difficu
H14_15	Does someone help respondent to get dressed
H15A_15	Because of health problem, does respondent have any dif
H15D_15	Does someone help respondent walking across a room
H16A_15	Because of health problem, does respondent have any dif
H16D_15	Does someone help respondent bathing or showering
H17A_15	Because of health problem, does respondent have any dif
H17D_15	Does someone help respondent eating
H18A_15	Because of health problem, does respondent have any dif
H18D_15	Does someone help respondent getting in or out of bed
H19A_15	Because of health problem, does respondent have any dif
H19D_15	Does someone help respondent using the toilet
H1_15	Because of health problem, does respondent have difficu
H4_15	Because of health problem, does respondent have difficu
H5_15	Because of health problem, does respondent have difficu
H6_15	Because of health problem, does respondent have difficu
H7_15	Because of health problem, does respondent have difficu
H8_15	Because of health problem, does respondent have difficu
H9_15	Because of health problem, does respondent have difficu
Wave 5:	
H10_18	Because of health problem, does R have difficulty pushi
H11_18	Due to health problem, difficult for R to lift/carry ob
H12_18	Due to health problem, does R have difficulty picking u
H13_18	Due to health problem, difficult for R to dress, includ
H14_18	Does someone help R to get dressed
H15A_18	Because of health problem, does R have any difficulty w
H15D_18	Does someone help R walking across a room
H16A_18	Because of health problem, does R have any difficulty b
H16D_18	Does someone help R bathing or showering
H17A_18	Due to health problem, does R have any difficulty eatin
H17D_18	Does someone help R eating
H18A_18	Because of health problem, does R have any difficulty g
H18D_18	Does someone help R getting in or out of bed
H19A_18	Because of health problem, does R have any difficulty u
H19D_18	Does someone help R using the toilet
H1_18	Because of health problem, does R have difficulty walki
H4_18	Because of health problem, does R have difficulty sitti
H5_18	Due to health problem, difficult for R to get up from c
H6_18	Due to health problem, hard for R to climb several flig
H7_18	Due to health problem, difficult for R to climb 1 fligh
H8_18	Due to health problem, does R have difficulty stooping,
H9_18	Due to health problem, difficult for R to reach/extend

<b>IADL Summary: Sum IADLs Where Respondent Reports Any Difficulty</b>
--

Wave	Variable	Label	Type
1	R1IADLFOUR	r1iadlfour: w1 R Some difficulty-IADLs 0-4	Cont
2	R2IADLFOUR	r2iadlfour: w2 R Some difficulty-IADLs 0-4	Cont
3	R3IADLFOUR	r3iadlfour: w3 R Some difficulty-IADLs 0-4	Cont
4	R4IADLFOUR	r4iadlfour: w4 R Some difficulty-IADLs 0-4	Cont
5	R5IADLFOUR	r5iadlfour: w5 R Some difficulty-IADLs 0-4	Cont
1	S1IADLFOUR	s1iadlfour: w1 S Some difficulty-IADLs 0-4	Cont
2	S2IADLFOUR	s2iadlfour: w2 S Some difficulty-IADLs 0-4	Cont
3	S3IADLFOUR	s3iadlfour: w3 S Some difficulty-IADLs 0-4	Cont
4	S4IADLFOUR	s4iadlfour: w4 S Some difficulty-IADLs 0-4	Cont
5	S5IADLFOUR	s5iadlfour: w5 S Some difficulty-IADLs 0-4	Cont
1	R1IADLFOURM	r1iadlfourm: w1 R Some difficulty-Missings in IADLs Score	Cont
2	R2IADLFOURM	r2iadlfourm: w2 R Some difficulty-Missings in IADLs Score	Cont
3	R3IADLFOURM	r3iadlfourm: w3 R Some difficulty-Missings in IADLs Score	Cont
4	R4IADLFOURM	r4iadlfourm: w4 R Some difficulty-Missings in IADLs Score	Cont
5	R5IADLFOURM	r5iadlfourm: w5 R Some difficulty-Missings in IADLs Score	Cont
1	S1IADLFOURM	s1iadlfourm: w1 S Some difficulty-Missings in IADLs Score	Cont
2	S2IADLFOURM	s2iadlfourm: w2 S Some difficulty-Missings in IADLs Score	Cont
3	S3IADLFOURM	s3iadlfourm: w3 S Some difficulty-Missings in IADLs Score	Cont
4	S4IADLFOURM	s4iadlfourm: w4 S Some difficulty-Missings in IADLs Score	Cont
5	S5IADLFOURM	s5iadlfourm: w5 S Some difficulty-Missings in IADLs Score	Cont
1	R1IADLFOURA	r1iadlfoura: w1 R Any difficulty IADLs 0-4	Categ
2	R2IADLFOURA	r2iadlfoura: w2 R Any difficulty IADLs 0-4	Categ
3	R3IADLFOURA	r3iadlfoura: w3 R Any difficulty IADLs 0-4	Categ
4	R4IADLFOURA	r4iadlfoura: w4 R Any difficulty IADLs 0-4	Categ
5	R5IADLFOURA	r5iadlfoura: w5 R Any difficulty IADLs 0-4	Categ
1	S1IADLFOURA	s1iadlfoura: w1 S Any difficulty IADLs 0-4	Categ
2	S2IADLFOURA	s2iadlfoura: w2 S Any difficulty IADLs 0-4	Categ
3	S3IADLFOURA	s3iadlfoura: w3 S Any difficulty IADLs 0-4	Categ
4	S4IADLFOURA	s4iadlfoura: w4 S Any difficulty IADLs 0-4	Categ
5	S5IADLFOURA	s5iadlfoura: w5 S Any difficulty IADLs 0-4	Categ

### Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R1IADLFOUR	14085	0.14	0.58	0.00	4.00
R2IADLFOUR	12494	0.15	0.60	0.00	4.00
R3IADLFOUR	14445	0.18	0.60	0.00	4.00
R4IADLFOUR	13803	0.22	0.67	0.00	4.00
R5IADLFOUR	15755	0.17	0.59	0.00	4.00
S1IADLFOUR	9952	0.11	0.49	0.00	4.00
S2IADLFOUR	8732	0.11	0.50	0.00	4.00
S3IADLFOUR	9864	0.13	0.52	0.00	4.00
S4IADLFOUR	9167	0.16	0.57	0.00	4.00
S5IADLFOUR	7062	0.15	0.56	0.00	4.00
R1IADLFOURM	15186	0.37	1.08	0.00	4.00
R2IADLFOURM	13704	0.42	1.15	0.00	4.00
R3IADLFOURM	15723	0.40	1.11	0.00	4.00
R4IADLFOURM	14779	0.34	1.02	0.00	4.00
R5IADLFOURM	17114	0.36	1.09	0.00	4.00

S1IADLF0URM	10648	0.35	1.04	0.00	4.00
S2IADLF0URM	9564	0.42	1.15	0.00	4.00
S3IADLF0URM	10592	0.35	1.04	0.00	4.00
S4IADLF0URM	9652	0.27	0.91	0.00	4.00
S5IADLF0URM	7638	0.35	1.07	0.00	4.00
R1IADLF0URA	14085	0.08	0.26	0.00	1.00
R2IADLF0URA	12494	0.08	0.27	0.00	1.00
R3IADLF0URA	14445	0.11	0.31	0.00	1.00
R4IADLF0URA	13803	0.13	0.33	0.00	1.00
R5IADLF0URA	15755	0.09	0.29	0.00	1.00
S1IADLF0URA	9952	0.06	0.24	0.00	1.00
S2IADLF0URA	8732	0.06	0.23	0.00	1.00
S3IADLF0URA	9864	0.08	0.27	0.00	1.00
S4IADLF0URA	9167	0.09	0.29	0.00	1.00
S5IADLF0URA	7062	0.09	0.29	0.00	1.00

## Categorical Variable Codes

Value-----	R1IADLF0URA	R2IADLF0URA	R3IADLF0URA	R4IADLF0URA	R5IADLF0URA
.d:DK	13		1	5	
.m:Missing	38	25		40	17
.p:Proxy interview, not asked	1032	1178	1275	929	1328
.r:Refuse	10	1	1	1	12
.x:Doesn't do	8	6	1	1	2
0.No	13016	11504	12918	12040	14283
1.Yes	1069	990	1527	1763	1472

Value-----	S1IADLF0URA	S2IADLF0URA	S3IADLF0URA	S4IADLF0URA	S5IADLF0URA
.d:DK	11		1	5	
.m:Missing	13	6		10	5
.p:Proxy interview, not asked	660	821	726	470	563
.r:Refuse	7	1			7
.u:Unmar	4205	4009	4782	4847	5227
.v:SP NR	333	131	349	280	501
.x:Doesn't do	5	4	1		1
0.No	9355	8232	9068	8299	6432
1.Yes	597	500	796	868	630

## How Constructed

One instrumental activities of daily living (IADL) summary variable was constructed. RwiADLF0UR summarizes the commonly used IADLs including managing money, taking medications, shopping for groceries, and preparing hot meals. In all waves the indicators of "some difficulty" are used to construct this summary measure. Each limitation adds one to the summary measures even if one or more measures have missing special values and if at least one of the IADL components was completed, that is:

$RwiADLF0UR = \text{sum}(RwMONEYA, RwMEDSA, RwSHOPA, RwMEALSA)$ . RwiADLF0URM is the number of IADL questions with missing values, ranging from 0 to 4. RwiADLF0URA indicates whether the respondent had difficulty with any item in the summary. They are coded as 0 if they had no difficulty and 1 if they had difficulty with at least one item. RwiADLF0UR and RwiADLF0URA are assigned special missing .d, .r, .x, .p, .m, for don't know, refused, doesn't do, proxy, or otherwise missing responses, respectively. RwiADLF0UR, RwiADLF0URM, and RwiADLF0URA are assigned a blank missing (.) for respondents who did not participate in the current wave.

SwiADLF0UR, SwiADLF0URM, and SwiADLF0URA are the respondent's spouse's IADL summary, count of missing values in that summary, and indicator of any difficulty in that summary, and are taken directly from the spouse's RwiADLF0UR, RwiADLF0URM, and RwiADLF0URA, respectively. In addition to the special missing codes used in RwiADLF0UR, RwiADLF0URM, and RwiADLF0URA, SwiADLF0UR, SwiADLF0URM, and SwiADLF0URA employ the special missing value .u, when the respondent does not report being coupled in the current wave, and the special missing value .v, when the respondent reports being coupled in the current wave but their spouse is not interviewed.

Please see "Instrumental Activities of Daily Living (IADLs): Some difficulty" for a description of how the individual 0/1 indicators (RwMONEYA, RwMEDSA, RwSHOPA, and RwMEALSA) are constructed.

## Cross Wave Differences in MHAS

No differences known.

## Differences with the RAND HRS/Harmonized HRS

Unlike the HRS, the MHAS does not include the instrumental activities of daily living (IADLs) regarding using the phone and using a map. An IADL summary variable was created including using managing money (RwMONEYA), taking medications (RwMEDSA), shopping for groceries (RwSHOPA), and preparing meals (RwMEALSA), for which a comparable summary variable is available in the Harmonized HRS.

## MHAS Variables Used

### Wave 1:

H26_1	hot meal
H26_2	health prevents preparing hot meal
H27_1	shopping
H27_2	health prevents shopping
H28_1	taking medication
H28_2	health prevents taking medication
H29_1	managing money
H29_2	health prevents managing money

### Wave 2:

H26A	trouble preparing hot food
H26B	this is due to a health problem
H27A	trouble shopping
H27B	this is due to a health problem
H28A	trouble taking medicine
H28B	this is due to a health problem
H29A	trouble managing money
H29B	this is due to a health problem

### Wave 3:

H26A_12	Difficulty preparing hot food
H26B_12	Difficulty preparing hot food due to a health problem
H27A_12	Difficulty shopping
H27B_12	Difficulty shopping due to a health problem
H28A_12	Difficulty taking medications
H28B_12	Difficulty taking medications due to a health problem
H29A_12	Difficulty managing money
H29B_12	Difficulty managing money due to a health problem

### Wave 4:

H26A_15	Because of health problem, does respondent have any dif
H26B_15	Is this (difficulty preparing a hot meal) because of a
H27A_15	Because of health problem, does respondent have any dif
H27B_15	Is this (shopping for groceries) because of a health pr
H28A_15	Because of health problem, does respondent have any dif
H28B_15	Is this (taking medications) because of a health proble
H29A_15	Because of health problem, does respondent have any dif
H29B_15	Is this (managing his/her money) because of a health pr

### Wave 5:

H26A_18	Because of health problem, does R have any difficulty p
H26B_18	Is this (difficulty preparing a hot meal) because of a
H27A_18	Because of health problem, does R have any difficulty s
H27B_18	Is this (difficulty shopping for groceries) because of
H28A_18	Because of health problem, does R have any difficulty t
H28B_18	Is this (difficulty taking medications) because of a he
H29A_18	Because of health problem, does R have any difficulty m
H29B_18	Is this (difficulty managing his/her money) because of

**Other Summary Indices: Mobility, Large Muscle, Gross, Fine Motor, Total, Upper, Lower Body Mobility, and NAGI Activities**

Wave	Variable	Label	Type
1	R1MOBILA	r1mobila: w1 R Some difficulty-Mobility 0-5	Cont
2	R2MOBILA	r2mobila: w2 R Some difficulty-Mobility 0-5	Cont
3	R3MOBILA	r3mobila: w3 R Some difficulty-Mobility 0-5	Cont
4	R4MOBILA	r4mobila: w4 R Some difficulty-Mobility 0-5	Cont
5	R5MOBILA	r5mobila: w5 R Some difficulty-Mobility 0-5	Cont
1	S1MOBILA	s1mobila: w1 S Some difficulty-Mobility 0-5	Cont
2	S2MOBILA	s2mobila: w2 S Some difficulty-Mobility 0-5	Cont
3	S3MOBILA	s3mobila: w3 S Some difficulty-Mobility 0-5	Cont
4	S4MOBILA	s4mobila: w4 S Some difficulty-Mobility 0-5	Cont
5	S5MOBILA	s5mobila: w5 S Some difficulty-Mobility 0-5	Cont
1	R1MOBILAM	r1mobilam: w1 R Some difficulty-Missings in Mobility Score	Cont
2	R2MOBILAM	r2mobilam: w2 R Some difficulty-Missings in Mobility Score	Cont
3	R3MOBILAM	r3mobilam: w3 R Some difficulty-Missings in Mobility Score	Cont
4	R4MOBILAM	r4mobilam: w4 R Some difficulty-Missings in Mobility Score	Cont
5	R5MOBILAM	r5mobilam: w5 R Some difficulty-Missings in Mobility Score	Cont
1	S1MOBILAM	s1mobilam: w1 S Some difficulty-Missings in Mobility Score	Cont
2	S2MOBILAM	s2mobilam: w2 S Some difficulty-Missings in Mobility Score	Cont
3	S3MOBILAM	s3mobilam: w3 S Some difficulty-Missings in Mobility Score	Cont
4	S4MOBILAM	s4mobilam: w4 S Some difficulty-Missings in Mobility Score	Cont
5	S5MOBILAM	s5mobilam: w5 S Some difficulty-Missings in Mobility Score	Cont
1	R1MOBILAA	r1mobilaa: w1 R Any difficulty Mobility 0-5	Categ
2	R2MOBILAA	r2mobilaa: w2 R Any difficulty Mobility 0-5	Categ
3	R3MOBILAA	r3mobilaa: w3 R Any difficulty Mobility 0-5	Categ
4	R4MOBILAA	r4mobilaa: w4 R Any difficulty Mobility 0-5	Categ
5	R5MOBILAA	r5mobilaa: w5 R Any difficulty Mobility 0-5	Categ
1	S1MOBILAA	s1mobilaa: w1 S Any difficulty Mobility 0-5	Categ
2	S2MOBILAA	s2mobilaa: w2 S Any difficulty Mobility 0-5	Categ
3	S3MOBILAA	s3mobilaa: w3 S Any difficulty Mobility 0-5	Categ
4	S4MOBILAA	s4mobilaa: w4 S Any difficulty Mobility 0-5	Categ
5	S5MOBILAA	s5mobilaa: w5 S Any difficulty Mobility 0-5	Categ
1	R1LGMUSA	r1lgmusa: w1 R Some difficulty-Large Muscle 0-4	Cont
2	R2LGMUSA	r2lgmusa: w2 R Some difficulty-Large Muscle 0-4	Cont
3	R3LGMUSA	r3lgmusa: w3 R Some difficulty-Large Muscle 0-4	Cont
4	R4LGMUSA	r4lgmusa: w4 R Some difficulty-Large Muscle 0-4	Cont
5	R5LGMUSA	r5lgmusa: w5 R Some difficulty-Large Muscle 0-4	Cont
1	S1LGMUSA	s1lgmusa: w1 S Some difficulty-Large Muscle 0-4	Cont
2	S2LGMUSA	s2lgmusa: w2 S Some difficulty-Large Muscle 0-4	Cont
3	S3LGMUSA	s3lgmusa: w3 S Some difficulty-Large Muscle 0-4	Cont
4	S4LGMUSA	s4lgmusa: w4 S Some difficulty-Large Muscle 0-4	Cont
5	S5LGMUSA	s5lgmusa: w5 S Some difficulty-Large Muscle 0-4	Cont
1	R1LGMUSAM	r1lgmusam: w1 R Some difficulty-Missings in Large Muscle Sco	Cont
2	R2LGMUSAM	r2lgmusam: w2 R Some difficulty-Missings in Large Muscle Sco	Cont
3	R3LGMUSAM	r3lgmusam: w3 R Some difficulty-Missings in Large Muscle Sco	Cont
4	R4LGMUSAM	r4lgmusam: w4 R Some difficulty-Missings in Large Muscle Sco	Cont
5	R5LGMUSAM	r5lgmusam: w5 R Some difficulty-Missings in Large Muscle Sco	Cont
1	S1LGMUSAM	s1lgmusam: w1 S Some difficulty-Missings in Large Muscle Sco	Cont
2	S2LGMUSAM	s2lgmusam: w2 S Some difficulty-Missings in Large Muscle Sco	Cont
3	S3LGMUSAM	s3lgmusam: w3 S Some difficulty-Missings in Large Muscle Sco	Cont

4	S4LGMUSAM	s4lgmusam: w4	S	Some difficulty-Missings in Large Muscle Sco	Cont
5	S5LGMUSAM	s5lgmusam: w5	S	Some difficulty-Missings in Large Muscle Sco	Cont
1	R1LGMUSAA	r1lgmusaa: w1	R	Any difficulty Large Muscle 0-4	Categ
2	R2LGMUSAA	r2lgmusaa: w2	R	Any difficulty Large Muscle 0-4	Categ
3	R3LGMUSAA	r3lgmusaa: w3	R	Any difficulty Large Muscle 0-4	Categ
4	R4LGMUSAA	r4lgmusaa: w4	R	Any difficulty Large Muscle 0-4	Categ
5	R5LGMUSAA	r5lgmusaa: w5	R	Any difficulty Large Muscle 0-4	Categ
1	S1LGMUSAA	s1lgmusaa: w1	S	Any difficulty Large Muscle 0-4	Categ
2	S2LGMUSAA	s2lgmusaa: w2	S	Any difficulty Large Muscle 0-4	Categ
3	S3LGMUSAA	s3lgmusaa: w3	S	Any difficulty Large Muscle 0-4	Categ
4	S4LGMUSAA	s4lgmusaa: w4	S	Any difficulty Large Muscle 0-4	Categ
5	S5LGMUSAA	s5lgmusaa: w5	S	Any difficulty Large Muscle 0-4	Categ
1	R1GROSSA	r1grossa: w1	R	Some difficulty-Gross Motor 0-5	Cont
2	R2GROSSA	r2grossa: w2	R	Some difficulty-Gross Motor 0-5	Cont
3	R3GROSSA	r3grossa: w3	R	Some difficulty-Gross Motor 0-5	Cont
4	R4GROSSA	r4grossa: w4	R	Some difficulty-Gross Motor 0-5	Cont
5	R5GROSSA	r5grossa: w5	R	Some difficulty-Gross Motor 0-5	Cont
1	S1GROSSA	s1grossa: w1	S	Some difficulty-Gross Motor 0-5	Cont
2	S2GROSSA	s2grossa: w2	S	Some difficulty-Gross Motor 0-5	Cont
3	S3GROSSA	s3grossa: w3	S	Some difficulty-Gross Motor 0-5	Cont
4	S4GROSSA	s4grossa: w4	S	Some difficulty-Gross Motor 0-5	Cont
5	S5GROSSA	s5grossa: w5	S	Some difficulty-Gross Motor 0-5	Cont
1	R1GROSSAM	r1grossam: w1	R	Some difficulty-Missings in Gross Motor Scor	Cont
2	R2GROSSAM	r2grossam: w2	R	Some difficulty-Missings in Gross Motor Scor	Cont
3	R3GROSSAM	r3grossam: w3	R	Some difficulty-Missings in Gross Motor Scor	Cont
4	R4GROSSAM	r4grossam: w4	R	Some difficulty-Missings in Gross Motor Scor	Cont
5	R5GROSSAM	r5grossam: w5	R	Some difficulty-Missings in Gross Motor Scor	Cont
1	S1GROSSAM	s1grossam: w1	S	Some difficulty-Missings in Gross Motor Scor	Cont
2	S2GROSSAM	s2grossam: w2	S	Some difficulty-Missings in Gross Motor Scor	Cont
3	S3GROSSAM	s3grossam: w3	S	Some difficulty-Missings in Gross Motor Scor	Cont
4	S4GROSSAM	s4grossam: w4	S	Some difficulty-Missings in Gross Motor Scor	Cont
5	S5GROSSAM	s5grossam: w5	S	Some difficulty-Missings in Gross Motor Scor	Cont
1	R1GROSSAA	r1grossaa: w1	R	Any difficulty Gross Motor 0-5	Categ
2	R2GROSSAA	r2grossaa: w2	R	Any difficulty Gross Motor 0-5	Categ
3	R3GROSSAA	r3grossaa: w3	R	Any difficulty Gross Motor 0-5	Categ
4	R4GROSSAA	r4grossaa: w4	R	Any difficulty Gross Motor 0-5	Categ
5	R5GROSSAA	r5grossaa: w5	R	Any difficulty Gross Motor 0-5	Categ
1	S1GROSSAA	s1grossaa: w1	S	Any difficulty Gross Motor 0-5	Categ
2	S2GROSSAA	s2grossaa: w2	S	Any difficulty Gross Motor 0-5	Categ
3	S3GROSSAA	s3grossaa: w3	S	Any difficulty Gross Motor 0-5	Categ
4	S4GROSSAA	s4grossaa: w4	S	Any difficulty Gross Motor 0-5	Categ
5	S5GROSSAA	s5grossaa: w5	S	Any difficulty Gross Motor 0-5	Categ
1	R1FINEA	r1finea: w1	R	Some difficulty-Fine Motor 0-3	Cont
2	R2FINEA	r2finea: w2	R	Some difficulty-Fine Motor 0-3	Cont
3	R3FINEA	r3finea: w3	R	Some difficulty-Fine Motor 0-3	Cont
4	R4FINEA	r4finea: w4	R	Some difficulty-Fine Motor 0-3	Cont
5	R5FINEA	r5finea: w5	R	Some difficulty-Fine Motor 0-3	Cont
1	S1FINEA	s1finea: w1	S	Some difficulty-Fine Motor 0-3	Cont
2	S2FINEA	s2finea: w2	S	Some difficulty-Fine Motor 0-3	Cont
3	S3FINEA	s3finea: w3	S	Some difficulty-Fine Motor 0-3	Cont
4	S4FINEA	s4finea: w4	S	Some difficulty-Fine Motor 0-3	Cont
5	S5FINEA	s5finea: w5	S	Some difficulty-Fine Motor 0-3	Cont
1	R1FINEAM	r1fineam: w1	R	Some difficulty-Missings in Fine Motor Score	Cont

2	R2FINEAM	r2fineam: w2 R Some difficulty-Missings in Fine Motor Score	Cont
3	R3FINEAM	r3fineam: w3 R Some difficulty-Missings in Fine Motor Score	Cont
4	R4FINEAM	r4fineam: w4 R Some difficulty-Missings in Fine Motor Score	Cont
5	R5FINEAM	r5fineam: w5 R Some difficulty-Missings in Fine Motor Score	Cont
1	S1FINEAM	s1fineam: w1 S Some difficulty-Missings in Fine Motor Score	Cont
2	S2FINEAM	s2fineam: w2 S Some difficulty-Missings in Fine Motor Score	Cont
3	S3FINEAM	s3fineam: w3 S Some difficulty-Missings in Fine Motor Score	Cont
4	S4FINEAM	s4fineam: w4 S Some difficulty-Missings in Fine Motor Score	Cont
5	S5FINEAM	s5fineam: w5 S Some difficulty-Missings in Fine Motor Score	Cont
1	R1FINEAA	r1fineaa: w1 R Any difficulty Fine Motor 0-3	Categ
2	R2FINEAA	r2fineaa: w2 R Any difficulty Fine Motor 0-3	Categ
3	R3FINEAA	r3fineaa: w3 R Any difficulty Fine Motor 0-3	Categ
4	R4FINEAA	r4fineaa: w4 R Any difficulty Fine Motor 0-3	Categ
5	R5FINEAA	r5fineaa: w5 R Any difficulty Fine Motor 0-3	Categ
1	S1FINEAA	s1fineaa: w1 S Any difficulty Fine Motor 0-3	Categ
2	S2FINEAA	s2fineaa: w2 S Any difficulty Fine Motor 0-3	Categ
3	S3FINEAA	s3fineaa: w3 S Any difficulty Fine Motor 0-3	Categ
4	S4FINEAA	s4fineaa: w4 S Any difficulty Fine Motor 0-3	Categ
5	S5FINEAA	s5fineaa: w5 S Any difficulty Fine Motor 0-3	Categ
1	R1MOBILSEV	r1mobilsev: w1 R Some difficulty-7 item Mobility 0-7	Cont
2	R2MOBILSEV	r2mobilsev: w2 R Some difficulty-7 item Mobility 0-7	Cont
3	R3MOBILSEV	r3mobilsev: w3 R Some difficulty-7 item Mobility 0-7	Cont
4	R4MOBILSEV	r4mobilsev: w4 R Some difficulty-7 item Mobility 0-7	Cont
5	R5MOBILSEV	r5mobilsev: w5 R Some difficulty-7 item Mobility 0-7	Cont
1	S1MOBILSEV	s1mobilsev: w1 S Some difficulty-7 item Mobility 0-7	Cont
2	S2MOBILSEV	s2mobilsev: w2 S Some difficulty-7 item Mobility 0-7	Cont
3	S3MOBILSEV	s3mobilsev: w3 S Some difficulty-7 item Mobility 0-7	Cont
4	S4MOBILSEV	s4mobilsev: w4 S Some difficulty-7 item Mobility 0-7	Cont
5	S5MOBILSEV	s5mobilsev: w5 S Some difficulty-7 item Mobility 0-7	Cont
1	R1MOBILSEVM	r1mobilsevm: w1 R Some difficulty-Missings in 7 item Mobilit	Cont
2	R2MOBILSEVM	r2mobilsevm: w2 R Some difficulty-Missings in 7 item Mobilit	Cont
3	R3MOBILSEVM	r3mobilsevm: w3 R Some difficulty-Missings in 7 item Mobilit	Cont
4	R4MOBILSEVM	r4mobilsevm: w4 R Some difficulty-Missings in 7 item Mobilit	Cont
5	R5MOBILSEVM	r5mobilsevm: w5 R Some difficulty-Missings in 7 item Mobilit	Cont
1	S1MOBILSEVM	s1mobilsevm: w1 S Some difficulty-Missings in 7 item Mobilit	Cont
2	S2MOBILSEVM	s2mobilsevm: w2 S Some difficulty-Missings in 7 item Mobilit	Cont
3	S3MOBILSEVM	s3mobilsevm: w3 S Some difficulty-Missings in 7 item Mobilit	Cont
4	S4MOBILSEVM	s4mobilsevm: w4 S Some difficulty-Missings in 7 item Mobilit	Cont
5	S5MOBILSEVM	s5mobilsevm: w5 S Some difficulty-Missings in 7 item Mobilit	Cont
1	R1MOBILSEVA	r1mobilseva: w1 R Any difficulty Mobility 0-7	Categ
2	R2MOBILSEVA	r2mobilseva: w2 R Any difficulty Mobility 0-7	Categ
3	R3MOBILSEVA	r3mobilseva: w3 R Any difficulty Mobility 0-7	Categ
4	R4MOBILSEVA	r4mobilseva: w4 R Any difficulty Mobility 0-7	Categ
5	R5MOBILSEVA	r5mobilseva: w5 R Any difficulty Mobility 0-7	Categ
1	S1MOBILSEVA	s1mobilseva: w1 S Any difficulty Mobility 0-7	Categ
2	S2MOBILSEVA	s2mobilseva: w2 S Any difficulty Mobility 0-7	Categ
3	S3MOBILSEVA	s3mobilseva: w3 S Any difficulty Mobility 0-7	Categ
4	S4MOBILSEVA	s4mobilseva: w4 S Any difficulty Mobility 0-7	Categ
5	S5MOBILSEVA	s5mobilseva: w5 S Any difficulty Mobility 0-7	Categ
1	R1UPPERMOB	r1uppermob: w1 R Some difficulty-Upper Body Mobility 0-3	Cont
2	R2UPPERMOB	r2uppermob: w2 R Some difficulty-Upper Body Mobility 0-3	Cont
3	R3UPPERMOB	r3uppermob: w3 R Some difficulty-Upper Body Mobility 0-3	Cont
4	R4UPPERMOB	r4uppermob: w4 R Some difficulty-Upper Body Mobility 0-3	Cont
5	R5UPPERMOB	r5uppermob: w5 R Some difficulty-Upper Body Mobility 0-3	Cont



1	S1UPPERMOB	s1uppermob: w1 S Some difficulty-Upper Body Mobility 0-3	Cont
2	S2UPPERMOB	s2uppermob: w2 S Some difficulty-Upper Body Mobility 0-3	Cont
3	S3UPPERMOB	s3uppermob: w3 S Some difficulty-Upper Body Mobility 0-3	Cont
4	S4UPPERMOB	s4uppermob: w4 S Some difficulty-Upper Body Mobility 0-3	Cont
5	S5UPPERMOB	s5uppermob: w5 S Some difficulty-Upper Body Mobility 0-3	Cont
1	R1UPPERMOBM	r1uppermobm: w1 R Some difficulty-Missings in Upper Body Mob	Cont
2	R2UPPERMOBM	r2uppermobm: w2 R Some difficulty-Missings in Upper Body Mob	Cont
3	R3UPPERMOBM	r3uppermobm: w3 R Some difficulty-Missings in Upper Body Mob	Cont
4	R4UPPERMOBM	r4uppermobm: w4 R Some difficulty-Missings in Upper Body Mob	Cont
5	R5UPPERMOBM	r5uppermobm: w5 R Some difficulty-Missings in Upper Body Mob	Cont
1	S1UPPERMOBM	s1uppermobm: w1 S Some difficulty-Missings in Upper Body Mob	Cont
2	S2UPPERMOBM	s2uppermobm: w2 S Some difficulty-Missings in Upper Body Mob	Cont
3	S3UPPERMOBM	s3uppermobm: w3 S Some difficulty-Missings in Upper Body Mob	Cont
4	S4UPPERMOBM	s4uppermobm: w4 S Some difficulty-Missings in Upper Body Mob	Cont
5	S5UPPERMOBM	s5uppermobm: w5 S Some difficulty-Missings in Upper Body Mob	Cont
1	R1UPPERMOBA	r1uppermoba: w1 R Any difficulty Upper Body Mobility 0-3	Categ
2	R2UPPERMOBA	r2uppermoba: w2 R Any difficulty Upper Body Mobility 0-3	Categ
3	R3UPPERMOBA	r3uppermoba: w3 R Any difficulty Upper Body Mobility 0-3	Categ
4	R4UPPERMOBA	r4uppermoba: w4 R Any difficulty Upper Body Mobility 0-3	Categ
5	R5UPPERMOBA	r5uppermoba: w5 R Any difficulty Upper Body Mobility 0-3	Categ
1	S1UPPERMOBA	s1uppermoba: w1 S Any difficulty Upper Body Mobility 0-3	Categ
2	S2UPPERMOBA	s2uppermoba: w2 S Any difficulty Upper Body Mobility 0-3	Categ
3	S3UPPERMOBA	s3uppermoba: w3 S Any difficulty Upper Body Mobility 0-3	Categ
4	S4UPPERMOBA	s4uppermoba: w4 S Any difficulty Upper Body Mobility 0-3	Categ
5	S5UPPERMOBA	s5uppermoba: w5 S Any difficulty Upper Body Mobility 0-3	Categ
1	R1LOWERMOb	r1lowermob: w1 R Some difficulty-Lower Body Mobility 0-4	Cont
2	R2LOWERMOb	r2lowermob: w2 R Some difficulty-Lower Body Mobility 0-4	Cont
3	R3LOWERMOb	r3lowermob: w3 R Some difficulty-Lower Body Mobility 0-4	Cont
4	R4LOWERMOb	r4lowermob: w4 R Some difficulty-Lower Body Mobility 0-4	Cont
5	R5LOWERMOb	r5lowermob: w5 R Some difficulty-Lower Body Mobility 0-4	Cont
1	S1LOWERMOb	s1lowermob: w1 S Some difficulty-Lower Body Mobility 0-4	Cont
2	S2LOWERMOb	s2lowermob: w2 S Some difficulty-Lower Body Mobility 0-4	Cont
3	S3LOWERMOb	s3lowermob: w3 S Some difficulty-Lower Body Mobility 0-4	Cont
4	S4LOWERMOb	s4lowermob: w4 S Some difficulty-Lower Body Mobility 0-4	Cont
5	S5LOWERMOb	s5lowermob: w5 S Some difficulty-Lower Body Mobility 0-4	Cont
1	R1LOWERMObm	r1lowermobm: w1 R Some difficulty-Missings in Lower Body Mob	Cont
2	R2LOWERMObm	r2lowermobm: w2 R Some difficulty-Missings in Lower Body Mob	Cont
3	R3LOWERMObm	r3lowermobm: w3 R Some difficulty-Missings in Lower Body Mob	Cont
4	R4LOWERMObm	r4lowermobm: w4 R Some difficulty-Missings in Lower Body Mob	Cont
5	R5LOWERMObm	r5lowermobm: w5 R Some difficulty-Missings in Lower Body Mob	Cont
1	S1LOWERMObm	s1lowermobm: w1 S Some difficulty-Missings in Lower Body Mob	Cont
2	S2LOWERMObm	s2lowermobm: w2 S Some difficulty-Missings in Lower Body Mob	Cont
3	S3LOWERMObm	s3lowermobm: w3 S Some difficulty-Missings in Lower Body Mob	Cont
4	S4LOWERMObm	s4lowermobm: w4 S Some difficulty-Missings in Lower Body Mob	Cont
5	S5LOWERMObm	s5lowermobm: w5 S Some difficulty-Missings in Lower Body Mob	Cont
1	R1LOWERMObA	r1lowermoba: w1 R Any difficulty Lower Body Mobility 0-4	Categ
2	R2LOWERMObA	r2lowermoba: w2 R Any difficulty Lower Body Mobility 0-4	Categ
3	R3LOWERMObA	r3lowermoba: w3 R Any difficulty Lower Body Mobility 0-4	Categ
4	R4LOWERMObA	r4lowermoba: w4 R Any difficulty Lower Body Mobility 0-4	Categ
5	R5LOWERMObA	r5lowermoba: w5 R Any difficulty Lower Body Mobility 0-4	Categ
1	S1LOWERMObA	s1lowermoba: w1 S Any difficulty Lower Body Mobility 0-4	Categ
2	S2LOWERMObA	s2lowermoba: w2 S Any difficulty Lower Body Mobility 0-4	Categ
3	S3LOWERMObA	s3lowermoba: w3 S Any difficulty Lower Body Mobility 0-4	Categ

4	S4LOWERMOBA	s4lowermoba: w4 S Any difficulty Lower Body Mobility 0-4	Categ
5	S5LOWERMOBA	s5lowermoba: w5 S Any difficulty Lower Body Mobility 0-4	Categ
1	R1NAGI10	r1nagi10: w1 R Some difficulty-NAGI Score 0-10	Cont
2	R2NAGI10	r2nagi10: w2 R Some difficulty-NAGI Score 0-10	Cont
3	R3NAGI10	r3nagi10: w3 R Some difficulty-NAGI Score 0-10	Cont
4	R4NAGI10	r4nagi10: w4 R Some difficulty-NAGI Score 0-10	Cont
5	R5NAGI10	r5nagi10: w5 R Some difficulty-NAGI Score 0-10	Cont
1	S1NAGI10	s1nagi10: w1 S Some difficulty-NAGI Score 0-10	Cont
2	S2NAGI10	s2nagi10: w2 S Some difficulty-NAGI Score 0-10	Cont
3	S3NAGI10	s3nagi10: w3 S Some difficulty-NAGI Score 0-10	Cont
4	S4NAGI10	s4nagi10: w4 S Some difficulty-NAGI Score 0-10	Cont
5	S5NAGI10	s5nagi10: w5 S Some difficulty-NAGI Score 0-10	Cont
1	R1NAGI10M	r1nagi10m: w1 R Some difficulty-Missings in 10-item NAGI Sco	Cont
2	R2NAGI10M	r2nagi10m: w2 R Some difficulty-Missings in 10-item NAGI Sco	Cont
3	R3NAGI10M	r3nagi10m: w3 R Some difficulty-Missings in 10-item NAGI Sco	Cont
4	R4NAGI10M	r4nagi10m: w4 R Some difficulty-Missings in 10-item NAGI Sco	Cont
5	R5NAGI10M	r5nagi10m: w5 R Some difficulty-Missings in 10-item NAGI Sco	Cont
1	S1NAGI10M	s1nagi10m: w1 S Some difficulty-Missings in 10-item NAGI Sco	Cont
2	S2NAGI10M	s2nagi10m: w2 S Some difficulty-Missings in 10-item NAGI Sco	Cont
3	S3NAGI10M	s3nagi10m: w3 S Some difficulty-Missings in 10-item NAGI Sco	Cont
4	S4NAGI10M	s4nagi10m: w4 S Some difficulty-Missings in 10-item NAGI Sco	Cont
5	S5NAGI10M	s5nagi10m: w5 S Some difficulty-Missings in 10-item NAGI Sco	Cont
1	R1NAGI10A	r1nagi10a: w1 R Any difficulty NAGI Score 0-10	Categ
2	R2NAGI10A	r2nagi10a: w2 R Any difficulty NAGI Score 0-10	Categ
3	R3NAGI10A	r3nagi10a: w3 R Any difficulty NAGI Score 0-10	Categ
4	R4NAGI10A	r4nagi10a: w4 R Any difficulty NAGI Score 0-10	Categ
5	R5NAGI10A	r5nagi10a: w5 R Any difficulty NAGI Score 0-10	Categ
1	S1NAGI10A	s1nagi10a: w1 S Any difficulty NAGI Score 0-10	Categ
2	S2NAGI10A	s2nagi10a: w2 S Any difficulty NAGI Score 0-10	Categ
3	S3NAGI10A	s3nagi10a: w3 S Any difficulty NAGI Score 0-10	Categ
4	S4NAGI10A	s4nagi10a: w4 S Any difficulty NAGI Score 0-10	Categ
5	S5NAGI10A	s5nagi10a: w5 S Any difficulty NAGI Score 0-10	Categ
1	R1NAGI8	r1nagi8: w1 R Some difficulty-NAGI Score 0-8	Cont
2	R2NAGI8	r2nagi8: w2 R Some difficulty-NAGI Score 0-8	Cont
3	R3NAGI8	r3nagi8: w3 R Some difficulty-NAGI Score 0-8	Cont
4	R4NAGI8	r4nagi8: w4 R Some difficulty-NAGI Score 0-8	Cont
5	R5NAGI8	r5nagi8: w5 R Some difficulty-NAGI Score 0-8	Cont
1	S1NAGI8	s1nagi8: w1 S Some difficulty-NAGI Score 0-8	Cont
2	S2NAGI8	s2nagi8: w2 S Some difficulty-NAGI Score 0-8	Cont
3	S3NAGI8	s3nagi8: w3 S Some difficulty-NAGI Score 0-8	Cont
4	S4NAGI8	s4nagi8: w4 S Some difficulty-NAGI Score 0-8	Cont
5	S5NAGI8	s5nagi8: w5 S Some difficulty-NAGI Score 0-8	Cont
1	R1NAGI8M	r1nagi8m: w1 R Some difficulty-Missings in 8-item NAGI Score	Cont
2	R2NAGI8M	r2nagi8m: w2 R Some difficulty-Missings in 8-item NAGI Score	Cont
3	R3NAGI8M	r3nagi8m: w3 R Some difficulty-Missings in 8-item NAGI Score	Cont
4	R4NAGI8M	r4nagi8m: w4 R Some difficulty-Missings in 8-item NAGI Score	Cont
5	R5NAGI8M	r5nagi8m: w5 R Some difficulty-Missings in 8-item NAGI Score	Cont
1	S1NAGI8M	s1nagi8m: w1 S Some difficulty-Missings in 8-item NAGI Score	Cont
2	S2NAGI8M	s2nagi8m: w2 S Some difficulty-Missings in 8-item NAGI Score	Cont
3	S3NAGI8M	s3nagi8m: w3 S Some difficulty-Missings in 8-item NAGI Score	Cont
4	S4NAGI8M	s4nagi8m: w4 S Some difficulty-Missings in 8-item NAGI Score	Cont
5	S5NAGI8M	s5nagi8m: w5 S Some difficulty-Missings in 8-item NAGI Score	Cont
1	R1NAGI8A	r1nagi8a: w1 R Any difficulty NAGI Score 0-8	Categ

2	R2NAGI8A	r2nagi8a: w2 R Any difficulty NAGI Score 0-8	Categ
3	R3NAGI8A	r3nagi8a: w3 R Any difficulty NAGI Score 0-8	Categ
4	R4NAGI8A	r4nagi8a: w4 R Any difficulty NAGI Score 0-8	Categ
5	R5NAGI8A	r5nagi8a: w5 R Any difficulty NAGI Score 0-8	Categ
1	S1NAGI8A	s1nagi8a: w1 S Any difficulty NAGI Score 0-8	Categ
2	S2NAGI8A	s2nagi8a: w2 S Any difficulty NAGI Score 0-8	Categ
3	S3NAGI8A	s3nagi8a: w3 S Any difficulty NAGI Score 0-8	Categ
4	S4NAGI8A	s4nagi8a: w4 S Any difficulty NAGI Score 0-8	Categ
5	S5NAGI8A	s5nagi8a: w5 S Any difficulty NAGI Score 0-8	Categ

## Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R1MOBILA	14113	0.95	1.37	0.00	5.00
R2MOBILA	12500	0.94	1.39	0.00	5.00
R3MOBILA	14446	1.08	1.46	0.00	5.00
R4MOBILA	13801	1.18	1.51	0.00	5.00
R5MOBILA	15766	1.08	1.50	0.00	5.00
S1MOBILA	9973	0.85	1.30	0.00	5.00
S2MOBILA	8737	0.83	1.29	0.00	5.00
S3MOBILA	9865	0.96	1.39	0.00	5.00
S4MOBILA	9166	1.05	1.43	0.00	5.00
S5MOBILA	7067	1.14	1.51	0.00	5.00
R1MOBILAM	15186	0.46	1.10	0.00	5.00
R2MOBILAM	13704	0.51	1.19	0.00	5.00
R3MOBILAM	15723	0.45	1.15	0.00	5.00
R4MOBILAM	14779	0.39	1.08	0.00	5.00
R5MOBILAM	17114	0.38	1.13	0.00	5.00
S1MOBILAM	10648	0.43	1.05	0.00	5.00
S2MOBILAM	9564	0.49	1.17	0.00	5.00
S3MOBILAM	10592	0.40	1.08	0.00	5.00
S4MOBILAM	9652	0.31	0.95	0.00	5.00
S5MOBILAM	7638	0.36	1.11	0.00	5.00
R1MOBILAA	14113	0.43	0.50	0.00	1.00
R2MOBILAA	12500	0.42	0.49	0.00	1.00
R3MOBILAA	14446	0.46	0.50	0.00	1.00
R4MOBILAA	13801	0.50	0.50	0.00	1.00
R5MOBILAA	15766	0.45	0.50	0.00	1.00
S1MOBILAA	9973	0.40	0.49	0.00	1.00
S2MOBILAA	8737	0.39	0.49	0.00	1.00
S3MOBILAA	9865	0.42	0.49	0.00	1.00
S4MOBILAA	9166	0.46	0.50	0.00	1.00
S5MOBILAA	7067	0.47	0.50	0.00	1.00
R1LGMUSA	14109	0.99	1.32	0.00	4.00
R2LGMUSA	12501	0.91	1.28	0.00	4.00
R3LGMUSA	14446	1.15	1.35	0.00	4.00
R4LGMUSA	13804	1.26	1.38	0.00	4.00
R5LGMUSA	15764	1.16	1.37	0.00	4.00
S1LGMUSA	9970	0.90	1.27	0.00	4.00
S2LGMUSA	8737	0.82	1.23	0.00	4.00
S3LGMUSA	9865	1.05	1.31	0.00	4.00
S4LGMUSA	9167	1.18	1.35	0.00	4.00
S5LGMUSA	7066	1.21	1.38	0.00	4.00
R1LGMUSAM	15186	0.31	1.03	0.00	4.00

R2LGMUSAM	13704	0.38	1.14	0.00	4.00
R3LGMUSAM	15723	0.35	1.10	0.00	4.00
R4LGMUSAM	14779	0.30	1.00	0.00	4.00
R5LGMUSAM	17114	0.33	1.08	0.00	4.00
S1LGMUSAM	10648	0.28	0.98	0.00	4.00
S2LGMUSAM	9564	0.37	1.13	0.00	4.00
S3LGMUSAM	10592	0.30	1.02	0.00	4.00
S4LGMUSAM	9652	0.23	0.88	0.00	4.00
S5LGMUSAM	7638	0.32	1.06	0.00	4.00
R1LGMUSAA	14109	0.45	0.50	0.00	1.00
R2LGMUSAA	12501	0.42	0.49	0.00	1.00
R3LGMUSAA	14446	0.52	0.50	0.00	1.00
R4LGMUSAA	13804	0.57	0.50	0.00	1.00
R5LGMUSAA	15764	0.51	0.50	0.00	1.00
S1LGMUSAA	9970	0.41	0.49	0.00	1.00
S2LGMUSAA	8737	0.39	0.49	0.00	1.00
S3LGMUSAA	9865	0.49	0.50	0.00	1.00
S4LGMUSAA	9167	0.54	0.50	0.00	1.00
S5LGMUSAA	7066	0.54	0.50	0.00	1.00
R1GROSSA	14113	0.41	0.94	0.00	5.00
R2GROSSA	12501	0.42	0.94	0.00	5.00
R3GROSSA	14446	0.51	1.00	0.00	5.00
R4GROSSA	13804	0.59	1.11	0.00	5.00
R5GROSSA	15766	0.52	1.05	0.00	5.00
S1GROSSA	9973	0.35	0.86	0.00	5.00
S2GROSSA	8737	0.34	0.84	0.00	5.00
S3GROSSA	9865	0.43	0.92	0.00	5.00
S4GROSSA	9167	0.50	1.02	0.00	5.00
S5GROSSA	7067	0.54	1.06	0.00	5.00
R1GROSSAM	15186	0.23	0.68	0.00	5.00
R2GROSSAM	13704	0.22	0.64	0.00	5.00
R3GROSSAM	15723	0.22	0.60	0.00	5.00
R4GROSSAM	14779	0.18	0.59	0.00	5.00
R5GROSSAM	17114	0.19	0.65	0.00	5.00
S1GROSSAM	10648	0.21	0.64	0.00	5.00
S2GROSSAM	9564	0.21	0.61	0.00	5.00
S3GROSSAM	10592	0.19	0.57	0.00	5.00
S4GROSSAM	9652	0.14	0.50	0.00	5.00
S5GROSSAM	7638	0.19	0.67	0.00	5.00
R1GROSSAA	14113	0.23	0.42	0.00	1.00
R2GROSSAA	12501	0.23	0.42	0.00	1.00
R3GROSSAA	14446	0.28	0.45	0.00	1.00
R4GROSSAA	13804	0.30	0.46	0.00	1.00
R5GROSSAA	15766	0.27	0.44	0.00	1.00
S1GROSSAA	9973	0.20	0.40	0.00	1.00
S2GROSSAA	8737	0.20	0.40	0.00	1.00
S3GROSSAA	9865	0.25	0.43	0.00	1.00
S4GROSSAA	9167	0.27	0.44	0.00	1.00
S5GROSSAA	7067	0.28	0.45	0.00	1.00
R1FINEA	14113	0.13	0.45	0.00	3.00
R2FINEA	12501	0.13	0.45	0.00	3.00
R3FINEA	14446	0.19	0.51	0.00	3.00
R4FINEA	13804	0.21	0.54	0.00	3.00
R5FINEA	15762	0.20	0.54	0.00	3.00

S1FINEA	9974	0.11	0.41	0.00	3.00
S2FINEA	8737	0.11	0.40	0.00	3.00
S3FINEA	9865	0.16	0.48	0.00	3.00
S4FINEA	9167	0.18	0.50	0.00	3.00
S5FINEA	7065	0.21	0.54	0.00	3.00
R1FINEAM	15186	0.16	0.54	0.00	3.00
R2FINEAM	13704	0.18	0.58	0.00	3.00
R3FINEAM	15723	0.17	0.55	0.00	3.00
R4FINEAM	14779	0.14	0.51	0.00	3.00
R5FINEAM	17114	0.17	0.57	0.00	3.00
S1FINEAM	10648	0.15	0.51	0.00	3.00
S2FINEAM	9564	0.18	0.57	0.00	3.00
S3FINEAM	10592	0.14	0.51	0.00	3.00
S4FINEAM	9652	0.10	0.45	0.00	3.00
S5FINEAM	7638	0.16	0.56	0.00	3.00
R1FINEAA	14113	0.10	0.29	0.00	1.00
R2FINEAA	12501	0.09	0.29	0.00	1.00
R3FINEAA	14446	0.14	0.35	0.00	1.00
R4FINEAA	13804	0.15	0.36	0.00	1.00
R5FINEAA	15762	0.14	0.35	0.00	1.00
S1FINEAA	9974	0.08	0.27	0.00	1.00
S2FINEAA	8737	0.08	0.27	0.00	1.00
S3FINEAA	9865	0.12	0.33	0.00	1.00
S4FINEAA	9167	0.14	0.34	0.00	1.00
S5FINEAA	7065	0.15	0.36	0.00	1.00
R1MOBILSEV	14110	1.45	1.81	0.00	7.00
R2MOBILSEV	12501	1.37	1.80	0.00	7.00
R3MOBILSEV	14446	1.68	1.89	0.00	7.00
R4MOBILSEV	13804	1.85	1.93	0.00	7.00
R5MOBILSEV	15764	1.72	1.98	0.00	7.00
S1MOBILSEV	9970	1.30	1.73	0.00	7.00
S2MOBILSEV	8737	1.22	1.69	0.00	7.00
S3MOBILSEV	9865	1.51	1.82	0.00	7.00
S4MOBILSEV	9167	1.68	1.85	0.00	7.00
S5MOBILSEV	7066	1.79	1.98	0.00	7.00
R1MOBILSEVM	15186	0.64	1.80	0.00	7.00
R2MOBILSEVM	13704	0.75	1.98	0.00	7.00
R3MOBILSEVM	15723	0.67	1.91	0.00	7.00
R4MOBILSEVM	14779	0.57	1.75	0.00	7.00
R5MOBILSEVM	17114	0.61	1.89	0.00	7.00
S1MOBILSEVM	10648	0.59	1.72	0.00	7.00
S2MOBILSEVM	9564	0.73	1.96	0.00	7.00
S3MOBILSEVM	10592	0.57	1.77	0.00	7.00
S4MOBILSEVM	9652	0.44	1.54	0.00	7.00
S5MOBILSEVM	7638	0.58	1.85	0.00	7.00
R1MOBILSEVA	14110	0.53	0.50	0.00	1.00
R2MOBILSEVA	12501	0.50	0.50	0.00	1.00
R3MOBILSEVA	14446	0.59	0.49	0.00	1.00
R4MOBILSEVA	13804	0.63	0.48	0.00	1.00
R5MOBILSEVA	15764	0.57	0.50	0.00	1.00
S1MOBILSEVA	9970	0.49	0.50	0.00	1.00
S2MOBILSEVA	8737	0.47	0.50	0.00	1.00
S3MOBILSEVA	9865	0.55	0.50	0.00	1.00

S4MOBILSEVA	9167	0.60	0.49	0.00	1.00
S5MOBILSEVA	7066	0.60	0.49	0.00	1.00
R1UPPERMOB	14105	0.35	0.70	0.00	3.00
R2UPPERMOB	12501	0.34	0.70	0.00	3.00
R3UPPERMOB	14446	0.44	0.76	0.00	3.00
R4UPPERMOB	13803	0.48	0.78	0.00	3.00
R5UPPERMOB	15756	0.46	0.80	0.00	3.00
S1UPPERMOB	9968	0.29	0.66	0.00	3.00
S2UPPERMOB	8737	0.28	0.65	0.00	3.00
S3UPPERMOB	9865	0.38	0.72	0.00	3.00
S4UPPERMOB	9166	0.41	0.73	0.00	3.00
S5UPPERMOB	7064	0.47	0.81	0.00	3.00
R1UPPERMOBM	15186	0.23	0.78	0.00	3.00
R2UPPERMOBM	13704	0.28	0.85	0.00	3.00
R3UPPERMOBM	15723	0.26	0.82	0.00	3.00
R4UPPERMOBM	14779	0.22	0.76	0.00	3.00
R5UPPERMOBM	17114	0.25	0.81	0.00	3.00
S1UPPERMOBM	10648	0.20	0.74	0.00	3.00
S2UPPERMOBM	9564	0.27	0.85	0.00	3.00
S3UPPERMOBM	10592	0.22	0.76	0.00	3.00
S4UPPERMOBM	9652	0.17	0.67	0.00	3.00
S5UPPERMOBM	7638	0.23	0.79	0.00	3.00
R1UPPERMOBA	14105	0.23	0.42	0.00	1.00
R2UPPERMOBA	12501	0.23	0.42	0.00	1.00
R3UPPERMOBA	14446	0.30	0.46	0.00	1.00
R4UPPERMOBA	13803	0.33	0.47	0.00	1.00
R5UPPERMOBA	15756	0.30	0.46	0.00	1.00
S1UPPERMOBA	9968	0.20	0.40	0.00	1.00
S2UPPERMOBA	8737	0.20	0.40	0.00	1.00
S3UPPERMOBA	9865	0.26	0.44	0.00	1.00
S4UPPERMOBA	9166	0.29	0.45	0.00	1.00
S5UPPERMOBA	7064	0.31	0.46	0.00	1.00
R1LOWERMOb	14110	1.10	1.30	0.00	4.00
R2LOWERMOb	12499	1.03	1.29	0.00	4.00
R3LOWERMOb	14446	1.24	1.34	0.00	4.00
R4LOWERMOb	13799	1.37	1.37	0.00	4.00
R5LOWERMOb	15761	1.26	1.39	0.00	4.00
S1LOWERMOb	9970	1.01	1.26	0.00	4.00
S2LOWERMOb	8737	0.94	1.23	0.00	4.00
S3LOWERMOb	9865	1.13	1.31	0.00	4.00
S4LOWERMOb	9165	1.27	1.34	0.00	4.00
S5LOWERMOb	7066	1.32	1.39	0.00	4.00
R1LOWERMObM	15186	0.41	1.05	0.00	4.00
R2LOWERMObM	13704	0.47	1.15	0.00	4.00
R3LOWERMObM	15723	0.41	1.11	0.00	4.00
R4LOWERMObM	14779	0.35	1.02	0.00	4.00
R5LOWERMObM	17114	0.36	1.09	0.00	4.00
S1LOWERMObM	10648	0.38	1.00	0.00	4.00
S2LOWERMObM	9564	0.46	1.14	0.00	4.00
S3LOWERMObM	10592	0.35	1.03	0.00	4.00
S4LOWERMObM	9652	0.27	0.90	0.00	4.00
S5LOWERMObM	7638	0.34	1.06	0.00	4.00
R1LOWERMObA	14110	0.51	0.50	0.00	1.00

R2LOWERMOBA	12499	0.49	0.50	0.00	1.00
R3LOWERMOBA	14446	0.56	0.50	0.00	1.00
R4LOWERMOBA	13799	0.60	0.49	0.00	1.00
R5LOWERMOBA	15761	0.55	0.50	0.00	1.00
S1LOWERMOBA	9970	0.48	0.50	0.00	1.00
S2LOWERMOBA	8737	0.46	0.50	0.00	1.00
S3LOWERMOBA	9865	0.53	0.50	0.00	1.00
S4LOWERMOBA	9165	0.57	0.49	0.00	1.00
S5LOWERMOBA	7066	0.58	0.49	0.00	1.00
R1NAGI10	14110	2.01	2.60	0.00	10.00
R2NAGI10	12501	1.90	2.58	0.00	10.00
R3NAGI10	14446	2.34	2.71	0.00	10.00
R4NAGI10	13804	2.57	2.78	0.00	10.00
R5NAGI10	15764	2.38	2.83	0.00	10.00
S1NAGI10	9970	1.79	2.46	0.00	10.00
S2NAGI10	8737	1.69	2.42	0.00	10.00
S3NAGI10	9865	2.10	2.60	0.00	10.00
S4NAGI10	9167	2.33	2.66	0.00	10.00
S5NAGI10	7066	2.48	2.84	0.00	10.00
R1NAGI10M	15186	0.91	2.57	0.00	10.00
R2NAGI10M	13704	1.06	2.82	0.00	10.00
R3NAGI10M	15723	0.98	2.74	0.00	10.00
R4NAGI10M	14779	0.83	2.50	0.00	10.00
R5NAGI10M	17114	0.87	2.71	0.00	10.00
S1NAGI10M	10648	0.83	2.45	0.00	10.00
S2NAGI10M	9564	1.03	2.80	0.00	10.00
S3NAGI10M	10592	0.84	2.54	0.00	10.00
S4NAGI10M	9652	0.64	2.21	0.00	10.00
S5NAGI10M	7638	0.83	2.64	0.00	10.00
R1NAGI10A	14110	0.54	0.50	0.00	1.00
R2NAGI10A	12501	0.52	0.50	0.00	1.00
R3NAGI10A	14446	0.61	0.49	0.00	1.00
R4NAGI10A	13804	0.65	0.48	0.00	1.00
R5NAGI10A	15764	0.58	0.49	0.00	1.00
S1NAGI10A	9970	0.50	0.50	0.00	1.00
S2NAGI10A	8737	0.49	0.50	0.00	1.00
S3NAGI10A	9865	0.57	0.50	0.00	1.00
S4NAGI10A	9167	0.62	0.49	0.00	1.00
S5NAGI10A	7066	0.61	0.49	0.00	1.00
R1NAGI8	14110	1.44	2.02	0.00	8.00
R2NAGI8	12501	1.35	2.01	0.00	8.00
R3NAGI8	14446	1.72	2.11	0.00	8.00
R4NAGI8	13804	1.89	2.16	0.00	8.00
R5NAGI8	15764	1.75	2.20	0.00	8.00
S1NAGI8	9970	1.28	1.91	0.00	8.00
S2NAGI8	8737	1.20	1.88	0.00	8.00
S3NAGI8	9865	1.54	2.02	0.00	8.00
S4NAGI8	9167	1.71	2.07	0.00	8.00
S5NAGI8	7066	1.81	2.20	0.00	8.00
R1NAGI8M	15186	0.62	2.06	0.00	8.00
R2NAGI8M	13704	0.75	2.27	0.00	8.00
R3NAGI8M	15723	0.70	2.19	0.00	8.00
R4NAGI8M	14779	0.59	2.00	0.00	8.00
R5NAGI8M	17114	0.66	2.16	0.00	8.00

S1NAGI8M	10648	0.56	1.96	0.00	8.00
S2NAGI8M	9564	0.72	2.25	0.00	8.00
S3NAGI8M	10592	0.58	2.03	0.00	8.00
S4NAGI8M	9652	0.45	1.76	0.00	8.00
S5NAGI8M	7638	0.63	2.11	0.00	8.00
R1NAGI8A	14110	0.47	0.50	0.00	1.00
R2NAGI8A	12501	0.44	0.50	0.00	1.00
R3NAGI8A	14446	0.55	0.50	0.00	1.00
R4NAGI8A	13804	0.60	0.49	0.00	1.00
R5NAGI8A	15764	0.54	0.50	0.00	1.00
S1NAGI8A	9970	0.43	0.50	0.00	1.00
S2NAGI8A	8737	0.41	0.49	0.00	1.00
S3NAGI8A	9865	0.51	0.50	0.00	1.00
S4NAGI8A	9167	0.57	0.50	0.00	1.00
S5NAGI8A	7066	0.56	0.50	0.00	1.00

## Categorical Variable Codes

Value-----	R1MOBILAA	R2MOBILAA	R3MOBILAA	R4MOBILAA	R5MOBILAA
.d:DK	1		1	5	
.m:Missing	38	25		40	17
.p:Proxy interview, not asked	1032	1178	1275	929	1328
.r:Refuse	1		1	1	3
.x:Doesn't do	1	1		3	
0.No	8037	7259	7834	6946	8694
1.Yes	6076	5241	6612	6855	7072

Value-----	S1MOBILAA	S2MOBILAA	S3MOBILAA	S4MOBILAA	S5MOBILAA
.d:DK			1	5	
.m:Missing	13	6		10	5
.p:Proxy interview, not asked	660	821	726	470	563
.r:Refuse	1				3
.u:Unmar	4205	4009	4782	4847	5227
.v:SP NR	333	131	349	280	501
.x:Doesn't do	1			1	
0.No	5993	5320	5703	4966	3723
1.Yes	3980	3417	4162	4200	3344

Value-----	R1LGMUSAA	R2LGMUSAA	R3LGMUSAA	R4LGMUSAA	R5LGMUSAA
.d:DK	3		1	5	
.m:Missing	38	25		40	17
.p:Proxy interview, not asked	1032	1178	1275	929	1328
.r:Refuse	4		1	1	4
.x:Doesn't do					1
0.No	7803	7297	6911	5980	7659
1.Yes	6306	5204	7535	7824	8105

Value-----	S1LGMUSAA	S2LGMUSAA	S3LGMUSAA	S4LGMUSAA	S5LGMUSAA
.d:DK	2		1	5	
.m:Missing	13	6		10	5
.p:Proxy interview, not asked	660	821	726	470	563
.r:Refuse	3				3
.u:Unmar	4205	4009	4782	4847	5227
.v:SP NR	333	131	349	280	501
.x:Doesn't do					1
0.No	5836	5366	5071	4252	3262
1.Yes	4134	3371	4794	4915	3804

Value-----	R1GROSSAA	R2GROSSAA	R3GROSSAA	R4GROSSAA	R5GROSSAA
.d:DK	1		1	5	
.m:Missing	38	25		40	17
.p:Proxy interview, not asked	1032	1178	1275	929	1328
.r:Refuse	1		1	1	3
.x:Doesn't do	1				
0.No	10892	9669	10402	9604	11492
1.Yes	3221	2832	4044	4200	4274



Value-----	S1GROSSAA	S2GROSSAA	S3GROSSAA	S4GROSSAA	S5GROSSAA
.d:DK			1	5	
.m:Missing	13	6		10	5
.p:Proxy interview, not asked	660	821	726	470	563
.r:Refuse	1				3
.u:Unmar	4205	4009	4782	4847	5227
.v:SP NR	333	131	349	280	501
.x:Doesn't do	1				
0.No	7937	7018	7437	6734	5075
1.Yes	2036	1719	2428	2433	1992
Value-----	R1FINEAA	R2FINEAA	R3FINEAA	R4FINEAA	R5FINEAA
.d:DK	1		1	5	
.m:Missing	38	25		40	17
.p:Proxy interview, not asked	1032	1178	1275	929	1328
.r:Refuse	2		1	1	7
0.No	12771	11326	12424	11686	13498
1.Yes	1342	1175	2022	2118	2264
Value-----	S1FINEAA	S2FINEAA	S3FINEAA	S4FINEAA	S5FINEAA
.d:DK			1	5	
.m:Missing	13	6		10	5
.p:Proxy interview, not asked	660	821	726	470	563
.r:Refuse	1				5
.u:Unmar	4205	4009	4782	4847	5227
.v:SP NR	333	131	349	280	501
0.No	9160	8059	8651	7912	5993
1.Yes	814	678	1214	1255	1072
Value-----	R1MOBILSEVA	R2MOBILSEVA	R3MOBILSEVA	R4MOBILSEVA	R5MOBILSEVA
.d:DK	3		1	5	
.m:Missing	38	25		40	17
.p:Proxy interview, not asked	1032	1178	1275	929	1328
.r:Refuse	3		1	1	4
.x:Doesn't do					1
0.No	6699	6219	5931	5062	6774
1.Yes	7411	6282	8515	8742	8990
Value-----	S1MOBILSEVA	S2MOBILSEVA	S3MOBILSEVA	S4MOBILSEVA	S5MOBILSEVA
.d:DK	2		1	5	
.m:Missing	13	6		10	5
.p:Proxy interview, not asked	660	821	726	470	563
.r:Refuse	3				3
.u:Unmar	4205	4009	4782	4847	5227
.v:SP NR	333	131	349	280	501
.x:Doesn't do					1
0.No	5079	4600	4424	3667	2835
1.Yes	4891	4137	5441	5500	4231
Value-----	R1UPPERMOBA	R2UPPERMOBA	R3UPPERMOBA	R4UPPERMOBA	R5UPPERMOBA
.d:DK	3		1	5	
.m:Missing	38	25		40	17
.p:Proxy interview, not asked	1032	1178	1275	929	1328
.r:Refuse	6		1	1	8
.x:Doesn't do	2			1	5
0.No	10805	9652	10081	9228	11024
1.Yes	3300	2849	4365	4575	4732
Value-----	S1UPPERMOBA	S2UPPERMOBA	S3UPPERMOBA	S4UPPERMOBA	S5UPPERMOBA
.d:DK	2		1	5	
.m:Missing	13	6		10	5
.p:Proxy interview, not asked	660	821	726	470	563
.r:Refuse	5				5
.u:Unmar	4205	4009	4782	4847	5227
.v:SP NR	333	131	349	280	501
.x:Doesn't do				1	1
0.No	7979	7031	7260	6511	4903
1.Yes	1989	1706	2605	2655	2161
Value-----	R1LOWERMOBA	R2LOWERMOBA	R3LOWERMOBA	R4LOWERMOBA	R5LOWERMOBA
.d:DK	3		1	5	
.m:Missing	38	25		40	17

.p:Proxy interview, not asked		1032	1178	1275	929	1328
.r:Refuse		3		1	1	4
.x:Doesn't do			2		5	4
0.No		6918	6409	6331	5456	7159
1.Yes		7192	6090	8115	8343	8602
Value-----		S1LOWERMOBA	S2LOWERMOBA	S3LOWERMOBA	S4LOWERMOBA	S5LOWERMOBA
.d:DK		2		1	5	
.m:Missing		13	6		10	5
.p:Proxy interview, not asked		660	821	726	470	563
.r:Refuse		3				3
.u:Unmar		4205	4009	4782	4847	5227
.v:SP NR		333	131	349	280	501
.x:Doesn't do					2	1
0.No		5214	4736	4681	3909	3002
1.Yes		4756	4001	5184	5256	4064
Value-----		R1NAGI10A	R2NAGI10A	R3NAGI10A	R4NAGI10A	R5NAGI10A
.d:DK		3		1	5	
.m:Missing		38	25		40	17
.p:Proxy interview, not asked		1032	1178	1275	929	1328
.r:Refuse		3		1	1	4
.x:Doesn't do						1
0.No		6528	6053	5693	4849	6582
1.Yes		7582	6448	8753	8955	9182
Value-----		S1NAGI10A	S2NAGI10A	S3NAGI10A	S4NAGI10A	S5NAGI10A
.d:DK		2		1	5	
.m:Missing		13	6		10	5
.p:Proxy interview, not asked		660	821	726	470	563
.r:Refuse		3				3
.u:Unmar		4205	4009	4782	4847	5227
.v:SP NR		333	131	349	280	501
.x:Doesn't do						1
0.No		4953	4480	4253	3522	2749
1.Yes		5017	4257	5612	5645	4317
Value-----		R1NAGI8A	R2NAGI8A	R3NAGI8A	R4NAGI8A	R5NAGI8A
.d:DK		3		1	5	
.m:Missing		38	25		40	17
.p:Proxy interview, not asked		1032	1178	1275	929	1328
.r:Refuse		3		1	1	4
.x:Doesn't do						1
0.No		7514	7028	6457	5518	7269
1.Yes		6596	5473	7989	8286	8495
Value-----		S1NAGI8A	S2NAGI8A	S3NAGI8A	S4NAGI8A	S5NAGI8A
.d:DK		2		1	5	
.m:Missing		13	6		10	5
.p:Proxy interview, not asked		660	821	726	470	563
.r:Refuse		3				3
.u:Unmar		4205	4009	4782	4847	5227
.v:SP NR		333	131	349	280	501
.x:Doesn't do						1
0.No		5647	5184	4785	3969	3096
1.Yes		4323	3553	5080	5198	3970

## How Constructed

Several summary measures for functional limitations are created. These include mobility and large muscle indices, gross and fine motor summaries, as well as total body mobility, upper body mobility, and lower body mobility summaries.

The mobility index uses the walking several blocks (RwWALKSA), walking across a room (RwWALKRA), climbing several flights of stairs (RwCLIMSA), and climbing one flight of stairs without resting (RwCLIM1A) activities. The large muscle index uses the sitting for about 2 hours (RwSITA), getting up from a chair after sitting for long periods (RwCHAIRA), stooping/kneeling/or crouching (RwSTOOPA), and pushing or pulling large objects (RwPUSHA) activities. The gross motor index uses the walking several blocks (RwWALKSA), walking across a room (RwWALKRA), climbing one flight of stairs without resting (RwCLIM1A), getting in or out of bed (RwBEDA), and bathing (RwBATHA) activities. The fine motor index uses the

picking up a small coin (one peso) from the table (RwDIMEA), eating (RwEATA), and dressing activities (RwDRESSA).

The alternative total body mobility index uses the walking one block (RwWALK1A), climbing several flights of stairs (RwCLIMSA), getting up from a chair after sitting for long periods (RwCHAIRA), stooping/kneeling/or crouching (RwSTOOPA), reaching or extending arms above shoulder level (RwARMSA), lifting or carrying objects weighing over 5 kg (RwLIFTA), and picking up a 1 peso coin from the table (RwDIMEA) activities. The upper body mobility index uses the reaching or extending arms above shoulder level (RwARMSA), lifting or carrying objects weighing over 5 kg (RwLIFTA), and picking up a 1 peso coin from the table (RwDIMEA) activities. The lower body mobility index uses the walking one block (RwWALK1A), climbing several flights of stairs (RwCLIMSA), getting up from a chair after sitting for long periods (RwCHAIRA), and stooping/kneeling/or crouching (RwSTOOPA) activities.

The 10-item NAGI summary uses the items proposed by Nagi (1976) and includes the walking one block (RwWALK1A), sitting for about 2 hours (RwSITA), getting up from a chair after sitting for long periods (RwCHAIRA), climbing several flights of stairs (RwCLIMSA), climbing one flight of stairs without resting (RwCLIM1A), stooping/kneeling/or crouching (RwSTOOPA), reaching or extending arms above shoulder level (RwARMSA), pushing or pulling large objects (RwPUSHA), lifting or carrying objects weighing over 5 kg (RwLIFTA), and picking up a 1 peso coin from the table (RwDIMEA) activities. The 8-item NAGI summary removes the climbing several flights of stairs (RwCLIMSA) and climbing one flight of stairs without resting (RwCLIM1A) activities from the 10-item summary.

In all waves the indicators of "some difficulty" are used to construct these measures. Each limitation adds one to the summary measures even if one or more measures have missing special values and if at least one of the IADL components was completed, that is:

RwMOBILA= sum (RwWALKSA, RwWALK1A, RwWALKRA, RwCLIMSA, RwCLIM1A). RwMOBILAM is the number of mobility questions with missing values, ranging from 0 to 5. RwMOBILA is calculated for all respondents who answered at least one of the mobility component questions. RwMOBILAA indicates whether the respondent had difficulty with any item in the summary. It is coded as 0 if they had no difficulty and 1 if they had difficulty with at least one item.

RwLGMUSA= sum (RwSITA, RwCHAIRA, RwSTOOPA, RwPUSHA). RwLGMUSAM is the number of large muscle questions with missing values, ranging from 0 to 4. RwLGMUSA is calculated for all respondents who answered at least one of the large muscle component questions. RwLGMUSAA indicates whether the respondent had difficulty with any item in the summary. It is coded as 0 if they had no difficulty and 1 if they had difficulty with at least one item.

RwGROSSA= sum (RwWALK1A, RwWALKRA, RwCLIM1A, RwBEDA, RwBATHA). RwGROSSAM is the number of gross motor questions with missing values, ranging from 0 to 5. RwGROSSA is calculated for all respondents who answered at least one of the gross motor component questions. RwGROSSAA indicates whether the respondent had difficulty with any item in the summary. It is coded as 0 if they had no difficulty and 1 if they had difficulty with at least one item.

RwFINEA= sum (RwDIMEA, RwEATA, RwDRESSA). RwFINEAM is the number of fine motor questions with missing values, ranging from 0 to 3. RwFINEA is calculated for all respondents who answered at least one of the fine motor component questions. RwFINEAA indicates whether the respondent had difficulty with any item in the summary. It is coded as 0 if they had no difficulty and 1 if they had difficulty with at least one item.

RwMOBILSEV= sum (RwWALK1A, RwCLIMSA, RwCHAIRA, RwSTOOPA, RwARMSA, RwLIFTA, RwDIMEA). RwMOBILSEVM is the number of alternative total body mobility questions with missing values, ranging from 0 to 7. RwMOBILSEV is calculated for all respondents who answered at least one of the alternative mobility component questions. RwMOBILSEVA indicates whether the respondent had difficulty with any item in the summary. It is coded as 0 if they had no difficulty and 1 if they had difficulty with at least one item.

RwUPPERMOB= sum (RwARMSA, RwLIFTA, RwDIMEA). RwUPPERMOBM is the number of upper body mobility questions with missing values, ranging from 0 to 3. RwUPPERMOB is calculated for all respondents who answered at least one of the upper body mobility component questions. RwUPPERMOBA indicates whether the respondent had difficulty with any item in the summary. It is coded as 0 if they had no difficulty and 1 if they had difficulty with at least one item.

RwLOWERMOB= sum (RwWALK1A, RwCLIMSA, RwCHAIRA, RwSTOOPA). RwLOWERMOBM is the number of lower body mobility questions with missing values, ranging from 0 to 4. RwLOWERMOB is calculated for all respondents

who answered at least one of the lower body mobility component questions. RwLOWERMObA indicates whether the respondent had difficulty with any item in the summary. It is coded as 0 if they had no difficulty and 1 if they had difficulty with at least one item.

RwNAGI10= sum (RwWALK1A, RwsITA, RwCHAIRA, RwCLIMSA, RwCLIM1A, RwSTOOPA, RwARMSA, RwpUSHA, RwLIFTA, RwdIMEA). RwNAGI10M is the number of NAGI items with missing values, ranging from 0 to 10. RwNAGI10 is calculated for all respondents who answered at least one of the NAGI item component questions. RwNAGI10A indicates whether the respondent had difficulty with any item in the summary. It is coded as 0 if they had no difficulty and 1 if they had difficulty with at least one item.

RwNAGI8= sum (RwWALK1A, RwsITA, RwCHAIRA, RwSTOOPA, RwARMSA, RwpUSHA, RwLIFTA, RwdIMEA). RwNAGI8M is the number of NAGI items with missing values, ranging from 0 to 8. RwNAGI8 is calculated for all respondents who answered at least one of the NAGI item component questions. RwNAGI8A indicates whether the respondent had difficulty with any item in the summary. It is coded as 0 if they had no difficulty and 1 if they had difficulty with at least one item.

RwMOBILA, RwlGMUSA, RwgROSSA, RwfINEA, RwmOBILSEV, RwuPPERMOB, RwlOWERMOB, RwnAGI10, RwnAGI8, RwmOBILAA, RwlGMUSAA, RwgROSSAA, RwfINEAA, RwmOBILSEVA, RwuPPERMOBA, RwlOWERMOBA, RwnAGI10A, and RwnAGI8A are assigned special missing .d, .r, .x, .p, .m, for don't know, refused, doesn't do, proxy, or otherwise missing responses, respectively. These variables are assigned a blank missing (.) for respondents who did not participate in the current wave.

SwMOBILA, SwLGMUSA, SwGROSSA, SwFINEA, SwMOBILSEV, SwUPPERMOB, SwLOWERMOb, SwNAGI10, and SwNAGI8 are the respondent's spouse's indices and are taken directly from the spouse's RwmOBILA, RwlGMUSA, RwgROSSA, RwfINEA, RwmOBILSEV, RwuPPERMOB, RwlOWERMOB, RwnAGI10, and RwnAGI8 respectively. SwMOBILAM, SwLGMUSAM, SwGROSSAM, SwFINEAM, SwMOBILSEVM, SwUPPERMOBM, SwLOWERMObM, SwNAGI10M, and SwNAGI8M are taken directly from the spouse's values of RwmOBILBM, RwlGMUSAM, RwgROSSAM, RwfINEAM, RwmOBILSEVM, RwuPPERMOBM, RwlOWERMOBM, RwnAGI10M, and RwnAGI8M respectively. SwMOBILAA, SwLGMUSAA, SwGROSSAA, SwFINEAA, SwMOBILSEVA, SwUPPERMOBA, SwLOWERMObA, SwNAGI10A, and SwNAGI8A are taken directly from the spouse's values of RwmOBILBA, RwlGMUSAA, RwgROSSAA, RwfINEAA, RwmOBILSEVA, RwuPPERMOBA, RwlOWERMOBA, RwnAGI10A, and RwnAGI8A respectively. In addition to the special missing codes used in the respondent variables, if the respondent is not designated as coupled in the current wave and assumed to be single, a special missing value of .u is used for the spouse variables. Also, if the respondent is not designated as coupled in the current wave but reports being married, a special missing value of .v is used for the spouse variables.

Please see "Activities of Daily Living (ADLs): Some difficulty" for a description of how the individual 0/1 indicators (RwWALKRA, RwbEDA, RwbATHA, RweATA, and RwdRESSA) are constructed. See "Other Functional Limitations: Some difficulty" for a description of how the individual 0/1 indicators (RwWALK1A, RwCLIMSA, RwCLIM1A, RwsITA, RwCHAIRA, RwSTOOPA, RwpUSHA, RwdIMEA, RwARMSA, and RwLIFTA) are constructed.

## Cross Wave Differences in MHAS

No differences known.

## Differences with the RAND HRS/Harmonized HRS

The RAND HRS includes RwmOBILA, RwlGMUSA, RwgROSSA, and RwfINEA, which are comparable to those included in the Harmonized MHAS. The missing counts and any difficulty indicators available in the Harmonized MHAS (RwmOBILAM, RwmOBILAA, RwlGMUSAM, RwlGMUSAA, RwgROSSAM, RwgROSSAA, RwfINEAM, and RwfINEAA) are not available in the RAND HRS, though comparable measures could be created.

The Harmonized HRS includes RwmOBILSEV, RwmOBILSEVM, RwmOBILSEVA, RwlOWERMOB, RwlOWERMOBM, RwlOWERMOBA, RwuPPERMOB, RwuPPERMOBM, and RwuPPERMOBA, which are comparable to those included in the Harmonized MHAS. The next version of the Harmonized HRS will also include RwnAGI10, RwnAGI10M, RwnAGI10A, RwnAGI8, RwnAGI8M, and RwnAGI8A, which will be comparable to those included in the Harmonized MHAS.

## MHAS Variables Used

Wave 1:

H1	long walk
H10	pulling
H11	picking up

H12	picking up a coin
H13	dressing
H14	help dressing
H15_1	difficult walking
H15_3	spouse helps walking
H15_4	other helps walking
H16_1	difficult bathing
H16_3	spouse helps bathing
H16_4	other helps bathing
H17_1	difficult eating
H17_3	spouse helps eating
H17_4	other helps eating
H18_1	difficult getting in an out of bed
H18_3	spouse helps getting in an out of bed
H18_4	other helps getting in an out of bed
H2	running
H3	short walk
H4	sitting 2 hours
H5	getting up
H6	long climbing
H7	short climbing
H8	bending
H9	extending arms

## Wave 2:

H1	health problems-trouble walking blocks
H10	health problems-trouble pushing or pulling
H11	health problems-trouble carrying objects
H12	health problems-trouble picking up a coin
H13	health problems-trouble dressing self
H14	someone help you to get dressed
H15A	health problem-trouble walking
H15E	spouse helps
H15F	additional person helps
H16A	health problem-have trouble bathing
H16E	spouse helps
H16F	additional person helps
H17A	health problem-trouble eating or cutting
H17E	spouse helps
H17F	additional person helps
H18A	health problem-get in/out of bed
H18E	spouse helps
H18F	additional person helps
H2	health problems-trouble running
H3	health problems-trouble walking a block
H4	health problems-trouble staying seated
H5	health problems-trouble getting up from chair
H6	health problems-trouble with flights of stairs
H7	health problems-trouble with 1 flight of stairs
H8	health problems-trouble sitting up
H9	health problems-trouble lifting arms

## Wave 3:

H10_12	Because of health problem, difficulty pushing or pullin
H11_12	Because of health problem, difficulty carrying objects
H12_12	Because of health problem, difficulty picking up a coin
H13_12	Because of health problem, difficulty dressing self
H14_12	Someone help you to get dressed
H15A_12	Because of health problem, difficulty walking
H15D_12	Someone help you walk across room
H16A_12	Because of health problem, difficulty bathing
H16D_12	Someone help you to bathe or shower
H17A_12	Because of health problem, difficulty eating or cutting
H17D_12	Does someone help you eat your food
H18A_12	Because of health problem, difficulty get in/out of bed
H18D_12	Does someone help you get into or out of bed

H19A_12	Because of health problem, difficulty going to the bath
H19D_12	Does someone help you use toilet, get on off
H1_12	Because of health problem, difficulty walking blocks
H2_12	Because of health problem, difficulty running
H3_12	Because of health problem, difficulty walking a block
H4_12	Because of health problem, difficulty staying seated
H5_12	Because of health problem, difficulty getting up from c
H6_12	Because of health problem, difficulty with flights of s
H7_12	Because of health problem, difficulty with 1 flight of
H8_12	Because of health problem, difficulty sitting up
H9_12	Because of health problem, difficulty lifting arms
Wave 4:	
H10_15	Because of health problem, does respondent have difficu
H11_15	Because of health problem, does respondent have difficu
H12_15	Because of health problem, does respondent have difficu
H13_15	Because of health problem, does respondent have difficu
H14_15	Does someone help respondent to get dressed
H15A_15	Because of health problem, does respondent have any dif
H15D_15	Does someone help respondent walking across a room
H16A_15	Because of health problem, does respondent have any dif
H16D_15	Does someone help respondent bathing or showering
H17A_15	Because of health problem, does respondent have any dif
H17D_15	Does someone help respondent eating
H18A_15	Because of health problem, does respondent have any dif
H18D_15	Does someone help respondent getting in or out of bed
H19A_15	Because of health problem, does respondent have any dif
H19D_15	Does someone help respondent using the toilet
H1_15	Because of health problem, does respondent have difficu
H2_15	Because of health problem, does respondent have difficu
H3_15	Because of health problem, does respondent have difficu
H4_15	Because of health problem, does respondent have difficu
H5_15	Because of health problem, does respondent have difficu
H6_15	Because of health problem, does respondent have difficu
H7_15	Because of health problem, does respondent have difficu
H8_15	Because of health problem, does respondent have difficu
H9_15	Because of health problem, does respondent have difficu
Wave 5:	
H10_18	Because of health problem, does R have difficulty pushi
H11_18	Due to health problem, difficult for R to lift/carry ob
H12_18	Due to health problem, does R have difficulty picking u
H13_18	Due to health problem, difficult for R to dress, includ
H14_18	Does someone help R to get dressed
H15A_18	Because of health problem, does R have any difficulty w
H15D_18	Does someone help R walking across a room
H16A_18	Because of health problem, does R have any difficulty b
H16D_18	Does someone help R bathing or showering
H17A_18	Due to health problem, does R have any difficulty eatin
H17D_18	Does someone help R eating
H18A_18	Because of health problem, does R have any difficulty g
H18D_18	Does someone help R getting in or out of bed
H19A_18	Because of health problem, does R have any difficulty u
H19D_18	Does someone help R using the toilet
H1_18	Because of health problem, does R have difficulty walki
H2_18	Because of health problem, does R have difficulty runni
H3_18	Because of health problem, does R have difficulty walki
H4_18	Because of health problem, does R have difficulty sitti
H5_18	Due to health problem, difficult for R to get up from c
H6_18	Due to health problem, hard for R to climb several flig
H7_18	Due to health problem, difficult for R to climb 1 fligh
H8_18	Due to health problem, does R have difficulty stooping,
H9_18	Due to health problem, difficult for R to reach/extend

**Doctor Diagnosed Health Problems: Ever Have Condition**

Wave	Variable	Label	Type
1	R1HIBPE	r1hibpe: w1 R Ever had high blood pressure	Categ
2	R2HIBPE	r2hibpe: w2 R Ever had high blood pressure	Categ
3	R3HIBPE	r3hibpe: w3 R Ever had high blood pressure	Categ
4	R4HIBPE	r4hibpe: w4 R Ever had high blood pressure	Categ
5	R5HIBPE	r5hibpe: w5 R Ever had high blood pressure	Categ
1	S1HIBPE	s1hibpe: w1 S Ever had high blood pressure	Categ
2	S2HIBPE	s2hibpe: w2 S Ever had high blood pressure	Categ
3	S3HIBPE	s3hibpe: w3 S Ever had high blood pressure	Categ
4	S4HIBPE	s4hibpe: w4 S Ever had high blood pressure	Categ
5	S5HIBPE	s5hibpe: w5 S Ever had high blood pressure	Categ
1	R1DIABE	r1diabe: w1 R Ever had diabetes	Categ
2	R2DIABE	r2diabe: w2 R Ever had diabetes	Categ
3	R3DIABE	r3diabe: w3 R Ever had diabetes	Categ
4	R4DIABE	r4diabe: w4 R Ever had diabetes	Categ
5	R5DIABE	r5diabe: w5 R Ever had diabetes	Categ
1	S1DIABE	s1diabe: w1 S Ever had diabetes	Categ
2	S2DIABE	s2diabe: w2 S Ever had diabetes	Categ
3	S3DIABE	s3diabe: w3 S Ever had diabetes	Categ
4	S4DIABE	s4diabe: w4 S Ever had diabetes	Categ
5	S5DIABE	s5diabe: w5 S Ever had diabetes	Categ
1	R1CANCRE	r1cancre: w1 R Ever had cancer	Categ
2	R2CANCRE	r2cancre: w2 R Ever had cancer	Categ
3	R3CANCRE	r3cancre: w3 R Ever had cancer	Categ
4	R4CANCRE	r4cancre: w4 R Ever had cancer	Categ
5	R5CANCRE	r5cancre: w5 R Ever had cancer	Categ
1	S1CANCRE	s1cancre: w1 S Ever had cancer	Categ
2	S2CANCRE	s2cancre: w2 S Ever had cancer	Categ
3	S3CANCRE	s3cancre: w3 S Ever had cancer	Categ
4	S4CANCRE	s4cancre: w4 S Ever had cancer	Categ
5	S5CANCRE	s5cancre: w5 S Ever had cancer	Categ
1	R1RESPE	r1respe: w1 R Ever had respiratory disease, incl asthma	Categ
2	R2RESPE	r2respe: w2 R Ever had respiratory disease, incl asthma	Categ
3	R3RESPE	r3respe: w3 R Ever had respiratory disease, incl asthma	Categ
4	R4RESPE	r4respe: w4 R Ever had respiratory disease, incl asthma	Categ
5	R5RESPE	r5respe: w5 R Ever had respiratory disease, incl asthma	Categ
1	S1RESPE	s1respe: w1 S Ever had respiratory disease, incl asthma	Categ
2	S2RESPE	s2respe: w2 S Ever had respiratory disease, incl asthma	Categ
3	S3RESPE	s3respe: w3 S Ever had respiratory disease, incl asthma	Categ
4	S4RESPE	s4respe: w4 S Ever had respiratory disease, incl asthma	Categ
5	S5RESPE	s5respe: w5 S Ever had respiratory disease, incl asthma	Categ
1	R1HRTATTE	r1hrtatte: w1 R Ever had heart attack	Categ
2	R2HRTATTE	r2hrtatte: w2 R Ever had heart attack	Categ
3	R3HRTATTE	r3hrtatte: w3 R Ever had heart attack	Categ
4	R4HRTATTE	r4hrtatte: w4 R Ever had heart attack	Categ
5	R5HRTATTE	r5hrtatte: w5 R Ever had heart attack	Categ
1	S1HRTATTE	s1hrtatte: w1 S Ever had heart attack	Categ
2	S2HRTATTE	s2hrtatte: w2 S Ever had heart attack	Categ
3	S3HRTATTE	s3hrtatte: w3 S Ever had heart attack	Categ
4	S4HRTATTE	s4hrtatte: w4 S Ever had heart attack	Categ
5	S5HRTATTE	s5hrtatte: w5 S Ever had heart attack	Categ

4	R4HEARTE	r4hearte: w4 R Ever had heart problems	Categ
5	R5HEARTE	r5hearte: w5 R Ever had heart problems	Categ
4	S4HEARTE	s4hearte: w4 S Ever had heart problems	Categ
5	S5HEARTE	s5hearte: w5 S Ever had heart problems	Categ
1	R1STROKE	r1stroke: w1 R Ever had stroke	Categ
2	R2STROKE	r2stroke: w2 R Ever had stroke	Categ
3	R3STROKE	r3stroke: w3 R Ever had stroke	Categ
4	R4STROKE	r4stroke: w4 R Ever had stroke	Categ
5	R5STROKE	r5stroke: w5 R Ever had stroke	Categ
1	S1STROKE	s1stroke: w1 S Ever had stroke	Categ
2	S2STROKE	s2stroke: w2 S Ever had stroke	Categ
3	S3STROKE	s3stroke: w3 S Ever had stroke	Categ
4	S4STROKE	s4stroke: w4 S Ever had stroke	Categ
5	S5STROKE	s5stroke: w5 S Ever had stroke	Categ
1	R1ARTHRE	r1arthre: w1 R Ever had arthritis	Categ
2	R2ARTHRE	r2arthre: w2 R Ever had arthritis	Categ
3	R3ARTHRE	r3arthre: w3 R Ever had arthritis	Categ
4	R4ARTHRE	r4arthre: w4 R Ever had arthritis	Categ
5	R5ARTHRE	r5arthre: w5 R Ever had arthritis	Categ
1	S1ARTHRE	s1arthre: w1 S Ever had arthritis	Categ
2	S2ARTHRE	s2arthre: w2 S Ever had arthritis	Categ
3	S3ARTHRE	s3arthre: w3 S Ever had arthritis	Categ
4	S4ARTHRE	s4arthre: w4 S Ever had arthritis	Categ
5	S5ARTHRE	s5arthre: w5 S Ever had arthritis	Categ

## Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R1HIBPE	14704	0.38	0.48	0.00	1.00
R2HIBPE	13668	0.47	0.50	0.00	1.00
R3HIBPE	15687	0.51	0.50	0.00	1.00
R4HIBPE	14761	0.59	0.49	0.00	1.00
R5HIBPE	17099	0.54	0.50	0.00	1.00
S1HIBPE	10303	0.36	0.48	0.00	1.00
S2HIBPE	9538	0.46	0.50	0.00	1.00
S3HIBPE	10573	0.48	0.50	0.00	1.00
S4HIBPE	9643	0.56	0.50	0.00	1.00
S5HIBPE	7631	0.61	0.49	0.00	1.00
R1DIABE	14721	0.16	0.36	0.00	1.00
R2DIABE	13653	0.19	0.39	0.00	1.00
R3DIABE	15691	0.24	0.42	0.00	1.00
R4DIABE	14760	0.27	0.44	0.00	1.00
R5DIABE	17088	0.27	0.45	0.00	1.00
S1DIABE	10314	0.16	0.36	0.00	1.00
S2DIABE	9527	0.19	0.39	0.00	1.00
S3DIABE	10577	0.23	0.42	0.00	1.00
S4DIABE	9642	0.27	0.44	0.00	1.00
S5DIABE	7626	0.31	0.46	0.00	1.00
R1CANCRE	14733	0.02	0.14	0.00	1.00
R2CANCRE	13670	0.02	0.15	0.00	1.00
R3CANCRE	15696	0.03	0.17	0.00	1.00
R4CANCRE	14763	0.04	0.19	0.00	1.00
R5CANCRE	17099	0.04	0.20	0.00	1.00



S1CANCRE	10320	0.02	0.14	0.00	1.00
S2CANCRE	9537	0.02	0.15	0.00	1.00
S3CANCRE	10579	0.03	0.17	0.00	1.00
S4CANCRE	9643	0.04	0.19	0.00	1.00
S5CANCRE	7635	0.05	0.21	0.00	1.00
R1RESPE	14742	0.06	0.24	0.00	1.00
R2RESPE	13669	0.08	0.28	0.00	1.00
R3RESPE	15697	0.09	0.28	0.00	1.00
R4RESPE	14769	0.11	0.32	0.00	1.00
R5RESPE	17102	0.11	0.31	0.00	1.00
S1RESPE	10330	0.06	0.23	0.00	1.00
S2RESPE	9540	0.08	0.27	0.00	1.00
S3RESPE	10579	0.08	0.27	0.00	1.00
S4RESPE	9647	0.10	0.30	0.00	1.00
S5RESPE	7634	0.12	0.33	0.00	1.00
R1HRTATTE	14727	0.03	0.18	0.00	1.00
R2HRTATTE	13683	0.05	0.21	0.00	1.00
R3HRTATTE	15700	0.05	0.22	0.00	1.00
R4HRTATTE	14767	0.07	0.25	0.00	1.00
R5HRTATTE	17103	0.07	0.25	0.00	1.00
S1HRTATTE	10322	0.03	0.18	0.00	1.00
S2HRTATTE	9550	0.05	0.21	0.00	1.00
S3HRTATTE	10579	0.05	0.22	0.00	1.00
S4HRTATTE	9646	0.06	0.25	0.00	1.00
S5HRTATTE	7636	0.08	0.27	0.00	1.00
R4HEARTE	14775	0.09	0.29	0.00	1.00
R5HEARTE	17106	0.12	0.33	0.00	1.00
S4HEARTE	9650	0.09	0.28	0.00	1.00
S5HEARTE	7637	0.13	0.34	0.00	1.00
R1STROKE	14730	0.03	0.16	0.00	1.00
R2STROKE	13695	0.03	0.17	0.00	1.00
R3STROKE	15707	0.03	0.18	0.00	1.00
R4STROKE	14765	0.04	0.20	0.00	1.00
R5STROKE	17105	0.04	0.20	0.00	1.00
S1STROKE	10322	0.02	0.15	0.00	1.00
S2STROKE	9558	0.03	0.16	0.00	1.00
S3STROKE	10584	0.03	0.17	0.00	1.00
S4STROKE	9645	0.04	0.19	0.00	1.00
S5STROKE	7634	0.04	0.21	0.00	1.00
R1ARTHRE	14727	0.20	0.40	0.00	1.00
R2ARTHRE	13688	0.28	0.45	0.00	1.00
R3ARTHRE	15698	0.24	0.42	0.00	1.00
R4ARTHRE	14760	0.28	0.45	0.00	1.00
R5ARTHRE	17095	0.24	0.43	0.00	1.00
S1ARTHRE	10319	0.17	0.38	0.00	1.00
S2ARTHRE	9553	0.25	0.43	0.00	1.00
S3ARTHRE	10574	0.20	0.40	0.00	1.00
S4ARTHRE	9641	0.24	0.43	0.00	1.00
S5ARTHRE	7631	0.27	0.44	0.00	1.00

### Categorical Variable Codes

Value-----	R1HIBPE	R2HIBPE	R3HIBPE	R4HIBPE	R5HIBPE
.d:DK	45	36	33	15	12
.m:Missing	4				
.r:Refuse	38		3	3	3
.s:Skip	395				
0.no	9153	7194	7727	6119	7782
1.yes	5551	6474	7960	8642	9317
Value-----	S1HIBPE	S2HIBPE	S3HIBPE	S4HIBPE	S5HIBPE
.d:DK	31	26	18	8	5
.m:Missing	3				
.r:Refuse	28		1	1	2
.s:Skip	283				
.u:Unmar	4205	4009	4782	4847	5227
.v:SP NR	333	131	349	280	501
0.no	6631	5196	5509	4274	2961
1.yes	3672	4342	5064	5369	4670
Value-----	R1DIABE	R2DIABE	R3DIABE	R4DIABE	R5DIABE
.d:DK	33	49	29	15	23
.m:Missing	4				
.r:Refuse	33	2	3	4	3
.s:Skip	395				
0.no	12437	11062	11989	10755	12437
1.yes	2284	2591	3702	4005	4651
Value-----	S1DIABE	S2DIABE	S3DIABE	S4DIABE	S5DIABE
.d:DK	23	36	13	8	11
.m:Missing	3				
.r:Refuse	25	1	2	2	1
.s:Skip	283				
.u:Unmar	4205	4009	4782	4847	5227
.v:SP NR	333	131	349	280	501
0.no	8713	7707	8099	7036	5297
1.yes	1601	1820	2478	2606	2329
Value-----	R1CANCRE	R2CANCRE	R3CANCRE	R4CANCRE	R5CANCRE
.d:DK	22	34	22	14	11
.m:Missing	4				
.r:Refuse	32		5	2	4
.s:Skip	395				
0.no	14434	13354	15218	14185	16403
1.yes	299	316	478	578	696
Value-----	S1CANCRE	S2CANCRE	S3CANCRE	S4CANCRE	S5CANCRE
.d:DK	18	27	10	9	2
.m:Missing	3				
.r:Refuse	24		3		1
.s:Skip	283				
.u:Unmar	4205	4009	4782	4847	5227
.v:SP NR	333	131	349	280	501
0.no	10112	9324	10272	9272	7283
1.yes	208	213	307	371	352
Value-----	R1RESPE	R2RESPE	R3RESPE	R4RESPE	R5RESPE
.d:DK	14	33	23	6	6
.m:Missing	4				
.r:Refuse	31	2	3	4	6
.s:Skip	395				
0.no	13828	12510	14302	13115	15250
1.yes	914	1159	1395	1654	1852
Value-----	S1RESPE	S2RESPE	S3RESPE	S4RESPE	S5RESPE
.d:DK	8	23	11	2	2
.m:Missing	3				
.r:Refuse	24	1	2	3	2
.s:Skip	283				
.u:Unmar	4205	4009	4782	4847	5227
.v:SP NR	333	131	349	280	501
0.no	9727	8791	9735	8676	6709
1.yes	603	749	844	971	925
Value-----	R1HRTATTE	R2HRTATTE	R3HRTATTE	R4HRTATTE	R5HRTATTE

.d:DK	24	18	16	9	6
.m:Missing	4			1	
.r:Refuse	36	3	7	2	5
.s:Skip	395				
0.no	14239	13048	14886	13791	15952
1.yes	488	635	814	976	1151
Value-----	S1HRTATTE	S2HRTATTE	S3HRTATTE	S4HRTATTE	S5HRTATTE
.d:DK	15	11	7	4	2
.m:Missing	3				
.r:Refuse	25	3	6	2	
.s:Skip	283				
.u:Unmar	4205	4009	4782	4847	5227
.v:SP NR	333	131	349	280	501
0.no	9982	9106	10059	9024	7023
1.yes	340	444	520	622	613
Value-----				R4HEARTE	R5HEARTE
.d:DK				3	4
.m:Missing				1	
.r:Refuse					4
0.no				13442	15043
1.yes				1333	2063
Value-----				S4HEARTE	S5HEARTE
.d:DK				2	1
.u:Unmar				4847	5227
.v:SP NR				280	501
0.no				8824	6616
1.yes				826	1021
Value-----	R1STROKE	R2STROKE	R3STROKE	R4STROKE	R5STROKE
.d:DK	18	8	12	9	5
.m:Missing	4			1	
.r:Refuse	39	1	4	4	4
.s:Skip	395				
0.no	14339	13265	15176	14150	16400
1.yes	391	430	531	615	705
Value-----	S1STROKE	S2STROKE	S3STROKE	S4STROKE	S5STROKE
.d:DK	13	5	5	5	2
.m:Missing	3				
.r:Refuse	27	1	3	2	2
.s:Skip	283				
.u:Unmar	4205	4009	4782	4847	5227
.v:SP NR	333	131	349	280	501
0.no	10079	9292	10273	9298	7298
1.yes	243	266	311	347	336
Value-----	R1ARTHRE	R2ARTHRE	R3ARTHRE	R4ARTHRE	R5ARTHRE
.d:DK	27	16	20	13	15
.m:Missing	4			1	
.r:Refuse	33		5	5	4
.s:Skip	395				
0.no	11846	9907	11997	10675	13005
1.yes	2881	3781	3701	4085	4090
Value-----	S1ARTHRE	S2ARTHRE	S3ARTHRE	S4ARTHRE	S5ARTHRE
.d:DK	20	11	14	8	5
.m:Missing	3				
.r:Refuse	23		4	3	2
.s:Skip	283				
.u:Unmar	4205	4009	4782	4847	5227
.v:SP NR	333	131	349	280	501
0.no	8545	7168	8417	7301	5578
1.yes	1774	2385	2157	2340	2053

## How Constructed

RwHIBPE, RwDIABE, RwCANCRE, RwRESPE, RwhRTATTE, RwhHEARTE, RwhSTROKE, and RwhARTHRE indicate whether or not a doctor has ever told the respondent they had or currently have these conditions. A code of 0 indicates that the respondent does not report having been told by a doctor they have the condition. A code of 1

indicates that the respondent reports having been told by a doctor they have the condition. When respondents "don't know" or refuse to answer, `RwHIBPE`, `RwDIABE`, `RwCANCRE`, `RwRESPE`, `RwHRTATTE`, `RwHEARTE`, `RwSTROKE`, and `RwARTHRE` are assigned special missing values `.d` or `.r`, respectively. A special missing value `.s` is assigned in Wave 1 if the respondent was not asked whether they have been diagnosed with any conditions because they reported not ever having seen a medical doctor. These variables are set to plain missing (`.`) for respondents who did not respond to the current wave.

`RwHIBPE` indicates whether a doctor has told the respondent they had or currently have hypertension or high blood pressure. `RwDIABE` indicates whether a doctor has told the respondent they had or currently have diabetes or high blood sugar. `RwCANCRE` indicates whether a doctor has told the respondent they had or currently have cancer. `RwRESPE` indicates whether a doctor has told the respondent they had or currently have a respiratory illness, such as asthma or emphysema. `RwHRTATTE` indicates whether a doctor has told the respondent they had a heart attack. `RwHEARTE` indicates whether a doctor has told the respondent they had a heart condition, such as heart failure/cardiac failure/congestive heart failure, arrhythmia, angina, or a heart attack. `RwSTROKE` indicates whether a doctor has told the respondent they had a stroke. `RwARTHRE` indicates whether a doctor has told the respondent they had or currently have arthritis or rheumatism.

`SwHIBPE`, `SwDIABE`, `SwCANCRE`, `SwRESPE`, `SwHRTATTE`, `SwHEARTE`, `SwSTROKE`, and `SwARTHRE` indicate whether the respondent's spouse reported ever being told by a doctor they had or currently have any of these conditions described above and are taken directly from the spouse's `RwHIBPE`, `RwDIABE`, `RwCANCRE`, `RwRESPE`, `RwHRTATTE`, `RwHEARTE`, `RwSTROKE`, and `RwARTHRE`, respectively. In addition to the special missing codes used in `RwHIBPE`, `RwDIABE`, `RwCANCRE`, `RwRESPE`, `RwHRTATTE`, `RwHEARTE`, `RwSTROKE`, and `RwARTHRE`; `SwHIBPE`, `SwDIABE`, `SwCANCRE`, `SwRESPE`, `SwHRTATTE`, `SwHEARTE`, `SwSTROKE`, and `SwARTHRE` employ the special missing value `.u`, when the respondent does not report being coupled in the current wave, and the special missing value `.v`, when the respondent reports being coupled in the current wave but their spouse is not interviewed.

## Cross Wave Differences in MHAS

In Wave 1, respondents who reported never having seen a medical doctor, or who responded don't know or refuse to that question, were not asked whether they had ever been diagnosed with health conditions. Additionally, in Wave 1, for all the conditions, respondents were asked "Has a doctor or medical personnel ever told you that you have/have had [...]?"

In Wave 2, respondents were asked if "a doctor or medical personnel diagnosed him/her with" hypertension, cancer, diabetes, respiratory illness, or arthritis. They were also asked if "a doctor or medical personnel ever told them they have had" a heart attack or a stroke. In addition, while follow-up respondents were asked about the last two years, new respondents were asked if "a doctor or medical personnel ever diagnosed him/her (or told him/her that he/she had) [...]". To construct `R2HIBPE`, `R2DIABE`, `R2CANCRE`, `R2RESPE`, `R2HRTATTE`, `R2STROKE`, and `R2ARTHRE` a code of 1 was also assigned if a respondent reported in the previous wave having the condition, that is `Rw[condition]` equal 1.

Starting in Wave 3, respondents were asked if a doctor or medical personnel ever diagnosed them or told them they have had a condition, disregarding the type of interview (follow-up or new sample). To construct `RwHIBPE`, `RwDIABE`, `RwCANCRE`, `RwRESPE`, `RwHRTATTE`, `RwSTROKE`, and `RwARTHRE` a code of 1 was also assigned if a respondent reported in the previous waves having the condition, that is `Rw[condition]` equal 1.

Also the definition of cancer changes across waves. Respondents were asked during the first and third waves if they were ever (or in the last two years) diagnosed with cancer. However, during the second wave, they were asked if they were told that they have (or had) cancer or a malignant tumor, excluding minor skin cancer.

Starting in Wave 3, respondents are also asked if a doctor or medical personnel ever told you that you have had heart problem such as heart failure, cardiac failure, congestive heart failure, arrhythmia, or angina. However, in Wave 3, this question is skipped if the respondent reported not having had a heart attack. `RwHEARTE` is only included starting in Wave 4 when this question is asked of all respondents.

## Differences with the RAND HRS/Harmonized HRS

In follow-up interviews in the HRS, respondents are read a statement containing conditions they reported at prior waves. Respondents are able to dispute any incorrect reports. However, in the MHAS the timing of the health questions changed across waves. In Wave 2, during follow-up interviews, respondents were asked if in the last two years they were diagnosed with a condition or if a doctor told them they had a

condition. Also, during new interviews respondents were asked if they were ever diagnosed (or ever had) a condition. Thus, to construct the health condition variables for Wave 2, a code of 1 is assigned if follow-up respondents reported having the condition in the previous wave, that is Wave 1. Starting in Wave 3, all respondent with disregard of the type of interview (follow-up of new sample) were asked if they ever had or have the condition.

Also different to the MHAS is the definition of some of the health conditions. First, respondents were asked during the first and third waves if they were ever (or in the last two years) diagnosed with cancer. However, during the second wave, they were asked if they were told that they have (or had) cancer or a malignant tumor, excluding minor skin cancer. In the HRS, the cancer question consistently asks respondents to exclude minor skin cancer.

Second, respondents were asked if they were ever told they had/diagnosed with a respiratory illness, such as asthma or emphysema. In the HRS, the chronic lung disease definition includes chronic bronchitis or emphysema and excludes asthma. In this case, a respiratory disease variable (RwRESPE) was created for all the waves.

Finally, to determine if the respondent had a heart problem, starting in Wave 3 respondents were asked if they ever had (or in the past two years) a heart problem including heart failure, cardiac failure, congestive heart failure, or arrhythmia. However in the HRS, the questions include myocardial infarction or coronary thrombosis, or any other heart problem, including congestive heart failure. As such, reports of heart attack have been incorporated into RwHEARTE in the Harmonized MHAS starting in Wave 4 to provide a comparable measure to RwHEARTE in the RAND HRS.

## MHAS Variables Used

### Wave 1:

C12	cancer or tumor
C19	respiratory illness
C22	heart attack
C27	stroke
C34	arthritis or rheumatism
C4	hypertension
C6	diabetes

### Wave 2:

C12	doctor ever say you have cancer
C19	doctor ever say you have a respiratory disease
C22A	doctor ever say you had a heart attack
C26	doctor ever say you had a stroke
C32	doctor ever say you have arthritis
C4	doctor ever say you have hypertension
C6	doctor ever say you have diabetes

### Wave 3:

C12_12	Has a physician diagnosed respondent...cancer
C19_12	Has a physician diagnosed respondent...respiratory illness
C22A_12	Has a physician ever told respondent...heart attack
C26_12	Ever/last 2 years:Has a physician told respondent...stroke
C32_12	Has a physician diagnosed respondent with arthritis/rhe
C4_12	Has a physician diagnosed...hypertension/high blood press
C6_12	Has a physician diagnosed respondent...diabetes

### Wave 4:

C12_15	Has a doctor or medical personnel ever diagnosed respon
C19_15	Has a doctor or medical personnel ever diagnosed respon
C22A_15	Has a doctor or medical personnel ever told respondent
C26_15	Has a doctor or medical personnel ever told respondent
C32_15	Has a doctor or medical personnel ever diagnosed respon
C4_15	Has a doctor or medical personnel ever diagnosed respon
C6_15	Has a doctor or medical personnel ever diagnosed respon

### Wave 5:

C12_18	Has a doctor or medical personnel ever diagnosed R with
C19_18	Has a doctor or medical personnel ever diagnosed R with
C22A_18	Has a doctor or medical personnel ever told R he/she ha
C26_18	Has a doctor or medical personnel ever told R he/she ha
C32_18	Has a doctor or medical personnel ever diagnosed R with

C4_18	Has R ever been diagnosed with hypertension/high blood
C6_18	Has a doctor or medical personnel ever diagnosed R with

**Doctor Diagnosed Diseases: Whether Receives Treatment or Medication for Disease**

Wave	Variable	Label	Type
1	R1RXHIBP	r1rxhibp: w1 Whether R takes meds for high blood pressure	Categ
2	R2RXHIBP	r2rxhibp: w2 Whether R takes meds for high blood pressure	Categ
3	R3RXHIBP	r3rxhibp: w3 Whether R takes meds for high blood pressure	Categ
4	R4RXHIBP	r4rxhibp: w4 Whether R takes meds for high blood pressure	Categ
5	R5RXHIBP	r5rxhibp: w5 Whether R takes meds for high blood pressure	Categ
1	S1RXHIBP	s1rxhibp: w1 Whether S takes meds for high blood pressure	Categ
2	S2RXHIBP	s2rxhibp: w2 Whether S takes meds for high blood pressure	Categ
3	S3RXHIBP	s3rxhibp: w3 Whether S takes meds for high blood pressure	Categ
4	S4RXHIBP	s4rxhibp: w4 Whether S takes meds for high blood pressure	Categ
5	S5RXHIBP	s5rxhibp: w5 Whether S takes meds for high blood pressure	Categ
1	R1RXDIABO	r1rxdiabo: w1 Whether R takes oral meds for diabetes	Categ
2	R2RXDIABO	r2rxdiabo: w2 Whether R takes oral meds for diabetes	Categ
3	R3RXDIABO	r3rxdiabo: w3 Whether R takes oral meds for diabetes	Categ
4	R4RXDIABO	r4rxdiabo: w4 Whether R takes oral meds for diabetes	Categ
5	R5RXDIABO	r5rxdiabo: w5 Whether R takes oral meds for diabetes	Categ
1	S1RXDIABO	s1rxdiabo: w1 Whether S takes oral meds for diabetes	Categ
2	S2RXDIABO	s2rxdiabo: w2 Whether S takes oral meds for diabetes	Categ
3	S3RXDIABO	s3rxdiabo: w3 Whether S takes oral meds for diabetes	Categ
4	S4RXDIABO	s4rxdiabo: w4 Whether S takes oral meds for diabetes	Categ
5	S5RXDIABO	s5rxdiabo: w5 Whether S takes oral meds for diabetes	Categ
1	R1RXDIABI	r1rxdiabi: w1 Whether R takes insulin for diabetes	Categ
2	R2RXDIABI	r2rxdiabi: w2 Whether R takes insulin for diabetes	Categ
3	R3RXDIABI	r3rxdiabi: w3 Whether R takes insulin for diabetes	Categ
4	R4RXDIABI	r4rxdiabi: w4 Whether R takes insulin for diabetes	Categ
5	R5RXDIABI	r5rxdiabi: w5 Whether R takes insulin for diabetes	Categ
1	S1RXDIABI	s1rxdiabi: w1 Whether S takes insulin for diabetes	Categ
2	S2RXDIABI	s2rxdiabi: w2 Whether S takes insulin for diabetes	Categ
3	S3RXDIABI	s3rxdiabi: w3 Whether S takes insulin for diabetes	Categ
4	S4RXDIABI	s4rxdiabi: w4 Whether S takes insulin for diabetes	Categ
5	S5RXDIABI	s5rxdiabi: w5 Whether S takes insulin for diabetes	Categ
1	R1RXDIAB	r1rxdiab: w1 Whether R takes meds for diabetes (oral or insu	Categ
2	R2RXDIAB	r2rxdiab: w2 Whether R takes meds for diabetes (oral or insu	Categ
3	R3RXDIAB	r3rxdiab: w3 Whether R takes meds for diabetes (oral or insu	Categ
4	R4RXDIAB	r4rxdiab: w4 Whether R takes meds for diabetes (oral or insu	Categ
5	R5RXDIAB	r5rxdiab: w5 Whether R takes meds for diabetes (oral or insu	Categ
1	S1RXDIAB	s1rxdiab: w1 Whether S takes meds for diabetes (oral or inul	Categ
2	S2RXDIAB	s2rxdiab: w2 Whether S takes meds for diabetes (oral or inul	Categ
3	S3RXDIAB	s3rxdiab: w3 Whether S takes meds for diabetes (oral or inul	Categ
4	S4RXDIAB	s4rxdiab: w4 Whether S takes meds for diabetes (oral or inul	Categ
5	S5RXDIAB	s5rxdiab: w5 Whether S takes meds for diabetes (oral or inul	Categ
1	R1CNCRCHEM	r1cncrchem: w1 R received treatment for cancer (chemotherapy	Categ
2	R2CNCRCHEM	r2cncrchem: w2 R received treatment for cancer (chemotherapy	Categ
3	R3CNCRCHEM	r3cncrchem: w3 R received treatment for cancer (chemotherapy	Categ
4	R4CNCRCHEM	r4cncrchem: w4 R received treatment for cancer (chemotherapy	Categ
5	R5CNCRCHEM	r5cncrchem: w5 R received treatment for cancer (chemotherapy	Categ
1	S1CNCRCHEM	s1cncrchem: w1 S received treatment for cancer (chemotherapy	Categ
2	S2CNCRCHEM	s2cncrchem: w2 S received treatment for cancer (chemotherapy	Categ
3	S3CNCRCHEM	s3cncrchem: w3 S received treatment for cancer (chemotherapy	Categ
4	S4CNCRCHEM	s4cncrchem: w4 S received treatment for cancer (chemotherapy	Categ
5	S5CNCRCHEM	s5cncrchem: w5 S received treatment for cancer (chemotherapy	Categ

1	R1CNCRSURG	r1cncrsurg: w1 R received treatment for cancer (surgery)	Categ
2	R2CNCRSURG	r2cncrsurg: w2 R received treatment for cancer (surgery)	Categ
3	R3CNCRSURG	r3cncrsurg: w3 R received treatment for cancer (surgery)	Categ
4	R4CNCRSURG	r4cncrsurg: w4 R received treatment for cancer (surgery)	Categ
5	R5CNCRSURG	r5cncrsurg: w5 R received treatment for cancer (surgery)	Categ
1	S1CNCRSURG	s1cncrsurg: w1 S received treatment for cancer (surgery)	Categ
2	S2CNCRSURG	s2cncrsurg: w2 S received treatment for cancer (surgery)	Categ
3	S3CNCRSURG	s3cncrsurg: w3 S received treatment for cancer (surgery)	Categ
4	S4CNCRSURG	s4cncrsurg: w4 S received treatment for cancer (surgery)	Categ
5	S5CNCRSURG	s5cncrsurg: w5 S received treatment for cancer (surgery)	Categ
1	R1CNCRRADN	r1cncrradn: w1 R received treatment for cancer (radiation/xr	Categ
2	R2CNCRRADN	r2cncrradn: w2 R received treatment for cancer (radiation/xr	Categ
3	R3CNCRRADN	r3cncrradn: w3 R received treatment for cancer (radiation/xr	Categ
4	R4CNCRRADN	r4cncrradn: w4 R received treatment for cancer (radiation/xr	Categ
5	R5CNCRRADN	r5cncrradn: w5 R received treatment for cancer (radiation/xr	Categ
1	S1CNCRRADN	s1cncrradn: w1 S received treatment for cancer (radiation/xr	Categ
2	S2CNCRRADN	s2cncrradn: w2 S received treatment for cancer (radiation/xr	Categ
3	S3CNCRRADN	s3cncrradn: w3 S received treatment for cancer (radiation/xr	Categ
4	S4CNCRRADN	s4cncrradn: w4 S received treatment for cancer (radiation/xr	Categ
5	S5CNCRRADN	s5cncrradn: w5 S received treatment for cancer (radiation/xr	Categ
1	R1CNCRMEDS	r1cncrmeds: w1 R received treatment for cancer (meds for sym	Categ
2	R2CNCRMEDS	r2cncrmeds: w2 R received treatment for cancer (meds for sym	Categ
3	R3CNCRMEDS	r3cncrmeds: w3 R received treatment for cancer (meds for sym	Categ
4	R4CNCRMEDS	r4cncrmeds: w4 R received treatment for cancer (meds for sym	Categ
5	R5CNCRMEDS	r5cncrmeds: w5 R received treatment for cancer (meds for sym	Categ
1	S1CNCRMEDS	s1cncrmeds: w1 S received treatment for cancer (meds for sym	Categ
2	S2CNCRMEDS	s2cncrmeds: w2 S received treatment for cancer (meds for sym	Categ
3	S3CNCRMEDS	s3cncrmeds: w3 S received treatment for cancer (meds for sym	Categ
4	S4CNCRMEDS	s4cncrmeds: w4 S received treatment for cancer (meds for sym	Categ
5	S5CNCRMEDS	s5cncrmeds: w5 S received treatment for cancer (meds for sym	Categ
1	R1CNCROTHR	r1cncrothr: w1 R received treatment for cancer (other)	Categ
2	R2CNCROTHR	r2cncrothr: w2 R received treatment for cancer (other)	Categ
3	R3CNCROTHR	r3cncrothr: w3 R received treatment for cancer (other)	Categ
4	R4CNCROTHR	r4cncrothr: w4 R received treatment for cancer (other)	Categ
5	R5CNCROTHR	r5cncrothr: w5 R received treatment for cancer (other)	Categ
1	S1CNCROTHR	s1cncrothr: w1 S received treatment for cancer (meds for sym	Categ
2	S2CNCROTHR	s2cncrothr: w2 S received treatment for cancer (meds for sym	Categ
3	S3CNCROTHR	s3cncrothr: w3 S received treatment for cancer (meds for sym	Categ
4	S4CNCROTHR	s4cncrothr: w4 S received treatment for cancer (meds for sym	Categ
5	S5CNCROTHR	s5cncrothr: w5 S received treatment for cancer (meds for sym	Categ
1	R1RXRESP	r1rxresp: w1 Whether R takes meds for respiratory disease	Categ
2	R2RXRESP	r2rxresp: w2 Whether R takes meds for respiratory disease	Categ
3	R3RXRESP	r3rxresp: w3 Whether R takes meds for respiratory disease	Categ
4	R4RXRESP	r4rxresp: w4 Whether R takes meds for respiratory disease	Categ
5	R5RXRESP	r5rxresp: w5 Whether R takes meds for respiratory disease	Categ
1	S1RXRESP	s1rxresp: w1 Whether S takes meds for respiratory disease	Categ
2	S2RXRESP	s2rxresp: w2 Whether S takes meds for respiratory disease	Categ
3	S3RXRESP	s3rxresp: w3 Whether S takes meds for respiratory disease	Categ
4	S4RXRESP	s4rxresp: w4 Whether S takes meds for respiratory disease	Categ
5	S5RXRESP	s5rxresp: w5 Whether S takes meds for respiratory disease	Categ
1	R1RXHRTAT	r1rxhrtat: w1 Whether R takes meds for heart attack	Categ
2	R2RXHRTAT	r2rxhrtat: w2 Whether R takes meds for heart attack	Categ
3	R3RXHRTAT	r3rxhrtat: w3 Whether R takes meds for heart attack	Categ



4	R4RXHRTAT	r4rxhrtat: w4 Whether R takes meds for heart attack	Categ
5	R5RXHRTAT	r5rxhrtat: w5 Whether R takes meds for heart attack	Categ
1	S1RXHRTAT	s1rxhrtat: w1 Whether S takes meds for heart attack	Categ
2	S2RXHRTAT	s2rxhrtat: w2 Whether S takes meds for heart attack	Categ
3	S3RXHRTAT	s3rxhrtat: w3 Whether S takes meds for heart attack	Categ
4	S4RXHRTAT	s4rxhrtat: w4 Whether S takes meds for heart attack	Categ
5	S5RXHRTAT	s5rxhrtat: w5 Whether S takes meds for heart attack	Categ
1	R1RXSTROK	r1rxstrok: w1 Whether R takes medication for stroke	Categ
2	R2RXSTROK	r2rxstrok: w2 Whether R takes medication for stroke	Categ
3	R3RXSTROK	r3rxstrok: w3 Whether R takes medication for stroke	Categ
4	R4RXSTROK	r4rxstrok: w4 Whether R takes medication for stroke	Categ
5	R5RXSTROK	r5rxstrok: w5 Whether R takes medication for stroke	Categ
1	S1RXSTROK	s1rxstrok: w1 Whether S takes medication for stroke	Categ
2	S2RXSTROK	s2rxstrok: w2 Whether S takes medication for stroke	Categ
3	S3RXSTROK	s3rxstrok: w3 Whether S takes medication for stroke	Categ
4	S4RXSTROK	s4rxstrok: w4 Whether S takes medication for stroke	Categ
5	S5RXSTROK	s5rxstrok: w5 Whether S takes medication for stroke	Categ
1	R1RXARTHR	r1rxarthr: w1 Whether R takes medication for arthritis	Categ
2	R2RXARTHR	r2rxarthr: w2 Whether R takes medication for arthritis	Categ
3	R3RXARTHR	r3rxarthr: w3 Whether R takes medication for arthritis	Categ
4	R4RXARTHR	r4rxarthr: w4 Whether R takes medication for arthritis	Categ
5	R5RXARTHR	r5rxarthr: w5 Whether R takes medication for arthritis	Categ
1	S1RXARTHR	s1rxarthr: w1 Whether S takes medication for arthritis	Categ
2	S2RXARTHR	s2rxarthr: w2 Whether S takes medication for arthritis	Categ
3	S3RXARTHR	s3rxarthr: w3 Whether S takes medication for arthritis	Categ
4	S4RXARTHR	s4rxarthr: w4 Whether S takes medication for arthritis	Categ
5	S5RXARTHR	s5rxarthr: w5 Whether S takes medication for arthritis	Categ

## Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R1RXHIBP	14678	0.27	0.44	0.00	1.00
R2RXHIBP	13651	0.28	0.45	0.00	1.00
R3RXHIBP	15682	0.37	0.48	0.00	1.00
R4RXHIBP	14754	0.41	0.49	0.00	1.00
R5RXHIBP	17090	0.38	0.49	0.00	1.00
S1RXHIBP	10284	0.25	0.43	0.00	1.00
S2RXHIBP	9528	0.27	0.44	0.00	1.00
S3RXHIBP	10569	0.35	0.48	0.00	1.00
S4RXHIBP	9640	0.38	0.49	0.00	1.00
S5RXHIBP	7628	0.41	0.49	0.00	1.00
R1RXDIABO	14713	0.13	0.34	0.00	1.00
R2RXDIABO	13649	0.14	0.35	0.00	1.00
R3RXDIABO	15688	0.20	0.40	0.00	1.00
R4RXDIABO	14758	0.22	0.42	0.00	1.00
R5RXDIABO	17083	0.22	0.41	0.00	1.00
S1RXDIABO	10309	0.13	0.34	0.00	1.00
S2RXDIABO	9524	0.14	0.35	0.00	1.00
S3RXDIABO	10577	0.20	0.40	0.00	1.00
S4RXDIABO	9642	0.22	0.42	0.00	1.00
S5RXDIABO	7624	0.24	0.43	0.00	1.00
R1RXDIABI	14709	0.02	0.13	0.00	1.00
R2RXDIABI	13646	0.02	0.14	0.00	1.00
R3RXDIABI	15687	0.04	0.19	0.00	1.00

R4RXDIABI	14758	0.05	0.22	0.00	1.00
R5RXDIABI	17080	0.06	0.24	0.00	1.00
S1RXDIABI	10306	0.01	0.12	0.00	1.00
S2RXDIABI	9521	0.02	0.14	0.00	1.00
S3RXDIABI	10576	0.04	0.19	0.00	1.00
S4RXDIABI	9642	0.05	0.22	0.00	1.00
S5RXDIABI	7624	0.07	0.25	0.00	1.00
R1RXDIAB	14713	0.13	0.34	0.00	1.00
R2RXDIAB	13649	0.14	0.35	0.00	1.00
R3RXDIAB	15688	0.21	0.40	0.00	1.00
R4RXDIAB	14758	0.23	0.42	0.00	1.00
R5RXDIAB	17082	0.23	0.42	0.00	1.00
S1RXDIAB	10309	0.13	0.34	0.00	1.00
S2RXDIAB	9524	0.14	0.35	0.00	1.00
S3RXDIAB	10577	0.21	0.40	0.00	1.00
S4RXDIAB	9642	0.23	0.42	0.00	1.00
S5RXDIAB	7624	0.25	0.43	0.00	1.00
R1CNCRCHEM	14724	0.00	0.07	0.00	1.00
R2CNCRCHEM	13669	0.00	0.06	0.00	1.00
R3CNCRCHEM	15696	0.01	0.08	0.00	1.00
R4CNCRCHEM	14763	0.01	0.08	0.00	1.00
R5CNCRCHEM	17098	0.01	0.08	0.00	1.00
S1CNCRCHEM	10314	0.00	0.07	0.00	1.00
S2CNCRCHEM	9537	0.00	0.06	0.00	1.00
S3CNCRCHEM	10579	0.01	0.07	0.00	1.00
S4CNCRCHEM	9643	0.01	0.09	0.00	1.00
S5CNCRCHEM	7634	0.01	0.08	0.00	1.00
R1CNCRSURG	14724	0.01	0.09	0.00	1.00
R2CNCRSURG	13669	0.00	0.05	0.00	1.00
R3CNCRSURG	15696	0.01	0.07	0.00	1.00
R4CNCRSURG	14763	0.00	0.07	0.00	1.00
R5CNCRSURG	17098	0.01	0.08	0.00	1.00
S1CNCRSURG	10314	0.01	0.09	0.00	1.00
S2CNCRSURG	9537	0.00	0.05	0.00	1.00
S3CNCRSURG	10579	0.01	0.07	0.00	1.00
S4CNCRSURG	9643	0.01	0.07	0.00	1.00
S5CNCRSURG	7634	0.01	0.09	0.00	1.00
R1CNCRRADN	14724	0.00	0.06	0.00	1.00
R2CNCRRADN	13669	0.00	0.05	0.00	1.00
R3CNCRRADN	15696	0.00	0.05	0.00	1.00
R4CNCRRADN	14763	0.00	0.06	0.00	1.00
R5CNCRRADN	17098	0.00	0.06	0.00	1.00
S1CNCRRADN	10314	0.00	0.06	0.00	1.00
S2CNCRRADN	9537	0.00	0.05	0.00	1.00
S3CNCRRADN	10579	0.00	0.05	0.00	1.00
S4CNCRRADN	9643	0.00	0.06	0.00	1.00
S5CNCRRADN	7634	0.00	0.07	0.00	1.00
R1CNCRMEDS	14724	0.01	0.07	0.00	1.00
R2CNCRMEDS	13669	0.00	0.05	0.00	1.00
R3CNCRMEDS	15696	0.00	0.07	0.00	1.00
R4CNCRMEDS	14763	0.01	0.09	0.00	1.00
R5CNCRMEDS	17098	0.01	0.09	0.00	1.00
S1CNCRMEDS	10314	0.01	0.07	0.00	1.00

S2CNCRMEDS	9537	0.00	0.05	0.00	1.00
S3CNCRMEDS	10579	0.00	0.07	0.00	1.00
S4CNCRMEDS	9643	0.01	0.08	0.00	1.00
S5CNCRMEDS	7634	0.01	0.10	0.00	1.00
R1CNCROTHR	14724	0.00	0.04	0.00	1.00
R2CNCROTHR	13669	0.00	0.02	0.00	1.00
R3CNCROTHR	15696	0.00	0.03	0.00	1.00
R4CNCROTHR	14763	0.00	0.04	0.00	1.00
R5CNCROTHR	17098	0.00	0.00	0.00	0.00
S1CNCROTHR	10314	0.00	0.04	0.00	1.00
S2CNCROTHR	9537	0.00	0.02	0.00	1.00
S3CNCROTHR	10579	0.00	0.03	0.00	1.00
S4CNCROTHR	9643	0.00	0.04	0.00	1.00
S5CNCROTHR	7634	0.00	0.00	0.00	0.00
R1RXRESP	14735	0.03	0.17	0.00	1.00
R2RXRESP	13666	0.03	0.16	0.00	1.00
R3RXRESP	15694	0.04	0.19	0.00	1.00
R4RXRESP	14767	0.04	0.19	0.00	1.00
R5RXRESP	17101	0.04	0.19	0.00	1.00
S1RXRESP	10325	0.03	0.16	0.00	1.00
S2RXRESP	9538	0.02	0.16	0.00	1.00
S3RXRESP	10579	0.03	0.18	0.00	1.00
S4RXRESP	9646	0.03	0.18	0.00	1.00
S5RXRESP	7633	0.04	0.19	0.00	1.00
R1RXHRTAT	14727	0.02	0.15	0.00	1.00
R2RXHRTAT	13683	0.02	0.13	0.00	1.00
R3RXHRTAT	15698	0.03	0.16	0.00	1.00
R4RXHRTAT	14765	0.03	0.16	0.00	1.00
R5RXHRTAT	17101	0.03	0.16	0.00	1.00
S1RXHRTAT	10322	0.02	0.15	0.00	1.00
S2RXHRTAT	9550	0.02	0.13	0.00	1.00
S3RXHRTAT	10578	0.03	0.16	0.00	1.00
S4RXHRTAT	9645	0.03	0.16	0.00	1.00
S5RXHRTAT	7635	0.03	0.18	0.00	1.00
R1RXSTROK	14728	0.01	0.11	0.00	1.00
R2RXSTROK	13695	0.01	0.09	0.00	1.00
R3RXSTROK	15706	0.01	0.11	0.00	1.00
R4RXSTROK	14761	0.01	0.11	0.00	1.00
R5RXSTROK	17104	0.01	0.12	0.00	1.00
S1RXSTROK	10322	0.01	0.11	0.00	1.00
S2RXSTROK	9558	0.01	0.09	0.00	1.00
S3RXSTROK	10584	0.01	0.11	0.00	1.00
S4RXSTROK	9643	0.01	0.10	0.00	1.00
S5RXSTROK	7634	0.01	0.12	0.00	1.00
R1RXARTHR	14712	0.11	0.32	0.00	1.00
R2RXARTHR	13681	0.11	0.32	0.00	1.00
R3RXARTHR	15690	0.08	0.28	0.00	1.00
R4RXARTHR	14755	0.09	0.29	0.00	1.00
R5RXARTHR	17087	0.07	0.26	0.00	1.00
S1RXARTHR	10308	0.10	0.30	0.00	1.00
S2RXARTHR	9550	0.10	0.30	0.00	1.00
S3RXARTHR	10571	0.07	0.26	0.00	1.00
S4RXARTHR	9637	0.08	0.27	0.00	1.00
S5RXARTHR	7628	0.07	0.26	0.00	1.00

## Categorical Variable Codes

Value-----	R1RXHIBP	R2RXHIBP	R3RXHIBP	R4RXHIBP	R5RXHIBP
.d:DK	57	53	37	22	18
.m:Missing	4				
.r:Refuse	52		4	3	6
.s:Skip	395				
0.no	10751	9791	9915	8765	10577
1.yes	3927	3860	5767	5989	6513

Value-----	S1RXHIBP	S2RXHIBP	S3RXHIBP	S4RXHIBP	S5RXHIBP
.d:DK	39	36	21	11	8
.m:Missing	3				
.r:Refuse	39		2	1	2
.s:Skip	283				
.u:Unmar	4205	4009	4782	4847	5227
.v:SP NR	333	131	349	280	501
0.no	7739	6967	6920	5967	4472
1.yes	2545	2561	3649	3673	3156

Value-----	R1RXDIABO	R2RXDIABO	R3RXDIABO	R4RXDIABO	R5RXDIABO
.d:DK	39	53	30	17	27
.m:Missing	4				
.r:Refuse	35	2	5	4	4
.s:Skip	395				
0.no	12794	11729	12495	11474	13312
1.yes	1919	1920	3193	3284	3771

Value-----	S1RXDIABO	S2RXDIABO	S3RXDIABO	S4RXDIABO	S5RXDIABO
.d:DK	28	39	13	8	13
.m:Missing	3				
.r:Refuse	25	1	2	2	1
.s:Skip	283				
.u:Unmar	4205	4009	4782	4847	5227
.v:SP NR	333	131	349	280	501
0.no	8960	8176	8435	7491	5774
1.yes	1349	1348	2142	2151	1850

Value-----	R1RXDIABI	R2RXDIABI	R3RXDIABI	R4RXDIABI	R5RXDIABI
.d:DK	41	55	30	17	28
.m:Missing	4				
.r:Refuse	37	3	6	4	6
.s:Skip	395				
0.no	14475	13362	15102	13993	16023
1.yes	234	284	585	765	1057

Value-----	S1RXDIABI	S2RXDIABI	S3RXDIABI	S4RXDIABI	S5RXDIABI
.d:DK	29	41	14	8	13
.m:Missing	3				
.r:Refuse	27	2	2	2	1
.s:Skip	283				
.u:Unmar	4205	4009	4782	4847	5227
.v:SP NR	333	131	349	280	501
0.no	10152	9330	10195	9144	7092
1.yes	154	191	381	498	532

Value-----	R1RXDIAB	R2RXDIAB	R3RXDIAB	R4RXDIAB	R5RXDIAB
.d:DK	39	53	30	17	27
.m:Missing	4				
.r:Refuse	35	2	5	4	5
.s:Skip	395				
0.no	12768	11694	12445	11391	13212
1.yes	1945	1955	3243	3367	3870

Value-----	S1RXDIAB	S2RXDIAB	S3RXDIAB	S4RXDIAB	S5RXDIAB
.d:DK	28	39	13	8	13
.m:Missing	3				
.r:Refuse	25	1	2	2	1
.s:Skip	283				
.u:Unmar	4205	4009	4782	4847	5227

.v:SP NR	333	131	349	280	501
0.no	8944	8153	8405	7436	5726
1.yes	1365	1371	2172	2206	1898
Value-----	R1CNCRCHEM	R2CNCRCHEM	R3CNCRCHEM	R4CNCRCHEM	R5CNCRCHEM
.d:DK	28	35	22	14	12
.m:Missing	4				
.r:Refuse	35		5	2	4
.s:Skip	395				
0.no	14657	13627	15598	14656	16991
1.yes	67	42	98	107	107
Value-----	S1CNCRCHEM	S2CNCRCHEM	S3CNCRCHEM	S4CNCRCHEM	S5CNCRCHEM
.d:DK	23	27	10	9	3
.m:Missing	3				
.r:Refuse	25		3		1
.s:Skip	283				
.u:Unmar	4205	4009	4782	4847	5227
.v:SP NR	333	131	349	280	501
0.no	10267	9507	10521	9568	7580
1.yes	47	30	58	75	54
Value-----	R1CNCRSURG	R2CNCRSURG	R3CNCRSURG	R4CNCRSURG	R5CNCRSURG
.d:DK	28	35	22	14	12
.m:Missing	4				
.r:Refuse	35		5	2	4
.s:Skip	395				
0.no	14613	13637	15613	14691	16990
1.yes	111	32	83	72	108
Value-----	S1CNCRSURG	S2CNCRSURG	S3CNCRSURG	S4CNCRSURG	S5CNCRSURG
.d:DK	23	27	10	9	3
.m:Missing	3				
.r:Refuse	25		3		1
.s:Skip	283				
.u:Unmar	4205	4009	4782	4847	5227
.v:SP NR	333	131	349	280	501
0.no	10231	9513	10526	9592	7578
1.yes	83	24	53	51	56
Value-----	R1CNCRRADN	R2CNCRRADN	R3CNCRRADN	R4CNCRRADN	R5CNCRRADN
.d:DK	28	35	22	14	12
.m:Missing	4				
.r:Refuse	35		5	2	4
.s:Skip	395				
0.no	14663	13635	15652	14709	17034
1.yes	61	34	44	54	64
Value-----	S1CNCRRADN	S2CNCRRADN	S3CNCRRADN	S4CNCRRADN	S5CNCRRADN
.d:DK	23	27	10	9	3
.m:Missing	3				
.r:Refuse	25		3		1
.s:Skip	283				
.u:Unmar	4205	4009	4782	4847	5227
.v:SP NR	333	131	349	280	501
0.no	10271	9514	10552	9603	7601
1.yes	43	23	27	40	33
Value-----	R1CNCRMEDS	R2CNCRMEDS	R3CNCRMEDS	R4CNCRMEDS	R5CNCRMEDS
.d:DK	28	35	22	14	12
.m:Missing	4				
.r:Refuse	35		5	2	4
.s:Skip	395				
0.no	14646	13630	15624	14653	16943
1.yes	78	39	72	110	155
Value-----	S1CNCRMEDS	S2CNCRMEDS	S3CNCRMEDS	S4CNCRMEDS	S5CNCRMEDS
.d:DK	23	27	10	9	3
.m:Missing	3				
.r:Refuse	25		3		1
.s:Skip	283				
.u:Unmar	4205	4009	4782	4847	5227
.v:SP NR	333	131	349	280	501

0.no	10257	9513	10530	9573	7553
1.yes	57	24	49	70	81
Value-----	R1CNCROTHR	R2CNCROTHR	R3CNCROTHR	R4CNCROTHR	R5CNCROTHR
.d:DK	28	35	22	14	12
.m:Missing	4				
.r:Refuse	35		5	2	4
.s:Skip	395				
0.no	14703	13663	15677	14741	17098
1.yes	21	6	19	22	
Value-----	S1CNCROTHR	S2CNCROTHR	S3CNCROTHR	S4CNCROTHR	S5CNCROTHR
.d:DK	23	27	10	9	3
.m:Missing	3				
.r:Refuse	25		3		1
.s:Skip	283				
.u:Unmar	4205	4009	4782	4847	5227
.v:SP NR	333	131	349	280	501
0.no	10299	9533	10569	9628	7634
1.yes	15	4	10	15	
Value-----	R1RXRESP	R2RXRESP	R3RXRESP	R4RXRESP	R5RXRESP
.d:DK	16	35	25	8	7
.m:Missing	4				
.r:Refuse	36	3	4	4	6
.s:Skip	395				
0.no	14310	13285	15130	14234	16466
1.yes	425	381	564	533	635
Value-----	S1RXRESP	S2RXRESP	S3RXRESP	S4RXRESP	S5RXRESP
.d:DK	10	25	11	3	3
.m:Missing	3				
.r:Refuse	27	1	2	3	2
.s:Skip	283				
.u:Unmar	4205	4009	4782	4847	5227
.v:SP NR	333	131	349	280	501
0.no	10048	9302	10232	9327	7331
1.yes	277	236	347	319	302
Value-----	R1RXHRTAT	R2RXHRTAT	R3RXHRTAT	R4RXHRTAT	R5RXHRTAT
.d:DK	24	18	18	11	7
.m:Missing	4			1	
.r:Refuse	36	3	7	2	6
.s:Skip	395				
0.no	14391	13437	15285	14382	16641
1.yes	336	246	413	383	460
Value-----	S1RXHRTAT	S2RXHRTAT	S3RXHRTAT	S4RXHRTAT	S5RXHRTAT
.d:DK	15	11	8	5	3
.m:Missing	3				
.r:Refuse	25	3	6	2	
.s:Skip	283				
.u:Unmar	4205	4009	4782	4847	5227
.v:SP NR	333	131	349	280	501
0.no	10078	9378	10298	9384	7389
1.yes	244	172	280	261	246
Value-----	R1RXSTROK	R2RXSTROK	R3RXSTROK	R4RXSTROK	R5RXSTROK
.d:DK	20	8	13	13	5
.m:Missing	4			1	
.r:Refuse	39	1	4	4	5
.s:Skip	395				
0.no	14534	13577	15506	14594	16865
1.yes	194	118	200	167	239
Value-----	S1RXSTROK	S2RXSTROK	S3RXSTROK	S4RXSTROK	S5RXSTROK
.d:DK	13	5	5	7	2
.m:Missing	3				
.r:Refuse	27	1	3	2	2
.s:Skip	283				
.u:Unmar	4205	4009	4782	4847	5227
.v:SP NR	333	131	349	280	501
0.no	10189	9485	10452	9541	7526

1.yes		133	73	132	102	108
Value-----		R1RXARTHR	R2RXARTHR	R3RXARTHR	R4RXARTHR	R5RXARTHR
.d:DK		37	23	28	17	20
.m:Missing		4			1	
.r:Refuse		38		5	6	7
.s:Skip		395				
0.no		13047	12122	14362	13410	15834
1.yes		1665	1559	1328	1345	1253
Value-----		S1RXARTHR	S2RXARTHR	S3RXARTHR	S4RXARTHR	S5RXARTHR
.d:DK		28	14	17	11	6
.m:Missing		3				
.r:Refuse		26		4	4	4
.s:Skip		283				
.u:Unmar		4205	4009	4782	4847	5227
.v:SP NR		333	131	349	280	501
0.no		9315	8592	9802	8890	7074
1.yes		993	958	769	747	554

## How Constructed

RwRXHIBP, RwRXDIABO, RwRXDIABI, RwRXDIAB, RWCNCRCHEM, RWCNCRSURG, RWCNCRRADN, RWCNCRMEDS, RWCNCROTHR, RwRXRESP, RwRXHRTAT, RwRXSTROK, and RWRXARTHR indicate whether the respondent takes medication or receives treatment for a condition. These variables are coded as 1.Yes if the respondent takes medication for the condition, and 0.No if the respondent doesn't take said medication or if the respondent did not report having the condition. When respondents "don't know" or refuse to answer, RwRXHIBP, RwRXDIABO, RwRXDIABI, RwRXDIAB, RWCNCRCHEM, RWCNCRSURG, RWCNCRRADN, RWCNCRMEDS, RWCNCROTHR, RwRXRESP, RwRXHRTAT, RwRXSTROK, and RWRXARTHR are assigned special missing values .d or .r, respectively. Other missing responses are assigned special missing value .m. These variables are set to plain missing (.) for respondents who did not respond to the current wave.

RwRXHIBP indicates whether the respondent takes medication for hypertension or high blood pressure, and is coded as 0.No if the respondent did not report taking medication for or does not have high blood pressure or hypertension. The respondent is asked about taking medication to lower blood pressure after reporting a hypertension or high blood pressure diagnosis.

RwRXDIABO indicates whether the respondent takes oral medication for diabetes, RwRXDIABI indicates whether the respondent uses insulin shots for diabetes, and RwRXDIAB indicates whether the respondent uses any medication (oral medication or insulin shots) for diabetes. They are coded as 0.No if the respondent did not report taking medication for or does not have diabetes. The respondent is asked about taking medication for diabetes after reporting a diabetes diagnosis.

If the respondent has been diagnosed with cancer, the respondent is presented with a list of cancer treatments and asked which treatment(s) they have received. RWCNCRCHEM indicates whether the respondent receives chemotherapy or medication for the treatment of cancer. RWCNCRSURG indicates whether the respondent had surgery or biopsy for the treatment of cancer. RWCNCRRADN indicates whether the respondent had radiation or x-ray for the treatment of cancer. RWCNCRMEDS indicates whether the respondent receives medications or treatment for symptoms (pain, nausea, rashes) for the treatment of cancer. RWCNCROTHR indicates whether the respondent had another unspecified type of treatment for cancer. If the respondent has been diagnosed with cancer but has not been treated for cancer, RWCNCRCHEM, RWCNCRSURG, RWCNCRRADN, RWCNCRMEDS, and RWCNCROTHR are set to 0. RWCNCRCHEM, RWCNCRSURG, RWCNCRRADN, RWCNCRMEDS, and RWCNCROTHR are coded as 0.No if the respondent has never been diagnosed with cancer.

RwRXRESP indicates whether the respondent takes medication for a respiratory illness, such as asthma or emphysema, and is coded as 0.No if the respondent did not report taking medication for or does not have chronic respiratory illness. The respondent is asked about taking medication for lung disease after reporting a respiratory illness, such as asthma or emphysema.

RwRXHRTAT indicates whether the respondent takes medication for a heart attack, and is coded as 0.No if the respondent did not report taking medication for or has not had a heart attack. The respondent is asked about taking medication for a heart attack after reporting having had a heart attack.

RwRXSTROK indicates whether the respondent takes medication for stroke, and is coded as 0.No if the respondent did not report taking medication for or has not had a stroke. The respondent is asked about taking medication for stroke after reporting a stroke.

RwRXARTHR indicates whether the respondent takes medication for arthritis, and is coded as 0.No if the respondent did not report taking medication for or does not have arthritis or rheumatism. The respondent is asked about taking medication after reporting a diagnosis of arthritis or rheumatism.

SwRXHIBP, SwRXDIABO, SwRXDIABI, SwRXDIAB, SwCNCRCHEM, SwCNCRSURG, SwCNCRRADN, SwCNCRMEDS, SwCNCROTHR, SwRXRESP, SwRXHRTAT, SwRXSTROK, and SwRXARTHR indicate whether the respondent's current wave's spouse takes medication or receives treatment for the specified condition, and are taken from corresponding respondent variables. In addition to the special missing codes employed by the respondent variables, the spouse variables employ two additional special missing codes. A special missing value .u is used when the respondent does not report being coupled in the current wave. A special missing value .v is used when the respondent reports being coupled in the current wave but their spouse is not interviewed.

## Cross Wave Differences in MHAS

No differences known.

## Differences with the RAND HRS/Harmonized HRS

No differences known.

## MHAS Variables Used

### Wave 1:

C12	cancer or tumor
C16A	chemotherapy
C16B	surgery or biopsy
C16C	radiation
C16D	medication for cancer
C16E	other treatment for cancer
C19	respiratory illness
C20	medication for respiratory illness
C22	heart attack
C24	medication for heart attack
C27	stroke
C30	medication for stroke
C34	arthritis or rheumatism
C37	medication for arthritis
C4	hypertension
C5	medication for blood pressure
C6	diabetes
C7	medication for diabetes
C8	insulin use

### Wave 2:

C12	doctor ever say you have cancer
C16_1	cancer treatments received since 2001
C16_2	cancer treatments received since 2001
C16_3	cancer treatments received since 2001
C16_4	cancer treatments received since 2001
C16_5	cancer treatments received since 2001
C19	doctor ever say you have a respiratory disease
C20	taking medicine to control respiratory disease
C22A	doctor ever say you had a heart attack
C23	taking medicine to control heart disease
C26	doctor ever say you had a stroke
C28	taking medicine due to stroke
C32	doctor ever say you have arthritis
C34	taking medication/treatments
C4	doctor ever say you have hypertension
C5	take medicine to lower blood pressure
C6	doctor ever say you have diabetes
C7	taking oral medicine to control diabetes
C8	taking injections or using an insulin pump



## Wave 3:

C12_12	Has a physician diagnosed respondent...cancer
C16_1_12	Last 2 years:Type of cancer treatment respondent receiv
C16_2_12	Last 2 years:Type of cancer treatment respondent receiv
C16_3_12	Last 2 years:Type of cancer treatment respondent receiv
C16_4_12	Last 2 years:Type of cancer treatment respondent receiv
C16_5_12	Last 2 years:Type of cancer treatment respondent receiv
C16_7_12	Last 2 years:Type of cancer treatment respondent receiv
C19_12	Has a physician diagnosed respondent...respiratory illnes
C20A_12	Does respondent take medication/treatment for respirato
C22A_12	Has a physician ever told respondent...heart attack
C23_12	Respondent takes medication for heart condition
C26_12	Ever/last 2 years:Has a physician told respondent...stro
C28_12	Respondent takes medication for stroke
C32_12	Has a physician diagnosed respondent with arthritis/rhe
C34_12	Respondent takes medication for arthritis/rheumatism
C4_12	Has a physician diagnosed...hypertension/high blood press
C5_12	Does respondent take medication to lower his/her blood
C6_12	Has a physician diagnosed respondent...diabetes
C7_12	Does respondent take medication to control his/her diab
C8_12	Does the respondent use insulin

## Wave 4:

C12_15	Has a doctor or medical personnel ever diagnosed respon
C16_1_15	Last 2 years, type of cancer treatment received: Chemot
C16_2_15	Last 2 years, type of cancer treatment received: Surger
C16_3_15	Last 2 years, type of cancer treatment received: Radiat
C16_4_15	Last 2 years, type of cancer treatment received: Medica
C16_5_15	Last 2 years, type of cancer treatment received: None
C16_7_15	Last 2 years, type of cancer treatment received: Other
C19_15	Has a doctor or medical personnel ever diagnosed respon
C20A_15	Does respondent take medication/treatment for his/her r
C22A_15	Has a doctor or medical personnel ever told respondent
C23_15	Does respondent take medication for his/her heart condi
C26_15	Has a doctor or medical personnel ever told respondent
C28_15	Does respondent take medication for stroke
C32_15	Has a doctor or medical personnel ever diagnosed respon
C34_15	Does respondent take medication for arthritis/rheumatis
C4_15	Has a doctor or medical personnel ever diagnosed respon
C5_15	Does respondent take medication to lower his/her blood
C6_15	Has a doctor or medical personnel ever diagnosed respon
C7_15	Does respondent take medication to control his/her diab
C8_15	Does respondent use insulin shots

## Wave 5:

C19_18	Has a doctor or medical personnel ever diagnosed R with
C20A_18	Does R take medication/treatment for his/her respirator
C22A_18	Has a doctor or medical personnel ever told R he/she ha
C23_18	Does R take medication for his/her heart condition
C26_18	Has a doctor or medical personnel ever told R he/she ha
C28_18	Does R take medication for stroke
C32_18	Has a doctor or medical personnel ever diagnosed R with
C34_18	Does R take medication for arthritis/rheumatism
C4_18	Has R ever been diagnosed with hypertension/high blood
C5_18	Does R take medication to lower his/her blood pressure
C6_18	Has a doctor or medical personnel ever diagnosed R with
C7_18	Does R take medication to control his/her diabetes
C8_18	Does R use insulin shots

<b>Doctor Diagnosed Diseases: Whether Disease Limits Activity</b>
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Wave	Variable	Label	Type
1	R1RESPLMT	r1resplmt: w1 Whether respiratory problems limit R's daily	Categ
2	R2RESPLMT	r2resplmt: w2 Whether respiratory problems limit R's daily	Categ
3	R3RESPLMT	r3resplmt: w3 Whether respiratory problems limit R's daily	Categ
4	R4RESPLMT	r4resplmt: w4 Whether respiratory problems limit R's daily	Categ
5	R5RESPLMT	r5resplmt: w5 Whether respiratory problems limit R's daily	Categ
1	S1RESPLMT	s1resplmt: w1 Whether respiratory problems limit S's daily	Categ
2	S2RESPLMT	s2resplmt: w2 Whether respiratory problems limit S's daily	Categ
3	S3RESPLMT	s3resplmt: w3 Whether respiratory problems limit S's daily	Categ
4	S4RESPLMT	s4resplmt: w4 Whether respiratory problems limit S's daily	Categ
5	S5RESPLMT	s5resplmt: w5 Whether respiratory problems limit S's daily	Categ
1	R1HRTATLMT	r1hrtatlm: w1 Whether heart attack limits R's daily activit	Categ
2	R2HRTATLMT	r2hrtatlm: w2 Whether heart attack limits R's daily activit	Categ
3	R3HRTATLMT	r3hrtatlm: w3 Whether heart attack limits R's daily activit	Categ
4	R4HRTATLMT	r4hrtatlm: w4 Whether heart attack limits R's daily activit	Categ
5	R5HRTATLMT	r5hrtatlm: w5 Whether heart attack limits R's daily activit	Categ
1	S1HRTATLMT	s1hrtatlm: w1 Whether heart attack limits S's daily activit	Categ
2	S2HRTATLMT	s2hrtatlm: w2 Whether heart attack limits S's daily activit	Categ
3	S3HRTATLMT	s3hrtatlm: w3 Whether heart attack limits S's daily activit	Categ
4	S4HRTATLMT	s4hrtatlm: w4 Whether heart attack limits S's daily activit	Categ
5	S5HRTATLMT	s5hrtatlm: w5 Whether heart attack limits S's daily activit	Categ
1	R1STROKLMT	r1stroklt: w1 Whether stroke limits R's daily activities	Categ
2	R2STROKLMT	r2stroklt: w2 Whether stroke limits R's daily activities	Categ
3	R3STROKLMT	r3stroklt: w3 Whether stroke limits R's daily activities	Categ
4	R4STROKLMT	r4stroklt: w4 Whether stroke limits R's daily activities	Categ
5	R5STROKLMT	r5stroklt: w5 Whether stroke limits R's daily activities	Categ
1	S1STROKLMT	s1stroklt: w1 Whether stroke limits S's daily activities	Categ
2	S2STROKLMT	s2stroklt: w2 Whether stroke limits S's daily activities	Categ
3	S3STROKLMT	s3stroklt: w3 Whether stroke limits S's daily activities	Categ
4	S4STROKLMT	s4stroklt: w4 Whether stroke limits S's daily activities	Categ
5	S5STROKLMT	s5stroklt: w5 Whether stroke limits S's daily activities	Categ
1	R1ARTHLMT	r1arthlmt: w1 Whether arthritis limits R's daily activities	Categ
2	R2ARTHLMT	r2arthlmt: w2 Whether arthritis limits R's daily activities	Categ
3	R3ARTHLMT	r3arthlmt: w3 Whether arthritis limits R's daily activities	Categ
4	R4ARTHLMT	r4arthlmt: w4 Whether arthritis limits R's daily activities	Categ
5	R5ARTHLMT	r5arthlmt: w5 Whether arthritis limits R's daily activities	Categ
1	S1ARTHLMT	s1arthlmt: w1 Whether arthritis limits S's daily activities	Categ
2	S2ARTHLMT	s2arthlmt: w2 Whether arthritis limits S's daily activities	Categ
3	S3ARTHLMT	s3arthlmt: w3 Whether arthritis limits S's daily activities	Categ
4	S4ARTHLMT	s4arthlmt: w4 Whether arthritis limits S's daily activities	Categ
5	S5ARTHLMT	s5arthlmt: w5 Whether arthritis limits S's daily activities	Categ

### Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R1RESPLMT	830	0.44	0.50	0.00	1.00
R2RESPLMT	551	0.59	0.49	0.00	1.00
R3RESPLMT	842	0.41	0.49	0.00	1.00
R4RESPLMT	847	0.37	0.48	0.00	1.00
R5RESPLMT	889	0.38	0.48	0.00	1.00

S1RESPLMT	558	0.44	0.50	0.00	1.00
S2RESPLMT	351	0.58	0.49	0.00	1.00
S3RESPLMT	545	0.41	0.49	0.00	1.00
S4RESPLMT	532	0.37	0.48	0.00	1.00
S5RESPLMT	414	0.41	0.49	0.00	1.00
R1HRTATLMT	439	0.55	0.50	0.00	1.00
R2HRTATLMT	274	0.57	0.50	0.00	1.00
R3HRTATLMT	503	0.44	0.50	0.00	1.00
R4HRTATLMT	519	0.41	0.49	0.00	1.00
R5HRTATLMT	603	0.40	0.49	0.00	1.00
S1HRTATLMT	314	0.60	0.49	0.00	1.00
S2HRTATLMT	195	0.58	0.49	0.00	1.00
S3HRTATLMT	351	0.44	0.50	0.00	1.00
S4HRTATLMT	361	0.42	0.49	0.00	1.00
S5HRTATLMT	308	0.42	0.49	0.00	1.00
R1STROKLMT	324	0.52	0.50	0.00	1.00
R2STROKLMT	125	0.66	0.47	0.00	1.00
R3STROKLMT	283	0.53	0.50	0.00	1.00
R4STROKLMT	270	0.46	0.50	0.00	1.00
R5STROKLMT	317	0.51	0.50	0.00	1.00
S1STROKLMT	211	0.54	0.50	0.00	1.00
S2STROKLMT	80	0.69	0.47	0.00	1.00
S3STROKLMT	192	0.55	0.50	0.00	1.00
S4STROKLMT	168	0.48	0.50	0.00	1.00
S5STROKLMT	149	0.50	0.50	0.00	1.00
R1ARTHLMT	2685	0.50	0.50	0.00	1.00
R2ARTHLMT	2237	0.53	0.50	0.00	1.00
R3ARTHLMT	1945	0.52	0.50	0.00	1.00
R4ARTHLMT	2067	0.51	0.50	0.00	1.00
R5ARTHLMT	1875	0.53	0.50	0.00	1.00
S1ARTHLMT	1676	0.48	0.50	0.00	1.00
S2ARTHLMT	1412	0.52	0.50	0.00	1.00
S3ARTHLMT	1189	0.52	0.50	0.00	1.00
S4ARTHLMT	1233	0.51	0.50	0.00	1.00
S5ARTHLMT	863	0.50	0.50	0.00	1.00

Categorical Variable Codes

Value-----	R1RESPLMT	R2RESPLMT	R3RESPLMT	R4RESPLMT	R5RESPLMT
.d:DK	17	32	23	2	7
.m:Missing	4				
.p:Proxy interview, not asked	119	69	80	86	116
.r:Refuse	34	2	4	4	6
.s:Skip	354				
.x:does not have condition	13828	13050	14774	13840	16096
0.no	464	227	496	531	554
1.yes	366	324	346	316	335
Value-----	S1RESPLMT	S2RESPLMT	S3RESPLMT	S4RESPLMT	S5RESPLMT
.d:DK	10	22	11	2	3
.m:Missing	3				
.p:Proxy interview, not asked	72	46	36	35	35
.r:Refuse	24	1	3	3	2
.s:Skip	254				
.u:Unmar	4205	4009	4782	4847	5227
.v:SP NR	333	131	349	280	501
.x:does not have condition	9727	9144	9997	9080	7184
0.no	310	148	319	335	246
1.yes	248	203	226	197	168

Value-----	R1HRTATLMT	R2HRTATLMT	R3HRTATLMT	R4HRTATLMT	R5HRTATLMT
.d:DK	16	14	14	4	5
.m:Missing	4			1	
.p:Proxy interview, not asked	105	36	71	65	74
.r:Refuse	29	2	7	2	4
.s:Skip	354				
.x:does not have condition	14239	13378	15128	14188	16428
0.no	196	117	282	306	364
1.yes	243	157	221	213	239

Value-----	S1HRTATLMT	S2HRTATLMT	S3HRTATLMT	S4HRTATLMT	S5HRTATLMT
.d:DK	13	9	7	3	1
.m:Missing	3				
.p:Proxy interview, not asked	61	25	40	29	30
.r:Refuse	21	2	6	2	1
.s:Skip	254				
.u:Unmar	4205	4009	4782	4847	5227
.v:SP NR	333	131	349	280	501
.x:does not have condition	9982	9333	10188	9257	7298
0.no	126	82	196	209	179
1.yes	188	113	155	152	129

Value-----	R1STROKLMT	R2STROKLMT	R3STROKLMT	R4STROKLMT	R5STROKLMT
.d:DK	18	6	12	8	5
.m:Missing	4			1	
.p:Proxy interview, not asked	111	49	87	88	120
.r:Refuse	36	1	4	4	4
.s:Skip	354				
.x:does not have condition	14339	13523	15337	14408	16668
0.no	156	42	132	146	155
1.yes	168	83	151	124	162

Value-----	S1STROKLMT	S2STROKLMT	S3STROKLMT	S4STROKLMT	S5STROKLMT
.d:DK	13	4	5	5	2
.m:Missing	3				
.p:Proxy interview, not asked	63	31	36	35	42
.r:Refuse	25	1	3	2	1
.s:Skip	254				
.u:Unmar	4205	4009	4782	4847	5227
.v:SP NR	333	131	349	280	501
.x:does not have condition	10079	9448	10356	9442	7444
0.no	97	25	87	87	75
1.yes	114	55	105	81	74

Value-----	R1ARTHLMT	R2ARTHLMT	R3ARTHLMT	R4ARTHLMT	R5ARTHLMT
.d:DK	34	21	26	12	13
.m:Missing	4			1	
.p:Proxy interview, not asked	225	186	183	168	163
.r:Refuse	38		4	6	5
.s:Skip	354				
.x:does not have condition	11846	11260	13565	12525	15058
0.no	1355	1056	931	1006	890
1.yes	1330	1181	1014	1061	985

Value-----	S1ARTHLMT	S2ARTHLMT	S3ARTHLMT	S4ARTHLMT	S5ARTHLMT
.d:DK	26	13	16	10	5
.m:Missing	3				
.p:Proxy interview, not asked	117	107	72	59	65
.r:Refuse	27		4	4	2
.s:Skip	254				
.u:Unmar	4205	4009	4782	4847	5227
.v:SP NR	333	131	349	280	501
.x:does not have condition	8545	8032	9311	8346	6703
0.no	867	677	572	610	428
1.yes	809	735	617	623	435

## How Constructed

RwLUNGLMT\_M, RwhRTATLMT, RwSTROKLMT, and RwarthLMT indicate whether a specified health condition limits the daily activity (such as household chores or job) of the respondent. RwLUNGLMT\_M indicates whether a respiratory illness, such as asthma or emphysema, limits the daily activities of the respondent.

RwHRTATLMT indicates whether a heart attack limits the daily activities of the respondent. RwSTROKLMT indicates whether a stroke limits the daily activities of the respondent. RwarHTLMT indicates whether arthritis limits the daily activities of the respondent.

RwLUNGLMT\_M, RwhRTATLMT, RwSTROKLMT, and RwarTHLMT are coded as 0 "No" and 1 "Yes". Respondents who have never been diagnosed with the specified condition are not asked these questions and these variables are assigned a special missing code .x. RwlUNGLMT\_M, RwhRTATLMT, RwSTROKLMT, and RwarTHLMT are assigned special missing .d, .r, .p, .m, for don't know, refused, proxy, or otherwise missing responses, respectively. These variables are set to plain missing (.) for respondents who did not respond to the current wave.

SwLUNGLMT\_M, SwHRTATLMT, SwSTROKLMT, and SwARThLMT indicate whether the respondent's spouse reported that a specified health condition limits their daily activity and are taken directly from the spouse's RwlUNGLMT\_M, RwhRTATLMT, RwSTROKLMT, and RwarTHLMT, respectively. In addition to the special missing codes used in RwlUNGLMT\_M, RwhRTATLMT, RwSTROKLMT, and RwarTHLMT; SwLUNGLMT\_M, SwHRTATLMT, SwSTROKLMT, and SwARThLMT employ the special missing value .u, when the respondent does not report being coupled in the current wave, and the special missing value .v, when the respondent reports being coupled in the current wave but their spouse is not interviewed.

## Cross Wave Differences in MHAS

No differences known.

## Differences with the RAND HRS/Harmonized HRS

The HRS asks whether lung disease, angina, and arthritis limit the respondent's usual activities, such as household chores or work. The MHAS asks whether lung disease, heart attack, stroke, and arthritis limit the respondent's daily activities, such as household chores or their job.

## MHAS Variables Used

### Wave 1:

C19	respiratory illness
C21	respiratory treatment limits activities
C22	heart attack
C26	heart problems limits activities
C27	stroke
C33	stroke limits activities
C34	arthritis or rheumatism
C38	arthritis limits activities

### Wave 2:

C19	doctor ever say you have a respiratory disease
C21	condition limits normal activities
C22A	doctor ever say you had a heart attack
C25	heart condition limits normal activities
C26	doctor ever say you had a stroke
C31	condition limits your normal activities
C32	doctor ever say you have arthritis
C35	condition limits your normal activities

### Wave 3:

C19_12	Has a physician diagnosed respondent...respiratory illness
C21_12	Respondent's health condition limits daily activities
C22A_12	Has a physician ever told respondent...heart attack
C25A_12	Respondent's heart condition limits daily activities
C26_12	Ever/last 2 years:Has a physician told respondent...stroke
C31_12	Stroke limits respondent's daily activities
C32_12	Has a physician diagnosed respondent with arthritis/rheumatism
C35_12	Arthritis limits respondent's daily activities

### Wave 4:

C19_15	Has a doctor or medical personnel ever diagnosed respondent
C21_15	Does respondent's health condition limits his/her daily activities
C22A_15	Has a doctor or medical personnel ever told respondent
C25A_15	Does respondent's heart condition limits daily activities

C26_15	Has a doctor or medical personnel ever told respondent
C31_15	Stroke limits respondent's daily activities
C32_15	Has a doctor or medical personnel ever diagnosed respon
C35_15	Does arthritis limit respondent's daily activities
Wave 5:	
C19_18	Has a doctor or medical personnel ever diagnosed R with
C21_18	Does R's health condition limits his/her daily activiti
C22A_18	Has a doctor or medical personnel ever told R he/she ha
C25A_18	Does R's heart condition limits daily activities
C26_18	Has a doctor or medical personnel ever told R he/she ha
C31_18	Stroke limits R's daily activities
C32_18	Has a doctor or medical personnel ever diagnosed R with
C35_18	Does arthritis limit R's daily activities

Doctor Diagnosed Diseases: Age of Diagnosis

Wave	Variable	Label	Type
1	R1RECCANCR	r1reccancr: w1 R Age most recent cancer diagnosis	Cont
2	R2RECCANCR	r2reccancr: w2 R Age most recent cancer diagnosis	Cont
3	R3RECCANCR	r3reccancr: w3 R Age most recent cancer diagnosis	Cont
4	R4RECCANCR	r4reccancr: w4 R Age most recent cancer diagnosis	Cont
5	R5RECCANCR	r5reccancr: w5 R Age most recent cancer diagnosis	Cont
1	S1RECCANCR	s1reccancr: w1 S Age most recent cancer diagnosis	Cont
2	S2RECCANCR	s2reccancr: w2 S Age most recent cancer diagnosis	Cont
3	S3RECCANCR	s3reccancr: w3 S Age most recent cancer diagnosis	Cont
4	S4RECCANCR	s4reccancr: w4 S Age most recent cancer diagnosis	Cont
5	S5RECCANCR	s5reccancr: w5 S Age most recent cancer diagnosis	Cont
1	R1RECHRTATT	r1rechrtatt: w1 R Age most recent heart attack	Cont
2	R2RECHRTATT	r2rechrtatt: w2 R Age most recent heart attack	Cont
3	R3RECHRTATT	r3rechrtatt: w3 R Age most recent heart attack	Cont
4	R4RECHRTATT	r4rechrtatt: w4 R Age most recent heart attack	Cont
5	R5RECHRTATT	r5rechrtatt: w5 R Age most recent heart attack	Cont
1	S1RECHRTATT	s1rechrtatt: w1 S Age most recent heart attack	Cont
2	S2RECHRTATT	s2rechrtatt: w2 S Age most recent heart attack	Cont
3	S3RECHRTATT	s3rechrtatt: w3 S Age most recent heart attack	Cont
4	S4RECHRTATT	s4rechrtatt: w4 S Age most recent heart attack	Cont
5	S5RECHRTATT	s5rechrtatt: w5 S Age most recent heart attack	Cont
1	R1RECSTROK	r1recstrok: w1 R Age most recent stroke	Cont
2	R2RECSTROK	r2recstrok: w2 R Age most recent stroke	Cont
3	R3RECSTROK	r3recstrok: w3 R Age most recent stroke	Cont
4	R4RECSTROK	r4recstrok: w4 R Age most recent stroke	Cont
5	R5RECSTROK	r5recstrok: w5 R Age most recent stroke	Cont
1	S1RECSTROK	s1recstrok: w1 S Age most recent stroke	Cont
2	S2RECSTROK	s2recstrok: w2 S Age most recent stroke	Cont
3	S3RECSTROK	s3recstrok: w3 S Age most recent stroke	Cont
4	S4RECSTROK	s4recstrok: w4 S Age most recent stroke	Cont
5	S5RECSTROK	s5recstrok: w5 S Age most recent stroke	Cont

Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R1RECCANCR	287	52.12	13.67	6.00	90.00
R2RECCANCR	303	53.67	14.23	6.00	89.00
R3RECCANCR	467	54.85	14.63	2.00	93.00
R4RECCANCR	570	55.88	14.90	2.00	89.00
R5RECCANCR	689	56.07	15.08	2.00	99.00
S1RECCANCR	199	49.71	12.88	6.00	84.00
S2RECCANCR	203	52.04	13.67	9.00	89.00
S3RECCANCR	298	54.37	13.87	9.00	88.00
S4RECCANCR	365	55.04	14.51	5.00	88.00
S5RECCANCR	345	56.66	14.07	9.00	88.00
R1RECHRTATT	468	56.51	15.21	3.00	106.00
R2RECHRTATT	607	58.56	14.23	5.00	92.00
R3RECHRTATT	790	59.00	13.60	1.00	98.00
R4RECHRTATT	953	59.65	14.10	1.00	93.00
R5RECHRTATT	1126	59.36	14.50	1.00	98.00

S1RECHRTATT	328	54.70	14.03	3.00	87.00
S2RECHRTATT	427	57.26	13.54	5.00	92.00
S3RECHRTATT	505	57.62	12.89	1.00	88.00
S4RECHRTATT	607	58.09	13.26	1.00	93.00
S5RECHRTATT	597	59.80	12.79	1.00	94.00
R1RECSTROK	382	58.31	14.44	5.00	98.00
R2RECSTROK	420	59.75	14.28	5.00	95.00
R3RECSTROK	518	59.73	14.24	0.00	94.00
R4RECSTROK	606	60.51	14.90	0.00	105.00
R5RECSTROK	683	59.69	15.73	0.00	93.00
S1RECSTROK	239	56.26	13.18	6.00	87.00
S2RECSTROK	260	57.41	13.63	6.00	87.00
S3RECSTROK	305	58.02	13.33	19.00	94.00
S4RECSTROK	343	57.54	14.13	11.00	89.00
S5RECSTROK	329	58.78	13.65	11.00	85.00

## How Constructed

RwRECCANCER indicates the most recent age at which the respondent was diagnosed with cancer. In Waves 1 and 2, respondents are asked the year or age in which they were diagnosed, and these responses are converted to the year of diagnosis in the MHAS data. Starting in Wave 3, both year and/or age responses are recorded in the MHAS data. RwRECCANCER is then constructed using the reported year or age reported. Previous responses are carried forward if the respondent does not report a new cancer diagnosis. Respondents who have never been diagnosed with cancer are not asked this question and are assigned a special missing code .x. RwRECCANCER is also assigned a special missing value .i if the year reported was invalid. Don't know, refused, or other missing responses of RwRECCANCER are assigned special missing codes .d, .r, and .m, respectively. RwRECCANCER is set to plain missing (.) for respondents who did not participate in the current wave.

SwRECCANCER indicates the most recent age at which the respondent's current wave's spouse was diagnosed with cancer, and is taken from RwRECCANCER. In addition to the special missing codes employed by RwRECCANCER, SwRECCANCER employs two additional special missing codes. A special missing value .u is used when the respondent does not report being coupled in the current wave. A special missing value .v is used when the respondent reports being coupled in the current wave but their spouse is not interviewed.

RwRECHRTATT indicates the most recent age at which the respondent had a heart attack. In Waves 1 and 2, respondents are asked the year or age in which they were diagnosed, and these responses are converted to the year of diagnosis in the MHAS data. Starting in Wave 3, both year and/or age responses are recorded in the MHAS data. RwRECHRTATT is then constructed using first the reported year or age reported. Previous responses are carried forward if the respondent did not report a new heart attack. Respondents who have never had a heart attack are not asked this question and are assigned a special missing code .x. RwRECHRTATT is also assigned a special missing value .i if the year reported was invalid. Don't know, refused, or other missing responses of RwRECHRTATT are assigned special missing codes .d, .r, and .m, respectively. RwRECHRTATT is set to plain missing (.) for respondents who did not participate in the current wave.

SwRECHRTATT indicates the most recent age at which the respondent's current wave's spouse had a heart attack, and is taken from RwRECHRTATT. In addition to the special missing codes employed by RwRECHRTATT, SwRECHRTATT employs two additional special missing codes. A special missing value .u is used when the respondent does not report being coupled in the current wave. A special missing value .v is used when the respondent reports being coupled in the current wave but their spouse is not interviewed.

RwRECSTROK indicates the most recent age at which the respondent had a stroke. In Waves 1 and 2, respondents are asked the year or age in which they were diagnosed, and these responses are converted to the year at diagnosis in the MHAS data. Starting in Wave 3, both year and/or age responses are recorded in the MHAS data. RwRECSTROK is then constructed using the first reported year or age reported. Previous responses are carried forward if the respondent did not report a new heart attack. Respondents who have never had a heart attack are not asked this question and are assigned a special missing code .x. RwRECSTROK is also assigned a special missing value .i if the year reported was invalid. Don't know, refused, or other missing responses of RwRECSTROK are assigned special missing codes .d, .r, and .m, respectively. RwRECSTROK is set to plain missing (.) for respondents who did not participate in the current wave.



SwRECSTROK indicates the most recent age at which the respondent's current wave's spouse had a heart attack, and is taken from RwRECSTROK. In addition to the special missing codes employed by RwRECSTROK, SwRECSTROK employs two additional special missing codes. A special missing value .u is used when the respondent does not report being coupled in the current wave. A special missing value .v is used when the respondent reports being coupled in the current wave but their spouse is not interviewed.

## Cross Wave Differences in MHAS

For each diagnosed condition (heart attack, cancer, and stroke), respondents are asked the year or age in which they were diagnosed. In Waves 1 and 2, these responses are converted to the year of diagnosis in the MHAS data. Starting in Wave 3, both year and/or age responses are recorded in the MHAS data. RwRECCANCR, RwRECHRTATT, and RwRECSTROK are then constructed using first the reported year or age. Previous responses are carried forward if the respondent does not report a new diagnosis.

## Differences with the RAND HRS/Harmonized HRS

Different to the HRS, starting in Wave 3, the MHAS recorded both year and/or age of diagnosis while the HRS only recorded the year of diagnosis.

The HRS also asks the age at which the respondent was first diagnosed with several conditions, which are not asked in the MHAS.

## MHAS Variables Used

Wave 1:	
C12	cancer or tumor
C18	year of cancer
C22	heart attack
C23	year of heart attack
C27	stroke
C32	year of stroke
Wave 2:	
C12	doctor ever say you have cancer
C18	when was most recent cancer diagnosed
C22A	doctor ever say you had a heart attack
C22B	when have last heart attack
C26	doctor ever say you had a stroke
C30	when did you have your last stroke
Wave 3:	
C18_1_12	Respondent's year of most recent cancer diagnosis
C18_2_12	Respondent's age of most recent cancer diagnosis
C22B1_12	Respondent's year of most recent heart attack
C22B2_12	Respondent's age of most recent heart attack
C30_1_12	Respondent's year of recent stroke
C30_2_12	Respondent's age of recent stroke
Wave 4:	
C18_1_15	Respondent's year when most recent cancer diagnosed
C18_2_15	Respondent's age when most recent cancer diagnosed
C22B1_15	Respondent's year of (most) recent heart attack
C22B2_15	Respondent's age of (most) recent heart attack
C30_1_15	Year respondent had (most) recent stroke
C30_2_15	Respondent's age of (most) recent stroke
Wave 5:	
C18_1_18	R's year when most recent cancer diagnosed
C18_2_18	R's age when most recent cancer diagnosed
C22B1_18	R's year of (most) recent heart attack
C22B2_18	R's age of (most) recent heart attack
C30_1_18	Year R had (most) recent stroke
C30_2_18	R's age of (most) recent stroke

Vision

Wave	Variable	Label	Type
1	R1SIGHT	r1sight: w1 R Self-rated eyesight	Categ
2	R2SIGHT	r2sight: w2 R Self-rated eyesight	Categ
3	R3SIGHT	r3sight: w3 R Self-rated eyesight	Categ
4	R4SIGHT	r4sight: w4 R Self-rated eyesight	Categ
5	R5SIGHT	r5sight: w5 R Self-rated eyesight	Categ
1	S1SIGHT	s1sight: w1 S Self-rated eyesight	Categ
2	S2SIGHT	s2sight: w2 S Self-rated eyesight	Categ
3	S3SIGHT	s3sight: w3 S Self-rated eyesight	Categ
4	S4SIGHT	s4sight: w4 S Self-rated eyesight	Categ
5	S5SIGHT	s5sight: w5 S Self-rated eyesight	Categ
1	R1GLASSES	r1glasses: w1 R Wears glasses	Categ
2	R2GLASSES	r2glasses: w2 R Wears glasses	Categ
3	R3GLASSES	r3glasses: w3 R Wears glasses	Categ
4	R4GLASSES	r4glasses: w4 R Wears glasses	Categ
5	R5GLASSES	r5glasses: w5 R Wears glasses	Categ
1	S1GLASSES	s1glasses: w1 S Wears glasses	Categ
2	S2GLASSES	s2glasses: w2 S Wears glasses	Categ
3	S3GLASSES	s3glasses: w3 S Wears glasses	Categ
4	S4GLASSES	s4glasses: w4 S Wears glasses	Categ
5	S5GLASSES	s5glasses: w5 S Wears glasses	Categ

Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R1SIGHT	14049	3.38	0.90	1.00	6.00
R2SIGHT	12446	3.40	0.90	1.00	6.00
R3SIGHT	14101	3.34	0.90	1.00	6.00
R4SIGHT	13837	3.40	0.89	1.00	6.00
R5SIGHT	15748	3.36	0.95	1.00	6.00
S1SIGHT	9909	3.36	0.90	1.00	6.00
S2SIGHT	8693	3.38	0.88	1.00	6.00
S3SIGHT	9639	3.33	0.90	1.00	6.00
S4SIGHT	9177	3.38	0.88	1.00	6.00
S5SIGHT	7060	3.41	0.92	1.00	6.00
R1GLASSES	15162	0.40	0.49	0.00	1.00
R2GLASSES	13700	0.43	0.50	0.00	1.00
R3GLASSES	15721	0.50	0.50	0.00	1.00
R4GLASSES	14772	0.53	0.50	0.00	1.00
R5GLASSES	17110	0.56	0.50	0.00	1.00
S1GLASSES	10629	0.39	0.49	0.00	1.00
S2GLASSES	9562	0.43	0.49	0.00	1.00
S3GLASSES	10590	0.49	0.50	0.00	1.00
S4GLASSES	9649	0.52	0.50	0.00	1.00
S5GLASSES	7636	0.57	0.50	0.00	1.00

Categorical Variable Codes

Value-----	R1SIGHT	R2SIGHT	R3SIGHT	R4SIGHT	R5SIGHT
.d:DK	43	72	271	11	25
.m:Missing	4			2	
.p:Proxy interview, not asked	1032	1178	1275	929	1328

.r:Refuse		58	8	76		13
1.Excellent		427	443	604	580	910
2.Very good		1363	893	1168	909	1366
3.Good		6029	5577	6203	5815	5879
4.Fair		4891	4309	5071	5507	6447
5.Poor		1295	1171	1014	979	1097
6.Legally Blind		44	53	41	47	49
Value-----		S1SIGHT	S2SIGHT	S3SIGHT	S4SIGHT	S5SIGHT
.d:DK		34	46	180	5	8
.m:Missing		3				
.p:Proxy interview, not asked		660	821	726	470	563
.r:Refuse		42	4	47		7
.u:Unmar		4205	4009	4782	4847	5227
.v:SP NR		333	131	349	280	501
1.Excellent		322	306	427	398	333
2.Very good		988	626	820	601	588
3.Good		4254	3990	4258	3902	2545
4.Fair		3482	3009	3479	3662	3068
5.Poor		843	735	631	590	500
6.Legally Blind		20	27	24	24	26
Value-----		R1GLASSES	R2GLASSES	R3GLASSES	R4GLASSES	R5GLASSES
.d:DK		6	3			1
.m:Missing		4			2	
.p:Proxy interview, not asked		2			1	1
.r:Refuse		12	1	2	4	2
0.no		9092	7768	7829	7009	7555
1.yes		6070	5932	7892	7763	9555
Value-----		S1GLASSES	S2GLASSES	S3GLASSES	S4GLASSES	S5GLASSES
.d:DK		5	2			1
.m:Missing		3				
.p:Proxy interview, not asked		1				1
.r:Refuse		10		2	3	
.u:Unmar		4205	4009	4782	4847	5227
.v:SP NR		333	131	349	280	501
0.no		6521	5487	5377	4608	3281
1.yes		4108	4075	5213	5041	4355

## How Constructed

RwSIGHT indicates the respondent's self-rated vision (while wearing glasses if they normally do). RwSIGHT is coded as follows: 1.Excellent, 2.Very good, 3.Good, 4.Fair, 5.Poor, and 6.Legally blind. Please note that "legally blind" is not a specified option, but rather a voluntary response from the respondent. When respondents don't know or refuse to answer, RwSIGHT is assigned special missing values .d or .r, respectively. RwSIGHT is set to the special missing value .p if the current interview was completed by proxy. Other missing responses are assigned special missing .m. RwSIGHT is assigned plain missing (.) if the respondent did not participate in the current wave.

RwGLASSES indicates whether the respondent usually wears glasses and is coded as 1 "Yes" and 0 "No". When respondents don't know or refuse to answer, RwGLASSES is assigned special missing values .d or .r, respectively. RwGLASSES is set to the special missing value .p if the current interview was completed by proxy. Other missing responses are assigned special missing .m. RwGLASSES is assigned plain missing (.) if the respondent did not participate in the current wave.

SwSIGHT and SwGLASSES variables are taken from the Wave 'w' spouse's self-reported RwSIGHT and RwGLASSES variables. In addition to the special missing codes used in RwSIGHT and RwGLASSES, SwSIGHT and SwGLASSES employ the special missing value .u, when the respondent does not report being coupled in the current wave, and the special missing value .v, when the respondent reports being coupled in the current wave but their spouse is not interviewed.

## Cross Wave Differences in MHAS

No differences known.

Differences with the RAND HRS/Harmonized HRS

Unlike the MHAS, the HRS does not ask whether the respondent wears glasses or contact lenses.

MHAS Variables Used

Wave 1:	
C44	glasses
C45	vision
Wave 2:	
C41	use glasses
C42	status of vision (with glasses)
Wave 3:	
C41_12	Respondent wears glasses
C42_12	Respondent's vision with glasses
Wave 4:	
C41_15	Does respondent usually wears glasses
C42_15	Respondent's vision (with glasses)
Wave 5:	
C41_18	Does R usually wears glasses
C42_18	R's vision (with glasses)

Hearing

Wave	Variable	Label	Type
1	R1HEARING	r1hearing: w1 R Self-rated hearing	Categ
2	R2HEARING	r2hearing: w2 R Self-rated hearing	Categ
3	R3HEARING	r3hearing: w3 R Self-rated hearing	Categ
4	R4HEARING	r4hearing: w4 R Self-rated hearing	Categ
5	R5HEARING	r5hearing: w5 R Self-rated hearing	Categ
1	S1HEARING	s1hearing: w1 S Self-rated hearing	Categ
2	S2HEARING	s2hearing: w2 S Self-rated hearing	Categ
3	S3HEARING	s3hearing: w3 S Self-rated hearing	Categ
4	S4HEARING	s4hearing: w4 S Self-rated hearing	Categ
5	S5HEARING	s5hearing: w5 S Self-rated hearing	Categ
1	R1HEARAID	r1hearaid: w1 R Wears hearing aid	Categ
2	R2HEARAID	r2hearaid: w2 R Wears hearing aid	Categ
3	R3HEARAID	r3hearaid: w3 R Wears hearing aid	Categ
4	R4HEARAID	r4hearaid: w4 R Wears hearing aid	Categ
5	R5HEARAID	r5hearaid: w5 R Wears hearing aid	Categ
1	S1HEARAID	s1hearaid: w1 S Wears hearing aid	Categ
2	S2HEARAID	s2hearaid: w2 S Wears hearing aid	Categ
3	S3HEARAID	s3hearaid: w3 S Wears hearing aid	Categ
4	S4HEARAID	s4hearaid: w4 S Wears hearing aid	Categ
5	S5HEARAID	s5hearaid: w5 S Wears hearing aid	Categ

Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R1HEARING	13940	3.04	0.87	1.00	6.00
R2HEARING	12359	3.11	0.85	1.00	6.00
R3HEARING	164	3.43	1.03	1.00	6.00
R4HEARING	13805	3.19	0.85	1.00	6.00
R5HEARING	15767	3.11	0.94	1.00	6.00
S1HEARING	9824	3.01	0.87	1.00	6.00
S2HEARING	8626	3.09	0.85	1.00	6.00
S3HEARING	97	3.42	1.04	1.00	6.00
S4HEARING	9161	3.17	0.84	1.00	6.00
S5HEARING	7069	3.18	0.90	1.00	6.00
R1HEARAID	15160	0.01	0.12	0.00	1.00
R2HEARAID	13700	0.02	0.13	0.00	1.00
R3HEARAID	15719	0.01	0.12	0.00	1.00
R4HEARAID	14775	0.02	0.14	0.00	1.00
R5HEARAID	17108	0.02	0.15	0.00	1.00
S1HEARAID	10627	0.01	0.12	0.00	1.00
S2HEARAID	9560	0.02	0.13	0.00	1.00
S3HEARAID	10589	0.01	0.11	0.00	1.00
S4HEARAID	9652	0.02	0.13	0.00	1.00
S5HEARAID	7637	0.03	0.16	0.00	1.00

Categorical Variable Codes

Value-----	R1HEARING	R2HEARING	R3HEARING	R4HEARING	R5HEARING
.d:DK	70	116	1	34	7
.m:Missing	4			2	
.p:Proxy interview, not asked	1032	1178	1275	929	1328

.r:Refuse		140	51	2	9	12
.x:no hearing aid				14281		
1.Excellent		802	589	7	673	1215
2.Very good		1961	1435	23	1331	1861
3.Good		7747	7052	47	7101	7310
4.Fair		2774	2631	67	4121	4757
5.Poor		643	637	19	576	619
6.Legally Deaf		13	15	1	3	5
Value-----		S1HEARING	S2HEARING	S3HEARING	S4HEARING	S5HEARING
.d:DK		52	80		17	2
.m:Missing		3				
.p:Proxy interview, not asked		660	821	726	470	563
.r:Refuse		109	37	1	4	4
.u:Unmar		4205	4009	4782	4847	5227
.v:SP NR		333	131	349	280	501
.x:no hearing aid				9768		
1.Excellent		610	427	3	461	430
2.Very good		1405	1028	17	894	747
3.Good		5503	4965	26	4777	3285
4.Fair		1883	1788	39	2698	2316
5.Poor		416	405	11	329	290
6.Legally Deaf		7	13	1	2	1
Value-----		R1HEARAID	R2HEARAID	R3HEARAID	R4HEARAID	R5HEARAID
.d:DK		8	3	1	1	1
.m:Missing		4			2	
.r:Refuse		14	1	3	1	5
0.no		14945	13455	15504	14487	16724
1.yes		215	245	215	288	384
Value-----		S1HEARAID	S2HEARAID	S3HEARAID	S4HEARAID	S5HEARAID
.d:DK		8	3	1		
.m:Missing		3				
.r:Refuse		10	1	2		1
.u:Unmar		4205	4009	4782	4847	5227
.v:SP NR		333	131	349	280	501
0.no		10480	9408	10467	9485	7435
1.yes		147	152	122	167	202

## How Constructed

RwHEARING indicates the respondent's self-rated hearing (while wearing hearing aid if they normally do). RwHEARING is coded as follows: 1.Excellent, 2.Very good, 3.Good, 4.Fair, 5.Poor, and 6.Legally deaf. Please note that "legally deaf" is not a specified option, but rather a voluntary response from the respondent. When respondents don't know or refuse to answer, RwHEARING is assigned special missing values .d or .r, respectively. RwHEARING is set to the special missing value .p if the current interview was completed by proxy. Other missing responses are assigned special missing .m. In Wave 3, respondents are not asked to rate their hearing if they reported not using a hearing aid or answered don't know or refused to the hearing aid question, in which case RwHEARING is assigned special missing .x. RwHEARING is assigned plain missing (.) if the respondent did not participate in the current wave.

RwHEARAID indicates whether the respondent usually wears a hearing aid and is coded as 1 "Yes" and 0 "No". When respondents don't know or refuse to answer, RwHEARAID is assigned special missing values .d or .r, respectively. RwHEARAID is set to the special missing value .p if the current interview was completed by proxy. Other missing responses are assigned special missing .m. RwHEARAID is assigned plain missing (.) if the respondent did not participate in the current wave.

SwHEARING and SwHEARAID variables are taken from the Wave 'w' spouse's self-reported RwHEARING and RwHEARAID variables. In addition to the special missing codes used in RwHEARING and RwHEARAID, SwHEARING and SwHEARAID employ the special missing value .u, when the respondent does not report being coupled in the current wave, and the special missing value .v, when the respondent reports being coupled in the current wave but their spouse is not interviewed.

## Cross Wave Differences in MHAS

Different from all other waves, in Wave 3 the self-reported hearing question is skipped if the respondent reports not using a hearing aid, or if they answer don't know or refused to the hearing aid question.

Differences with the RAND HRS/Harmonized HRS

No differences known.

MHAS Variables Used

Wave 1:	
C46	hearing aid
C47	hearing range
Wave 2:	
C43	use hearing aid
C44	status of hearing (with hearing aid)
Wave 3:	
C43_12	Respondent uses hearing/auditory device
C44_12	Respondent's hearing range with hearing/auditory device
Wave 4:	
C43_15	Does respondent use hearing aid/auditory device
C44_15	Respondent's hearing range with hearing aid/auditory de
Wave 5:	
C43_18	Does R use hearing aid/auditory device
C44_18	R's hearing range with hearing aid/auditory device

<b>Falls</b>
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Wave	Variable	Label	Type
1	R1FALL	r1fall: w1 R Fallen down last 2 years	Categ
2	R2FALL	r2fall: w2 R Fallen down last 2 years	Categ
3	R3FALL	r3fall: w3 R Fallen down last 2 years	Categ
4	R4FALL	r4fall: w4 R Fallen down last 2 years	Categ
5	R5FALL	r5fall: w5 R Fallen down last 2 years	Categ
1	S1FALL	s1fall: w1 S Fallen down last 2 years	Categ
2	S2FALL	s2fall: w2 S Fallen down last 2 years	Categ
3	S3FALL	s3fall: w3 S Fallen down last 2 years	Categ
4	S4FALL	s4fall: w4 S Fallen down last 2 years	Categ
5	S5FALL	s5fall: w5 S Fallen down last 2 years	Categ
1	R1FALLNUM	r1fallnum: w1 R Number of falls	Cont
2	R2FALLNUM	r2fallnum: w2 R Number of falls	Cont
3	R3FALLNUM	r3fallnum: w3 R Number of falls	Cont
4	R4FALLNUM	r4fallnum: w4 R Number of falls	Cont
5	R5FALLNUM	r5fallnum: w5 R Number of falls	Cont
1	S1FALLNUM	s1fallnum: w1 S Number of falls	Cont
2	S2FALLNUM	s2fallnum: w2 S Number of falls	Cont
3	S3FALLNUM	s3fallnum: w3 S Number of falls	Cont
4	S4FALLNUM	s4fallnum: w4 S Number of falls	Cont
5	S5FALLNUM	s5fallnum: w5 S Number of falls	Cont
1	R1FALLINJ	r1fallinj: w1 R Injured from fall	Categ
2	R2FALLINJ	r2fallinj: w2 R Injured from fall	Categ
3	R3FALLINJ	r3fallinj: w3 R Injured from fall	Categ
4	R4FALLINJ	r4fallinj: w4 R Injured from fall	Categ
5	R5FALLINJ	r5fallinj: w5 R Injured from fall	Categ
1	S1FALLINJ	s1fallinj: w1 S Injured from fall	Categ
2	S2FALLINJ	s2fallinj: w2 S Injured from fall	Categ
3	S3FALLINJ	s3fallinj: w3 S Injured from fall	Categ
4	S4FALLINJ	s4fallinj: w4 S Injured from fall	Categ
5	S5FALLINJ	s5fallinj: w5 S Injured from fall	Categ
1	R1HIP50E	r1hip50e: w1 R Ever fractured a bone (including hip) since a	Categ
2	R2HIP50E	r2hip50e: w2 R Ever fractured a bone (including hip) since a	Categ
3	R3HIP50E	r3hip50e: w3 R Ever fractured a bone (including hip) since a	Categ
4	R4HIP50E	r4hip50e: w4 R Ever fractured a bone (including hip) since a	Categ
1	S1HIP50E	s1hip50e: w1 S Ever fractured a bone (including hip) since a	Categ
2	S2HIP50E	s2hip50e: w2 S Ever fractured a bone (including hip) since a	Categ
3	S3HIP50E	s3hip50e: w3 S Ever fractured a bone (including hip) since a	Categ
4	S4HIP50E	s4hip50e: w4 S Ever fractured a bone (including hip) since a	Categ
3	R3HIP_M	r3hip_m: w3 R Fractured a bone (including hip) in the last 2	Categ
4	R4HIP_M	r4hip_m: w4 R Fractured a bone (including hip) in the last 2	Categ
5	R5HIP_M	r5hip_m: w5 R Fractured a bone (including hip) in the last 2	Categ
3	S3HIP_M	s3hip_m: w3 S Fractured a bone (including hip) in the last 2	Categ
4	S4HIP_M	s4hip_m: w4 S Fractured a bone (including hip) in the last 2	Categ
5	S5HIP_M	s5hip_m: w5 S Fractured a bone (including hip) in the last 2	Categ
5	R5HIP	r5hip: w5 R Fractured hip in the last 2 yrs	Categ
5	S5HIP	s5hip: w5 R Fractured hip in the last 2 yrs	Categ



**Descriptive Statistics**

Variable	N	Mean	Std Dev	Minimum	Maximum
R1FALL	15159	0.35	0.48	0.00	1.00
R2FALL	13683	0.36	0.48	0.00	1.00
R3FALL	15715	0.39	0.49	0.00	1.00
R4FALL	14766	0.44	0.50	0.00	1.00
R5FALL	17104	0.41	0.49	0.00	1.00
S1FALL	10625	0.32	0.47	0.00	1.00
S2FALL	9554	0.33	0.47	0.00	1.00
S3FALL	10585	0.36	0.48	0.00	1.00
S4FALL	9647	0.41	0.49	0.00	1.00
S5FALL	7632	0.40	0.49	0.00	1.00
R1FALLNUM	15038	0.99	2.42	0.00	50.00
R2FALLNUM	13590	1.00	2.46	0.00	50.00
R3FALLNUM	15676	1.14	2.94	0.00	98.00
R4FALLNUM	14728	1.29	3.11	0.00	98.00
R5FALLNUM	17048	1.14	2.75	0.00	98.00
S1FALLNUM	10549	0.86	2.23	0.00	50.00
S2FALLNUM	9494	0.88	2.31	0.00	50.00
S3FALLNUM	10567	1.00	2.56	0.00	98.00
S4FALLNUM	9625	1.14	2.71	0.00	80.00
S5FALLNUM	7604	1.10	2.74	0.00	98.00
R1FALLINJ	11845	0.17	0.38	0.00	1.00
R2FALLINJ	10740	0.19	0.39	0.00	1.00
R3FALLINJ	11792	0.19	0.39	0.00	1.00
R4FALLINJ	10602	0.23	0.42	0.00	1.00
R5FALLINJ	12818	0.21	0.41	0.00	1.00
S1FALLINJ	8488	0.15	0.35	0.00	1.00
S2FALLINJ	7624	0.16	0.37	0.00	1.00
S3FALLINJ	8083	0.16	0.37	0.00	1.00
S4FALLINJ	7042	0.20	0.40	0.00	1.00
S5FALLINJ	5724	0.20	0.40	0.00	1.00
R1HIP50E	13416	0.13	0.34	0.00	1.00
R2HIP50E	5528	0.19	0.39	0.00	1.00
R3HIP50E	15289	0.17	0.38	0.00	1.00
R4HIP50E	14620	0.23	0.42	0.00	1.00
S1HIP50E	9014	0.11	0.32	0.00	1.00
S2HIP50E	3553	0.17	0.37	0.00	1.00
S3HIP50E	10193	0.15	0.35	0.00	1.00
S4HIP50E	9510	0.20	0.40	0.00	1.00
R3HIP_M	15286	0.05	0.22	0.00	1.00
R4HIP_M	14614	0.05	0.22	0.00	1.00
R5HIP_M	17104	0.09	0.28	0.00	1.00
S3HIP_M	10192	0.04	0.20	0.00	1.00
S4HIP_M	9509	0.05	0.21	0.00	1.00
S5HIP_M	7631	0.08	0.28	0.00	1.00
R5HIP	17104	0.03	0.18	0.00	1.00
S5HIP	7631	0.03	0.17	0.00	1.00

**Categorical Variable Codes**

Value-----	R1FALL	R2FALL	R3FALL	R4FALL	R5FALL
.d:DK	19	19	5	9	9
.m:Missing	4			2	
.r:Refuse	4	2	3	2	1
0.no	9781	8711	9552	8209	10110
1.yes	5378	4972	6163	6557	6994
Value-----	S1FALL	S2FALL	S3FALL	S4FALL	S5FALL
.d:DK	16	9	4	4	6
.m:Missing	3				
.r:Refuse	4	1	3	1	
.u:Unmar	4205	4009	4782	4847	5227
.v:SP NR	333	131	349	280	501
0.no	7233	6387	6762	5649	4579
1.yes	3392	3167	3823	3998	3053
Value-----	R1FALLINJ	R2FALLINJ	R3FALLINJ	R4FALLINJ	R5FALLINJ
.d:DK	28	21	7	9	9
.m:Missing	4			2	
.r:Refuse	23	2	6	2	4
.x:does not have condition	3286	2941	3918	4164	4283
0.no	9781	8711	9552	8209	10110
1.yes	2064	2029	2240	2393	2708
Value-----	S1FALLINJ	S2FALLINJ	S3FALLINJ	S4FALLINJ	S5FALLINJ
.d:DK	20	11	4	4	6
.m:Missing	3				
.r:Refuse	17	1	5	1	2
.u:Unmar	4205	4009	4782	4847	5227
.v:SP NR	333	131	349	280	501
.x:does not have condition	2120	1928	2500	2605	1906
0.no	7233	6387	6762	5649	4579
1.yes	1255	1237	1321	1393	1145
Value-----	R1HIP50E	R2HIP50E	R3HIP50E	R4HIP50E	
.a:age lt 50	1413	205	430	42	
.d:DK	89	16	2	114	
.m:Missing	31			2	
.r:Refuse	237	2	2	1	
.s:Skip		7953			
0.no	11667	4500	12629	11313	
1.yes	1749	1028	2660	3307	
Value-----	S1HIP50E	S2HIP50E	S3HIP50E	S4HIP50E	
.a:age lt 50	1356	190	396	41	
.d:DK	68	8	1	100	
.m:Missing	19				
.r:Refuse	191	1	2	1	
.s:Skip		5812			
.u:Unmar	4205	4009	4782	4847	
.v:SP NR	333	131	349	280	
0.no	7979	2952	8698	7652	
1.yes	1035	601	1495	1858	
Value-----			R3HIP_M	R4HIP_M	R5HIP_M
.a:age lt 50			430	42	
.d:DK			4	120	4
.m:Missing				2	
.r:Refuse			3	1	6
0.no			14528	13845	15621
1.yes			758	769	1483
Value-----			S3HIP_M	S4HIP_M	S5HIP_M
.a:age lt 50			396	41	
.d:DK			1	101	3
.r:Refuse			3	1	4
.u:Unmar			4782	4847	5227
.v:SP NR			349	280	501
0.no			9767	9069	6984
1.yes			425	440	647
Value-----					R5HIP

.d:DK		4
.r:Refuse		6
0.no		16563
1.yes		541
Value-----		S5HIP
.d:DK		3
.r:Refuse		4
.u:Unmar		5227
.v:SP NR		501
0.no		7390
1.yes		241

How Constructed

RwFALL indicates whether the respondent has fallen down in the last 2 years. RwFALL is coded as 0.No and 1.Yes. Don't know, refused, or other missing responses are assigned special missing codes .d, .r, and .m, respectively. RwFALL is set to plain missing (.) for respondents who did not participate in the current wave.

RwFALLNUM indicates the number of times the respondent has fallen down (in the last 2 years). RwFALLNUM is coded as 0 if the respondent has not fallen down in the last 2 years. RwFALLINJ indicates whether the respondent has ever been injured seriously enough from a fall to need medical treatment. RwFALLINJ is coded as 0.No and 1.Yes. RwFALLINJ is assigned special missing .x if the respondent did not experience a fall in the previous two years. Don't know, refused, or other missing responses are assigned special missing codes .d, .r, and .m, respectively. RwFALLNUM and RwFALLINJ are set to plain missing (.) for respondents who did not participate in the current wave.

RwHIP50E indicates whether the respondent has ever had a fractured a bone, including the hip, since their fiftieth birthday. RwHIP\_M indicates whether the respondent has fractured a bone, including the hip, in the past two years, and is available starting in Wave 3. RwHIP indicates whether the respondent has fractured their hip in the past two years and is available starting in Wave 5. RwHIP50E, RwHIP\_M, and RwHIP are coded as 0.No and 1.Yes. Respondents younger than age 50 are not asked about a broken hip in Waves 1 through 4 and RwHIP50E and RwHIP\_M are assigned special missing .a. In Wave 2, RwHIP50E is assigned special missing .s if the respondent had not fallen down in the last two years and the question about hip fracture was skipped. Don't know, refused, or other missing responses are assigned special missing codes .d, .r, and .m, respectively. RwHIP50E, RwHIP\_M, and RwHIP are set to plain missing (.) for respondents who did not participate in the current wave.

SwFALL, SwFALLNUM, SwFALLINJ, SwHIP50E, SwHIP\_M, and SwHIP variables are taken from the Wave 'w' spouse's self-reported RwFALL, RwFALLNUM, RwFALLINJ, RwHIP50E, RwHIP\_M, and RwHIP variables. In addition to the special missing codes used in RwFALL, RwFALLNUM, RwFALLINJ, RwHIP50E, RwHIP\_M, and RwHIP; SwFALL, SwFALLNUM, SwFALLINJ, SwHIP50E, SwHIP\_M, and SwHIP employ the special missing value .u, when the respondent does not report being coupled in the current wave, and the special missing value .v, when the respondent reports being coupled in the current wave but their spouse is not interviewed.

Cross Wave Differences in MHAS

In Wave 1, all respondents age 50 and older are asked if they have fractured any bone including their hip since their fiftieth birthday. In Wave 2, respondents age 50 and older who have fallen in the last two years are asked if they have fractured any bone including their hip since their fiftieth birthday. In Waves 3 and 4, follow-up respondents age 50 and older are asked if they have fractured any bones including their hip in the last 10 years, while new respondents age 50 and older are asked if they have fractured any bones including their hip since their fiftieth birthday. If follow-up or new respondents report a fracture, they are then asked if the fracture occurred in the last two years. Starting in Wave 5, all respondents are asked if they have fractured any bones including their hip in the last two years, and are given the option of answering: 1.no, none, 2.yes, the hip, 3.yes, the hip and other bones, 4.yes, other bones.

Differences with the RAND HRS/Harmonized HRS

In the HRS, respondents are asked whether they have fractured the hip, whereas in most waves the MHAS respondent are asked if they fractured any bone, including the hip. As such, the Harmonized HRS includes RwHIPE, indicating whether the respondent has ever broken their hip, while the Harmonized MHAS includes RwHIP50E and RwHIP\_M, indicating whether the respondent has broken a bone including their hip since their

fiftieth birthday or in the last two years, respectively. Starting in Wave 5, the Harmonized MHAS also includes RWHIP, indicating whether the respondent has broken their hip in the last two years.

## MHAS Variables Used

### Wave 1:

C40                fallen down  
C41                number of falls  
C42                treatment for falls  
C43                bone fracture

### Wave 2:

C37                fell in last two years  
C38                number of falls  
C39                needed to see doctor after fall  
C40                broken bones since age 50

### Wave 3:

C37\_12            Last 2 years:Has respondent fallen down  
C38\_12            Last 2 years:Respondent's number of falls  
C39\_12            Last 2 years:Respondent's treatment for falls  
C40A\_12           Since age 50:Has respondent fractured bone(s)  
C40B\_12           Last 10 years:Has respondent fractured bone(s)  
C40C\_12           Last 2 years:Did respondent fracture bone(s)

### Wave 4:

C37\_15            In the last 2 years: Has respondent fall down  
C38\_15            In the last 2 years: Respondent's number of falls  
C39\_15            In the last 2 years: Respondent needed treatment for fa  
C40A\_15           Since age 50: Has respondent fractured any bone(s)  
C40B\_15           Last 10 years: Has respondent fractured any bone(s)

### Wave 5:

C37\_18            In the last 2 years: Has R fall down  
C38\_18            In the last 2 years: R's number of falls  
C39\_18            In the last 2 years: R needed treatment for falls  
C40B\_18           Last 2 years: Did R fracture any bone(s)

Urinary Incontinence

Wave	Variable	Label	Type
1	R1URINA2Y	r1urina2y: w1 R Any urinary incontinence (last 2 yrs)	Categ
2	R2URINA2Y	r2urina2y: w2 R Any urinary incontinence (last 2 yrs)	Categ
1	S1URINA2Y	s1urina2y: w1 S Any urinary incontinence (last 2 yrs)	Categ
2	S2URINA2Y	s2urina2y: w2 S Any urinary incontinence (last 2 yrs)	Categ
3	R3URINURG2Y	r3urinurg2y: w3 R Urge to urinate (last 2 yrs)	Categ
4	R4URINURG2Y	r4urinurg2y: w4 R Urge to urinate (last 2 yrs)	Categ
5	R5URINURG2Y	r5urinurg2y: w5 R Urge to urinate (last 2 yrs)	Categ
3	S3URINURG2Y	s3urinurg2y: w3 S Urge to urinate (last 2 yrs)	Categ
4	S4URINURG2Y	s4urinurg2y: w4 S Urge to urinate (last 2 yrs)	Categ
5	S5URINURG2Y	s5urinurg2y: w5 S Urge to urinate (last 2 yrs)	Categ
3	R3URINCGH2Y	r3urincgh2y: w3 R Leaks urine when coughing (last 2 yrs)	Categ
4	R4URINCGH2Y	r4urincgh2y: w4 R Leaks urine when coughing (last 2 yrs)	Categ
5	R5URINCGH2Y	r5urincgh2y: w5 R Leaks urine when coughing (last 2 yrs)	Categ
3	S3URINCGH2Y	s3urincgh2y: w3 S Leaks urine when coughing (last 2 yrs)	Categ
4	S4URINCGH2Y	s4urincgh2y: w4 S Leaks urine when coughing (last 2 yrs)	Categ
5	S5URINCGH2Y	s5urincgh2y: w5 S Leaks urine when coughing (last 2 yrs)	Categ

Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R1URINA2Y	14121	0.08	0.27	0.00	1.00
R2URINA2Y	12517	0.09	0.28	0.00	1.00
S1URINA2Y	9966	0.07	0.26	0.00	1.00
S2URINA2Y	8738	0.08	0.28	0.00	1.00
R3URINURG2Y	14432	0.15	0.35	0.00	1.00
R4URINURG2Y	13837	0.20	0.40	0.00	1.00
R5URINURG2Y	15770	0.16	0.37	0.00	1.00
S3URINURG2Y	9856	0.13	0.34	0.00	1.00
S4URINURG2Y	9178	0.18	0.39	0.00	1.00
S5URINURG2Y	7067	0.16	0.37	0.00	1.00
R3URINCGH2Y	14437	0.15	0.36	0.00	1.00
R4URINCGH2Y	13837	0.19	0.39	0.00	1.00
R5URINCGH2Y	15770	0.17	0.38	0.00	1.00
S3URINCGH2Y	9859	0.14	0.35	0.00	1.00
S4URINCGH2Y	9178	0.17	0.38	0.00	1.00
S5URINCGH2Y	7067	0.16	0.37	0.00	1.00

Categorical Variable Codes

Value-----	R1URINA2Y	R2URINA2Y
.d:DK	13	8
.m:Missing	4	
.p:Proxy interview, not asked	1032	1178
.r:Refuse	16	1
0.no	13023	11408
1.yes	1098	1109

Value-----	S1URINA2Y	S2URINA2Y			
.d:DK	8	4			
.m:Missing	3				
.p:Proxy interview, not asked	660	821			
.r:Refuse	11	1			
.u:Unmar	4205	4009			
.v:SP NR	333	131			
0.no	9242	8004			
1.yes	724	734			

Value-----	R3URINURG2Y	R4URINURG2Y	R5URINURG2Y
.d:DK	4	1	5
.m:Missing		9	
.p:Proxy interview, not asked	1275	929	1328
.r:Refuse	12	3	11
0.no	12328	11034	13169
1.yes	2104	2803	2601

Value-----	S3URINURG2Y	S4URINURG2Y	S5URINURG2Y
.d:DK	2	1	4
.m:Missing		1	
.p:Proxy interview, not asked	726	470	563
.r:Refuse	8	2	4
.u:Unmar	4782	4847	5227
.v:SP NR	349	280	501
0.no	8531	7487	5911
1.yes	1325	1691	1156

Value-----	R3URINCGH2Y	R4URINCGH2Y	R5URINCGH2Y
.d:DK	3	2	5
.m:Missing		9	
.p:Proxy interview, not asked	1275	929	1328
.r:Refuse	8	2	11
0.no	12203	11204	13088
1.yes	2234	2633	2682

Value-----	S3URINCGH2Y	S4URINCGH2Y	S5URINCGH2Y
.d:DK	2	1	4
.m:Missing		1	
.p:Proxy interview, not asked	726	470	563
.r:Refuse	5	2	4
.u:Unmar	4782	4847	5227
.v:SP NR	349	280	501
0.no	8460	7579	5941
1.yes	1399	1599	1126

## How Constructed

RwURINA2Y indicates whether the respondent has experienced any urinary incontinence in the last 2 yrs. RwURINA2Y is only available in Waves 1 and 2. RwURINA2Y is coded as 0.No and 1.Yes. RwURINA2Y is set to the special missing value .p if the current interview was completed by proxy. Don't know, refused, or other missing responses are assigned special missing codes .d, .r, and .m, respectively. RwURINA2Y is set to plain missing (.) for respondents who did not participate in the current wave.

RwURINCGH2Y indicates whether in the last 2 years, the respondent has experienced any incontinence when coughing, sneezing, picking something up, or exercising. RwURINURG2Y indicates whether the respondent has experienced any incontinence when they had the urge to urinate, but couldn't reach the bathroom in time. RwURINCGH2Y and Rw4URINURG2Y are available starting in Wave 3. RwURINCGH2Y and Rw4URINURG2Y are coded as 0.No and 1.Yes. RwURINCGH2Y and Rw4URINURG2Y are set to the special missing value .p if the current interview was completed by proxy. Don't know, refused, or other missing responses are assigned special missing codes .d, .r, and .m, respectively. RwURINCGH2Y and Rw4URINURG2Y are set to plain missing (.) for respondents who did not participate in the current wave.

SwURINA2Y, SwURINCGH2Y, and SwURINURG2Y variables are taken from the Wave 'w' spouse's self-reported RwURINA2Y, RwURINCGH2Y, and RwURINURG2Y variables. In addition to the special missing codes used in RwURINA2Y, RwURINCGH2Y, and RwURINURG2Y; SwURINA2Y, SwURINCGH2Y, and SwURINURG2Y employ the special missing value .u, when the respondent does not report being coupled in the current wave, and the special missing value .v, when the respondent reports being coupled in the current wave but their spouse is not interviewed.

Cross Wave Differences in MHAS

The series of questions on urinary incontinence in the MHAS are part of the symptoms battery in the Health section. These questions have been modified across waves. In the first two waves, respondents were only asked if they had experienced any urinary incontinence. However, starting in Wave 3, respondents were instead asked, in two separate questions, if they had experienced any incontinence when coughing, sneezing, picking something up, or exercising, and if they had experienced any incontinence when they had the urge to urinate, but couldn't reach the bathroom in time.

Differences with the RAND HRS/Harmonized HRS

Different to the HRS, in the MHAS respondents are asked whether they have experienced any of these symptoms in the past 2 years instead of the past 12 months. As such, the Harmonized HRS includes RwURINA, RwURINCGH, and RwURINURG, while the Harmonized MHAS includes RwURINA2Y, RwURINCGH2Y, and RwURINURG2Y due to the different time frames.

MHAS Variables Used

Wave 1:	
C73I	urine loss
Wave 2:	
C68I	involuntary bladder movements
Wave 3:	
C68G_12	Last 2 years:frequent incontinence while performing tas
C68H_12	Last 2 years:Frequent incontinence with urge to urinate
Wave 4:	
C68G_15	During the last 2 years: Respondent had frequent incont
C68H_15	During the last 2 years: Respondent had frequent incont
Wave 5:	
C68G_18	During the last 2 years: R had frequent incontinence
C68H_18	During the last 2 years: R had frequent incontinence wh

<b>Persistent Health Problems</b>
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Wave	Variable	Label	Type
1	R1SWELL	r1swell: w1 R Persistent swelling in feet/ankles	Categ
2	R2SWELL	r2swell: w2 R Persistent swelling in feet/ankles	Categ
3	R3SWELL	r3swell: w3 R Persistent swelling in feet/ankles	Categ
4	R4SWELL	r4swell: w4 R Persistent swelling in feet/ankles	Categ
5	R5SWELL	r5swell: w5 R Persistent swelling in feet/ankles	Categ
1	S1SWELL	s1swell: w1 S Persistent swelling in feet/ankles	Categ
2	S2SWELL	s2swell: w2 S Persistent swelling in feet/ankles	Categ
3	S3SWELL	s3swell: w3 S Persistent swelling in feet/ankles	Categ
4	S4SWELL	s4swell: w4 S Persistent swelling in feet/ankles	Categ
5	S5SWELL	s5swell: w5 S Persistent swelling in feet/ankles	Categ
1	R1BREATH_M	r1breath_m: w1 R Difficulty breathing while lying down	Categ
2	R2BREATH_M	r2breath_m: w2 R Difficulty breathing while lying down	Categ
3	R3BREATH_M	r3breath_m: w3 R Difficulty breathing or coughing	Categ
4	R4BREATH_M	r4breath_m: w4 R Difficulty breathing or coughing	Categ
5	R5BREATH_M	r5breath_m: w5 R Difficulty breathing or coughing	Categ
1	S1BREATH_M	s1breath_m: w1 S Difficulty breathing while lying down	Categ
2	S2BREATH_M	s2breath_m: w2 S Difficulty breathing while lying down	Categ
3	S3BREATH_M	s3breath_m: w3 S Difficulty breathing or coughing	Categ
4	S4BREATH_M	s4breath_m: w4 S Difficulty breathing or coughing	Categ
5	S5BREATH_M	s5breath_m: w5 S Difficulty breathing or coughing	Categ
1	R1WHEEZE	r1wheeze: w1 R Persistent wheezing	Categ
2	R2WHEEZE	r2wheeze: w2 R Persistent wheezing	Categ
1	S1WHEEZE	s1wheeze: w1 S Persistent wheezing	Categ
2	S2WHEEZE	s2wheeze: w2 S Persistent wheezing	Categ
1	R1FATIGUE	r1fatigue: w1 R Severe fatigue	Categ
2	R2FATIGUE	r2fatigue: w2 R Severe fatigue	Categ
3	R3FATIGUE	r3fatigue: w3 R Severe fatigue	Categ
4	R4FATIGUE	r4fatigue: w4 R Severe fatigue	Categ
5	R5FATIGUE	r5fatigue: w5 R Severe fatigue	Categ
1	S1FATIGUE	s1fatigue: w1 S Severe fatigue	Categ
2	S2FATIGUE	s2fatigue: w2 S Severe fatigue	Categ
3	S3FATIGUE	s3fatigue: w3 S Severe fatigue	Categ
4	S4FATIGUE	s4fatigue: w4 S Severe fatigue	Categ
5	S5FATIGUE	s5fatigue: w5 S Severe fatigue	Categ

## Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R1SWELL	14128	0.28	0.45	0.00	1.00
R2SWELL	12518	0.26	0.44	0.00	1.00
R3SWELL	14442	0.26	0.44	0.00	1.00
R4SWELL	13839	0.26	0.44	0.00	1.00
R5SWELL	15778	0.23	0.42	0.00	1.00
S1SWELL	9970	0.27	0.44	0.00	1.00
S2SWELL	8737	0.24	0.43	0.00	1.00
S3SWELL	9862	0.24	0.43	0.00	1.00
S4SWELL	9177	0.24	0.43	0.00	1.00
S5SWELL	7072	0.23	0.42	0.00	1.00



R1BREATH_M	14127	0.14	0.35	0.00	1.00
R2BREATH_M	12521	0.14	0.35	0.00	1.00
R3BREATH_M	14443	0.18	0.38	0.00	1.00
R4BREATH_M	13841	0.19	0.40	0.00	1.00
R5BREATH_M	15778	0.18	0.38	0.00	1.00
S1BREATH_M	9969	0.14	0.35	0.00	1.00
S2BREATH_M	8739	0.14	0.35	0.00	1.00
S3BREATH_M	9862	0.17	0.38	0.00	1.00
S4BREATH_M	9179	0.19	0.39	0.00	1.00
S5BREATH_M	7072	0.17	0.38	0.00	1.00
R1WHEEZE	14120	0.18	0.38	0.00	1.00
R2WHEEZE	12524	0.17	0.38	0.00	1.00
S1WHEEZE	9964	0.17	0.37	0.00	1.00
S2WHEEZE	8741	0.16	0.37	0.00	1.00
R1FATIGUE	14118	0.27	0.44	0.00	1.00
R2FATIGUE	12523	0.26	0.44	0.00	1.00
R3FATIGUE	14440	0.22	0.41	0.00	1.00
R4FATIGUE	13838	0.21	0.41	0.00	1.00
R5FATIGUE	15773	0.19	0.39	0.00	1.00
S1FATIGUE	9960	0.26	0.44	0.00	1.00
S2FATIGUE	8740	0.25	0.43	0.00	1.00
S3FATIGUE	9859	0.21	0.41	0.00	1.00
S4FATIGUE	9178	0.20	0.40	0.00	1.00
S5FATIGUE	7069	0.18	0.39	0.00	1.00

## Categorical Variable Codes

Value-----	R1SWELL	R2SWELL	R3SWELL	R4SWELL	R5SWELL
.d:DK	10	7	2	3	2
.m:Missing	4			7	
.p:Proxy interview, not asked	1032	1178	1275	929	1328
.r:Refuse	12	1	4	1	6
0.no	10169	9252	10754	10308	12089
1.yes	3959	3266	3688	3531	3689

Value-----	S1SWELL	S2SWELL	S3SWELL	S4SWELL	S5SWELL
.d:DK	7	6	1	3	1
.m:Missing	3			1	
.p:Proxy interview, not asked	660	821	726	470	563
.r:Refuse	8		3	1	2
.u:Unmar	4205	4009	4782	4847	5227
.v:SP NR	333	131	349	280	501
0.no	7282	6610	7497	6957	5462
1.yes	2688	2127	2365	2220	1610

Value-----	R1BREATH_M	R2BREATH_M	R3BREATH_M	R4BREATH_M	R5BREATH_M
.d:DK	10	3		1	2
.m:Missing	4			7	
.p:Proxy interview, not asked	1032	1178	1275	929	1328
.r:Refuse	13	2	5	1	6
0.no	12101	10737	11855	11160	13007
1.yes	2026	1784	2588	2681	2771

Value-----	S1BREATH_M	S2BREATH_M	S3BREATH_M	S4BREATH_M	S5BREATH_M
.d:DK	8	2		1	1
.m:Missing	3			1	
.p:Proxy interview, not asked	660	821	726	470	563
.r:Refuse	8	2	4	1	2
.u:Unmar	4205	4009	4782	4847	5227
.v:SP NR	333	131	349	280	501
0.no	8554	7523	8143	7467	5860
1.yes	1415	1216	1719	1712	1212

Value-----	R1WHEEZE	R2WHEEZE
.d:DK	13	2
.m:Missing	4	
.p:Proxy interview, not asked	1032	1178
.r:Refuse	17	
0.no	11625	10345
1.yes	2495	2179

Value-----	S1WHEEZE	S2WHEEZE
.d:DK	9	2
.m:Missing	3	
.p:Proxy interview, not asked	660	821
.r:Refuse	12	
.u:Unmar	4205	4009
.v:SP NR	333	131
0.no	8310	7322
1.yes	1654	1419

Value-----	R1FATIGUE	R2FATIGUE	R3FATIGUE	R4FATIGUE	R5FATIGUE
.d:DK	14	2	2	1	3
.m:Missing	4			7	
.p:Proxy interview, not asked	1032	1178	1275	929	1328
.r:Refuse	18	1	6	4	10
0.no	10315	9294	11282	10928	12777
1.yes	3803	3229	3158	2910	2996

Value-----	S1FATIGUE	S2FATIGUE	S3FATIGUE	S4FATIGUE	S5FATIGUE
.d:DK	11	2	2	1	2
.m:Missing	3			1	
.p:Proxy interview, not asked	660	821	726	470	563
.r:Refuse	14	1	5	2	4
.u:Unmar	4205	4009	4782	4847	5227
.v:SP NR	333	131	349	280	501
0.no	7351	6576	7784	7331	5774
1.yes	2609	2164	2075	1847	1295

## How Constructed

RwSWELL, RwBREATH\_M, RwwHEEZE, and RwfFATIGUE indicate whether the respondent has experienced any persistent health problems in the last 2 years. These variables are coded as 0.no, and 1.yes. RwsWELL, RwbREATH\_M, RwwHEEZE, and RwfFATIGUE are set to the special missing value .p if the current interview was completed by proxy. Don't know, refused, or other missing responses of these variables are assigned special missing codes .d, .r, and .m, respectively. These variables are set to plain missing (.) for respondents who did not participate in the current wave.

RwSWELL indicates whether the respondent has experienced persistent swelling in their feet or ankles. In Waves 1 and 2, RwbREATH\_M indicates whether the respondent has experienced difficulty breathing while lying down. Starting in Wave 3, RwbREATH\_M indicates whether the respondent has experienced difficulting breathing, panting or coughing, or phlegm. In Waves 1 and 2, RwwHEEZE indicates whether the respondent has experienced persistent wheezing or cough, or bringing up phlegm. RwfFATIGUE indicates whether the respondent has experienced severe fatigue or exhaustion.

SwSWELL, SwBREATH\_M, SwWHEEZE, and SwFATIGUE variables are taken from the Wave 'w' spouse's self-reported RwsWELL, RwbREATH\_M, RwwHEEZE, and RwfFATIGUE variables. In addition to the special missing codes used in RwsWELL, RwbREATH\_M, RwwHEEZE, and RwfFATIGUE; SwSWELL, SwBREATH\_M, SwWHEEZE, and SwFATIGUE employ the special missing value .u, when the respondent does not report being coupled in the current wave, and the special missing value .v, when the respondent reports being coupled in the current wave but their spouse is not interviewed.

## Cross Wave Differences in MHAS

In Waves 1 and 2, the respondent is asked whether they had difficulty breathing while lying down and whether they had wheezing or cough, or bring up phlegm, as separate questions. Starting in Wave 3, the respondent is asked a single question asking whether they had difficulty breathing, panting or coughing, or phlegm.

Differences with the RAND HRS/Harmonized HRS

RwBREATH\_M is a Harmonized MHAS specific variable to reflect the difference between the HRS and the MHAS. In the MHAS, respondents are asked whether they had difficulty breathing while lying down in Waves 1 and 2, and whether they have experienced difficulty breathing, pantings or coughing, or phlegm starting in Wave 3, while in the HRS they are asked whether they have experienced shortness of breath while awake.

MHAS Variables Used

Wave 1:	
C73A	swelling feet
C73B	breathing difficulty
C73E	severe fatigue
C73F	wheezing
Wave 2:	
C68A	pain in feet/knees
C68B	difficulty in breathing
C68E	severe fatigue
C68F	cough
Wave 3:	
C68A_12	Last 2 years:Respondent had frequent swelling feet/ankl
C68B_12	Last 2 years:Respondent had frequent difficulty breathi
C68E_12	Last 2 years:Respondent experienced frequent fatigue/ex
Wave 4:	
C68A_15	During the last 2 years: Respondent had frequent swell
C68B_15	During the last 2 years: Respondent had frequent diffic
C68E_15	During the last 2 years: Respondent had frequent severe
Wave 5:	
C68A_18	During the last 2 years: R had frequent swelling in fee
C68B_18	During the last 2 years: R had frequent difficulty brea
C68E_18	During the last 2 years: R had frequent severe fatigue/

Sleep

Wave	Variable	Label	Type
4	R4FALLSLP	r4fallslep: w4 R Trouble falling asleep	Categ
5	R5FALLSLP	r5fallslep: w5 R Trouble falling asleep	Categ
4	S4FALLSLP	s4fallslep: w4 S Trouble falling asleep	Categ
5	S5FALLSLP	s5fallslep: w5 S Trouble falling asleep	Categ
4	R4WAKENT	r4wakent: w4 R Wakes up during night	Categ
5	R5WAKENT	r5wakent: w5 R Wakes up during night	Categ
4	S4WAKENT	s4wakent: w4 S Wakes up during night	Categ
5	S5WAKENT	s5wakent: w5 S Wakes up during night	Categ
4	R4WAKEUP	r4wakeup: w4 R Wakes up too early	Categ
5	R5WAKEUP	r5wakeup: w5 R Wakes up too early	Categ
4	S4WAKEUP	s4wakeup: w4 S Wakes up too early	Categ
5	S5WAKEUP	s5wakeup: w5 S Wakes up too early	Categ
3	R3RESTED	r3rested: w3 R Feels rested when wakes up	Categ
4	R4RESTED	r4rested: w4 R Feels rested when wakes up	Categ
5	R5RESTED	r5rested: w5 R Feels rested when wakes up	Categ
3	S3RESTED	s3rested: w3 S Feels rested when wakes up	Categ
4	S4RESTED	s4rested: w4 S Feels rested when wakes up	Categ
5	S5RESTED	s5rested: w5 S Feels rested when wakes up	Categ

Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R4FALLSLP	13837	2.45	0.71	1.00	3.00
R5FALLSLP	15782	2.46	0.71	1.00	3.00
S4FALLSLP	9180	2.47	0.70	1.00	3.00
S5FALLSLP	7075	2.46	0.72	1.00	3.00
R4WAKENT	13834	2.18	0.71	1.00	3.00
R5WAKENT	15781	2.22	0.71	1.00	3.00
S4WAKENT	9177	2.20	0.71	1.00	3.00
S5WAKENT	7075	2.19	0.71	1.00	3.00
R4WAKEUP	13830	2.33	0.76	1.00	3.00
R5WAKEUP	15775	2.30	0.78	1.00	3.00
S4WAKEUP	9175	2.35	0.75	1.00	3.00
S5WAKEUP	7070	2.30	0.79	1.00	3.00
R3RESTED	14441	1.50	0.68	1.00	3.00
R4RESTED	13829	1.53	0.71	1.00	3.00
R5RESTED	15772	1.59	0.74	1.00	3.00
S3RESTED	9861	1.49	0.68	1.00	3.00
S4RESTED	9177	1.52	0.71	1.00	3.00
S5RESTED	7072	1.57	0.74	1.00	3.00

Categorical Variable Codes

Value-----		R4FALLSLP	R5FALLSLP	
.d:DK		1	1	
.m:Missing		11		
.p:Proxy interview, not asked		929	1328	
.r:Refuse		1	3	
1.Most of the time		1750	2013	
2.Sometimes		4073	4424	
3.Rarely or never		8014	9345	
Value-----		S4FALLSLP	S5FALLSLP	
.d:DK		1		
.m:Missing		1		
.p:Proxy interview, not asked		470	563	
.u:Unmar		4847	5227	
.v:SP NR		280	501	
1.Most of the time		1107	930	
2.Sometimes		2609	1953	
3.Rarely or never		5464	4192	
Value-----		R4WAKENT	R5WAKENT	
.d:DK		2	2	
.m:Missing		11		
.p:Proxy interview, not asked		929	1328	
.r:Refuse		3	3	
1.Most of the time		2454	2638	
2.Sometimes		6455	7090	
3.Rarely or never		4925	6053	
Value-----		S4WAKENT	S5WAKENT	
.d:DK		2		
.m:Missing		1		
.p:Proxy interview, not asked		470	563	
.r:Refuse		2		
.u:Unmar		4847	5227	
.v:SP NR		280	501	
1.Most of the time		1566	1247	
2.Sometimes		4237	3214	
3.Rarely or never		3374	2614	
Value-----		R4WAKEUP	R5WAKEUP	
.d:DK		2	6	
.m:Missing		11		
.p:Proxy interview, not asked		929	1328	
.r:Refuse		7	5	
1.Most of the time		2451	3200	
2.Sometimes		4406	4650	
3.Rarely or never		6973	7925	
Value-----		S4WAKEUP	S5WAKEUP	
.d:DK		2	4	
.m:Missing		1		
.p:Proxy interview, not asked		470	563	
.r:Refuse		4	1	
.u:Unmar		4847	5227	
.v:SP NR		280	501	
1.Most of the time		1574	1448	
2.Sometimes		2852	2050	
3.Rarely or never		4749	3572	
Value-----	R3RESTED	R4RESTED	R5RESTED	
.d:DK		4	6	10
.m:Missing		1275	12	
.p:Proxy interview, not asked			929	1328
.r:Refuse		3	3	4
1.Most of the time		8847	8248	8876
2.Sometimes		4034	3862	4434
3.Rarely or never		1560	1719	2462
Value-----	S3RESTED	S4RESTED	S5RESTED	
.d:DK		3	4	3
.m:Missing		726	1	
.p:Proxy interview, not asked			470	563

.r:Refuse		2		
.u:Unmar		4782	4847	5227
.v:SP NR		349	280	501
1.Most of the time		6084	5508	4092
2.Sometimes		2712	2528	1916
3.Rarely or never		1065	1141	1064

How Constructed

RwFALLSLP, RwWAKENT, RwWAKEUP, and RwRESTED indicate the frequency with which the respondent experiences sleep issues. RwFALLSLP indicates how often the respondent has trouble falling asleep. RwWAKENT indicates how often the respondent wakes up during the night. RwWAKEUP indicates how often the respondent wakes up too early and is unable to go back to sleep. RwRESTED indicates how often the respondent feels rested when they wake up. These variables are coded as 1.Most of the time, 2.Sometimes, 3.Rarely or never. RwRESTED is available starting in Wave 3, while RwFALLSLP, RwWAKENT, and RwWAKEUP are available starting in Wave 4. RwFALLSLP, RwWAKENT, RwWAKEUP, and RwRESTED are set to the special missing value .p if the current interview was completed by proxy. Don't know, refused, or other missing responses of these variables are assigned special missing codes .d, .r, and .m, respectively. These variables are set to plain missing (.) for respondents who did not participate in the current wave.

SwFALLSLP, SwWAKENT, SwWAKEUP, and SwRESTED variables are taken from the Wave 'w' spouse's self-reported RwFALLSLP, RwWAKENT, RwWAKEUP, and RwRESTED variables. In addition to the special missing codes used in RwFALLSLP, RwWAKENT, RwWAKEUP, and RwRESTED; SwFALLSLP, SwWAKENT, SwWAKEUP, and SwRESTED employ the special missing value .u, when the respondent does not report being coupled in the current wave, and the special missing value .v, when the respondent reports being coupled in the current wave but their spouse is not interviewed.

Cross Wave Differences in MHAS

Respondents are asked about feeling rested when they wake up starting in Wave 3. Respondents are asked about trouble falling asleep, waking up during the night, and waking up too early starting in Wave 4.

Differences with the RAND HRS/Harmonized HRS

No differences known.

MHAS Variables Used

Wave 3:	
C74_12	Respondent's frequency of feeling well rested in the mo
Wave 4:	
C74A_15	Respondent's frequency having trouble falling asleep
C74B_15	Respondent's frequency having trouble with waking up du
C74C_15	Respondent's frequency having trouble with waking up to
C74D_15	Respondent's frequency feeling really rested when he/sh
Wave 5:	
C74A_18	R's frequency having trouble falling asleep
C74B_18	R's frequency having trouble with waking up during the
C74C_18	R's frequency having trouble with waking up early, unab
C74D_18	R's frequency feeling really rested when he/she wakes u

<b>Pain</b>
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Wave	Variable	Label	Type
1	R1PAINFR	r1painfr: w1 R Frequent problems with pain	Categ
2	R2PAINFR	r2painfr: w2 R Frequent problems with pain	Categ
3	R3PAINFR	r3painfr: w3 R Frequent problems with pain	Categ
4	R4PAINFR	r4painfr: w4 R Frequent problems with pain	Categ
5	R5PAINFR	r5painfr: w5 R Frequent problems with pain	Categ
1	S1PAINFR	s1painfr: w1 S Frequent problems with pain	Categ
2	S2PAINFR	s2painfr: w2 S Frequent problems with pain	Categ
3	S3PAINFR	s3painfr: w3 S Frequent problems with pain	Categ
4	S4PAINFR	s4painfr: w4 S Frequent problems with pain	Categ
5	S5PAINFR	s5painfr: w5 S Frequent problems with pain	Categ
1	R1PAINLV	r1painlv: w1 R Usual level of pain	Categ
2	R2PAINLV	r2painlv: w2 R Usual level of pain	Categ
3	R3PAINLV	r3painlv: w3 R Usual level of pain	Categ
4	R4PAINLV	r4painlv: w4 R Usual level of pain	Categ
5	R5PAINLV	r5painlv: w5 R Usual level of pain	Categ
1	S1PAINLV	s1painlv: w1 S Usual level of pain	Categ
2	S2PAINLV	s2painlv: w2 S Usual level of pain	Categ
3	S3PAINLV	s3painlv: w3 S Usual level of pain	Categ
4	S4PAINLV	s4painlv: w4 S Usual level of pain	Categ
5	S5PAINLV	s5painlv: w5 S Usual level of pain	Categ
1	R1PAINA	r1paina: w1 R Pain interferes with normal activities	Categ
2	R2PAINA	r2paina: w2 R Pain interferes with normal activities	Categ
3	R3PAINA	r3paina: w3 R Pain interferes with normal activities	Categ
4	R4PAINA	r4paina: w4 R Pain interferes with normal activities	Categ
5	R5PAINA	r5paina: w5 R Pain interferes with normal activities	Categ
1	S1PAINA	s1paina: w1 S Pain interferes with normal activities	Categ
2	S2PAINA	s2paina: w2 S Pain interferes with normal activities	Categ
3	S3PAINA	s3paina: w3 S Pain interferes with normal activities	Categ
4	S4PAINA	s4paina: w4 S Pain interferes with normal activities	Categ
5	S5PAINA	s5paina: w5 S Pain interferes with normal activities	Categ

## Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R1PAINFR	14136	0.41	0.49	0.00	1.00
R2PAINFR	12523	0.39	0.49	0.00	1.00
R3PAINFR	14443	0.38	0.49	0.00	1.00
R4PAINFR	13846	0.38	0.49	0.00	1.00
R5PAINFR	15779	0.39	0.49	0.00	1.00
S1PAINFR	9973	0.40	0.49	0.00	1.00
S2PAINFR	8740	0.38	0.49	0.00	1.00
S3PAINFR	9861	0.37	0.48	0.00	1.00
S4PAINFR	9180	0.38	0.48	0.00	1.00
S5PAINFR	7072	0.39	0.49	0.00	1.00
R1PAINLV	14124	0.80	1.07	0.00	3.00
R2PAINLV	12522	0.77	1.07	0.00	3.00
R3PAINLV	14441	0.73	1.04	0.00	3.00
R4PAINLV	13846	0.74	1.04	0.00	3.00
R5PAINLV	15779	0.75	1.04	0.00	3.00

S1PAINLV	9964	0.78	1.07	0.00	3.00
S2PAINLV	8739	0.74	1.06	0.00	3.00
S3PAINLV	9859	0.70	1.02	0.00	3.00
S4PAINLV	9180	0.71	1.02	0.00	3.00
S5PAINLV	7072	0.74	1.03	0.00	3.00
R1PAINA	5819	0.47	0.50	0.00	1.00
R2PAINA	4926	0.50	0.50	0.00	1.00
R3PAINA	5504	0.48	0.50	0.00	1.00
R4PAINA	5313	0.48	0.50	0.00	1.00
R5PAINA	6217	0.47	0.50	0.00	1.00
S1PAINA	3994	0.47	0.50	0.00	1.00
S2PAINA	3331	0.49	0.50	0.00	1.00
S3PAINA	3675	0.46	0.50	0.00	1.00
S4PAINA	3445	0.47	0.50	0.00	1.00
S5PAINA	2779	0.46	0.50	0.00	1.00

Categorical Variable Codes

Value-----	R1PAINFR	R2PAINFR	R3PAINFR	R4PAINFR	R5PAINFR
.d:DK	7	3	1	1	1
.m:Missing	4			2	
.p:Proxy interview, not asked	1032	1178	1275	929	1328
.r:Refuse	7		4	1	6
0.no	8298	7594	8935	8532	9561
1.yes	5838	4929	5508	5314	6218
Value-----	S1PAINFR	S2PAINFR	S3PAINFR	S4PAINFR	S5PAINFR
.d:DK	6	3	1	1	
.m:Missing	3				
.p:Proxy interview, not asked	660	821	726	470	563
.r:Refuse	6		4	1	3
.u:Unmar	4205	4009	4782	4847	5227
.v:SP NR	333	131	349	280	501
0.no	5966	5406	6182	5735	4293
1.yes	4007	3334	3679	3445	2779
Value-----	R1PAINLV	R2PAINLV	R3PAINLV	R4PAINLV	R5PAINLV
.d:DK	13	3	2	1	1
.m:Missing	4			2	
.p:Proxy interview, not asked	1032	1178	1275	929	1328
.r:Refuse	13	1	5	1	6
0.No pain	8298	7594	8935	8532	9561
1.Mild	1910	1656	1837	1731	2101
2.Moderate	2371	1859	2340	2297	2676
3.Severe	1545	1413	1329	1286	1441
Value-----	S1PAINLV	S2PAINLV	S3PAINLV	S4PAINLV	S5PAINLV
.d:DK	11	3	2	1	
.m:Missing	3				
.p:Proxy interview, not asked	660	821	726	470	563
.r:Refuse	10	1	5	1	3
.u:Unmar	4205	4009	4782	4847	5227
.v:SP NR	333	131	349	280	501
0.No pain	5966	5406	6182	5735	4293
1.Mild	1320	1126	1281	1164	936
2.Moderate	1611	1277	1537	1496	1217
3.Severe	1067	930	859	785	626
Value-----	R1PAINA	R2PAINA	R3PAINA	R4PAINA	R5PAINA
.d:DK	16	5	3	1	1
.m:Missing	4			2	
.p:Proxy interview, not asked	1032	1178	1275	929	1328
.r:Refuse	17	1	6	2	7
.x:does not have condition	8298	7594	8935	8532	9561
0.no	3071	2474	2875	2765	3322
1.yes	2748	2452	2629	2548	2895



Value-----	S1PAINA	S2PAINA	S3PAINA	S4PAINA	S5PAINA
.d:DK	12	5	3	1	
.m:Missing	3				
.p:Proxy interview, not asked	660	821	726	470	563
.r:Refuse	13	1	6	1	3
.u:Unmar	4205	4009	4782	4847	5227
.v:SP NR	333	131	349	280	501
.x:does not have condition	5966	5406	6182	5735	4293
0.no	2119	1703	1977	1833	1495
1.yes	1875	1628	1698	1612	1284

## How Constructed

RwPAINFR indicates whether the respondent suffers from pain. RwPAINFR is coded as 0.No, and 1.Yes. RwPAINLV indicates the respondent's pain level the majority of the time. RwPAINLV is coded as 0.No pain, 1.Mild, 2.Moderate, 3.Severe. If the respondent does not suffer from pain, then RwPAINLV is assigned a value of 0. RwPAINA indicates whether the respondent's pain interferes with usual activities such as household chores or their job. RwPAINA is coded as 0.No and 1.Yes, and is assigned special missing .x if the respondent does not experience pain. RwPAINFR, RwPAINLV, and RwPAINA are set to the special missing value .p if the current interview was completed by proxy. Don't know, refused, or other missing responses of these variables are assigned special missing codes .d, .r, and .m, respectively. These variables are set to plain missing (.) for respondents who did not participate in the current wave.

SwPAINFR, SwPAINLV, and SwPAINA variables are taken from the Wave 'w' spouse's self-reported RwPAINFR, RwPAINLV, and RwPAINA variables. In addition to the special missing codes used in RwPAINFR, RwPAINLV, and RwPAINA; SwPAINFR, SwPAINLV, and SwPAINA employ the special missing value .u, when the respondent does not report being coupled in the current wave, and the special missing value .v, when the respondent reports being coupled in the current wave but their spouse is not interviewed.

## Cross Wave Differences in MHAS

No differences known.

## Differences with the RAND HRS/Harmonized HRS

Please note that the HRS asks whether the respondent is "often troubled with pain", while the MHAS asks whether the respondent "suffers from pain". Despite these differences in question wording, these variables have been constructed to be as comparable as possible.

## MHAS Variables Used

Wave 1:	
C48	pain
C49	pain type
C50	pain limits activities
Wave 2:	
C45	often suffer from physical pain
C46	suffer pain a majority of the time
C47	condition limits your normal activities
Wave 3:	
C45_12	Respondent suffers from pain
C46_12	Report respondent's pain level
C47_12	Pain limits respondent's daily activities
Wave 4:	
C45_15	Does respondent suffer from pain
C46_15	Respondent's pain level
C47_15	Does pain limits respondent's daily activities
Wave 5:	
C45_18	Does R suffer from pain
C46_18	R's pain level
C47_18	Does pain limits R's daily activities

Menopause

Wave	Variable	Label	Type
4	R4HYSTERE	r4hystere: w4 R Ever had hysterectomy	Categ
5	R5HYSTERE	r5hystere: w5 R Ever had hysterectomy	Categ
4	S4HYSTERE	s4hystere: w4 S Ever had hysterectomy	Categ
5	S5HYSTERE	s5hystere: w5 S Ever had hysterectomy	Categ
4	R4LSTMNSPD	r4lstmnspd: w4 R Age last menstrual period	Cont
5	R5LSTMNSPD	r5lstmnspd: w5 R Age last menstrual period	Cont
4	S4LSTMNSPD	s4lstmnspd: w4 S Age last menstrual period	Cont
5	S5LSTMNSPD	s5lstmnspd: w5 S Age last menstrual period	Cont
4	R4FLSTMNSPD	r4flstmnspd: w4 R Flag age last menstrual period	Categ
5	R5FLSTMNSPD	r5flstmnspd: w5 R Flag age last menstrual period	Categ
4	S4FLSTMNSPD	s4flstmnspd: w4 S Flag age last menstrual period	Categ
5	S5FLSTMNSPD	s5flstmnspd: w5 S Flag age last menstrual period	Categ

Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R4HYSTERE	8106	0.21	0.40	0.00	1.00
R5HYSTERE	9189	0.19	0.39	0.00	1.00
S4HYSTERE	4623	0.21	0.41	0.00	1.00
S5HYSTERE	3590	0.21	0.41	0.00	1.00
R4LSTMNSPD	7434	46.88	6.69	4.00	99.00
R5LSTMNSPD	8620	46.86	6.89	4.00	99.00
S4LSTMNSPD	4120	46.85	6.64	4.00	99.00
S5LSTMNSPD	3545	46.93	6.95	4.00	99.00
R4FLSTMNSPD	7434	0.01	0.12	0.00	1.00
R5FLSTMNSPD	8620	0.03	0.17	0.00	1.00
S4FLSTMNSPD	4120	0.01	0.09	0.00	1.00
S5FLSTMNSPD	3545	0.02	0.15	0.00	1.00

Categorical Variable Codes

Value-----	R4HYSTERE	R5HYSTERE
.d:DK	11	24
.g:not asked-gender	11790	11790
.m:Missing	2	
.p:Proxy interview, not asked	515	686
.r:Refuse	3	17
0.no	6439	7422
1.yes	1667	1767
Value-----	S4HYSTERE	S5HYSTERE
.d:DK	8	13
.g:not asked-gender	4944	4356
.p:Proxy interview, not asked	193	223
.r:Refuse	2	8
.u:Unmar	4845	5226
.v:SP NR	164	379
0.no	3651	2831

1.yes		972	759
Value-----		R4FLSTMNSPD	R5FLSTMNSPD
.d:DK		40	17
.g:not asked-gender		11790	11790
.m:Missing		2	
.o:older than 55		21	6
.p:Proxy interview, not asked		515	288
.r:Refuse		13	14
.x:still menstruating		527	925
.y:younger than 45		85	46
0.Reported value		7329	8378
1.Estimated value		105	242
Value-----		S4FLSTMNSPD	S5FLSTMNSPD
.d:DK		15	2
.g:not asked-gender		4944	4356
.o:older than 55		6	1
.p:Proxy interview, not asked		193	80
.r:Refuse		8	2
.u:Unmar		4845	5226
.v:SP NR		164	379
.x:still menstruating		451	194
.y:younger than 45		33	10
0.Reported value		4083	3463
1.Estimated value		37	82

## How Constructed

RwHYSTERE indicates whether the respondent has ever had a hysterectomy. RwHYSTERE is coded as 0.No, and 1.Yes. RwHYSTERE is available starting in Wave 4. In RwHYSTERE, respondents who are men are assigned special missing .g. Proxy respondents are not asked about a hysterectomy and are assigned special missing .p. Don't know, refused, or other missing responses of this variable is assigned special missing codes .d, .r, and .m, respectively. RwHYSTERE is set to plain missing (.) for respondents who did not participate in the current wave.

RwLSTMNSPD indicates the respondent's age at their last menstrual period. Respondents who are women are asked how old they were when they stopped menstruating, and if they answer don't know or refuse, are then asked if they were less than 45 years old, about 50 years old, or more than 55 years old. RwLSTMNSPD takes the value reported by the respondent if available, and is assigned a value of 50, if they did not answer the first question and respond to the second question that they were about 50 years old. RwFLSTMNSPD is a flag variable indicating whether the value of RwLSTMNSPD was reported, in which case RwFLSTMNSPD is assigned a value of 0, or if RwLSTMNSPD was set to 50 because the respondent reported being about 50 years old in the second question, in which case RwFLSTMNSPD is assigned a value of 1. If the respondent reported that they were less than 45 years old, then RwLSTMNSPD and RwFLSTMNSPD are assigned special missing .y. If the respondent reported that they were older than 55 years old, then RwLSTMNSPD and RwFLSTMNSPD are assigned special missing .o. If the respondent voluntarily reports she still menstruates, RwLSTMNSPD and RwFLSTMNSPD are set to special missing value .x. RwLSTMNSPD and RwFLSTMNSPD are available starting in Wave 4. Values of RwLSTMNSPD and RwFLSTMNSPD are carried forward in future waves. In RwLSTMNSPD and RwFLSTMNSPD, respondents who are men are assigned special missing .g. Proxy respondents are not asked about the age at their last menstrual period and are assigned special missing .p. Don't know, refused, or other missing responses of these variables are assigned special missing codes .d, .r, and .m, respectively. RwLSTMNSPD and RwFLSTMNSPD are set to plain missing (.) for respondents who did not participate in the current wave.

SwHYSTERE, SwLSTMNSPD, and SwFLSTMNSPD are variables are taken from the Wave 'w' spouse's RwHYSTERE, RwLSTMNSPD, and RwFLSTMNSPD variables. In addition to the special missing codes used in RwHYSTERE, RwLSTMNSPD, and RwFLSTMNSPD; SwHYSTERE, SwLSTMNSPD, and SwFLSTMNSPD employ the special missing value .u, when the respondent does not report being coupled in the current wave, and the special missing value .v, when the respondent reports being coupled in the current wave but their spouse is not interviewed.

## Cross Wave Differences in MHAS

Respondents who are women are asked whether they have had a hysterectomy and their age when they stopped menstruating starting in Wave 4.

Differences with the RAND HRS/Harmonized HRS

The HRS asks whether the respondent had a hysterectomy and the age of their last period starting in Wave 9, while the MHAS asks the same questions starting in Wave 4. Additionally, the HRS asks what stage of menopause the respondent thinks they are in, recorded in RwmENOPE in the Harmonized HRS.

MHAS Variables Used

Wave 4:	
C48I_15	In the last 2 years: Respondent had a mammogram/x-ray
C48K1_15	Was respondent...
C48K_15	Respondent's age when she stopped menstruating
Wave 5:	
C48I_18	In the last 2 years: R had a mammogram/x-ray
C48K1_18	Was R...
C48K_18	R's age when she stopped menstruating

BMI

Wave	Variable	Label	Type
1	R1BMI	r1bmi: w1 R Body Mass Index=kg/m2	Cont
2	R2BMI	r2bmi: w2 R Body Mass Index=kg/m2	Cont
3	R3BMI	r3bmi: w3 R Body Mass Index=kg/m2	Cont
4	R4BMI	r4bmi: w4 R Body Mass Index=kg/m2	Cont
5	R5BMI	r5bmi: w5 R Body Mass Index=kg/m2	Cont
1	S1BMI	s1bmi: w1 S Body Mass Index=kg/m2	Cont
2	S2BMI	s2bmi: w2 S Body Mass Index=kg/m2	Cont
3	S3BMI	s3bmi: w3 S Body Mass Index=kg/m2	Cont
4	S4BMI	s4bmi: w4 S Body Mass Index=kg/m2	Cont
5	S5BMI	s5bmi: w5 S Body Mass Index=kg/m2	Cont
1	R1WEIGHT	r1weight: w1 R Weight in kilograms	Cont
2	R2WEIGHT	r2weight: w2 R Weight in kilograms	Cont
3	R3WEIGHT	r3weight: w3 R Weight in kilograms	Cont
4	R4WEIGHT	r4weight: w4 R Weight in kilograms	Cont
5	R5WEIGHT	r5weight: w5 R Weight in kilograms	Cont
1	S1WEIGHT	s1weight: w1 S Weight in kilograms	Cont
2	S2WEIGHT	s2weight: w2 S Weight in kilograms	Cont
3	S3WEIGHT	s3weight: w3 S Weight in kilograms	Cont
4	S4WEIGHT	s4weight: w4 S Weight in kilograms	Cont
5	S5WEIGHT	s5weight: w5 S Weight in kilograms	Cont
1	R1HEIGHT	r1height: w1 R Height in meters	Cont
2	R2HEIGHT	r2height: w2 R Height in meters	Cont
3	R3HEIGHT	r3height: w3 R Height in meters	Cont
4	R4HEIGHT	r4height: w4 R Height in meters	Cont
5	R5HEIGHT	r5height: w5 R Height in meters	Cont
1	S1HEIGHT	s1height: w1 S Height in meters	Cont
2	S2HEIGHT	s2height: w2 S Height in meters	Cont
3	S3HEIGHT	s3height: w3 S Height in meters	Cont
4	S4HEIGHT	s4height: w4 S Height in meters	Cont
5	S5HEIGHT	s5height: w5 S Height in meters	Cont

Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R1BMI	11361	27.27	5.15	10.49	99.00
R2BMI	9431	27.51	5.42	10.12	109.28
R3BMI	13831	27.49	5.01	12.49	70.25
R4BMI	12813	27.57	5.10	11.20	73.87
R5BMI	15215	27.79	5.18	8.33	75.02
S1BMI	8174	27.45	5.14	10.49	99.00
S2BMI	6813	27.67	5.36	10.12	109.28
S3BMI	9505	27.71	4.89	12.49	70.25
S4BMI	8569	27.81	4.95	11.20	73.87
S5BMI	6822	27.72	5.04	8.33	71.07
R1WEIGHT	13566	69.84	14.07	30.00	180.00
R2WEIGHT	12134	69.72	14.16	20.00	176.00
R3WEIGHT	14998	69.90	14.01	30.00	190.00
R4WEIGHT	14078	69.69	14.25	30.00	187.00
R5WEIGHT	16361	70.60	14.30	30.00	175.00

S1WEIGHT	9646	71.28	13.96	30.00	180.00
S2WEIGHT	8608	71.08	13.94	20.00	176.00
S3WEIGHT	10207	71.47	13.79	30.00	190.00
S4WEIGHT	9321	71.34	13.93	30.00	187.00
S5WEIGHT	7341	70.89	13.72	30.00	156.00
R1HEIGHT	11736	1.61	0.10	1.00	2.00
R2HEIGHT	9712	1.61	0.10	1.00	2.00
R3HEIGHT	14084	1.60	0.10	1.00	2.00
R4HEIGHT	13064	1.60	0.10	1.00	1.99
R5HEIGHT	15561	1.60	0.10	1.00	2.00
S1HEIGHT	8411	1.62	0.10	1.00	2.00
S2HEIGHT	7004	1.62	0.10	1.00	2.00
S3HEIGHT	9639	1.61	0.10	1.07	2.00
S4HEIGHT	8703	1.61	0.10	1.00	1.99
S5HEIGHT	6966	1.60	0.10	1.00	2.00

How Constructed

RwHEIGHT, RwWEIGHT, and RwBMI are the respondent's self-reported height, weight, and body mass index, respectively.

Height is given in meters, weight in kilograms, and BMI is weight divided by the square of height. A special missing code .i is used for RwHEIGHT when the respondent reports a height less than 90cm or if an invalid code is selected (either 9, 915, 949, 990, or 992). Don't know, refused, or otherwise missing responses are assigned special missing values .d, .r, .m, respectively. RwHEIGHT, RwWEIGHT, and RwBMI are assigned plain missing (.) if the respondent did not participate in the current wave.

SwHEIGHT, SwWEIGHT, and SwBMI are the measures of the respondent's spouse and are taken directly from the spouse's RwHEIGHT, RwWEIGHT, and RwBMI, respectively. In addition to the special missing values employed by RwHEIGHT, RwWEIGHT, and RwBMI, SwHEIGHT, SwWEIGHT, and SwBMI employ the special missing value .u, when the respondent does not report being coupled in the current wave, and the special missing value .v, when the respondent reports being coupled in the current wave but their spouse is not interviewed.

Cross Wave Differences in MHAS

No differences known.

Differences with the RAND HRS/Harmonized HRS

No differences known.

MHAS Variables Used

Wave 1:	
C71	weight
C72	height
Wave 2:	
C66	weight
C67	height without shoes
Wave 3:	
C66_12	Respondent's current weight in kilos
C67_1_12	Respondent's height without shoes_Meters
C67_2_12	Respondent's height without shoes_Centimeters
Wave 4:	
C66_15	Respondent's current weight in kilos
C67_1_15	Respondent's height without shoes: Meters
C67_2_15	Respondent's height without shoes: Centimeters
Wave 5:	
C66_18	R's current weight in kilos
C67_1_18	R's height without shoes: Meters
C67_2_18	R's height without shoes: Centimeters

### Health Behaviors: Physical Activity or Exercise

Wave	Variable	Label	Type
1	R1VIGACT	r1vigact: w1 R Wtr vigorous phys act 3+/wk	Categ
2	R2VIGACT	r2vigact: w2 R Wtr vigorous phys act 3+/wk	Categ
3	R3VIGACT	r3vigact: w3 R Wtr vigorous phys act 3+/wk	Categ
4	R4VIGACT	r4vigact: w4 R Wtr vigorous phys act 3+/wk	Categ
5	R5VIGACT	r5vigact: w5 R Wtr vigorous phys act 3+/wk	Categ
1	S1VIGACT	s1vigact: w1 S Wtr vigorous phys act 3+/wk	Categ
2	S2VIGACT	s2vigact: w2 S Wtr vigorous phys act 3+/wk	Categ
3	S3VIGACT	s3vigact: w3 S Wtr vigorous phys act 3+/wk	Categ
4	S4VIGACT	s4vigact: w4 S Wtr vigorous phys act 3+/wk	Categ
5	S5VIGACT	s5vigact: w5 S Wtr vigorous phys act 3+/wk	Categ

### Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R1VIGACT	14036	0.34	0.47	0.00	1.00
R2VIGACT	12520	0.36	0.48	0.00	1.00
R3VIGACT	14442	0.39	0.49	0.00	1.00
R4VIGACT	13842	0.38	0.49	0.00	1.00
R5VIGACT	15772	0.35	0.48	0.00	1.00
S1VIGACT	9889	0.36	0.48	0.00	1.00
S2VIGACT	8737	0.38	0.49	0.00	1.00
S3VIGACT	9862	0.42	0.49	0.00	1.00
S4VIGACT	9180	0.41	0.49	0.00	1.00
S5VIGACT	7069	0.33	0.47	0.00	1.00

### Categorical Variable Codes

Value-----	R1VIGACT	R2VIGACT	R3VIGACT	R4VIGACT	R5VIGACT
.d:DK	42	4	3	1	6
.m:Missing	4			6	
.p:Proxy interview, not asked	1032	1178	1275	929	1328
.r:Refuse	72	2	3	1	8
0.No	9268	7989	8767	8526	10268
1.Yes	4768	4531	5675	5316	5504

Value-----	S1VIGACT	S2VIGACT	S3VIGACT	S4VIGACT	S5VIGACT
.d:DK	39	4	1	1	3
.m:Missing	3			1	
.p:Proxy interview, not asked	660	821	726	470	563
.r:Refuse	57	2	3		3
.u:Unmar	4205	4009	4782	4847	5227
.v:SP NR	333	131	349	280	501
0.No	6281	5380	5724	5397	4711
1.Yes	3608	3357	4138	3783	2358

### How Constructed

RwVIGACT indicates whether the respondent has participated in hard physical work on average during the last two years, three or more times a week; including various activities such as sports, heavy household chores, or other physical work. A code of 1 indicates that the respondent did participate in vigorous activity three or more times a week. A code of 0 indicates that the respondent did not participate in vigorous activity three or more times a week. When respondents "don't know", refuse to answer, or answers are missing, RwVIGACT is assigned special missing values .d, .r, .m, respectively. Variables are set to special missing value .p for proxy interviews and to plain missing (.) for respondents who did not respond to the current wave.

SwVIGACT indicates whether the respondent's spouse has participated in hard physical work on average during the last two years three or more times a week and is taken directly from the spouse's RwVIGACT. In addition to the special missing codes employed by RwVIGACT, SwVIGACT employs the special missing value .u, if the respondent is not designated as coupled in the current wave and assumed to be single a special missing value of .u is used. Also, if the respondent is not designated as coupled in the current wave but reports being married, a special missing value of .v is used.

Cross Wave Differences in MHAS

No differences known.

Differences with the RAND HRS/Harmonized HRS

The MHAS only asks one question regarding vigorous physical activity. In the HRS, from Wave 3 (1996) to Wave 6 (2002), the HRS only asks about vigorous exercise, but does not collect information about moderate or light physical activities. Starting from Wave 7 (2004), the HRS questionnaire features a series of three questions, one concerning vigorous, one concerning moderate, and one concerning mild/light physical activity.

MHAS Variables Used

Wave 1:	
C53	done hard physical work
Wave 2:	
C50	does physical work regularly
Wave 3:	
C50B_12	Last 2 years:Respondent ... exercise or hard physical wor
Wave 4:	
C50B_15	In the last 2 years: Respondent exercised or did hard p
Wave 5:	
C50B_18	Last 2 years: R exercised or did hard physical work 3+



<b>Health Behaviors: Drinking</b>
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Wave	Variable	Label	Type
1	R1DRINK	r1drink: w1 R Ever drinks any alcohol	Categ
2	R2DRINK	r2drink: w2 R Ever drinks any alcohol	Categ
3	R3DRINK	r3drink: w3 R Ever drinks any alcohol	Categ
4	R4DRINK	r4drink: w4 R Ever drinks any alcohol	Categ
5	R5DRINK	r5drink: w5 R Ever drinks any alcohol	Categ
1	S1DRINK	s1drink: w1 S Ever drinks any alcohol	Categ
2	S2DRINK	s2drink: w2 S Ever drinks any alcohol	Categ
3	S3DRINK	s3drink: w3 S Ever drinks any alcohol	Categ
4	S4DRINK	s4drink: w4 S Ever drinks any alcohol	Categ
5	S5DRINK	s5drink: w5 S Ever drinks any alcohol	Categ
1	R1DRINKD	r1drinkd: w1 R Number of days/week drinks	Cont
2	R2DRINKD	r2drinkd: w2 R Number of days/week drinks	Cont
3	R3DRINKD	r3drinkd: w3 R Number of days/week drinks	Cont
4	R4DRINKD	r4drinkd: w4 R Number of days/week drinks	Cont
5	R5DRINKD	r5drinkd: w5 R Number of days/week drinks	Cont
1	S1DRINKD	s1drinkd: w1 S Number of days/week drinks	Cont
2	S2DRINKD	s2drinkd: w2 S Number of days/week drinks	Cont
3	S3DRINKD	s3drinkd: w3 S Number of days/week drinks	Cont
4	S4DRINKD	s4drinkd: w4 S Number of days/week drinks	Cont
5	S5DRINKD	s5drinkd: w5 S Number of days/week drinks	Cont
1	R1DRINKN	r1drinkn: w1 R Number of drinks/day when drinks	Cont
2	R2DRINKN	r2drinkn: w2 R Number of drinks/day when drinks	Cont
3	R3DRINKN	r3drinkn: w3 R Number of drinks/day when drinks	Cont
4	R4DRINKN	r4drinkn: w4 R Number of drinks/day when drinks	Cont
5	R5DRINKN	r5drinkn: w5 R Number of drinks/day when drinks	Cont
1	S1DRINKN	s1drinkn: w1 S Number of drinks/day when drinks	Cont
2	S2DRINKN	s2drinkn: w2 S Number of drinks/day when drinks	Cont
3	S3DRINKN	s3drinkn: w3 S Number of drinks/day when drinks	Cont
4	S4DRINKN	s4drinkn: w4 S Number of drinks/day when drinks	Cont
5	S5DRINKN	s5drinkn: w5 S Number of drinks/day when drinks	Cont
1	R1DRINKB	r1drinkb: w1 R Ever binge drinks	Categ
2	R2DRINKB	r2drinkb: w2 R Ever binge drinks	Categ
3	R3DRINKB	r3drinkb: w3 R Ever binge drinks	Categ
4	R4DRINKB	r4drinkb: w4 R Ever binge drinks	Categ
5	R5DRINKB	r5drinkb: w5 R Ever binge drinks	Categ
1	S1DRINKB	s1drinkb: w1 S Ever binge drinks	Categ
2	S2DRINKB	s2drinkb: w2 S Ever binge drinks	Categ
3	S3DRINKB	s3drinkb: w3 S Ever binge drinks	Categ
4	S4DRINKB	s4drinkb: w4 S Ever binge drinks	Categ
5	S5DRINKB	s5drinkb: w5 S Ever binge drinks	Categ
1	R1BINGED	r1binged: w1 R Number of days binge drinks	Cont
2	R2BINGED	r2binged: w2 R Number of days binge drinks	Cont
3	R3BINGED	r3binged: w3 R Number of days binge drinks	Cont
4	R4BINGED	r4binged: w4 R Number of days binge drinks	Cont
5	R5BINGED	r5binged: w5 R Number of days binge drinks	Cont
1	S1BINGED	s1binged: w1 S Number of days binge drinks	Cont
2	S2BINGED	s2binged: w2 S Number of days binge drinks	Cont
3	S3BINGED	s3binged: w3 S Number of days binge drinks	Cont
4	S4BINGED	s4binged: w4 S Number of days binge drinks	Cont
5	S5BINGED	s5binged: w5 S Number of days binge drinks	Cont

1	R1DRINKCUT	r1drinkcut: w1 R Feels should cut down on drinking	Categ
2	R2DRINKCUT	r2drinkcut: w2 R Feels should cut down on drinking	Categ
3	R3DRINKCUT	r3drinkcut: w3 R Feels should cut down on drinking	Categ
4	R4DRINKCUT	r4drinkcut: w4 R Feels should cut down on drinking	Categ
1	S1DRINKCUT	s1drinkcut: w1 S Feels should cut down on drinking	Categ
2	S2DRINKCUT	s2drinkcut: w2 S Feels should cut down on drinking	Categ
3	S3DRINKCUT	s3drinkcut: w3 S Feels should cut down on drinking	Categ
4	S4DRINKCUT	s4drinkcut: w4 S Feels should cut down on drinking	Categ
1	R1DRINKCR	r1drinkcr: w1 R Others criticize your drinking	Categ
2	R2DRINKCR	r2drinkcr: w2 R Others criticize your drinking	Categ
3	R3DRINKCR	r3drinkcr: w3 R Others criticize your drinking	Categ
4	R4DRINKCR	r4drinkcr: w4 R Others criticize your drinking	Categ
1	S1DRINKCR	s1drinkcr: w1 S Others criticize your drinking	Categ
2	S2DRINKCR	s2drinkcr: w2 S Others criticize your drinking	Categ
3	S3DRINKCR	s3drinkcr: w3 S Others criticize your drinking	Categ
4	S4DRINKCR	s4drinkcr: w4 S Others criticize your drinking	Categ
1	R1DRINKBD	r1drinkbd: w1 R Feels bad about drinking	Categ
2	R2DRINKBD	r2drinkbd: w2 R Feels bad about drinking	Categ
3	R3DRINKBD	r3drinkbd: w3 R Feels bad about drinking	Categ
4	R4DRINKBD	r4drinkbd: w4 R Feels bad about drinking	Categ
1	S1DRINKBD	s1drinkbd: w1 S Feels bad about drinking	Categ
2	S2DRINKBD	s2drinkbd: w2 S Feels bad about drinking	Categ
3	S3DRINKBD	s3drinkbd: w3 S Feels bad about drinking	Categ
4	S4DRINKBD	s4drinkbd: w4 S Feels bad about drinking	Categ
1	R1DRINKNR	r1drinknr: w1 R Takes drink for nerve in am	Categ
2	R2DRINKNR	r2drinknr: w2 R Takes drink for nerve in am	Categ
3	R3DRINKNR	r3drinknr: w3 R Takes drink for nerve in am	Categ
4	R4DRINKNR	r4drinknr: w4 R Takes drink for nerve in am	Categ
1	S1DRINKNR	s1drinknr: w1 S Takes drink for nerve in am	Categ
2	S2DRINKNR	s2drinknr: w2 S Takes drink for nerve in am	Categ
3	S3DRINKNR	s3drinknr: w3 S Takes drink for nerve in am	Categ
4	S4DRINKNR	s4drinknr: w4 S Takes drink for nerve in am	Categ
1	R1CAGE	r1cage: w1 R Cage summary score	Cont
2	R2CAGE	r2cage: w2 R Cage summary score	Cont
3	R3CAGE	r3cage: w3 R Cage summary score	Cont
4	R4CAGE	r4cage: w4 R Cage summary score	Cont
1	S1CAGE	s1cage: w1 S Cage summary score	Cont
2	S2CAGE	s2cage: w2 S Cage summary score	Cont
3	S3CAGE	s3cage: w3 S Cage summary score	Cont
4	S4CAGE	s4cage: w4 S Cage summary score	Cont
1	R1CAGEM	r1cagem: w1 R Cage missings	Cont
2	R2CAGEM	r2cagem: w2 R Cage missings	Cont
3	R3CAGEM	r3cagem: w3 R Cage missings	Cont
4	R4CAGEM	r4cagem: w4 R Cage missings	Cont
1	S1CAGEM	s1cagem: w1 S Cage missings	Cont
2	S2CAGEM	s2cagem: w2 S Cage missings	Cont
3	S3CAGEM	s3cagem: w3 S Cage missings	Cont
4	S4CAGEM	s4cagem: w4 S Cage missings	Cont

## Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
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R1DRINK	15175	0.31	0.46	0.00	1.00
R2DRINK	13700	0.26	0.44	0.00	1.00
R3DRINK	15719	0.23	0.42	0.00	1.00
R4DRINK	14770	0.23	0.42	0.00	1.00
R5DRINK	17105	0.27	0.45	0.00	1.00
S1DRINK	10641	0.34	0.47	0.00	1.00
S2DRINK	9561	0.28	0.45	0.00	1.00
S3DRINK	10588	0.26	0.44	0.00	1.00
S4DRINK	9650	0.25	0.44	0.00	1.00
S5DRINK	7635	0.27	0.44	0.00	1.00
R1DRINKD	15102	0.35	1.17	0.00	7.00
R2DRINKD	13657	0.34	1.13	0.00	7.00
R3DRINKD	15648	0.35	1.09	0.00	7.00
R4DRINKD	14713	0.33	1.05	0.00	7.00
R5DRINKD	17021	0.41	1.12	0.00	7.00
S1DRINKD	10584	0.40	1.24	0.00	7.00
S2DRINKD	9533	0.38	1.17	0.00	7.00
S3DRINKD	10533	0.39	1.14	0.00	7.00
S4DRINKD	9607	0.38	1.10	0.00	7.00
S5DRINKD	7599	0.41	1.15	0.00	7.00
R1DRINKN	15060	0.67	2.50	0.00	70.00
R2DRINKN	13615	0.65	2.28	0.00	30.00
R3DRINKN	15663	0.65	2.56	0.00	70.00
R4DRINKN	14749	0.63	2.38	0.00	72.00
R5DRINKN	17028	0.85	3.16	0.00	82.00
S1DRINKN	10549	0.78	2.71	0.00	70.00
S2DRINKN	9501	0.74	2.42	0.00	30.00
S3DRINKN	10543	0.75	2.79	0.00	70.00
S4DRINKN	9638	0.74	2.55	0.00	72.00
S5DRINKN	7609	0.81	3.02	0.00	82.00
R1DRINKB	15079	0.08	0.28	0.00	1.00
R2DRINKB	13638	0.08	0.27	0.00	1.00
R3DRINKB	15690	0.08	0.28	0.00	1.00
R4DRINKB	14761	0.08	0.27	0.00	1.00
R5DRINKB	17064	0.11	0.32	0.00	1.00
S1DRINKB	10564	0.09	0.29	0.00	1.00
S2DRINKB	9511	0.09	0.29	0.00	1.00
S3DRINKB	10563	0.10	0.29	0.00	1.00
S4DRINKB	9644	0.09	0.29	0.00	1.00
S5DRINKB	7615	0.11	0.31	0.00	1.00
R1BINGED	15079	0.91	6.43	0.00	87.00
R2BINGED	13638	0.71	5.09	0.00	87.00
R3BINGED	15690	0.48	3.65	0.00	87.00
R4BINGED	14761	0.49	3.82	0.00	87.00
R5BINGED	17064	0.63	4.34	0.00	87.00
S1BINGED	10564	0.99	6.47	0.00	87.00
S2BINGED	9511	0.77	5.10	0.00	87.00
S3BINGED	10563	0.54	3.90	0.00	87.00
S4BINGED	9644	0.55	3.81	0.00	87.00
S5BINGED	7615	0.55	3.81	0.00	87.00
R1DRINKCUT	6087	0.37	0.48	0.00	1.00
R2DRINKCUT	2300	0.44	0.50	0.00	1.00
R3DRINKCUT	3113	0.46	0.50	0.00	1.00

R4DRINKCUT	3131	0.46	0.50	0.00	1.00
S1DRINKCUT	4510	0.38	0.48	0.00	1.00
S2DRINKCUT	1740	0.44	0.50	0.00	1.00
S3DRINKCUT	2362	0.48	0.50	0.00	1.00
S4DRINKCUT	2283	0.48	0.50	0.00	1.00
R1DRINKCR	6085	0.24	0.42	0.00	1.00
R2DRINKCR	2294	0.21	0.41	0.00	1.00
R3DRINKCR	3112	0.20	0.40	0.00	1.00
R4DRINKCR	3132	0.21	0.41	0.00	1.00
S1DRINKCR	4508	0.25	0.43	0.00	1.00
S2DRINKCR	1735	0.21	0.41	0.00	1.00
S3DRINKCR	2360	0.21	0.41	0.00	1.00
S4DRINKCR	2283	0.22	0.41	0.00	1.00
R1DRINKBD	6084	0.26	0.44	0.00	1.00
R2DRINKBD	2297	0.25	0.43	0.00	1.00
R3DRINKBD	3115	0.23	0.42	0.00	1.00
R4DRINKBD	3133	0.25	0.43	0.00	1.00
S1DRINKBD	4507	0.26	0.44	0.00	1.00
S2DRINKBD	1737	0.25	0.43	0.00	1.00
S3DRINKBD	2362	0.25	0.43	0.00	1.00
S4DRINKBD	2285	0.27	0.44	0.00	1.00
R1DRINKNR	6083	0.18	0.39	0.00	1.00
R2DRINKNR	2301	0.15	0.36	0.00	1.00
R3DRINKNR	3116	0.12	0.33	0.00	1.00
R4DRINKNR	3134	0.12	0.33	0.00	1.00
S1DRINKNR	4506	0.19	0.39	0.00	1.00
S2DRINKNR	1741	0.15	0.36	0.00	1.00
S3DRINKNR	2363	0.13	0.33	0.00	1.00
S4DRINKNR	2284	0.13	0.33	0.00	1.00
R1CAGE	6100	1.04	1.31	0.00	4.00
R2CAGE	2304	1.04	1.19	0.00	4.00
R3CAGE	3118	1.01	1.16	0.00	4.00
R4CAGE	3135	1.04	1.18	0.00	4.00
S1CAGE	4519	1.07	1.33	0.00	4.00
S2CAGE	1744	1.05	1.18	0.00	4.00
S3CAGE	2364	1.06	1.17	0.00	4.00
S4CAGE	2285	1.09	1.20	0.00	4.00
R1CAGEM	15186	2.40	1.96	0.00	4.00
R2CAGEM	13704	3.33	1.49	0.00	4.00
R3CAGEM	15723	3.21	1.59	0.00	4.00
R4CAGEM	14779	3.15	1.63	0.00	4.00
S1CAGEM	10648	2.31	1.97	0.00	4.00
S2CAGEM	9564	3.27	1.54	0.00	4.00
S3CAGEM	10592	3.11	1.66	0.00	4.00
S4CAGEM	9652	3.05	1.70	0.00	4.00

Categorical Variable Codes

Value-----	R1DRINK	R2DRINK	R3DRINK	R4DRINK	R5DRINK
.d:DK	3	3	2	2	3
.m:Missing	4			6	
.r:Refuse	4	1	2	1	6
0.no	10441	10159	12147	11382	12414

1.yes	4734	3541	3572	3388	4691
Value-----	S1DRINK	S2DRINK	S3DRINK	S4DRINK	S5DRINK
.d:DK	2	3	2	1	1
.m:Missing	3			1	
.r:Refuse	2		2		2
.u:Unmar	4205	4009	4782	4847	5227
.v:SP NR	333	131	349	280	501
0.no	7032	6863	7887	7197	5578
1.yes	3609	2698	2701	2453	2057
Value-----	R1DRINKB	R2DRINKB	R3DRINKB	R4DRINKB	R5DRINKB
.d:DK	73	58	28	9	31
.m:Missing	4			6	
.r:Refuse	30	8	5	3	19
0.no	13824	12518	14378	13551	15150
1.yes	1255	1120	1312	1210	1914
Value-----	S1DRINKB	S2DRINKB	S3DRINKB	S4DRINKB	S5DRINKB
.d:DK	58	47	25	5	11
.m:Missing	3			1	
.r:Refuse	23	6	4	2	12
.u:Unmar	4205	4009	4782	4847	5227
.v:SP NR	333	131	349	280	501
0.no	9567	8620	9556	8729	6795
1.yes	997	891	1007	915	820
Value-----	R1DRINKCUT	R2DRINKCUT	R3DRINKCUT	R4DRINKCUT	
.d:DK	55	7	4	4	
.m:Missing	4	1		6	
.n:does not drink	8455	10378	11506	10831	
.p:Proxy interview, not asked	523	1015	1092	804	
.r:Refuse	62	3	8	3	
0.no	3841	1288	1678	1685	
1.yes	2246	1012	1435	1446	
Value-----	S1DRINKCUT	S2DRINKCUT	S3DRINKCUT	S4DRINKCUT	
.d:DK	44	7	2	3	
.m:Missing	3	1		1	
.n:does not drink	5678	7102	7588	6944	
.p:Proxy interview, not asked	365	712	636	420	
.r:Refuse	48	2	4	1	
.u:Unmar	4205	4009	4782	4847	
.v:SP NR	333	131	349	280	
0.no	2806	969	1217	1179	
1.yes	1704	771	1145	1104	
Value-----	R1DRINKCR	R2DRINKCR	R3DRINKCR	R4DRINKCR	
.d:DK	57	9	4	3	
.m:Missing	4	2		6	
.n:does not drink	8455	10378	11506	10831	
.p:Proxy interview, not asked	523	1015	1092	804	
.r:Refuse	62	6	9	3	
0.no	4650	1817	2494	2481	
1.yes	1435	477	618	651	
Value-----	S1DRINKCR	S2DRINKCR	S3DRINKCR	S4DRINKCR	
.d:DK	48	9	2	3	
.m:Missing	3	2		1	
.n:does not drink	5678	7102	7588	6944	
.p:Proxy interview, not asked	365	712	636	420	
.r:Refuse	46	4	6	1	
.u:Unmar	4205	4009	4782	4847	
.v:SP NR	333	131	349	280	
0.no	3401	1371	1871	1788	
1.yes	1107	364	489	495	
Value-----	R1DRINKBD	R2DRINKBD	R3DRINKBD	R4DRINKBD	
.d:DK	58	6	2	1	
.m:Missing	4	2		6	
.n:does not drink	8455	10378	11506	10831	
.p:Proxy interview, not asked	523	1015	1092	804	
.r:Refuse	62	6	8	4	

0.no		4521	1724	2409	2364
1.yes		1563	573	706	769
Value-----		S1DRINKBD	S2DRINKBD	S3DRINKBD	S4DRINKBD
.d:DK		48	6	2	1
.m:Missing		3	2		1
.n:does not drink		5678	7102	7588	6944
.p:Proxy interview, not asked		365	712	636	420
.r:Refuse		47	5	4	1
.u:Unmar		4205	4009	4782	4847
.v:SP NR		333	131	349	280
0.no		3325	1302	1780	1679
1.yes		1182	435	582	606
Value-----		R1DRINKNR	R2DRINKNR	R3DRINKNR	R4DRINKNR
.d:DK		55	4	1	1
.m:Missing		4	2		6
.n:does not drink		8455	10378	11506	10831
.p:Proxy interview, not asked		523	1015	1092	804
.r:Refuse		66	4	8	3
0.no		4974	1957	2738	2750
1.yes		1109	344	378	384
Value-----		S1DRINKNR	S2DRINKNR	S3DRINKNR	S4DRINKNR
.d:DK		45	4	1	1
.m:Missing		3	2		1
.n:does not drink		5678	7102	7588	6944
.p:Proxy interview, not asked		365	712	636	420
.r:Refuse		51	3	4	2
.u:Unmar		4205	4009	4782	4847
.v:SP NR		333	131	349	280
0.no		3644	1483	2063	1992
1.yes		862	258	300	292

## How Constructed

RwDRINK is a yes/no indicator for whether the respondent ever drinks alcoholic beverages, such as beer, wine, liquor, or pulque. A code of 0 indicates that the respondent does not ever have an alcoholic drink. A code of 1 indicates that the respondent does ever have an alcoholic drink. When respondents don't know, refuse to answer, or answers are missing, RwDRINK is assigned special missing values .d, .r, .m, respectively. RwDRINK is set to plain missing (.) for respondents who did not respond to the current wave.

RwDRINKD indicates the number of days per week the respondent drinks. RwDRINKN indicates the number of drinks the respondent has when they drink. A code of 0 was assigned if the respondent reported they never have an alcoholic drink (this is if RwDRINK is 0). When respondents don't know, refuse to answer, or answers are missing, RwDRINKD and RwDRINKN are assigned special missing values .d, .r, .m, respectively. RwDRINKD and RwDRINKN are set to plain missing (.) for respondents who did not respond to the current wave.

RwDRINKB indicates whether the respondent ever binge drinks. RwBINGED indicates the number of days the respondent reports binge drinking in the last 3 months. Binge drinking is determined by the question: "In the last three months, on how many days have you had four or more drinks on one occasion?". If the respondent reports an answer of "no" to this question, reports never drinking, or reports drinking 0 days per week in the last 3 months, then RwDRINKB is coded as 0.No, and RwBINGED is coded as 0. If the respondent reports a number of 1 or greater to this question, then RwDRINKB is coded as 1.Yes and RwBINGED takes the numerical value. If RwBINGED is coded as 87, it indicates that the respondent "drinks 87 days or more". Don't know, refused, or other missing responses of RwDRINKB and RwBINGED are assigned special missing codes .d, .r, and .m, respectively. These variables are set to plain missing (.) for respondents who did not participate in the current wave.

RwDRINKCUT, RwDRINKCR, RwDRINKBD, and RwDRINKNR indicate the respondent's feelings about their drinking habits. RwDRINKCUT indicates whether the respondent has ever felt that they should cut down on their drinking. RwDRINKCR indicates whether people have ever annoyed the respondent by criticizing their drinking. RwDRINKBD indicates whether the respondent has ever felt bad or guilty about drinking. RwDRINKNR indicates whether the respondent has ever taken a drink first thing in the morning to steady their nerves or get rid of a hangover. These variables are coded as 0.No and 1.Yes. RwCAGE is a summary variable for the respondent's feelings about their drinking habits. RwCAGE is equal to RwDRINKCUT +

RwDRINKCR + RwDRINKBD + RwDRINKNR. RwcAGEM indicates the number of variables missing in the calculation of RwcAGE. RwcAGE is calculated as long as at least one of the component variables is not missing. Don't know, refused, or other missing responses are assigned special missing codes .d, .r, and .m, respectively. These variables are set to plain missing (.) for respondents who did not participate in the current wave.

SwDRINK, SwDRINKD, SwDRINKN, SwDRINKB, SwBINGED, SwDRINKCUT, SwDRINKCR, SwDRINKBD, SwDRINKNR, SwCAGE, and SwCAGEM record the respondent's spouse's drinking behavior and are taken directly from the spouse's RwDRINK, RwDRINKD, RwDRINKN, RwDRINKB, SwBINGED, RwDRINKCUT, RwDRINKCR, RwDRINKBD, RwDRINKNR, RwcAGE, and RwcAGEM variables. In addition to the special missing codes used in the respondent variables, the spouse variables employ the special missing value .u, when the respondent does not report being coupled in the current wave, and the special missing value .v, when the respondent reports being coupled in the current wave but their spouse is not interviewed.

## Cross Wave Differences in MHAS

No differences known.

## Differences with the RAND HRS/Harmonized HRS

In the RAND HRS, the variable RwDRINK is constructed using the original HRS question "Do you ever drink any alcoholic beverages, such as beer, wine, or liquor?" It is worth mentioning that in the MHAS they also ask about pulque (alcohol made from fermented cactus sap). Also different to the HRS, when respondents are asked about how many days have they had four or more drinks on one occasion, the maximum allowed is 87 in the MHAS instead of 92 in the HRS.

## MHAS Variables Used

Wave 1:	
C60	drink now
C61	how often drink
C62	how much drink
Wave 2:	
C59A	currently drink alcohol
C59B	days per week drank alcohol in last three months
C59C	number of drinks a day
Wave 3:	
C59A_12	Respondent currently drinks alcohol
C59B_12	Last 3 months: Number of days per week he/she drank alc
C59C_12	Last 3 months: Number of alcoholic beverages per day
C59D_12	Last 3 months: Number of days with >= 4 drinks in one o
C59E_12	Last 2 years: Respondent drank alcohol
C60_12	Did/Has respondent consider(ed) drinking less
C61_12	Respondent annoyed by criticism about drinking alcohol
C62_12	Has respondent felt bad because h/she drank
C63_12	Does respondent drink alcohol in the morning to calm ne
Wave 4:	
C59A_15	Does respondent currently drinks alcohol
C59B_15	In the last 3 months: Number of days per week he/she dr
C59C_15	In the last 3 months: Number of alcoholic beverages per
C59D_15	In the last 3 months: Number of days with 4 or more dri
C59E_15	In the last 2 years: Did respondent had any alcohol
C60_15	Has respondent considered drinking less
C61_15	Has respondent ever been annoyed by criticism about dri
C62_15	Has respondent feel bad because h/she drank
C63_15	Does respondent drink alcohol in the morning to calm ne
Wave 5:	
C59A_18	Does R currently drinks alcohol
C59B_18	In the last 3 months: Number of days per week he/she dr
C59C_18	In the last 3 months: Number of alcoholic beverages per
C59D_18	In the last 3 months: Number of days with 4 or more dri

<b>Health Behaviors: Smoking (Cigarettes)</b>
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Wave	Variable	Label	Type
1	R1SMOKEV	r1smokev: w1 R Ever smoked	Categ
2	R2SMOKEV	r2smokev: w2 R Ever smoked	Categ
3	R3SMOKEV	r3smokev: w3 R Ever smoked	Categ
4	R4SMOKEV	r4smokev: w4 R Ever smoked	Categ
5	R5SMOKEV	r5smokev: w5 R Ever smoked	Categ
1	S1SMOKEV	s1smokev: w1 S Ever smoked	Categ
2	S2SMOKEV	s2smokev: w2 S Ever smoked	Categ
3	S3SMOKEV	s3smokev: w3 S Ever smoked	Categ
4	S4SMOKEV	s4smokev: w4 S Ever smoked	Categ
5	S5SMOKEV	s5smokev: w5 S Ever smoked	Categ
1	R1SMOKEN	r1smoken: w1 R Smokes now	Categ
2	R2SMOKEN	r2smoken: w2 R Smokes now	Categ
3	R3SMOKEN	r3smoken: w3 R Smokes now	Categ
4	R4SMOKEN	r4smoken: w4 R Smokes now	Categ
5	R5SMOKEN	r5smoken: w5 R Smokes now	Categ
1	S1SMOKEN	s1smoken: w1 S Smokes now	Categ
2	S2SMOKEN	s2smoken: w2 S Smokes now	Categ
3	S3SMOKEN	s3smoken: w3 S Smokes now	Categ
4	S4SMOKEN	s4smoken: w4 S Smokes now	Categ
5	S5SMOKEN	s5smoken: w5 S Smokes now	Categ
1	R1SMOKEF	r1smokef: w1 R Number of cigarettes/day	Cont
2	R2SMOKEF	r2smokef: w2 R Number of cigarettes/day	Cont
3	R3SMOKEF	r3smokef: w3 R Number of cigarettes/day	Cont
4	R4SMOKEF	r4smokef: w4 R Number of cigarettes/day	Cont
5	R5SMOKEF	r5smokef: w5 R Number of cigarettes/day	Cont
1	S1SMOKEF	s1smokef: w1 S Number of cigarettes/day	Cont
2	S2SMOKEF	s2smokef: w2 S Number of cigarettes/day	Cont
3	S3SMOKEF	s3smokef: w3 S Number of cigarettes/day	Cont
4	S4SMOKEF	s4smokef: w4 S Number of cigarettes/day	Cont
5	S5SMOKEF	s5smokef: w5 S Number of cigarettes/day	Cont
1	R1STRTSMOK	r1strtsmok: w1 R Age started smoking	Cont
2	R2STRTSMOK	r2strtsmok: w2 R Age started smoking	Cont
3	R3STRTSMOK	r3strtsmok: w3 R Age started smoking	Cont
4	R4STRTSMOK	r4strtsmok: w4 R Age started smoking	Cont
5	R5STRTSMOK	r5strtsmok: w5 R Age started smoking	Cont
1	S1STRTSMOK	s1strtsmok: w1 S Age started smoking	Cont
2	S2STRTSMOK	s2strtsmok: w2 S Age started smoking	Cont
3	S3STRTSMOK	s3strtsmok: w3 S Age started smoking	Cont
4	S4STRTSMOK	s4strtsmok: w4 S Age started smoking	Cont
5	S5STRTSMOK	s5strtsmok: w5 S Age started smoking	Cont
1	R1QUITSMOK	r1quitsmok: w1 R Age quit smoking	Cont
2	R2QUITSMOK	r2quitsmok: w2 R Age quit smoking	Cont
3	R3QUITSMOK	r3quitsmok: w3 R Age quit smoking	Cont
4	R4QUITSMOK	r4quitsmok: w4 R Age quit smoking	Cont
5	R5QUITSMOK	r5quitsmok: w5 R Age quit smoking	Cont
1	S1QUITSMOK	s1quitsmok: w1 S Age quit smoking	Cont
2	S2QUITSMOK	s2quitsmok: w2 S Age quit smoking	Cont
3	S3QUITSMOK	s3quitsmok: w3 S Age quit smoking	Cont
4	S4QUITSMOK	s4quitsmok: w4 S Age quit smoking	Cont
5	S5QUITSMOK	s5quitsmok: w5 S Age quit smoking	Cont



**Descriptive Statistics**

Variable	N	Mean	Std Dev	Minimum	Maximum
R1SMOKEV	15173	0.43	0.50	0.00	1.00
R2SMOKEV	13695	0.41	0.49	0.00	1.00
R3SMOKEV	15718	0.37	0.48	0.00	1.00
R4SMOKEV	14759	0.40	0.49	0.00	1.00
R5SMOKEV	17100	0.37	0.48	0.00	1.00
S1SMOKEV	10640	0.44	0.50	0.00	1.00
S2SMOKEV	9558	0.43	0.50	0.00	1.00
S3SMOKEV	10589	0.39	0.49	0.00	1.00
S4SMOKEV	9645	0.42	0.49	0.00	1.00
S5SMOKEV	7631	0.39	0.49	0.00	1.00
R1SMOKEN	15169	0.17	0.38	0.00	1.00
R2SMOKEN	13693	0.16	0.37	0.00	1.00
R3SMOKEN	15717	0.12	0.32	0.00	1.00
R4SMOKEN	14759	0.12	0.32	0.00	1.00
R5SMOKEN	17096	0.11	0.32	0.00	1.00
S1SMOKEN	10636	0.18	0.39	0.00	1.00
S2SMOKEN	9556	0.17	0.38	0.00	1.00
S3SMOKEN	10588	0.13	0.33	0.00	1.00
S4SMOKEN	9645	0.12	0.33	0.00	1.00
S5SMOKEN	7629	0.11	0.31	0.00	1.00
R1SMOKEF	15169	1.57	6.13	0.00	99.00
R2SMOKEF	13693	1.09	4.64	0.00	99.00
R3SMOKEF	15706	0.72	3.38	0.00	100.00
R4SMOKEF	14755	0.65	3.00	0.00	60.00
R5SMOKEF	17093	0.59	2.92	0.00	87.00
S1SMOKEF	10636	1.63	6.02	0.00	99.00
S2SMOKEF	9556	1.21	5.05	0.00	99.00
S3SMOKEF	10581	0.75	3.47	0.00	100.00
S4SMOKEF	9642	0.66	3.03	0.00	60.00
S5SMOKEF	7628	0.60	3.18	0.00	87.00
R1STRTSMOK	5888	20.58	9.75	9.00	85.00
R2STRTSMOK	6461	20.71	9.75	8.00	85.00
R3STRTSMOK	6890	20.18	8.86	1.00	75.00
R4STRTSMOK	7125	20.32	8.89	1.00	84.00
R5STRTSMOK	7730	20.14	8.55	1.00	84.00
S1STRTSMOK	4284	19.88	8.80	9.00	77.00
S2STRTSMOK	4728	20.04	8.91	8.00	77.00
S3STRTSMOK	4789	19.40	8.09	1.00	75.00
S4STRTSMOK	4886	19.65	8.20	1.00	75.00
S5STRTSMOK	3937	19.71	8.16	1.00	76.00
R1QUITSMOK	3310	18.12	13.59	1.00	75.00
R2QUITSMOK	4117	18.21	13.47	1.00	76.00
R3QUITSMOK	4769	23.96	16.58	1.00	84.00
R4QUITSMOK	5360	37.69	18.49	1.00	99.00
R5QUITSMOK	5824	39.65	17.20	1.00	99.00
S1QUITSMOK	2378	17.74	13.36	1.00	70.00
S2QUITSMOK	2985	17.81	13.24	1.00	76.00
S3QUITSMOK	3281	24.14	16.34	1.00	81.00
S4QUITSMOK	3661	37.26	17.71	1.00	99.00
S5QUITSMOK	3143	39.95	17.34	1.00	99.00

## Categorical Variable Codes

Value-----	R1SMOKEV	R2SMOKEV	R3SMOKEV	R4SMOKEV	R5SMOKEV
.d:DK	8	7	4	9	9
.m:Missing	4			6	
.r:Refuse	1	2	1	5	5
0.No	8652	8047	9957	8911	10800
1.Yes	6521	5648	5761	5848	6300

Value-----	S1SMOKEV	S2SMOKEV	S3SMOKEV	S4SMOKEV	S5SMOKEV
.d:DK	4	5	2	3	5
.m:Missing	3			1	
.r:Refuse	1	1	1	3	2
.u:Unmar	4205	4009	4782	4847	5227
.v:SP NR	333	131	349	280	501
0.No	5906	5427	6482	5628	4666
1.Yes	4734	4131	4107	4017	2965

Value-----	R1SMOKEN	R2SMOKEN	R3SMOKEN	R4SMOKEN	R5SMOKEN
.d:DK	11	9	4	9	11
.m:Missing	4			6	
.r:Refuse	2	2	2	5	7
0.No	12522	11493	13841	13053	15136
1.Yes	2647	2200	1876	1706	1960

Value-----	S1SMOKEN	S2SMOKEN	S3SMOKEN	S4SMOKEN	S5SMOKEN
.d:DK	7	7	2	3	7
.m:Missing	3			1	
.r:Refuse	2	1	2	3	2
.u:Unmar	4205	4009	4782	4847	5227
.v:SP NR	333	131	349	280	501
0.No	8679	7914	9248	8461	6827
1.Yes	1957	1642	1340	1184	802

## How Constructed

RwSMOKEV indicates whether the respondent ever smoked cigarettes. A code of 0 indicates that the respondent has never smoked. A code of 1 indicates that the respondent has ever smoked. When respondents don't know, refuse to answer, or answers are missing, RwSMOKEV is assigned special missing values .d, .r, .m, respectively. RwSMOKEV is set to plain missing (.) for respondents who did not respond to the current wave.

RwSMOKEN indicates whether the respondent reports currently smoking. This question is only asked if the respondent reports having ever smoked. If the respondent reports they have never smoked, RwSMOKEN is assigned a code of 0. A code of 0 indicates that the respondent does not currently smoke. A code of 1 indicates that the respondent currently smokes. When respondents don't know, refuse to answer, or answers are missing, RwSMOKEN is assigned special missing values .d, .r, .m, respectively. RwSMOKEN is set to plain missing (.) for respondents who did not respond to the current wave.

RwSMOKEF indicates the number of cigarettes the respondent usually smokes in a day. In Waves 1 and 2, respondents can report the number of cigarettes or the number of packs, and these responses are then converted to the number of cigarettes in the MHAS data. Starting in Wave 3, respondents can report the number of cigarettes or the number of packs which is converted to cigarettes for RwSMOKEF by multiplying the number of packs by 20. This question is only asked if the respondent reports having ever smoked and currently smoking. If the respondent reports they have never smoked or do not currently smoke, RwSMOKEF is assigned a code of 0. When respondents don't know, refuse to answer, or answers are missing, RwSMOKEF is assigned special missing values .d, .r, .m, respectively. RwSMOKEF is set to plain missing (.) for respondents who did not respond to the current wave.

RwSTRTSMOK indicates the age at which the respondent started smoking. In Waves 1 and 2, respondents are asked the year or age they started smoking, and these responses are then converted to the age in the MHAS data. In Wave 3, respondents can report the age at which they started smoking, or the year in which they started smoking. Starting in Wave 4, respondents can report the age at which they started smoking, the number of years ago they started smoking, or the year in which they started smoking. If the respondent reports the number of years ago they started smoking, this value is subtracted from the respondent's age at the time of interview. If the respondent reports the year in which they started smoking, the

respondent's birth year is subtracted from this value to obtain the age at which the respondent started smoking. If the calculated age started smoking takes a value of less than 1, or if the reported age is higher than the respondent's age at the current wave, then `RwSTRTSMOK` is assigned special missing value .i. If the respondent reports multiple ages that they started smoking across waves, the first reported value is used. `RwSTRTSMOK` is assigned special missing .n if the respondent reports never smoking. Don't know, refused, or other missing responses of `RwSTRTSMOK` are assigned special missing codes .d, .r, and .m, respectively. `RwSTRTSMOK` is set to plain missing (.) for respondents who did not participate in the current wave.

`RwQUITSMOK` indicates the age at which the respondent quit smoking. In Waves 1 and 2, respondents are asked the year or age they quit smoking, and these responses are then converted to the age in the MHAS data. In Wave 3, respondents can report the age at which they quit smoking, or the year in which they quit smoking. Starting in Wave 4, respondents can report the age at which they quit smoking, the number of years ago they quit smoking, or the year in which they quit smoking. If the respondent reports the number of years ago they quit smoking, this value is subtracted from the respondent's age at the time of interview. If the respondent reports the year in which they quit smoking, the respondent's birth year is subtracted from this value to obtain the age at which the respondent quit smoking. If the calculated age quit smoking takes a value of less than 1, or if the reported age is higher than the respondent's age at the current wave, then `RwQUITSMOK` is assigned special missing value .i. `RwQUITSMOK` is assigned special missing .n if the respondent reports never smoking. `RwQUITSMOK` is assigned special missing .c if the respondent reports currently smoking. Don't know, refused, or other missing responses of `RwQUITSMOK` are assigned special missing codes .d, .r, and .m, respectively. `RwQUITSMOK` is set to plain missing (.) for respondents who did not participate in the current wave.

`SwSMOKEV`, `SwSMOKEN`, `SwSMOKEF`, `SwSTRTSMOK`, and `SwQUITSMOK` record the respondent's spouse's smoking behavior and are taken directly from the spouse's `RwSMOKEV`, `RwSMOKEN`, `RwSMOKEF`, `RwSTRTSMOK`, and `RwQUITSMOK` variables. In addition to the special missing codes used in `RwSMOKEV`, `RwSMOKEN`, `RwSMOKEF`, `RwSTRTSMOK`, and `RwQUITSMOK`; `SwSMOKEV`, `SwSMOKEN`, `SwSMOKEF`, `SwSTRTSMOK`, and `SwQUITSMOK` employ the special missing value .u, when the respondent does not report being coupled in the current wave, and the special missing value .v, when the respondent reports being coupled in the current wave but their spouse is not interviewed.

## Cross Wave Differences in MHAS

In all waves the respondent can report the amount smoked per day by reporting the number of cigarettes or number of packs, but the number of packs is converted to the number of cigarettes in the original MHAS data in Waves 1 and 2.

In all waves the respondent can report the year or age they started smoking, but the year the respondent started smoking is converted to the age in the original MHAS data in Waves 1 and 2. Starting in Wave 4, respondent can also report the number of years ago they started smoking.

In all waves the respondent can report the year or age they quit smoking, but the year the respondent quit smoking is converted to the age in the original MHAS data in Waves 1 and 2. Starting in Wave 4, respondent can also report the number of years ago they quit smoking.

## Differences with the RAND HRS/Harmonized HRS

No differences known.

## MHAS Variables Used

### Wave 1:

C54	ever smoked
C55	smoke now
C56	how much smoke
C57	age first smoke
C59	years not smoking

### Wave 2:

C51	ever smoked cigarettes
C52	how old when started smoking
C53	smoked cigarettes since 2001
C54	smoke cigarettes now

C56	how many cigarettes/packs a day
C58	how many years smoked
Wave 3:	
C51_12	Has respondent ever smoked cigarettes
C52_1_12	Age respondent started smoking
C52_2_12	Year respondent started smoking
C53_12	Last 2 years: Respondent smoked cigarettes
C54_12	Does respondent currently smoke cigarettes
C56_1_12	Respondent's number of cigarettes smoked daily
C56_2_12	Respondent number of cigarette pack(s) smoked daily
C58_1_12	How many years ago did respondent stop smoking, Or
C58_2_12	Year when respondent stopped smoking
Wave 4:	
C51_15	Has respondent ever smoked cigarettes
C52_1_15	Respondent age when he/she started smoking
C52_2_15	Year respondent started smoking
C53_15	In the last 2 years: Did respondent smoked cigarettes
C54_15	Does respondent currently smoke cigarettes
C56_15	Respondent's number of cigarettes smoked daily
C58_1_15	Total number of years since the respondent stoped smoki
C58_2_15	Year when respondent stopped smoking
Wave 5:	
C51_18	Has R ever smoked cigarettes
C52_1_18	R age when he/she started smoking
C52_2_18	Year R started smoking
C52_3_18	Total number of years R has smoked
C53_18	In the last 2 years: Did R smoked cigarettes
C54_18	Does R currently smoke cigarettes
C56_18	R's number of cigarettes smoked daily
C58_1_18	Total number of years since the R stoped smoking
C58_2_18	Year when R stopped smoking
C58_3_18	R's age when he/she stopped smoking

<b>Health Behaviors: Preventive Care</b>
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Wave	Variable	Label	Type
1	R1CHOLST	r1cholst: w1 R Prev Care: Cholesterol	Categ
2	R2CHOLST	r2cholst: w2 R Prev Care: Cholesterol	Categ
3	R3CHOLST	r3cholst: w3 R Prev Care: Cholesterol	Categ
4	R4CHOLST	r4cholst: w4 R Prev Care: Cholesterol	Categ
5	R5CHOLST	r5cholst: w5 R Prev Care: Cholesterol	Categ
1	S1CHOLST	s1cholst: w1 S Prev Care: Cholesterol	Categ
2	S2CHOLST	s2cholst: w2 S Prev Care: Cholesterol	Categ
3	S3CHOLST	s3cholst: w3 S Prev Care: Cholesterol	Categ
4	S4CHOLST	s4cholst: w4 S Prev Care: Cholesterol	Categ
5	S5CHOLST	s5cholst: w5 S Prev Care: Cholesterol	Categ
3	R3FLUSHT	r3flusht: w3 R Prev Care: Flu shot	Categ
4	R4FLUSHT	r4flusht: w4 R Prev Care: Flu shot	Categ
5	R5FLUSHT	r5flusht: w5 R Prev Care: Flu shot	Categ
3	S3FLUSHT	s3flusht: w3 S Prev Care: Flu shot	Categ
4	S4FLUSHT	s4flusht: w4 S Prev Care: Flu shot	Categ
5	S5FLUSHT	s5flusht: w5 S Prev Care: Flu shot	Categ
1	R1BREAST	r1breast: w1 R Prev Care: Breast Check	Categ
2	R2BREAST	r2breast: w2 R Prev Care: Breast Check	Categ
3	R3BREAST	r3breast: w3 R Prev Care: Breast Check	Categ
4	R4BREAST	r4breast: w4 R Prev Care: Breast Check	Categ
5	R5BREAST	r5breast: w5 R Prev Care: Breast Check	Categ
1	S1BREAST	s1breast: w1 S Prev Care: Breast Check	Categ
2	S2BREAST	s2breast: w2 S Prev Care: Breast Check	Categ
3	S3BREAST	s3breast: w3 S Prev Care: Breast Check	Categ
4	S4BREAST	s4breast: w4 S Prev Care: Breast Check	Categ
5	S5BREAST	s5breast: w5 S Prev Care: Breast Check	Categ
1	R1MAMMOG	r1mammog: w1 R Prev Care: Mammogram	Categ
2	R2MAMMOG	r2mammog: w2 R Prev Care: Mammogram	Categ
3	R3MAMMOG	r3mammog: w3 R Prev Care: Mammogram	Categ
4	R4MAMMOG	r4mammog: w4 R Prev Care: Mammogram	Categ
5	R5MAMMOG	r5mammog: w5 R Prev Care: Mammogram	Categ
1	S1MAMMOG	s1mammog: w1 S Prev Care: Mammogram	Categ
2	S2MAMMOG	s2mammog: w2 S Prev Care: Mammogram	Categ
3	S3MAMMOG	s3mammog: w3 S Prev Care: Mammogram	Categ
4	S4MAMMOG	s4mammog: w4 S Prev Care: Mammogram	Categ
5	S5MAMMOG	s5mammog: w5 S Prev Care: Mammogram	Categ
1	R1PAPSM	r1papsm: w1 R Prev Care: Pap Smear	Categ
2	R2PAPSM	r2papsm: w2 R Prev Care: Pap Smear	Categ
3	R3PAPSM	r3papsm: w3 R Prev Care: Pap Smear	Categ
4	R4PAPSM	r4papsm: w4 R Prev Care: Pap Smear	Categ
5	R5PAPSM	r5papsm: w5 R Prev Care: Pap Smear	Categ
1	S1PAPSM	s1papsm: w1 S Prev Care: Pap Smear	Categ
2	S2PAPSM	s2papsm: w2 S Prev Care: Pap Smear	Categ
3	S3PAPSM	s3papsm: w3 S Prev Care: Pap Smear	Categ
4	S4PAPSM	s4papsm: w4 S Prev Care: Pap Smear	Categ
5	S5PAPSM	s5papsm: w5 S Prev Care: Pap Smear	Categ
1	R1PROST	r1prost: w1 R Prev Care: Prostate	Categ
2	R2PROST	r2prost: w2 R Prev Care: Prostate	Categ
3	R3PROST	r3prost: w3 R Prev Care: Prostate	Categ

4	R4PROST	r4prost: w4 R Prev Care: Prostate	Categ
5	R5PROST	r5prost: w5 R Prev Care: Prostate	Categ
1	S1PROST	s1prost: w1 S Prev Care: Prostate	Categ
2	S2PROST	s2prost: w2 S Prev Care: Prostate	Categ
3	S3PROST	s3prost: w3 S Prev Care: Prostate	Categ
4	S4PROST	s4prost: w4 S Prev Care: Prostate	Categ
5	S5PROST	s5prost: w5 S Prev Care: Prostate	Categ

Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R1CHOLST	14076	0.52	0.50	0.00	1.00
R2CHOLST	12474	0.54	0.50	0.00	1.00
R3CHOLST	14413	0.69	0.46	0.00	1.00
R4CHOLST	14749	0.70	0.46	0.00	1.00
R5CHOLST	17069	0.66	0.47	0.00	1.00
S1CHOLST	9937	0.51	0.50	0.00	1.00
S2CHOLST	8707	0.54	0.50	0.00	1.00
S3CHOLST	9846	0.69	0.46	0.00	1.00
S4CHOLST	9636	0.69	0.46	0.00	1.00
S5CHOLST	7620	0.67	0.47	0.00	1.00
R3FLUSHT	14386	0.60	0.49	0.00	1.00
R4FLUSHT	14703	0.60	0.49	0.00	1.00
R5FLUSHT	17050	0.54	0.50	0.00	1.00
S3FLUSHT	9830	0.60	0.49	0.00	1.00
S4FLUSHT	9618	0.60	0.49	0.00	1.00
S5FLUSHT	7613	0.57	0.50	0.00	1.00
R1BREAST	8163	0.39	0.49	0.00	1.00
R2BREAST	7341	0.43	0.49	0.00	1.00
R3BREAST	8461	0.61	0.49	0.00	1.00
R4BREAST	8103	0.59	0.49	0.00	1.00
R5BREAST	9195	0.62	0.49	0.00	1.00
S1BREAST	5094	0.41	0.49	0.00	1.00
S2BREAST	4502	0.46	0.50	0.00	1.00
S3BREAST	5024	0.65	0.48	0.00	1.00
S4BREAST	4624	0.63	0.48	0.00	1.00
S5BREAST	3592	0.63	0.48	0.00	1.00
R1MAMMOG	8152	0.21	0.41	0.00	1.00
R2MAMMOG	7340	0.24	0.42	0.00	1.00
R3MAMMOG	8460	0.52	0.50	0.00	1.00
R4MAMMOG	8101	0.54	0.50	0.00	1.00
R5MAMMOG	9198	0.54	0.50	0.00	1.00
S1MAMMOG	5093	0.23	0.42	0.00	1.00
S2MAMMOG	4503	0.24	0.43	0.00	1.00
S3MAMMOG	5023	0.55	0.50	0.00	1.00
S4MAMMOG	4622	0.59	0.49	0.00	1.00
S5MAMMOG	3595	0.56	0.50	0.00	1.00
R1PAPSM	8083	0.65	0.48	0.00	1.00
R2PAPSM	7310	0.63	0.48	0.00	1.00
R3PAPSM	8349	0.70	0.46	0.00	1.00
R4PAPSM	7958	0.65	0.48	0.00	1.00
R5PAPSM	9185	0.58	0.49	0.00	1.00
S1PAPSM	5047	0.68	0.46	0.00	1.00

S2PAPSM	4485	0.68	0.47	0.00	1.00
S3PAPSM	4968	0.76	0.43	0.00	1.00
S4PAPSM	4553	0.72	0.45	0.00	1.00
S5PAPSM	3591	0.60	0.49	0.00	1.00
R1PROST	5756	0.17	0.38	0.00	1.00
R2PROST	4988	0.21	0.41	0.00	1.00
R3PROST	5886	0.31	0.46	0.00	1.00
R4PROST	5620	0.31	0.46	0.00	1.00
R5PROST	6402	0.29	0.45	0.00	1.00
S1PROST	4718	0.17	0.38	0.00	1.00
S2PROST	4099	0.22	0.41	0.00	1.00
S3PROST	4777	0.32	0.47	0.00	1.00
S4PROST	4469	0.32	0.47	0.00	1.00
S5PROST	3370	0.32	0.47	0.00	1.00

## Categorical Variable Codes

Value-----	R1CHOLST	R2CHOLST	R3CHOLST	R4CHOLST	R5CHOLST
.d:DK	58	50	32	15	16
.m:Missing	4			2	
.p:Proxy interview, not asked	1032	1178	1275	11	18
.r:Refuse	16	2	3	2	11
0.No	6714	5779	4463	4490	5800
1.Yes	7362	6695	9950	10259	11269

Value-----	S1CHOLST	S2CHOLST	S3CHOLST	S4CHOLST	S5CHOLST
.d:DK	35	35	19	8	8
.m:Missing	3				
.p:Proxy interview, not asked	660	821	726	6	9
.r:Refuse	13	1	1	2	1
.u:Unmar	4205	4009	4782	4847	5227
.v:SP NR	333	131	349	280	501
0.No	4831	4023	3036	2940	2496
1.Yes	5106	4684	6810	6696	5124

Value-----	R3FLUSHT	R4FLUSHT	R5FLUSHT
.d:DK	58	35	21
.m:Missing		2	
.p:Proxy interview, not asked	1275	37	36
.r:Refuse	4	2	7
0.No	5751	5881	7758
1.Yes	8635	8822	9292

Value-----	S3FLUSHT	S4FLUSHT	S5FLUSHT
.d:DK	33	18	10
.p:Proxy interview, not asked	726	16	13
.r:Refuse	3		2
.u:Unmar	4782	4847	5227
.v:SP NR	349	280	501
0.No	3957	3866	3287
1.Yes	5873	5752	4326

Value-----	R1BREAST	R2BREAST	R3BREAST	R4BREAST	R5BREAST
.d:DK	12	4	5	8	18
.m:Missing	72	15	5	1	
.p:Proxy interview, not asked	1032	1178	1275	929	1328
.r:Refuse	24	9	10	2	17
.x:does not have (organ)	5883	5157	5967	5736	6556
0.No	4993	4218	3260	3353	3537
1.Yes	3170	3123	5201	4750	5658

Value-----	S1BREAST	S2BREAST	S3BREAST	S4BREAST	S5BREAST
.d:DK	8	2	1	3	11
.m:Missing	46	9	4		
.p:Proxy interview, not asked	660	821	726	470	563
.r:Refuse	15	7	5	1	8
.u:Unmar	4205	4009	4782	4847	5227

.v:SP NR	333	131	349	280	501
.x:does not have (organ)	4825	4223	4832	4554	3464
0.No	3009	2430	1740	1699	1347
1.Yes	2085	2072	3284	2925	2245
Value-----	R1MAMMOG	R2MAMMOG	R3MAMMOG	R4MAMMOG	R5MAMMOG
.d:DK	18	10	5	7	16
.m:Missing	72	15	5	1	
.p:Proxy interview, not asked	1032	1178	1275	929	1328
.r:Refuse	31	5	10	2	16
.x:does not have (organ)	5881	5156	5968	5739	6556
0.No	6412	5614	4091	3753	4240
1.Yes	1740	1726	4369	4348	4958
Value-----	S1MAMMOG	S2MAMMOG	S3MAMMOG	S4MAMMOG	S5MAMMOG
.d:DK	8	4	2	3	11
.m:Missing	46	9	4		
.p:Proxy interview, not asked	660	821	726	470	563
.r:Refuse	18	4	4	2	5
.u:Unmar	4205	4009	4782	4847	5227
.v:SP NR	333	131	349	280	501
.x:does not have (organ)	4823	4223	4833	4555	3464
0.No	3945	3412	2275	1905	1579
1.Yes	1148	1091	2748	2717	2016
Value-----	R1PAPSM	R2PAPSM	R3PAPSM	R4PAPSM	R5PAPSM
.d:DK	14	7	4	11	19
.m:Missing	72	15	5	2	
.p:Proxy interview, not asked	1032	1178	1275	929	1328
.r:Refuse	29	4	11	1	26
.x:does not have (organ)	5956	5190	6079	5878	6556
0.No	2855	2707	2504	2793	3826
1.Yes	5228	4603	5845	5165	5359
Value-----	S1PAPSM	S2PAPSM	S3PAPSM	S4PAPSM	S5PAPSM
.d:DK	7	3	2	3	11
.m:Missing	46	9	4		
.p:Proxy interview, not asked	660	821	726	470	563
.r:Refuse	16	3	4	1	9
.u:Unmar	4205	4009	4782	4847	5227
.v:SP NR	333	131	349	280	501
.x:does not have (organ)	4872	4243	4888	4625	3464
0.No	1591	1418	1179	1285	1430
1.Yes	3456	3067	3789	3268	2161
Value-----	R1PROST	R2PROST	R3PROST	R4PROST	R5PROST
.d:DK	17	23	14	14	14
.m:Missing	62	21		2	
.p:Proxy interview, not asked	1032	1178	1275	929	1328
.r:Refuse	16	3	3	2	11
.x:does not have (organ)	8303	7491	8545	8212	9359
0.No	4773	3931	4040	3861	4548
1.Yes	983	1057	1846	1759	1854
Value-----	S1PROST	S2PROST	S3PROST	S4PROST	S5PROST
.d:DK	13	15	13	10	5
.m:Missing	48	13		1	
.p:Proxy interview, not asked	660	821	726	470	563
.r:Refuse	14	3	3	1	6
.u:Unmar	4205	4009	4782	4847	5227
.v:SP NR	333	131	349	280	501
.x:does not have (organ)	5195	4613	5073	4701	3694
0.No	3894	3199	3260	3051	2283
1.Yes	824	900	1517	1418	1087

## How Constructed

RwCHOLST, RwFLUSHT, RwBREAST, RwMAMMOG, RwPAPSM, and RwPROST indicate whether the respondent reports preventative health tests and procedures in the last two years. The tests and procedures are: blood test for cholesterol, a flu vaccine (flu shot), monthly self-checks for breast lumps, mammogram or x-ray to



check for breast cancer, pap smear to check for uterine cancer, and rectal exam or blood test to screen for prostate cancer, respectively. RwFLUSHT is only available starting in Wave 3.

RwCHOLST, RwFLUSHT, RwBREAST, RwMAMMOG, RwPAPSM, and RwPROST are assigned a value of 0 if the respondent has not had the preventative test or procedure in the last two years, and are assigned a value of 1 if the respondent has had the preventative test or procedure in the last two years. RwBREAST, RwMAMMOG and RwPROST are also assigned .x if the respondent reports "does not have (the organ)". RwBREAST and RwMAMMOG are assigned .x to indicate that these questions were skipped for respondents who are men or reported not having the organ. RwPROST is assigned .x to indicate that this question was skipped for respondents who are women or reported not having the organ. RwCHOLST, RwFLUSHT, RwBREAST, RwMAMMOG, RwPAPSM, and RwPROST are assigned special missing values .d, .r, .m, if the respondent answer don't know, refused, or answers are missing, respectively. These variables are set to plain missing (.) for respondents who did not respond to the current wave.

SwCHOLST, SwFLUSHT, SwBREAST, SwMAMMOG, SwPAPSM, and SwPROST are these measures for the respondent's spouse and are taken directly from the spouse's RwCHOLST, RwFLUSHT, RwBREAST, RwMAMMOG, RwPAPSM, and RwPROST variables. In addition to the special missing codes used in RwCHOLST, RwFLUSHT, RwBREAST, RwMAMMOG, RwPAPSM, and RwPROST; SwCHOLST, SwFLUSHT, SwBREAST, SwMAMMOG, SwPAPSM, and SwPROST also use the special missing value .u, when the respondent does not report being coupled in the current wave, and the special missing value .v, when the respondent reports being coupled in the current wave but their spouse is not interviewed.

## Cross Wave Differences in MHAS

Questions about flu shots are asked starting in Wave 3.

## Differences with the RAND HRS/Harmonized HRS

No differences known.

## MHAS Variables Used

### Wave 1:

C51B	blood test
C51F	breasts test
C51G	mammogram
C51H	pap smear
C51I	prostate exam

### Wave 2:

C48B	cholesterol test
C48F	examine breasts for lumps
C48G	mammogram
C48H	pap smear
C48I	tested for prostate cancer since 2001

### Wave 3:

C48B_12	Last 2 years: Respondent had cholesterol blood test
C48F_12	Last 2 years: Respondent had flu vaccine
C48H_12	Last 2 years: Respondent performed self-breast exam
C48I_12	Last 2 years: Respondent had a mammogram/X-ray
C48J_12	Last 2 years: Respondent had a pap smear
C48K_12	Last 2 years: Respondent had prostate cancer screening

### Wave 4:

C48B_15	In the last 2 years: Respondent had a cholesterol blood
C48F_15	In the last 2 years: Respondent had a flu vaccine
C48H_15	In the last 2 years: Respondent did a self-breast exam
C48J_15	In the last 2 years: Respondent had a pap smear
C48M_15	In the last 2 years: Respondent had a prostate cancer s

### Wave 5:

C48B_18	In the last 2 years: R had a cholesterol blood test
C48F_18	In the last 2 years: R had a flu vaccine
C48H_18	In the last 2 years: R did a self-breast exam
C48J_18	In the last 2 years: R had a pap smear
C48L_18	Has R had a hysterectomy

C48M\_18                    In the last 2 years: R had a prostate cancer screening

**Section C: Health Care Utilization and Insurance**

Medical Care Utilization: Hospital

Wave	Variable	Label	Type
1	R1HOSP1Y	r1hosply: w1 R Hospital stay, previous 12 months	Categ
2	R2HOSP1Y	r2hosply: w2 R Hospital stay, previous 12 months	Categ
3	R3HOSP1Y	r3hosply: w3 R Hospital stay, previous 12 months	Categ
4	R4HOSP1Y	r4hosply: w4 R Hospital stay, previous 12 months	Categ
5	R5HOSP1Y	r5hosply: w5 R Hospital stay, previous 12 months	Categ
1	S1HOSP1Y	s1hosply: w1 S Hospital stay, previous 12 months	Categ
2	S2HOSP1Y	s2hosply: w2 S Hospital stay, previous 12 months	Categ
3	S3HOSP1Y	s3hosply: w3 S Hospital stay, previous 12 months	Categ
4	S4HOSP1Y	s4hosply: w4 S Hospital stay, previous 12 months	Categ
5	S5HOSP1Y	s5hosply: w5 S Hospital stay, previous 12 months	Categ
1	R1HSPNIT1Y	r1hspnitly: w1 R Hospital nights, previous 12 months	Cont
2	R2HSPNIT1Y	r2hspnitly: w2 R Hospital nights, previous 12 months	Cont
3	R3HSPNIT1Y	r3hspnitly: w3 R Hospital nights, previous 12 months	Cont
4	R4HSPNIT1Y	r4hspnitly: w4 R Hospital nights, previous 12 months	Cont
5	R5HSPNIT1Y	r5hspnitly: w5 R Hospital nights, previous 12 months	Cont
1	S1HSPNIT1Y	s1hspnitly: w1 S Hospital nights, previous 12 months	Cont
2	S2HSPNIT1Y	s2hspnitly: w2 S Hospital nights, previous 12 months	Cont
3	S3HSPNIT1Y	s3hspnitly: w3 S Hospital nights, previous 12 months	Cont
4	S4HSPNIT1Y	s4hspnitly: w4 S Hospital nights, previous 12 months	Cont
5	S5HSPNIT1Y	s5hspnitly: w5 S Hospital nights, previous 12 months	Cont

Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R1HOSP1Y	15150	0.10	0.30	0.00	1.00
R2HOSP1Y	13695	0.11	0.32	0.00	1.00
R3HOSP1Y	15709	0.11	0.32	0.00	1.00
R4HOSP1Y	14753	0.14	0.35	0.00	1.00
R5HOSP1Y	17046	0.14	0.34	0.00	1.00
S1HOSP1Y	10624	0.09	0.29	0.00	1.00
S2HOSP1Y	9560	0.11	0.31	0.00	1.00
S3HOSP1Y	10584	0.11	0.31	0.00	1.00
S4HOSP1Y	9644	0.13	0.34	0.00	1.00
S5HOSP1Y	7598	0.14	0.35	0.00	1.00
R1HSPNIT1Y	15150	0.78	5.41	0.00	246.00
R2HSPNIT1Y	13695	0.94	6.89	0.00	365.00
R3HSPNIT1Y	15709	0.83	5.59	0.00	240.00
R4HSPNIT1Y	14753	0.98	5.57	0.00	240.00
R5HSPNIT1Y	17046	0.97	5.51	0.00	200.00
S1HSPNIT1Y	10624	0.71	4.89	0.00	150.00
S2HSPNIT1Y	9560	0.89	6.25	0.00	365.00
S3HSPNIT1Y	10584	0.78	5.56	0.00	240.00
S4HSPNIT1Y	9644	0.93	5.64	0.00	240.00
S5HSPNIT1Y	7598	0.99	5.03	0.00	120.00

Categorical Variable Codes

Value-----	R1HOSP1Y	R2HOSP1Y	R3HOSP1Y	R4HOSP1Y	R5HOSP1Y
.d:DK	14	6	13	10	18
.m:Missing	10	3		16	
.r:Refuse	12		1		50

0.No		13681	12147	13920	12698	14714
1.Yes		1469	1548	1789	2055	2332
Value-----		S1HOSP1Y	S2HOSP1Y	S3HOSP1Y	S4HOSP1Y	S5HOSP1Y
.d:DK		8	2	8	6	7
.m:Missing		5	2		2	
.r:Refuse		11				33
.u:Unmar		4205	4009	4782	4847	5227
.v:SP NR		333	131	349	280	501
0.No		9664	8548	9462	8383	6505
1.Yes		960	1012	1122	1261	1093

How Constructed

RwHOSP1Y indicates whether the respondent reports at least one overnight hospital stay in the last 12 months. RwHOSP1Y is coded as 0 if the respondent had no overnight hospital stays, and is coded as 1 if the respondent had at least one overnight hospital stay. If the respondent reports any overnight hospital stay, RwhSPNIT1Y is the reported total number of nights over all hospital stays, in the last 12 months. RwhSPNIT1Y is set to 0 if the respondent reports no overnight hospital stays in the past 12 months. RwHOSP1Y and RwhSPNIT1Y are assigned special missing values .d or .r, if they answered don't know or refused, respectively. Other missing responses are assigned special missing value .m. The variables are set to plain missing (.) for respondents who did not respond to the current wave.

SwHOSP1Y and SwHSPNIT1Y are taken from the Wave 'w' spouse's value for RwHOSP1Y and RwhSPNIT1Y. In addition to the special missing codes used in RwhOSP1Y and RwhSPNIT1Y, if the respondent is not designated as coupled in the current wave and assumed to be single, a special missing value of .u is used. Also, if the respondent is not designated as coupled in the current wave but reports being married, a special missing value of .v is used.

Cross Wave Differences in MHAS

No differences known.

Differences with the RAND HRS/Harmonized HRS

In RAND HRS, the reference period changes across waves from "12 months", to "the last interview", or "the last 2 years" for new interviewees. However, in the MHAS the reference period, "the past year", is used consistently across waves.

MHAS Variables Used

Wave 1:	
D4	nights in hospital
Wave 2:	
D11	how many nights spent hospitalized
Wave 3:	
D4_12	Past year: Number of overnight stays in hospital
Wave 4:	
D4_15	Past year: Number of overnight stays in hospital
Wave 5:	
D4_18	Past year: Number of overnight stays in hospital

Medical Care Utilization: Doctor

Wave	Variable	Label	Type
1	R1DOCTOR1Y	r1doctorly: w1 R Doctor visits, previous 12 months	Categ
2	R2DOCTOR1Y	r2doctorly: w2 R Doctor visits, previous 12 months	Categ
3	R3DOCTOR1Y	r3doctorly: w3 R Doctor visits, previous 12 months	Categ
4	R4DOCTOR1Y	r4doctorly: w4 R Doctor visits, previous 12 months	Categ
5	R5DOCTOR1Y	r5doctorly: w5 R Doctor visits, previous 12 months	Categ
1	S1DOCTOR1Y	s1doctorly: w1 S Doctor visits, previous 12 months	Categ
2	S2DOCTOR1Y	s2doctorly: w2 S Doctor visits, previous 12 months	Categ
3	S3DOCTOR1Y	s3doctorly: w3 S Doctor visits, previous 12 months	Categ
4	S4DOCTOR1Y	s4doctorly: w4 S Doctor visits, previous 12 months	Categ
5	S5DOCTOR1Y	s5doctorly: w5 S Doctor visits, previous 12 months	Categ
1	R1DOCTIM1Y	r1doctimly: w1 R # Doctor visits, previous 12 months	Cont
2	R2DOCTIM1Y	r2doctimly: w2 R # Doctor visits, previous 12 months	Cont
3	R3DOCTIM1Y	r3doctimly: w3 R # Doctor visits, previous 12 months	Cont
4	R4DOCTIM1Y	r4doctimly: w4 R # Doctor visits, previous 12 months	Cont
5	R5DOCTIM1Y	r5doctimly: w5 R # Doctor visits, previous 12 months	Cont
1	S1DOCTIM1Y	s1doctimly: w1 S # Doctor visits, previous 12 months	Cont
2	S2DOCTIM1Y	s2doctimly: w2 S # Doctor visits, previous 12 months	Cont
3	S3DOCTIM1Y	s3doctimly: w3 S # Doctor visits, previous 12 months	Cont
4	S4DOCTIM1Y	s4doctimly: w4 S # Doctor visits, previous 12 months	Cont
5	S5DOCTIM1Y	s5doctimly: w5 S # Doctor visits, previous 12 months	Cont

Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R1DOCTOR1Y	15119	0.64	0.48	0.00	1.00
R2DOCTOR1Y	13655	0.66	0.47	0.00	1.00
R3DOCTOR1Y	15693	0.73	0.44	0.00	1.00
R4DOCTOR1Y	14750	0.80	0.40	0.00	1.00
R5DOCTOR1Y	17031	0.72	0.45	0.00	1.00
S1DOCTOR1Y	10604	0.63	0.48	0.00	1.00
S2DOCTOR1Y	9540	0.66	0.47	0.00	1.00
S3DOCTOR1Y	10574	0.72	0.45	0.00	1.00
S4DOCTOR1Y	9646	0.79	0.41	0.00	1.00
S5DOCTOR1Y	7592	0.74	0.44	0.00	1.00
R1DOCTIM1Y	15119	4.21	7.99	0.00	365.00
R2DOCTIM1Y	13655	4.58	7.05	0.00	210.00
R3DOCTIM1Y	15693	5.45	6.84	0.00	199.00
R4DOCTIM1Y	14750	6.26	8.24	0.00	240.00
R5DOCTIM1Y	17031	5.42	8.52	0.00	365.00
S1DOCTIM1Y	10604	4.06	8.05	0.00	365.00
S2DOCTIM1Y	9540	4.47	6.92	0.00	120.00
S3DOCTIM1Y	10574	5.21	6.39	0.00	144.00
S4DOCTIM1Y	9646	6.10	8.44	0.00	200.00
S5DOCTIM1Y	7592	5.72	7.19	0.00	250.00

Categorical Variable Codes

Value-----	R1DOCTOR1Y	R2DOCTOR1Y	R3DOCTOR1Y	R4DOCTOR1Y	R5DOCTOR1Y
.d:DK	46	46	29	13	26
.m:Missing	10	3		16	
.r:Refuse	11		1		57

0.No		5415	4592	4237	2998	4744
1.Yes		9704	9063	11456	11752	12287
Value-----		S1DOCTOR1Y	S2DOCTOR1Y	S3DOCTOR1Y	S4DOCTOR1Y	S5DOCTOR1Y
.d:DK		32	22	17	4	11
.m:Missing		5	2		2	
.r:Refuse		7		1		35
.u:Unmar		4205	4009	4782	4847	5227
.v:SP NR		333	131	349	280	501
0.No		3911	3277	2948	2021	1987
1.Yes		6693	6263	7626	7625	5605

How Constructed

RwDOCTOR1Y indicates whether the respondent reports at least one doctor visit in the last 12 months. RwDOCTOR1Y is coded as 0 if the respondent had no doctor visits, and is coded as 1 if the respondent had one or more doctor visits. If the respondent reports any doctor visits, RwDOCTIM1Y is the reported number of visits in the last 12 months. RwDOCTIM1Y is set to 0 if the respondent reports no doctor visits in the past 12 months. RwDOCTOR1Y and RwDOCTIM1Y are assigned special missing values .d or .r, if they answered don't know or refused, respectively. Other missing responses are assigned special missing value .m. The variables are set to plain missing (.) for respondents who did not respond to the current wave.

SwDOCTOR1Y and SwDOCTIM1Y are taken from the Wave 'w' spouse's values for RwDOCTOR1Y and RwDOCTIM1Y. In addition to the special missing codes used in RwDOCTOR and RwDOCTIM, if the respondent is not designated as coupled in the current wave and assumed to be single, a special missing value of .u is used. Also, if the respondent is not designated as coupled in the current wave but reports being married, a special missing value of .v is used.

Cross Wave Differences in MHAS

No differences known.

Differences with the RAND HRS/Harmonized HRS

In RAND HRS, the reference period changes across waves from "12 months", to "the last interview", or "the last 2 years" for new interviewees. However, in the MHAS the reference period "the past year", is used consistently across waves.

MHAS Variables Used

Wave 1:	
D8_5	medical visits
Wave 2:	
D15_4	in the last year, how many times saw a doctor or medica
Wave 3:	
D8_4_12	Last year:respondent's frequency of consulting a physic
Wave 4:	
D8_4_15	Last year: Respondent's number of visits to a doctor or
Wave 5:	
D8_3_18	Last year: R's number of visits to a doctor or medical

<b>Medical Care Utilization: Other Medical Care Utilization</b>
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Wave	Variable	Label	Type
1	R1OUTPT1Y	r1outptly: w1 R Outpatient surgery, previous 12 months	Categ
2	R2OUTPT1Y	r2outptly: w2 R Outpatient surgery, previous 12 months	Categ
3	R3OUTPT1Y	r3outptly: w3 R Outpatient surgery, previous 12 months	Categ
4	R4OUTPT1Y	r4outptly: w4 R Outpatient surgery, previous 12 months	Categ
5	R5OUTPT1Y	r5outptly: w5 R Outpatient surgery, previous 12 months	Categ
1	S1OUTPT1Y	s1outptly: w1 S Outpatient surgery, previous 12 months	Categ
2	S2OUTPT1Y	s2outptly: w2 S Outpatient surgery, previous 12 months	Categ
3	S3OUTPT1Y	s3outptly: w3 S Outpatient surgery, previous 12 months	Categ
4	S4OUTPT1Y	s4outptly: w4 S Outpatient surgery, previous 12 months	Categ
5	S5OUTPT1Y	s5outptly: w5 S Outpatient surgery, previous 12 months	Categ
1	R1DENTST1Y	r1dentstly: w1 R Dental visits, previous 12 months	Categ
2	R2DENTST1Y	r2dentstly: w2 R Dental visits, previous 12 months	Categ
3	R3DENTST1Y	r3dentstly: w3 R Dental visits, previous 12 months	Categ
4	R4DENTST1Y	r4dentstly: w4 R Dental visits, previous 12 months	Categ
5	R5DENTST1Y	r5dentstly: w5 R Dental visits, previous 12 months	Categ
1	S1DENTST1Y	s1dentstly: w1 S Dental visits, previous 12 months	Categ
2	S2DENTST1Y	s2dentstly: w2 S Dental visits, previous 12 months	Categ
3	S3DENTST1Y	s3dentstly: w3 S Dental visits, previous 12 months	Categ
4	S4DENTST1Y	s4dentstly: w4 S Dental visits, previous 12 months	Categ
5	S5DENTST1Y	s5dentstly: w5 S Dental visits, previous 12 months	Categ
1	R1DENTIM1Y	r1dentimly: w1 R # Dental visits, previous 12 months	Cont
2	R2DENTIM1Y	r2dentimly: w2 R # Dental visits, previous 12 months	Cont
3	R3DENTIM1Y	r3dentimly: w3 R # Dental visits, previous 12 months	Cont
4	R4DENTIM1Y	r4dentimly: w4 R # Dental visits, previous 12 months	Cont
5	R5DENTIM1Y	r5dentimly: w5 R # Dental visits, previous 12 months	Cont
1	S1DENTIM1Y	s1dentimly: w1 S # Dental visits, previous 12 months	Cont
2	S2DENTIM1Y	s2dentimly: w2 S # Dental visits, previous 12 months	Cont
3	S3DENTIM1Y	s3dentimly: w3 S # Dental visits, previous 12 months	Cont
4	S4DENTIM1Y	s4dentimly: w4 S # Dental visits, previous 12 months	Cont
5	S5DENTIM1Y	s5dentimly: w5 S # Dental visits, previous 12 months	Cont

### Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R1OUTPT1Y	15160	0.02	0.14	0.00	1.00
R2OUTPT1Y	13698	0.03	0.16	0.00	1.00
R3OUTPT1Y	15715	0.03	0.18	0.00	1.00
R4OUTPT1Y	14760	0.04	0.21	0.00	1.00
R5OUTPT1Y	17054	0.04	0.21	0.00	1.00
S1OUTPT1Y	10633	0.02	0.14	0.00	1.00
S2OUTPT1Y	9561	0.03	0.16	0.00	1.00
S3OUTPT1Y	10585	0.03	0.18	0.00	1.00
S4OUTPT1Y	9649	0.05	0.21	0.00	1.00
S5OUTPT1Y	7599	0.04	0.21	0.00	1.00
R1DENTST1Y	15160	0.25	0.43	0.00	1.00
R2DENTST1Y	13689	0.26	0.44	0.00	1.00
R3DENTST1Y	15705	0.32	0.46	0.00	1.00
R4DENTST1Y	14752	0.36	0.48	0.00	1.00
R5DENTST1Y	17038	0.39	0.49	0.00	1.00



S1DENTST1Y	10632	0.25	0.43	0.00	1.00
S2DENTST1Y	9555	0.27	0.44	0.00	1.00
S3DENTST1Y	10581	0.32	0.47	0.00	1.00
S4DENTST1Y	9646	0.37	0.48	0.00	1.00
S5DENTST1Y	7594	0.38	0.49	0.00	1.00
R1DENTIM1Y	15160	0.75	3.50	0.00	330.00
R2DENTIM1Y	13689	0.75	2.45	0.00	100.00
R3DENTIM1Y	15705	0.90	3.00	0.00	200.00
R4DENTIM1Y	14752	1.01	3.55	0.00	300.00
R5DENTIM1Y	17038	1.14	3.11	0.00	200.00
S1DENTIM1Y	10632	0.77	3.90	0.00	330.00
S2DENTIM1Y	9555	0.75	2.49	0.00	100.00
S3DENTIM1Y	10581	0.90	2.57	0.00	99.00
S4DENTIM1Y	9646	1.03	3.79	0.00	300.00
S5DENTIM1Y	7594	1.10	3.47	0.00	200.00

## Categorical Variable Codes

Value-----	R1OUTPT1Y	R2OUTPT1Y	R3OUTPT1Y	R4OUTPT1Y	R5OUTPT1Y
.d:DK	7	3	7	3	8
.m:Missing	10	3		16	
.r:Refuse	9		1		52
0.No	14864	13328	15184	14103	16302
1.Yes	296	370	531	657	752

Value-----	S1OUTPT1Y	S2OUTPT1Y	S3OUTPT1Y	S4OUTPT1Y	S5OUTPT1Y
.d:DK	6	1	6	1	4
.m:Missing	5	2		2	
.r:Refuse	4		1		35
.u:Unmar	4205	4009	4782	4847	5227
.v:SP NR	333	131	349	280	501
0.No	10435	9315	10234	9208	7263
1.Yes	198	246	351	441	336

Value-----	R1DENTST1Y	R2DENTST1Y	R3DENTST1Y	R4DENTST1Y	R5DENTST1Y
.d:DK	11	12	17	11	26
.m:Missing	10	3		16	
.r:Refuse	5		1		50
0.No	11442	10111	10745	9458	10357
1.Yes	3718	3578	4960	5294	6681

Value-----	S1DENTST1Y	S2DENTST1Y	S3DENTST1Y	S4DENTST1Y	S5DENTST1Y
.d:DK	8	7	11	4	11
.m:Missing	5	2		2	
.r:Refuse	3				33
.u:Unmar	4205	4009	4782	4847	5227
.v:SP NR	333	131	349	280	501
0.No	7944	7010	7171	6090	4677
1.Yes	2688	2545	3410	3556	2917

## How Constructed

RwOUTPT1Y and RwDENTST1Y indicate whether the respondent reports at least one outpatient surgery and dental visits in the last 12 months, respectively. RwOUTPT1Y and RwDENTST1Y are coded as 0 if the respondent had no outpatient surgeries or dental visits, respectively. They are coded as 1 if the respondent had at least one outpatient surgery and dental visit, respectively. If the respondent reports any dental visits, RwDENTIM1Y is the reported total number of dental visits in the last 12 months. RwDENTIM1Y is set to 0 if the respondent reports no dental visits in the past 12 months. RwOUTPT1Y, RwDENTST1Y, and RwDENTIM1Y are assigned special missing values .d or .r, if they answered don't know or refused, respectively. Other missing responses are assigned special missing value .m. The variables are set to plain missing (.) for respondents who did not respond to the current wave.

SwOUTPT1Y, SwDENTST1Y, and SwDENTIM1Y are taken from the Wave 'w' spouse's value for RwOUTPT1Y, RwDENTST1Y, and RwDENTIM1Y. In addition to the special missing codes used in RwOUTPT1Y, RwDENTST1Y, and RwDENTIM1Y, if the respondent is not designated as coupled in the current wave and assumed to be single,

a special missing value of .u is used. Also, if the respondent is not designated as coupled in the current wave but reports being married, a special missing value of .v is used.

Cross Wave Differences in MHAS

No differences known.

Differences with the RAND HRS/Harmonized HRS

In RAND HRS, the reference period changes across waves from "12 months", to "the last interview", or "the last 2 years" for new interviewees. However, in the MHAS the reference period "the past year", is used consistently across waves.

MHAS Variables Used

Wave 1:	
D8_3	dentist
D8_4	outpatient procedures
Wave 2:	
D15_2	in the last year, how many times saw a dentist
D15_3	in the last year, how many times had surgical procedure
Wave 3:	
D8_2_12	Last year:respondent's number of dentist visit(s)
D8_3_12	Last year:respondent's number of outpatient procedures
Wave 4:	
D8_2_15	Last year: Respondent's number of visits to a dentist
D8_3_15	Last year: Respondent's number of outpatient procedures
Wave 5:	
D8_1_18	Last year: R's number of visits to a dentist
D8_2_18	Last year: R's number of outpatient procedures

<b>Medical Expenditures: Out of Pocket and Total</b>
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Wave	Variable	Label	Type
1	R1OOPHOS1Y	r1oophosly: w1 R Out of pocket hospital exp, previous 12 mon	Cont
2	R2OOPHOS1Y	r2oophosly: w2 R Out of pocket hospital exp, previous 12 mon	Cont
3	R3OOPHOS1Y	r3oophosly: w3 R Out of pocket hospital exp, previous 12 mon	Cont
4	R4OOPHOS1Y	r4oophosly: w4 R Out of pocket hospital exp, previous 12 mon	Cont
5	R5OOPHOS1Y	r5oophosly: w5 R Out of pocket hospital exp, previous 12 mon	Cont
1	S1OOPHOS1Y	s1oophosly: w1 S Out of pocket med hospital, previous 12 mon	Cont
2	S2OOPHOS1Y	s2oophosly: w2 S Out of pocket med hospital, previous 12 mon	Cont
3	S3OOPHOS1Y	s3oophosly: w3 S Out of pocket med hospital, previous 12 mon	Cont
4	S4OOPHOS1Y	s4oophosly: w4 S Out of pocket med hospital, previous 12 mon	Cont
5	S5OOPHOS1Y	s5oophosly: w5 S Out of pocket med hospital, previous 12 mon	Cont
1	R1OOPHOSF1Y	r1oophosfly: w1 R Out of pocket hospital exp imputed flag	Categ
2	R2OOPHOSF1Y	r2oophosfly: w2 R Out of pocket hospital exp imputed flag	Categ
3	R3OOPHOSF1Y	r3oophosfly: w3 R Out of pocket hospital exp imputed flag	Categ
4	R4OOPHOSF1Y	r4oophosfly: w4 R Out of pocket hospital exp imputed flag	Categ
5	R5OOPHOSF1Y	r5oophosfly: w5 R Out of pocket hospital exp imputed flag	Categ
1	S1OOPHOSF1Y	s1oophosfly: w1 S Out of pocket hospital exp imputed flag	Categ
2	S2OOPHOSF1Y	s2oophosfly: w2 S Out of pocket hospital exp imputed flag	Categ
3	S3OOPHOSF1Y	s3oophosfly: w3 S Out of pocket hospital exp imputed flag	Categ
4	S4OOPHOSF1Y	s4oophosfly: w4 S Out of pocket hospital exp imputed flag	Categ
5	S5OOPHOSF1Y	s5oophosfly: w5 S Out of pocket hospital exp imputed flag	Categ
1	R1OOPFHHO1Y	r1oopfhholy: w1 R Out of pocket folk healer/homeopath exp, p	Cont
2	R2OOPFHHO1Y	r2oopfhholy: w2 R Out of pocket folk healer/homeopath exp, p	Cont
3	R3OOPFHHO1Y	r3oopfhholy: w3 R Out of pocket folk healer/homeopath exp, p	Cont
4	R4OOPFHHO1Y	r4oopfhholy: w4 R Out of pocket folk healer/homeopath exp, p	Cont
1	S1OOPFHHO1Y	s1oopfhholy: w1 S Out of pocket folk healer/homeopath, previ	Cont
2	S2OOPFHHO1Y	s2oopfhholy: w2 S Out of pocket folk healer/homeopath, previ	Cont
3	S3OOPFHHO1Y	s3oopfhholy: w3 S Out of pocket folk healer/homeopath, previ	Cont
4	S4OOPFHHO1Y	s4oopfhholy: w4 S Out of pocket folk healer/homeopath, previ	Cont
1	R1OOPFHHOF1Y	r1oopfhhofly: w1 R Out of pocket folk healer/homeopath exp i	Categ
2	R2OOPFHHOF1Y	r2oopfhhofly: w2 R Out of pocket folk healer/homeopath exp i	Categ
3	R3OOPFHHOF1Y	r3oopfhhofly: w3 R Out of pocket folk healer/homeopath exp i	Categ
4	R4OOPFHHOF1Y	r4oopfhhofly: w4 R Out of pocket folk healer/homeopath exp i	Categ
1	S1OOPFHHOF1Y	s1oopfhhofly: w1 S Out of pocket folk healer/homeopath exp i	Categ
2	S2OOPFHHOF1Y	s2oopfhhofly: w2 S Out of pocket folk healer/homeopath exp i	Categ
3	S3OOPFHHOF1Y	s3oopfhhofly: w3 S Out of pocket folk healer/homeopath exp i	Categ
4	S4OOPFHHOF1Y	s4oopfhhofly: w4 S Out of pocket folk healer/homeopath exp i	Categ
1	R1OOPDEN1Y	r1oopdenly: w1 R Out of pocket dentist exp, previous 12 mont	Cont
2	R2OOPDEN1Y	r2oopdenly: w2 R Out of pocket dentist exp, previous 12 mont	Cont
3	R3OOPDEN1Y	r3oopdenly: w3 R Out of pocket dentist exp, previous 12 mont	Cont
4	R4OOPDEN1Y	r4oopdenly: w4 R Out of pocket dentist exp, previous 12 mont	Cont
5	R5OOPDEN1Y	r5oopdenly: w5 R Out of pocket dentist exp, previous 12 mont	Cont
1	S1OOPDEN1Y	s1oopdenly: w1 S Out of pocket dentist exp, previous 12 mont	Cont
2	S2OOPDEN1Y	s2oopdenly: w2 S Out of pocket dentist exp, previous 12 mont	Cont
3	S3OOPDEN1Y	s3oopdenly: w3 S Out of pocket dentist exp, previous 12 mont	Cont
4	S4OOPDEN1Y	s4oopdenly: w4 S Out of pocket dentist exp, previous 12 mont	Cont
5	S5OOPDEN1Y	s5oopdenly: w5 S Out of pocket dentist exp, previous 12 mont	Cont
1	R1OOPDENF1Y	r1oopdenfly: w1 R Out of pocket dentist exp imputed flag	Categ
2	R2OOPDENF1Y	r2oopdenfly: w2 R Out of pocket dentist exp imputed flag	Categ
3	R3OOPDENF1Y	r3oopdenfly: w3 R Out of pocket dentist exp imputed flag	Categ

4	R4OOPDENF1Y	r4oopdenfly: w4 R Out of pocket dentist exp imputed flag	Categ
5	R5OOPDENF1Y	r5oopdenfly: w5 R Out of pocket dentist exp imputed flag	Categ
1	S1OOPDENF1Y	s1oopdenfly: w1 S Out of pocket dentist exp imputed flag	Categ
2	S2OOPDENF1Y	s2oopdenfly: w2 S Out of pocket dentist exp imputed flag	Categ
3	S3OOPDENF1Y	s3oopdenfly: w3 S Out of pocket dentist exp imputed flag	Categ
4	S4OOPDENF1Y	s4oopdenfly: w4 S Out of pocket dentist exp imputed flag	Categ
5	S5OOPDENF1Y	s5oopdenfly: w5 S Out of pocket dentist exp imputed flag	Categ
1	R1OOPOSRG1Y	r1ooposrgly: w1 R Out of pocket outpatient surgery exp, prev	Cont
2	R2OOPOSRG1Y	r2ooposrgly: w2 R Out of pocket outpatient surgery exp, prev	Cont
3	R3OOPOSRG1Y	r3ooposrgly: w3 R Out of pocket outpatient surgery exp, prev	Cont
4	R4OOPOSRG1Y	r4ooposrgly: w4 R Out of pocket outpatient surgery exp, prev	Cont
5	R5OOPOSRG1Y	r5ooposrgly: w5 R Out of pocket outpatient surgery exp, prev	Cont
1	S1OOPOSRG1Y	s1ooposrgly: w1 S Out of pocket outpatient surgery exp, prev	Cont
2	S2OOPOSRG1Y	s2ooposrgly: w2 S Out of pocket outpatient surgery exp, prev	Cont
3	S3OOPOSRG1Y	s3ooposrgly: w3 S Out of pocket outpatient surgery exp, prev	Cont
4	S4OOPOSRG1Y	s4ooposrgly: w4 S Out of pocket outpatient surgery exp, prev	Cont
5	S5OOPOSRG1Y	s5ooposrgly: w5 S Out of pocket outpatient surgery exp, prev	Cont
1	R1OOPOSRGF1Y	r1ooposrgfly: w1 R Out of pocket outpatient surgery exp impu	Categ
2	R2OOPOSRGF1Y	r2ooposrgfly: w2 R Out of pocket outpatient surgery exp impu	Categ
3	R3OOPOSRGF1Y	r3ooposrgfly: w3 R Out of pocket outpatient surgery exp impu	Categ
4	R4OOPOSRGF1Y	r4ooposrgfly: w4 R Out of pocket outpatient surgery exp impu	Categ
5	R5OOPOSRGF1Y	r5ooposrgfly: w5 R Out of pocket outpatient surgery exp impu	Categ
1	S1OOPOSRGF1Y	s1ooposrgfly: w1 S Out of pocket outpatient surgery exp impu	Categ
2	S2OOPOSRGF1Y	s2ooposrgfly: w2 S Out of pocket outpatient surgery exp impu	Categ
3	S3OOPOSRGF1Y	s3ooposrgfly: w3 S Out of pocket outpatient surgery exp impu	Categ
4	S4OOPOSRGF1Y	s4ooposrgfly: w4 S Out of pocket outpatient surgery exp impu	Categ
5	S5OOPOSRGF1Y	s5ooposrgfly: w5 S Out of pocket outpatient surgery exp impu	Categ
1	R1OOPDOC1Y	r1oopdocly: w1 R Out of pocket doctor exp, previous 12 month	Cont
2	R2OOPDOC1Y	r2oopdocly: w2 R Out of pocket doctor exp, previous 12 month	Cont
3	R3OOPDOC1Y	r3oopdocly: w3 R Out of pocket doctor exp, previous 12 month	Cont
4	R4OOPDOC1Y	r4oopdocly: w4 R Out of pocket doctor exp, previous 12 month	Cont
5	R5OOPDOC1Y	r5oopdocly: w5 R Out of pocket doctor exp, previous 12 month	Cont
1	S1OOPDOC1Y	s1oopdocly: w1 S Out of pocket doctor exp, previous 12 month	Cont
2	S2OOPDOC1Y	s2oopdocly: w2 S Out of pocket doctor exp, previous 12 month	Cont
3	S3OOPDOC1Y	s3oopdocly: w3 S Out of pocket doctor exp, previous 12 month	Cont
4	S4OOPDOC1Y	s4oopdocly: w4 S Out of pocket doctor exp, previous 12 month	Cont
5	S5OOPDOC1Y	s5oopdocly: w5 S Out of pocket doctor exp, previous 12 month	Cont
1	R1OOPDOCF1Y	r1oopdocfly: w1 R Out of pocket doctor exp imputed flag	Categ
2	R2OOPDOCF1Y	r2oopdocfly: w2 R Out of pocket doctor exp imputed flag	Categ
3	R3OOPDOCF1Y	r3oopdocfly: w3 R Out of pocket doctor exp imputed flag	Categ
4	R4OOPDOCF1Y	r4oopdocfly: w4 R Out of pocket doctor exp imputed flag	Categ
5	R5OOPDOCF1Y	r5oopdocfly: w5 R Out of pocket doctor exp imputed flag	Categ
1	S1OOPDOCF1Y	s1oopdocfly: w1 S Out of pocket doctor exp imputed flag	Categ
2	S2OOPDOCF1Y	s2oopdocfly: w2 S Out of pocket doctor exp imputed flag	Categ
3	S3OOPDOCF1Y	s3oopdocfly: w3 S Out of pocket doctor exp imputed flag	Categ
4	S4OOPDOCF1Y	s4oopdocfly: w4 S Out of pocket doctor exp imputed flag	Categ
5	S5OOPDOCF1Y	s5oopdocfly: w5 S Out of pocket doctor exp imputed flag	Categ
1	R1OOPMD1Y	r1oopmdly: w1 R Out of pocket med exp, previous 12 months	Cont
2	R2OOPMD1Y	r2oopmdly: w2 R Out of pocket med exp, previous 12 months	Cont
3	R3OOPMD1Y	r3oopmdly: w3 R Out of pocket med exp, previous 12 months	Cont
4	R4OOPMD1Y	r4oopmdly: w4 R Out of pocket med exp, previous 12 months	Cont
5	R5OOPMD1Y	r5oopmdly: w5 R Out of pocket med exp, previous 12 months	Cont
1	S1OOPMD1Y	s1oopmdly: w1 S Out of pocket med exp, previous 12 months	Cont

2	S2OOPMD1Y	s2oopmdly: w2 S Out of pocket med exp, previous 12 months	Cont
3	S3OOPMD1Y	s3oopmdly: w3 S Out of pocket med exp, previous 12 months	Cont
4	S4OOPMD1Y	s4oopmdly: w4 S Out of pocket med exp, previous 12 months	Cont
5	S5OOPMD1Y	s5oopmdly: w5 S Out of pocket med exp, previous 12 months	Cont
1	R1OOPMDF1Y	rloopmdfly: w1 R Out of pocket med exp imputed flag	Categ
2	R2OOPMDF1Y	r2oopmdfly: w2 R Out of pocket med exp imputed flag	Categ
3	R3OOPMDF1Y	r3oopmdfly: w3 R Out of pocket med exp imputed flag	Categ
4	R4OOPMDF1Y	r4oopmdfly: w4 R Out of pocket med exp imputed flag	Categ
5	R5OOPMDF1Y	r5oopmdfly: w5 R Out of pocket med exp imputed flag	Categ
1	S1OOPMDF1Y	sloopmdfly: w1 S Out of pocket med exp imputed flag	Categ
2	S2OOPMDF1Y	s2oopmdfly: w2 S Out of pocket med exp imputed flag	Categ
3	S3OOPMDF1Y	s3oopmdfly: w3 S Out of pocket med exp imputed flag	Categ
4	S4OOPMDF1Y	s4oopmdfly: w4 S Out of pocket med exp imputed flag	Categ
5	S5OOPMDF1Y	s5oopmdfly: w5 S Out of pocket med exp imputed flag	Categ

## Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R1OOPHOS1Y	15176	445.00	7045.10	0.00	500000.00
R2OOPHOS1Y	13701	561.78	7227.74	0.00	500000.00
R3OOPHOS1Y	15723	670.77	7042.17	0.00	300000.00
R4OOPHOS1Y	14763	1301.86	12628.88	0.00	500000.00
R5OOPHOS1Y	17114	1601.04	12876.59	0.00	350000.00
S1OOPHOS1Y	10643	437.79	7992.32	0.00	500000.00
S2OOPHOS1Y	9562	621.79	8216.53	0.00	500000.00
S3OOPHOS1Y	10592	640.67	7167.39	0.00	300000.00
S4OOPHOS1Y	9650	1173.81	12229.27	0.00	500000.00
S5OOPHOS1Y	7638	1880.15	14304.68	0.00	350000.00
R1OOPHOSF1Y	15176	0.01	0.09	0.00	1.00
R2OOPHOSF1Y	13701	0.01	0.09	0.00	1.00
R3OOPHOSF1Y	15723	0.01	0.08	0.00	1.00
R4OOPHOSF1Y	14763	0.01	0.08	0.00	1.00
R5OOPHOSF1Y	17114	0.01	0.11	0.00	1.00
S1OOPHOSF1Y	10643	0.01	0.08	0.00	1.00
S2OOPHOSF1Y	9562	0.01	0.08	0.00	1.00
S3OOPHOSF1Y	10592	0.00	0.07	0.00	1.00
S4OOPHOSF1Y	9650	0.01	0.08	0.00	1.00
S5OOPHOSF1Y	7638	0.01	0.11	0.00	1.00
R1OOPFHHO1Y	15176	53.25	703.94	0.00	60000.00
R2OOPFHHO1Y	13701	49.84	447.76	0.00	25000.00
R3OOPFHHO1Y	15723	53.48	472.74	0.00	24000.00
R4OOPFHHO1Y	14763	66.01	656.87	0.00	40000.00
S1OOPFHHO1Y	10643	53.90	758.10	0.00	60000.00
S2OOPFHHO1Y	9562	52.23	489.68	0.00	25000.00
S3OOPFHHO1Y	10592	50.93	466.17	0.00	24000.00
S4OOPFHHO1Y	9650	69.88	739.53	0.00	40000.00
R1OOPFHHOFLY	15176	0.00	0.06	0.00	1.00
R2OOPFHHOFLY	13701	0.00	0.05	0.00	1.00
R3OOPFHHOFLY	15723	0.00	0.04	0.00	1.00
R4OOPFHHOFLY	14763	0.00	0.04	0.00	1.00
S1OOPFHHOFLY	10643	0.00	0.06	0.00	1.00
S2OOPFHHOFLY	9562	0.00	0.04	0.00	1.00
S3OOPFHHOFLY	10592	0.00	0.04	0.00	1.00
S4OOPFHHOFLY	9650	0.00	0.04	0.00	1.00

R1OOPDEN1Y	15176	283.50	1313.00	0.00	60000.00
R2OOPDEN1Y	13701	324.90	1662.56	0.00	100000.00
R3OOPDEN1Y	15723	708.37	6132.31	0.00	600000.00
R4OOPDEN1Y	14763	780.45	3084.68	0.00	100000.00
R5OOPDEN1Y	17114	1136.36	6458.61	0.00	600000.00
S1OOPDEN1Y	10643	287.85	1363.35	0.00	60000.00
S2OOPDEN1Y	9562	327.90	1655.37	0.00	100000.00
S3OOPDEN1Y	10592	676.05	4153.18	0.00	215000.00
S4OOPDEN1Y	9650	806.25	3251.86	0.00	100000.00
S5OOPDEN1Y	7638	1103.87	4714.01	0.00	270000.00
R1OOPDENF1Y	15176	0.01	0.08	0.00	1.00
R2OOPDENF1Y	13701	0.01	0.09	0.00	1.00
R3OOPDENF1Y	15723	0.01	0.09	0.00	1.00
R4OOPDENF1Y	14763	0.01	0.09	0.00	1.00
R5OOPDENF1Y	17114	0.02	0.12	0.00	1.00
S1OOPDENF1Y	10643	0.00	0.07	0.00	1.00
S2OOPDENF1Y	9562	0.01	0.09	0.00	1.00
S3OOPDENF1Y	10592	0.01	0.09	0.00	1.00
S4OOPDENF1Y	9650	0.01	0.08	0.00	1.00
S5OOPDENF1Y	7638	0.02	0.12	0.00	1.00
R1OOPOSRG1Y	15176	31.17	511.10	0.00	22500.00
R2OOPOSRG1Y	13701	111.30	2129.02	0.00	120000.00
R3OOPOSRG1Y	15723	184.83	4120.08	0.00	400000.00
R4OOPOSRG1Y	14763	207.57	2623.97	0.00	120000.00
R5OOPOSRG1Y	17114	269.10	3356.38	0.00	200000.00
S1OOPOSRG1Y	10643	32.91	530.04	0.00	22500.00
S2OOPOSRG1Y	9562	118.67	2356.39	0.00	120000.00
S3OOPOSRG1Y	10592	151.23	2670.48	0.00	130000.00
S4OOPOSRG1Y	9650	198.35	2643.60	0.00	120000.00
S5OOPOSRG1Y	7638	310.02	3788.56	0.00	200000.00
R1OOPOSRGF1Y	15176	0.00	0.04	0.00	1.00
R2OOPOSRGF1Y	13701	0.00	0.04	0.00	1.00
R3OOPOSRGF1Y	15723	0.00	0.04	0.00	1.00
R4OOPOSRGF1Y	14763	0.00	0.02	0.00	1.00
R5OOPOSRGF1Y	17114	0.00	0.07	0.00	1.00
S1OOPOSRGF1Y	10643	0.00	0.04	0.00	1.00
S2OOPOSRGF1Y	9562	0.00	0.03	0.00	1.00
S3OOPOSRGF1Y	10592	0.00	0.04	0.00	1.00
S4OOPOSRGF1Y	9650	0.00	0.01	0.00	1.00
S5OOPOSRGF1Y	7638	0.01	0.08	0.00	1.00
R1OOPDOC1Y	15176	488.79	3216.58	0.00	250000.00
R2OOPDOC1Y	13701	598.07	4301.72	0.00	300000.00
R3OOPDOC1Y	15723	535.79	3609.25	0.00	260000.00
R4OOPDOC1Y	14763	621.36	3113.48	0.00	100000.00
R5OOPDOC1Y	17114	961.20	5191.55	0.00	200000.00
S1OOPDOC1Y	10643	471.86	3192.88	0.00	250000.00
S2OOPDOC1Y	9562	599.96	4412.42	0.00	300000.00
S3OOPDOC1Y	10592	459.42	2627.98	0.00	120000.00
S4OOPDOC1Y	9650	562.32	2751.93	0.00	100000.00
S5OOPDOC1Y	7638	998.54	5587.60	0.00	200000.00
R1OOPDOCF1Y	15176	0.02	0.13	0.00	1.00
R2OOPDOCF1Y	13701	0.02	0.13	0.00	1.00
R3OOPDOCF1Y	15723	0.01	0.10	0.00	1.00

R4OOPDOCF1Y	14763	0.01	0.09	0.00	1.00
R5OOPDOCF1Y	17114	0.02	0.14	0.00	1.00
S1OOPDOCF1Y	10643	0.01	0.12	0.00	1.00
S2OOPDOCF1Y	9562	0.02	0.12	0.00	1.00
S3OOPDOCF1Y	10592	0.01	0.09	0.00	1.00
S4OOPDOCF1Y	9650	0.01	0.08	0.00	1.00
S5OOPDOCF1Y	7638	0.02	0.14	0.00	1.00
R1OOPMD1Y	15176	1301.71	8153.40	0.00	500000.00
R2OOPMD1Y	13701	1645.90	10625.77	0.00	800000.00
R3OOPMD1Y	15723	2153.24	12064.52	0.00	600000.00
R4OOPMD1Y	14763	2977.26	14420.37	0.00	500000.00
R5OOPMD1Y	17114	3967.71	16995.14	0.00	600000.00
S1OOPMD1Y	10643	1284.32	9001.70	0.00	500000.00
S2OOPMD1Y	9562	1720.55	11863.05	0.00	800000.00
S3OOPMD1Y	10592	1978.30	9994.91	0.00	302000.00
S4OOPMD1Y	9650	2810.60	13730.66	0.00	500000.00
S5OOPMD1Y	7638	4292.58	17926.94	0.00	424531.81
R1OOPMDF1Y	15176	0.03	0.17	0.00	1.00
R2OOPMDF1Y	13701	0.03	0.18	0.00	1.00
R3OOPMDF1Y	15723	0.02	0.15	0.00	1.00
R4OOPMDF1Y	14763	0.02	0.15	0.00	1.00
R5OOPMDF1Y	17114	0.04	0.19	0.00	1.00
S1OOPMDF1Y	10643	0.03	0.16	0.00	1.00
S2OOPMDF1Y	9562	0.03	0.17	0.00	1.00
S3OOPMDF1Y	10592	0.02	0.13	0.00	1.00
S4OOPMDF1Y	9650	0.02	0.14	0.00	1.00
S5OOPMDF1Y	7638	0.04	0.19	0.00	1.00

Categorical Variable Codes

Value-----	R1OOPHOSF1Y	R2OOPHOSF1Y	R3OOPHOSF1Y	R4OOPHOSF1Y	R5OOPHOSF1Y
.m:Missing	10	3		16	
0.No	15038	13583	15621	14661	16907
1.Yes	138	118	102	102	207
Value-----	S1OOPHOSF1Y	S2OOPHOSF1Y	S3OOPHOSF1Y	S4OOPHOSF1Y	S5OOPHOSF1Y
.m:Missing	5	2		2	
.u:Unmar	4205	4009	4782	4847	5227
.v:SP NR	333	131	349	280	501
0.No	10567	9500	10542	9591	7537
1.Yes	76	62	50	59	101
Value-----	R1OOPFHHOF1Y	R2OOPFHHOF1Y	R3OOPFHHOF1Y	R4OOPFHHOF1Y	
.m:Missing	10	3		16	
0.No	15118	13670	15701	14737	
1.Yes	58	31	22	26	
Value-----	S1OOPFHHOF1Y	S2OOPFHHOF1Y	S3OOPFHHOF1Y	S4OOPFHHOF1Y	
.m:Missing	5	2		2	
.u:Unmar	4205	4009	4782	4847	
.v:SP NR	333	131	349	280	
0.No	10609	9544	10578	9636	
1.Yes	34	18	14	14	
Value-----	R1OOPDENF1Y	R2OOPDENF1Y	R3OOPDENF1Y	R4OOPDENF1Y	R5OOPDENF1Y
.m:Missing	10	3		16	
0.No	15090	13583	15584	14636	16849
1.Yes	86	118	139	127	265
Value-----	S1OOPDENF1Y	S2OOPDENF1Y	S3OOPDENF1Y	S4OOPDENF1Y	S5OOPDENF1Y
.m:Missing	5	2		2	
.u:Unmar	4205	4009	4782	4847	5227

.v:SP NR		333	131	349	280	501
0.No		10592	9479	10513	9585	7517
1.Yes		51	83	79	65	121
Value-----		R1OOPOSRGF1Y	R2OOPOSRGF1Y	R3OOPOSRGF1Y	R4OOPOSRGF1Y	R5OOPOSRGF1Y
.m:Missing		10	3		16	
0.No		15149	13681	15702	14754	17030
1.Yes		27	20	21	9	84
Value-----		S1OOPOSRGF1Y	S2OOPOSRGF1Y	S3OOPOSRGF1Y	S4OOPOSRGF1Y	S5OOPOSRGF1Y
.m:Missing		5	2		2	
.u:Unmar		4205	4009	4782	4847	5227
.v:SP NR		333	131	349	280	501
0.No		10624	9553	10579	9648	7588
1.Yes		19	9	13	2	50
Value-----		R1OOPDOC1Y	R2OOPDOC1Y	R3OOPDOC1Y	R4OOPDOC1Y	R5OOPDOC1Y
.m:Missing		10	3		16	
0.No		14912	13465	15567	14635	16783
1.Yes		264	236	156	128	331
Value-----		S1OOPDOC1Y	S2OOPDOC1Y	S3OOPDOC1Y	S4OOPDOC1Y	S5OOPDOC1Y
.m:Missing		5	2		2	
.u:Unmar		4205	4009	4782	4847	5227
.v:SP NR		333	131	349	280	501
0.No		10484	9417	10512	9584	7495
1.Yes		159	145	80	66	143
Value-----		R1OOPMDF1Y	R2OOPMDF1Y	R3OOPMDF1Y	R4OOPMDF1Y	R5OOPMDF1Y
.m:Missing		10	3		16	
0.No		14697	13251	15359	14421	16471
1.Yes		479	450	364	342	643
Value-----		S1OOPMDF1Y	S2OOPMDF1Y	S3OOPMDF1Y	S4OOPMDF1Y	S5OOPMDF1Y
.m:Missing		5	2		2	
.u:Unmar		4205	4009	4782	4847	5227
.v:SP NR		333	131	349	280	501
0.No		10356	9286	10399	9467	7361
1.Yes		287	276	193	183	277

## How Constructed

RwOOPHOS1Y is the out of pocket hospitalizations expenditure in the last 12 months. RwOOPFHHO1Y is the total out of pocket homeopath and folk healer (curandero) expenditures in the last 12 months. RwOOPDEN1Y is the total out of pocket dentist expenditures in the last 12 months. RwOOPOSRG1Y is the total out of pocket outpatient surgery expenditures in the last 12 months. RwOOPDOC1Y is the total out of pocket doctor expenditures in the last 12 months. RwOOPMD1Y is the total out of pocket medical expenditure in the last 12 months.

All components in the out of pocket expenses were imputed separately by the MHAS. In Wave 1, the imputed components included: hospital costs (for overnight stays only), folk healer (curandero), homeopath, dentist, outpatient surgery costs, and doctor. After Wave 2, the options folk healer and homeopath were grouped into one option. Starting in Wave 5, the option for folk healer and homeopath was deleted. The questions ask "about how much did you pay for these?".

RwOOPHOS1Y, RwOOPFHHO1Y, RwOOPDEN1Y, RwOOPOSRG1Y, RwOOPDOC1Y, and RwOOPMD1Y indicate whether one or all components included to construct RwOOPHOS1Y, RwOOPFHHO1Y, RwOOPDEN1Y, RwOOPOSRG1Y, RwOOPDOC1Y, and RwOOPMD1Y, respectively, were imputed by the MHAS.

Please see the 2001 [\(here\)](#), 2003 [\(here\)](#), 2012 [\(here\)](#), 2015 [\(here\)](#), , and 2018 [\(here\)](#) MHAS documents titled "Imputation of Non-Response on Economic Variables in the MHAS", available in the study website [www.MHASweb.org](http://www.MHASweb.org) for more details on the imputation method used, variables imputed, and covariates included.

RwOOPHOS1Y, RwOOPFHHO1Y, RwOOPDEN1Y, RwOOPOSRG1Y, RwOOPDOC1Y, and RwOOPMD1Y are assigned special missing values .d or .r, if they answered don't know or refused, respectively, and the value was not imputed. They are assigned special missing .k if the respondent reported that they paid in-kind. The variables are also assigned special missing value .m for the cases that failed to complete Section D (Medical



Expenditures). The variables are set to plain missing (.) for respondents who did not respond to the current wave.

SWOOPHOS1Y, SWOOPFH1Y, SWOOPDEN1Y, SWOOPOSRG1Y, SWOOPDOC1Y, SWOOPMD1Y, SWOOPHOSF1Y, SWOOPFHOF1Y, SWOOPDENF1Y, SWOOPOSRGF1Y, SWOOPDOCF1Y, and SWOOPMDF1Y are taken from the Wave 'w' spouse's values for the respective respondent variables. In addition to the special missing codes used in the respondent variables, if the respondent is not designated as coupled in the current wave and assumed to be single, a special missing value of .u is used. Also, if the respondent is not designated as coupled in the current wave but reports being married, a special missing value of .v is used.

## Cross Wave Differences in MHAS

In Wave 1, the MHAS imputed components of out of pocket medical expenditure were: hospital costs (for overnight stays only), folk healer (curandero), homeopath, dentist, outpatient surgery costs, and doctor. After Wave 2, the options folk healer and homeopath were grouped into one option. Starting in Wave 5, the option folk healer and homeopath was deleted. The questions ask "about how much did you pay for these?".

## Differences with the RAND HRS/Harmonized HRS

The MHAS imputed all the variables used as components of RWOOPMD. Please see the 2001 ([here](#)), 2003 ([here](#)), 2012 ([here](#)), 2015 ([here](#)), and 2018 ([here](#)) MHAS documents titled "Imputation of Non-Response on Economic Variables in the MHAS", available in the study website [www.MHASweb.org](http://www.MHASweb.org) for more details on the imputation method used, variables imputed, and covariates included.

## MHAS Variables Used

### Wave 1:

D6IMP	if imputed value
D9_1IMP	if imputed value
D9_2IMP	if imputed value
D9_3IMP	if imputed value
D9_4IMP	if imputed value
D9_5IMP	if imputed value
IMAMD6	total hospitalization expenditures (imputed)
IMAMD9_1	total folkhealer (curandero) expenditures (imputed)
IMAMD9_2	total homeopath expenditures (imputed)
IMAMD9_3	total dental expenditures (imputed)
IMAMD9_4	total outpatient procedure expenditures (imputed)
IMAMD9_5	total medical visits expenditures (imputed)

### Wave 2:

D13IMP	if imputed value
D16_1IMP	if imputed value
D16_2IMP	if imputed value
D16_3IMP	if imputed value
D16_4IMP	if imputed value
IMAMD13	total hospitalization expenditures (imputed)
IMAMD16_1	total curandero/homeopath expenditures (imputed)
IMAMD16_3	total outpatient procedure expenditures (imputed)
IMAMD16_4	total medical visits expenditures (imputed)

### Wave 3:

D6_IMP_12
D9_1_IMP_12
D9_2_IMP_12
D9_3_IMP_12
D9_4_IMP_12
IMAMD6_12
IMAMD9_1_12
IMAMD9_3_12
IMAMD9_4_12

### Wave 4:

D6_IMP_15	Total hospitalization costs (Flag if imputed value)
D9_1_IMP_15	Total curandero/ homeopath costs (Flag if imputed value)
D9_2_IMP_15	Total dentist costs (Flag if imputed value)

D9_3_IMP_15	Total outpatient procedure costs (Flag if imputed value
D9_4_IMP_15	Total medical visits costs (Flag if imputed value)
IMAMD6_15	Total hospitalization costs (imputed)
IMAMD9_1_15	Total curandero/ homeopath costs(imputed)
IMAMD9_3_15	Total outpatient procedure costs (imputed)
IMAMD9_4_15	Total medical visits costs (imputed)
Wave 5:	
D6_IMP_18	Total hospitalization costs (Flag if imputed value)
D9_2_IMP_18	Total outpatient procedure costs (Flag if imputed value)
D9_3_IMP_18	Total medical visits costs (Flag if imputed value)
IMAMD6_18	Total hospitalization costs (imputed)
IMAMD9_2_18	Total outpatient procedure costs (imputed)
IMAMD9_3_18	Total medical visits costs (imputed)

Covered by Federal Government Health Insurance Program

Wave	Variable	Label	Type
1	R1HIGOV	r1higov: w1 R Covered by government plan	Categ
2	R2HIGOV	r2higov: w2 R Covered by government plan	Categ
3	R3HIGOV	r3higov: w3 R Covered by government plan	Categ
4	R4HIGOV	r4higov: w4 R Covered by government plan	Categ
5	R5HIGOV	r5higov: w5 R Covered by government plan	Categ
1	S1HIGOV	s1higov: w1 S Covered by government plan	Categ
2	S2HIGOV	s2higov: w2 S Covered by government plan	Categ
3	S3HIGOV	s3higov: w3 S Covered by government plan	Categ
4	S4HIGOV	s4higov: w4 S Covered by government plan	Categ
5	S5HIGOV	s5higov: w5 S Covered by government plan	Categ

Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R1HIGOV	15148	0.58	0.49	0.00	1.00
R2HIGOV	13691	0.59	0.49	0.00	1.00
R3HIGOV	15720	0.85	0.36	0.00	1.00
R4HIGOV	14757	0.90	0.31	0.00	1.00
R5HIGOV	17074	0.89	0.31	0.00	1.00
S1HIGOV	10625	0.58	0.49	0.00	1.00
S2HIGOV	9557	0.60	0.49	0.00	1.00
S3HIGOV	10591	0.86	0.34	0.00	1.00
S4HIGOV	9647	0.91	0.29	0.00	1.00
S5HIGOV	7611	0.92	0.27	0.00	1.00

Categorical Variable Codes

Value-----	R1HIGOV	R2HIGOV	R3HIGOV	R4HIGOV	R5HIGOV
.d:DK	5	9	3	6	
.m:Missing	10	3		16	
.r:Refuse	23	1			40
0.No	6349	5598	2355	1536	1857
1.Yes	8799	8093	13365	13221	15217
Value-----	S1HIGOV	S2HIGOV	S3HIGOV	S4HIGOV	S5HIGOV
.d:DK	2	5	1	3	
.m:Missing	5	2		2	
.r:Refuse	16				27
.u:Unmar	4205	4009	4782	4847	5227
.v:SP NR	333	131	349	280	501
0.No	4414	3847	1451	903	624
1.Yes	6211	5710	9140	8744	6987

How Constructed

RwHIGOV indicates whether the respondent is covered by any government health insurance program. The question asks if the respondent has the right to medical attention in an organization or institution that provided the service. The options listed for the respondent changed starting in Wave 3 to include two new organizations: ISSSTE Estatal and Seguro Popular. RwHIGOV is coded as 0 if the respondent is not covered by any government health insurance program, and is coded as 1 if the respondent is covered by at least one government health insurance program. RwHIGOV is assigned special missing values .d or .r, if they answered don't know or refused, respectively. Other missing responses are assigned special missing value .m. The variables are set to plain missing (.) for respondents who did not respond to the current wave.

SwHIGOV is taken from the Wave 'w' spouse's value for RwHIGOV. In addition to the special missing codes used in RwHIGOV, if the respondent is not designated as coupled in the current wave and assumed to be

single, a special missing value of .u is used. Also, if the respondent is not designated as coupled in the current wave but reports being married, a special missing value of .v is used.

## Cross Wave Differences in MHAS

Respondents were asked if they had the right to medical attention in an organization or institution that provided the service. In Waves 1 and 2, the list included the following: the Mexican Social Security Institute (Instituto Mexicano del Seguro Social, IMSS) which is a government organization that provides medical attention, pensions and social security in Mexico; the Institute for Social Security and Services for State Workers (Instituto de Seguridad y Servicios Sociales de los Trabajadores del Estado, ISSSTE) which is a federal government organization that administers part of Mexico's health care and social security systems, and provides assistance in cases of disability, old age, risks in labor, and death to federal workers; and the Mexican state-owned petroleum company (Petróleos Mexicanos, PEMEX), Defense, and Marines medical attention program for their workers and members. Starting in Wave 3, the ISSSTE option also included State ISSSTE (ISSSTE Estatal). Also, Seguro Popular was included as an additional option. Seguro Popular is a public health insurance program that covers a wide range of services without co-pays for its affiliates. It was established by the government in 2003 as an effort to expand health care to all in Mexico.

## Differences with the RAND HRS/Harmonized HRS

In RAND HRS, the respondent is asked if they are covered by any government health insurance program. In the MHAS, the respondent is asked if they have 'the right to medical attention' in an organization or institution. Respondents are asked if they had right to each of the options including different government programs, private insurance, and other programs (not listed before).

## MHAS Variables Used

Wave 1:	
D1_1	imss
D1_2	issste
D1_3	pemex
Wave 2:	
D8_1	have rights to social security (imss)
D8_2	have rights to issste
D8_3	have rights to pemex, defense or navy
Wave 3:	
D1_1_12	Does respondent have a right to medical attention_IMSS
D1_2_12	Does respondent have a right to medical attention_ISSST
D1_3_12	Does respondent have a right to medical attention_Seg P
D1_4_12	Does respondent have a right to medical attention:PEMEX
Wave 4:	
D1_1_15	Does respondent have a right to medical attention: IMSS
D1_2_15	Does respondent have a right to medical attention: ISSS
D1_3_15	Does respondent have a right to medical attention: Segu
D1_4_15	Does respondent have a right to medical attention: PEME
Wave 5:	
D1_1_18	Does R have a right to medical attention: IMSS
D1_2_18	Does R have a right to medical attention: ISSSTE/State
D1_3_18	Does R have a right to medical attention: Seguro Popula
D1_4_18	Does R have a right to medical attention: PEMEX, Defens

Covered by Private Health Insurance

Wave	Variable	Label	Type
1	R1HIPRIV	r1hipriv: w1 R Covered by private health insurance	Categ
2	R2HIPRIV	r2hipriv: w2 R Covered by private health insurance	Categ
3	R3HIPRIV	r3hipriv: w3 R Covered by private health insurance	Categ
4	R4HIPRIV	r4hipriv: w4 R Covered by private health insurance	Categ
5	R5HIPRIV	r5hipriv: w5 R Covered by private health insurance	Categ
1	S1HIPRIV	s1hipriv: w1 S Covered by private health insurance	Categ
2	S2HIPRIV	s2hipriv: w2 S Covered by private health insurance	Categ
3	S3HIPRIV	s3hipriv: w3 S Covered by private health insurance	Categ
4	S4HIPRIV	s4hipriv: w4 S Covered by private health insurance	Categ
5	S5HIPRIV	s5hipriv: w5 S Covered by private health insurance	Categ

Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R1HIPRIV	14960	0.02	0.15	0.00	1.00
R2HIPRIV	13691	0.02	0.13	0.00	1.00
R3HIPRIV	15702	0.02	0.15	0.00	1.00
R4HIPRIV	14749	0.02	0.15	0.00	1.00
R5HIPRIV	17057	0.02	0.12	0.00	1.00
S1HIPRIV	10483	0.02	0.15	0.00	1.00
S2HIPRIV	9557	0.02	0.14	0.00	1.00
S3HIPRIV	10576	0.02	0.15	0.00	1.00
S4HIPRIV	9641	0.02	0.15	0.00	1.00
S5HIPRIV	7605	0.01	0.11	0.00	1.00

Categorical Variable Codes

Value-----	R1HIPRIV	R2HIPRIV	R3HIPRIV	R4HIPRIV	R5HIPRIV
.d:DK	63	9	5	7	3
.m:Missing	10	3		16	
.r:Refuse	153	1	16	7	54
0.No	14636	13451	15318	14429	16792
1.Yes	324	240	384	320	265
Value-----	S1HIPRIV	S2HIPRIV	S3HIPRIV	S4HIPRIV	S5HIPRIV
.d:DK	52	5	2	4	
.m:Missing	5	2		2	
.r:Refuse	108		14	5	33
.u:Unmar	4205	4009	4782	4847	5227
.v:SP NR	333	131	349	280	501
0.No	10249	9378	10320	9426	7504
1.Yes	234	179	256	215	101

How Constructed

RwHIPRIV indicates whether the respondent is covered by any private medical health insurance. RwHIPRIV is coded as 0 if the respondent is not covered by any private medical health insurance, and is coded as 1 if the respondent is covered by private medical health insurance. RwHIPRIV is assigned special missing values .d or .r, if they answered don't know or refused, respectively. Other missing responses are assigned special missing value .m. The variables are set to plain missing (.) for respondents who did not respond to the current wave.

SwHIPRIV is taken from the Wave 'w' spouse's value for RwHIPRIV. In addition to the special missing codes used in RwHIPRIV, if the respondent is not designated as coupled in the current wave and assumed to be single, a special missing value of .u is used. Also, if the respondent is not designated as coupled in the current wave but reports being married, a special missing value of .v is used.

Cross Wave Differences in MHAS

No differences known.

Differences with the RAND HRS/Harmonized HRS

In RAND HRS, the respondent is asked if they are covered by any private health insurance program. In the MHAS, the respondent is asked if they have 'the right to medical attention' in an organization or institution. Respondents are asked if they had right to each of the options including different government programs, private insurance, and other programs (not listed before).

MHAS Variables Used

Wave 1:	
D1_4	private physician
Wave 2:	
D8_4	have rights to private medical insurance
Wave 3:	
D1_5_12	Does respondent have a right to medical attention_Priva
Wave 4:	
D1_5_15	Does respondent have a right to medical attention: Priv
Wave 5:	
D1_5_18	Does R have a right to medical attention: Private Medic

<b>Covered by Health Insurance from a Current or Previous Employer</b>
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Wave	Variable	Label	Type
1	R1COVR_M	r1covr_m: w1 R Covered by respondent's employer plan	Categ
2	R2COVR_M	r2covr_m: w2 R Covered by respondent's employer plan	Categ
3	R3COVR_M	r3covr_m: w3 R Covered by respondent's employer plan	Categ
4	R4COVR_M	r4covr_m: w4 R Covered by respondent's employer plan	Categ
5	R5COVR_M	r5covr_m: w5 R Covered by respondent's employer plan	Categ
1	S1COVR_M	s1covr_m: w1 S Covered by respondent's employer plan	Categ
2	S2COVR_M	s2covr_m: w2 S Covered by respondent's employer plan	Categ
3	S3COVR_M	s3covr_m: w3 S Covered by respondent's employer plan	Categ
4	S4COVR_M	s4covr_m: w4 S Covered by respondent's employer plan	Categ
5	S5COVR_M	s5covr_m: w5 S Covered by respondent's employer plan	Categ
1	R1COVS_M	r1covs_m: w1 R Covered by spouse's employer plan	Categ
2	R2COVS_M	r2covs_m: w2 R Covered by spouse's employer plan	Categ
3	R3COVS_M	r3covs_m: w3 R Covered by spouse's employer plan	Categ
4	R4COVS_M	r4covs_m: w4 R Covered by spouse's employer plan	Categ
5	R5COVS_M	r5covs_m: w5 R Covered by spouse's employer plan	Categ
1	S1COVS_M	s1covs_m: w1 S Covered by spouse's employer plan	Categ
2	S2COVS_M	s2covs_m: w2 S Covered by spouse's employer plan	Categ
3	S3COVS_M	s3covs_m: w3 S Covered by spouse's employer plan	Categ
4	S4COVS_M	s4covs_m: w4 S Covered by spouse's employer plan	Categ
5	S5COVS_M	s5covs_m: w5 S Covered by spouse's employer plan	Categ

### Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R1COVR_M	15148	0.25	0.43	0.00	1.00
R2COVR_M	13691	0.25	0.43	0.00	1.00
R3COVR_M	15706	0.27	0.45	0.00	1.00
R4COVR_M	14772	0.29	0.45	0.00	1.00
R5COVR_M	17071	0.30	0.46	0.00	1.00
S1COVR_M	10625	0.25	0.44	0.00	1.00
S2COVR_M	9557	0.26	0.44	0.00	1.00
S3COVR_M	10583	0.29	0.45	0.00	1.00
S4COVR_M	9648	0.30	0.46	0.00	1.00
S5COVR_M	7611	0.30	0.46	0.00	1.00
R1COVS_M	15148	0.15	0.36	0.00	1.00
R2COVS_M	13691	0.15	0.36	0.00	1.00
R3COVS_M	15706	0.17	0.38	0.00	1.00
R4COVS_M	14772	0.18	0.38	0.00	1.00
R5COVS_M	17071	0.17	0.37	0.00	1.00
S1COVS_M	10625	0.18	0.38	0.00	1.00
S2COVS_M	9557	0.18	0.38	0.00	1.00
S3COVS_M	10583	0.19	0.39	0.00	1.00
S4COVS_M	9648	0.20	0.40	0.00	1.00
S5COVS_M	7611	0.20	0.40	0.00	1.00

### Categorical Variable Codes

Value-----	R1COVR_M	R2COVR_M	R3COVR_M	R4COVR_M	R5COVR_M
.d:DK	5	9	3	7	2
.m:Missing	10	3	14		
.r:Refuse	23	1			41

0.No		11431	10300	11424	10514	12029
1.Yes		3717	3391	4282	4258	5042
Value-----		S1COVR_M	S2COVR_M	S3COVR_M	S4COVR_M	S5COVR_M
.d:DK		2	5	1	4	
.m:Missing		5	2	8		
.r:Refuse		16				27
.u:Unmar		4205	4009	4782	4847	5227
.v:SP NR		333	131	349	280	501
0.No		7917	7078	7553	6760	5297
1.Yes		2708	2479	3030	2888	2314
Value-----		R1COVS_M	R2COVS_M	R3COVS_M	R4COVS_M	R5COVS_M
.d:DK		5	9	3	7	2
.m:Missing		10	3	14		
.r:Refuse		23	1			41
0.No		12844	11618	13017	12116	14213
1.Yes		2304	2073	2689	2656	2858
Value-----		S1COVS_M	S2COVS_M	S3COVS_M	S4COVS_M	S5COVS_M
.d:DK		2	5	1	4	
.m:Missing		5	2	8		
.r:Refuse		16				27
.u:Unmar		4205	4009	4782	4847	5227
.v:SP NR		333	131	349	280	501
0.No		8744	7866	8566	7709	6111
1.Yes		1881	1691	2017	1939	1500

## How Constructed

All respondents are asked whether they have the right to medical attention through different types of providers for employees: (1) Social Security (IMSS), (2) ISSSTE, (3) Pemex, Defensa or Marina. Starting in Wave 3, State ISSSTE was listed in the same option as ISSSTE. For each possible provider of medical attention that the respondent identifies, the respondent is asked to select one reason why they have the right to these medical services with the options of: A worker, Affiliated on your own, Retired, Spouse of insured, Mother or father of insured, Other.

RwCOVR\_M indicates whether the respondent is covered by health insurance because they are or were a worker. A value of 1 is assigned if the respondent answers they have the right to medical attention through any of the 3 possible types of providers for employees and lists the reason for having the right to medical services for that provider as because they are a worker or because they are retired, for at least one of the providers. A value of 0 is assigned if the respondent does not have any right to medical attention or if their right to medical attention was always due to reasons other than being a worker or being retired. When respondents don't know, refuse, or their answer is missing for another reason RwCOVR\_M is assigned special missing values .d, .r, or .m, respectively. RwCOVR\_M is set to plain missing (.) for respondents who did not respond to the current wave.

RwCOVS\_M indicates whether the respondent is covered by health insurance because their spouse is or was a worker. A value of 1 is assigned if the respondent answers they have the right to medical attention through any of the 3 possible types of providers for employees and lists the reason for having the right to medical services for that provider as because they are the spouse of the insured, for at least one of the providers. A value of 0 is assigned if the respondent does not have any right to medical attention or if their right to medical attention was always due to reasons other than being the spouse of the insured. When respondents don't know, refuse, or their answer is missing for another reason RwCOVS\_M is assigned special missing values .d, .r, or .m, respectively. RwCOVS\_M is set to plain missing (.) for respondents who did not respond to the current wave.

SwCOVR\_M indicates whether the respondent's spouse or partner is covered by the respondent's employer. SwCOVS\_M indicates whether the respondent's spouse is covered by the spouse's employer. SwCOVR\_M and SwCOVS\_M are taken from the Wave 'w' spouse's values for RwCOVR\_M and RwCOVS\_M. In addition to the special missing codes used in RwCOVR\_M and RwCOVS\_M, if the respondent is not designated as coupled in the current wave and assumed to be single, a special missing value of .u is used. Also, if the respondent is not designated as coupled in the current wave but reports being married, a special missing value of .v is used.

## Cross Wave Differences in MHAS



Starting at Wave 3, the ISSSTE option also included State ISSSTE (ISSSTE Estatal).

## Differences with the RAND HRS/Harmonized HRS

Though health insurance is often provided through employers in both Mexico and the US, the arrangements and organization of these plans are very different. In Mexico, citizens employed outside of the public sector and their dependents can access medical services through the governmental system of IMSS which is funded equally by the employee, the private employer, and the federal government. Public employees and their dependents can access medical services through ISSSTE, Pemex, Defensa or Marina, depending on what governmental organization they work for. In the United States, people employed outside of the public sector and their dependents are often provided private health insurance through their employer. Public employees and their dependents are often provided health insurance through government run systems like FEHBP and MHS, depending on what governmental organization they work for. These differences in the provision of health insurance for employees are reflected in differences between the HRS and the MHAS surveys.

In the HRS, respondents are first asked about government health insurance systems which include questions for public employees who are provided health insurance through government run systems and then respondents are asked about other private health insurance plans. In the RAND HRS, Rwcovr and Rwcovs use information from the set of HRS questions about private health insurance and identifies whether those private plans are provided by current or former employers of the respondent or the spouse, respectively. In the MHAS, respondents are asked about government-run health insurance for employees. In the Harmonized MHAS, Rwcovr\_M identifies whether government-run health insurance is provided because the respondent is or was a worker. In the Harmonized MHAS, Rwcovs\_M identifies whether government-run health insurance is provided because the respondent's spouse is or was a worker. Rwcovr and Rwcovs in the RAND HRS therefore does not capture government run health insurance provided to public employees as does Rwcovr\_M and Rwcovs\_M in the Harmonized MHAS. Given these considerable differences, these sets of variables should not be considered immediately comparable between the RAND HRS and the Harmonized MHAS.

## MHAS Variables Used

Wave 1:	
D2_1	reason to access to imss
D2_2	reason to access to issste
D2_3	reason to access to pemex
Wave 2:	
D9_1	why have rights to social security (imss)
D9_2	why have rights to issste
D9_3	why have rights to pemex, defense or navy
Wave 3:	
D2_1_12	Reason respondent has a right to medical services_IMSS
D2_2_12	Reason respondent has a right to medical services_ISSST
D2_4_12	Reason respondent has a right to medical services:PEMEX
Wave 4:	
D2_1_15	Reason respondent has a right to medical services: IMSS
D2_2_15	Reason respondent has a right to medical services: ISSS
D2_4_15	Reason respondent has a right to medical services: PEME
Wave 5:	
D2_1_18	Reason R has a right to medical services: IMSS
D2_2_18	Reason R has a right to medical services: ISSSTE/State
D2_4_18	Reason R has a right to medical services: PEMEX, Defens

<b>Number of Health Insurance Plans</b>
---

Wave	Variable	Label	Type
1	R1HENUM	r1henum: w1 R Number of health insurance plans	Cont
2	R2HENUM	r2henum: w2 R Number of health insurance plans	Cont
3	R3HENUM	r3henum: w3 R Number of health insurance plans	Cont
4	R4HENUM	r4henum: w4 R Number of health insurance plans	Cont
5	R5HENUM	r5henum: w5 R Number of health insurance plans	Cont
1	S1HENUM	s1henum: w1 S Number of health insurance plans	Cont
2	S2HENUM	s2henum: w2 S Number of health insurance plans	Cont
3	S3HENUM	s3henum: w3 S Number of health insurance plans	Cont
4	S4HENUM	s4henum: w4 S Number of health insurance plans	Cont
5	S5HENUM	s5henum: w5 S Number of health insurance plans	Cont

### Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R1HENUM	14924	0.66	0.57	0.00	4.00
R2HENUM	13688	0.69	0.57	0.00	4.00
R3HENUM	15651	0.97	0.49	0.00	4.00
R4HENUM	14727	1.04	0.48	0.00	4.00
R5HENUM	17046	0.99	0.43	0.00	4.00
S1HENUM	10458	0.66	0.57	0.00	3.00
S2HENUM	9556	0.71	0.57	0.00	4.00
S3HENUM	10550	0.99	0.48	0.00	4.00
S4HENUM	9619	1.05	0.46	0.00	4.00
S5HENUM	7597	1.03	0.42	0.00	4.00

### How Constructed

RwHENUM is the count of the number of health insurance plans the respondent reports having rights to. The question asks if the respondent has the right to medical attention in an organization or institution that provided the service; the options include different government programs, private insurance, and other programs. The options listed for the respondent changed after Wave 3 including two new organizations: ISSSTE Estatal was added to the existing option ISSSTE and Seguro Popular was added as a new option.

In Waves 1 and 2,  $RwHENUM = \text{sum}(\text{IMSS} + \text{ISSSTE} + \text{PEMEX/Marine/Defense} + \text{Private} + \text{Other})$ . The maximum total number is 5.

Starting in Wave 3,  $RwHENUM = \text{sum}(\text{IMSS} + \text{ISSSTE/State ISSSTE} + \text{PEMEX/Marine/Defense} + \text{Seguro Popular} + \text{Private} + \text{Other})$ . The maximum total number is 6.

RwHENUM is set to 0, if the respondent reports they do not have right to medical attention. RwHENUM is assigned special missing values .d or .r, if they answered don't know or refused, respectively. Other missing responses are assigned special missing value .m. The variables are set to plain missing (.) for respondents who did not respond to the current wave.

SwHENUM is taken from the Wave 'w' spouse's value for RwHENUM. In addition to the special missing codes used in RwHENUM, if the respondent is not designated as coupled in the current wave and assumed to be single, a special missing value of .u is used. Also, if the respondent is not designated as coupled in the current wave but reports being married, a special missing value of .v is used.

### Cross Wave Differences in MHAS

Respondents were asked if they had the right to medical attention in an organization or institution that provided the service. In Waves 1 and 2, the list included the following: the Mexican Social Security Institute (Instituto Mexicano del Seguro Social, IMSS) which is a government organization that provides medical attention, pensions and social security in Mexico; the Institute for Social Security and Services

for State Workers (Instituto de Seguridad y Servicios Sociales de los Trabajadores del Estado, ISSSTE) which is a federal government organization that administers part of Mexico's health care and social security systems, and provides assistance in cases of disability, old age, risks in labor, and death to federal workers; and the Mexican state-owned petroleum company (Petróleos Mexicanos, PEMEX), Defense, and Marines medical attention program for their workers and members. Starting in Wave 3, the ISSSTE option also included State ISSSTE (ISSSTE Estatal). Also, Seguro Popular was also included as an additional option. Seguro Popular is a public health insurance program that covers a wide range of services without co-pays for its affiliates. It was established by the government in 2003 as an effort to expand health care to all in Mexico.

After Wave 3, the possible total number of health insurance plans increased from 5 to 6.

## Differences with the RAND HRS/Harmonized HRS

In RAND HRS, the respondent is asked if they are covered by any government or private health insurance program, and they are subsequently asked if they are covered by certain specific plans. In the MHAS, the respondent is asked if they have 'the right to medical attention' in an organization or institution. Respondents are asked if they had the right to each of the options including different government programs, private insurance, and other programs (not listed before).

## MHAS Variables Used

Wave 1:	
D1_1	imss
D1_2	issste
D1_3	pemex
D1_4	private physician
D1_5	other medical service
Wave 2:	
D8_1	have rights to social security (imss)
D8_2	have rights to issste
D8_3	have rights to pemex, defense or navy
D8_4	have rights to private medical insurance
D8_5	have rights to other
Wave 3:	
D1_1_12	Does respondent have a right to medical attention_IMSS
D1_2_12	Does respondent have a right to medical attention_ISSST
D1_3_12	Does respondent have a right to medical attention_Seg P
D1_4_12	Does respondent have a right to medical attention:PEMEX
D1_5_12	Does respondent have a right to medical attention_Priva
D1_6_12	Does respondent have a right to medical attention_OTHER
Wave 4:	
D1_1_15	Does respondent have a right to medical attention: IMSS
D1_2_15	Does respondent have a right to medical attention: ISSS
D1_3_15	Does respondent have a right to medical attention: Segu
D1_4_15	Does respondent have a right to medical attention: PEME
D1_5_15	Does respondent have a right to medical attention: Priv
D1_6_15	Does respondent have a right to medical attention: Othe
Wave 5:	
D1_1_18	Does R have a right to medical attention: IMSS
D1_2_18	Does R have a right to medical attention: ISSSTE/State
D1_3_18	Does R have a right to medical attention: Seguro Popula
D1_4_18	Does R have a right to medical attention: PEMEX, Defens
D1_5_18	Does R have a right to medical attention: Private Medic
D1_6_18	Does R have a right to medical attention: Other

**Section D: Cognition**

Cognition Testing Conditions

Wave	Variable	Label	Type
1	R1NOVISUAL	r1novisual: w1 R Visual Problems	Categ
2	R2NOVISUAL	r2novisual: w2 R Visual Problems	Categ
3	R3NOVISUAL	r3novisual: w3 R Visual Problems	Categ
4	R4NOVISUAL	r4novisual: w4 R Visual Problems	Categ
5	R5NOVISUAL	r5novisual: w5 R Visual Problems	Categ
1	S1NOVISUAL	s1novisual: w1 S Visual Problems	Categ
2	S2NOVISUAL	s2novisual: w2 S Visual Problems	Categ
3	S3NOVISUAL	s3novisual: w3 S Visual Problems	Categ
4	S4NOVISUAL	s4novisual: w4 S Visual Problems	Categ
5	S5NOVISUAL	s5novisual: w5 S Visual Problems	Categ
1	R1NOPENCIL	r1nopencil: w1 R Problem Holding a Pencil	Categ
2	R2NOPENCIL	r2nopencil: w2 R Problem Holding a Pencil	Categ
3	R3NOPENCIL	r3nopencil: w3 R Problem Holding a Pencil	Categ
4	R4NOPENCIL	r4nopencil: w4 R Problem Holding a Pencil	Categ
5	R5NOPENCIL	r5nopencil: w5 R Problem Holding a Pencil	Categ
1	S1NOPENCIL	s1nopencil: w1 S Problem Holding a Pencil	Categ
2	S2NOPENCIL	s2nopencil: w2 S Problem Holding a Pencil	Categ
3	S3NOPENCIL	s3nopencil: w3 S Problem Holding a Pencil	Categ
4	S4NOPENCIL	s4nopencil: w4 S Problem Holding a Pencil	Categ
5	S5NOPENCIL	s5nopencil: w5 S Problem Holding a Pencil	Categ

Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R1NOVISUAL	13960	0.02	0.13	0.00	1.00
R2NOVISUAL	12495	0.03	0.17	0.00	1.00
R3NOVISUAL	14116	0.00	0.07	0.00	1.00
R4NOVISUAL	13714	0.00	0.05	0.00	1.00
R5NOVISUAL	15650	0.00	0.06	0.00	1.00
S1NOVISUAL	9858	0.01	0.12	0.00	1.00
S2NOVISUAL	8728	0.02	0.15	0.00	1.00
S3NOVISUAL	9652	0.00	0.06	0.00	1.00
S4NOVISUAL	9123	0.00	0.05	0.00	1.00
S5NOVISUAL	7013	0.00	0.06	0.00	1.00
R1NOPENCIL	13703	0.06	0.23	0.00	1.00
R2NOPENCIL	12101	0.04	0.20	0.00	1.00
R3NOPENCIL	14126	0.02	0.14	0.00	1.00
R4NOPENCIL	13741	0.02	0.14	0.00	1.00
R5NOPENCIL	15762	0.02	0.15	0.00	1.00
S1NOPENCIL	9718	0.05	0.21	0.00	1.00
S2NOPENCIL	8525	0.03	0.18	0.00	1.00
S3NOPENCIL	9653	0.02	0.12	0.00	1.00
S4NOPENCIL	9137	0.02	0.13	0.00	1.00
S5NOPENCIL	7067	0.03	0.16	0.00	1.00

Categorical Variable Codes

Value-----	R1NOVISUAL	R2NOVISUAL	R3NOVISUAL	R4NOVISUAL	R5NOVISUAL
.m:Missing	27	20	128		
.p:Proxy interview, not asked	1032	1178	1275	929	1328
.r:Refuse			43	53	112

.s:Skip		167	11	161	83	24
0.No		13701	12100	14054	13675	15589
1.Yes		259	395	62	39	61
Value-----		S1NOVISUAL	S2NOVISUAL	S3NOVISUAL	S4NOVISUAL	S5NOVISUAL
.m:Missing		10	6	86		
.p:Proxy interview, not asked		660	821	726	470	563
.r:Refuse				21	30	54
.s:Skip		120	9	107	29	8
.u:Unmar		4205	4009	4782	4847	5227
.v:SP NR		333	131	349	280	501
0.No		9717	8525	9615	9101	6990
1.Yes		141	203	37	22	23
Value-----		R1NOPENCIL	R2NOPENCIL	R3NOPENCIL	R4NOPENCIL	R5NOPENCIL
.m:Missing		25	20	132		
.n:not specified				6		
.p:Proxy interview, not asked		1032	1178	1275	929	1328
.r:Refuse				23	26	
.s:Skip		426	405	161	83	24
0.No		12942	11594	13825	13448	15377
1.Yes		761	507	301	293	385
Value-----		S1NOPENCIL	S2NOPENCIL	S3NOPENCIL	S4NOPENCIL	S5NOPENCIL
.m:Missing		9	6	85		
.n:not specified				4		
.p:Proxy interview, not asked		660	821	726	470	563
.r:Refuse				17	16	
.s:Skip		261	212	107	29	8
.u:Unmar		4205	4009	4782	4847	5227
.v:SP NR		333	131	349	280	501
0.No		9263	8230	9503	8972	6887
1.Yes		455	295	150	165	180

## How Constructed

These variables indicate whether the respondent reported visual problems or problems holding a pencil, respectively.

In Wave 1, RwnoVISUAL was derived from the variable that indicates the respondent's reading ability (with or without glasses). If the respondent could not see the letters, RwnoVISUAL was set to 1. In Wave 2, RwnoVISUAL was derived from the assessment done to determine if the respondent could see close objects, with glasses if needed. If the respondent could not see the objects, RwnoVISUAL was set to 1. If the respondent had difficulty reading (RwnoVISUAL=1), the respondent was not asked to complete the picture drawing and visual scanning tasks. Starting in Wave 3, RwnoVISUAL was derived from both the assessment and the variable that indicates the respondent's reading ability (with or without glasses). If the respondent reported being able to read or was able to see close objects, then RwnoVISUAL is set to 0. If the respondent reported they could not read, the respondent was not asked to complete the picture drawing and visual scanning tasks.

RwnoPENCIL was derived with similar variables across the waves based on whether the respondent reported any problem holding the pencil they were asked to try to hold. If the respondent has paralysis, tries to hold the pencil but can't, or if they refuse to try, RwnoPENCIL was set to 1. If the respondent was able to hold a pencil, then RwnoPENCIL is set to 0. Also, if RwnoPENCIL was equal to 1 the respondent was not asked to complete the picture drawing and visual scanning tasks.

These variables are set to .p for proxy interviews, .s if the questions were skipped because they could not complete the paper exercises, .i if the code is invalid, and .m if they didn't complete the section but completed the rest of the interview. In Wave 3, RwnoPENCIL is set to special missing value .n if answer was coded as "not applicable". Starting in Wave 3, these variables are set to .r for refused if they refused to read or refused to answer whether they had difficulty using a pencil. The variables are set to plain missing (.) for respondents who did not respond to the current wave.

SwnoVISUAL and SwnoPENCIL are taken from the Wave 'w' spouse's values for RwnoVISUAL and RwnoPENCIL, respectively. In addition to the special missing codes used in RwnoVISUAL and RwnoPENCIL, if the respondent is not designated as coupled in the current wave and assumed to be single, a special missing value of .u is used. Also, if the respondent is not designated as coupled in the current wave but reports being married, a special missing value of .v is used.

## Cross Wave Differences in MHAS

The introductory questions in the Cognition section (Section E) are similar across waves. However, RwnOVISUAL was derived in Wave 1 only from the variable which indicates the respondent's reading ability (with or without glasses), in Wave 2 from the assessment done to determine if the respondent could see close objects, with glasses if needed, and starting in Waves 3 from both the assessment and the variable that indicates the respondent's reading ability (with or without glasses). Also different across waves is that in Waves 1 and 2 the interviews could be completed in a language different from Spanish in which case the cognitive assessment is not completed, and the variables are then set to the special missing .s.

## Differences with the RAND HRS/Harmonized HRS

RwnOVISUAL and RwnOPENCIL are MHAS specific and the questions used to derive these variables are only used this study.

## MHAS Variables Used

Wave 1:	
E1	language
E5	loud voice
E6	hold pencil
E7	problems holding
Wave 2:	
E2	glasses
E3	can respondent see clearly now
E4	have problems holding a pencil
E5	types of pencil-holding problems
Wave 3:	
E3A_12	Interviewer:Can respondent read without glasses
E3B_12	Respondent can read well (with glasses if needed)
E4_12	Does respondent have difficulty using a pencil
E5_12	Respondent's type of difficulties
Wave 4:	
E3A_15	Interviewer:Can respondent read without glasses
E3B_15	Respondent can read well (with glasses if needed)
E4_15	Does respondent have difficulty using a pencil
E5_15	Respondent's type of difficulties
Wave 5:	
E3A_18	Interviewer:Can R read with glasses
E3B_18	R can read well (with glasses if needed)
E4_18	Does R have difficulty using a pencil
E5_18	R's type of difficulties

Self-Reported Memory

Wave	Variable	Label	Type
3	R3SLFMEM	r3slfmem: w3 R Self-Rated Memory	Categ
4	R4SLFMEM	r4slfmem: w4 R Self-Rated Memory	Categ
5	R5SLFMEM	r5slfmem: w5 R Self-Rated Memory	Categ
3	S3SLFMEM	s3slfmem: w3 S Self-Rated Memory	Categ
4	S4SLFMEM	s4slfmem: w4 S Self-Rated Memory	Categ
5	S5SLFMEM	s5slfmem: w5 S Self-Rated Memory	Categ
3	R3PSTMEM	r3pstmem: w3 R Memory Compared to the Past	Categ
4	R4PSTMEM	r4pstmem: w4 R Memory Compared to the Past	Categ
5	R5PSTMEM	r5pstmem: w5 R Memory Compared to the Past	Categ
3	S3PSTMEM	s3pstmem: w3 S Memory Compared to the Past	Categ
4	S4PSTMEM	s4pstmem: w4 S Memory Compared to the Past	Categ
5	S5PSTMEM	s5pstmem: w5 S Memory Compared to the Past	Categ

Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R3SLFMEM	14154	3.53	0.84	1.00	5.00
R4SLFMEM	13739	3.60	0.80	1.00	5.00
R5SLFMEM	15690	3.48	0.86	1.00	5.00
S3SLFMEM	9672	3.52	0.84	1.00	5.00
S4SLFMEM	9138	3.58	0.80	1.00	5.00
S5SLFMEM	7035	3.58	0.82	1.00	5.00
R3PSTMEM	14105	2.16	0.50	1.00	3.00
R4PSTMEM	13740	2.21	0.50	1.00	3.00
R5PSTMEM	15688	2.16	0.48	1.00	3.00
S3PSTMEM	9634	2.15	0.50	1.00	3.00
S4PSTMEM	9137	2.20	0.49	1.00	3.00
S5PSTMEM	7032	2.19	0.49	1.00	3.00

Categorical Variable Codes

Value-----	R3SLFMEM	R4SLFMEM	R5SLFMEM
.d:DK	11	8	9
.m:Missing	118		
.p:Proxy interview, not asked	1275	929	1328
.r:Refuse	165	103	87
1.Excellent	469	382	626
2.Very good	712	548	1003
3.Good	4892	4363	5341
4.Fair	6951	7393	7721
5.Poor	1130	1053	999
Value-----	S3SLFMEM	S4SLFMEM	S5SLFMEM
.d:DK	7	2	1
.m:Missing	77		
.p:Proxy interview, not asked	726	470	563
.r:Refuse	110	42	39
.u:Unmar	4782	4847	5227
.v:SP NR	349	280	501
1.Excellent	345	262	215
2.Very good	488	363	338
3.Good	3353	2936	2161
4.Fair	4770	4937	3804



5.Poor		716	640	517
Value-----		R3PSTMEM	R4PSTMEM	R5PSTMEM
.d:DK		46	7	9
.m:Missing		121		
.p:Proxy interview, not asked		1275	929	1328
.r:Refuse		176	103	89
1.Better		867	614	759
2.About the same		10179	9667	11651
3.Worse		3059	3459	3278
Value-----		S3PSTMEM	S4PSTMEM	S5PSTMEM
.d:DK		34	4	2
.m:Missing		80		
.p:Proxy interview, not asked		726	470	563
.r:Refuse		118	41	41
.u:Unmar		4782	4847	5227
.v:SP NR		349	280	501
1.Better		581	382	283
2.About the same		7068	6531	5113
3.Worse		1985	2224	1636

How Constructed

RwSLFMEM provides self-reported general rating of memory and RwpSTMEM provides a self-reported measure of change in memory since the last two years.

RwSLFMEM ranges from 1 to 5: a score of 1 stands for excellent, 2 for very good, 3 for good, 4 for fair, and 5 for poor memory. RwpSTMEM ranges from 1 to 3: a score of 1 stands for better, 2 for about the same, and 3 for worse. RwSLFMEM and RwpSTMEM are assigned special missing values .d or .r, if the response was don't know or refused, respectively. These variables are set to .p for proxy interviews, .r if the respondent refused to complete the cognition exercises, and .m if they didn't complete the section but completed the rest of the interview. The variables are plain missing (.) for respondents who did not respond to the current wave.

These questions were only asked starting in Wave 3 (2012).

SwSLFMEM and SwPSTMEM are taken from the Wave 'w' spouse's value for RwSLFMEM and RwpSTMEM, respectively. In addition to the special missing codes used in RwSLFMEM and RwpSTMEM, if the respondent is not designated as coupled in the current wave and assumed to be single, a special missing value of .u is used. Also, if the respondent is not designated as coupled in the current wave but reports being married, a special missing value of .v is used.

Cross Wave Differences in MHAS

The self-reported memory questions were only asked starting in Wave 3 (2012).

Differences with the RAND HRS/Harmonized HRS

Different from the HRS, in the MHAS respondents are only asked about their change of memory in the past two years, regardless of when the last interview took place or if it is the first interview.

MHAS Variables Used

Wave 3:	
E1A_12	Global self-reported quality of memory
E1B_12	Compared to 2 years ago: respondent reports his/her mem
Wave 4:	
E1A_15	Self-reported memory
E1B_15	Compared to 2 years ago: respondent reports his/her mem
Wave 5:	
E1A_18	Self-reported memory
E1B_18	Compared to 2 years ago: R reports his/her memory quali

Immediate Word Recall

Wave	Variable	Label	Type
1	R1IMRC8	r1imrc8: w1 R Immediate Word Recall 0-8	Cont
2	R2IMRC8	r2imrc8: w2 R Immediate Word Recall 0-8	Cont
3	R3IMRC8	r3imrc8: w3 R Immediate Word Recall 0-8	Cont
4	R4IMRC8	r4imrc8: w4 R Immediate Word Recall 0-8	Cont
5	R5IMRC8	r5imrc8: w5 R Immediate Word Recall 0-8	Cont
1	S1IMRC8	s1imrc8: w1 S Immediate Word Recall 0-8	Cont
2	S2IMRC8	s2imrc8: w2 S Immediate Word Recall 0-8	Cont
3	S3IMRC8	s3imrc8: w3 S Immediate Word Recall 0-8	Cont
4	S4IMRC8	s4imrc8: w4 S Immediate Word Recall 0-8	Cont
5	S5IMRC8	s5imrc8: w5 S Immediate Word Recall 0-8	Cont
1	R1FIMRC8	r1fimrc8: w1 Cognition Flag R Immediate Word Recall	Categ
2	R2FIMRC8	r2fimrc8: w2 Cognition Flag R Immediate Word Recall	Categ
3	R3FIMRC8	r3fimrc8: w3 Cognition Flag R Immediate Word Recall	Categ
4	R4FIMRC8	r4fimrc8: w4 Cognition Flag R Immediate Word Recall	Categ
5	R5FIMRC8	r5fimrc8: w5 Cognition Flag R Immediate Word Recall	Categ
1	S1FIMRC8	s1fimrc8: w1 Cognition Flag S Immediate Word Recall	Categ
2	S2FIMRC8	s2fimrc8: w2 Cognition Flag S Immediate Word Recall	Categ
3	S3FIMRC8	s3fimrc8: w3 Cognition Flag S Immediate Word Recall	Categ
4	S4FIMRC8	s4fimrc8: w4 Cognition Flag S Immediate Word Recall	Categ
5	S5FIMRC8	s5fimrc8: w5 Cognition Flag S Immediate Word Recall	Categ

Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R1IMRC8	13962	4.76	1.29	0.00	8.00
R2IMRC8	12495	4.37	1.49	0.00	8.00
R3IMRC8	14448	4.77	1.25	0.00	8.00
R4IMRC8	13850	4.76	1.25	0.00	8.00
R5IMRC8	15786	4.85	1.26	0.00	8.00
S1IMRC8	9859	4.84	1.26	0.00	8.00
S2IMRC8	8728	4.46	1.46	0.00	8.00
S3IMRC8	9866	4.85	1.21	0.00	8.00
S4IMRC8	9182	4.83	1.22	0.00	8.00
S5IMRC8	7075	4.82	1.26	0.00	8.00
R1FIMRC8	15186	-0.04	0.34	-1.00	1.00
R2FIMRC8	13704	-0.06	0.33	-1.00	1.00
R3FIMRC8	15723	-0.05	0.32	-1.00	1.00
R4FIMRC8	14779	-0.05	0.26	-1.00	1.00
R5FIMRC8	17114	-0.06	0.30	-1.00	1.00
S1FIMRC8	10648	-0.04	0.33	-1.00	1.00
S2FIMRC8	9564	-0.06	0.33	-1.00	1.00
S3FIMRC8	10592	-0.04	0.30	-1.00	1.00
S4FIMRC8	9652	-0.04	0.23	-1.00	1.00
S5FIMRC8	7638	-0.06	0.29	-1.00	1.00

Categorical Variable Codes

Value-----	R1FIMRC8	R2FIMRC8	R3FIMRC8	R4FIMRC8	R5FIMRC8
-1.Missing, not imputed	1224	1209	1275	929	1328
0.Not Imputed	13394	12128	14031	13722	15544
1.Imputed	568	367	417	128	242

Value-----	S1FIMRC8	S2FIMRC8	S3FIMRC8	S4FIMRC8	S5FIMRC8
.u:Unmar	4205	4009	4782	4847	5227
.v:SP NR	333	131	349	280	501
-1.Missing, not imputed	789	836	726	470	563
0.Not Imputed	9493	8479	9591	9129	6960
1.Imputed	366	249	275	53	115

## How Constructed

RwIMRC8 is an MHAS specific variable that provides the measure for immediate verbal recall. Respondents were asked to listen to a list of eight words and repeat as many as they could remember. Respondents are given three consecutive trials and the number of recalled words is recorded. RwIMRC8 is the mean of the score from all three trials. RwIMRC8 was constructed using the imputed cognitive function variables provided by MHAS. Using the method of sequence of regressions with a SAS based Imputation and Variance Estimation software (IVEware), the MHAS team completed the imputation of cognitive variables. Unknown amounts were replaced with imputed values using the imputed variables made available in the study website. Please see the MHAS document [\(here\)](#) titled "Imputation of Cognitive Function Variables in the Mexican Health and Aging Study 2001-2018, Version 1", available in the study website [www.MHASweb.org](http://www.MHASweb.org) for more details on the imputation method used, variables imputed, and covariates included. RwIMRC8 is set to .p for proxy interviews. In Waves 1 and 2, RwIMRC8 was set to .s if the cognition section was skipped because the language of the interview was different from Spanish and .m if responses are missing because they didn't complete the task but completed the rest of the interview. The variable is set to plain missing (.) for respondents who did not respond to the current wave.

RwFIMRC8 is a flag variable indicating whether or not any component of RwIMRC8 was imputed. A code of 0 indicates that no component was imputed. A code of 1 indicates that at least one component was imputed. A code of -1 indicates that at least one component was not imputed because the respondent did not complete the section, including proxy interviews, and this value has been left missing.

SwIMRC8 and SwFIMRC8 are taken from the Wave 'w' spouse's values for RwIMRC8 and RwFIMRC8, respectively. In addition to the special missing codes used in RwIMRC8 and RwFIMRC8, if the respondent is not designated as coupled in the current wave and assumed to be single, a special missing value of .u is used. Also, if the respondent is not designated as coupled in the current wave but reports being married, a special missing value of .v is used.

## Cross Wave Differences in MHAS

No differences known.

## Differences with the RAND HRS/Harmonized HRS

Different from the HRS, in the MHAS the verbal recall list contains only 8 words.

## MHAS Variables Used

### Wave 1 Imputed Cognition:

E11_A1_IMP_01	Verbal Learning List A-Trial 1: Number of Correct Words
E11_A2_IMP_01	Verbal Learning List A-Trial 2: Number of Correct Words
E11_A3_IMP_01	Verbal Learning List A-Trial 3: Number of Correct Words
E11_B1_IMP_01	Verbal Learning List B-Trial 1: Number of Correct Words
E11_B2_IMP_01	Verbal Learning List B-Trial 2: Number of Correct Words
E11_B3_IMP_01	Verbal Learning List A-Trial 3: Number of Correct Words
E11_FLAG_01	Verbal Learning: Flag if Imputed

### Wave 2 Imputed Cognition:

E9_A1_FLAG_03	Verbal Learning List A-Trial 1: Flag if Imputed
E9_A1_IMP_03	Verbal Learning List A-Trial 1: Number of Correct Words
E9_A2_FLAG_03	Verbal Learning List A-Trial 2: Flag if Imputed
E9_A2_IMP_03	Verbal Learning List A-Trial 2: Number of Correct Words
E9_A3_FLAG_03	Verbal Learning List A-Trial 3: Flag if Imputed
E9_A3_IMP_03	Verbal Learning List A-Trial 3: Number of Correct Words
E9_B1_FLAG_03	Verbal Learning List B-Trial 1: Flag if Imputed
E9_B1_IMP_03	Verbal Learning List B-Trial 1: Number of Correct Words
E9_B2_FLAG_03	Verbal Learning List B-Trial 1: Flag if Imputed

E9_B2_IMP_03	Verbal Learning List B-Trial 2: Number of Correct Words
E9_B3_FLAG_03	Verbal Learning List B-Trial 1: Flag if Imputed
E9_B3_IMP_03	Verbal Learning List A-Trial 3: Number of Correct Words
Wave 3 Imputed Cognition:	
E7_A1_FLAG_12	Verbal Learning List A-Trial 1: Flag if Imputed
E7_A1_IMP_12	Verbal Learning List A-Trial 1: Number of Correct Words
E7_A2_FLAG_12	Verbal Learning List A-Trial 2: Flag if Imputed
E7_A2_IMP_12	Verbal Learning List A-Trial 2: Number of Correct Words
E7_A3_FLAG_12	Verbal Learning List A-Trial 3: Flag if Imputed
E7_A3_IMP_12	Verbal Learning List A-Trial 3: Number of Correct Words
E7_B1_FLAG_12	Verbal Learning List B-Trial 1: Flag if Imputed
E7_B1_IMP_12	Verbal Learning List B-Trial 1: Number of Correct Words
E7_B2_FLAG_12	Verbal Learning List B-Trial 1: Flag if Imputed
E7_B2_IMP_12	Verbal Learning List B-Trial 2: Number of Correct Words
E7_B3_FLAG_12	Verbal Learning List B-Trial 1: Flag if Imputed
E7_B3_IMP_12	Verbal Learning List A-Trial 3: Number of Correct Words
Wave 4 Imputed Cognition:	
E7_A1_FLAG_15	Verbal Learning List A-Trial 1: Flag if Imputed
E7_A1_IMP_15	Verbal Learning List A-Trial 1: Number of Correct Words
E7_A2_FLAG_15	Verbal Learning List A-Trial 2: Flag if Imputed
E7_A2_IMP_15	Verbal Learning List A-Trial 2: Number of Correct Words
E7_A3_FLAG_15	Verbal Learning List A-Trial 3: Flag if Imputed
E7_A3_IMP_15	Verbal Learning List A-Trial 3: Number of Correct Words
E7_B1_FLAG_15	Verbal Learning List B-Trial 1: Flag if Imputed
E7_B1_IMP_15	Verbal Learning List B-Trial 1: Number of Correct Words
E7_B2_FLAG_15	Verbal Learning List B-Trial 1: Flag if Imputed
E7_B2_IMP_15	Verbal Learning List B-Trial 2: Number of Correct Words
E7_B3_FLAG_15	Verbal Learning List B-Trial 1: Flag if Imputed
E7_B3_IMP_15	Verbal Learning List A-Trial 3: Number of Correct Words
Wave 5 Imputed Cognition:	
E7_A1_FLAG_18	Verbal Learning List A-Trial 1: Flag if Imputed
E7_A1_IMP_18	Verbal Learning List A-Trial 1: Number of Correct Words
E7_A2_FLAG_18	Verbal Learning List A-Trial 2: Flag if Imputed
E7_A2_IMP_18	Verbal Learning List A-Trial 2: Number of Correct Words
E7_A3_FLAG_18	Verbal Learning List A-Trial 3: Flag if Imputed
E7_A3_IMP_18	Verbal Learning List A-Trial 3: Number of Correct Words
E7_B1_FLAG_18	Verbal Learning List B-Trial 1: Flag if Imputed
E7_B1_IMP_18	Verbal Learning List B-Trial 1: Number of Correct Words
E7_B2_FLAG_18	Verbal Learning List B-Trial 1: Flag if Imputed
E7_B2_IMP_18	Verbal Learning List B-Trial 2: Number of Correct Words
E7_B3_FLAG_18	Verbal Learning List B-Trial 1: Flag if Imputed
E7_B3_IMP_18	Verbal Learning List A-Trial 3: Number of Correct Words

Delayed Word Recall

Wave	Variable	Label	Type
1	R1DLRC8	r1dlrc8: w1 R Delayed Word Recall 0-8	Cont
2	R2DLRC8	r2dlrc8: w2 R Delayed Word Recall 0-8	Cont
3	R3DLRC8	r3dlrc8: w3 R Delayed Word Recall 0-8	Cont
4	R4DLRC8	r4dlrc8: w4 R Delayed Word Recall 0-8	Cont
5	R5DLRC8	r5dlrc8: w5 R Delayed Word Recall 0-8	Cont
1	S1DLRC8	s1dlrc8: w1 S Delayed Word Recall 0-8	Cont
2	S2DLRC8	s2dlrc8: w2 S Delayed Word Recall 0-8	Cont
3	S3DLRC8	s3dlrc8: w3 S Delayed Word Recall 0-8	Cont
4	S4DLRC8	s4dlrc8: w4 S Delayed Word Recall 0-8	Cont
5	S5DLRC8	s5dlrc8: w5 S Delayed Word Recall 0-8	Cont
1	R1FDLRC8	r1fdlrc8: w1 Cognition Flag R Delayed Word Recall	Categ
2	R2FDLRC8	r2fdlrc8: w2 Cognition Flag R Delayed Word Recall	Categ
3	R3FDLRC8	r3fdlrc8: w3 Cognition Flag R Delayed Word Recall	Categ
4	R4FDLRC8	r4fdlrc8: w4 Cognition Flag R Delayed Word Recall	Categ
5	R5FDLRC8	r5fdlrc8: w5 Cognition Flag R Delayed Word Recall	Categ
1	S1FDLRC8	s1fdlrc8: w1 Cognition Flag S Delayed Word Recall	Categ
2	S2FDLRC8	s2fdlrc8: w2 Cognition Flag S Delayed Word Recall	Categ
3	S3FDLRC8	s3fdlrc8: w3 Cognition Flag S Delayed Word Recall	Categ
4	S4FDLRC8	s4fdlrc8: w4 Cognition Flag S Delayed Word Recall	Categ
5	S5FDLRC8	s5fdlrc8: w5 Cognition Flag S Delayed Word Recall	Categ

Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R1DLRC8	13962	5.13	1.86	0.00	8.00
R2DLRC8	12495	4.31	1.88	0.00	8.00
R3DLRC8	14448	4.44	2.05	0.00	8.00
R4DLRC8	13850	4.19	2.14	0.00	8.00
R5DLRC8	15786	4.41	2.01	0.00	8.00
S1DLRC8	9859	5.22	1.82	0.00	8.00
S2DLRC8	8728	4.39	1.85	0.00	8.00
S3DLRC8	9866	4.53	2.00	0.00	8.00
S4DLRC8	9182	4.30	2.09	0.00	8.00
S5DLRC8	7075	4.29	2.03	0.00	8.00
R1FDLRC8	15186	-0.04	0.34	-1.00	1.00
R2FDLRC8	13704	-0.06	0.33	-1.00	1.00
R3FDLRC8	15723	-0.05	0.33	-1.00	1.00
R4FDLRC8	14779	-0.05	0.26	-1.00	1.00
R5FDLRC8	17114	-0.06	0.30	-1.00	1.00
S1FDLRC8	10648	-0.04	0.33	-1.00	1.00
S2FDLRC8	9564	-0.06	0.33	-1.00	1.00
S3FDLRC8	10592	-0.04	0.31	-1.00	1.00
S4FDLRC8	9652	-0.04	0.23	-1.00	1.00
S5FDLRC8	7638	-0.06	0.29	-1.00	1.00

Categorical Variable Codes

Value-----	R1FDLRC8	R2FDLRC8	R3FDLRC8	R4FDLRC8	R5FDLRC8
-1.Missing, not imputed	1224	1209	1275	929	1328
0.Not Imputed	13394	12128	13980	13702	15544
1.Imputed	568	367	468	148	242

Value-----	S1FDLRC8	S2FDLRC8	S3FDLRC8	S4FDLRC8	S5FDLRC8
.u:Unmar	4205	4009	4782	4847	5227
.v:SP NR	333	131	349	280	501
-1.Missing, not imputed	789	836	726	470	563
0.Not Imputed	9493	8479	9568	9118	6960
1.Imputed	366	249	298	64	115

## How Constructed

RwDLRC8 is an MHAS specific variable that provides the measure for delayed verbal recall. Respondents were asked to repeat as many of the words as they could remember from the list provided in the immediate verbal recall task. In the delayed recall task, respondents are given only one trial. RwDLRC8 was constructed using the imputed cognitive function variables provided by MHAS. Using the method of sequence of regressions with a SAS based Imputation and Variance Estimation software (IVEware), the MHAS team completed the imputation of cognitive variables. Unknown amounts were replaced with imputed values using the imputed variables made available in the study website. Please see the MHAS document ([here](#)) titled "Imputation of Cognitive Function Variables in the Mexican Health and Aging Study 2001-2018, Version 1", available in the study website [www.MHASweb.org](http://www.MHASweb.org) for more details on the imputation method used, variables imputed, and covariates included. RwDLRC8 is set to .p for proxy interviews. In Waves 1 and 2, RwDLRC8 was set to .s if the cognition section was skipped because the language of the interview was different from Spanish and .m if responses are missing because they didn't complete the task but completed the rest of the interview. The variable is set to plain missing (.) for respondents who did not respond to the current wave.

RwFDLRC8 is a flag variable indicating whether any component of RwDLRC8 was imputed. A code of 0 indicates that no component was imputed. A code of 1 indicates that at least one component was imputed. A code of -1 indicates that at least one component was not imputed because the respondent did not complete the section, including proxy interviews, and this value has been left missing.

SwDLRC8 and SwFDLRC8 are taken from the Wave 'w' spouse's values for RwDLRC8 and RwFDLRC8, respectively. In addition to the special missing codes used in RwDLRC8 and RwFDLRC8, if the respondent is not designated as coupled in the current wave and assumed to be single, a special missing value of .u is used. Also, if the respondent is not designated as coupled in the current wave but reports being married, a special missing value of .v is used.

## Cross Wave Differences in MHAS

No differences known.

## Differences with the RAND HRS/Harmonized HRS

Different from the HRS, in the MHAS the verbal recall list contains only 8 words.

## MHAS Variables Used

### Wave 1 Imputed Cognition:

E14\_A\_IMP\_01 Verbal Recall List A: Number of Correct Words (Imputed)  
 E14\_B\_IMP\_01 Verbal Recall List B: Number of Correct Words (Imputed)  
 E14\_FLAG\_01 Verbal Recall: Flag if Imputed

### Wave 2 Imputed Cognition:

E12\_A\_FLAG\_03 Verbal Recall List A: Flag if Imputed  
 E12\_A\_IMP\_03 Verbal Recall List A: Number of Correct Words (Imputed)  
 E12\_B\_FLAG\_03 Verbal Recall List B: Flag if Imputed  
 E12\_B\_IMP\_03 Verbal Recall List B: Number of Correct Words (Imputed)

### Wave 3 Imputed Cognition:

E14\_A\_FLAG\_12 Verbal Recall List A: Flag if Imputed  
 E14\_A\_IMP\_12 Verbal Recall List A: Number of Correct Words (Imputed)  
 E14\_B\_FLAG\_12 Verbal Recall List B: Flag if Imputed  
 E14\_B\_IMP\_12 Verbal Recall List B: Number of Correct Words (Imputed)

### Wave 4 Imputed Cognition:

E14\_A\_FLAG\_15 Verbal Recall List A: Flag if Imputed  
 E14\_A\_IMP\_15 Verbal Recall List A: Number of Correct Words (Imputed)  
 E14\_B\_FLAG\_15 Verbal Recall List B: Flag if Imputed

E14_B_IMP_15	Verbal Recall List B: Number of Correct Words (Imputed)
Wave 5 Imputed Cognition:	
E14_A_FLAG_18	Verbal Recall List A: Flag if Imputed
E14_A_IMP_18	Verbal Recall List A: Number of Correct Words (Imputed)
E14_B_FLAG_18	Verbal Recall List B: Flag if Imputed
E14_B_IMP_18	Verbal Recall List B: Number of Correct Words (Imputed)

Summary Scores

Wave	Variable	Label	Type
1	R1TR16	r1tr16: w1 R Word Recall Summary Score 0-16	Cont
2	R2TR16	r2tr16: w2 R Word Recall Summary Score 0-16	Cont
3	R3TR16	r3tr16: w3 R Word Recall Summary Score 0-16	Cont
4	R4TR16	r4tr16: w4 R Word Recall Summary Score 0-16	Cont
5	R5TR16	r5tr16: w5 R Word Recall Summary Score 0-16	Cont
1	S1TR16	s1tr16: w1 S Word Recall Summary Score 0-16	Cont
2	S2TR16	s2tr16: w2 S Word Recall Summary Score 0-16	Cont
3	S3TR16	s3tr16: w3 S Word Recall Summary Score 0-16	Cont
4	S4TR16	s4tr16: w4 S Word Recall Summary Score 0-16	Cont
5	S5TR16	s5tr16: w5 S Word Recall Summary Score 0-16	Cont
1	R1FTR16	r1ftr16: w1 Cognition Flag R Word Recall Summary	Categ
2	R2FTR16	r2ftr16: w2 Cognition Flag R Word Recall Summary	Categ
3	R3FTR16	r3ftr16: w3 Cognition Flag R Word Recall Summary	Categ
4	R4FTR16	r4ftr16: w4 Cognition Flag R Word Recall Summary	Categ
5	R5FTR16	r5ftr16: w5 Cognition Flag R Word Recall Summary	Categ
1	S1FTR16	s1ftr16: w1 Cognition Flag S Word Recall Summary	Categ
2	S2FTR16	s2ftr16: w2 Cognition Flag S Word Recall Summary	Categ
3	S3FTR16	s3ftr16: w3 Cognition Flag S Word Recall Summary	Categ
4	S4FTR16	s4ftr16: w4 Cognition Flag S Word Recall Summary	Categ
5	S5FTR16	s5ftr16: w5 Cognition Flag S Word Recall Summary	Categ

Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R1TR16	13962	9.89	2.89	0.00	16.00
R2TR16	12495	8.68	3.13	0.00	16.00
R3TR16	14448	9.21	2.98	0.00	16.00
R4TR16	13850	8.95	3.08	0.00	16.00
R5TR16	15786	9.26	2.98	0.00	16.00
S1TR16	9859	10.05	2.81	0.00	16.00
S2TR16	8728	8.85	3.05	0.00	16.00
S3TR16	9866	9.38	2.89	0.00	16.00
S4TR16	9182	9.13	3.00	0.00	16.00
S5TR16	7075	9.11	2.98	0.00	16.00
R1FTR16	15186	-0.04	0.34	-1.00	1.00
R2FTR16	13704	-0.06	0.33	-1.00	1.00
R3FTR16	15723	-0.05	0.33	-1.00	1.00
R4FTR16	14779	-0.05	0.27	-1.00	1.00
R5FTR16	17114	-0.06	0.30	-1.00	1.00
S1FTR16	10648	-0.04	0.33	-1.00	1.00
S2FTR16	9564	-0.06	0.33	-1.00	1.00
S3FTR16	10592	-0.04	0.31	-1.00	1.00
S4FTR16	9652	-0.04	0.23	-1.00	1.00
S5FTR16	7638	-0.06	0.29	-1.00	1.00

Categorical Variable Codes

Value-----	R1FTR16	R2FTR16	R3FTR16	R4FTR16	R5FTR16
-1.Missing, not imputed	1224	1209	1275	929	1328
0.Not Imputed	13394	12128	13969	13698	15544
1.Imputed	568	367	479	152	242



Value-----	S1FTR16	S2FTR16	S3FTR16	S4FTR16	S5FTR16
.u:Unmar	4205	4009	4782	4847	5227
.v:SP NR	333	131	349	280	501
-1.Missing, not imputed	789	836	726	470	563
0.Not Imputed	9493	8479	9560	9115	6960
1.Imputed	366	249	306	67	115

## How Constructed

RwTR16 is the summary score for the total word recall and it is derived from RwIMRC\_M and RwDLRC\_M. The total score ranges from 0 to 16.

`RwTR16 = sum (RwIMRC_M, RwDLRC_M).`

RwTR16 was constructed using the imputed cognitive function variables provided by MHAS. Using the method of sequence of regressions with a SAS based Imputation and Variance Estimation software (IVEware), the MHAS team completed the imputation of cognitive variables. Unknown amounts were replaced with imputed values using the imputed variables made available in the study website. Please see the MHAS document [\(here\)](#) titled "Imputation of Cognitive Function Variables in the Mexican Health and Aging Study 2001-2018, Version 1", available in the study website [www.MHASweb.org](http://www.MHASweb.org) for more details on the imputation method used, variables imputed, and covariates included.

RwTR16 is set to .p for proxy interviews. The variable is set to plain missing (.) for respondents who did not respond to the current wave. In Waves 1 and 2, RwTR16 was also set to .s if the cognition section was skipped because the language of the interview was different from Spanish and .m if responses are missing because they didn't complete the task but completed the rest of the interview.

RwFTR16 is a flag variable indicating whether any component of RwTR16 was imputed. A code of 0 indicates that no component was imputed. A code of 1 indicates that at least one component was imputed. A code of -1 indicates that at least one component was not imputed because the respondent did not complete the section, including proxy interviews, and this value has been left missing.

SwTR16 and SwFTR16 are taken from the Wave 'w' spouse's value RwTR16 and RwFTR16, respectively. In addition to the special missing codes used in RwTR16 and RwFTR16, if the respondent is not designated as coupled in the current wave and assumed to be single, a special missing value of .u is used. Also, if the respondent is not designated as coupled in the current wave but reports being married, a special missing value of .v is used.

## Cross Wave Differences in MHAS

No differences known.

## Differences with the RAND HRS/Harmonized HRS

Different from the HRS, in the MHAS the verbal recall list contains only 8 words.

## MHAS Variables Used

### Wave 1 Imputed Cognition:

E11_A1_IMP_01	Verbal Learning List A-Trial 1: Number of Correct Words
E11_A2_IMP_01	Verbal Learning List A-Trial 2: Number of Correct Words
E11_A3_IMP_01	Verbal Learning List A-Trial 3: Number of Correct Words
E11_B1_IMP_01	Verbal Learning List B-Trial 1: Number of Correct Words
E11_B2_IMP_01	Verbal Learning List B-Trial 2: Number of Correct Words
E11_B3_IMP_01	Verbal Learning List A-Trial 3: Number of Correct Words
E11_FLAG_01	Verbal Learning: Flag if Imputed
E14_A_IMP_01	Verbal Recall List A: Number of Correct Words (Imputed)
E14_B_IMP_01	Verbal Recall List B: Number of Correct Words (Imputed)
E14_FLAG_01	Verbal Recall: Flag if Imputed

### Wave 2 Imputed Cognition:

E12_A_FLAG_03	Verbal Recall List A: Flag if Imputed
E12_A_IMP_03	Verbal Recall List A: Number of Correct Words (Imputed)
E12_B_FLAG_03	Verbal Recall List B: Flag if Imputed

E12_B_IMP_03	Verbal Recall List B: Number of Correct Words (Imputed)
E9_A1_FLAG_03	Verbal Learning List A-Trial 1: Flag if Imputed
E9_A1_IMP_03	Verbal Learning List A-Trial 1: Number of Correct Words
E9_A2_FLAG_03	Verbal Learning List A-Trial 2: Flag if Imputed
E9_A2_IMP_03	Verbal Learning List A-Trial 2: Number of Correct Words
E9_A3_FLAG_03	Verbal Learning List A-Trial 3: Flag if Imputed
E9_A3_IMP_03	Verbal Learning List A-Trial 3: Number of Correct Words
E9_B1_FLAG_03	Verbal Learning List B-Trial 1: Flag if Imputed
E9_B1_IMP_03	Verbal Learning List B-Trial 1: Number of Correct Words
E9_B2_FLAG_03	Verbal Learning List B-Trial 1: Flag if Imputed
E9_B2_IMP_03	Verbal Learning List B-Trial 2: Number of Correct Words
E9_B3_FLAG_03	Verbal Learning List B-Trial 1: Flag if Imputed
E9_B3_IMP_03	Verbal Learning List A-Trial 3: Number of Correct Words
Wave 3 Imputed Cognition:	
E14_A_FLAG_12	Verbal Recall List A: Flag if Imputed
E14_A_IMP_12	Verbal Recall List A: Number of Correct Words (Imputed)
E14_B_FLAG_12	Verbal Recall List B: Flag if Imputed
E14_B_IMP_12	Verbal Recall List B: Number of Correct Words (Imputed)
E7_A1_FLAG_12	Verbal Learning List A-Trial 1: Flag if Imputed
E7_A1_IMP_12	Verbal Learning List A-Trial 1: Number of Correct Words
E7_A2_FLAG_12	Verbal Learning List A-Trial 2: Flag if Imputed
E7_A2_IMP_12	Verbal Learning List A-Trial 2: Number of Correct Words
E7_A3_FLAG_12	Verbal Learning List A-Trial 3: Flag if Imputed
E7_A3_IMP_12	Verbal Learning List A-Trial 3: Number of Correct Words
E7_B1_FLAG_12	Verbal Learning List B-Trial 1: Flag if Imputed
E7_B1_IMP_12	Verbal Learning List B-Trial 1: Number of Correct Words
E7_B2_FLAG_12	Verbal Learning List B-Trial 1: Flag if Imputed
E7_B2_IMP_12	Verbal Learning List B-Trial 2: Number of Correct Words
E7_B3_FLAG_12	Verbal Learning List B-Trial 1: Flag if Imputed
E7_B3_IMP_12	Verbal Learning List A-Trial 3: Number of Correct Words
Wave 4 Imputed Cognition:	
E14_A_FLAG_15	Verbal Recall List A: Flag if Imputed
E14_A_IMP_15	Verbal Recall List A: Number of Correct Words (Imputed)
E14_B_FLAG_15	Verbal Recall List B: Flag if Imputed
E14_B_IMP_15	Verbal Recall List B: Number of Correct Words (Imputed)
E7_A1_FLAG_15	Verbal Learning List A-Trial 1: Flag if Imputed
E7_A1_IMP_15	Verbal Learning List A-Trial 1: Number of Correct Words
E7_A2_FLAG_15	Verbal Learning List A-Trial 2: Flag if Imputed
E7_A2_IMP_15	Verbal Learning List A-Trial 2: Number of Correct Words
E7_A3_FLAG_15	Verbal Learning List A-Trial 3: Flag if Imputed
E7_A3_IMP_15	Verbal Learning List A-Trial 3: Number of Correct Words
E7_B1_FLAG_15	Verbal Learning List B-Trial 1: Flag if Imputed
E7_B1_IMP_15	Verbal Learning List B-Trial 1: Number of Correct Words
E7_B2_FLAG_15	Verbal Learning List B-Trial 1: Flag if Imputed
E7_B2_IMP_15	Verbal Learning List B-Trial 2: Number of Correct Words
E7_B3_FLAG_15	Verbal Learning List B-Trial 1: Flag if Imputed
E7_B3_IMP_15	Verbal Learning List A-Trial 3: Number of Correct Words
Wave 5 Imputed Cognition:	
E14_A_FLAG_18	Verbal Recall List A: Flag if Imputed
E14_A_IMP_18	Verbal Recall List A: Number of Correct Words (Imputed)
E14_B_FLAG_18	Verbal Recall List B: Flag if Imputed
E14_B_IMP_18	Verbal Recall List B: Number of Correct Words (Imputed)
E7_A1_FLAG_18	Verbal Learning List A-Trial 1: Flag if Imputed
E7_A1_IMP_18	Verbal Learning List A-Trial 1: Number of Correct Words
E7_A2_FLAG_18	Verbal Learning List A-Trial 2: Flag if Imputed
E7_A2_IMP_18	Verbal Learning List A-Trial 2: Number of Correct Words
E7_A3_FLAG_18	Verbal Learning List A-Trial 3: Flag if Imputed
E7_A3_IMP_18	Verbal Learning List A-Trial 3: Number of Correct Words
E7_B1_FLAG_18	Verbal Learning List B-Trial 1: Flag if Imputed
E7_B1_IMP_18	Verbal Learning List B-Trial 1: Number of Correct Words
E7_B2_FLAG_18	Verbal Learning List B-Trial 1: Flag if Imputed
E7_B2_IMP_18	Verbal Learning List B-Trial 2: Number of Correct Words
E7_B3_FLAG_18	Verbal Learning List B-Trial 1: Flag if Imputed
E7_B3_IMP_18	Verbal Learning List A-Trial 3: Number of Correct Words

<b>Picture Drawing</b>
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Wave	Variable	Label	Type
1	R1IDRAW2	r1ldraw2: w1 R Picture Drawing immediate 2 fig	Cont
2	R2IDRAW2	r2ldraw2: w2 R Picture Drawing immediate 2 fig	Cont
1	S1IDRAW2	s1ldraw2: w1 S Picture Drawing immediate 2 fig	Cont
2	S2IDRAW2	s2ldraw2: w2 S Picture Drawing immediate 2 fig	Cont
1	R1FIDRAW2	r1fidraw2: w1 Cognition Flag R Picture Drawing	Categ
2	R2FIDRAW2	r2fidraw2: w2 Cognition Flag R Picture Drawing	Categ
1	S1FIDRAW2	s1fidraw2: w1 Cognition Flag S Picture Drawing	Categ
2	S2FIDRAW2	s2fidraw2: w2 Cognition Flag S Picture Drawing	Categ
3	R3IDRAW1	r3ldraw1: w3 R Picture Drawing immediate 1 fig	Cont
4	R4IDRAW1	r4ldraw1: w4 R Picture Drawing immediate 1 fig	Cont
5	R5IDRAW1	r5ldraw1: w5 R Picture Drawing immediate 1 fig	Cont
3	S3IDRAW1	s3ldraw1: w3 S Picture Drawing immediate 1 fig	Cont
4	S4IDRAW1	s4ldraw1: w4 S Picture Drawing immediate 1 fig	Cont
5	S5IDRAW1	s5ldraw1: w5 S Picture Drawing immediate 1 fig	Cont
3	R3FIDRAW1	r3fidraw1: w3 Cognition Flag R Picture Drawing	Categ
4	R4FIDRAW1	r4fidraw1: w4 Cognition Flag R Picture Drawing	Categ
5	R5FIDRAW1	r5fidraw1: w5 Cognition Flag R Picture Drawing	Categ
3	S3FIDRAW1	s3fidraw1: w3 Cognition Flag S Picture Drawing	Categ
4	S4FIDRAW1	s4fidraw1: w4 Cognition Flag S Picture Drawing	Categ
5	S5FIDRAW1	s5fidraw1: w5 Cognition Flag S Picture Drawing	Categ
1	R1DDRAW2	r1ddraw2: w1 R Picture Drawing delayed 2 fig	Cont
2	R2DDRAW2	r2ddraw2: w2 R Picture Drawing delayed 2 fig	Cont
1	S1DDRAW2	s1ddraw2: w1 S Picture Drawing delayed 2 fig	Cont
2	S2DDRAW2	s2ddraw2: w2 S Picture Drawing delayed 2 fig	Cont
1	R1FDDRAW2	r1fddraw2: w1 Cognition Flag R Delayed Picture Drawing	Categ
2	R2FDDRAW2	r2fddraw2: w2 Cognition Flag R Delayed Picture Drawing	Categ
1	S1FDDRAW2	s1fddraw2: w1 Cognition Flag S Delayed Picture Drawing	Categ
2	S2FDDRAW2	s2fddraw2: w2 Cognition Flag S Delayed Picture Drawing	Categ
3	R3DDRAW1	r3ddraw1: w3 R Picture Drawing delayed 1 fig	Cont
4	R4DDRAW1	r4ddraw1: w4 R Picture Drawing delayed 1 fig	Cont
5	R5DDRAW1	r5ddraw1: w5 R Picture Drawing delayed 1 fig	Cont
3	S3DDRAW1	s3ddraw1: w3 S Picture Drawing delayed 1 fig	Cont
4	S4DDRAW1	s4ddraw1: w4 S Picture Drawing delayed 1 fig	Cont
5	S5DDRAW1	s5ddraw1: w5 S Picture Drawing delayed 1 fig	Cont
3	R3FDDRAW1	r3fddraw1: w3 Cognition Flag R Delayed Picture Drawing	Categ
4	R4FDDRAW1	r4fddraw1: w4 Cognition Flag R Delayed Picture Drawing	Categ
5	R5FDDRAW1	r5fddraw1: w5 Cognition Flag R Delayed Picture Drawing	Categ
3	S3FDDRAW1	s3fddraw1: w3 Cognition Flag S Delayed Picture Drawing	Categ
4	S4FDDRAW1	s4fddraw1: w4 Cognition Flag S Delayed Picture Drawing	Categ
5	S5FDDRAW1	s5fddraw1: w5 Cognition Flag S Delayed Picture Drawing	Categ

## Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R1IDRAW2	13962	1.55	0.73	0.00	2.00
R2IDRAW2	12495	1.62	0.65	0.00	2.00
S1IDRAW2	9859	1.62	0.68	0.00	2.00
S2IDRAW2	8728	1.68	0.61	0.00	2.00
R1FIDRAW2	15186	0.01	0.41	-1.00	1.00
R2FIDRAW2	13704	0.03	0.45	-1.00	1.00
S1FIDRAW2	10648	0.00	0.39	-1.00	1.00
S2FIDRAW2	9564	0.01	0.43	-1.00	1.00
R3IDRAW1	14448	5.38	1.31	0.00	6.00
R4IDRAW1	13850	5.47	1.14	0.00	6.00
R5IDRAW1	15786	5.52	1.02	0.00	6.00
S3IDRAW1	9866	5.46	1.24	0.00	6.00
S4IDRAW1	9182	5.56	1.03	0.00	6.00
S5IDRAW1	7075	5.51	1.03	0.00	6.00
R3FIDRAW1	15723	0.00	0.41	-1.00	1.00
R4FIDRAW1	14779	0.00	0.36	-1.00	1.00
R5FIDRAW1	17114	-0.01	0.38	-1.00	1.00
S3FIDRAW1	10592	0.00	0.38	-1.00	1.00
S4FIDRAW1	9652	0.00	0.32	-1.00	1.00
S5FIDRAW1	7638	-0.01	0.38	-1.00	1.00
R1DDRAW2	13962	0.73	0.81	0.00	2.00
R2DDRAW2	12495	0.76	0.81	0.00	2.00
S1DDRAW2	9859	0.81	0.83	0.00	2.00
S2DDRAW2	8728	0.84	0.82	0.00	2.00
R1FDDRAW2	15186	0.02	0.42	-1.00	1.00
R2FDDRAW2	13704	0.04	0.46	-1.00	1.00
S1FDDRAW2	10648	0.01	0.40	-1.00	1.00
S2FDDRAW2	9564	0.02	0.44	-1.00	1.00
R3DDRAW1	14448	4.63	1.78	0.00	6.00
R4DDRAW1	13850	4.70	1.75	0.00	6.00
R5DDRAW1	15786	4.86	1.54	0.00	6.00
S3DDRAW1	9866	4.77	1.71	0.00	6.00
S4DDRAW1	9182	4.85	1.66	0.00	6.00
S5DDRAW1	7075	4.85	1.54	0.00	6.00
R3FDDRAW1	15723	0.01	0.42	-1.00	1.00
R4FDDRAW1	14779	0.01	0.37	-1.00	1.00
R5FDDRAW1	17114	0.02	0.42	-1.00	1.00
S3FDDRAW1	10592	0.01	0.39	-1.00	1.00
S4FDDRAW1	9652	0.01	0.33	-1.00	1.00
S5FDDRAW1	7638	0.03	0.42	-1.00	1.00

### Categorical Variable Codes

Value-----	R1FIDRAW2	R2FIDRAW2
-1.Missing, not imputed	1224	1209
0.Not Imputed	12597	10922
1.Imputed	1365	1573

Value-----	S1FIDRAW2	S2FIDRAW2			
.u:Unmar	4205	4009			
.v:SP NR	333	131			
-1.Missing, not imputed	789	836			
0.Not Imputed	9033	7782			
1.Imputed	826	946			
Value-----			R3FIDRAW1	R4FIDRAW1	R5FIDRAW1
-1.Missing, not imputed			1275	929	1328
0.Not Imputed			13116	12868	14586
1.Imputed			1332	982	1200
Value-----			S3FIDRAW1	S4FIDRAW1	S5FIDRAW1
.u:Unmar			4782	4847	5227
.v:SP NR			349	280	501
-1.Missing, not imputed			726	470	563
0.Not Imputed			9097	8666	6555
1.Imputed			769	516	520
Value-----	R1FDDRAW2	R2FDDRAW2			
-1.Missing, not imputed	1224	1209			
0.Not Imputed	12486	10789			
1.Imputed	1476	1706			
Value-----	S1FDDRAW2	S2FDDRAW2			
.u:Unmar	4205	4009			
.v:SP NR	333	131			
-1.Missing, not imputed	789	836			
0.Not Imputed	8975	7698			
1.Imputed	884	1030			
Value-----			R3FDDRAW1	R4FDDRAW1	R5FDDRAW1
-1.Missing, not imputed			1275	929	1328
0.Not Imputed			12938	12757	14059
1.Imputed			1510	1093	1727
Value-----			S3FDDRAW1	S4FDDRAW1	S5FDDRAW1
.u:Unmar			4782	4847	5227
.v:SP NR			349	280	501
-1.Missing, not imputed			726	470	563
0.Not Imputed			9000	8602	6317
1.Imputed			866	580	758

## How Constructed

RwIDRAW2, RwIDRAW1, RwDDRAW2, and RwDDRAW1 provide the score for the visuospatial tasks. RwIDRAW2 and RwDDRAW2 were only created for Waves 1 and 2 when respondents were presented two geometrical figures. Starting in Wave 3, respondents were only presented one geometrical figure and asked to copy it within 90 seconds.

RwIDRAW2 and RwIDRAW1 indicate the immediate visuospatial task score after the respondents were presented the geometrical figures (or figure) and asked to copy the figures within 90 seconds, each figure. RwDDRAW2 and RwDDRAW1 indicate the delayed visuospatial task score after the respondents were asked to draw the figures (or figure) they were shown before within 90 seconds, each figure.

RwIDRAW2, RwIDRAW1, RwDDRAW2, and RwDDRAW1 were constructed using the imputed cognitive function variables provided by MHAS. Using the method of sequence of regressions with a SAS based Imputation and Variance Estimation software (IVEware), the MHAS team completed the imputation of cognitive variables. Unknown amounts were replaced with imputed values using the imputed variables made available in the study website. Please see the MHAS document ([here](#)) titled "Imputation of Cognitive Function Variables in the Mexican Health and Aging Study 2001-2018, Version 1", available in the study website [www.MHASweb.org](http://www.MHASweb.org) for more details on the imputation method used, variables imputed, and covariates included.

The variables are set to .p for proxy interviews. In Waves 1 and 2, RwIDRAW2 and RwDDRAW2 were set to .s if the cognition section was skipped because the language of the interview was different from Spanish and .m if responses are missing because they didn't complete the task but completed the rest of the interview. The variables are set to plain missing (.) for respondents who did not respond to the current wave.

RwFIDRAW2, RwFIDRAW1, RwFDDRAW2, and RwFDDRAW1 are flag variables indicating whether any component of RwIDRAW2, RwIDRAW1, RwDDRAW2, and RwDDRAW1, respectively, was imputed. A code of 0 indicates that no component was imputed. A code of 1 indicates that at least one component was imputed. A code of -1 indicates that at least one component was not imputed because the respondent did not complete the section, including proxy interviews, and this value has been left missing.

SwIDRAW2, SwIDRAW1, SwDDRAW2, SwDDRAW1, SwFIDRAW2, SwFIDRAW1, SwFDDRAW2, and SwFDDRAW1 are taken from the Wave 'w' spouse's values for RwIDRAW2, RwIDRAW1, RwDDRAW2, RwDDRAW1, RwFIDRAW2, RwFIDRAW1, RwFDDRAW2, and RwFDDRAW1, respectively. In addition to the special missing codes used in RwIDRAW2, RwIDRAW1, RwDDRAW2, RwDDRAW1, RwFIDRAW2, RwFIDRAW1, RwFDDRAW2, and RwFDDRAW1, if the respondent is not designated as coupled in the current wave and assumed to be single, a special missing value of .u is used. Also, if the respondent is not designated as coupled in the current wave but reports being married, a special missing value of .v is used.

## Cross Wave Differences in MHAS

Since the visuospatial tasks changed across the waves, two variables were defined: RwDDRAW2 and RwDDRAW1. The changes include presenting two figures in Waves 1 and 2 and presenting only one figure starting in Wave 3. Also, starting in Wave 3 a new scoring was used to allow for comparison of the results between waves. The following equivalence will allow for comparison of the results in RwDDRAW2 and RwDDRAW1.

RwDDRAW1 = 0, 1, or 2 is equal RwDDRAW2 = 0

RwDDRAW1 = 3 or 4 is equal RwDDRAW2 = 1

RwDDRAW1 = 5 or 6 is equal RwDDRAW2 = 2

## Differences with the RAND HRS/Harmonized HRS

The HRS does not include the visuospatial tasks.

## MHAS Variables Used

### Wave 1 Imputed Cognition:

E13_FLAG_01	Constructional Praxis Recall: Flag if Imputed
E13_IMP_01	Constructional Praxis Recall (Imputed)
E8_E9_FLAG_01	Constructional Praxis: Flag if Imputed
E8_E9_IMP_01	Constructional Praxis (Imputed)

### Wave 2 Imputed Cognition:

E11_FLAG_03	Constructional Praxis Recall: Flag if Imputed
E11_IMP_03	Constructional Praxis Recall (Imputed)
E6_E7_FLAG_03	Constructional Praxis: Flag if Imputed
E6_E7_IMP_03	Constructional Praxis (Imputed)

### Wave 3 Imputed Cognition:

E13_FLAG_12	Constructional Praxis Recall: Flag if Imputed
E13_IMP_12	Constructional Praxis Recall (Imputed)
E8_FLAG_12	Constructional Praxis: Flag if Imputed
E8_IMP_12	Constructional Praxis (Imputed)

### Wave 4 Imputed Cognition:

E13_FLAG_15	Constructional Praxis Recall: Flag if Imputed
E13_IMP_15	Constructional Praxis Recall (Imputed)
E8_FLAG_15	Constructional Praxis: Flag if Imputed
E8_IMP_15	Constructional Praxis (Imputed)

### Wave 5 Imputed Cognition:

E13_FLAG_18	Constructional Praxis Recall: Flag if Imputed
E13_IMP_18	Constructional Praxis Recall (Imputed)
E8_FLAG_18	Constructional Praxis: Flag if Imputed
E8_IMP_18	Constructional Praxis (Imputed)

Verbal Fluency

Wave	Variable	Label	Type
3	R3VERBF	r3verbf: w3 R Verbal Fluency Score	Cont
4	R4VERBF	r4verbf: w4 R Verbal Fluency Score	Cont
5	R5VERBF	r5verbf: w5 R Verbal Fluency Score	Cont
3	S3VERBF	s3verbf: w3 S Verbal Fluency Score	Cont
4	S4VERBF	s4verbf: w4 S Verbal Fluency Score	Cont
5	S5VERBF	s5verbf: w5 S Verbal Fluency Score	Cont
3	R3FVERBF	r3fverbf: w3 Cognition Flag R Verbal Fluency	Categ
4	R4FVERBF	r4fverbf: w4 Cognition Flag R Verbal Fluency	Categ
5	R5FVERBF	r5fverbf: w5 Cognition Flag R Verbal Fluency	Categ
3	S3FVERBF	s3fverbf: w3 Cognition Flag S Verbal Fluency	Categ
4	S4FVERBF	s4fverbf: w4 Cognition Flag S Verbal Fluency	Categ
5	S5FVERBF	s5fverbf: w5 Cognition Flag S Verbal Fluency	Categ

Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R3VERBF	14448	15.04	5.15	0.00	66.00
R4VERBF	13850	15.51	5.24	0.00	40.00
R5VERBF	15786	15.71	5.25	0.00	30.00
S3VERBF	9866	15.41	5.10	0.00	66.00
S4VERBF	9182	15.93	5.18	0.00	40.00
S5VERBF	7075	15.50	5.11	0.00	30.00
R3FVERBF	15723	-0.05	0.32	-1.00	1.00
R4FVERBF	14779	-0.05	0.26	-1.00	1.00
R5FVERBF	17114	-0.05	0.32	-1.00	1.00
S3FVERBF	10592	-0.04	0.30	-1.00	1.00
S4FVERBF	9652	-0.04	0.23	-1.00	1.00
S5FVERBF	7638	-0.05	0.31	-1.00	1.00

Categorical Variable Codes

Value-----	R3FVERBF	R4FVERBF	R5FVERBF
-1.Missing, not imputed	1275	929	1328
0.Not Imputed	14020	13730	15297
1.Imputed	428	120	489
Value-----	S3FVERBF	S4FVERBF	S5FVERBF
.u:Unmar	4782	4847	5227
.v:SP NR	349	280	501
-1.Missing, not imputed	726	470	563
0.Not Imputed	9592	9131	6871
1.Imputed	274	51	204

How Constructed

RwVERBF is the verbal fluency score. Respondents were asked to name all the animals they can within a time span of one minute. Interviewers are asked to count the number of different animals the respondent was able to name. RwVERBF is the count of the number of different animal names. RwVERBF is constructed using the imputed cognitive function variables provided by MHAS. Using the method of sequence of regressions with a SAS based Imputation and Variance Estimation software (IVEware), the MHAS team completed the imputation of cognitive variables. Unknown amounts were replaced with imputed values using

the imputed variables made available in the study website. Please see the MHAS document [\(here\)](#) titled "Imputation of Cognitive Function Variables in the Mexican Health and Aging Study 2001-2018, Version 1", available in the study website [www.MHASweb.org](http://www.MHASweb.org) for more details on the imputation method used, variables imputed, and covariates included. RwVERBF is set to .p for proxy interviews. The variable is plain missing (.) for respondents who did not respond to the current wave.

The verbal fluency questions were only asked starting in Wave 3 (2012).

RwFVERBF is a flag variable indicating whether any component of RwVERBF was imputed. A code of 0 indicates that no component was imputed. A code of 1 indicates that at least one component was imputed. A code of -1 indicates that at least one component was not imputed because the respondent did not complete the section, including proxy interviews, and this value has been left missing.

SwVERBF and SwFVERBF are taken from the Wave 'w' spouse's value for RwVERBF and RwFVERBF, respectively. In addition to the special missing codes used in RwVERBF and RwFVERBF, if the respondent is not designated as coupled in the current wave and assumed to be single, a special missing value of .u is used. Also, if the respondent is not designated as coupled in the current wave but reports being married, a special missing value of .v is used.

## Cross Wave Differences in MHAS

The verbal fluency questions were only asked starting in Wave 3 (2012).

## Differences with the RAND HRS/Harmonized HRS

Verbal fluency using animal naming questions was added to the HRS survey in 2010. A non-imputed version of verbal fluency is currently available in the Harmonized HRS data set.

## MHAS Variables Used

### Wave 3 Imputed Cognition:

E9A_FLAG_12	Verbal Fluency - Number of different animals: Flag if I
E9A_IMP_12	Verbal Fluency - Number of different animals (Imputed)

### Wave 4 Imputed Cognition:

E9A_FLAG_15	Verbal Fluency - Number of different animals: Flag if I
E9A_IMP_15	Verbal Fluency - Number of different animals (Imputed)

### Wave 5 Imputed Cognition:

E9A_FLAG_18	Verbal Fluency - Number of different animals: Flag if I
E9A_IMP_18	Verbal Fluency - Number of different animals (Imputed)



Visual Scanning

Wave	Variable	Label	Type
1	R1VSCAN	r1vscan: w1 R Visual Scanning	Cont
2	R2VSCAN	r2vscan: w2 R Visual Scanning	Cont
3	R3VSCAN	r3vscan: w3 R Visual Scanning	Cont
4	R4VSCAN	r4vscan: w4 R Visual Scanning	Cont
5	R5VSCAN	r5vscan: w5 R Visual Scanning	Cont
1	S1VSCAN	s1vscan: w1 S Visual Scanning	Cont
2	S2VSCAN	s2vscan: w2 S Visual Scanning	Cont
3	S3VSCAN	s3vscan: w3 S Visual Scanning	Cont
4	S4VSCAN	s4vscan: w4 S Visual Scanning	Cont
5	S5VSCAN	s5vscan: w5 S Visual Scanning	Cont
1	R1FVSCAN	r1fvscan: w1 Cognition Flag R Visual Scanning	Categ
2	R2FVSCAN	r2fvscan: w2 Cognition Flag R Visual Scanning	Categ
3	R3FVSCAN	r3fvscan: w3 Cognition Flag R Visual Scanning	Categ
4	R4FVSCAN	r4fvscan: w4 Cognition Flag R Visual Scanning	Categ
5	R5FVSCAN	r5fvscan: w5 Cognition Flag R Visual Scanning	Categ
1	S1FVSCAN	s1fvscan: w1 Cognition Flag S Visual Scanning	Categ
2	S2FVSCAN	s2fvscan: w2 Cognition Flag S Visual Scanning	Categ
3	S3FVSCAN	s3fvscan: w3 Cognition Flag S Visual Scanning	Categ
4	S4FVSCAN	s4fvscan: w4 Cognition Flag S Visual Scanning	Categ
5	S5FVSCAN	s5fvscan: w5 Cognition Flag S Visual Scanning	Categ

Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R1VSCAN	13962	24.77	15.92	0.00	60.00
R2VSCAN	12495	24.17	15.99	0.00	60.00
R3VSCAN	14448	28.22	15.36	0.00	60.00
R4VSCAN	13850	28.40	15.93	0.00	60.00
R5VSCAN	15786	30.75	16.14	0.00	60.00
S1VSCAN	9859	26.26	15.79	0.00	60.00
S2VSCAN	8728	25.61	15.95	0.00	60.00
S3VSCAN	9866	29.53	15.19	0.00	60.00
S4VSCAN	9182	30.04	15.59	0.00	60.00
S5VSCAN	7075	29.20	15.59	0.00	60.00
R1FVSCAN	15186	0.01	0.41	-1.00	1.00
R2FVSCAN	13704	-0.02	0.39	-1.00	1.00
R3FVSCAN	15723	0.01	0.41	-1.00	1.00
R4FVSCAN	14779	0.00	0.36	-1.00	1.00
R5FVSCAN	17114	0.00	0.39	-1.00	1.00
S1FVSCAN	10648	-0.00	0.38	-1.00	1.00
S2FVSCAN	9564	-0.03	0.38	-1.00	1.00
S3FVSCAN	10592	0.00	0.37	-1.00	1.00
S4FVSCAN	9652	0.00	0.32	-1.00	1.00
S5FVSCAN	7638	0.00	0.39	-1.00	1.00

Categorical Variable Codes

Value-----	R1FVSCAN	R2FVSCAN	R3FVSCAN	R4FVSCAN	R5FVSCAN
-1.Missing, not imputed	1224	1209	1275	929	1328
0.Not Imputed	12647	11583	13078	12858	14449
1.Imputed	1315	912	1370	992	1337

Value-----	S1FVSCAN	S2FVSCAN	S3FVSCAN	S4FVSCAN	S5FVSCAN
.u:Unmar	4205	4009	4782	4847	5227
.v:SP NR	333	131	349	280	501
-1.Missing, not imputed	789	836	726	470	563
0.Not Imputed	9082	8162	9103	8666	6497
1.Imputed	777	566	763	516	578

## How Constructed

RwVSCAN is the visual scanning score, ranging from 0 to 60. Respondents were asked to circle all figures that are identical to a specific stimulus shown previously within an array of different stimuli. Respondents were given 60 seconds to complete this task. RwVSCAN is constructed using the imputed cognitive function variables provided by MHAS. Using the method of sequence of regressions with a SAS based Imputation and Variance Estimation software (IVEware), the MHAS team completed the imputation of cognitive variables. Unknown amounts were replaced with imputed values using the imputed variables made available in the study website. Please see the MHAS document [\(here\)](#) titled "Imputation of Cognitive Function Variables in the Mexican Health and Aging Study 2001-2018, Version 1", available in the study website [www.MHASweb.org](http://www.MHASweb.org) for more details on the imputation method used, variables imputed, and covariates included. These variables are set to .p for proxy interviews. The variable is plain missing (.) for respondents who did not respond to the current wave. In Waves 1 and 2, RwVSCAN was also set to .s if the cognition section was skipped because the language of the interview was different from Spanish and .m if responses are missing because they didn't complete the task but completed the rest of the interview.

RwFVSCAN is a flag variable indicating whether any component of RwVSCAN was imputed. A code of 0 indicates that no component was imputed. A code of 1 indicates that at least one component was imputed. A code of -1 indicates that at least one component was not imputed because the respondent did not complete the section, including proxy interviews, and this value has been left missing.

SwVSCAN and SwFVSCAN are taken from the Wave 'w' spouse's value for RwVSCAN and RwFVSCAN, respectively. In addition to the special missing codes used in RwVSCAN and RwFVSCAN, if the respondent is not designated as coupled in the current wave and assumed to be single, a special missing value of .u is used. Also, if the respondent is not designated as coupled in the current wave but reports being married, a special missing value of .v is used.

## Cross Wave Differences in MHAS

No differences known.

## Differences with the RAND HRS/Harmonized HRS

The HRS does not include the visual scanning task.

## MHAS Variables Used

Wave 1 Imputed Cognition:

E12\_FLAG\_01 Visual Scan: Flag if Imputed  
E12\_IMP\_01 Visual Scan (Imputed)

Wave 2 Imputed Cognition:

E10\_FLAG\_03 Visual Scan: Flag if Imputed  
E10\_IMP\_03 Visual Scan (Imputed)

Wave 3 Imputed Cognition:

E10\_FLAG\_12 Visual Scan: Flag if Imputed  
E10\_IMP\_12 Visual Scan (Imputed)

Wave 4 Imputed Cognition:

E10\_FLAG\_15 Visual Scan: Flag if Imputed  
E10\_IMP\_15 Visual Scan (Imputed)

Wave 5 Imputed Cognition:

E10\_FLAG\_18 Visual Scan: Flag if Imputed  
E10\_IMP\_18 Visual Scan (Imputed)

Backwards Counting From 20

Wave	Variable	Label	Type
3	R3BWC20	r3bwc20: w3 R Backwards Counting From 20	Categ
4	R4BWC20	r4bwc20: w4 R Backwards Counting From 20	Categ
3	S3BWC20	s3bwc20: w3 S Backwards Counting From 20	Categ
4	S4BWC20	s4bwc20: w4 S Backwards Counting From 20	Categ
3	R3BWC20_M	r3bwc20_m: w3 R Backwards Counting From 20 (Correct/Incorrec	Categ
4	R4BWC20_M	r4bwc20_m: w4 R Backwards Counting From 20 (Correct/Incorrec	Categ
3	S3BWC20_M	s3bwc20_m: w3 S Backwards Counting From 20 (Correct/Incorrec	Categ
4	S4BWC20_M	s4bwc20_m: w4 S Backwards Counting From 20 (Correct/Incorrec	Categ
3	R3FBWC20_M	r3fbwc20_m: w3 Cognition Flag R Backwards Counting From 20 (	Categ
4	R4FBWC20_M	r4fbwc20_m: w4 Cognition Flag R Backwards Counting From 20 (	Categ
3	S3FBWC20_M	s3fbwc20_m: w3 Cognition Flag S Backwards Counting From 20 (	Categ
4	S4FBWC20_M	s4fbwc20_m: w4 Cognition Flag S Backwards Counting From 20 (	Categ

Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R3BWC20	13439	1.78	0.60	0.00	2.00
R4BWC20	13158	1.76	0.63	0.00	2.00
S3BWC20	9273	1.81	0.55	0.00	2.00
S4BWC20	8833	1.81	0.57	0.00	2.00
R3BWC20_M	14448	0.90	0.30	0.00	1.00
R4BWC20_M	13850	0.88	0.33	0.00	1.00
S3BWC20_M	9866	0.92	0.27	0.00	1.00
S4BWC20_M	9182	0.90	0.30	0.00	1.00
R3FBWC20_M	15723	-0.02	0.38	-1.00	1.00
R4FBWC20_M	14779	-0.02	0.33	-1.00	1.00
S3FBWC20_M	10592	-0.01	0.35	-1.00	1.00
S4FBWC20_M	9652	-0.01	0.29	-1.00	1.00

Categorical Variable Codes

Value-----	R3BWC20	R4BWC20
.m:Missing	142	
.n:not specified	7	
.p:Proxy interview, not asked	1275	929
.r:Refuse	860	692
0.Incorrect	1229	1397
1.Correct, 2nd try	562	359
2.Correct, 1st try	11648	11402
Value-----	S3BWC20	S4BWC20
.m:Missing	91	
.n:not specified	5	
.p:Proxy interview, not asked	726	470
.r:Refuse	497	349
.u:Unmar	4782	4847
.v:SP NR	349	280
0.Incorrect	682	752

1. Correct, 2nd try		369	208
2. Correct, 1st try		8222	7873
Value-----		R3BWC20_M	R4BWC20_M
.p: Proxy interview, not asked		1275	929
0. Incorrect		1473	1682
1. Correct		12975	12168
Value-----		S3BWC20_M	S4BWC20_M
.p: Proxy interview, not asked		726	470
.u: Unmar		4782	4847
.v: SP NR		349	280
0. Incorrect		798	885
1. Correct		9068	8297
Value-----		R3FBWC20_M	R4FBWC20_M
-1. Missing, not imputed		1275	929
0. Not Imputed		13421	13158
1. Imputed		1027	692
Value-----		S3FBWC20_M	S4FBWC20_M
.u: Unmar		4782	4847
.v: SP NR		349	280
-1. Missing, not imputed		726	470
0. Not Imputed		9264	8833
1. Imputed		602	349

## How Constructed

RwBWC20 indicates the respondent's backwards counting score. Respondents were asked to count backwards for 10 continuous numbers from 20. If the respondent was not able to complete the task in the first try, then they could try a second time. Two points are given if successful on the first try, one if successful on the second try, and zero if not successful on either try. The backwards counting questions were only asked in Waves 3 and 4 (2012 and 2015). RwBWC20 is set to .p for proxy interviews, .r if the respondent refused to complete the cognition exercises, .n if the answer was "Not specified", and .m if they didn't complete the section but completed the rest of the interview. The variable is plain missing (.) for respondents who did not respond to the current wave.

RwBWC20\_M indicates whether the respondent was able to successfully count backwards for 10 continuous numbers from 20. RwBWC20\_M is constructed using the imputed cognitive function variables provided by MHAS. Using the method of sequence of regressions with a SAS based Imputation and Variance Estimation software (IVEware), the MHAS team completed the imputation of cognitive variables. Unknown amounts were replaced with imputed values using the imputed variables made available in the study website. Please see the MHAS document [\(here\)](#) titled "Imputation of Cognitive Function Variables in the Mexican Health and Aging Study 2001-2018, Version 1", available in the study website [www.MHASweb.org](http://www.MHASweb.org) for more details on the imputation method used, variables imputed, and covariates included. RwBWC20\_M is set to .p for proxy interviews. The variable is set to plain missing (.) for respondents who did not respond to the current wave.

Respondents were asked to count backwards for 10 continuous numbers from 20. While RwBWC20 indicates the respondent's backwards counting score with two points given if successful on the first try, one if successful on the second try, and zero if not successful on either try. RwBWC20\_M indicates whether the respondent was able to successfully count backwards for 10 continuous numbers from 20 and uses the imputed cognitive data. RwBWC20\_M does not indicate whether the respondent was able to complete the task in the first or second try.

RwFBWC20\_M is a flag variable indicating whether or not any component of RwBWC20\_M was imputed. A code of 0 indicates that no component was imputed. A code of 1 indicates that at least one component was imputed. A code of -1 indicates that at least one component was not imputed because the respondent did not complete the section, including proxy interviews, and this value has been left missing.

SwBWC20, SwBWC20\_M, and SwFBWC20\_M are taken from the Wave 'w' spouse's values for RwBWC20, RwBWC20\_M, and RwFBWC20\_M, respectively. In addition to the special missing codes used in RwBWC20, RwBWC20\_M, and RwFBWC20\_M, if the respondent is not designated as coupled in the current wave and assumed to be single, a special missing value of .u is used. Also, if the respondent is not designated as coupled in the current wave but reports being married, a special missing value of .v is used.

Cross Wave Differences in MHAS

The backwards counting questions were only asked in Waves 3 and 4 (2012 and 2015).

Differences with the RAND HRS/Harmonized HRS

Different from the HRS, in the MHAS the backwards counting questions only included counting back from 20, whereas the HRS also asks counting back from 86.

MHAS Variables Used

Wave 3 Imputed Cognition:

E12C_FLAG_12	Numeracy - Time for First and Second Attempt: Flag if I
E12C_IMP_12	Numeracy - Time for First and Second Attempt (Imputed)
E12_FLAG_12	Numeracy - Score for First and Second Attempt: Flag if
E12_IMP_12	Numeracy - Score for First and Second Attempt (Imputed)

Wave 4 Imputed Cognition:

E12C_FLAG_15	Numeracy - Time for First and Second Attempt: Flag if I
E12C_IMP_15	Numeracy - Time for First and Second Attempt (Imputed)
E12_FLAG_15	Numeracy - Score for First and Second Attempt: Flag if
E12_IMP_15	Numeracy - Score for First and Second Attempt (Imputed)

<b>Date Naming/Orientation</b>
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Wave	Variable	Label	Type
2	R2DY	r2dy: w2 R Date Naming: Day of the Month	Categ
3	R3DY	r3dy: w3 R Date Naming: Day of the Month	Categ
4	R4DY	r4dy: w4 R Date Naming: Day of the Month	Categ
5	R5DY	r5dy: w5 R Date Naming: Day of the Month	Categ
2	S2DY	s2dy: w2 S Date Naming: Day of the Month	Categ
3	S3DY	s3dy: w3 S Date Naming: Day of the Month	Categ
4	S4DY	s4dy: w4 S Date Naming: Day of the Month	Categ
5	S5DY	s5dy: w5 S Date Naming: Day of the Month	Categ
2	R2FDY	r2fdy: w2 Cognition Flag R Date Naming-Day of the Month	Categ
3	R3FDY	r3fdy: w3 Cognition Flag R Date Naming-Day of the Month	Categ
4	R4FDY	r4fdy: w4 Cognition Flag R Date Naming-Day of the Month	Categ
5	R5FDY	r5fdy: w5 Cognition Flag R Date Naming-Day of the Month	Categ
2	S2FDY	s2fdy: w2 Cognition Flag S Date Naming-Day of the Month	Categ
3	S3FDY	s3fdy: w3 Cognition Flag S Date Naming-Day of the Month	Categ
4	S4FDY	s4fdy: w4 Cognition Flag S Date Naming-Day of the Month	Categ
5	S5FDY	s5fdy: w5 Cognition Flag S Date Naming-Day of the Month	Categ
2	R2MO	r2mo: w2 R Date Naming: Month	Categ
3	R3MO	r3mo: w3 R Date Naming: Month	Categ
4	R4MO	r4mo: w4 R Date Naming: Month	Categ
5	R5MO	r5mo: w5 R Date Naming: Month	Categ
2	S2MO	s2mo: w2 S Date Naming: Month	Categ
3	S3MO	s3mo: w3 S Date Naming: Month	Categ
4	S4MO	s4mo: w4 S Date Naming: Month	Categ
5	S5MO	s5mo: w5 S Date Naming: Month	Categ
2	R2FMO	r2fmo: w2 Cognition Flag R Date Naming-Month	Categ
3	R3FMO	r3fmo: w3 Cognition Flag R Date Naming-Month	Categ
4	R4FMO	r4fmo: w4 Cognition Flag R Date Naming-Month	Categ
5	R5FMO	r5fmo: w5 Cognition Flag R Date Naming-Month	Categ
2	S2FMO	s2fmo: w2 Cognition Flag S Date Naming-Month	Categ
3	S3FMO	s3fmo: w3 Cognition Flag S Date Naming-Month	Categ
4	S4FMO	s4fmo: w4 Cognition Flag S Date Naming-Month	Categ
5	S5FMO	s5fmo: w5 Cognition Flag S Date Naming-Month	Categ
2	R2YR	r2yr: w2 R Date Naming: Year	Categ
3	R3YR	r3yr: w3 R Date Naming: Year	Categ
4	R4YR	r4yr: w4 R Date Naming: Year	Categ
5	R5YR	r5yr: w5 R Date Naming: Year	Categ
2	S2YR	s2yr: w2 S Date Naming: Year	Categ
3	S3YR	s3yr: w3 S Date Naming: Year	Categ
4	S4YR	s4yr: w4 S Date Naming: Year	Categ
5	S5YR	s5yr: w5 S Date Naming: Year	Categ
2	R2FYR	r2fyr: w2 Cognition Flag R Date Naming-Year	Categ
3	R3FYR	r3fyr: w3 Cognition Flag R Date Naming-Year	Categ
4	R4FYR	r4fyr: w4 Cognition Flag R Date Naming-Year	Categ
5	R5FYR	r5fyr: w5 Cognition Flag R Date Naming-Year	Categ
2	S2FYR	s2fyr: w2 Cognition Flag S Date Naming-Year	Categ
3	S3FYR	s3fyr: w3 Cognition Flag S Date Naming-Year	Categ
4	S4FYR	s4fyr: w4 Cognition Flag S Date Naming-Year	Categ
5	S5FYR	s5fyr: w5 Cognition Flag S Date Naming-Year	Categ

2	R2ORIENT_M	r2orient_m: w2 R Date Naming Correctness	Categ
3	R3ORIENT_M	r3orient_m: w3 R Date Naming Correctness	Categ
4	R4ORIENT_M	r4orient_m: w4 R Date Naming Correctness	Categ
5	R5ORIENT_M	r5orient_m: w5 R Date Naming Correctness	Categ
2	S2ORIENT_M	s2orient_m: w2 S Date Naming Correctness	Categ
3	S3ORIENT_M	s3orient_m: w3 S Date Naming Correctness	Categ
4	S4ORIENT_M	s4orient_m: w4 S Date Naming Correctness	Categ
5	S5ORIENT_M	s5orient_m: w5 S Date Naming Correctness	Categ
2	R2FORIENT_M	r2forient_m: w2 Cognition Flag R Date Naming/Orientation	Categ
3	R3FORIENT_M	r3forient_m: w3 Cognition Flag R Date Naming/Orientation	Categ
4	R4FORIENT_M	r4forient_m: w4 Cognition Flag R Date Naming/Orientation	Categ
5	R5FORIENT_M	r5forient_m: w5 Cognition Flag R Date Naming/Orientation	Categ
2	S2FORIENT_M	s2forient_m: w2 Cognition Flag S Date Naming/Orientation	Categ
3	S3FORIENT_M	s3forient_m: w3 Cognition Flag S Date Naming/Orientation	Categ
4	S4FORIENT_M	s4forient_m: w4 Cognition Flag S Date Naming/Orientation	Categ
5	S5FORIENT_M	s5forient_m: w5 Cognition Flag S Date Naming/Orientation	Categ

## Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R2DY	12495	0.73	0.45	0.00	1.00
R3DY	14448	0.75	0.43	0.00	1.00
R4DY	13850	0.72	0.45	0.00	1.00
R5DY	15786	0.92	0.27	0.00	1.00
S2DY	8728	0.75	0.43	0.00	1.00
S3DY	9866	0.77	0.42	0.00	1.00
S4DY	9182	0.74	0.44	0.00	1.00
S5DY	7075	0.92	0.27	0.00	1.00
R2FDY	13704	-0.09	0.28	-1.00	1.00
R3FDY	15723	-0.06	0.31	-1.00	1.00
R4FDY	14779	-0.06	0.26	-1.00	1.00
R5FDY	17114	-0.08	0.27	-1.00	1.00
S2FDY	9564	-0.09	0.28	-1.00	1.00
S3FDY	10592	-0.05	0.29	-1.00	1.00
S4FDY	9652	-0.05	0.22	-1.00	1.00
S5FDY	7638	-0.07	0.26	-1.00	1.00
R2MO	12495	0.90	0.30	0.00	1.00
R3MO	14448	0.91	0.28	0.00	1.00
R4MO	13850	0.91	0.29	0.00	1.00
R5MO	15786	0.93	0.25	0.00	1.00
S2MO	8728	0.91	0.28	0.00	1.00
S3MO	9866	0.92	0.26	0.00	1.00
S4MO	9182	0.92	0.27	0.00	1.00
S5MO	7075	0.93	0.25	0.00	1.00
R2FMO	13704	-0.09	0.28	-1.00	1.00
R3FMO	15723	-0.06	0.31	-1.00	1.00
R4FMO	14779	-0.06	0.26	-1.00	1.00
R5FMO	17114	-0.08	0.27	-1.00	1.00
S2FMO	9564	-0.09	0.28	-1.00	1.00
S3FMO	10592	-0.05	0.29	-1.00	1.00
S4FMO	9652	-0.05	0.22	-1.00	1.00
S5FMO	7638	-0.07	0.26	-1.00	1.00

R2YR	12495	0.82	0.38	0.00	1.00
R3YR	14448	0.82	0.38	0.00	1.00
R4YR	13850	0.81	0.39	0.00	1.00
R5YR	15786	0.85	0.36	0.00	1.00
S2YR	8728	0.85	0.36	0.00	1.00
S3YR	9866	0.85	0.36	0.00	1.00
S4YR	9182	0.84	0.37	0.00	1.00
S5YR	7075	0.84	0.36	0.00	1.00
R2FYR	13704	-0.09	0.28	-1.00	1.00
R3FYR	15723	-0.06	0.31	-1.00	1.00
R4FYR	14779	-0.06	0.26	-1.00	1.00
R5FYR	17114	-0.08	0.27	-1.00	1.00
S2FYR	9564	-0.09	0.28	-1.00	1.00
S3FYR	10592	-0.05	0.30	-1.00	1.00
S4FYR	9652	-0.05	0.22	-1.00	1.00
S5FYR	7638	-0.07	0.26	-1.00	1.00
R2ORIENT_M	12495	2.45	0.89	0.00	3.00
R3ORIENT_M	14448	2.48	0.82	0.00	3.00
R4ORIENT_M	13850	2.44	0.86	0.00	3.00
R5ORIENT_M	15786	2.71	0.71	0.00	3.00
S2ORIENT_M	8728	2.51	0.85	0.00	3.00
S3ORIENT_M	9866	2.54	0.77	0.00	3.00
S4ORIENT_M	9182	2.50	0.80	0.00	3.00
S5ORIENT_M	7075	2.70	0.72	0.00	3.00
R2FORIENT_M	13704	-0.09	0.28	-1.00	1.00
R3FORIENT_M	15723	-0.06	0.32	-1.00	1.00
R4FORIENT_M	14779	-0.06	0.26	-1.00	1.00
R5FORIENT_M	17114	-0.08	0.27	-1.00	1.00
S2FORIENT_M	9564	-0.09	0.28	-1.00	1.00
S3FORIENT_M	10592	-0.05	0.30	-1.00	1.00
S4FORIENT_M	9652	-0.05	0.22	-1.00	1.00
S5FORIENT_M	7638	-0.07	0.26	-1.00	1.00

Categorical Variable Codes

Value-----	R2DY	R3DY	R4DY	R5DY
.m:Missing	20			
.p:Proxy interview, not asked	1178	1275	929	1328
.s:Skip	11			
0.Incorrect	3434	3638	3845	1212
1.Correct	9061	10810	10005	14574
Value-----	S2DY	S3DY	S4DY	S5DY
.m:Missing	6			
.p:Proxy interview, not asked	821	726	470	563
.s:Skip	9			
.u:Unmar	4009	4782	4847	5227
.v:SP NR	131	349	280	501
0.Incorrect	2196	2297	2352	539
1.Correct	6532	7569	6830	6536
Value-----	R2FDY	R3FDY	R4FDY	R5FDY
-1.Missing, not imputed	1209	1275	929	1328
0.Not Imputed	12491	14117	13767	15762
1.Imputed	4	331	83	24
Value-----	S2FDY	S3FDY	S4FDY	S5FDY
.u:Unmar	4009	4782	4847	5227



.v:SP NR	131	349	280	501
-1.Missing, not imputed	836	726	470	563
0.Not Imputed	8725	9647	9153	7067
1.Imputed	3	219	29	8
Value-----	R2MO	R3MO	R4MO	R5MO
.m:Missing	20			
.p:Proxy interview, not asked	1178	1275	929	1328
.s:Skip	11			
0.Incorrect	1231	1259	1291	1055
1.Correct	11264	13189	12559	14731
Value-----	S2MO	S3MO	S4MO	S5MO
.m:Missing	6			
.p:Proxy interview, not asked	821	726	470	563
.s:Skip	9			
.u:Unmar	4009	4782	4847	5227
.v:SP NR	131	349	280	501
0.Incorrect	757	740	751	482
1.Correct	7971	9126	8431	6593
Value-----	R2FMO	R3FMO	R4FMO	R5FMO
-1.Missing, not imputed	1209	1275	929	1328
0.Not Imputed	12491	14116	13767	15762
1.Imputed	4	332	83	24
Value-----	S2FMO	S3FMO	S4FMO	S5FMO
.u:Unmar	4009	4782	4847	5227
.v:SP NR	131	349	280	501
-1.Missing, not imputed	836	726	470	563
0.Not Imputed	8725	9647	9153	7067
1.Imputed	3	219	29	8
Value-----	R2YR	R3YR	R4YR	R5YR
.m:Missing	20			
.p:Proxy interview, not asked	1178	1275	929	1328
.s:Skip	11			
0.Incorrect	2261	2608	2652	2382
1.Correct	10234	11840	11198	13404
Value-----	S2YR	S3YR	S4YR	S5YR
.m:Missing	6			
.p:Proxy interview, not asked	821	726	470	563
.s:Skip	9			
.u:Unmar	4009	4782	4847	5227
.v:SP NR	131	349	280	501
0.Incorrect	1320	1511	1466	1106
1.Correct	7408	8355	7716	5969
Value-----	R2FYR	R3FYR	R4FYR	R5FYR
-1.Missing, not imputed	1209	1275	929	1328
0.Not Imputed	12491	14108	13767	15762
1.Imputed	4	340	83	24
Value-----	S2FYR	S3FYR	S4FYR	S5FYR
.u:Unmar	4009	4782	4847	5227
.v:SP NR	131	349	280	501
-1.Missing, not imputed	836	726	470	563
0.Not Imputed	8725	9643	9153	7067
1.Imputed	3	223	29	8
Value-----	R2ORIENT_M	R3ORIENT_M	R4ORIENT_M	R5ORIENT_M
.m:Missing	20			
.p:Proxy interview, not asked	1178	1275	929	1328
.s:Skip	11			
0.All incorrect	872	691	786	641
1.One of combination correct	842	974	1029	427
2.Two of combination correct	2626	3484	3372	1872
3.All correct	8155	9299	8663	12846
Value-----	S2ORIENT_M	S3ORIENT_M	S4ORIENT_M	S5ORIENT_M
.m:Missing	6			
.p:Proxy interview, not asked	821	726	470	563

.s:Skip		9			
.u:Unmar		4009	4782	4847	5227
.v:SP NR		131	349	280	501
0.All incorrect		517	357	417	293
1.One of combination correct		486	597	567	192
2.Two of combination correct		1750	2283	2184	864
3.All correct		5975	6629	6014	5726
Value-----		R2FORIENT_M	R3FORIENT_M	R4FORIENT_M	R5FORIENT_M
-1.Missing, not imputed		1209	1275	929	1328
0.Not Imputed		12491	14096	13767	15762
1.Imputed		4	352	83	24
Value-----		S2FORIENT_M	S3FORIENT_M	S4FORIENT_M	S5FORIENT_M
.u:Unmar		4009	4782	4847	5227
.v:SP NR		131	349	280	501
-1.Missing, not imputed		836	726	470	563
0.Not Imputed		8725	9634	9153	7067
1.Imputed		3	232	29	8

## How Constructed

RwDY, RwMO, and RwYR indicate whether the respondent was able to report the date (when the interview took place) correctly, including day of the month, month, and year, respectively. Each of these variables is coded as 1 for a correct answer and 0 for an incorrect answer. RwORIENT\_M indicates the orientation to day of the month, month, and year. It is an MHAS specific variable and the summary measure for these 3 variables. RwORIENT\_M ranges from 0 to 3, the higher score the better oriented. RwDY, RwMO, RwYR, and RwORIENT\_M are constructed using the imputed cognitive function variables provided by MHAS. Using the method of sequence of regressions with a SAS based Imputation and Variance Estimation software (IVEware), the MHAS team completed the imputation of cognitive variables. Unknown amounts were replaced with imputed values using the imputed variables made available in the study website. Please see the MHAS document ([here](#)) titled "Imputation of Cognitive Function Variables in the Mexican Health and Aging Study 2001-2018, Version 1", available in the study website [www.MHASweb.org](http://www.MHASweb.org) for more details on the imputation method used, variables imputed, and covariates included. These variables are set to .p for proxy interviews. In Wave 2, RwDY, RwMO, and RwYR were also set to .s if the cognition section was skipped because the language of the interview was different from Spanish and .m if the responses are missing because they didn't complete the task but completed the rest of the interview. The variables are set to plain missing (.) for respondents who did not respond to the current wave.

The orientation questions were only asked starting in Wave 2 (2003).

RwFDY, RwFMO, RwFYR, and RwFORIENT\_M are flag variables indicating whether any component of RwDY, RwMO, RwYR, and RwORIENT\_M, respectively, was imputed. A code of 0 indicates that no component was imputed. A code of 1 indicates that at least one component was imputed. A code of -1 indicates that at least one component was not imputed because the respondent did not complete the section, including proxy interviews, and this value has been left missing.

SwDY, SwMO, SwYR, SwORIENT\_M, SwFDY, SwFMO, SwFYR, and SwFORIENT\_M are taken from the Wave 'w' spouse's values for RwDY, RwMO, RwYR, RwORIENT\_M, RwFDY, RwFMO, RwFYR, and RwFORIENT\_M, respectively. In addition to the special missing codes used in RwDY, RwMO, RwYR, RwORIENT\_M, RwFDY, RwFMO, RwFYR, and RwFORIENT\_M, if the respondent is not designated as coupled in the current wave and assumed to be single, a special missing value of .u is used. Also, if the respondent is not designated as coupled in the current wave but reports being married, a special missing value of .v is used.

## Cross Wave Differences in MHAS

The orientation questions were only asked starting in Wave 2 (2003).

## Differences with the RAND HRS/Harmonized HRS

Different from the HRS, in the MHAS respondents are not asked to report the day of the week.

## MHAS Variables Used

Wave 2 Imputed Cognition:

E13A\_FLAG\_03      Orientation - Day: Flag if Imputed  
E13A\_IMP\_03      Orientation - Day (Imputed)  
E13B\_FLAG\_03      Orientation - Month: Flag if Imputed  
E13B\_IMP\_03      Orientation - Month (Imputed)  
E13C\_FLAG\_03      Orientation - Year: Flag if Imputed  
E13C\_IMP\_03      Orientation - Year (Imputed)

## Wave 3 Imputed Cognition:

E11A\_FLAG\_12      Orientation - Day: Flag if Imputed  
E11A\_IMP\_12      Orientation - Day (Imputed)  
E11B\_FLAG\_12      Orientation - Month: Flag if Imputed  
E11B\_IMP\_12      Orientation - Month (Imputed)  
E11C\_FLAG\_12      Orientation - Year: Flag if Imputed  
E11C\_IMP\_12      Orientation - Year (Imputed)

## Wave 4 Imputed Cognition:

E11A\_FLAG\_15      Orientation - Day: Flag if Imputed  
E11A\_IMP\_15      Orientation - Day (Imputed)  
E11B\_FLAG\_15      Orientation - Month: Flag if Imputed  
E11B\_IMP\_15      Orientation - Month (Imputed)  
E11C\_FLAG\_15      Orientation - Year: Flag if Imputed  
E11C\_IMP\_15      Orientation - Year (Imputed)

## Wave 5 Imputed Cognition:

E11A\_FLAG\_18      Orientation - Day: Flag if Imputed  
E11A\_IMP\_18      Orientation - Day (Imputed)  
E11B\_FLAG\_18      Orientation - Month: Flag if Imputed  
E11B\_IMP\_18      Orientation - Month (Imputed)  
E11C\_FLAG\_18      Orientation - Year: Flag if Imputed  
E11C\_IMP\_18      Orientation - Year (Imputed)

<b>Serial 7's</b>
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Wave	Variable	Label	Type
4	R4SER7	r4ser7: w4 R Serial 7's number of correct subtractions	Cont
5	R5SER7	r5ser7: w5 R Serial 7's number of correct subtractions	Cont
4	S4SER7	s4ser7: w4 S Serial 7's number of correct subtractions	Cont
5	S5SER7	s5ser7: w5 S Serial 7's number of correct subtractions	Cont
4	R4FSER7	r4fser7: w4 Cognition Flag R Serial 7 subtractions	Categ
5	R5FSER7	r5fser7: w5 Cognition Flag R Serial 7 subtractions	Categ
4	S4FSER7	s4fser7: w4 Cognition Flag S Serial 7 subtractions	Categ
5	S5FSER7	s5fser7: w5 Cognition Flag S Serial 7 subtractions	Categ

### Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R4SER7	13850	3.04	1.57	0.00	5.00
R5SER7	15786	3.10	1.60	0.00	5.00
S4SER7	9182	3.16	1.54	0.00	5.00
S5SER7	7075	3.05	1.61	0.00	5.00
R4FSER7	14779	0.27	0.57	-1.00	1.00
R5FSER7	17114	0.18	0.55	-1.00	1.00
S4FSER7	9652	0.25	0.53	-1.00	1.00
S5FSER7	7638	0.20	0.55	-1.00	1.00

### Categorical Variable Codes

Value-----	R4FSER7	R5FSER7
-1.Missing, not imputed	929	1328
0.Not Imputed	8921	11407
1.Imputed	4929	4379
Value-----	S4FSER7	S5FSER7
.u:Unmar	4847	5227
.v:SP NR	280	501
-1.Missing, not imputed	470	563
0.Not Imputed	6289	5011
1.Imputed	2893	2064

### How Constructed

RwSER7 provides the numbers of correct subtractions in the serial 7's test. This test asks the individual to subtract 7 from the prior number, beginning with 100, for five trials. Correct subtractions are based on the prior number given, so that even if one subtraction is incorrect subsequent trials are evaluated on the given (perhaps wrong) answer. Valid scores are 0-5. RwSER7 is constructed using the imputed cognitive function variables provided by MHAS. Using the method of sequence of regressions with a SAS based Imputation and Variance Estimation software (IVEware), the MHAS team completed the imputation of cognitive variables. Unknown amounts were replaced with imputed values using the imputed variables made available in the study website. Please see the MHAS document ([here](#)) titled "Imputation of Cognitive Function Variables in the Mexican Health and Aging Study 2001-2018, Version 1", available in the study website [www.MHASweb.org](http://www.MHASweb.org) for more details on the imputation method used, variables imputed, and covariates included. RwSER7 is set to special missing .p if the cognition questions were skipped because the interview was by proxy. RwSER7 is set to plain missing (.) for respondents who did not respond to this wave.

The serial 7's questions were only asked starting in Wave 4.

RwFSER7 is a flag variable indicating whether or not any component of RwSER7 was imputed. A code of 0 indicates that no component was imputed. A code of 1 indicates that at least one component was imputed. A code of -1 indicates that at least one component was not imputed because the respondent did not complete the section, including proxy interviews, and this value has been left missing.

SwSER7 and SwFSER7 provide the current wave's spouse numbers of correct subtractions in the serial 7's test and is taken directly from the spouse's value to RwSER7 and RwFSER7, respectively. In addition to the special missing codes used in RwSER7 and RwFSER7, if the respondent is not designated as coupled in the current wave and assumed to be single, a special missing value of .u is used. Also, if the respondent is not designated as coupled in the current wave but reports being married, a special missing value of .v is used.

Cross Wave Differences in MHAS

The serial 7's questions were only asked starting in Wave 4.

Differences with the RAND HRS/Harmonized HRS

No differences known.

MHAS Variables Used

Wave 4 Imputed Cognition:	
E15_FLAG_15	Successive Subtractions - Serial 7: Flag if Imputed
E15_IMP_15	Successive Subtractions - Serial 7 (Imputed)
Wave 5 Imputed Cognition:	
E15_FLAG_18	Successive Subtractions - Serial 7: Flag if Imputed
E15_IMP_18	Successive Subtractions - Serial 7 (Imputed)

<b>Proxy Cognition: JORM IQCODE</b>
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Wave	Variable	Label				Type
1	R1CIQSCORE1	r1ciqscore1:w1	R	JORM	family/friend details	Categ
2	R2CIQSCORE1	r2ciqscore1:w2	R	JORM	family/friend details	Categ
3	R3CIQSCORE1	r3ciqscore1:w3	R	JORM	family/friend details	Categ
4	R4CIQSCORE1	r4ciqscore1:w4	R	JORM	family/friend details	Categ
5	R5CIQSCORE1	r5ciqscore1:w5	R	JORM	family/friend details	Categ
1	S1CIQSCORE1	s1ciqscore1:w1	S	JORM	family/friend details	Categ
2	S2CIQSCORE1	s2ciqscore1:w2	S	JORM	family/friend details	Categ
3	S3CIQSCORE1	s3ciqscore1:w3	S	JORM	family/friend details	Categ
4	S4CIQSCORE1	s4ciqscore1:w4	S	JORM	family/friend details	Categ
5	S5CIQSCORE1	s5ciqscore1:w5	S	JORM	family/friend details	Categ
1	R1FCIQSCORE1	r1fciqscore1:w1	R	JORM	flag family/friend details	Categ
2	R2FCIQSCORE1	r2fciqscore1:w2	R	JORM	flag family/friend details	Categ
3	R3FCIQSCORE1	r3fciqscore1:w3	R	JORM	flag family/friend details	Categ
4	R4FCIQSCORE1	r4fciqscore1:w4	R	JORM	flag family/friend details	Categ
5	R5FCIQSCORE1	r5fciqscore1:w5	R	JORM	flag family/friend details	Categ
1	S1FCIQSCORE1	s1fciqscore1:w1	S	JORM	flag family/friend details	Categ
2	S2FCIQSCORE1	s2fciqscore1:w2	S	JORM	flag family/friend details	Categ
3	S3FCIQSCORE1	s3fciqscore1:w3	S	JORM	flag family/friend details	Categ
4	S4FCIQSCORE1	s4fciqscore1:w4	S	JORM	flag family/friend details	Categ
5	S5FCIQSCORE1	s5fciqscore1:w5	S	JORM	flag family/friend details	Categ
1	R1CIQSCORE2	r1ciqscore2:w1	R	JORM	recent events	Categ
2	R2CIQSCORE2	r2ciqscore2:w2	R	JORM	recent events	Categ
3	R3CIQSCORE2	r3ciqscore2:w3	R	JORM	recent events	Categ
4	R4CIQSCORE2	r4ciqscore2:w4	R	JORM	recent events	Categ
5	R5CIQSCORE2	r5ciqscore2:w5	R	JORM	recent events	Categ
1	S1CIQSCORE2	s1ciqscore2:w1	S	JORM	recent events	Categ
2	S2CIQSCORE2	s2ciqscore2:w2	S	JORM	recent events	Categ
3	S3CIQSCORE2	s3ciqscore2:w3	S	JORM	recent events	Categ
4	S4CIQSCORE2	s4ciqscore2:w4	S	JORM	recent events	Categ
5	S5CIQSCORE2	s5ciqscore2:w5	S	JORM	recent events	Categ
1	R1FCIQSCORE2	r1fciqscore2:w1	R	JORM	flag recent events	Categ
2	R2FCIQSCORE2	r2fciqscore2:w2	R	JORM	flag recent events	Categ
3	R3FCIQSCORE2	r3fciqscore2:w3	R	JORM	flag recent events	Categ
4	R4FCIQSCORE2	r4fciqscore2:w4	R	JORM	flag recent events	Categ
5	R5FCIQSCORE2	r5fciqscore2:w5	R	JORM	flag recent events	Categ
1	S1FCIQSCORE2	s1fciqscore2:w1	S	JORM	flag recent events	Categ
2	S2FCIQSCORE2	s2fciqscore2:w2	S	JORM	flag recent events	Categ
3	S3FCIQSCORE2	s3fciqscore2:w3	S	JORM	flag recent events	Categ
4	S4FCIQSCORE2	s4fciqscore2:w4	S	JORM	flag recent events	Categ
5	S5FCIQSCORE2	s5fciqscore2:w5	S	JORM	flag recent events	Categ
1	R1CIQSCORE3	r1ciqscore3:w1	R	JORM	recent conversations	Categ
2	R2CIQSCORE3	r2ciqscore3:w2	R	JORM	recent conversations	Categ
3	R3CIQSCORE3	r3ciqscore3:w3	R	JORM	recent conversations	Categ
4	R4CIQSCORE3	r4ciqscore3:w4	R	JORM	recent conversations	Categ
5	R5CIQSCORE3	r5ciqscore3:w5	R	JORM	recent conversations	Categ
1	S1CIQSCORE3	s1ciqscore3:w1	S	JORM	recent conversations	Categ
2	S2CIQSCORE3	s2ciqscore3:w2	S	JORM	recent conversations	Categ
3	S3CIQSCORE3	s3ciqscore3:w3	S	JORM	recent conversations	Categ
4	S4CIQSCORE3	s4ciqscore3:w4	S	JORM	recent conversations	Categ
5	S5CIQSCORE3	s5ciqscore3:w5	S	JORM	recent conversations	Categ

1	R1FCIQSCORE3	r1fciqscore3:w1	R	JORM	flag	recent	conversations	Categ	
2	R2FCIQSCORE3	r2fciqscore3:w2	R	JORM	flag	recent	conversations	Categ	
3	R3FCIQSCORE3	r3fciqscore3:w3	R	JORM	flag	recent	conversations	Categ	
4	R4FCIQSCORE3	r4fciqscore3:w4	R	JORM	flag	recent	conversations	Categ	
5	R5FCIQSCORE3	r5fciqscore3:w5	R	JORM	flag	recent	conversations	Categ	
1	S1FCIQSCORE3	s1fciqscore3:w1	S	JORM	flag	recent	conversations	Categ	
2	S2FCIQSCORE3	s2fciqscore3:w2	S	JORM	flag	recent	conversations	Categ	
3	S3FCIQSCORE3	s3fciqscore3:w3	S	JORM	flag	recent	conversations	Categ	
4	S4FCIQSCORE3	s4fciqscore3:w4	S	JORM	flag	recent	conversations	Categ	
5	S5FCIQSCORE3	s5fciqscore3:w5	S	JORM	flag	recent	conversations	Categ	
1	R1CIQSCORE4	r1ciqscore4:w1	R	JORM	address	and	telephone number	Categ	
2	R2CIQSCORE4	r2ciqscore4:w2	R	JORM	address	and	telephone number	Categ	
3	R3CIQSCORE4	r3ciqscore4:w3	R	JORM	address	and	telephone number	Categ	
4	R4CIQSCORE4	r4ciqscore4:w4	R	JORM	address	and	telephone number	Categ	
5	R5CIQSCORE4	r5ciqscore4:w5	R	JORM	address	and	telephone number	Categ	
1	S1CIQSCORE4	s1ciqscore4:w1	S	JORM	address	and	telephone number	Categ	
2	S2CIQSCORE4	s2ciqscore4:w2	S	JORM	address	and	telephone number	Categ	
3	S3CIQSCORE4	s3ciqscore4:w3	S	JORM	address	and	telephone number	Categ	
4	S4CIQSCORE4	s4ciqscore4:w4	S	JORM	address	and	telephone number	Categ	
5	S5CIQSCORE4	s5ciqscore4:w5	S	JORM	address	and	telephone number	Categ	
1	R1FCIQSCORE4	r1fciqscore4:w1	R	JORM	flag	address	and	telephone number	Categ
2	R2FCIQSCORE4	r2fciqscore4:w2	R	JORM	flag	address	and	telephone number	Categ
3	R3FCIQSCORE4	r3fciqscore4:w3	R	JORM	flag	address	and	telephone number	Categ
4	R4FCIQSCORE4	r4fciqscore4:w4	R	JORM	flag	address	and	telephone number	Categ
5	R5FCIQSCORE4	r5fciqscore4:w5	R	JORM	flag	address	and	telephone number	Categ
1	S1FCIQSCORE4	s1fciqscore4:w1	S	JORM	flag	address	and	telephone number	Categ
2	S2FCIQSCORE4	s2fciqscore4:w2	S	JORM	flag	address	and	telephone number	Categ
3	S3FCIQSCORE4	s3fciqscore4:w3	S	JORM	flag	address	and	telephone number	Categ
4	S4FCIQSCORE4	s4fciqscore4:w4	S	JORM	flag	address	and	telephone number	Categ
5	S5FCIQSCORE4	s5fciqscore4:w5	S	JORM	flag	address	and	telephone number	Categ
1	R1CIQSCORE5	r1ciqscore5:w1	R	JORM	day	and	month	Categ	
2	R2CIQSCORE5	r2ciqscore5:w2	R	JORM	day	and	month	Categ	
3	R3CIQSCORE5	r3ciqscore5:w3	R	JORM	day	and	month	Categ	
4	R4CIQSCORE5	r4ciqscore5:w4	R	JORM	day	and	month	Categ	
5	R5CIQSCORE5	r5ciqscore5:w5	R	JORM	day	and	month	Categ	
1	S1CIQSCORE5	s1ciqscore5:w1	S	JORM	day	and	month	Categ	
2	S2CIQSCORE5	s2ciqscore5:w2	S	JORM	day	and	month	Categ	
3	S3CIQSCORE5	s3ciqscore5:w3	S	JORM	day	and	month	Categ	
4	S4CIQSCORE5	s4ciqscore5:w4	S	JORM	day	and	month	Categ	
5	S5CIQSCORE5	s5ciqscore5:w5	S	JORM	day	and	month	Categ	
1	R1FCIQSCORE5	r1fciqscore5:w1	R	JORM	flag	day	and	month	Categ
2	R2FCIQSCORE5	r2fciqscore5:w2	R	JORM	flag	day	and	month	Categ
3	R3FCIQSCORE5	r3fciqscore5:w3	R	JORM	flag	day	and	month	Categ
4	R4FCIQSCORE5	r4fciqscore5:w4	R	JORM	flag	day	and	month	Categ
5	R5FCIQSCORE5	r5fciqscore5:w5	R	JORM	flag	day	and	month	Categ
1	S1FCIQSCORE5	s1fciqscore5:w1	S	JORM	flag	day	and	month	Categ
2	S2FCIQSCORE5	s2fciqscore5:w2	S	JORM	flag	day	and	month	Categ
3	S3FCIQSCORE5	s3fciqscore5:w3	S	JORM	flag	day	and	month	Categ
4	S4FCIQSCORE5	s4fciqscore5:w4	S	JORM	flag	day	and	month	Categ
5	S5FCIQSCORE5	s5fciqscore5:w5	S	JORM	flag	day	and	month	Categ
1	R1CIQSCORE6	r1ciqscore6:w1	R	JORM	where	things	are usually kept	Categ	
2	R2CIQSCORE6	r2ciqscore6:w2	R	JORM	where	things	are usually kept	Categ	
3	R3CIQSCORE6	r3ciqscore6:w3	R	JORM	where	things	are usually kept	Categ	

4	R4CIQSCORE6	r4ciqscore6:w4	R	JORM	where things are usually kept	Categ
5	R5CIQSCORE6	r5ciqscore6:w5	R	JORM	where things are usually kept	Categ
1	S1CIQSCORE6	s1ciqscore6:w1	S	JORM	where things are usually kept	Categ
2	S2CIQSCORE6	s2ciqscore6:w2	S	JORM	where things are usually kept	Categ
3	S3CIQSCORE6	s3ciqscore6:w3	S	JORM	where things are usually kept	Categ
4	S4CIQSCORE6	s4ciqscore6:w4	S	JORM	where things are usually kept	Categ
5	S5CIQSCORE6	s5ciqscore6:w5	S	JORM	where things are usually kept	Categ
1	R1FCIQSCORE6	r1fciqscore6:w1	R	JORM	flag where things are usually kept	Categ
2	R2FCIQSCORE6	r2fciqscore6:w2	R	JORM	flag where things are usually kept	Categ
3	R3FCIQSCORE6	r3fciqscore6:w3	R	JORM	flag where things are usually kept	Categ
4	R4FCIQSCORE6	r4fciqscore6:w4	R	JORM	flag where things are usually kept	Categ
5	R5FCIQSCORE6	r5fciqscore6:w5	R	JORM	flag where things are usually kept	Categ
1	S1FCIQSCORE6	s1fciqscore6:w1	S	JORM	flag where things are usually kept	Categ
2	S2FCIQSCORE6	s2fciqscore6:w2	S	JORM	flag where things are usually kept	Categ
3	S3FCIQSCORE6	s3fciqscore6:w3	S	JORM	flag where things are usually kept	Categ
4	S4FCIQSCORE6	s4fciqscore6:w4	S	JORM	flag where things are usually kept	Categ
5	S5FCIQSCORE6	s5fciqscore6:w5	S	JORM	flag where things are usually kept	Categ
1	R1CIQSCORE7	r1ciqscore7:w1	R	JORM	where to find things	Categ
2	R2CIQSCORE7	r2ciqscore7:w2	R	JORM	where to find things	Categ
3	R3CIQSCORE7	r3ciqscore7:w3	R	JORM	where to find things	Categ
4	R4CIQSCORE7	r4ciqscore7:w4	R	JORM	where to find things	Categ
5	R5CIQSCORE7	r5ciqscore7:w5	R	JORM	where to find things	Categ
1	S1CIQSCORE7	s1ciqscore7:w1	S	JORM	where to find things	Categ
2	S2CIQSCORE7	s2ciqscore7:w2	S	JORM	where to find things	Categ
3	S3CIQSCORE7	s3ciqscore7:w3	S	JORM	where to find things	Categ
4	S4CIQSCORE7	s4ciqscore7:w4	S	JORM	where to find things	Categ
5	S5CIQSCORE7	s5ciqscore7:w5	S	JORM	where to find things	Categ
1	R1FCIQSCORE7	r1fciqscore7:w1	R	JORM	flag where to find things	Categ
2	R2FCIQSCORE7	r2fciqscore7:w2	R	JORM	flag where to find things	Categ
3	R3FCIQSCORE7	r3fciqscore7:w3	R	JORM	flag where to find things	Categ
4	R4FCIQSCORE7	r4fciqscore7:w4	R	JORM	flag where to find things	Categ
5	R5FCIQSCORE7	r5fciqscore7:w5	R	JORM	flag where to find things	Categ
1	S1FCIQSCORE7	s1fciqscore7:w1	S	JORM	flag where to find things	Categ
2	S2FCIQSCORE7	s2fciqscore7:w2	S	JORM	flag where to find things	Categ
3	S3FCIQSCORE7	s3fciqscore7:w3	S	JORM	flag where to find things	Categ
4	S4FCIQSCORE7	s4fciqscore7:w4	S	JORM	flag where to find things	Categ
5	S5FCIQSCORE7	s5fciqscore7:w5	S	JORM	flag where to find things	Categ
1	R1CIQSCORE8	r1ciqscore8:w1	R	JORM	work familiar machines	Categ
2	R2CIQSCORE8	r2ciqscore8:w2	R	JORM	work familiar machines	Categ
3	R3CIQSCORE8	r3ciqscore8:w3	R	JORM	work familiar machines	Categ
4	R4CIQSCORE8	r4ciqscore8:w4	R	JORM	work familiar machines	Categ
5	R5CIQSCORE8	r5ciqscore8:w5	R	JORM	work familiar machines	Categ
1	S1CIQSCORE8	s1ciqscore8:w1	S	JORM	work familiar machines	Categ
2	S2CIQSCORE8	s2ciqscore8:w2	S	JORM	work familiar machines	Categ
3	S3CIQSCORE8	s3ciqscore8:w3	S	JORM	work familiar machines	Categ
4	S4CIQSCORE8	s4ciqscore8:w4	S	JORM	work familiar machines	Categ
5	S5CIQSCORE8	s5ciqscore8:w5	S	JORM	work familiar machines	Categ
1	R1FCIQSCORE8	r1fciqscore8:w1	R	JORM	flag work familiar machines	Categ
2	R2FCIQSCORE8	r2fciqscore8:w2	R	JORM	flag work familiar machines	Categ
3	R3FCIQSCORE8	r3fciqscore8:w3	R	JORM	flag work familiar machines	Categ
4	R4FCIQSCORE8	r4fciqscore8:w4	R	JORM	flag work familiar machines	Categ
5	R5FCIQSCORE8	r5fciqscore8:w5	R	JORM	flag work familiar machines	Categ
1	S1FCIQSCORE8	s1fciqscore8:w1	S	JORM	flag work familiar machines	Categ



2	S2FCIQSCORE8	s2fciqscore8:w2	S	JORM	flag	work	familiar	machines	Categ			
3	S3FCIQSCORE8	s3fciqscore8:w3	S	JORM	flag	work	familiar	machines	Categ			
4	S4FCIQSCORE8	s4fciqscore8:w4	S	JORM	flag	work	familiar	machines	Categ			
5	S5FCIQSCORE8	s5fciqscore8:w5	S	JORM	flag	work	familiar	machines	Categ			
1	R1CIQSCORE9	r1ciqscore9:w1	R	JORM	new	gadget	or	machine	Categ			
2	R2CIQSCORE9	r2ciqscore9:w2	R	JORM	new	gadget	or	machine	Categ			
3	R3CIQSCORE9	r3ciqscore9:w3	R	JORM	new	gadget	or	machine	Categ			
4	R4CIQSCORE9	r4ciqscore9:w4	R	JORM	new	gadget	or	machine	Categ			
5	R5CIQSCORE9	r5ciqscore9:w5	R	JORM	new	gadget	or	machine	Categ			
1	S1CIQSCORE9	s1ciqscore9:w1	S	JORM	new	gadget	or	machine	Categ			
2	S2CIQSCORE9	s2ciqscore9:w2	S	JORM	new	gadget	or	machine	Categ			
3	S3CIQSCORE9	s3ciqscore9:w3	S	JORM	new	gadget	or	machine	Categ			
4	S4CIQSCORE9	s4ciqscore9:w4	S	JORM	new	gadget	or	machine	Categ			
5	S5CIQSCORE9	s5ciqscore9:w5	S	JORM	new	gadget	or	machine	Categ			
1	R1FCIQSCORE9	rlfciqscore9:w1	R	JORM	flag	new	gadget	or	machine	Categ		
2	R2FCIQSCORE9	r2fciqscore9:w2	R	JORM	flag	new	gadget	or	machine	Categ		
3	R3FCIQSCORE9	r3fciqscore9:w3	R	JORM	flag	new	gadget	or	machine	Categ		
4	R4FCIQSCORE9	r4fciqscore9:w4	R	JORM	flag	new	gadget	or	machine	Categ		
5	R5FCIQSCORE9	r5fciqscore9:w5	R	JORM	flag	new	gadget	or	machine	Categ		
1	S1FCIQSCORE9	slfciqscore9:w1	S	JORM	flag	new	gadget	or	machine	Categ		
2	S2FCIQSCORE9	s2fciqscore9:w2	S	JORM	flag	new	gadget	or	machine	Categ		
3	S3FCIQSCORE9	s3fciqscore9:w3	S	JORM	flag	new	gadget	or	machine	Categ		
4	S4FCIQSCORE9	s4fciqscore9:w4	S	JORM	flag	new	gadget	or	machine	Categ		
5	S5FCIQSCORE9	s5fciqscore9:w5	S	JORM	flag	new	gadget	or	machine	Categ		
1	R1CIQSCORE10	r1ciqscore10:w1	R	JORM	new	things	in	general	Categ			
2	R2CIQSCORE10	r2ciqscore10:w2	R	JORM	new	things	in	general	Categ			
3	R3CIQSCORE10	r3ciqscore10:w3	R	JORM	new	things	in	general	Categ			
4	R4CIQSCORE10	r4ciqscore10:w4	R	JORM	new	things	in	general	Categ			
5	R5CIQSCORE10	r5ciqscore10:w5	R	JORM	new	things	in	general	Categ			
1	S1CIQSCORE10	s1ciqscore10:w1	S	JORM	new	things	in	general	Categ			
2	S2CIQSCORE10	s2ciqscore10:w2	S	JORM	new	things	in	general	Categ			
3	S3CIQSCORE10	s3ciqscore10:w3	S	JORM	new	things	in	general	Categ			
4	S4CIQSCORE10	s4ciqscore10:w4	S	JORM	new	things	in	general	Categ			
5	S5CIQSCORE10	s5ciqscore10:w5	S	JORM	new	things	in	general	Categ			
1	R1FCIQSCORE10	rlfciqscore10:w1	R	JORM	flag	new	things	in	general	Categ		
2	R2FCIQSCORE10	r2fciqscore10:w2	R	JORM	flag	new	things	in	general	Categ		
3	R3FCIQSCORE10	r3fciqscore10:w3	R	JORM	flag	new	things	in	general	Categ		
4	R4FCIQSCORE10	r4fciqscore10:w4	R	JORM	flag	new	things	in	general	Categ		
5	R5FCIQSCORE10	r5fciqscore10:w5	R	JORM	flag	new	things	in	general	Categ		
1	S1FCIQSCORE10	slfciqscore10:w1	S	JORM	flag	new	things	in	general	Categ		
2	S2FCIQSCORE10	s2fciqscore10:w2	S	JORM	flag	new	things	in	general	Categ		
3	S3FCIQSCORE10	s3fciqscore10:w3	S	JORM	flag	new	things	in	general	Categ		
4	S4FCIQSCORE10	s4fciqscore10:w4	S	JORM	flag	new	things	in	general	Categ		
5	S5FCIQSCORE10	s5fciqscore10:w5	S	JORM	flag	new	things	in	general	Categ		
1	R1CIQSCORE11	r1ciqscore11:w1	R	JORM	story	in	a	book	or	on	TV	Categ
2	R2CIQSCORE11	r2ciqscore11:w2	R	JORM	story	in	a	book	or	on	TV	Categ
3	R3CIQSCORE11	r3ciqscore11:w3	R	JORM	story	in	a	book	or	on	TV	Categ
4	R4CIQSCORE11	r4ciqscore11:w4	R	JORM	story	in	a	book	or	on	TV	Categ
5	R5CIQSCORE11	r5ciqscore11:w5	R	JORM	story	in	a	book	or	on	TV	Categ
1	S1CIQSCORE11	s1ciqscore11:w1	S	JORM	story	in	a	book	or	on	TV	Categ
2	S2CIQSCORE11	s2ciqscore11:w2	S	JORM	story	in	a	book	or	on	TV	Categ
3	S3CIQSCORE11	s3ciqscore11:w3	S	JORM	story	in	a	book	or	on	TV	Categ
4	S4CIQSCORE11	s4ciqscore11:w4	S	JORM	story	in	a	book	or	on	TV	Categ
5	S5CIQSCORE11	s5ciqscore11:w5	S	JORM	story	in	a	book	or	on	TV	Categ

1	R1FCIQSCORE11	r1fciqscore11:w1	R	JORM	flag story in a book or on TV	Categ
2	R2FCIQSCORE11	r2fciqscore11:w2	R	JORM	flag story in a book or on TV	Categ
3	R3FCIQSCORE11	r3fciqscore11:w3	R	JORM	flag story in a book or on TV	Categ
4	R4FCIQSCORE11	r4fciqscore11:w4	R	JORM	flag story in a book or on TV	Categ
5	R5FCIQSCORE11	r5fciqscore11:w5	R	JORM	flag story in a book or on TV	Categ
1	S1FCIQSCORE11	s1fciqscore11:w1	S	JORM	flag story in a book or on TV	Categ
2	S2FCIQSCORE11	s2fciqscore11:w2	S	JORM	flag story in a book or on TV	Categ
3	S3FCIQSCORE11	s3fciqscore11:w3	S	JORM	flag story in a book or on TV	Categ
4	S4FCIQSCORE11	s4fciqscore11:w4	S	JORM	flag story in a book or on TV	Categ
5	S5FCIQSCORE11	s5fciqscore11:w5	S	JORM	flag story in a book or on TV	Categ
1	R1CIQSCORE12	r1ciqscore12:w1	R	JORM	making decisions on everyday matters	Categ
2	R2CIQSCORE12	r2ciqscore12:w2	R	JORM	making decisions on everyday matters	Categ
3	R3CIQSCORE12	r3ciqscore12:w3	R	JORM	making decisions on everyday matters	Categ
4	R4CIQSCORE12	r4ciqscore12:w4	R	JORM	making decisions on everyday matters	Categ
5	R5CIQSCORE12	r5ciqscore12:w5	R	JORM	making decisions on everyday matters	Categ
1	S1CIQSCORE12	s1ciqscore12:w1	S	JORM	making decisions on everyday matters	Categ
2	S2CIQSCORE12	s2ciqscore12:w2	S	JORM	making decisions on everyday matters	Categ
3	S3CIQSCORE12	s3ciqscore12:w3	S	JORM	making decisions on everyday matters	Categ
4	S4CIQSCORE12	s4ciqscore12:w4	S	JORM	making decisions on everyday matters	Categ
5	S5CIQSCORE12	s5ciqscore12:w5	S	JORM	making decisions on everyday matters	Categ
1	R1FCIQSCORE12	r1fciqscore12:w1	R	JORM	flag making decisions on everyday ma	Categ
2	R2FCIQSCORE12	r2fciqscore12:w2	R	JORM	flag making decisions on everyday ma	Categ
3	R3FCIQSCORE12	r3fciqscore12:w3	R	JORM	flag making decisions on everyday ma	Categ
4	R4FCIQSCORE12	r4fciqscore12:w4	R	JORM	flag making decisions on everyday ma	Categ
5	R5FCIQSCORE12	r5fciqscore12:w5	R	JORM	flag making decisions on everyday ma	Categ
1	S1FCIQSCORE12	s1fciqscore12:w1	S	JORM	flag making decisions on everyday ma	Categ
2	S2FCIQSCORE12	s2fciqscore12:w2	S	JORM	flag making decisions on everyday ma	Categ
3	S3FCIQSCORE12	s3fciqscore12:w3	S	JORM	flag making decisions on everyday ma	Categ
4	S4FCIQSCORE12	s4fciqscore12:w4	S	JORM	flag making decisions on everyday ma	Categ
5	S5FCIQSCORE12	s5fciqscore12:w5	S	JORM	flag making decisions on everyday ma	Categ
1	R1CIQSCORE13	r1ciqscore13:w1	R	JORM	handling money for shopping	Categ
2	R2CIQSCORE13	r2ciqscore13:w2	R	JORM	handling money for shopping	Categ
3	R3CIQSCORE13	r3ciqscore13:w3	R	JORM	handling money for shopping	Categ
4	R4CIQSCORE13	r4ciqscore13:w4	R	JORM	handling money for shopping	Categ
5	R5CIQSCORE13	r5ciqscore13:w5	R	JORM	handling money for shopping	Categ
1	S1CIQSCORE13	s1ciqscore13:w1	S	JORM	handling money for shopping	Categ
2	S2CIQSCORE13	s2ciqscore13:w2	S	JORM	handling money for shopping	Categ
3	S3CIQSCORE13	s3ciqscore13:w3	S	JORM	handling money for shopping	Categ
4	S4CIQSCORE13	s4ciqscore13:w4	S	JORM	handling money for shopping	Categ
5	S5CIQSCORE13	s5ciqscore13:w5	S	JORM	handling money for shopping	Categ
1	R1FCIQSCORE13	r1fciqscore13:w1	R	JORM	flag handling money for shopping	Categ
2	R2FCIQSCORE13	r2fciqscore13:w2	R	JORM	flag handling money for shopping	Categ
3	R3FCIQSCORE13	r3fciqscore13:w3	R	JORM	flag handling money for shopping	Categ
4	R4FCIQSCORE13	r4fciqscore13:w4	R	JORM	flag handling money for shopping	Categ
5	R5FCIQSCORE13	r5fciqscore13:w5	R	JORM	flag handling money for shopping	Categ
1	S1FCIQSCORE13	s1fciqscore13:w1	S	JORM	flag handling money for shopping	Categ
2	S2FCIQSCORE13	s2fciqscore13:w2	S	JORM	flag handling money for shopping	Categ
3	S3FCIQSCORE13	s3fciqscore13:w3	S	JORM	flag handling money for shopping	Categ
4	S4FCIQSCORE13	s4fciqscore13:w4	S	JORM	flag handling money for shopping	Categ
5	S5FCIQSCORE13	s5fciqscore13:w5	S	JORM	flag handling money for shopping	Categ
1	R1CIQSCORE14	r1ciqscore14:w1	R	JORM	handling financial matters	Categ
2	R2CIQSCORE14	r2ciqscore14:w2	R	JORM	handling financial matters	Categ
3	R3CIQSCORE14	r3ciqscore14:w3	R	JORM	handling financial matters	Categ

4	R4CIQSCORE14	r4ciqscore14:w4	R	JORM	handling	financial	matters		Categ	
5	R5CIQSCORE14	r5ciqscore14:w5	R	JORM	handling	financial	matters		Categ	
1	S1CIQSCORE14	s1ciqscore14:w1	S	JORM	handling	financial	matters		Categ	
2	S2CIQSCORE14	s2ciqscore14:w2	S	JORM	handling	financial	matters		Categ	
3	S3CIQSCORE14	s3ciqscore14:w3	S	JORM	handling	financial	matters		Categ	
4	S4CIQSCORE14	s4ciqscore14:w4	S	JORM	handling	financial	matters		Categ	
5	S5CIQSCORE14	s5ciqscore14:w5	S	JORM	handling	financial	matters		Categ	
1	R1FCIQSCORE14	r1fciqscore14:w1	R	JORM	flag	handling	financial	matters	Categ	
2	R2FCIQSCORE14	r2fciqscore14:w2	R	JORM	flag	handling	financial	matters	Categ	
3	R3FCIQSCORE14	r3fciqscore14:w3	R	JORM	flag	handling	financial	matters	Categ	
4	R4FCIQSCORE14	r4fciqscore14:w4	R	JORM	flag	handling	financial	matters	Categ	
5	R5FCIQSCORE14	r5fciqscore14:w5	R	JORM	flag	handling	financial	matters	Categ	
1	S1FCIQSCORE14	s1fciqscore14:w1	S	JORM	flag	handling	financial	matters	Categ	
2	S2FCIQSCORE14	s2fciqscore14:w2	S	JORM	flag	handling	financial	matters	Categ	
3	S3FCIQSCORE14	s3fciqscore14:w3	S	JORM	flag	handling	financial	matters	Categ	
4	S4FCIQSCORE14	s4fciqscore14:w4	S	JORM	flag	handling	financial	matters	Categ	
5	S5FCIQSCORE14	s5fciqscore14:w5	S	JORM	flag	handling	financial	matters	Categ	
1	R1CIQSCORE15	r1ciqscore15:w1	R	JORM	handling	other	everyday	arithmetic	pr	Categ
2	R2CIQSCORE15	r2ciqscore15:w2	R	JORM	handling	other	everyday	arithmetic	pr	Categ
3	R3CIQSCORE15	r3ciqscore15:w3	R	JORM	handling	other	everyday	arithmetic	pr	Categ
4	R4CIQSCORE15	r4ciqscore15:w4	R	JORM	handling	other	everyday	arithmetic	pr	Categ
5	R5CIQSCORE15	r5ciqscore15:w5	R	JORM	handling	other	everyday	arithmetic	pr	Categ
1	S1CIQSCORE15	s1ciqscore15:w1	S	JORM	handling	other	everyday	arithmetic	pr	Categ
2	S2CIQSCORE15	s2ciqscore15:w2	S	JORM	handling	other	everyday	arithmetic	pr	Categ
3	S3CIQSCORE15	s3ciqscore15:w3	S	JORM	handling	other	everyday	arithmetic	pr	Categ
4	S4CIQSCORE15	s4ciqscore15:w4	S	JORM	handling	other	everyday	arithmetic	pr	Categ
5	S5CIQSCORE15	s5ciqscore15:w5	S	JORM	handling	other	everyday	arithmetic	pr	Categ
1	R1FCIQSCORE15	r1fciqscore15:w1	R	JORM	flag	handling	other	everyday	arithme	Categ
2	R2FCIQSCORE15	r2fciqscore15:w2	R	JORM	flag	handling	other	everyday	arithme	Categ
3	R3FCIQSCORE15	r3fciqscore15:w3	R	JORM	flag	handling	other	everyday	arithme	Categ
4	R4FCIQSCORE15	r4fciqscore15:w4	R	JORM	flag	handling	other	everyday	arithme	Categ
5	R5FCIQSCORE15	r5fciqscore15:w5	R	JORM	flag	handling	other	everyday	arithme	Categ
1	S1FCIQSCORE15	s1fciqscore15:w1	S	JORM	flag	handling	other	everyday	arithme	Categ
2	S2FCIQSCORE15	s2fciqscore15:w2	S	JORM	flag	handling	other	everyday	arithme	Categ
3	S3FCIQSCORE15	s3fciqscore15:w3	S	JORM	flag	handling	other	everyday	arithme	Categ
4	S4FCIQSCORE15	s4fciqscore15:w4	S	JORM	flag	handling	other	everyday	arithme	Categ
5	S5FCIQSCORE15	s5fciqscore15:w5	S	JORM	flag	handling	other	everyday	arithme	Categ
1	R1CIQSCORE16	r1ciqscore16:w1	R	JORM	reason	things	through		Categ	
2	R2CIQSCORE16	r2ciqscore16:w2	R	JORM	reason	things	through		Categ	
3	R3CIQSCORE16	r3ciqscore16:w3	R	JORM	reason	things	through		Categ	
4	R4CIQSCORE16	r4ciqscore16:w4	R	JORM	reason	things	through		Categ	
5	R5CIQSCORE16	r5ciqscore16:w5	R	JORM	reason	things	through		Categ	
1	S1CIQSCORE16	s1ciqscore16:w1	S	JORM	reason	things	through		Categ	
2	S2CIQSCORE16	s2ciqscore16:w2	S	JORM	reason	things	through		Categ	
3	S3CIQSCORE16	s3ciqscore16:w3	S	JORM	reason	things	through		Categ	
4	S4CIQSCORE16	s4ciqscore16:w4	S	JORM	reason	things	through		Categ	
5	S5CIQSCORE16	s5ciqscore16:w5	S	JORM	reason	things	through		Categ	
1	R1FCIQSCORE16	r1fciqscore16:w1	R	JORM	flag	reason	things	through	Categ	
2	R2FCIQSCORE16	r2fciqscore16:w2	R	JORM	flag	reason	things	through	Categ	
3	R3FCIQSCORE16	r3fciqscore16:w3	R	JORM	flag	reason	things	through	Categ	
4	R4FCIQSCORE16	r4fciqscore16:w4	R	JORM	flag	reason	things	through	Categ	
5	R5FCIQSCORE16	r5fciqscore16:w5	R	JORM	flag	reason	things	through	Categ	
1	S1FCIQSCORE16	s1fciqscore16:w1	S	JORM	flag	reason	things	through	Categ	

2	S2FCIQSCORE16	s2fciqscore16:w2	S	JORM	flag	reason	things	through	Categ
3	S3FCIQSCORE16	s3fciqscore16:w3	S	JORM	flag	reason	things	through	Categ
4	S4FCIQSCORE16	s4fciqscore16:w4	S	JORM	flag	reason	things	through	Categ
5	S5FCIQSCORE16	s5fciqscore16:w5	S	JORM	flag	reason	things	through	Categ
1	R1CJORMSCORE	r1cjormscore:w1	R	JORM	average	score			Cont
2	R2CJORMSCORE	r2cjormscore:w2	R	JORM	average	score			Cont
3	R3CJORMSCORE	r3cjormscore:w3	R	JORM	average	score			Cont
4	R4CJORMSCORE	r4cjormscore:w4	R	JORM	average	score			Cont
5	R5CJORMSCORE	r5cjormscore:w5	R	JORM	average	score			Cont
1	S1CJORMSCORE	s1cjormscore:w1	S	JORM	average	score			Cont
2	S2CJORMSCORE	s2cjormscore:w2	S	JORM	average	score			Cont
3	S3CJORMSCORE	s3cjormscore:w3	S	JORM	average	score			Cont
4	S4CJORMSCORE	s4cjormscore:w4	S	JORM	average	score			Cont
5	S5CJORMSCORE	s5cjormscore:w5	S	JORM	average	score			Cont

## Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R1CIQSCORE1	1032	3.16	0.59	1.00	5.00
R2CIQSCORE1	1178	3.13	0.56	1.00	5.00
R3CIQSCORE1	1275	3.31	0.80	1.00	5.00
R4CIQSCORE1	929	3.38	0.76	1.00	5.00
R5CIQSCORE1	1328	3.26	0.74	1.00	5.00
S1CIQSCORE1	660	3.09	0.52	1.00	5.00
S2CIQSCORE1	821	3.10	0.54	1.00	5.00
S3CIQSCORE1	726	3.17	0.73	1.00	5.00
S4CIQSCORE1	470	3.26	0.73	1.00	5.00
S5CIQSCORE1	563	3.23	0.65	1.00	5.00
R1FCIQSCORE1	15186	-0.93	0.26	-1.00	1.00
R2FCIQSCORE1	13704	-0.91	0.28	-1.00	1.00
R3FCIQSCORE1	15723	-0.92	0.27	-1.00	1.00
R4FCIQSCORE1	14779	-0.94	0.24	-1.00	1.00
R5FCIQSCORE1	17114	-0.92	0.27	-1.00	1.00
S1FCIQSCORE1	10648	-0.94	0.25	-1.00	1.00
S2FCIQSCORE1	9564	-0.91	0.28	-1.00	1.00
S3FCIQSCORE1	10592	-0.93	0.25	-1.00	1.00
S4FCIQSCORE1	9652	-0.95	0.22	-1.00	1.00
S5FCIQSCORE1	7638	-0.92	0.27	-1.00	1.00
R1CIQSCORE2	1032	3.14	0.57	1.00	5.00
R2CIQSCORE2	1178	3.12	0.53	1.00	5.00
R3CIQSCORE2	1275	3.25	0.75	1.00	5.00
R4CIQSCORE2	929	3.34	0.75	1.00	5.00
R5CIQSCORE2	1328	3.22	0.72	1.00	5.00
S1CIQSCORE2	660	3.08	0.54	1.00	5.00
S2CIQSCORE2	821	3.09	0.50	1.00	5.00
S3CIQSCORE2	726	3.12	0.64	1.00	5.00
S4CIQSCORE2	470	3.23	0.68	1.00	5.00
S5CIQSCORE2	563	3.19	0.66	1.00	5.00
R1FCIQSCORE2	15186	-0.93	0.26	-1.00	1.00
R2FCIQSCORE2	13704	-0.91	0.28	-1.00	1.00
R3FCIQSCORE2	15723	-0.92	0.27	-1.00	1.00
R4FCIQSCORE2	14779	-0.94	0.24	-1.00	1.00
R5FCIQSCORE2	17114	-0.92	0.27	-1.00	1.00
S1FCIQSCORE2	10648	-0.94	0.25	-1.00	1.00

S2FCIQSCORE2	9564	-0.91	0.28	-1.00	1.00
S3FCIQSCORE2	10592	-0.93	0.25	-1.00	1.00
S4FCIQSCORE2	9652	-0.95	0.22	-1.00	0.00
S5FCIQSCORE2	7638	-0.93	0.27	-1.00	1.00
R1CIQSCORE3	1032	3.14	0.57	1.00	5.00
R2CIQSCORE3	1178	3.16	0.54	1.00	5.00
R3CIQSCORE3	1275	3.29	0.78	1.00	5.00
R4CIQSCORE3	929	3.37	0.78	1.00	5.00
R5CIQSCORE3	1328	3.27	0.72	1.00	5.00
S1CIQSCORE3	660	3.05	0.52	1.00	5.00
S2CIQSCORE3	821	3.13	0.50	1.00	5.00
S3CIQSCORE3	726	3.16	0.69	1.00	5.00
S4CIQSCORE3	470	3.26	0.72	1.00	5.00
S5CIQSCORE3	563	3.22	0.66	1.00	5.00
R1FCIQSCORE3	15186	-0.93	0.26	-1.00	1.00
R2FCIQSCORE3	13704	-0.91	0.28	-1.00	1.00
R3FCIQSCORE3	15723	-0.92	0.27	-1.00	1.00
R4FCIQSCORE3	14779	-0.94	0.24	-1.00	1.00
R5FCIQSCORE3	17114	-0.92	0.27	-1.00	1.00
S1FCIQSCORE3	10648	-0.94	0.25	-1.00	1.00
S2FCIQSCORE3	9564	-0.91	0.28	-1.00	1.00
S3FCIQSCORE3	10592	-0.93	0.25	-1.00	1.00
S4FCIQSCORE3	9652	-0.95	0.22	-1.00	0.00
S5FCIQSCORE3	7638	-0.93	0.26	-1.00	1.00
R1CIQSCORE4	1032	3.14	0.61	1.00	5.00
R2CIQSCORE4	1178	3.14	0.53	1.00	5.00
R3CIQSCORE4	1275	3.31	0.79	1.00	5.00
R4CIQSCORE4	929	3.37	0.80	1.00	5.00
R5CIQSCORE4	1328	3.27	0.71	1.00	5.00
S1CIQSCORE4	660	3.07	0.56	1.00	5.00
S2CIQSCORE4	821	3.09	0.47	1.00	5.00
S3CIQSCORE4	726	3.15	0.68	1.00	5.00
S4CIQSCORE4	470	3.21	0.71	1.00	5.00
S5CIQSCORE4	563	3.24	0.65	1.00	5.00
R1FCIQSCORE4	15186	-0.93	0.26	-1.00	1.00
R2FCIQSCORE4	13704	-0.91	0.29	-1.00	1.00
R3FCIQSCORE4	15723	-0.92	0.27	-1.00	1.00
R4FCIQSCORE4	14779	-0.94	0.25	-1.00	1.00
R5FCIQSCORE4	17114	-0.92	0.27	-1.00	1.00
S1FCIQSCORE4	10648	-0.94	0.25	-1.00	1.00
S2FCIQSCORE4	9564	-0.91	0.28	-1.00	1.00
S3FCIQSCORE4	10592	-0.93	0.25	-1.00	1.00
S4FCIQSCORE4	9652	-0.95	0.22	-1.00	1.00
S5FCIQSCORE4	7638	-0.93	0.27	-1.00	1.00
R1CIQSCORE5	1032	3.16	0.59	1.00	5.00
R2CIQSCORE5	1178	3.17	0.58	1.00	5.00
R3CIQSCORE5	1275	3.32	0.82	1.00	5.00
R4CIQSCORE5	929	3.42	0.82	1.00	5.00
R5CIQSCORE5	1328	3.33	0.74	1.00	5.00
S1CIQSCORE5	660	3.08	0.52	1.00	5.00
S2CIQSCORE5	821	3.12	0.55	1.00	5.00
S3CIQSCORE5	726	3.17	0.70	1.00	5.00
S4CIQSCORE5	470	3.26	0.75	1.00	5.00
S5CIQSCORE5	563	3.26	0.69	1.00	5.00

R1FCIQSCORE5	15186	-0.93	0.26	-1.00	1.00
R2FCIQSCORE5	13704	-0.91	0.28	-1.00	1.00
R3FCIQSCORE5	15723	-0.92	0.27	-1.00	1.00
R4FCIQSCORE5	14779	-0.94	0.24	-1.00	1.00
R5FCIQSCORE5	17114	-0.92	0.27	-1.00	1.00
S1FCIQSCORE5	10648	-0.94	0.25	-1.00	1.00
S2FCIQSCORE5	9564	-0.91	0.28	-1.00	1.00
S3FCIQSCORE5	10592	-0.93	0.25	-1.00	1.00
S4FCIQSCORE5	9652	-0.95	0.22	-1.00	1.00
S5FCIQSCORE5	7638	-0.93	0.27	-1.00	1.00
R1CIQSCORE6	1032	3.22	0.61	1.00	5.00
R2CIQSCORE6	1178	3.22	0.60	1.00	5.00
R3CIQSCORE6	1275	3.35	0.79	1.00	5.00
R4CIQSCORE6	929	3.43	0.81	1.00	5.00
R5CIQSCORE6	1328	3.36	0.72	1.00	5.00
S1CIQSCORE6	660	3.14	0.57	1.00	5.00
S2CIQSCORE6	821	3.18	0.57	1.00	5.00
S3CIQSCORE6	726	3.22	0.71	1.00	5.00
S4CIQSCORE6	470	3.29	0.77	1.00	5.00
S5CIQSCORE6	563	3.33	0.67	1.00	5.00
R1FCIQSCORE6	15186	-0.93	0.26	-1.00	1.00
R2FCIQSCORE6	13704	-0.91	0.28	-1.00	1.00
R3FCIQSCORE6	15723	-0.92	0.27	-1.00	1.00
R4FCIQSCORE6	14779	-0.94	0.25	-1.00	1.00
R5FCIQSCORE6	17114	-0.92	0.27	-1.00	1.00
S1FCIQSCORE6	10648	-0.94	0.25	-1.00	1.00
S2FCIQSCORE6	9564	-0.91	0.28	-1.00	1.00
S3FCIQSCORE6	10592	-0.93	0.25	-1.00	1.00
S4FCIQSCORE6	9652	-0.95	0.22	-1.00	1.00
S5FCIQSCORE6	7638	-0.93	0.26	-1.00	1.00
R1CIQSCORE7	1032	3.25	0.63	1.00	5.00
R2CIQSCORE7	1178	3.24	0.60	1.00	5.00
R3CIQSCORE7	1275	3.36	0.79	1.00	5.00
R4CIQSCORE7	929	3.48	0.82	1.00	5.00
R5CIQSCORE7	1328	3.38	0.74	1.00	5.00
S1CIQSCORE7	660	3.17	0.57	1.00	5.00
S2CIQSCORE7	821	3.20	0.56	1.00	5.00
S3CIQSCORE7	726	3.22	0.69	1.00	5.00
S4CIQSCORE7	470	3.34	0.78	1.00	5.00
S5CIQSCORE7	563	3.33	0.69	1.00	5.00
R1FCIQSCORE7	15186	-0.93	0.26	-1.00	1.00
R2FCIQSCORE7	13704	-0.91	0.28	-1.00	1.00
R3FCIQSCORE7	15723	-0.92	0.27	-1.00	1.00
R4FCIQSCORE7	14779	-0.94	0.25	-1.00	1.00
R5FCIQSCORE7	17114	-0.92	0.27	-1.00	1.00
S1FCIQSCORE7	10648	-0.94	0.25	-1.00	1.00
S2FCIQSCORE7	9564	-0.91	0.28	-1.00	1.00
S3FCIQSCORE7	10592	-0.93	0.25	-1.00	1.00
S4FCIQSCORE7	9652	-0.95	0.22	-1.00	1.00
S5FCIQSCORE7	7638	-0.93	0.27	-1.00	1.00
R1CIQSCORE8	1032	3.18	0.63	1.00	5.00
R2CIQSCORE8	1178	3.16	0.57	1.00	5.00
R3CIQSCORE8	1275	3.36	0.81	1.00	5.00

R4CIQSCORE8	929	3.41	0.80	1.00	5.00
R5CIQSCORE8	1328	3.30	0.74	1.00	5.00
S1CIQSCORE8	660	3.09	0.57	1.00	5.00
S2CIQSCORE8	821	3.10	0.51	1.00	5.00
S3CIQSCORE8	726	3.20	0.67	1.00	5.00
S4CIQSCORE8	470	3.26	0.71	1.00	5.00
S5CIQSCORE8	563	3.26	0.68	1.00	5.00
R1FCIQSCORE8	15186	-0.93	0.26	-1.00	1.00
R2FCIQSCORE8	13704	-0.91	0.29	-1.00	1.00
R3FCIQSCORE8	15723	-0.92	0.28	-1.00	1.00
R4FCIQSCORE8	14779	-0.94	0.25	-1.00	1.00
R5FCIQSCORE8	17114	-0.92	0.28	-1.00	1.00
S1FCIQSCORE8	10648	-0.94	0.25	-1.00	1.00
S2FCIQSCORE8	9564	-0.91	0.29	-1.00	1.00
S3FCIQSCORE8	10592	-0.93	0.26	-1.00	1.00
S4FCIQSCORE8	9652	-0.95	0.22	-1.00	1.00
S5FCIQSCORE8	7638	-0.92	0.27	-1.00	1.00
R1CIQSCORE9	1032	3.22	0.69	1.00	5.00
R2CIQSCORE9	1178	3.18	0.64	1.00	5.00
R3CIQSCORE9	1275	3.42	0.85	1.00	5.00
R4CIQSCORE9	929	3.45	0.84	1.00	5.00
R5CIQSCORE9	1328	3.36	0.84	1.00	5.00
S1CIQSCORE9	660	3.12	0.62	1.00	5.00
S2CIQSCORE9	821	3.11	0.57	1.00	5.00
S3CIQSCORE9	726	3.21	0.73	1.00	5.00
S4CIQSCORE9	470	3.29	0.79	1.00	5.00
S5CIQSCORE9	563	3.30	0.74	1.00	5.00
R1FCIQSCORE9	15186	-0.93	0.27	-1.00	1.00
R2FCIQSCORE9	13704	-0.91	0.30	-1.00	1.00
R3FCIQSCORE9	15723	-0.92	0.28	-1.00	1.00
R4FCIQSCORE9	14779	-0.94	0.25	-1.00	1.00
R5FCIQSCORE9	17114	-0.92	0.28	-1.00	1.00
S1FCIQSCORE9	10648	-0.94	0.26	-1.00	1.00
S2FCIQSCORE9	9564	-0.91	0.29	-1.00	1.00
S3FCIQSCORE9	10592	-0.93	0.26	-1.00	1.00
S4FCIQSCORE9	9652	-0.95	0.22	-1.00	1.00
S5FCIQSCORE9	7638	-0.92	0.27	-1.00	1.00
R1CIQSCORE10	1032	3.16	0.68	1.00	5.00
R2CIQSCORE10	1178	3.15	0.62	1.00	5.00
R3CIQSCORE10	1275	3.39	0.85	1.00	5.00
R4CIQSCORE10	929	3.43	0.87	1.00	5.00
R5CIQSCORE10	1328	3.34	0.83	1.00	5.00
S1CIQSCORE10	660	3.07	0.62	1.00	5.00
S2CIQSCORE10	821	3.09	0.57	1.00	5.00
S3CIQSCORE10	726	3.20	0.75	1.00	5.00
S4CIQSCORE10	470	3.28	0.80	1.00	5.00
S5CIQSCORE10	563	3.31	0.74	1.00	5.00
R1FCIQSCORE10	15186	-0.93	0.26	-1.00	1.00
R2FCIQSCORE10	13704	-0.91	0.29	-1.00	1.00
R3FCIQSCORE10	15723	-0.92	0.28	-1.00	1.00
R4FCIQSCORE10	14779	-0.94	0.25	-1.00	1.00
R5FCIQSCORE10	17114	-0.92	0.27	-1.00	1.00
S1FCIQSCORE10	10648	-0.94	0.25	-1.00	1.00

S2FCIQSCORE10	9564	-0.91	0.29	-1.00	1.00
S3FCIQSCORE10	10592	-0.93	0.26	-1.00	1.00
S4FCIQSCORE10	9652	-0.95	0.22	-1.00	1.00
S5FCIQSCORE10	7638	-0.93	0.27	-1.00	1.00
R1CIQSCORE11	1032	3.16	0.60	1.00	5.00
R2CIQSCORE11	1178	3.12	0.58	1.00	5.00
R3CIQSCORE11	1275	3.29	0.79	1.00	5.00
R4CIQSCORE11	929	3.36	0.84	1.00	5.00
R5CIQSCORE11	1328	3.27	0.78	1.00	5.00
S1CIQSCORE11	660	3.07	0.55	1.00	5.00
S2CIQSCORE11	821	3.07	0.55	1.00	5.00
S3CIQSCORE11	726	3.14	0.65	1.00	5.00
S4CIQSCORE11	470	3.22	0.79	1.00	5.00
S5CIQSCORE11	563	3.24	0.72	1.00	5.00
R1FCIQSCORE11	15186	-0.93	0.26	-1.00	1.00
R2FCIQSCORE11	13704	-0.91	0.29	-1.00	1.00
R3FCIQSCORE11	15723	-0.92	0.28	-1.00	1.00
R4FCIQSCORE11	14779	-0.94	0.25	-1.00	1.00
R5FCIQSCORE11	17114	-0.92	0.27	-1.00	1.00
S1FCIQSCORE11	10648	-0.94	0.25	-1.00	1.00
S2FCIQSCORE11	9564	-0.91	0.29	-1.00	1.00
S3FCIQSCORE11	10592	-0.93	0.26	-1.00	1.00
S4FCIQSCORE11	9652	-0.95	0.22	-1.00	1.00
S5FCIQSCORE11	7638	-0.93	0.27	-1.00	1.00
R1CIQSCORE12	1032	3.15	0.61	1.00	5.00
R2CIQSCORE12	1178	3.13	0.56	1.00	5.00
R3CIQSCORE12	1275	3.27	0.77	1.00	5.00
R4CIQSCORE12	929	3.34	0.83	1.00	5.00
R5CIQSCORE12	1328	3.28	0.78	1.00	5.00
S1CIQSCORE12	660	3.08	0.55	1.00	5.00
S2CIQSCORE12	821	3.08	0.49	1.00	5.00
S3CIQSCORE12	726	3.16	0.65	1.00	5.00
S4CIQSCORE12	470	3.16	0.75	1.00	5.00
S5CIQSCORE12	563	3.24	0.72	1.00	5.00
R1FCIQSCORE12	15186	-0.93	0.26	-1.00	1.00
R2FCIQSCORE12	13704	-0.91	0.29	-1.00	1.00
R3FCIQSCORE12	15723	-0.92	0.27	-1.00	1.00
R4FCIQSCORE12	14779	-0.94	0.25	-1.00	1.00
R5FCIQSCORE12	17114	-0.92	0.27	-1.00	1.00
S1FCIQSCORE12	10648	-0.94	0.25	-1.00	1.00
S2FCIQSCORE12	9564	-0.91	0.28	-1.00	1.00
S3FCIQSCORE12	10592	-0.93	0.25	-1.00	1.00
S4FCIQSCORE12	9652	-0.95	0.22	-1.00	1.00
S5FCIQSCORE12	7638	-0.93	0.26	-1.00	1.00
R1CIQSCORE13	1032	3.19	0.67	1.00	5.00
R2CIQSCORE13	1178	3.12	0.63	1.00	5.00
R3CIQSCORE13	1275	3.34	0.85	1.00	5.00
R4CIQSCORE13	929	3.44	0.89	1.00	5.00
R5CIQSCORE13	1328	3.30	0.80	1.00	5.00
S1CIQSCORE13	660	3.08	0.60	1.00	5.00
S2CIQSCORE13	821	3.08	0.58	1.00	5.00
S3CIQSCORE13	726	3.19	0.74	1.00	5.00
S4CIQSCORE13	470	3.27	0.85	1.00	5.00
S5CIQSCORE13	563	3.25	0.78	1.00	5.00



R1FCIQSCORE13	15186	-0.93	0.26	-1.00	1.00
R2FCIQSCORE13	13704	-0.91	0.29	-1.00	1.00
R3FCIQSCORE13	15723	-0.92	0.28	-1.00	1.00
R4FCIQSCORE13	14779	-0.94	0.25	-1.00	1.00
R5FCIQSCORE13	17114	-0.92	0.27	-1.00	1.00
S1FCIQSCORE13	10648	-0.94	0.25	-1.00	1.00
S2FCIQSCORE13	9564	-0.91	0.29	-1.00	1.00
S3FCIQSCORE13	10592	-0.93	0.26	-1.00	1.00
S4FCIQSCORE13	9652	-0.95	0.22	-1.00	1.00
S5FCIQSCORE13	7638	-0.93	0.27	-1.00	1.00
R1CIQSCORE14	1032	3.19	0.66	1.00	5.00
R2CIQSCORE14	1178	3.15	0.60	1.00	5.00
R3CIQSCORE14	1275	3.38	0.82	1.00	5.00
R4CIQSCORE14	929	3.41	0.85	1.00	5.00
R5CIQSCORE14	1328	3.32	0.78	1.00	5.00
S1CIQSCORE14	660	3.10	0.58	1.00	5.00
S2CIQSCORE14	821	3.10	0.55	1.00	5.00
S3CIQSCORE14	726	3.23	0.73	1.00	5.00
S4CIQSCORE14	470	3.28	0.82	1.00	5.00
S5CIQSCORE14	563	3.27	0.73	1.00	5.00
R1FCIQSCORE14	15186	-0.93	0.27	-1.00	1.00
R2FCIQSCORE14	13704	-0.91	0.30	-1.00	1.00
R3FCIQSCORE14	15723	-0.92	0.29	-1.00	1.00
R4FCIQSCORE14	14779	-0.93	0.26	-1.00	1.00
R5FCIQSCORE14	17114	-0.92	0.28	-1.00	1.00
S1FCIQSCORE14	10648	-0.93	0.26	-1.00	1.00
S2FCIQSCORE14	9564	-0.91	0.30	-1.00	1.00
S3FCIQSCORE14	10592	-0.93	0.27	-1.00	1.00
S4FCIQSCORE14	9652	-0.95	0.23	-1.00	1.00
S5FCIQSCORE14	7638	-0.92	0.27	-1.00	1.00
R1CIQSCORE15	1032	3.18	0.65	1.00	5.00
R2CIQSCORE15	1178	3.17	0.60	1.00	5.00
R3CIQSCORE15	1275	3.36	0.84	1.00	5.00
R4CIQSCORE15	929	3.43	0.82	1.00	5.00
R5CIQSCORE15	1328	3.34	0.79	1.00	5.00
S1CIQSCORE15	660	3.08	0.59	1.00	5.00
S2CIQSCORE15	821	3.12	0.54	1.00	5.00
S3CIQSCORE15	726	3.20	0.73	1.00	5.00
S4CIQSCORE15	470	3.28	0.75	1.00	5.00
S5CIQSCORE15	563	3.31	0.74	1.00	5.00
R1FCIQSCORE15	15186	-0.93	0.27	-1.00	1.00
R2FCIQSCORE15	13704	-0.91	0.29	-1.00	1.00
R3FCIQSCORE15	15723	-0.92	0.28	-1.00	1.00
R4FCIQSCORE15	14779	-0.94	0.25	-1.00	1.00
R5FCIQSCORE15	17114	-0.92	0.27	-1.00	1.00
S1FCIQSCORE15	10648	-0.94	0.25	-1.00	1.00
S2FCIQSCORE15	9564	-0.91	0.29	-1.00	1.00
S3FCIQSCORE15	10592	-0.93	0.26	-1.00	1.00
S4FCIQSCORE15	9652	-0.95	0.22	-1.00	1.00
S5FCIQSCORE15	7638	-0.93	0.27	-1.00	1.00
R1CIQSCORE16	1032	3.13	0.59	1.00	5.00
R2CIQSCORE16	1178	3.13	0.57	1.00	5.00
R3CIQSCORE16	1275	3.28	0.77	1.00	5.00

R4CIQSCORE16	929	3.36	0.81	1.00	5.00
R5CIQSCORE16	1328	3.27	0.74	1.00	5.00
S1CIQSCORE16	660	3.04	0.51	1.00	5.00
S2CIQSCORE16	821	3.08	0.53	1.00	5.00
S3CIQSCORE16	726	3.15	0.67	1.00	5.00
S4CIQSCORE16	470	3.22	0.73	1.00	5.00
S5CIQSCORE16	563	3.23	0.66	1.00	5.00
R1FCIQSCORE16	15186	-0.93	0.26	-1.00	1.00
R2FCIQSCORE16	13704	-0.91	0.28	-1.00	1.00
R3FCIQSCORE16	15723	-0.92	0.27	-1.00	1.00
R4FCIQSCORE16	14779	-0.94	0.25	-1.00	1.00
R5FCIQSCORE16	17114	-0.92	0.27	-1.00	1.00
S1FCIQSCORE16	10648	-0.94	0.25	-1.00	1.00
S2FCIQSCORE16	9564	-0.91	0.28	-1.00	1.00
S3FCIQSCORE16	10592	-0.93	0.25	-1.00	1.00
S4FCIQSCORE16	9652	-0.95	0.22	-1.00	1.00
S5FCIQSCORE16	7638	-0.93	0.26	-1.00	1.00
R1CJORMSCORE	1032	3.17	0.50	1.00	5.00
R2CJORMSCORE	1178	3.16	0.49	1.00	5.00
R3CJORMSCORE	1275	3.33	0.70	1.00	5.00
R4CJORMSCORE	929	3.40	0.68	1.00	5.00
R5CJORMSCORE	1328	3.31	0.63	1.00	5.00
S1CJORMSCORE	660	3.09	0.45	1.00	5.00
S2CJORMSCORE	821	3.11	0.45	1.00	5.00
S3CJORMSCORE	726	3.18	0.60	1.00	5.00
S4CJORMSCORE	470	3.26	0.63	1.00	5.00
S5CJORMSCORE	563	3.26	0.57	1.00	5.00

## Categorical Variable Codes

Value-----	R1CIQSCORE1	R2CIQSCORE1	R3CIQSCORE1	R4CIQSCORE1	R5CIQSCORE1
.n:Non-proxy ivw	14154	12526	14448	13850	15786
1.Much improved	12	16	35	11	30
2.A bit improved	17	17	25	17	34
3.Not much change	850	991	871	623	940
4.A bit worse	95	103	200	166	211
5.Much worse	58	51	144	112	113
Value-----	S1CIQSCORE1	S2CIQSCORE1	S3CIQSCORE1	S4CIQSCORE1	S5CIQSCORE1
.n:Non-proxy ivw	9988	8743	9866	9182	7075
.u:Unmar	4205	4009	4782	4847	5227
.v:SP NR	333	131	349	280	501
1.Much improved	10	12	26	9	7
2.A bit improved	9	13	13	12	12
3.Not much change	574	704	552	340	426
4.A bit worse	45	61	82	68	81
5.Much worse	22	31	53	41	37
Value-----	R1FCIQSCORE1	R2FCIQSCORE1	R3FCIQSCORE1	R4FCIQSCORE1	R5FCIQSCORE1
-1.Missing, not imputed	14154	12526	14448	13850	15786
0.Not Imputed	1020	1167	1272	927	1307
1.Imputed	12	11	3	2	21
Value-----	S1FCIQSCORE1	S2FCIQSCORE1	S3FCIQSCORE1	S4FCIQSCORE1	S5FCIQSCORE1
.u:Unmar	4205	4009	4782	4847	5227
.v:SP NR	333	131	349	280	501
-1.Missing, not imputed	9988	8743	9866	9182	7075
0.Not Imputed	650	814	725	469	553
1.Imputed	10	7	1	1	10
Value-----	R1CIQSCORE2	R2CIQSCORE2	R3CIQSCORE2	R4CIQSCORE2	R5CIQSCORE2
.n:Non-proxy ivw	14154	12526	14448	13850	15786

1.Much improved		14	14	32	12	31
2.A bit improved		17	19	18	10	34
3.Not much change		865	1005	943	663	976
4.A bit worse		86	96	160	136	182
5.Much worse		50	44	122	108	105
Value-----		S1CIQSCORE2	S2CIQSCORE2	S3CIQSCORE2	S4CIQSCORE2	S5CIQSCORE2
.n:Non-proxy ivw		9988	8743	9866	9182	7075
.u:Unmar		4205	4009	4782	4847	5227
.v:SP NR		333	131	349	280	501
1.Much improved		11	10	21	7	11
2.A bit improved		14	14	9	5	10
3.Not much change		572	714	594	372	439
4.A bit worse		39	57	65	45	66
5.Much worse		24	26	37	41	37
Value-----		R1FCIQSCORE2	R2FCIQSCORE2	R3FCIQSCORE2	R4FCIQSCORE2	R5FCIQSCORE2
-1.Missing, not imputed		14154	12526	14448	13850	15786
0.Not Imputed		1017	1167	1273	928	1319
1.Imputed		15	11	2	1	9
Value-----		S1FCIQSCORE2	S2FCIQSCORE2	S3FCIQSCORE2	S4FCIQSCORE2	S5FCIQSCORE2
.u:Unmar		4205	4009	4782	4847	5227
.v:SP NR		333	131	349	280	501
-1.Missing, not imputed		9988	8743	9866	9182	7075
0.Not Imputed		651	813	725	470	557
1.Imputed		9	8	1		6
Value-----		R1CIQSCORE3	R2CIQSCORE3	R3CIQSCORE3	R4CIQSCORE3	R5CIQSCORE3
.n:Non-proxy ivw		14154	12526	14448	13850	15786
1.Much improved		16	10	36	14	22
2.A bit improved		14	13	12	10	28
3.Not much change		862	987	908	643	966
4.A bit worse		93	116	185	143	194
5.Much worse		47	52	134	119	118
Value-----		S1CIQSCORE3	S2CIQSCORE3	S3CIQSCORE3	S4CIQSCORE3	S5CIQSCORE3
.n:Non-proxy ivw		9988	8743	9866	9182	7075
.u:Unmar		4205	4009	4782	4847	5227
.v:SP NR		333	131	349	280	501
1.Much improved		15	6	24	7	8
2.A bit improved		11	8	5	8	12
3.Not much change		575	713	576	362	429
4.A bit worse		42	62	75	44	76
5.Much worse		17	32	46	49	38
Value-----		R1FCIQSCORE3	R2FCIQSCORE3	R3FCIQSCORE3	R4FCIQSCORE3	R5FCIQSCORE3
-1.Missing, not imputed		14154	12526	14448	13850	15786
0.Not Imputed		1017	1168	1273	927	1319
1.Imputed		15	10	2	2	9
Value-----		S1FCIQSCORE3	S2FCIQSCORE3	S3FCIQSCORE3	S4FCIQSCORE3	S5FCIQSCORE3
.u:Unmar		4205	4009	4782	4847	5227
.v:SP NR		333	131	349	280	501
-1.Missing, not imputed		9988	8743	9866	9182	7075
0.Not Imputed		648	813	725	470	559
1.Imputed		12	8	1		4
Value-----		R1CIQSCORE4	R2CIQSCORE4	R3CIQSCORE4	R4CIQSCORE4	R5CIQSCORE4
.n:Non-proxy ivw		14154	12526	14448	13850	15786
1.Much improved		19	10	30	17	22
2.A bit improved		14	10	17	6	19
3.Not much change		857	1017	902	650	982
4.A bit worse		84	87	175	126	185
5.Much worse		58	54	151	130	120
Value-----		S1CIQSCORE4	S2CIQSCORE4	S3CIQSCORE4	S4CIQSCORE4	S5CIQSCORE4
.n:Non-proxy ivw		9988	8743	9866	9182	7075
.u:Unmar		4205	4009	4782	4847	5227
.v:SP NR		333	131	349	280	501
1.Much improved		17	7	20	12	6
2.A bit improved		8	7	11	3	5
3.Not much change		574	737	589	372	443

4.A bit worse		37	42	54	42	65
5.Much worse		24	28	52	41	44
Value-----		R1FCIQSCORE4	R2FCIQSCORE4	R3FCIQSCORE4	R4FCIQSCORE4	R5FCIQSCORE4
-1.Missing, not imputed		14154	12526	14448	13850	15786
0.Not Imputed		1018	1161	1270	921	1312
1.Imputed		14	17	5	8	16
Value-----		S1FCIQSCORE4	S2FCIQSCORE4	S3FCIQSCORE4	S4FCIQSCORE4	S5FCIQSCORE4
.u:Unmar		4205	4009	4782	4847	5227
.v:SP NR		333	131	349	280	501
-1.Missing, not imputed		9988	8743	9866	9182	7075
0.Not Imputed		651	813	723	465	557
1.Imputed		9	8	3	5	6
Value-----		R1CIQSCORE5	R2CIQSCORE5	R3CIQSCORE5	R4CIQSCORE5	R5CIQSCORE5
.n:Non-proxy ivw		14154	12526	14448	13850	15786
1.Much improved		14	14	37	16	19
2.A bit improved		11	14	14	9	17
3.Not much change		864	975	890	617	946
4.A bit worse		83	113	166	147	200
5.Much worse		60	62	168	140	146
Value-----		S1CIQSCORE5	S2CIQSCORE5	S3CIQSCORE5	S4CIQSCORE5	S5CIQSCORE5
.n:Non-proxy ivw		9988	8743	9866	9182	7075
.u:Unmar		4205	4009	4782	4847	5227
.v:SP NR		333	131	349	280	501
1.Much improved		12	11	23	10	9
2.A bit improved		7	10	4	4	4
3.Not much change		581	709	581	359	427
4.A bit worse		38	54	63	46	75
5.Much worse		22	37	55	51	48
Value-----		R1FCIQSCORE5	R2FCIQSCORE5	R3FCIQSCORE5	R4FCIQSCORE5	R5FCIQSCORE5
-1.Missing, not imputed		14154	12526	14448	13850	15786
0.Not Imputed		1020	1168	1269	926	1314
1.Imputed		12	10	6	3	14
Value-----		S1FCIQSCORE5	S2FCIQSCORE5	S3FCIQSCORE5	S4FCIQSCORE5	S5FCIQSCORE5
.u:Unmar		4205	4009	4782	4847	5227
.v:SP NR		333	131	349	280	501
-1.Missing, not imputed		9988	8743	9866	9182	7075
0.Not Imputed		653	814	724	468	556
1.Imputed		7	7	2	2	7
Value-----		R1CIQSCORE6	R2CIQSCORE6	R3CIQSCORE6	R4CIQSCORE6	R5CIQSCORE6
.n:Non-proxy ivw		14154	12526	14448	13850	15786
1.Much improved		13	10	30	17	14
2.A bit improved		6	15	7	10	14
3.Not much change		816	927	884	582	913
4.A bit worse		137	160	201	192	250
5.Much worse		60	66	153	128	137
Value-----		S1CIQSCORE6	S2CIQSCORE6	S3CIQSCORE6	S4CIQSCORE6	S5CIQSCORE6
.n:Non-proxy ivw		9988	8743	9866	9182	7075
.u:Unmar		4205	4009	4782	4847	5227
.v:SP NR		333	131	349	280	501
1.Much improved		13	9	20	13	4
2.A bit improved		2	8	2	6	4
3.Not much change		549	668	560	329	405
4.A bit worse		70	99	87	76	102
5.Much worse		26	37	57	46	48
Value-----		R1FCIQSCORE6	R2FCIQSCORE6	R3FCIQSCORE6	R4FCIQSCORE6	R5FCIQSCORE6
-1.Missing, not imputed		14154	12526	14448	13850	15786
0.Not Imputed		1019	1170	1272	923	1318
1.Imputed		13	8	3	6	10
Value-----		S1FCIQSCORE6	S2FCIQSCORE6	S3FCIQSCORE6	S4FCIQSCORE6	S5FCIQSCORE6
.u:Unmar		4205	4009	4782	4847	5227
.v:SP NR		333	131	349	280	501
-1.Missing, not imputed		9988	8743	9866	9182	7075
0.Not Imputed		651	814	725	466	558

1.Imputed	9	7	1	4	5
Value-----	R1CIQSCORE7	R2CIQSCORE7	R3CIQSCORE7	R4CIQSCORE7	R5CIQSCORE7
.n:Non-proxy ivw	14154	12526	14448	13850	15786
1.Much improved	10	7	26	16	17
2.A bit improved	5	9	12	6	11
3.Not much change	799	921	882	566	898
4.A bit worse	149	171	193	200	259
5.Much worse	69	70	162	141	143
Value-----	S1CIQSCORE7	S2CIQSCORE7	S3CIQSCORE7	S4CIQSCORE7	S5CIQSCORE7
.n:Non-proxy ivw	9988	8743	9866	9182	7075
.u:Unmar	4205	4009	4782	4847	5227
.v:SP NR	333	131	349	280	501
1.Much improved	10	6	16	11	6
2.A bit improved	2	6	5	3	3
3.Not much change	544	662	565	321	403
4.A bit worse	74	110	82	83	101
5.Much worse	30	37	58	52	50
Value-----	R1FCIQSCORE7	R2FCIQSCORE7	R3FCIQSCORE7	R4FCIQSCORE7	R5FCIQSCORE7
-1.Missing, not imputed	14154	12526	14448	13850	15786
0.Not Imputed	1013	1168	1270	923	1316
1.Imputed	19	10	5	6	12
Value-----	S1FCIQSCORE7	S2FCIQSCORE7	S3FCIQSCORE7	S4FCIQSCORE7	S5FCIQSCORE7
.u:Unmar	4205	4009	4782	4847	5227
.v:SP NR	333	131	349	280	501
-1.Missing, not imputed	9988	8743	9866	9182	7075
0.Not Imputed	647	815	723	468	555
1.Imputed	13	6	3	2	8
Value-----	R1CIQSCORE8	R2CIQSCORE8	R3CIQSCORE8	R4CIQSCORE8	R5CIQSCORE8
.n:Non-proxy ivw	14154	12526	14448	13850	15786
1.Much improved	14	8	27	11	18
2.A bit improved	11	21	6	7	18
3.Not much change	860	993	900	648	987
4.A bit worse	70	88	159	119	157
5.Much worse	77	68	183	144	148
Value-----	S1CIQSCORE8	S2CIQSCORE8	S3CIQSCORE8	S4CIQSCORE8	S5CIQSCORE8
.n:Non-proxy ivw	9988	8743	9866	9182	7075
.u:Unmar	4205	4009	4782	4847	5227
.v:SP NR	333	131	349	280	501
1.Much improved	13	7	16	6	6
2.A bit improved	7	15	2	4	3
3.Not much change	578	718	589	369	449
4.A bit worse	30	47	62	42	49
5.Much worse	32	34	57	49	56
Value-----	R1FCIQSCORE8	R2FCIQSCORE8	R3FCIQSCORE8	R4FCIQSCORE8	R5FCIQSCORE8
-1.Missing, not imputed	14154	12526	14448	13850	15786
0.Not Imputed	997	1144	1255	912	1298
1.Imputed	35	34	20	17	30
Value-----	S1FCIQSCORE8	S2FCIQSCORE8	S3FCIQSCORE8	S4FCIQSCORE8	S5FCIQSCORE8
.u:Unmar	4205	4009	4782	4847	5227
.v:SP NR	333	131	349	280	501
-1.Missing, not imputed	9988	8743	9866	9182	7075
0.Not Imputed	642	798	716	460	549
1.Imputed	18	23	10	10	14
Value-----	R1CIQSCORE9	R2CIQSCORE9	R3CIQSCORE9	R4CIQSCORE9	R5CIQSCORE9
.n:Non-proxy ivw	14154	12526	14448	13850	15786
1.Much improved	17	14	30	13	30
2.A bit improved	12	30	9	24	40
3.Not much change	819	952	831	576	858
4.A bit worse	92	99	202	163	218
5.Much worse	92	83	203	153	182
Value-----	S1CIQSCORE9	S2CIQSCORE9	S3CIQSCORE9	S4CIQSCORE9	S5CIQSCORE9
.n:Non-proxy ivw	9988	8743	9866	9182	7075
.u:Unmar	4205	4009	4782	4847	5227

.v:SP NR		333	131	349	280	501
1.Much improved		16	9	20	10	8
2.A bit improved		7	25	8	13	12
3.Not much change		557	697	559	332	404
4.A bit worse		42	49	74	59	82
5.Much worse		38	41	65	56	57
Value-----		R1FCIQSCORE9	R2FCIQSCORE9	R3FCIQSCORE9	R4FCIQSCORE9	R5FCIQSCORE9
-1.Missing, not imputed		14154	12526	14448	13850	15786
0.Not Imputed		986	1131	1244	903	1294
1.Imputed		46	47	31	26	34
Value-----		S1FCIQSCORE9	S2FCIQSCORE9	S3FCIQSCORE9	S4FCIQSCORE9	S5FCIQSCORE9
.u:Unmar		4205	4009	4782	4847	5227
.v:SP NR		333	131	349	280	501
-1.Missing, not imputed		9988	8743	9866	9182	7075
0.Not Imputed		634	794	711	456	549
1.Imputed		26	27	15	14	14
Value-----		R1CIQSCORE10	R2CIQSCORE10	R3CIQSCORE10	R4CIQSCORE10	R5CIQSCORE10
.n:Non-proxy ivw		14154	12526	14448	13850	15786
1.Much improved		20	17	35	18	35
2.A bit improved		28	36	13	29	37
3.Not much change		825	949	841	568	868
4.A bit worse		80	108	193	162	222
5.Much worse		79	68	193	152	166
Value-----		S1CIQSCORE10	S2CIQSCORE10	S3CIQSCORE10	S4CIQSCORE10	S5CIQSCORE10
.n:Non-proxy ivw		9988	8743	9866	9182	7075
.u:Unmar		4205	4009	4782	4847	5227
.v:SP NR		333	131	349	280	501
1.Much improved		17	13	23	11	9
2.A bit improved		20	26	10	19	12
3.Not much change		557	691	558	317	390
4.A bit worse		33	55	67	72	97
5.Much worse		33	36	68	51	55
Value-----		R1FCIQSCORE10	R2FCIQSCORE10	R3FCIQSCORE10	R4FCIQSCORE10	R5FCIQSCORE10
-1.Missing, not imputed		14154	12526	14448	13850	15786
0.Not Imputed		1005	1161	1256	913	1309
1.Imputed		27	17	19	16	19
Value-----		S1FCIQSCORE10	S2FCIQSCORE10	S3FCIQSCORE10	S4FCIQSCORE10	S5FCIQSCORE10
.u:Unmar		4205	4009	4782	4847	5227
.v:SP NR		333	131	349	280	501
-1.Missing, not imputed		9988	8743	9866	9182	7075
0.Not Imputed		646	810	716	464	555
1.Imputed		14	11	10	6	8
Value-----		R1CIQSCORE11	R2CIQSCORE11	R3CIQSCORE11	R4CIQSCORE11	R5CIQSCORE11
.n:Non-proxy ivw		14154	12526	14448	13850	15786
1.Much improved		15	19	32	23	29
2.A bit improved		11	23	18	11	26
3.Not much change		865	992	928	646	979
4.A bit worse		80	86	145	109	140
5.Much worse		61	58	152	140	154
Value-----		S1CIQSCORE11	S2CIQSCORE11	S3CIQSCORE11	S4CIQSCORE11	S5CIQSCORE11
.n:Non-proxy ivw		9988	8743	9866	9182	7075
.u:Unmar		4205	4009	4782	4847	5227
.v:SP NR		333	131	349	280	501
1.Much improved		14	16	19	16	9
2.A bit improved		7	18	8	7	11
3.Not much change		583	714	595	358	432
4.A bit worse		29	41	59	37	56
5.Much worse		27	32	45	52	55
Value-----		R1FCIQSCORE11	R2FCIQSCORE11	R3FCIQSCORE11	R4FCIQSCORE11	R5FCIQSCORE11
-1.Missing, not imputed		14154	12526	14448	13850	15786
0.Not Imputed		1004	1155	1261	910	1307
1.Imputed		28	23	14	19	21
Value-----		S1FCIQSCORE11	S2FCIQSCORE11	S3FCIQSCORE11	S4FCIQSCORE11	S5FCIQSCORE11

.u:Unmar		4205	4009	4782	4847	5227
.v:SP NR		333	131	349	280	501
-1.Missing, not imputed		9988	8743	9866	9182	7075
0.Not Imputed		643	807	718	462	554
1.Imputed		17	14	8	8	9
Value-----		R1CIQSCORE12	R2CIQSCORE12	R3CIQSCORE12	R4CIQSCORE12	R5CIQSCORE12
.n:Non-proxy ivw		14154	12526	14448	13850	15786
1.Much improved		15	13	30	21	31
2.A bit improved		16	16	10	16	21
3.Not much change		868	1015	966	657	974
4.A bit worse		65	70	120	98	146
5.Much worse		68	64	149	137	156
Value-----		S1CIQSCORE12	S2CIQSCORE12	S3CIQSCORE12	S4CIQSCORE12	S5CIQSCORE12
.n:Non-proxy ivw		9988	8743	9866	9182	7075
.u:Unmar		4205	4009	4782	4847	5227
.v:SP NR		333	131	349	280	501
1.Much improved		12	8	17	14	12
2.A bit improved		10	11	2	12	6
3.Not much change		586	738	609	371	433
4.A bit worse		20	32	45	29	58
5.Much worse		32	32	53	44	54
Value-----		R1FCIQSCORE12	R2FCIQSCORE12	R3FCIQSCORE12	R4FCIQSCORE12	R5FCIQSCORE12
-1.Missing, not imputed		14154	12526	14448	13850	15786
0.Not Imputed		1002	1165	1269	923	1317
1.Imputed		30	13	6	6	11
Value-----		S1FCIQSCORE12	S2FCIQSCORE12	S3FCIQSCORE12	S4FCIQSCORE12	S5FCIQSCORE12
.u:Unmar		4205	4009	4782	4847	5227
.v:SP NR		333	131	349	280	501
-1.Missing, not imputed		9988	8743	9866	9182	7075
0.Not Imputed		641	812	723	466	558
1.Imputed		19	9	3	4	5
Value-----		R1CIQSCORE13	R2CIQSCORE13	R3CIQSCORE13	R4CIQSCORE13	R5CIQSCORE13
.n:Non-proxy ivw		14154	12526	14448	13850	15786
1.Much improved		19	25	35	21	30
2.A bit improved		11	23	11	16	29
3.Not much change		846	982	904	595	938
4.A bit worse		72	76	130	124	169
5.Much worse		84	72	195	173	162
Value-----		S1CIQSCORE13	S2CIQSCORE13	S3CIQSCORE13	S4CIQSCORE13	S5CIQSCORE13
.n:Non-proxy ivw		9988	8743	9866	9182	7075
.u:Unmar		4205	4009	4782	4847	5227
.v:SP NR		333	131	349	280	501
1.Much improved		18	17	23	17	15
2.A bit improved		5	18	6	9	11
3.Not much change		575	711	578	334	414
4.A bit worse		28	35	50	48	63
5.Much worse		34	40	69	62	60
Value-----		R1FCIQSCORE13	R2FCIQSCORE13	R3FCIQSCORE13	R4FCIQSCORE13	R5FCIQSCORE13
-1.Missing, not imputed		14154	12526	14448	13850	15786
0.Not Imputed		999	1161	1261	920	1312
1.Imputed		33	17	14	9	16
Value-----		S1FCIQSCORE13	S2FCIQSCORE13	S3FCIQSCORE13	S4FCIQSCORE13	S5FCIQSCORE13
.u:Unmar		4205	4009	4782	4847	5227
.v:SP NR		333	131	349	280	501
-1.Missing, not imputed		9988	8743	9866	9182	7075
0.Not Imputed		638	811	716	467	555
1.Imputed		22	10	10	3	8
Value-----		R1CIQSCORE14	R2CIQSCORE14	R3CIQSCORE14	R4CIQSCORE14	R5CIQSCORE14
.n:Non-proxy ivw		14154	12526	14448	13850	15786
1.Much improved		16	14	25	15	22
2.A bit improved		12	16	11	16	24
3.Not much change		846	996	891	629	957
4.A bit worse		72	78	151	110	160
5.Much worse		86	74	197	159	165

Value-----	S1CIQSCORE14	S2CIQSCORE14	S3CIQSCORE14	S4CIQSCORE14	S5CIQSCORE14
.n:Non-proxy ivw	9988	8743	9866	9182	7075
.u:Unmar	4205	4009	4782	4847	5227
.v:SP NR	333	131	349	280	501
1.Much improved	13	11	16	12	9
2.A bit improved	7	12	6	10	7
3.Not much change	577	721	572	346	429
4.A bit worse	27	35	58	38	57
5.Much worse	36	42	74	64	61
Value-----	R1FCIQSCORE14	R2FCIQSCORE14	R3FCIQSCORE14	R4FCIQSCORE14	R5FCIQSCORE14
-1.Missing, not imputed	14154	12526	14448	13850	15786
0.Not Imputed	973	1116	1227	888	1300
1.Imputed	59	62	48	41	28
Value-----	S1FCIQSCORE14	S2FCIQSCORE14	S3FCIQSCORE14	S4FCIQSCORE14	S5FCIQSCORE14
.u:Unmar	4205	4009	4782	4847	5227
.v:SP NR	333	131	349	280	501
-1.Missing, not imputed	9988	8743	9866	9182	7075
0.Not Imputed	619	775	699	447	552
1.Imputed	41	46	27	23	11
Value-----	R1CIQSCORE15	R2CIQSCORE15	R3CIQSCORE15	R4CIQSCORE15	R5CIQSCORE15
.n:Non-proxy ivw	14154	12526	14448	13850	15786
1.Much improved	16	15	33	12	23
2.A bit improved	17	9	7	9	23
3.Not much change	841	993	893	627	940
4.A bit worse	81	86	150	127	165
5.Much worse	77	75	192	154	177
Value-----	S1CIQSCORE15	S2CIQSCORE15	S3CIQSCORE15	S4CIQSCORE15	S5CIQSCORE15
.n:Non-proxy ivw	9988	8743	9866	9182	7075
.u:Unmar	4205	4009	4782	4847	5227
.v:SP NR	333	131	349	280	501
1.Much improved	15	10	20	8	7
2.A bit improved	11	7	5	6	7
3.Not much change	571	721	577	360	417
4.A bit worse	30	42	55	40	67
5.Much worse	33	41	69	56	65
Value-----	R1FCIQSCORE15	R2FCIQSCORE15	R3FCIQSCORE15	R4FCIQSCORE15	R5FCIQSCORE15
-1.Missing, not imputed	14154	12526	14448	13850	15786
0.Not Imputed	995	1156	1255	910	1309
1.Imputed	37	22	20	19	19
Value-----	S1FCIQSCORE15	S2FCIQSCORE15	S3FCIQSCORE15	S4FCIQSCORE15	S5FCIQSCORE15
.u:Unmar	4205	4009	4782	4847	5227
.v:SP NR	333	131	349	280	501
-1.Missing, not imputed	9988	8743	9866	9182	7075
0.Not Imputed	637	807	716	461	556
1.Imputed	23	14	10	9	7
Value-----	R1CIQSCORE16	R2CIQSCORE16	R3CIQSCORE16	R4CIQSCORE16	R5CIQSCORE16
.n:Non-proxy ivw	14154	12526	14448	13850	15786
1.Much improved	16	20	31	13	21
2.A bit improved	13	10	11	20	30
3.Not much change	877	1006	954	651	984
4.A bit worse	69	86	132	110	153
5.Much worse	57	56	147	135	140
Value-----	S1CIQSCORE16	S2CIQSCORE16	S3CIQSCORE16	S4CIQSCORE16	S5CIQSCORE16
.n:Non-proxy ivw	9988	8743	9866	9182	7075
.u:Unmar	4205	4009	4782	4847	5227
.v:SP NR	333	131	349	280	501
1.Much improved	14	14	19	9	6
2.A bit improved	10	8	5	10	8
3.Not much change	593	727	602	367	445
4.A bit worse	21	40	47	37	58
5.Much worse	22	32	53	47	46
Value-----	R1FCIQSCORE16	R2FCIQSCORE16	R3FCIQSCORE16	R4FCIQSCORE16	R5FCIQSCORE16
-1.Missing, not imputed	14154	12526	14448	13850	15786



0.Not Imputed		1017	1171	1269	923	1317
1.Imputed		15	7	6	6	11
Value-----		S1FCIQSCORE16	S2FCIQSCORE16	S3FCIQSCORE16	S4FCIQSCORE16	S5FCIQSCORE16
.u:Unmar		4205	4009	4782	4847	5227
.v:SP NR		333	131	349	280	501
-1.Missing, not imputed		9988	8743	9866	9182	7075
0.Not Imputed		651	817	722	466	558
1.Imputed		9	4	4	4	5

## How Constructed

The following variables pertain to a series of questions that asked the proxy whether the respondent has improved, stayed the same, or gotten worse in various situations that require memory or intelligence. The interviewer emphasized the importance of comparing present performance with past performance and asked the proxy to compare the respondent's current ability with the respondent's ability 2 years ago.

In RwCIQSCORE1, the informant compared the respondent's current ability to remember things about family and friends, such as occupations, birthdays, and addresses, with their ability in the past.

In RwCIQSCORE2, the informant compared the respondent's current ability to remember things that have happened recently with their ability in the past.

In RwCIQSCORE3, the informant compared the respondent's current ability to recall conversations a few days later with their ability in the past.

In RwCIQSCORE4, the informant compared the respondent's current ability to remember their address and telephone number with their ability in the past.

In RwCIQSCORE5, the informant compared the respondent's current ability to remember what day and month it is with their ability in the past.

In RwCIQSCORE6, the informant compared the respondent's current ability to remember where things are usually kept with their ability in the past.

In RwCIQSCORE7, the informant compared the respondent's current ability to remember where to find things that have been put in a different place than usual with their ability in the past.

In RwCIQSCORE8, the informant compared the respondent's current ability to know how to work familiar machines around the house with their ability in the past.

In RwCIQSCORE9, the informant compared the respondent's current ability to learn to use a new gadget or machine around the house with their ability in the past.

In RwCIQSCORE10, the informant compared the respondent's current ability to learn new things in general with their ability in the past.

In RwCIQSCORE11, the informant compared the respondent's current ability to follow a story in a book or on TV with their ability in the past.

In RwCIQSCORE12, the informant compared the respondent's current ability to make decisions on everyday matters, like what to cook or to wear, with their ability in the past.

In RwCIQSCORE13, the informant compared the respondent's current ability to handle money for shopping with their ability in the past.

In RwCIQSCORE14, the informant compared the respondent's current ability to handle financial matters, such as pension or dealing with the bank, with their ability in the past.

In RwCIQSCORE15, the informant compared the respondent's current ability to handle other everyday mathematical problems, such as knowing how much food to buy and knowing how much time elapsed between visits from family or friends, with their ability in the past.

In RwCIQSCORE16, the informant compared the respondent's current ability to use their intelligence to understand what's going on and to reason things through with their ability in the past.

RwCIQSCORE1 - RwCIQSCORE16 are coded as follows: 1.Much improved, 2.A bit improved, 3.Not much changed, 4.A bit worse, and 5.Much worse. They are constructed using the imputed proxy cognition variables provided by MHAS. Using the method of sequence of regressions with a SAS based Imputation and Variance Estimation software (IVEware), the MHAS team completed the imputation of cognitive variables. Unknown amounts were replaced with imputed values using the imputed variables made available in the study website. Please see the MHAS document [\(here\)](#) titled "Imputation of Cognitive Function Variables in the Mexican Health and Aging Study 2001-2018, Version 1", available in the study website [www.MHASweb.org](http://www.MHASweb.org) for more details on the imputation method used, variables imputed, and covariates included. RwcJORMSCORE indicates the average value of RwCIQSCORE1 - RwCIQSCORE16 and ranges from 0-5. RwcJORMSCORE is calculated as long as at least one component is not missing. Special missing .n is assigned to non-proxy interviews. Other missing responses are assigned special missing .m. RwCIQSCORE1 - RwCIQSCORE16 and RwcJORMSCORE are assigned plain missing (.) if the respondent did not participate in the current wave.

RwFCIQSCORE1 - RwFCIQSCORE16 are flag variables indicating whether any component of RwCIQSCORE1 - RwCIQSCORE16 was imputed. A code of 0 indicates that no component was imputed. A code of 1 indicates that at least one component was imputed. A code of -1 indicates that at least one component was not imputed because the respondent did not complete the section, including non-proxy interviews, and this value has been left missing. RwFCIQSCORE1 - RwFCIQSCORE16 are assigned plain missing (.) if the respondent did not participate in the current wave.

SwCIQSCORE1 - SwCIQSCORE16, SwCJORMSCORE, and SwFCIQSCORE1 - SwFCIQSCORE16 are taken from the Wave 'w' spouse's values for RwCIQSCORE1 - RwCIQSCORE16, RwcJORMSCORE, and RwFCIQSCORE1 - RwFCIQSCORE16, respectively. In addition to the special missing codes used in RwCIQSCORE1 - RwCIQSCORE16, RwcJORMSCORE, and RwFCIQSCORE1 - RwFCIQSCORE16, if the respondent is not designated as coupled in the current wave and assumed to be single, a special missing value of .u is used. Also, if the respondent is not designated as coupled in the current wave but reports being married, a special missing value of .v is used.

## Cross Wave Differences in MHAS

No differences known.

## Differences with the RAND HRS/Harmonized HRS

The MHAS provides imputed versions of these variables, which has been used in their construction in the Harmonized MHAS. Because of this, flag variables have also been created for the Harmonized MHAS to indicate when the variable uses imputed information. The HRS does not provide imputations for these variables, and the Harmonized HRS provides these variables without imputation as well.

## MHAS Variables Used

Wave 1 Imputed Cognition:

PC11_FLAG_01	R's ability to recall conversations a few days later: F
PC11_IMP_01	R's ability to recall conversations a few days later (I
PC14_FLAG_01	R's ability to remember his/her address: Flag if Impute
PC14_IMP_01	R's ability to remember his/her address (Imputed)
PC17_FLAG_01	R's ability to remember what day and month it is: Flag
PC17_IMP_01	R's ability to remember what day and month it is (Imput
PC20_FLAG_01	R's ability to remember where things are usually kept:
PC20_IMP_01	R's ability to remember where things are usually kept (
PC23_FLAG_01	R's ability to remember where to find things put in a d
PC23_IMP_01	R's ability to remember where to find things put in a d
PC26_FLAG_01	R's ability to know how to use familiar machines: Flag
PC26_IMP_01	R's ability to know how to use familiar machines (Imput
PC29_FLAG_01	R's ability to learn to use a new gadget or machine: Fl
PC29_IMP_01	R's ability to learn to use a new gadget or machine (Im
PC32_FLAG_01	R's ability to learn new things in general: Flag if Imp
PC32_IMP_01	R's ability to learn new things in general (Imputed)
PC35_FLAG_01	R's ability to follow a story in a book or on TV: Flag
PC35_IMP_01	R's ability to follow a story in a book or on TV (Imput
PC38_FLAG_01	R's ability to make decisions on everyday matters: Flag
PC38_IMP_01	R's ability to make decisions on everyday matters (Impu
PC41_FLAG_01	R's ability to handle money for shopping: Flag if Imput

PC41_IMP_01	R's ability to handle money for shopping (Imputed)
PC44_FLAG_01	R's ability to handle financial matters: Flag if Impute
PC44_IMP_01	R's ability to handle financial matters (Imputed)
PC47_FLAG_01	R's ability to handle other everyday arithmetic problem
PC47_IMP_01	R's ability to handle other everyday arithmetic problem
PC50_FLAG_01	R's ability to use his/her intelligence to understand w
PC50_IMP_01	R's ability to use his/her intelligence to understand w
PC5_FLAG_01	R's ability to remember things about family & friends:
PC5_IMP_01	R's ability to remember things about family & friends (
PC8_FLAG_01	R's ability to remember things: Flag if Imputed
PC8_IMP_01	R's ability to remember things (Imputed)

## Wave 2 Imputed Cognition:

PC11_FLAG_03	R's ability to recall conversations a few days later: F
PC11_IMP_03	R's ability to recall conversations a few days later (I
PC14_FLAG_03	R's ability to remember his/her address: Flag if Impute
PC14_IMP_03	R's ability to remember his/her address (Imputed)
PC17_FLAG_03	R's ability to remember what day and month it is: Flag
PC17_IMP_03	R's ability to remember what day and month it is (Imput
PC20_FLAG_03	R's ability to remember where things are usually kept:
PC20_IMP_03	R's ability to remember where things are usually kept (
PC23_FLAG_03	R's ability to remember where to find things put in a d
PC23_IMP_03	R's ability to remember where to find things put in a d
PC26_FLAG_03	R's ability to know how to use familiar machines: Flag
PC26_IMP_03	R's ability to know how to use familiar machines (Imput
PC29_FLAG_03	R's ability to learn to use a new gadget or machine: Fl
PC29_IMP_03	R's ability to learn to use a new gadget or machine (Im
PC32_FLAG_03	R's ability to learn new things in general: Flag if Imp
PC32_IMP_03	R's ability to learn new things in general (Imputed)
PC35_FLAG_03	R's ability to follow a story in a book or on TV: Flag
PC35_IMP_03	R's ability to follow a story in a book or on TV (Imput
PC38_FLAG_03	R's ability to make decisions on everyday matters: Flag
PC38_IMP_03	R's ability to make decisions on everyday matters (Impu
PC41_FLAG_03	R's ability to handle money for shopping: Flag if Imput
PC41_IMP_03	R's ability to handle money for shopping (Imputed)
PC44_FLAG_03	R's ability to handle financial matters: Flag if Impute
PC44_IMP_03	R's ability to handle financial matters (Imputed)
PC47_FLAG_03	R's ability to handle other everyday arithmetic problem
PC47_IMP_03	R's ability to handle other everyday arithmetic problem
PC50_FLAG_03	R's ability to use his/her intelligence to understand w
PC50_IMP_03	R's ability to use his/her intelligence to understand w
PC5_FLAG_03	R's ability to remember things about family & friends:
PC5_IMP_03	R's ability to remember things about family & friends (
PC8_FLAG_03	R's ability to remember things: Flag if Imputed
PC8_IMP_03	R's ability to remember things (Imputed)

## Wave 3 Imputed Cognition:

PC11_FLAG_12	R's ability to recall conversations a few days later: F
PC11_IMP_12	R's ability to recall conversations a few days later (I
PC14_FLAG_12	R's ability to remember his/her address: Flag if Impute
PC14_IMP_12	R's ability to remember his/her address (Imputed)
PC17_FLAG_12	R's ability to remember what day and month it is: Flag
PC17_IMP_12	R's ability to remember what day and month it is (Imput
PC20_FLAG_12	R's ability to remember where things are usually kept:
PC20_IMP_12	R's ability to remember where things are usually kept (
PC23_FLAG_12	R's ability to remember where to find things put in a d
PC23_IMP_12	R's ability to remember where to find things put in a d
PC26_FLAG_12	R's ability to know how to use familiar machines: Flag
PC26_IMP_12	R's ability to know how to use familiar machines (Imput
PC29_FLAG_12	R's ability to learn to use a new gadget or machine: Fl
PC29_IMP_12	R's ability to learn to use a new gadget or machine (Im
PC32_FLAG_12	R's ability to learn new things in general: Flag if Imp
PC32_IMP_12	R's ability to learn new things in general (Imputed)
PC35_FLAG_12	R's ability to follow a story in a book or on TV: Flag
PC35_IMP_12	R's ability to follow a story in a book or on TV (Imput
PC38_FLAG_12	R's ability to make decisions on everyday matters: Flag

PC38_IMP_12	R's ability to make decisions on everyday matters (Impu
PC41_FLAG_12	R's ability to handle money for shopping: Flag if Imput
PC41_IMP_12	R's ability to handle money for shopping (Imputed)
PC44_FLAG_12	R's ability to handle financial matters: Flag if Impute
PC44_IMP_12	R's ability to handle financial matters (Imputed)
PC47_FLAG_12	R's ability to handle other everyday arithmetic problem
PC47_IMP_12	R's ability to handle other everyday arithmetic problem
PC50_FLAG_12	R's ability to use his/her intelligence to understand w
PC50_IMP_12	R's ability to use his/her intelligence to understand w
PC5_FLAG_12	R's ability to remember things about family & friends:
PC5_IMP_12	R's ability to remember things about family & friends (
PC8_FLAG_12	R's ability to remember things: Flag if Imputed
PC8_IMP_12	R's ability to remember things (Imputed)

## Wave 4 Imputed Cognition:

PC11_FLAG_15	R's ability to recall conversations a few days later: F
PC11_IMP_15	R's ability to recall conversations a few days later (I
PC14_FLAG_15	R's ability to remember his/her address: Flag if Impute
PC14_IMP_15	R's ability to remember his/her address (Imputed)
PC17_FLAG_15	R's ability to remember what day and month it is: Flag
PC17_IMP_15	R's ability to remember what day and month it is (Imput
PC20_FLAG_15	R's ability to remember where things are usually kept:
PC20_IMP_15	R's ability to remember where things are usually kept (
PC23_FLAG_15	R's ability to remember where to find things put in a d
PC23_IMP_15	R's ability to remember where to find things put in a d
PC26_FLAG_15	R's ability to know how to use familiar machines: Flag
PC26_IMP_15	R's ability to know how to use familiar machines (Imput
PC29_FLAG_15	R's ability to learn to use a new gadget or machine: Fl
PC29_IMP_15	R's ability to learn to use a new gadget or machine (Im
PC32_FLAG_15	R's ability to learn new things in general: Flag if Imp
PC32_IMP_15	R's ability to learn new things in general (Imputed)
PC35_FLAG_15	R's ability to follow a story in a book or on TV: Flag
PC35_IMP_15	R's ability to follow a story in a book or on TV (Imput
PC38_FLAG_15	R's ability to make decisions on everyday matters: Flag
PC38_IMP_15	R's ability to make decisions on everyday matters (Impu
PC41_FLAG_15	R's ability to handle money for shopping: Flag if Imput
PC41_IMP_15	R's ability to handle money for shopping (Imputed)
PC44_FLAG_15	R's ability to handle financial matters: Flag if Impute
PC44_IMP_15	R's ability to handle financial matters (Imputed)
PC47_FLAG_15	R's ability to handle other everyday arithmetic problem
PC47_IMP_15	R's ability to handle other everyday arithmetic problem
PC50_FLAG_15	R's ability to use his/her intelligence to understand w
PC50_IMP_15	R's ability to use his/her intelligence to understand w
PC5_FLAG_15	R's ability to remember things about family & friends:
PC5_IMP_15	R's ability to remember things about family & friends (
PC8_FLAG_15	R's ability to remember things: Flag if Imputed
PC8_IMP_15	R's ability to remember things (Imputed)

## Wave 5 Imputed Cognition:

PC11_FLAG_18	R's ability to recall conversations a few days later: F
PC11_IMP_18	R's ability to recall conversations a few days later (I
PC14_FLAG_18	R's ability to remember his/her address: Flag if Impute
PC14_IMP_18	R's ability to remember his/her address (Imputed)
PC17_FLAG_18	R's ability to remember what day and month it is: Flag
PC17_IMP_18	R's ability to remember what day and month it is (Imput
PC20_FLAG_18	R's ability to remember where things are usually kept:
PC20_IMP_18	R's ability to remember where things are usually kept (
PC23_FLAG_18	R's ability to remember where to find things put in a d
PC23_IMP_18	R's ability to remember where to find things put in a d
PC26_FLAG_18	R's ability to know how to use familiar machines: Flag
PC26_IMP_18	R's ability to know how to use familiar machines (Imput
PC29_FLAG_18	R's ability to learn to use a new gadget or machine: Fl
PC29_IMP_18	R's ability to learn to use a new gadget or machine (Im
PC32_FLAG_18	R's ability to learn new things in general: Flag if Imp
PC32_IMP_18	R's ability to learn new things in general (Imputed)
PC35_FLAG_18	R's ability to follow a story in a book or on TV: Flag

PC35_IMP_18	R's ability to follow a story in a book or on TV (Imput
PC38_FLAG_18	R's ability to make decisions on everyday matters: Flag
PC38_IMP_18	R's ability to make decisions on everyday matters (Impu
PC41_FLAG_18	R's ability to handle money for shopping: Flag if Input
PC41_IMP_18	R's ability to handle money for shopping (Imputed)
PC44_FLAG_18	R's ability to handle financial matters: Flag if Impute
PC44_IMP_18	R's ability to handle financial matters (Imputed)
PC47_FLAG_18	R's ability to handle other everyday arithmetic problem
PC47_IMP_18	R's ability to handle other everyday arithmetic problem
PC50_FLAG_18	R's ability to use his/her intelligence to understand w
PC50_IMP_18	R's ability to use his/her intelligence to understand w
PC5_FLAG_18	R's ability to remember things about family & friends:
PC5_IMP_18	R's ability to remember things about family & friends (
PC8_FLAG_18	R's ability to remember things: Flag if Imputed
PC8_IMP_18	R's ability to remember things (Imputed)

<b>Proxy Cognition: Ratings of Memory and Abilities</b>
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Wave	Variable	Label	Type
1	R1PRMEM	r1prmem:w1 R proxy rating of memory	Categ
2	R2PRMEM	r2prmem:w2 R proxy rating of memory	Categ
3	R3PRMEM	r3prmem:w3 R proxy rating of memory	Categ
4	R4PRMEM	r4prmem:w4 R proxy rating of memory	Categ
5	R5PRMEM	r5prmem:w5 R proxy rating of memory	Categ
1	S1PRMEM	s1prmem:w1 S proxy rating of memory	Categ
2	S2PRMEM	s2prmem:w2 S proxy rating of memory	Categ
3	S3PRMEM	s3prmem:w3 S proxy rating of memory	Categ
4	S4PRMEM	s4prmem:w4 S proxy rating of memory	Categ
5	S5PRMEM	s5prmem:w5 S proxy rating of memory	Categ
1	R1PRCHMEM	r1prchmem:w1 R proxy rating change in memory	Categ
2	R2PRCHMEM	r2prchmem:w2 R proxy rating change in memory	Categ
3	R3PRCHMEM	r3prchmem:w3 R proxy rating change in memory	Categ
4	R4PRCHMEM	r4prchmem:w4 R proxy rating change in memory	Categ
5	R5PRCHMEM	r5prchmem:w5 R proxy rating change in memory	Categ
1	S1PRCHMEM	s1prchmem:w1 S proxy rating change in memory	Categ
2	S2PRCHMEM	s2prchmem:w2 S proxy rating change in memory	Categ
3	S3PRCHMEM	s3prchmem:w3 S proxy rating change in memory	Categ
4	S4PRCHMEM	s4prchmem:w4 S proxy rating change in memory	Categ
5	S5PRCHMEM	s5prchmem:w5 S proxy rating change in memory	Categ
1	R1RJUDG	r1rjudg:w1 R proxy rating of judgement	Categ
2	R2RJUDG	r2rjudg:w2 R proxy rating of judgement	Categ
3	R3RJUDG	r3rjudg:w3 R proxy rating of judgement	Categ
4	R4RJUDG	r4rjudg:w4 R proxy rating of judgement	Categ
5	R5RJUDG	r5rjudg:w5 R proxy rating of judgement	Categ
1	S1RJUDG	s1rjudg:w1 S proxy rating of judgement	Categ
2	S2RJUDG	s2rjudg:w2 S proxy rating of judgement	Categ
3	S3RJUDG	s3rjudg:w3 S proxy rating of judgement	Categ
4	S4RJUDG	s4rjudg:w4 S proxy rating of judgement	Categ
5	S5RJUDG	s5rjudg:w5 S proxy rating of judgement	Categ
1	R1RORGNZ	r1rorgnz:w1 R proxy rating of daily activity organization	Categ
2	R2RORGNZ	r2rorgnz:w2 R proxy rating of daily activity organization	Categ
3	R3RORGNZ	r3rorgnz:w3 R proxy rating of daily activity organization	Categ
4	R4RORGNZ	r4rorgnz:w4 R proxy rating of daily activity organization	Categ
5	R5RORGNZ	r5rorgnz:w5 R proxy rating of daily activity organization	Categ
1	S1RORGNZ	s1rorgnz:w1 S proxy rating of daily activity organization	Categ
2	S2RORGNZ	s2rorgnz:w2 S proxy rating of daily activity organization	Categ
3	S3RORGNZ	s3rorgnz:w3 S proxy rating of daily activity organization	Categ
4	S4RORGNZ	s4rorgnz:w4 S proxy rating of daily activity organization	Categ
5	S5RORGNZ	s5rorgnz:w5 S proxy rating of daily activity organization	Categ

### Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R1PRMEM	1029	3.28	0.96	1.00	5.00
R2PRMEM	1175	3.21	0.97	1.00	5.00
R3PRMEM	1275	3.44	1.02	1.00	5.00
R4PRMEM	928	3.54	1.07	1.00	5.00
R5PRMEM	1324	3.37	1.11	1.00	5.00

S1PRMEM	658	3.17	0.92	1.00	5.00
S2PRMEM	818	3.16	0.94	1.00	5.00
S3PRMEM	726	3.33	0.97	1.00	5.00
S4PRMEM	470	3.39	1.04	1.00	5.00
S5PRMEM	562	3.41	1.06	1.00	5.00
R1PRCHMEM	1027	2.18	0.44	1.00	3.00
R2PRCHMEM	1173	2.14	0.43	1.00	3.00
R3PRCHMEM	1274	2.24	0.50	1.00	3.00
R4PRCHMEM	927	2.31	0.51	1.00	3.00
R5PRCHMEM	1322	2.26	0.50	1.00	3.00
S1PRCHMEM	656	2.13	0.41	1.00	3.00
S2PRCHMEM	817	2.12	0.40	1.00	3.00
S3PRCHMEM	726	2.17	0.45	1.00	3.00
S4PRCHMEM	469	2.24	0.48	1.00	3.00
S5PRCHMEM	561	2.26	0.49	1.00	3.00
R1RJUDG	1024	3.31	0.99	1.00	5.00
R2RJUDG	1172	3.17	0.97	1.00	5.00
R3RJUDG	1274	3.46	1.06	1.00	5.00
R4RJUDG	927	3.57	1.08	1.00	5.00
R5RJUDG	1322	3.41	1.14	1.00	5.00
S1RJUDG	655	3.16	0.92	1.00	5.00
S2RJUDG	817	3.09	0.95	1.00	5.00
S3RJUDG	725	3.28	1.00	1.00	5.00
S4RJUDG	469	3.37	1.06	1.00	5.00
S5RJUDG	560	3.41	1.07	1.00	5.00
R1RORGNZ	1022	3.30	1.00	1.00	5.00
R2RORGNZ	1173	3.16	1.01	1.00	5.00
R3RORGNZ	1275	3.48	1.09	1.00	5.00
R4RORGNZ	927	3.57	1.13	1.00	5.00
R5RORGNZ	1322	3.43	1.18	1.00	5.00
S1RORGNZ	653	3.16	0.93	1.00	5.00
S2RORGNZ	817	3.04	0.98	1.00	5.00
S3RORGNZ	726	3.28	1.04	1.00	5.00
S4RORGNZ	470	3.37	1.13	1.00	5.00
S5RORGNZ	559	3.45	1.12	1.00	5.00

Categorical Variable Codes

Value-----	R1PRMEM	R2PRMEM	R3PRMEM	R4PRMEM	R5PRMEM
.d:DK	1	3		1	2
.m:Missing	1				2
.n:Non-proxy ivw	14154	12526	14448	13850	15786
.r:Refuse	1				
1.Excellent	48	63	64	52	114
2.Very good	117	160	122	76	124
3.Good	469	527	473	299	431
4.Fair	287	316	424	320	467
5.Poor	108	109	192	181	188
Value-----	S1PRMEM	S2PRMEM	S3PRMEM	S4PRMEM	S5PRMEM
.d:DK		3			
.m:Missing	1				1
.n:Non-proxy ivw	9988	8743	9866	9182	7075
.r:Refuse	1				
.u:Unmar	4205	4009	4782	4847	5227
.v:SP NR	333	131	349	280	501
1.Excellent	35	42	33	28	39
2.Very good	79	124	86	49	50
3.Good	332	375	293	174	192
4.Fair	165	217	236	152	201

5.Poor		47	60	78	67	80
Value-----		R1PRCHMEM	R2PRCHMEM	R3PRCHMEM	R4PRCHMEM	R5PRCHMEM
.d:DK		2	5	1	2	4
.m:Missing		1				2
.n:Non-proxy ivw		14154	12526	14448	13850	15786
.r:Refuse		2				
1.Better		22	35	42	22	34
2.Same		800	935	879	595	907
3.Worse		205	203	353	310	381
Value-----		S1PRCHMEM	S2PRCHMEM	S3PRCHMEM	S4PRCHMEM	S5PRCHMEM
.d:DK		1	4		1	1
.m:Missing		1				1
.n:Non-proxy ivw		9988	8743	9866	9182	7075
.r:Refuse		2				
.u:Unmar		4205	4009	4782	4847	5227
.v:SP NR		333	131	349	280	501
1.Better		17	25	22	11	13
2.Same		534	673	555	333	388
3.Worse		105	119	149	125	160
Value-----		R1RJUDG	R2RJUDG	R3RJUDG	R4RJUDG	R5RJUDG
.d:DK		2	6	1	2	3
.m:Missing		1				2
.n:Non-proxy ivw		14154	12526	14448	13850	15786
.r:Refuse		5				1
1.Excellent		45	69	60	43	97
2.Very good		121	147	120	83	152
3.Good		468	586	522	317	449
4.Fair		251	253	312	268	362
5.Poor		139	117	260	216	262
Value-----		S1RJUDG	S2RJUDG	S3RJUDG	S4RJUDG	S5RJUDG
.d:DK			4	1	1	2
.m:Missing		1				1
.n:Non-proxy ivw		9988	8743	9866	9182	7075
.r:Refuse		4				
.u:Unmar		4205	4009	4782	4847	5227
.v:SP NR		333	131	349	280	501
1.Excellent		32	50	36	27	29
2.Very good		88	116	87	53	68
3.Good		330	427	332	184	204
4.Fair		155	156	175	131	160
5.Poor		50	68	95	74	99
Value-----		R1RORGNZ	R2RORGNZ	R3RORGNZ	R4RORGNZ	R5RORGNZ
.d:DK		3	5		1	3
.m:Missing		1				2
.n:Non-proxy ivw		14154	12526	14448	13850	15786
.r:Refuse		6			1	1
1.Excellent		44	74	64	53	103
2.Very good		116	158	120	79	152
3.Good		506	589	511	325	441
4.Fair		205	211	297	227	332
5.Poor		151	141	283	243	294
Value-----		S1RORGNZ	S2RORGNZ	S3RORGNZ	S4RORGNZ	S5RORGNZ
.d:DK		2	4			3
.m:Missing		1				1
.n:Non-proxy ivw		9988	8743	9866	9182	7075
.r:Refuse		4				
.u:Unmar		4205	4009	4782	4847	5227
.v:SP NR		333	131	349	280	501
1.Excellent		29	58	41	35	31
2.Very good		85	129	88	47	67
3.Good		354	427	332	189	201
4.Fair		121	128	159	105	137
5.Poor		64	75	106	94	123

How Constructed



RwPRMEM indicates the proxy's rating of the respondent's memory at the present time. RwPRMEM is coded as follows: 1.excellent, 2.very good, 3.good, 4.fair, 5.poor. RwPRMEM is set to special missing value .n for non-proxy interviews. Don't know, refused, or other missing responses are assigned special missing values .d, .r, or .m, respectively. RwPRMEM is set to plain missing (.) if the respondent did not participate in the current wave.

RwPRCHMEM indicates the proxy's rating of the respondent's memory compared to two years ago. RwPRCHMEM is coded as follows: 1.better, 2.same, 3.worse. RwPRCHMEM is set to special missing value .n for non-proxy interviews. Don't know, refused, or other missing responses are assigned special missing values .d, .r, or .m, respectively. RwPRCHMEM is set to plain missing (.) if the respondent did not participate in the current wave.

RwRJUDG indicates the proxy's rating of the respondent's ability to make judgements and decisions. RwRJUDG is coded as follows: 1.excellent, 2.very good, 3.good, 4.fair, 5.poor. RwRJUDG is set to special missing value .n for non-proxy interviews. Don't know, refused, or other missing responses are assigned special missing values .d, .r, or .m, respectively. RwRJUDG is set to plain missing (.) if the respondent did not participate in the current wave.

RwRORGNZ indicates the proxy's rating of the respondent's ability to organize their daily activities. RwRORGNZ is coded as follows: 1.excellent, 2.very good, 3.good, 4.fair, 5.poor. RwRORGNZ is set to special missing value .n for non-proxy interviews. Don't know, refused, or other missing responses are assigned special missing values .d, .r, or .m, respectively. RwRORGNZ is set to plain missing (.) if the respondent did not participate in the current wave.

SwPRMEM, SwPRCHMEM, SwRJUDG, and SwRORGNZ are taken from the Wave 'w' spouse's values for RwPRMEM, RwPRCHMEM, RwRJUDG, and RwRORGNZ, respectively. In addition to the special missing codes used in the respondent variables, if the respondent is not designated as coupled in the current wave and assumed to be single, a special missing value of .u is used. Also, if the respondent is not designated as coupled in the current wave but reports being married, a special missing value of .v is used.

## Cross Wave Differences in MHAS

No differences known.

## Differences with the RAND HRS/Harmonized HRS

The RAND HRS has comparable variables for RwPRMEM and RwPRCHMEM. The HRS asks about the respondent's ability to make judgements and decisions and organize their daily activities, but these variables have not yet been made available in the RAND HRS or Harmonized HRS.

## MHAS Variables Used

Wave 1:	
PC1	memory
PC2	change in memory
PC3	judgment
PC4	organization
Wave 2:	
PC1	memory
PC2	change in memory
PC3	judgment
PC4	organization
Wave 3:	
PC1_12	Present time: Report the subject's memory quality
PC2_12	Compared to 2 years ago: Report the subject's memory qu
PC3_12	Report subject's ability to make judgments/decisions
PC4_12	Report subject's ability to organize his/her daily acti
Wave 4:	
PC1_15	Present time: Subject's memory
PC2_15	Compared to 2 years ago: Subject's memory quality
PC3_15	Subject's ability to make judgments and take decisions
PC4_15	Subject's ability to organize his/her daily activities
Wave 5:	

PC1_18	Present time: Subject's memory
PC2_18	Compared to 2 years ago: Subject's memory quality
PC3_18	Subject's ability to make judgments and take decisions
PC4_18	Subject's ability to organize his/her daily activities

<b>Proxy Cognition: Cognitive Impairment</b>
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Wave	Variable	Label	Type
1	R1LOST	r1lost:w1 R lost in familiar environments	Categ
2	R2LOST	r2lost:w2 R lost in familiar environments	Categ
3	R3LOST	r3lost:w3 R lost in familiar environments	Categ
4	R4LOST	r4lost:w4 R lost in familiar environments	Categ
5	R5LOST	r5lost:w5 R lost in familiar environments	Categ
1	S1LOST	s1lost:w1 S lost in familiar environments	Categ
2	S2LOST	s2lost:w2 S lost in familiar environments	Categ
3	S3LOST	s3lost:w3 S lost in familiar environments	Categ
4	S4LOST	s4lost:w4 S lost in familiar environments	Categ
5	S5LOST	s5lost:w5 S lost in familiar environments	Categ
1	R1WANDER	r1wander:w1 R ever wanders off	Categ
2	R2WANDER	r2wander:w2 R ever wanders off	Categ
3	R3WANDER	r3wander:w3 R ever wanders off	Categ
4	R4WANDER	r4wander:w4 R ever wanders off	Categ
5	R5WANDER	r5wander:w5 R ever wanders off	Categ
1	S1WANDER	s1wander:w1 S ever wanders off	Categ
2	S2WANDER	s2wander:w2 S ever wanders off	Categ
3	S3WANDER	s3wander:w3 S ever wanders off	Categ
4	S4WANDER	s4wander:w4 S ever wanders off	Categ
5	S5WANDER	s5wander:w5 S ever wanders off	Categ
1	R1ALONE	r1alone:w1 R can be left alone	Categ
2	R2ALONE	r2alone:w2 R can be left alone	Categ
3	R3ALONE	r3alone:w3 R can be left alone	Categ
4	R4ALONE	r4alone:w4 R can be left alone	Categ
5	R5ALONE	r5alone:w5 R can be left alone	Categ
1	S1ALONE	s1alone:w1 S can be left alone	Categ
2	S2ALONE	s2alone:w2 S can be left alone	Categ
3	S3ALONE	s3alone:w3 S can be left alone	Categ
4	S4ALONE	s4alone:w4 S can be left alone	Categ
5	S5ALONE	s5alone:w5 S can be left alone	Categ
1	R1HALUC	r1haluc:w1 R hallucinates	Categ
2	R2HALUC	r2haluc:w2 R hallucinates	Categ
3	R3HALUC	r3haluc:w3 R hallucinates	Categ
4	R4HALUC	r4haluc:w4 R hallucinates	Categ
5	R5HALUC	r5haluc:w5 R hallucinates	Categ
1	S1HALUC	s1haluc:w1 S hallucinates	Categ
2	S2HALUC	s2haluc:w2 S hallucinates	Categ
3	S3HALUC	s3haluc:w3 S hallucinates	Categ
4	S4HALUC	s4haluc:w4 S hallucinates	Categ
5	S5HALUC	s5haluc:w5 S hallucinates	Categ

**Descriptive Statistics**

Variable	N	Mean	Std Dev	Minimum	Maximum
R1LOST	1010	0.17	0.38	0.00	1.00
R2LOST	1169	0.18	0.38	0.00	1.00
R3LOST	1267	0.25	0.43	0.00	1.00
R4LOST	925	0.34	0.47	0.00	1.00
R5LOST	1311	0.25	0.43	0.00	1.00

S1LOST	646	0.11	0.32	0.00	1.00
S2LOST	815	0.14	0.34	0.00	1.00
S3LOST	722	0.17	0.37	0.00	1.00
S4LOST	468	0.23	0.42	0.00	1.00
S5LOST	553	0.19	0.39	0.00	1.00
R1WANDER	1004	0.08	0.27	0.00	1.00
R2WANDER	1160	0.08	0.27	0.00	1.00
R3WANDER	1266	0.12	0.33	0.00	1.00
R4WANDER	924	0.15	0.35	0.00	1.00
R5WANDER	1309	0.12	0.33	0.00	1.00
S1WANDER	645	0.04	0.20	0.00	1.00
S2WANDER	812	0.07	0.25	0.00	1.00
S3WANDER	723	0.09	0.28	0.00	1.00
S4WANDER	470	0.10	0.30	0.00	1.00
S5WANDER	553	0.11	0.31	0.00	1.00
R1ALONE	1020	0.85	0.36	0.00	1.00
R2ALONE	1173	0.83	0.38	0.00	1.00
R3ALONE	1274	0.77	0.42	0.00	1.00
R4ALONE	927	0.74	0.44	0.00	1.00
R5ALONE	1321	0.79	0.41	0.00	1.00
S1ALONE	651	0.88	0.33	0.00	1.00
S2ALONE	817	0.82	0.38	0.00	1.00
S3ALONE	725	0.79	0.41	0.00	1.00
S4ALONE	469	0.78	0.41	0.00	1.00
S5ALONE	559	0.80	0.40	0.00	1.00
R1HALUC	1005	0.14	0.34	0.00	1.00
R2HALUC	1166	0.11	0.31	0.00	1.00
R3HALUC	1270	0.15	0.35	0.00	1.00
R4HALUC	917	0.23	0.42	0.00	1.00
R5HALUC	1311	0.18	0.38	0.00	1.00
S1HALUC	641	0.08	0.28	0.00	1.00
S2HALUC	812	0.08	0.27	0.00	1.00
S3HALUC	723	0.09	0.28	0.00	1.00
S4HALUC	468	0.15	0.36	0.00	1.00
S5HALUC	554	0.14	0.34	0.00	1.00

Categorical Variable Codes

Value-----	R1LOST	R2LOST	R3LOST	R4LOST	R5LOST
.d:DK	12	9	6	3	11
.m:Missing	1				2
.n:Non-proxy ivw	14154	12526	14448	13850	15786
.r:Refuse	9		2	1	4
0.No	834	963	950	614	985
1.Yes	176	206	317	311	326
Value-----	S1LOST	S2LOST	S3LOST	S4LOST	S5LOST
.d:DK	6	6	4	2	5
.m:Missing	1				1
.n:Non-proxy ivw	9988	8743	9866	9182	7075
.r:Refuse	7				4
.u:Unmar	4205	4009	4782	4847	5227
.v:SP NR	333	131	349	280	501
0.No	572	703	602	360	447
1.Yes	74	112	120	108	106
Value-----	R1WANDER	R2WANDER	R3WANDER	R4WANDER	R5WANDER
.d:DK	12	13	7	4	7
.m:Missing	1				2
.n:Non-proxy ivw	14154	12526	14448	13850	15786

.r:Refuse		15	5	2	1	10
0.No		926	1067	1108	789	1149
1.Yes		78	93	158	135	160
Value-----		S1WANDER	S2WANDER	S3WANDER	S4WANDER	S5WANDER
.d:DK		4	6	3		4
.m:Missing		1				1
.n:Non-proxy ivw		9988	8743	9866	9182	7075
.r:Refuse		10	3			5
.u:Unmar		4205	4009	4782	4847	5227
.v:SP NR		333	131	349	280	501
0.No		617	756	661	422	492
1.Yes		28	56	62	48	61
Value-----		R1ALONE	R2ALONE	R3ALONE	R4ALONE	R5ALONE
.d:DK		4	5		1	1
.m:Missing		1				2
.n:Non-proxy ivw		14154	12526	14448	13850	15786
.r:Refuse		7		1	1	4
0.No		154	204	288	239	281
1.Yes		866	969	986	688	1040
Value-----		S1ALONE	S2ALONE	S3ALONE	S4ALONE	S5ALONE
.d:DK		1	4			
.m:Missing		1				1
.n:Non-proxy ivw		9988	8743	9866	9182	7075
.r:Refuse		7		1	1	3
.u:Unmar		4205	4009	4782	4847	5227
.v:SP NR		333	131	349	280	501
0.No		81	145	151	102	114
1.Yes		570	672	574	367	445
Value-----		R1HALUC	R2HALUC	R3HALUC	R4HALUC	R5HALUC
.d:DK		10	12	3	11	9
.m:Missing		1				2
.n:Non-proxy ivw		14154	12526	14448	13850	15786
.r:Refuse		16		2	1	6
0.No		867	1040	1084	705	1076
1.Yes		138	126	186	212	235
Value-----		S1HALUC	S2HALUC	S3HALUC	S4HALUC	S5HALUC
.d:DK		6	9	2	2	4
.m:Missing		1				1
.n:Non-proxy ivw		9988	8743	9866	9182	7075
.r:Refuse		12		1		4
.u:Unmar		4205	4009	4782	4847	5227
.v:SP NR		333	131	349	280	501
0.No		587	746	659	397	478
1.Yes		54	66	64	71	76

## How Constructed

RwLOST, RwWANDER, RwALONE, and RwHALUC indicate whether the proxy indicated that the respondent shows the following signs of cognitive impairment. RwLOST indicates whether the respondent has ever gotten lost in a familiar environment. RwWANDER indicates whether the respondent ever wanders off and is not able to return by themselves. RwALONE indicates whether the respondent can be left alone for an hour or so. RwHALUC indicates whether the respondent ever sees or hears things that are not really there. These variables are coded as 0.no and 1.yes. They are set to special missing value .n for non-proxy interviews. Don't know, refused, or other missing responses are assigned special missing values .d, .r, or .m, respectively. RwLOST, RwWANDER, RwALONE, and RwHALUC are set to plain missing (.) if the respondent did not participate in the current wave.

SwLOST, SwWANDER, SwALONE, and SwHALUC are taken from the Wave 'w' spouse's values for RwLOST, RwWANDER, RwALONE, and RwHALUC, respectively. In addition to the special missing codes used in the respondent variables, if the respondent is not designated as coupled in the current wave and assumed to be single, a special missing value of .u is used. Also, if the respondent is not designated as coupled in the current wave but reports being married, a special missing value of .v is used.

Cross Wave Differences in MHAS

No differences known.

Differences with the RAND HRS/Harmonized HRS

The RAND HRS has comparable variables for RwLOST, RwWANDER, RwALONE, and RwHALUC.

MHAS Variables Used

Wave 1:	
PC53	gets lost
PC54	wanders off
PC55	can be left alone
PC56	see and hear things
Wave 2:	
PC53	gets lost
PC54	wanders off
PC55	can be left alone
PC56	see and hear things
Wave 3:	
PC53_12	Currently:Does subject get lost in a familiar environme
PC54_12	Currently:Does subject wander off without returning by
PC55_12	Currently:Can subject be left alone for about an hour
PC56_12	Currently:Does subject hear/see things that are not pre
Wave 4:	
PC53_15	Currently: Does subject get lost in a familiar environm
PC54_15	Currently: Does subject wander off and not return by hi
PC55_15	Currently: Can subject be left alone for about an hour
PC56_15	Currently: Does subject ever see or hear things that ar
Wave 5:	
PC53_18	Currently: Does subject get lost in a familiar environm
PC54_18	Currently: Does subject wander off and not return by hi
PC55_18	Currently: Can subject be left alone for about an hour
PC56_18	Currently: Does subject ever see or hear things that ar

<b>Proxy Cognition: Problem Behaviors in Past Week</b>
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Wave	Variable	Label	Type
1	R1OANGRY	r1oangry:w1 R how often angry during past week	Categ
2	R2OANGRY	r2oangry:w2 R how often angry during past week	Categ
3	R3OANGRY	r3oangry:w3 R how often angry during past week	Categ
4	R4OANGRY	r4oangry:w4 R how often angry during past week	Categ
1	S1OANGRY	s1oangry:w1 S how often angry during past week	Categ
2	S2OANGRY	s2oangry:w2 S how often angry during past week	Categ
3	S3OANGRY	s3oangry:w3 S how often angry during past week	Categ
4	S4OANGRY	s4oangry:w4 S how often angry during past week	Categ
1	R1OSLEEP	r1osleep:w1 R how often trouble sleeping during past week	Categ
2	R2OSLEEP	r2osleep:w2 R how often trouble sleeping during past week	Categ
3	R3OSLEEP	r3osleep:w3 R how often trouble sleeping during past week	Categ
4	R4OSLEEP	r4osleep:w4 R how often trouble sleeping during past week	Categ
1	S1OSLEEP	s1osleep:w1 S how often trouble sleeping during past week	Categ
2	S2OSLEEP	s2osleep:w2 S how often trouble sleeping during past week	Categ
3	S3OSLEEP	s3osleep:w3 S how often trouble sleeping during past week	Categ
4	S4OSLEEP	s4osleep:w4 S how often trouble sleeping during past week	Categ
1	R1ODNGR	r1odngr:w1 R how often dangerous during past week	Categ
2	R2ODNGR	r2odngr:w2 R how often dangerous during past week	Categ
3	R3ODNGR	r3odngr:w3 R how often dangerous during past week	Categ
4	R4ODNGR	r4odngr:w4 R how often dangerous during past week	Categ
1	S1ODNGR	s1odngr:w1 S how often dangerous during past week	Categ
2	S2ODNGR	s2odngr:w2 S how often dangerous during past week	Categ
3	S3ODNGR	s3odngr:w3 S how often dangerous during past week	Categ
4	S4ODNGR	s4odngr:w4 S how often dangerous during past week	Categ
1	R1OPACE	r1opace:w1 R how often paced around during past week	Categ
2	R2OPACE	r2opace:w2 R how often paced around during past week	Categ
3	R3OPACE	r3opace:w3 R how often paced around during past week	Categ
4	R4OPACE	r4opace:w4 R how often paced around during past week	Categ
1	S1OPACE	s1opace:w1 S how often paced around during past week	Categ
2	S2OPACE	s2opace:w2 S how often paced around during past week	Categ
3	S3OPACE	s3opace:w3 S how often paced around during past week	Categ
4	S4OPACE	s4opace:w4 S how often paced around during past week	Categ
1	R1OPLOT	r1oplot:w1 R how often thought someone plotting during past	Categ
2	R2OPLOT	r2oplot:w2 R how often thought someone plotting during past	Categ
3	R3OPLOT	r3oplot:w3 R how often thought someone plotting during past	Categ
4	R4OPLOT	r4oplot:w4 R how often thought someone plotting during past	Categ
1	S1OPLOT	s1oplot:w1 S how often thought someone plotting during past	Categ
2	S2OPLOT	s2oplot:w2 S how often thought someone plotting during past	Categ
3	S3OPLOT	s3oplot:w3 S how often thought someone plotting during past	Categ
4	S4OPLOT	s4oplot:w4 S how often thought someone plotting during past	Categ
1	R1OALCHL	r1oalchl:w1 R how often drunk too much alcohol during past w	Categ
2	R2OALCHL	r2oalchl:w2 R how often drunk too much alcohol during past w	Categ
3	R3OALCHL	r3oalchl:w3 R how often drunk too much alcohol during past w	Categ
4	R4OALCHL	r4oalchl:w4 R how often drunk too much alcohol during past w	Categ
1	S1OALCHL	s1oalchl:w1 S how often drunk too much alcohol during past w	Categ
2	S2OALCHL	s2oalchl:w2 S how often drunk too much alcohol during past w	Categ
3	S3OALCHL	s3oalchl:w3 S how often drunk too much alcohol during past w	Categ
4	S4OALCHL	s4oalchl:w4 S how often drunk too much alcohol during past w	Categ

Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R1OANGRY	953	2.46	0.70	1.00	3.00
R2OANGRY	1080	2.51	0.68	1.00	3.00
R3OANGRY	1250	2.46	0.70	1.00	3.00
R4OANGRY	912	2.42	0.72	1.00	3.00
S1OANGRY	606	2.49	0.69	1.00	3.00
S2OANGRY	752	2.53	0.68	1.00	3.00
S3OANGRY	709	2.45	0.72	1.00	3.00
S4OANGRY	458	2.43	0.72	1.00	3.00
R1OSLEEP	942	2.56	0.68	1.00	3.00
R2OSLEEP	1057	2.54	0.69	1.00	3.00
R3OSLEEP	1243	2.42	0.75	1.00	3.00
R4OSLEEP	907	2.28	0.81	1.00	3.00
S1OSLEEP	600	2.65	0.61	1.00	3.00
S2OSLEEP	742	2.63	0.64	1.00	3.00
S3OSLEEP	705	2.51	0.72	1.00	3.00
S4OSLEEP	459	2.37	0.79	1.00	3.00
R1ODNGR	964	2.90	0.35	1.00	3.00
R2ODNGR	1088	2.91	0.32	1.00	3.00
R3ODNGR	1255	2.87	0.40	1.00	3.00
R4ODNGR	911	2.86	0.42	1.00	3.00
S1ODNGR	613	2.93	0.29	1.00	3.00
S2ODNGR	757	2.92	0.32	1.00	3.00
S3ODNGR	712	2.89	0.37	1.00	3.00
S4ODNGR	462	2.88	0.40	1.00	3.00
R1OPACE	970	2.86	0.43	1.00	3.00
R2OPACE	1086	2.87	0.40	1.00	3.00
R3OPACE	1249	2.80	0.50	1.00	3.00
R4OPACE	910	2.78	0.53	1.00	3.00
S1OPACE	617	2.92	0.33	1.00	3.00
S2OPACE	756	2.89	0.38	1.00	3.00
S3OPACE	707	2.84	0.45	1.00	3.00
S4OPACE	461	2.81	0.49	1.00	3.00
R1OPLOT	966	2.87	0.42	1.00	3.00
R2OPLOT	1087	2.88	0.40	1.00	3.00
R3OPLOT	1253	2.87	0.42	1.00	3.00
R4OPLOT	910	2.81	0.50	1.00	3.00
S1OPLOT	613	2.93	0.32	1.00	3.00
S2OPLOT	757	2.91	0.35	1.00	3.00
S3OPLOT	709	2.91	0.34	1.00	3.00
S4OPLOT	460	2.85	0.47	1.00	3.00
R1OALCHL	964	2.88	0.42	1.00	3.00
R2OALCHL	1091	2.90	0.35	1.00	3.00
R3OALCHL	1257	2.92	0.34	1.00	3.00
R4OALCHL	914	2.94	0.31	1.00	3.00
S1OALCHL	610	2.86	0.45	1.00	3.00
S2OALCHL	758	2.88	0.38	1.00	3.00
S3OALCHL	713	2.92	0.35	1.00	3.00
S4OALCHL	460	2.94	0.31	1.00	3.00



## Categorical Variable Codes

Value-----	R1OANGRY	R2OANGRY	R3OANGRY	R4OANGRY
.d:DK	66	98	24	15
.m:Missing	1			
.n:Non-proxy ivw	14154	12526	14448	13850
.r:Refuse	12	1	1	2
1.Most of the time	118	115	154	126
2.Some of the time	279	295	367	281
3.Never	556	670	729	505
Value-----	S1OANGRY	S2OANGRY	S3OANGRY	S4OANGRY
.d:DK	44	69	16	10
.m:Missing	1			
.n:Non-proxy ivw	9988	8743	9866	9182
.r:Refuse	9	1	1	2
.u:Unmar	4205	4009	4782	4847
.v:SP NR	333	131	349	280
1.Most of the time	70	79	95	61
2.Some of the time	171	193	198	139
3.Never	365	480	416	258
Value-----	R1OSLEEP	R2OSLEEP	R3OSLEEP	R4OSLEEP
.d:DK	77	120	31	22
.m:Missing	1			
.n:Non-proxy ivw	14154	12526	14448	13850
.r:Refuse	12	1	1	
1.Most of the time	101	120	200	207
2.Some of the time	213	245	319	239
3.Never	628	692	724	461
Value-----	S1OSLEEP	S2OSLEEP	S3OSLEEP	S4OSLEEP
.d:DK	50	78	20	11
.m:Missing	1			
.n:Non-proxy ivw	9988	8743	9866	9182
.r:Refuse	9	1	1	
.u:Unmar	4205	4009	4782	4847
.v:SP NR	333	131	349	280
1.Most of the time	44	65	93	90
2.Some of the time	120	145	157	110
3.Never	436	532	455	259
Value-----	R1ODNGR	R2ODNGR	R3ODNGR	R4ODNGR
.d:DK	53	90	18	17
.m:Missing	1			
.n:Non-proxy ivw	14154	12526	14448	13850
.r:Refuse	14	2	2	1
1.Most of the time	15	14	28	28
2.Some of the time	71	65	109	68
3.Never	878	1009	1118	815
Value-----	S1ODNGR	S2ODNGR	S3ODNGR	S4ODNGR
.d:DK	36	64	13	8
.m:Missing	1			
.n:Non-proxy ivw	9988	8743	9866	9182
.r:Refuse	10	1	1	
.u:Unmar	4205	4009	4782	4847
.v:SP NR	333	131	349	280
1.Most of the time	6	10	14	12
2.Some of the time	31	42	52	32
3.Never	576	705	646	418
Value-----	R1OPACE	R2OPACE	R3OPACE	R4OPACE
.d:DK	50	92	22	19
.m:Missing	1			
.n:Non-proxy ivw	14154	12526	14448	13850
.r:Refuse	11		4	
1.Most of the time	33	27	56	51
2.Some of the time	65	82	141	99
3.Never	872	977	1052	760

Value-----	S1OPACE	S2OPACE	S3OPACE	S4OPACE
.d:DK	34	65	16	9
.m:Missing	1			
.n:Non-proxy ivw	9988	8743	9866	9182
.r:Refuse	8		3	
.u:Unmar	4205	4009	4782	4847
.v:SP NR	333	131	349	280
1.Most of the time	11	19	25	21
2.Some of the time	25	45	60	44
3.Never	581	692	622	396

Value-----	R1OPLOT	R2OPLOT	R3OPLOT	R4OPLOT
.d:DK	52	89	20	17
.m:Missing	1			
.n:Non-proxy ivw	14154	12526	14448	13850
.r:Refuse	13	2	2	2
1.Most of the time	30	32	37	43
2.Some of the time	62	65	91	86
3.Never	874	990	1125	781

Value-----	S1OPLOT	S2OPLOT	S3OPLOT	S4OPLOT
.d:DK	36	62	15	10
.m:Missing	1			
.n:Non-proxy ivw	9988	8743	9866	9182
.r:Refuse	10	2	2	
.u:Unmar	4205	4009	4782	4847
.v:SP NR	333	131	349	280
1.Most of the time	11	16	12	20
2.Some of the time	21	37	40	31
3.Never	581	704	657	409

Value-----	R1OALCHL	R2OALCHL	R3OALCHL	R4OALCHL
.d:DK	56	87	17	15
.m:Missing	1			
.n:Non-proxy ivw	14154	12526	14448	13850
.r:Refuse	11		1	
1.Most of the time	31	17	28	18
2.Some of the time	57	73	43	18
3.Never	876	1001	1186	878

Value-----	S1OALCHL	S2OALCHL	S3OALCHL	S4OALCHL
.d:DK	41	63	12	10
.m:Missing	1			
.n:Non-proxy ivw	9988	8743	9866	9182
.r:Refuse	8		1	
.u:Unmar	4205	4009	4782	4847
.v:SP NR	333	131	349	280
1.Most of the time	24	15	16	9
2.Some of the time	39	59	28	10
3.Never	547	684	669	441

## How Constructed

RwOANGRY, RwOSLEEP, RwODNGR, RwOPACE, RwOPLOT, and RwOALCHL indicate how often the proxy reports that the respondent exhibited certain problem behaviors during the past week. RwOANGRY indicates how often the respondent became angry or hostile. RwOSLEEP indicates how often the respondent had difficulties falling asleep or waking frequently during the night. RwODNGR indicates how often the respondent did things that are dangerous to themselves or others. RwOPACE indicates how often the respondent paced around or made unexplained rocking movements while sitting. RwOPLOT indicates how often the respondent mentioned that people are plotting against or trying to harm them. RwOALCHL indicates how often the respondent drank too much alcohol. These variables are coded as follows: 1.most of the time, 2.some of the time, 3.never. They are set to special missing value .n for non-proxy interviews. Don't know, refused, or other missing responses are assigned special missing values .d, .r, or .m, respectively. RwOANGRY, RwOSLEEP, RwODNGR, RwOPACE, RwOPLOT, and RwOALCHL are set to plain missing (.) if the respondent did not participate in the current wave.

SwOANGRY, SwOSLEEP, SwODNGR, SwOPACE, SwOPLOT, and SwOALCHL are taken from the Wave 'w' spouse's values for RwOANGRY, RwOSLEEP, RwODNGR, RwOPACE, RwOPLOT, and RwOALCHL, respectively. In addition to the special missing codes used in the respondent variables, if the respondent is not designated as coupled in the

current wave and assumed to be single, a special missing value of .u is used. Also, if the respondent is not designated as coupled in the current wave but reports being married, a special missing value of .v is used.

## Cross Wave Differences in MHAS

These questions are not asked starting in Wave 5.

## Differences with the RAND HRS/Harmonized HRS

The HRS asks comparable questions, but these variables have not yet been made available in the RAND HRS or Harmonized HRS.

## MHAS Variables Used

### Wave 1:

PC57	angry and hostile
PC58	sleeping problems
PC59	reckless
PC60	paced around
PC61	psychopathic
PC62	drinking alcohol

### Wave 2:

PC57	angry and hostile
PC58	sleeping problems
PC59	reckless
PC60	paced around
PC61	psychopathic
PC62	drinking alcohol

### Wave 3:

PC57_12	During the last week:Report the frequency subject...ang
PC58_12	During the last week:Report the frequency subject...dif
PC59_12	During the last week:Frequency subject has...dangerous to
PC60_12	During the last week:Report the frequency subject has p
PC61_12	During the last week:Report the frequency subject belie
PC62_12	During the last week:Report the frequency subject drunk

### Wave 4:

PC57_15	During the past week: How often has the subject become
PC58_15	During the past week: How often has the subject had dif
PC59_15	During the past week: How often has the subject done th
PC60_15	During the past week: How often has the subject paced a
PC61_15	During the past week: How often has the subject mention
PC62_15	During the past week: How often has the subject drunk t

**Section E: Financial and Housing Wealth**

<b>Inflation Multiplier</b>
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Wave	Variable	Label	Type
1	C2000CPINDEX	2000 consumer price index, 2010=100	Cont
1	C2001CPINDEX	2001 consumer price index, 2010=100	Cont
1	C2002CPINDEX	2002 consumer price index, 2010=100	Cont
1	C2003CPINDEX	2003 consumer price index, 2010=100	Cont
1	C2011CPINDEX	2011 consumer price index, 2010=100	Cont
1	C2012CPINDEX	2012 consumer price index, 2010=100	Cont
1	C2013CPINDEX	2013 consumer price index, 2010=100	Cont
1	C2014CPINDEX	2014 consumer price index, 2010=100	Cont
1	C2015CPINDEX	2015 consumer price index, 2010=100	Cont
1	C2016CPINDEX	2016 consumer price index, 2010=100	Cont
1	C2017CPINDEX	2017 consumer price index, 2010=100	Cont
1	C2018CPINDEX	2018 consumer price index, 2010=100	Cont
1	C2019CPINDEX	2019 consumer price index, 2010=100	Cont

### Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
C2000CPINDEX	26839	63.30	0.00	63.30	63.30
C2001CPINDEX	26839	67.30	0.00	67.30	67.30
C2002CPINDEX	26839	70.70	0.00	70.70	70.70
C2003CPINDEX	26839	73.90	0.00	73.90	73.90
C2011CPINDEX	26839	103.40	0.00	103.40	103.40
C2012CPINDEX	26839	107.70	0.00	107.70	107.70
C2013CPINDEX	26839	111.80	0.00	111.80	111.80
C2014CPINDEX	26839	116.20	0.00	116.20	116.20
C2015CPINDEX	26839	119.40	0.00	119.40	119.40
C2016CPINDEX	26839	122.80	0.00	122.80	122.80
C2017CPINDEX	26839	130.20	0.00	130.20	130.20
C2018CPINDEX	26839	136.60	0.00	136.60	136.60
C2019CPINDEX	26839	141.50	0.00	141.50	141.50

### How Constructed

CyyyyCPINDEX is the annual consumer price index for the year of the survey. CyyyyCPINDEX uses 2010 as its base year so the consumer price index for a survey conducted in 2010 would be 100. This consumer price index can be used as an inflation multiplier when comparing financial values between different survey years.

CyyyyCPINDEX values were provided by the OECD as part of the Consumer Price (MEI) dataset. The index measures monthly changes in the general level of prices of goods and services that households acquire for consumption. For more information on the calculation of the consumer price index see <http://stats.oecd.org>.

### Cross Wave Differences in MHAS

Consumer price index values are not based on any MHAS survey question.

### Differences with the RAND HRS/Harmonized HRS

Consumer price index values are not included in the RAND HRS.

Net Value of Real Estate (Not Primary Residence)

Wave	Variable	Label	Type
1	H1ARLES	h1arles:w1 assets: other real estate	Cont
2	H2ARLES	h2arles:w2 assets: other real estate	Cont
3	H3ARLES	h3arles:w3 assets: other real estate	Cont
4	H4ARLES	h4arles:w4 assets: other real estate	Cont
5	H5ARLES	h5arles:w5 assets: other real estate	Cont
1	H1AFRLES	h1afrles:w1 asst flag: other real estate	Categ
2	H2AFRLES	h2afrles:w2 asst flag: other real estate	Categ
3	H3AFRLES	h3afrles:w3 asst flag: other real estate	Categ
4	H4AFRLES	h4afrles:w4 asst flag: other real estate	Categ
5	H5AFRLES	h5afrles:w5 asst flag: other real estate	Categ

Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
H1ARLES	15636	54454.57	336888.52	-261596.31	15555548.00
H2ARLES	14030	61544.64	334320.86	-250000.00	12000000.00
H3ARLES	15723	103540.27	484450.07	-53735.05	18140548.00
H4ARLES	14911	236197.65	1856188.45	-10000.00	80000000.00
H5ARLES	17306	133116.09	530469.60	-1400000.00	11000000.00
H1AFRLES	15696	0.05	0.23	-1.00	1.00
H2AFRLES	14063	0.05	0.22	-1.00	1.00
H3AFRLES	15723	0.07	0.25	0.00	1.00
H4AFRLES	14945	0.04	0.22	-1.00	1.00
H5AFRLES	17326	0.07	0.25	-1.00	1.00

Categorical Variable Codes

Value-----	H1AFRLES	H2AFRLES	H3AFRLES	H4AFRLES	H5AFRLES
-1.No Imput:section not complete	59	33		34	20
0.Not imputed	14801	13339	14625	14205	16147
1.Imputed	836	691	1098	706	1159

How Constructed

HwARLES captures the net value of other real estate at the household level. In waves 1 to 4, HwARLES includes the net value of a second home, the value of any other real estate property, and the debt on any other real estate property. Starting in Wave 5, HwARLES includes the net value of a second home, the value of the most important other real estate property, and the debt on the most important other real estate property.

At all waves the selected respondent for the couple or the single respondent is asked whether "excluding properties that generate income, are you (or your spouse) owner of another house or condominium, including time shared apartments?". If the respondent answers yes, they are then asked if they were to sell the property and pay off any debt on this property, how much money would it be. This net value of the second home is included in HwARLES.

At all waves the informant for the subject or the couple is also asked whether "excluding your main house or second residence, do you (or your spouse) own any real estate property, such as land, vacant lots and/or properties for rent?". If the respondent answers yes, in waves 1 to 4, the respondent is able to mention up to 2 other properties. Starting at wave 5, the respondent is only asked about their one most important other property. For each reported property the respondent reports, they are asked whether they have any have any outstanding debt on the property and, if they do have debt, they are asked how much they still owe. For each reported property the respondent is also asked "if you were to sell the property now, how much would you receive for it?" The value of each property minus the debt owed on each property is included in HwARLES.

For each question eliciting a value included in HwARLES, the MHAS used unfolding bracket questions when the respondent was unsure of the exact value. Using the information provided by the unfolding brackets, unknown amounts were replaced with imputed values using the imputed variables made available in the study website. Please see the 2001 ([here](#)), 2003 ([here](#)), 2012 ([here](#)), 2015 ([here](#)), and 2018 ([here](#)) MHAS documents titled "Imputation of Non-Response on Economic Variables in the MHAS", available in the study website [www.MHASweb.org](http://www.MHASweb.org) for more details on the imputation method used, variables imputed, and covariates included.

In the case that the respondent reported neither a second home nor having any other real estate properties, HwARLES has a value of 0.

HwARLES is derived at the household level. In MHAS this is a couple or a single person. Special missing .m is used if at least one component of HwARLES was not imputed because the respondent did not complete the section. HwARLES is set to blank missing (.) if the respondent did not participate in the current wave.

HwAFRLES is a flag variable indicating whether or not any component of HwARLES was imputed. A code of 0 indicates that no component of HwARLES was imputed. A code of 1 indicates that at least one component of HwARLES was imputed. A code of -1 indicates that at least one component was not imputed because the respondent did not complete the section and this value has been left missing.

## Cross Wave Differences in MHAS

In waves 1 to 4, MHAS allows the respondent to report up to two other real estate properties and records their values and the debts on them. Starting in Wave 5, MHAS asked the respondent to report only the one most important other real estate property and records its value and the debts on it. Therefore starting at Wave 5, HwARLES does not include the value of any second other real estate property like it did from waves 1 to 4.

## Differences with the RAND HRS/Harmonized HRS

HwARLES in the RAND HRS does not include the value of the second home. In the RAND HRS, the value of the second home is captured in HwANETHB. In the Harmonized MHAS, HwARLES includes both the value of other real estate and the value of second home.

There are differences in the questions about other real estate properties. In the HRS the net value of other real estate properties is asked in a single question. In the MHAS, one question is asked about the value and one question is asked about any debt on the other real estate property, for each property (up to 2 properties).

There are differences in the questions about the second home. In the HRS, one question is asked about the value and another question is asked about any debt on the second home. In the MHAS, a single question is asked about the net value of the second home.

Net value of other real estate in MHAS is measured in nominal pesos, whereas the equivalent measures in RAND HRS are in nominal dollars. Therefore, conversion into a common currency is necessary before comparison of these data.

## MHAS Variables Used

Wave 1:

IMAMJ26	net value other houses/apartments (imputed)
IMAMK17_1	total debt other real estate properties_1 (imputed)
IMAMK17_2	total debt other real estate properties_2 (imputed)
IMAMK22_1	gross value other real estate properties_1 (imputed)
IMAMK22_2	gross value other real estate properties_2 (imputed)
J26IMP	if imputed value
K17_1IMP	if imputed value
K17_2IMP	if imputed value
K22_1IMP	if imputed value
K22_2IMP	if imputed value

Wave 2:

IMAMJ33	net value other houses/apartments (imputed)
IMAMK19_1	total debt other real estate properties_1 (imputed)
IMAMK19_2	total debt other real estate properties_2 (imputed)
IMAMK24_1	gross value other real estate properties_1 (imputed)
IMAMK24_2	gross value other real estate properties_2 (imputed)
J33IMP	if imputed value
K19_1IMP	if imputed value
K19_2IMP	if imputed value
K24_1IMP	if imputed value
K24_2IMP	if imputed value
Wave 3:	
IMAMJ34_12	
IMAMK20_1_12	Total debt other real estate properties_1 (imputed)
IMAMK20_2_12	Total debt other real estate properties_2 (imputed)
IMAMK24_1_12	Gross value other real estate properties_1 (imputed)
IMAMK24_2_12	Gross value other real estate properties_2 (imputed)
J34_IMP_12	
K20_1_IMP_12	Total debt other real estate properties_1 (Flag if impu
K20_2_IMP_12	Total debt other real estate properties_2 (Flag if impu
K24_1_IMP_12	Gross value other real estate properties_1 (Flag if imp
K24_2_IMP_12	Gross value other real estate properties_2 (Flag if imp
Wave 4:	
IMAMJ34_15	Net value other houses/apartments (imputed)
IMAMK20_1_15	Total debt other real estate properties_1 (imputed)
IMAMK20_2_15	Total debt other real estate properties_2 (imputed)
IMAMK24_1_15	Gross value other real estate properties_1 (imputed)
IMAMK24_2_15	Gross value other real estate properties_2 (imputed)
J34_IMP_15	Net value other houses/apartments (Flag if imputed valu
K20_1_IMP_15	Total debt other real estate properties_1 (Flag if impu
K20_2_IMP_15	Total debt other real estate properties_2 (Flag if impu
K24_1_IMP_15	Gross value other real estate properties_1 (Flag if imp
K24_2_IMP_15	Gross value other real estate properties_2 (Flag if imp
Wave 5:	
IMAMJ34_18	Net value other houses/apartments (imputed)
IMAMK20_1_18	Total debt other real estate properties (imputed)
IMAMK24_1_18	Gross value other real estate properties (imputed)
J34_IMP_18	Net value other houses/apartments (Flag if imputed valu
K20_1_IMP_18	Total debt other real estate properties (Flag if impute
K24_1_IMP_18	Gross value other real estate properties (Flag if imput



<b>Net Value of Cars</b>
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Wave	Variable	Label	Type
1	H1ATRAN	h1atran:w1 assets: vehicles	Cont
2	H2ATRAN	h2atran:w2 assets: vehicles	Cont
3	H3ATRAN	h3atran:w3 assets: vehicles	Cont
4	H4ATRAN	h4atran:w4 assets: vehicles	Cont
5	H5ATRAN	h5atran:w5 assets: vehicles	Cont
1	H1AFTRAN	h1aftran:w1 asst flag: vehicles	Categ
2	H2AFTRAN	h2aftran:w2 asst flag: vehicles	Categ
3	H3AFTRAN	h3aftran:w3 asst flag: vehicles	Categ
4	H4AFTRAN	h4aftran:w4 asst flag: vehicles	Categ
5	H5AFTRAN	h5aftran:w5 asst flag: vehicles	Categ

### Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
H1ATRAN	15636	18193.60	67325.42	-115205.05	3000000.00
H2ATRAN	14032	17026.21	61103.75	-75598.20	2500000.00
H3ATRAN	15723	34134.90	152466.07	-236884.63	6150000.00
H4ATRAN	14911	31214.34	150331.08	-499247.13	9000000.00
H5ATRAN	17306	32901.44	128096.48	-414724.56	6000000.00
H1AFTRAN	15695	0.04	0.22	-1.00	1.00
H2AFTRAN	14063	0.03	0.19	-1.00	1.00
H3AFTRAN	15723	0.07	0.26	0.00	1.00
H4AFTRAN	14945	0.05	0.22	-1.00	1.00
H5AFTRAN	17326	0.06	0.24	-1.00	1.00

### Categorical Variable Codes

Value-----	H1AFTRAN	H2AFTRAN	H3AFTRAN	H4AFTRAN	H5AFTRAN
-1.No Imput:section not complete	59	31		34	20
0.Not imputed	14875	13527	14571	14179	16236
1.Imputed	761	505	1152	732	1070

### How Constructed

HwATRAN captures the net value of vehicles at the household level. HwATRAN includes the value of any means of transportation and the debt on any means of transportation.

The informant for the subject or the couple is asked "are you (or your spouse) owner of any means of transportation for private or recreational use". If the respondent answers yes, they are then asked if they have any outstanding debt on these means of transportation. If they do have debt, they are asked how much they still owe. All respondents who report owning any means of transportation are also asked "if you were to sell them, about how much money would you receive?". HwATRAN is derived as the value minus the debt owed on any means of transportation.

For both questions eliciting a value included in HwATRAN, the MHAS used unfolding bracket questions when the respondent was unsure of the exact value. Using the information provided by the unfolding brackets, unknown amounts were replaced with imputed values using the imputed variables made available in the study website. Please see the 2001 ([here](#)), 2003 ([here](#)), 2012 ([here](#)), 2015 ([here](#)), and 2018 ([here](#)) MHAS documents titled "Imputation of Non-Response on Economic Variables in the MHAS", available in the study website [www.mhasweb.org](http://www.mhasweb.org) for more details on the imputation method used, variables imputed, and covariates included.

In the case that the respondent reported not owning any means of transportation, HwATRAN has a value of 0.

HwATRAN is derived at the household level. In MHAS this is a couple or a single person. Special missing .m is used if at least one component of HwATRAN was not imputed because the respondent did not complete the section. HwATRAN is set to blank missing (.) if the respondent did not participate in the current wave.

HwAFTRAN is a flag variable indicating whether or not any component of HwATRAN was imputed. A code of 0 indicates that no component of HwATRAN was imputed. A code of 1 indicates that at least one component of HwATRAN was imputed. A code of -1 indicates that at least one component was not imputed because the respondent did not complete the section and this value has been left missing.

## Cross Wave Differences in MHAS

No differences known.

## Differences with the RAND HRS/Harmonized HRS

There are differences in the questions about vehicles. In the HRS the net value of vehicles is asked in a single question. In the MHAS, one question is asked about the value and one question is asked about any debt.

Net value of vehicles in MHAS is measured in nominal pesos, whereas the equivalent measure in RAND HRS is in nominal dollars. Therefore, conversion into a common currency is necessary before comparison of these data.

## MHAS Variables Used

### Wave 1:

IMAMK36	gross value vehicles (imputed)
IMAMK37	total debt vehicles (imputed)
K36IMP	if imputed value
K37IMP	if imputed value

### Wave 2:

IMAMK38	gross value vehicles (imputed)
IMAMK39	total debt vehicles (imputed)
K38IMP	if imputed value
K39IMP	if imputed value

### Wave 3:

IMAMK40_12	Total debt vehicles (imputed)
IMAMK42_12	Gross value vehicles (imputed)
K40_IMP_12	Total debt vehicles (Flag if imputed value)
K42_IMP_12	Gross value vehicles (Flag if imputed value)

### Wave 4:

IMAMK40_15	Total debt vehicles (imputed)
IMAMK42_15	Gross value vehicles (imputed)
K40_IMP_15	Total debt vehicles (Flag if imputed value)
K42_IMP_15	Gross value vehicles (Flag if imputed value)

### Wave 5:

IMAMK40_18	Total debt vehicles (imputed)
IMAMK42_18	Gross value vehicles (imputed)
K40_IMP_18	Total debt vehicles (Flag if imputed value)
K42_IMP_18	Gross value vehicles (Flag if imputed value)

<b>Net Value of Businesses</b>
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Wave	Variable	Label	Type
1	H1ABSNS	h1absns:w1 assets: business	Cont
2	H2ABSNS	h2absns:w2 assets: business	Cont
3	H3ABSNS	h3absns:w3 assets: business	Cont
4	H4ABSNS	h4absns:w4 assets: business	Cont
5	H5ABSNS	h5absns:w5 assets: business	Cont
1	H1AFBSNS	h1afbsns:w1 asst flag: business	Categ
2	H2AFBSNS	h2afbsns:w2 asst flag: business	Categ
3	H3AFBSNS	h3afbsns:w3 asst flag: business	Categ
4	H4AFBSNS	h4afbsns:w4 asst flag: business	Categ
5	H5AFBSNS	h5afbsns:w5 asst flag: business	Categ

### Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
H1ABSNS	15636	66694.59	330075.00	-777776.00	12452776.00
H2ABSNS	14032	74024.08	365321.03	-999980.00	10944902.00
H3ABSNS	15723	76181.10	407001.68	-2981432.25	10000000.00
H4ABSNS	14911	230908.12	1808014.88	-440000.00	70000000.00
H5ABSNS	17306	84307.38	438932.03	-794476.38	9000000.00
H1AFBSNS	15695	0.11	0.33	-1.00	1.00
H2AFBSNS	14063	0.12	0.33	-1.00	1.00
H3AFBSNS	15723	0.07	0.25	0.00	1.00
H4AFBSNS	14945	0.07	0.26	-1.00	1.00
H5AFBSNS	17326	0.07	0.26	-1.00	1.00

### Categorical Variable Codes

Value-----	H1AFBSNS	H2AFBSNS	H3AFBSNS	H4AFBSNS	H5AFBSNS
-1.No Imput:section not complete	59	31		34	20
0.Not imputed	13804	12336	14629	13902	16116
1.Imputed	1832	1696	1094	1009	1190

### How Constructed

HwABSNS captures the net value of businesses at the household level. HwABSNS includes the value of any businesses or farms and the debt on any businesses or farms.

The informant for the subject or the couple is asked "Do you (and/or spouse) own a business or farm?". The respondent is able to mention up to 2 other businesses/farms. If the respondent reported having 1 or more businesses/farms, they are then asked for each business/farm (up to 2 businesses/farms) if they have any outstanding debt on this business/farm. If they do have debt, they are asked how much they still owe. All respondents who report having 1 or more businesses/farms are then asked, for each business/farm (up to 2 businesses/farms) "If you were to sell your business now, how much would you (or your spouse) receive for it?". The value of each business/farm minus the debt owed on each business/farm is included in HwABSNS.

For each question eliciting a value included in HwABSNS, the MHAS used unfolding bracket questions when the respondent was unsure of the exact value. Using the information provided by the unfolding brackets, unknown amounts were replaced with imputed values using the imputed variables made available in the study website. Please see the 2001 ([here](#)), 2003 ([here](#)), 2012 ([here](#)), 2015 ([here](#)), and 2018 ([here](#)) MHAS documents titled "Imputation of Non-Response on Economic Variables in the MHAS", available in the study website [www.MHASweb.org](http://www.MHASweb.org) for more details on the imputation method used, variables imputed, and covariates included.

In the case that the respondent reported not owning any business or farm, HwABSNS has a value of 0.

HwABSNS is derived at the household level. In MHAS this is a couple or a single person. Special missing .m is used if at least one component of HwABSNS was not imputed because the respondent did not complete the section. HwABSNS is set to blank missing (.) if the respondent did not participate in the current wave.

HwAFBSNS is a flag variable indicating whether or not any component of HwABSNS was imputed. A code of 0 indicates that no component of HwABSNS was imputed. A code of 1 indicates that at least one component of HwABSNS was imputed. A code of -1 indicates that at least one component was not imputed because the respondent did not complete the section and this value has been left missing.

## Cross Wave Differences in MHAS

No differences known.

## Differences with the RAND HRS/Harmonized HRS

There are differences in the questions about businesses/farms. In the HRS the net value of businesses/farms is asked in a single question. In the MHAS, one question is asked about the value and one question is asked about any debt on the business/farm, for each business/farm (up to 2 businesses/farms).

Net value of business in MHAS is measured in nominal pesos, whereas the equivalent measure in RAND HRS is in nominal dollars. Therefore, conversion into a common currency is necessary before comparison of these data.

## MHAS Variables Used

### Wave 1:

IMAMK3_1	total debt business_1 (imputed)
IMAMK3_2	total debt business_2 (imputed)
IMAMK8_1	gross value business_1 (imputed)
IMAMK8_2	gross value business_2 (imputed)
K3_1IMP	if imputed value
K3_2IMP	if imputed value
K8_1IMP	if imputed value
K8_2IMP	if imputed value

### Wave 2:

IMAMK3_1	total debt business_1 (imputed)
IMAMK3_2	total debt business_2 (imputed)
IMAMK8_1	gross value business_1 (imputed)
IMAMK8_2	gross value business_2 (imputed)
K3_1IMP	if imputed value
K3_2IMP	if imputed value
K8_1IMP	if imputed value
K8_2IMP	if imputed value

### Wave 3:

IMAMK4_1_12	Total debt business_1 (imputed)
IMAMK4_2_12	Total debt business_2 (imputed)
IMAMK8_1_12	Gross value business_1 (imputed)
IMAMK8_2_12	Gross value business_2 (imputed)
K4_1_IMP_12	Total debt business_1 (Flag if imputed value)
K4_2_IMP_12	Total debt business_2 (Flag if imputed value)
K8_1_IMP_12	Gross value business_1 (Flag if imputed value)
K8_2_IMP_12	Gross value business_2 (Flag if imputed value)

### Wave 4:

IMAMK4_1_15	Total debt business_1 (imputed)
IMAMK4_2_15	Total debt business_2 (imputed)
IMAMK8_1_15	Gross value business_1 (imputed)
IMAMK8_2_15	Gross value business_2 (imputed)
K4_1_IMP_15	Total debt business_1 (Flag if imputed value)
K4_2_IMP_15	Total debt business_2 (Flag if imputed value)
K8_1_IMP_15	Gross value business_1 (Flag if imputed value)

K8_2_IMP_15	Gross value business_2 (Flag if imputed value)
Wave 5:	
IMAMK4_1_18	Total debt business_1 (imputed)
IMAMK4_2_18	Total debt business_2 (imputed)
IMAMK8_1_18	Gross value business_1 (imputed)
IMAMK8_2_18	Gross value business_2 (imputed)
K4_1_IMP_18	Total debt business_1 (Flag if imputed value)
K4_2_IMP_18	Total debt business_2 (Flag if imputed value)
K8_1_IMP_18	Gross value business_1 (Flag if imputed value)
K8_2_IMP_18	Gross value business_2 (Flag if imputed value)

<b>Value of Stocks, Shares, and Bonds</b>
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Wave	Variable	Label	Type
1	H1ABDSTK	h1abdstk:w1 assets: bonds and stocks	Cont
2	H2ABDSTK	h2abdstk:w2 assets: bonds and stocks	Cont
3	H3ABDSTK	h3abdstk:w3 assets: bonds and stocks	Cont
4	H4ABDSTK	h4abdstk:w4 assets: bonds and stocks	Cont
5	H5ABDSTK	h5abdstk:w5 assets: bonds and stocks	Cont
1	H1AFBDSTK	h1afbdstk:w1 asst flag: bonds and stocks	Categ
2	H2AFBDSTK	h2afbdstk:w2 asst flag: bonds and stocks	Categ
3	H3AFBDSTK	h3afbdstk:w3 asst flag: bonds and stocks	Categ
4	H4AFBDSTK	h4afbdstk:w4 asst flag: bonds and stocks	Categ
5	H5AFBDSTK	h5afbdstk:w5 asst flag: bonds and stocks	Categ

### Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
H1ABDSTK	15636	166.27	5963.00	0.00	600000.00
H2ABDSTK	14032	719.16	22992.38	0.00	1000000.00
H3ABDSTK	15723	1560.39	46639.88	0.00	1500000.00
H4ABDSTK	14911	10264.52	436066.37	0.00	35000000.00
H5ABDSTK	17306	5240.00	157670.01	0.00	5000000.00
H1AFBDSTK	15695	-0.00	0.07	-1.00	1.00
H2AFBDSTK	14063	-0.00	0.06	-1.00	1.00
H3AFBDSTK	15723	0.01	0.08	0.00	1.00
H4AFBDSTK	14945	0.00	0.09	-1.00	1.00
H5AFBDSTK	17326	0.00	0.07	-1.00	1.00

### Categorical Variable Codes

Value-----	H1AFBDSTK	H2AFBDSTK	H3AFBDSTK	H4AFBDSTK	H5AFBDSTK
-1.No Imput:section not complete	59	31		34	20
0.Not imputed	15617	14020	15632	14820	17252
1.Imputed	19	12	91	91	54

### How Constructed

HwABDSTK captures the value of stocks, shares, and bonds at the household level. HwABDSTK includes the value of any stocks, company share, or bonds.

The informant for the subject or the couple is asked "Do you (and/or your spouse) have stocks, company shares or bonds?". If the respondent answers yes, they are then asked if "Adding up all these accounts, what is the approximate total value?". HwABDSTK captures this reported value of stocks, shares, and bonds.

For the question eliciting a value used in HwABDSTK, the MHAS used unfolding bracket questions when the respondent was unsure of the exact value. Using the information provided by the unfolding brackPlease see the 2001 ([here](#)), 2003 ([here](#)), 2012 ([here](#)), 2015 ([here](#)), and 2018 ([here](#)) MHAS documents titled "Imputation of Non-Response on Economic Variables in the MHAS", available in the study website [www.MHASweb.org](http://www.MHASweb.org) for more details on the imputation method used, variables imputed, and covariates included.

In the case that the respondent reported not having any stocks, shares, or bonds, HwABDSTK has a value of 0.

HwABDSTK is derived at the household level. In MHAS this is a couple or a single person. Special missing .m is used if at least one component of HwABDSTK was not imputed because the respondent did not complete the section. HwABDSTK is set to blank missing (.) if the respondent did not participate in the current wave.

HwAFBDSTK is a flag variable indicating whether or not any component of HwABDSTK was imputed. A code of 0 indicates that no component of HwABDSTK was imputed. A code of 1 indicates that at least one component of HwABDSTK was imputed. A code of -1 indicates that at least one component was not imputed because the respondent did not complete the section and this value has been left missing.

Cross Wave Differences in MHAS

No differences known.

Differences with the RAND HRS/Harmonized HRS

HwABDSTK is a summary variable, which is specific to MHAS, and is not available in the RAND HRS. In the RAND HRS, the value of shares of stock or stock mutual funds is captured in HwASTCK, the value of CDs, government savings bonds, and treasures bills is captured in HwACD, the net value of corporate, municipal, government, or foreign bonds, or any bond funds is captured in HwABOND.

The MHAS elicits the value of CD's in the same question as the value of checking and savings accounts, this value is captured in HwACHCK.

The MHAS does not specifically elicit the value of mutual funds though MHAS does ask respondents to report any other assets not specifically asked, this value is captured in HwAOTHR.

Value of stocks, shares, and bonds in MHAS is measured in nominal pesos, whereas the equivalent measures in RAND HRS are in nominal dollars. Therefore, conversion into a common currency is necessary before comparison of these data.

MHAS Variables Used

Wave 1:	
IMAMK29C	net capital assets_3 (imputed)
K29CIMP	if imputed value
Wave 2:	
IMAMK31_3	net capital assets_3 (imputed)
K31_3IMP	if imputed value
Wave 3:	
IMAMK33_3_12	Net value capital assets_3 (imputed)
K33_3_IMP_12	Net value capital assets_3 (Flag if imputed value)
Wave 4:	
IMAMK33_3_15	Net value capital assets_3 (imputed)
K33_3_IMP_15	Net value capital assets_3 (Flag if imputed value)
Wave 5:	
IMAMK33_3_18	Net value capital assets_3 (imputed)
K33_3_IMP_18	Net value capital assets_3 (Flag if imputed value)

<b>Value of Checking, Savings Accounts</b>
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Wave	Variable	Label	Type
1	H1ACHCK	h1achck:w1 assets: checking,savings acct	Cont
2	H2ACHCK	h2achck:w2 assets: checking,savings acct	Cont
3	H3ACHCK	h3achck:w3 assets: checking,savings acct	Cont
4	H4ACHCK	h4achck:w4 assets: checking,savings acct	Cont
5	H5ACHCK	h5achck:w5 assets: checking,savings acct	Cont
1	H1AFCHCK	h1afchck:w1 asst flag: checking,savings acct	Categ
2	H2AFCHCK	h2afchck:w2 asst flag: checking,savings acct	Categ
3	H3AFCHCK	h3afchck:w3 asst flag: checking,savings acct	Categ
4	H4AFCHCK	h4afchck:w4 asst flag: checking,savings acct	Categ
5	H5AFCHCK	h5afchck:w5 asst flag: checking,savings acct	Categ

### Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
H1ACHCK	15636	6687.66	36834.36	0.00	777776.00
H2ACHCK	14032	25572.37	199587.49	0.00	7777776.00
H3ACHCK	15723	12378.21	125786.38	0.00	5000000.00
H4ACHCK	14911	22870.65	241273.12	0.00	10000000.00
H5ACHCK	17306	12468.55	111553.36	0.00	8000000.00
H1AFCHCK	15695	0.03	0.19	-1.00	1.00
H2AFCHCK	14063	0.02	0.16	-1.00	1.00
H3AFCHCK	15723	0.03	0.18	0.00	1.00
H4AFCHCK	14945	0.02	0.17	-1.00	1.00
H5AFCHCK	17326	0.03	0.17	-1.00	1.00

### Categorical Variable Codes

Value-----	H1AFCHCK	H2AFCHCK	H3AFCHCK	H4AFCHCK	H5AFCHCK
-1.No Imput:section not complete	59	31		34	20
0.Not imputed	15114	13678	15216	14525	16837
1.Imputed	522	354	507	386	469

### How Constructed

HwACHCK captures the value of checking or savings account or fixed investment at the household level. HwACHCK includes the value of any checking or savings account or fixed investment.

The informant for the subject or the couple is asked "Do you (and/or your spouse) have checking or saving accounts, or fixed investment?". If the respondent answers yes, they are then asked if "Adding up all these accounts, what is the approximate total value?". HwACHCK captures this reported value of checking or savings account or fixed investment.

For the question eliciting a value used in HwACHCK, the MHAS used unfolding bracket questions when the respondent was unsure of the exact value. Using the information provided by the unfolding brackets, unknown amounts were replaced with imputed values using the imputed variables made available in the study website. Please see the 2001 ([here](#)), 2003 ([here](#)), 2012 ([here](#)), 2015 ([here](#)), and 2018 ([here](#)) MHAS documents titled "Imputation of Non-Response on Economic Variables in the MHAS", available in the study website [www.MHASweb.org](http://www.MHASweb.org) for more details on the imputation method used, variables imputed, and covariates included.

In the case that the respondent reported not having any checking or savings account or fixed investment, HwACHCK has a value of 0.

HwACHCK is derived at the household level. In MHAS this is a couple or a single person. Special missing .m is used if at least one component of HwACHCK was not imputed because the respondent did not complete



the section. HwACHCK is set to blank missing (.) if the respondent did not participate in the current wave.

HwAFCHCK is a flag variable indicating whether or not any component of HwACHCK was imputed. A code of 0 indicates that no component of HwACHCK was imputed. A code of 1 indicates that at least one component of HwACHCK was imputed. A code of -1 indicates that at least one component was not imputed because the respondent did not complete the section and this value has been left missing.

Cross Wave Differences in MHAS

No differences known.

Differences with the RAND HRS/Harmonized HRS

In the HRS, respondents are asked the value of checking, savings, or money market funds. In the MHAS, respondents are asked the value of checking, savings, and fixed investments. In the RAND HRS, fixed investments in the form of CDs are captured in HwACD.

The MHAS does not specifically elicit the value of money market funds though MHAS does ask respondents to report any other assets not specifically asked, this value is captured in HwAOTHR.

Net value of checking and savings account in MHAS is measured in nominal pesos, whereas the equivalent measure in RAND HRS is in nominal dollars. Therefore, conversion into a common currency is necessary before comparison of these data.

MHAS Variables Used

Wave 1:		
IMAMK29A	net capital assets_1	(imputed)
K29AIMP	if imputed value	
Wave 2:		
IMAMK31_1	net capital assets_1	(imputed)
K31_1IMP	if imputed value	
Wave 3:		
IMAMK33_1_12	Net value capital assets_1	(imputed)
K33_1_IMP_12	Net value capital assets_1 (Flag if imputed value)	
Wave 4:		
IMAMK33_1_15	Net value capital assets_1	(imputed)
K33_1_IMP_15	Net value capital assets_1 (Flag if imputed value)	
Wave 5:		
IMAMK33_1_18	Net value capital assets_1	(imputed)
K33_1_IMP_18	Net value capital assets_1 (Flag if imputed value)	

<b>Value of Other Assets</b>
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Wave	Variable	Label	Type
1	H1AOTHR	h1aothr:w1 assets: other assets	Cont
2	H2AOTHR	h2aothr:w2 assets: other assets	Cont
3	H3AOTHR	h3aothr:w3 assets: other assets	Cont
4	H4AOTHR	h4aothr:w4 assets: other assets	Cont
5	H5AOTHR	h5aothr:w5 assets: other assets	Cont
1	H1AFOTHR	h1afothr:w1 asst flag: other assets	Categ
2	H2AFOTHR	h2afothr:w2 asst flag: other assets	Categ
3	H3AFOTHR	h3afothr:w3 asst flag: other assets	Categ
4	H4AFOTHR	h4afothr:w4 asst flag: other assets	Categ
5	H5AFOTHR	h5afothr:w5 asst flag: other assets	Categ

### Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
H1AOTHR	15636	48759.01	155225.25	0.00	7000000.00
H2AOTHR	14032	42499.68	140978.47	0.00	5000000.00
H3AOTHR	15723	113818.13	375923.99	0.00	9000000.00
H4AOTHR	14911	92546.07	286835.82	0.00	8000000.00
H5AOTHR	17306	135532.37	405799.23	0.00	9000000.00
H1AFOTHR	15695	0.25	0.44	-1.00	1.00
H2AFOTHR	14063	0.23	0.43	-1.00	1.00
H3AFOTHR	15723	0.30	0.46	0.00	1.00
H4AFOTHR	14945	0.23	0.42	-1.00	1.00
H5AFOTHR	17326	0.24	0.43	-1.00	1.00

### Categorical Variable Codes

Value-----	H1AFOTHR	H2AFOTHR	H3AFOTHR	H4AFOTHR	H5AFOTHR
-1.No Imput:section not complete	59	31		34	20
0.Not imputed	11717	10749	11004	11486	13188
1.Imputed	3919	3283	4719	3425	4118

### How Constructed

HwAOTHR captures the value of other assets at the household level. HwAOTHR includes the value of all assets not already mentioned.

The informant for the subject or the couple is asked "In case of a family emergency in which you had to sell all the assets you have not mentioned, about how much money would you receive?". HwAOTHR captures this reported value of all assets not already mentioned.

For the question eliciting a value used in HwAOTHR, the MHAS used unfolding bracket questions when the respondent was unsure of the exact value. Using the information provided by the unfolding brackets, unknown amounts were replaced with imputed values using the imputed variables made available in the study website. Please see the 2001 ([here](#)), 2003 ([here](#)), 2012 ([here](#)), 2015 ([here](#)), and 2018 ([here](#)) MHAS documents titled "Imputation of Non-Response on Economic Variables in the MHAS", available in the study website [www.MHASweb.org](http://www.MHASweb.org) for more details on the imputation method used, variables imputed, and covariates included.

HwAOTHR is derived at the household level. In MHAS this is a couple or a single person. Special missing .m is used if at least one component of HwAOTHR was not imputed because the respondent did not complete the section. HwAOTHR is set to blank missing (.) if the respondent did not participate in the current wave.

HwAFOTHR is a flag variable indicating whether or not any component of HwAOTHR was imputed. A code of 0 indicates that no component of HwAOTHR was imputed. A code of 1 indicates that at least one component of HwAOTHR was imputed. A code of -1 indicates that at least one component was not imputed because the respondent did not complete the section and this value has been left missing.

Cross Wave Differences in MHAS

No differences known.

Differences with the RAND HRS/Harmonized HRS

In the HRS, respondents are asked to report the value of "any other savings or assets, such as jewelry, money owed to you by others, a collection for investment purposes, rights in a trust or estate where you are the beneficiary, or an annuity that you haven't already told me about? [EXCLUDE THE CASH VALUE OF ANY LIFE INSURANCE POLICIES.]". In the MHAS, respondents are asked to report the value they would receive "In case of a family emergency in which you had to sell all the assets you have not mentioned". This difference implies that what is captured in HwAOTHR in the Harmonized MHAS might differ conceptually from what is captured by HwAOTHR in the RAND HRS.

Value of other assets in MHAS is measured in nominal pesos, whereas the equivalent measure in RAND HRS is in nominal dollars. Therefore, conversion into a common currency is necessary before comparison of these data.

MHAS Variables Used

Wave 1:	
IMAMK42	net value other assets (imputed)
K42IMP	if imputed value
Wave 2:	
IMAMK44	net value other assets (imputed)
K44IMP	if imputed value
Wave 3:	
IMAMK44_12	Net value other assets (imputed)
K44_IMP_12	Net value other assets (Flag if imputed value)
Wave 4:	
IMAMK44_15	Net value other assets (imputed)
K44_IMP_15	Net value other assets (Flag if imputed value)
Wave 5:	
IMAMK44_18	Net value other assets (imputed)
K44_IMP_18	Net value other assets (Flag if imputed value)

<b>Value of Primary Residence</b>
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Wave	Variable	Label	Type
1	H1AHOUS	h1ahous:w1 value of house/prim res	Cont
2	H2AHOUS	h2ahous:w2 value of house/prim res	Cont
3	H3AHOUS	h3ahous:w3 value of house/prim res	Cont
4	H4AHOUS	h4ahous:w4 value of house/prim res	Cont
5	H5AHOUS	h5ahous:w5 value of house/prim res	Cont
1	H1AFHOUS	h1afhous:w1 flag: value of house/prim res	Categ
2	H2AFHOUS	h2afhous:w2 flag: value of house/prim res	Categ
3	H3AFHOUS	h3afhous:w3 flag: value of house/prim res	Categ
4	H4AFHOUS	h4afhous:w4 flag: value of house/prim res	Categ
5	H5AFHOUS	h5afhous:w5 flag: value of house/prim res	Categ

### Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
H1AHOUS	15644	205048.74	328285.42	0.00	7777776.00
H2AHOUS	14035	255614.21	377413.16	0.00	7777776.00
H3AHOUS	15723	546615.33	751852.54	0.00	9000000.00
H4AHOUS	14911	921868.10	1871874.56	0.00	40000000.00
H5AHOUS	17306	647216.12	809818.93	0.00	9800000.00
H1AFHOUS	15697	0.29	0.46	-1.00	1.00
H2AFHOUS	14064	0.31	0.47	-1.00	1.00
H3AFHOUS	15723	0.41	0.49	0.00	1.00
H4AFHOUS	14945	0.30	0.46	-1.00	1.00
H5AFHOUS	17326	0.36	0.48	-1.00	1.00

### Categorical Variable Codes

Value-----	H1AFHOUS	H2AFHOUS	H3AFHOUS	H4AFHOUS	H5AFHOUS
-1.No Imput:section not complete	53	29		34	20
0.Not imputed	11092	9596	9211	10426	10985
1.Imputed	4552	4439	6512	4485	6321

### How Constructed

HwAHOUS captures the value of the primary residence at the household level. HwAHOUS includes the value of the lot and the house of the primary residence.

The informant for the subject or the couple is asked "This house/housing unit is rented, borrowed, your property or currently paying it off, or other?". If the respondent answers that the residence is borrowed, their property or currently paying it off, or other, they are then asked "Whose name appears on the property title?". If the respondent reported that either their, their spouse's names, or a relative's name (or any combination) is on the title of the residence or that there is no title, the respondent is then asked "About how much do you think your property is worth, including the lot and house? Or if it were sold today, about how much money would you receive from its sale?". HwAHOUS captures this reported value of the primary residence.

For the question eliciting a value used in HwAHOUS, the MHAS used unfolding bracket questions when the respondent was unsure of the exact value. Using the information provided by the unfolding brackets, unknown amounts were replaced with imputed values using the imputed variables made available in the study website. Please see the 2001 ([here](#)), 2003 ([here](#)), 2012 ([here](#)), 2015 ([here](#)), and 2018 ([here](#)) MHAS documents titled "Imputation of Non-Response on Economic Variables in the MHAS", available in the study website [www.MHASweb.org](http://www.MHASweb.org) for more details on the imputation method used, variables imputed, and covariates included.

In the case that the respondent reported that the residence was rented or that the name on the property title was only the name of a non-relative, HwAHOUS has a value of 0.

HwAHOUS is derived at the household level. In MHAS this is a couple or a single person. Special missing .m is used if at least one component of HwAHOUS was not imputed because the respondent did not complete the section. HwAHOUS is set to blank missing (.) if the respondent did not participate in the current wave.

HwAFHOUS is a flag variable indicating whether or not any component of HwAHOUS was imputed. A code of 0 indicates that no component of HwAHOUS was imputed. A code of 1 indicates that at least one component of HwAHOUS was imputed. A code of -1 indicates that at least one component was not imputed because the respondent did not complete the section and this value has been left missing.

Cross Wave Differences in MHAS

No differences known.

Differences with the RAND HRS/Harmonized HRS

In the HRS, respondents are not asked about the names on the property title of the residence and every respondent who reported owning all or part of their residence are asked the value of the residence. In the MHAS, respondents who report that the name on the property title was only the name of a non-relative are not asked the value of the residence.

Value of primary residence in MHAS is measured in nominal pesos, whereas the equivalent measure in RAND HRS is in nominal dollars. Therefore, conversion into a common currency is necessary before comparison of these data.

MHAS Variables Used

Wave 1:	
IMAMJ14	gross value houses/apartments (imputed)
J14IMP	if imputed value
Wave 2:	
IMAMJ31	gross value houses/apartments (imputed)
J31IMP	if imputed value
Wave 3:	
IMAMJ31_12	
J31_IMP_12	
Wave 4:	
IMAMJ31_15	Gross value houses/apartments (imputed)
J31_IMP_15	Gross value houses/apartments (Flag if imputed value)
Wave 5:	
IMAMJ31_18	Gross value houses/apartments (imputed)
J31_IMP_18	Gross value houses/apartments (Flag if imputed value)

<b>Value of All Mortgages (Primary Residence)</b>
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Wave	Variable	Label	Type
1	H1AMORT	h1amort:w1 value of mortgage/prim res	Cont
2	H2AMORT	h2amort:w2 value of mortgage/prim res	Cont
3	H3AMORT	h3amort:w3 value of mortgage/prim res	Cont
4	H4AMORT	h4amort:w4 value of mortgage/prim res	Cont
5	H5AMORT	h5amort:w5 value of mortgage/prim res	Cont
1	H1AFMORT	h1afmort:w1 flag: value of mortgage/prim res	Categ
2	H2AFMORT	h2afmort:w2 flag: value of mortgage/prim res	Categ
3	H3AFMORT	h3afmort:w3 flag: value of mortgage/prim res	Categ
4	H4AFMORT	h4afmort:w4 flag: value of mortgage/prim res	Categ
5	H5AFMORT	h5afmort:w5 flag: value of mortgage/prim res	Categ

### Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
H1AMORT	15644	3424.89	32322.20	0.00	1300000.00
H2AMORT	14035	3851.03	34678.07	0.00	1500000.00
H3AMORT	15723	9739.43	113558.00	0.00	4200000.00
H4AMORT	14911	7599.42	52116.17	0.00	1000000.00
H5AMORT	17306	16381.70	120578.84	0.00	6000000.00
H1AFMORT	15697	0.02	0.16	-1.00	1.00
H2AFMORT	14064	0.01	0.14	-1.00	1.00
H3AFMORT	15723	0.01	0.12	0.00	1.00
H4AFMORT	14945	0.01	0.11	-1.00	1.00
H5AFMORT	17326	0.02	0.15	-1.00	1.00

### Categorical Variable Codes

Value-----	H1AFMORT	H2AFMORT	H3AFMORT	H4AFMORT	H5AFMORT
-1.No Imput:section not complete	53	29		34	20
0.Not imputed	15280	13801	15508	14755	16946
1.Imputed	364	234	215	156	360

### How Constructed

HwAMORT captures the value of mortgages on the primary residence at the household level. HwAMORT includes the value still owed on the residence.

The informant for the subject or the couple is asked "This house/housing unit is rented, borrowed, your property or currently paying it off, or other?". If the respondent answers that the residence is borrowed, their property or currently paying it off, or other, they are then asked "Whose name appears on the property title?". If the respondent reported that either their, their spouse's names, or a relative's name (or any combination) is on the title of the residence or that there is no title, the respondent is then asked "This house is completely paid off, being paid to the bank, being paid to relatives or friends, being paid to the bank and to relatives and friends, "irregular", or being regularized". If the respondent gives any response other than "this house is completely paid off", they are then asked "Including all the mortgages and loans from the bank and/or family and friends, about how much do you pay for your house per month?" If the respondent answers any non-zero value, they are then asked "About how much money do you still owe on your house?". HwAMORT captures this reported value of how much money is still owed on the primary residence.

For the question eliciting a value used in HwAMORT, the MHAS used unfolding bracket questions when the respondent was unsure of the exact value. Using the information provided by the unfolding brackets, unknown amounts were replaced with imputed values using the imputed variables made available in the study website. Please see the 2001 ([here](#)), 2003 ([here](#)), 2012 ([here](#)), 2015 ([here](#)), and 2018 ([here](#)) MHAS documents titled "Imputation of Non-Response on Economic Variables in the MHAS", available in the study

website [www.MHASweb.org](http://www.MHASweb.org) for more details on the imputation method used, variables imputed, and covariates included.

In the case that the respondent reported that the residence was rented, that the name on the property title was only the name of a non-relative, that the house was completely paid off, or that the respondent does not make any monthly payments on the residence, HwAMORT has a value of 0.

HwAMORT is derived at the household level. In MHAS this is a couple or a single person. Special missing .m is used if at least one component of HwAMORT was not imputed because the respondent did not complete the section. HwAMORT is set to blank missing (.) if the respondent did not participate in the current wave.

HwAFMORT is a flag variable indicating whether or not any component of HwAMORT was imputed. A code of 0 indicates that no component of HwAMORT was imputed. A code of 1 indicates that at least one component of HwAMORT was imputed. A code of -1 indicates that at least one component was not imputed because the respondent did not complete the section and this value has been left missing.

Cross Wave Differences in MHAS

No differences known.

Differences with the RAND HRS/Harmonized HRS

In the HRS, respondents are not asked about the names on the property title of the residence and every respondent who reported owning all or part of their residence are asked the value of the residence. In the MHAS, respondents who report that the name on the property title was only the name of a non-relative are not asked the value of the residence.

Also different, the HRS does not ask respondents whether their residence is completely paid off as does MHAS, instead the HRS asks whether they have a mortgage, land contract, second mortgage, or any other type of loan that uses the property as collateral.

Similarly different from MHAS, if the respondent in the HRS reports having a mortgage but not making any monthly payments, they are still asked the amount of the mortgage.

One more important difference between the MHAS and HRS is that the HRS asks separately about the 1st mortgage, 2nd mortgage and other loans. In MHAS there is one question eliciting the value of everything still owed on the residence.

Value of outstanding primary housing debt in MHAS is measured in nominal pesos, whereas the equivalent measure in RAND HRS is in nominal dollars. Therefore, conversion into a common currency is necessary before comparison of these data.

MHAS Variables Used

Wave 1:	
IMAMJ20	total debt houses/apartments (imputed)
J20IMP	if imputed value
Wave 2:	
IMAMJ28	total debt houses/apartments (imputed)
J28IMP	if imputed value
Wave 3:	
IMAMJ28_12	
J28_IMP_12	
Wave 4:	
IMAMJ28_15	Total debt houses/apartments (imputed)
J28_IMP_15	Total debt houses/apartments (Flag if imputed value)
Wave 5:	
IMAMJ28_18	Total debt houses/apartments (imputed)
J28_IMP_18	Total debt houses/apartments (Flag if imputed value)

Net Value of Primary Residence

Wave	Variable	Label	Type
1	H1ATOTH	h1atoth:w1 net value of house/prim res	Cont
2	H2ATOTH	h2atoth:w2 net value of house/prim res	Cont
3	H3ATOTH	h3atoth:w3 net value of house/prim res	Cont
4	H4ATOTH	h4atoth:w4 net value of house/prim res	Cont
5	H5ATOTH	h5atoth:w5 net value of house/prim res	Cont
1	H1AFTOTH	h1aftoth:w1 flag: net value of house/prim res	Categ
2	H2AFTOTH	h2aftoth:w2 flag: net value of house/prim res	Categ
3	H3AFTOTH	h3aftoth:w3 flag: net value of house/prim res	Categ
4	H4AFTOTH	h4aftoth:w4 flag: net value of house/prim res	Categ
5	H5AFTOTH	h5aftoth:w5 flag: net value of house/prim res	Categ

Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
H1ATOTH	15644	201623.85	327254.71	-600000.00	7777776.00
H2ATOTH	14035	251763.18	376271.31	-709489.19	7777776.00
H3ATOTH	15723	536875.90	757008.92	-4100000.00	9000000.00
H4ATOTH	14911	914268.68	1869773.82	-313673.56	40000000.00
H5ATOTH	17306	630834.41	811619.82	-4800000.00	9800000.00
H1AFTOTH	15697	0.29	0.46	-1.00	1.00
H2AFTOTH	14064	0.32	0.47	-1.00	1.00
H3AFTOTH	15723	0.42	0.49	0.00	1.00
H4AFTOTH	14945	0.30	0.46	-1.00	1.00
H5AFTOTH	17326	0.37	0.49	-1.00	1.00

Categorical Variable Codes

Value-----	H1AFTOTH	H2AFTOTH	H3AFTOTH	H4AFTOTH	H5AFTOTH
-1.No Imput:section not complete	53	29		34	20
0.Not imputed	10977	9523	9123	10340	10820
1.Imputed	4667	4512	6600	4571	6486

How Constructed

HwATOTH captures the household's net value of the primary residence and is based on information from:

Value of the primary residence, as previously described

Value of mortgages on the primary residence, as previously described

HwATOTH is constructed as the sum of the value of the primary residence minus the value of the mortgage on the primary residence: (Value of the primary residence - Value of mortgages on the primary residence). Both components of this variable are constructed at the household level and include imputed values. In MHAS, the household is a couple or a single person. Special missing .m is used if at least one component of HwATOTH was not imputed because the respondent did not complete the section. HwATOTH is set to blank missing (.) if the respondent did not participate in the current wave.

HwAFTOTH is a flag variable based on the original flag variables (previously defined as HwAFHOUS and HwAFMORT), indicating whether or not any component of HwATOTH was imputed. A code of 0 indicates that no component of HwATOTH was imputed. A code of 1 indicates that at least one component of HwATOTH was imputed. A code of -1 indicates that at least one component was not imputed because the respondent did not complete the section and this value has been left missing.



Cross Wave Differences in MHAS

No differences known.

Differences with the RAND HRS/Harmonized HRS

Net value of primary residence in MHAS is measured in nominal pesos, whereas the equivalent measure in RAND HRS is in nominal dollars. Therefore, conversion into a common currency is necessary before comparison of these data.

MHAS Variables Used

Wave 1:	
IMAMJ14	gross value houses/apartments (imputed)
IMAMJ20	total debt houses/apartments (imputed)
J14IMP	if imputed value
J20IMP	if imputed value
Wave 2:	
IMAMJ28	total debt houses/apartments (imputed)
IMAMJ31	gross value houses/apartments (imputed)
J28IMP	if imputed value
J31IMP	if imputed value
Wave 3:	
IMAMJ28_12	
IMAMJ31_12	
J28_IMP_12	
J31_IMP_12	
Wave 4:	
IMAMJ28_15	Total debt houses/apartments (imputed)
IMAMJ31_15	Gross value houses/apartments (imputed)
J28_IMP_15	Total debt houses/apartments (Flag if imputed value)
J31_IMP_15	Gross value houses/apartments (Flag if imputed value)
Wave 5:	
IMAMJ28_18	Total debt houses/apartments (imputed)
IMAMJ31_18	Gross value houses/apartments (imputed)
J28_IMP_18	Total debt houses/apartments (Flag if imputed value)
J31_IMP_18	Gross value houses/apartments (Flag if imputed value)

Home ownership

Wave	Variable	Label	Type
1	H1HOWNRNT	h1hownrnt:w1 home ownership	Categ
2	H2HOWNRNT	h2hownrnt:w2 home ownership	Categ
3	H3HOWNRNT	h3hownrnt:w3 home ownership	Categ
4	H4HOWNRNT	h4hownrnt:w4 home ownership	Categ
5	H5HOWNRNT	h5hownrnt:w5 home ownership	Categ

Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
H1HOWNRNT	15631	1.25	0.61	1.00	3.00
H2HOWNRNT	14023	1.22	0.59	1.00	3.00
H3HOWNRNT	15582	1.22	0.59	1.00	3.00
H4HOWNRNT	14878	1.18	0.54	1.00	3.00
H5HOWNRNT	17286	1.29	0.67	1.00	3.00

Categorical Variable Codes

Value-----	H1HOWNRNT	H2HOWNRNT	H3HOWNRNT	H4HOWNRNT	H5HOWNRNT
.d:DK	6	10	120	26	8
.m:Missing	53	29		34	20
.r:Refuse	7	2	21	7	12
1.Owned	13250	12154	13574	13237	14432
2.Rented	924	627	658	590	758
3.Other arrangement	1457	1242	1350	1051	2096

How Constructed

HwHOWNRNT captures home ownership. It indicates if the residence is (1) owned, (2) rented, or (3) other arrangement. The informant for the subject or the couple is asked "This house/housing unit is...Rented? Borrowed or transferred without payment? Private property or currently paying it off? Other". If the respondent answers that the residence is borrowed, they are currently paying it off, or other, they are then asked "Whose name appears on the property title?". HwHOWNRNT is assigned a code of 1 if the respondent reported that the home is private property or currently being paid off or the respondent, their spouse, the respondent and their spouse, or the respondent and/or spouse and other family members are on the property title. HwHOWNRNT is assigned a code of 2 if the house is rented. HwHOWNRNT is assigned a code of 3 if the house is borrowed or transferred without payment or there is another arrangement. Don't know, refused, or other missing values are assigned special missing values .d, .r, .m, respectively. HwHOWNRNT is assigned blank missing (.) if the respondent did not participate in the current wave.

Cross Wave Differences in MHAS

No differences known.

Differences with the RAND HRS/Harmonized HRS

Different from the HRS, in the MHAS, HwHOWNRNT also considers if the title of the property is under the name of the subject, the spouse, or the couple.

MHAS Variables Used

Wave 1:	
J11	housing tenure
J14	property title
Wave 2:	
J19	residence is rented, owned, or other

J22	names included on house deeds
Wave 3:	
J19_12	Ownership of residence
J22_12	Name on property title
Wave 4:	
J19_15	Ownership of residence
J22_15	Name on property title
Wave 5:	
J19_18	Ownership of residence
J22_18	Name on property title

<b>Value of Other Debt</b>
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Wave	Variable	Label	Type
1	H1ADEBT	h1adebt:w1 assets: debts	Cont
2	H2ADEBT	h2adebt:w2 assets: debts	Cont
3	H3ADEBT	h3adebt:w3 assets: debts	Cont
4	H4ADEBT	h4adebt:w4 assets: debts	Cont
5	H5ADEBT	h5adebt:w5 assets: debts	Cont
1	H1AFDEBT	h1afdebt:w1 asst flag: debts	Categ
2	H2AFDEBT	h2afdebt:w2 asst flag: debts	Categ
3	H3AFDEBT	h3afdebt:w3 asst flag: debts	Categ
4	H4AFDEBT	h4afdebt:w4 asst flag: debts	Categ
5	H5AFDEBT	h5afdebt:w5 asst flag: debts	Categ

### Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
H1ADEBT	15636	1614.87	13074.55	0.00	500000.00
H2ADEBT	14032	2147.39	22600.44	0.00	1600000.00
H3ADEBT	15723	4547.94	39211.32	0.00	2000000.00
H4ADEBT	14911	6068.11	50835.15	0.00	3500000.00
H5ADEBT	17306	10759.82	87189.89	0.00	5000000.00
H1AFDEBT	15695	0.00	0.11	-1.00	1.00
H2AFDEBT	14063	0.01	0.10	-1.00	1.00
H3AFDEBT	15723	0.01	0.11	0.00	1.00
H4AFDEBT	14945	0.01	0.12	-1.00	1.00
H5AFDEBT	17326	0.02	0.14	-1.00	1.00

### Categorical Variable Codes

Value-----	H1AFDEBT	H2AFDEBT	H3AFDEBT	H4AFDEBT	H5AFDEBT
-1.No Imput:section not complete	59	31		34	20
0.Not imputed	15502	13915	15535	14733	16980
1.Imputed	134	117	188	178	326

### How Constructed

HwADEBT captures the value of other debt at the household level. HwADEBT includes the value of any others debts, such as credit cards, medical debts, loans on life insurance, family loans or others.

The informant for the subject or the couple is asked "Do you (or your spouse) have any debts which we have not asked about, such as credit cards, medical debts, loans on life insurance, family loans or others?". If the respondent answers yes, they are then asked if "Taking all these into account, about how much do you owe?". HwADEBT captures this reported value of amount owed.

For the question eliciting a value used in HwADEBT, the MHAS used unfolding bracket questions when the respondent was unsure of the exact value. Using the information provided by the unfolding brackets, unknown amounts were replaced with imputed values using the imputed variables made available in the study website. Please see the 2001 ([here](#)), 2003 ([here](#)), 2012 ([here](#)), 2015 ([here](#)), and 2018 ([here](#)) MHAS documents titled "Imputation of Non-Response on Economic Variables in the MHAS", available in the study website [www.MHASweb.org](http://www.MHASweb.org) for more details on the imputation method used, variables imputed, and covariates included.

In the case that the respondent reported not having any other debt, HwADEBT has a value of 0.

HwADEBT is derived at the household level. In MHAS this is a couple or a single person. Special missing .m is used if at least one component of HwADEBT was not imputed because the respondent did not complete

the section. HwADEBT is set to blank missing (.) if the respondent did not participate in the current wave.

HwAFDEBT is a flag variable indicating whether or not any component of HwADEBT was imputed. A code of 0 indicates that no component of HwADEBT was imputed. A code of 1 indicates that at least one component of HwADEBT was imputed. A code of -1 indicates that at least one component was not imputed because the respondent did not complete the section and this value has been left missing.

Cross Wave Differences in MHAS

No differences known.

Differences with the RAND HRS/Harmonized HRS

Value of other debt in MHAS is measured in nominal pesos, whereas the equivalent measure in RAND HRS is in nominal dollars. Therefore, conversion into a common currency is necessary before comparison of these data.

MHAS Variables Used

Wave 1:		
IMAM82	other debts (imputed)	
K82IMP	if imputed value	
Wave 2:		
IMAMK85	other debts (imputed)	
K85IMP	if imputed value	
Wave 3:		
IMAMK86_12	Other debts (imputed)	
K86_IMP_12	Other debts (Flag if imputed value)	
Wave 4:		
IMAMK86_15	Other debts (imputed)	
K86_IMP_15	Other debts (Flag if imputed value)	
Wave 5:		
IMAMK86_18	Other debts (imputed)	
K86_IMP_18	Other debts (Flag if imputed value)	

<b>Value of Loans Lent</b>
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Wave	Variable	Label	Type
1	H1ALEND	h1alend:w1 assets: loans lent	Cont
2	H2ALEND	h2alend:w2 assets: loans lent	Cont
3	H3ALEND	h3alend:w3 assets: loans lent	Cont
4	H4ALEND	h4alend:w4 assets: loans lent	Cont
5	H5ALEND	h5alend:w5 assets: loans lent	Cont
1	H1AFLEND	h1aflend:w1 asst flag: loans lent	Categ
2	H2AFLEND	h2aflend:w2 asst flag: loans lent	Categ
3	H3AFLEND	h3aflend:w3 asst flag: loans lent	Categ
4	H4AFLEND	h4aflend:w4 asst flag: loans lent	Categ
5	H5AFLEND	h5aflend:w5 asst flag: loans lent	Categ

### Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
H1ALEND	15636	161.15	6519.57	0.00	400000.00
H2ALEND	14032	700.11	27656.30	0.00	2000000.00
H3ALEND	15723	558.43	13812.79	0.00	900000.00
H4ALEND	14911	1666.94	115962.71	0.00	10000000.00
H5ALEND	17306	288.91	8622.77	0.00	600000.00
H1AFLEND	15695	-0.00	0.06	-1.00	1.00
H2AFLEND	14063	-0.00	0.05	-1.00	1.00
H3AFLEND	15723	0.01	0.08	0.00	1.00
H4AFLEND	14945	0.00	0.09	-1.00	1.00
H5AFLEND	17326	0.00	0.06	-1.00	1.00

### Categorical Variable Codes

Value-----	H1AFLEND	H2AFLEND	H3AFLEND	H4AFLEND	H5AFLEND
-1.No Imput:section not complete	59	31		34	20
0.Not imputed	15631	14026	15619	14834	17258
1.Imputed	5	6	104	77	48

### How Constructed

HwALEND captures the value of other debt at the household level. HwALEND includes the value of loans made out to others.

The informant for the subject or the couple is asked "Do you (and/or your spouse) have loans made out to others?". If the respondent answers yes, they are then asked if "Adding up all these accounts, what is the approximate total value?". HwALEND captures this reported value of loans made out to others.

For the question eliciting a value used in HwALEND, the MHAS used unfolding bracket questions when the respondent was unsure of the exact value. Using the information provided by the unfolding brackets, unknown amounts were replaced with imputed values using the imputed variables made available in the study website. Please see the 2001 ([here](#)), 2003 ([here](#)), 2012 ([here](#)), 2015 ([here](#)), and 2018 ([here](#)) MHAS documents titled "Imputation of Non-Response on Economic Variables in the MHAS", available in the study website [www.mhasweb.org](http://www.mhasweb.org) for more details on the imputation method used, variables imputed, and covariates included.

In the case that the respondent reported not having any loans made out to others, HwALEND has a value of 0.

HwALEND is derived at the household level. In MHAS this is a couple or a single person. Special missing .m is used if at least one component of HwALEND was not imputed because the respondent did not complete

the section. HwALEND is set to blank missing (.) if the respondent did not participate in the current wave.

HwAFLEND is a flag variable indicating whether or not any component of HwALEND was imputed. A code of 0 indicates that no component of HwALEND was imputed. A code of 1 indicates that at least one component of HwALEND was imputed. A code of -1 indicates that at least one component was not imputed because the respondent did not complete the section and this value has been left missing.

Cross Wave Differences in MHAS

No differences known.

Differences with the RAND HRS/Harmonized HRS

This variable is not included in RAND HRS.

MHAS Variables Used

Wave 1:	
IMAMK29B	net capital assets_2 (imputed)
K29BIMP	if imputed value
Wave 2:	
IMAMK31_2	net capital assets_2 (imputed)
K31_2IMP	if imputed value
Wave 3:	
IMAMK33_2_12	Net value capital assets_2 (imputed)
K33_2_IMP_12	Net value capital assets_2 (Flag if imputed value)
Wave 4:	
IMAMK33_2_15	Net value capital assets_2 (imputed)
K33_2_IMP_15	Net value capital assets_2 (Flag if imputed value)
Wave 5:	
IMAMK33_2_18	Net value capital assets_2 (imputed)
K33_2_IMP_18	Net value capital assets_2 (Flag if imputed value)

Net Value of Non-Housing Financial Wealth (Excluding IRAs)

Wave	Variable	Label	Type
1	H1ATOTF	h1atotf:w1 non-housing financial wealth	Cont
2	H2ATOTF	h2atotf:w2 non-housing financial wealth	Cont
3	H3ATOTF	h3atotf:w3 non-housing financial wealth	Cont
4	H4ATOTF	h4atotf:w4 non-housing financial wealth	Cont
5	H5ATOTF	h5atotf:w5 non-housing financial wealth	Cont
1	H1AFTOTF	h1aftotf:w1 flag: non-housing financial wealth	Categ
2	H2AFTOTF	h2aftotf:w2 flag: non-housing financial wealth	Categ
3	H3AFTOTF	h3aftotf:w3 flag: non-housing financial wealth	Categ
4	H4AFTOTF	h4aftotf:w4 flag: non-housing financial wealth	Categ
5	H5AFTOTF	h5aftotf:w5 flag: non-housing financial wealth	Categ

Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
H1ATOTF	15636	54159.22	166419.37	-312375.28	7000000.00
H2ATOTF	14032	67343.94	282598.13	-1560000.00	9777776.00
H3ATOTF	15723	123767.21	410467.39	-1734339.25	9000000.00
H4ATOTF	14911	121280.08	618240.80	-2921027.50	37117728.00
H5ATOTF	17306	142770.01	461210.76	-3000000.00	9000000.00
H1AFTOTF	15695	0.27	0.45	-1.00	1.00
H2AFTOTF	14063	0.25	0.44	-1.00	1.00
H3AFTOTF	15723	0.32	0.47	0.00	1.00
H4AFTOTF	14945	0.25	0.44	-1.00	1.00
H5AFTOTF	17326	0.26	0.44	-1.00	1.00

Categorical Variable Codes

Value-----	H1AFTOTF	H2AFTOTF	H3AFTOTF	H4AFTOTF	H5AFTOTF
-1.No Imput:section not complete	59	31		34	20
0.Not imputed	11363	10468	10711	11191	12735
1.Imputed	4273	3564	5012	3720	4571

How Constructed

HwATOTF captures the household's net value of non-housing financial wealth and is based on information from:

Value of bonds, shares, and stocks, as previously described

Value of checking, savings accounts, as previously described

Value of other assets, as previously described

Value of loans lent, as previously described

Value of other debts, as previously described

HwATOTF is constructed as the sum of the different wealth components minus the debt component: (Value of bonds, shares, and stocks + Value of checking, savings accounts + Value of other assets + Value of loans lent - Value of other debts). All the components of this variable are constructed at the household level and include imputed values. In MHAS, the household is a couple or a single person. Special missing .m is used if at least one component of HwATOTF was not imputed because the respondent did not complete the section. HwATOTF is set to blank missing (.) if the respondent did not participate in the current wave.



HwAFTOTF is a flag variable based on the original flag variables (previously defined as HwABFDSTK, HwAFCHCK, HwAFOTHR, HwAFLEND, HwAFDEBT), indicating whether or not any component of HwATOTF was imputed. A code of 0 indicates that no component of HwATOTF was imputed. A code of 1 indicates that at least one component of HwATOTF was imputed. A code of -1 indicates that at least one component was not imputed because the respondent did not complete the section and this value has been left missing.

Note: This total does NOT include the value of any real estate, vehicles, or businesses.

## Cross Wave Differences in MHAS

No differences known.

## Differences with the RAND HRS/Harmonized HRS

See individual components.

Net value of non-housing financial wealth in MHAS is measured in nominal pesos, whereas the equivalent measure in RAND HRS is in nominal dollars. Therefore, conversion into a common currency is necessary before comparison of these data.

## MHAS Variables Used

### Wave 1:

IMAM82	other debts (imputed)
IMAMK29A	net capital assets_1 (imputed)
IMAMK29B	net capital assets_2 (imputed)
IMAMK3_1	total debt business_1 (imputed)
IMAMK3_2	total debt business_2 (imputed)
IMAMK42	net value other assets (imputed)
IMAMK8_1	gross value business_1 (imputed)
IMAMK8_2	gross value business_2 (imputed)
K29AIMP	if imputed value
K29BIMP	if imputed value
K3_1IMP	if imputed value
K3_2IMP	if imputed value
K42IMP	if imputed value
K82IMP	if imputed value
K8_1IMP	if imputed value
K8_2IMP	if imputed value

### Wave 2:

IMAMK31_1	net capital assets_1 (imputed)
IMAMK31_2	net capital assets_2 (imputed)
IMAMK3_1	total debt business_1 (imputed)
IMAMK3_2	total debt business_2 (imputed)
IMAMK44	net value other assets (imputed)
IMAMK85	other debts (imputed)
IMAMK8_1	gross value business_1 (imputed)
IMAMK8_2	gross value business_2 (imputed)
K31_1IMP	if imputed value
K31_2IMP	if imputed value
K3_1IMP	if imputed value
K3_2IMP	if imputed value
K44IMP	if imputed value
K85IMP	if imputed value
K8_1IMP	if imputed value
K8_2IMP	if imputed value

### Wave 3:

IMAMK33_1_12	Net value capital assets_1 (imputed)
IMAMK33_2_12	Net value capital assets_2 (imputed)
IMAMK44_12	Net value other assets (imputed)
IMAMK4_1_12	Total debt business_1 (imputed)
IMAMK4_2_12	Total debt business_2 (imputed)
IMAMK86_12	Other debts (imputed)

IMAMK8_1_12	Gross value business_1 (imputed)
IMAMK8_2_12	Gross value business_2 (imputed)
K33_1_IMP_12	Net value capital assets_1 (Flag if imputed value)
K33_2_IMP_12	Net value capital assets_2 (Flag if imputed value)
K44_IMP_12	Net value other assets (Flag if imputed value)
K4_1_IMP_12	Total debt business_1 (Flag if imputed value)
K4_2_IMP_12	Total debt business_2 (Flag if imputed value)
K86_IMP_12	Other debts (Flag if imputed value)
K8_1_IMP_12	Gross value business_1 (Flag if imputed value)
K8_2_IMP_12	Gross value business_2 (Flag if imputed value)

## Wave 4:

IMAMK33_1_15	Net value capital assets_1 (imputed)
IMAMK33_2_15	Net value capital assets_2 (imputed)
IMAMK44_15	Net value other assets (imputed)
IMAMK4_1_15	Total debt business_1 (imputed)
IMAMK4_2_15	Total debt business_2 (imputed)
IMAMK86_15	Other debts (imputed)
IMAMK8_1_15	Gross value business_1 (imputed)
IMAMK8_2_15	Gross value business_2 (imputed)
K33_1_IMP_15	Net value capital assets_1 (Flag if imputed value)
K33_2_IMP_15	Net value capital assets_2 (Flag if imputed value)
K44_IMP_15	Net value other assets (Flag if imputed value)
K4_1_IMP_15	Total debt business_1 (Flag if imputed value)
K4_2_IMP_15	Total debt business_2 (Flag if imputed value)
K86_IMP_15	Other debts (Flag if imputed value)
K8_1_IMP_15	Gross value business_1 (Flag if imputed value)
K8_2_IMP_15	Gross value business_2 (Flag if imputed value)

## Wave 5:

IMAMK33_1_18	Net value capital assets_1 (imputed)
IMAMK33_2_18	Net value capital assets_2 (imputed)
IMAMK44_18	Net value other assets (imputed)
IMAMK4_1_18	Total debt business_1 (imputed)
IMAMK4_2_18	Total debt business_2 (imputed)
IMAMK86_18	Other debts (imputed)
IMAMK8_1_18	Gross value business_1 (imputed)
IMAMK8_2_18	Gross value business_2 (imputed)
K33_1_IMP_18	Net value capital assets_1 (Flag if imputed value)
K33_2_IMP_18	Net value capital assets_2 (Flag if imputed value)
K44_IMP_18	Net value other assets (Flag if imputed value)
K4_1_IMP_18	Total debt business_1 (Flag if imputed value)
K4_2_IMP_18	Total debt business_2 (Flag if imputed value)
K86_IMP_18	Other debts (Flag if imputed value)
K8_1_IMP_18	Gross value business_1 (Flag if imputed value)
K8_2_IMP_18	Gross value business_2 (Flag if imputed value)

Total Wealth

Wave	Variable	Label	Type
1	H1ATOTB	h1atotb:w1 total all assets inc. 2nd hm	Cont
2	H2ATOTB	h2atotb:w2 total all assets inc. 2nd hm	Cont
3	H3ATOTB	h3atotb:w3 total all assets inc. 2nd hm	Cont
4	H4ATOTB	h4atotb:w4 total all assets inc. 2nd hm	Cont
5	H5ATOTB	h5atotb:w5 total all assets inc. 2nd hm	Cont
1	H1AFTOTB	h1aftotb:w1 flag total all assets inc. 2nd hm	Categ
2	H2AFTOTB	h2aftotb:w2 flag total all assets inc. 2nd hm	Categ
3	H3AFTOTB	h3aftotb:w3 flag total all assets inc. 2nd hm	Categ
4	H4AFTOTB	h4aftotb:w4 flag total all assets inc. 2nd hm	Categ
5	H5AFTOTB	h5aftotb:w5 flag total all assets inc. 2nd hm	Categ

Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
H1ATOTB	15636	395163.75	810017.64	-585000.00	26127040.00
H2ATOTB	14030	471755.19	893168.31	-1655000.00	20478304.00
H3ATOTB	15723	874499.38	1328057.53	-3995500.00	24049140.00
H4ATOTB	14911	1533868.87	3683096.90	-499247.13	110255000.00
H5ATOTB	17306	1023929.33	1413916.38	-3008000.00	21650000.00
H1AFTOTB	15697	0.50	0.51	-1.00	1.00
H2AFTOTB	14064	0.50	0.50	-1.00	1.00
H3AFTOTB	15723	0.57	0.49	0.00	1.00
H4AFTOTB	14945	0.45	0.50	-1.00	1.00
H5AFTOTB	17326	0.53	0.50	-1.00	1.00

Categorical Variable Codes

Value-----	H1AFTOTB	H2AFTOTB	H3AFTOTB	H4AFTOTB	H5AFTOTB
-1.No Imput:section not complete	59	33		34	20
0.Not imputed	7704	6930	6708	8116	8186
1.Imputed	7934	7101	9015	6795	9120

How Constructed

HwATOTB captures the household's total wealth and is based on information from:

Net value of primary residence, as described previously.

Net value of other real estate, as described previously.

Net value of transportation, as described previously.

Net value of business, as described previously.

Net value of non-housing financial wealth, as described previously.

HwATOTB is constructed as the sum of the different wealth components: (Net value of primary residence + Net value of other real estate + Net value of transportation + Net value of business + Net value of non-housing financial wealth). All the components of this variable are constructed at the household level and include imputed values. In MHAS, the household is a couple or a single person. Special missing .m is used if at least one component of HwATOTB was not imputed because the respondent did not complete the section. HwATOTB is set to blank missing (.) if the respondent did not participate in the current wave.

HwAFTOTB is a flag variable based on the original flag variables (previously defined as HwAFTOTF, HwAFRLES, HwAFTRAN, HwAFBSNS, HwAFTOTF), indicating whether or not any component of HwATOTB was imputed.

A code of 0 indicates that no component of HwATOTB was imputed. A code of 1 indicates that at least one component of HwATOTB was imputed. A code of -1 indicates that at least one component was not imputed because the respondent did not complete the section and this value has been left missing.

## Cross Wave Differences in MHAS

See cross wave differences with the Net Value of Real Estate (HwARLES).

## Differences with the RAND HRS/Harmonized HRS

See individual components.

HwATOTB in the Harmonized MHAS does not include the value of individual retirement accounts, whereas HwATOTB in the RAND HRS does include the net value of individual retirement accounts. Whether the respondent is paying into an individual retirement account as part of their current job is asked in MHAS but the current amount of the account is not elicited.

Total family wealth in MHAS is measured in nominal pesos, whereas the equivalent measure in RAND HRS is in nominal dollars. Therefore, conversion into a common currency is necessary before comparison of these data.

## MHAS Variables Used

### Wave 1:

IMAM82	other debts (imputed)
IMAMK29A	net capital assets_1 (imputed)
IMAMK29B	net capital assets_2 (imputed)
IMAMK3_1	total debt business_1 (imputed)
IMAMK3_2	total debt business_2 (imputed)
IMAMK42	net value other assets (imputed)
IMAMK8_1	gross value business_1 (imputed)
IMAMK8_2	gross value business_2 (imputed)
K29AIMP	if imputed value
K29BIMP	if imputed value
K3_1IMP	if imputed value
K3_2IMP	if imputed value
K42IMP	if imputed value
K82IMP	if imputed value
K8_1IMP	if imputed value
K8_2IMP	if imputed value

### Wave 2:

IMAMK31_1	net capital assets_1 (imputed)
IMAMK31_2	net capital assets_2 (imputed)
IMAMK3_1	total debt business_1 (imputed)
IMAMK3_2	total debt business_2 (imputed)
IMAMK44	net value other assets (imputed)
IMAMK85	other debts (imputed)
IMAMK8_1	gross value business_1 (imputed)
IMAMK8_2	gross value business_2 (imputed)
K31_1IMP	if imputed value
K31_2IMP	if imputed value
K3_1IMP	if imputed value
K3_2IMP	if imputed value
K44IMP	if imputed value
K85IMP	if imputed value
K8_1IMP	if imputed value
K8_2IMP	if imputed value

### Wave 3:

IMAMK33_1_12	Net value capital assets_1 (imputed)
IMAMK33_2_12	Net value capital assets_2 (imputed)
IMAMK44_12	Net value other assets (imputed)
IMAMK4_1_12	Total debt business_1 (imputed)
IMAMK4_2_12	Total debt business_2 (imputed)

IMAMK86_12	Other debts (imputed)
IMAMK8_1_12	Gross value business_1 (imputed)
IMAMK8_2_12	Gross value business_2 (imputed)
K33_1_IMP_12	Net value capital assets_1 (Flag if imputed value)
K33_2_IMP_12	Net value capital assets_2 (Flag if imputed value)
K44_IMP_12	Net value other assets (Flag if imputed value)
K4_1_IMP_12	Total debt business_1 (Flag if imputed value)
K4_2_IMP_12	Total debt business_2 (Flag if imputed value)
K86_IMP_12	Other debts (Flag if imputed value)
K8_1_IMP_12	Gross value business_1 (Flag if imputed value)
K8_2_IMP_12	Gross value business_2 (Flag if imputed value)

## Wave 4:

IMAMK33_1_15	Net value capital assets_1 (imputed)
IMAMK33_2_15	Net value capital assets_2 (imputed)
IMAMK44_15	Net value other assets (imputed)
IMAMK4_1_15	Total debt business_1 (imputed)
IMAMK4_2_15	Total debt business_2 (imputed)
IMAMK86_15	Other debts (imputed)
IMAMK8_1_15	Gross value business_1 (imputed)
IMAMK8_2_15	Gross value business_2 (imputed)
K33_1_IMP_15	Net value capital assets_1 (Flag if imputed value)
K33_2_IMP_15	Net value capital assets_2 (Flag if imputed value)
K44_IMP_15	Net value other assets (Flag if imputed value)
K4_1_IMP_15	Total debt business_1 (Flag if imputed value)
K4_2_IMP_15	Total debt business_2 (Flag if imputed value)
K86_IMP_15	Other debts (Flag if imputed value)
K8_1_IMP_15	Gross value business_1 (Flag if imputed value)
K8_2_IMP_15	Gross value business_2 (Flag if imputed value)

## Wave 5:

IMAMK33_1_18	Net value capital assets_1 (imputed)
IMAMK33_2_18	Net value capital assets_2 (imputed)
IMAMK44_18	Net value other assets (imputed)
IMAMK4_1_18	Total debt business_1 (imputed)
IMAMK4_2_18	Total debt business_2 (imputed)
IMAMK86_18	Other debts (imputed)
IMAMK8_1_18	Gross value business_1 (imputed)
IMAMK8_2_18	Gross value business_2 (imputed)
K33_1_IMP_18	Net value capital assets_1 (Flag if imputed value)
K33_2_IMP_18	Net value capital assets_2 (Flag if imputed value)
K44_IMP_18	Net value other assets (Flag if imputed value)
K4_1_IMP_18	Total debt business_1 (Flag if imputed value)
K4_2_IMP_18	Total debt business_2 (Flag if imputed value)
K86_IMP_18	Other debts (Flag if imputed value)
K8_1_IMP_18	Gross value business_1 (Flag if imputed value)
K8_2_IMP_18	Gross value business_2 (Flag if imputed value)

**Section F: Income**

Individual Earnings

Wave	Variable	Label	Type
1	R1IEARN	r1iearn:w1 Income:R Earnings from employment	Cont
2	R2IEARN	r2iearn:w2 Income:R Earnings from employment	Cont
3	R3IEARN	r3iearn:w3 Income:R Earnings from employment	Cont
4	R4IEARN	r4iearn:w4 Income:R Earnings from employment	Cont
5	R5IEARN	r5iearn:w5 Income:R Earnings from employment	Cont
1	S1IEARN	s1iearn:w1 Income:S Earnings from employment	Cont
2	S2IEARN	s2iearn:w2 Income:S Earnings from employment	Cont
3	S3IEARN	s3iearn:w3 Income:S Earnings from employment	Cont
4	S4IEARN	s4iearn:w4 Income:S Earnings from employment	Cont
5	S5IEARN	s5iearn:w5 Income:S Earnings from employment	Cont
1	R1IFEARN	r1ifearn:w1 IncFlag:R Earnings from employment	Categ
2	R2IFEARN	r2ifearn:w2 IncFlag:R Earnings from employment	Categ
3	R3IFEARN	r3ifearn:w3 IncFlag:R Earnings from employment	Categ
4	R4IFEARN	r4ifearn:w4 IncFlag:R Earnings from employment	Categ
5	R5IFEARN	r5ifearn:w5 IncFlag:R Earnings from employment	Categ
1	S1IFEARN	s1ifearn:w1 IncFlag:S Earnings from employment	Categ
2	S2IFEARN	s2ifearn:w2 IncFlag:S Earnings from employment	Categ
3	S3IFEARN	s3ifearn:w3 IncFlag:S Earnings from employment	Categ
4	S4IFEARN	s4ifearn:w4 IncFlag:S Earnings from employment	Categ
5	S5IFEARN	s5ifearn:w5 IncFlag:S Earnings from employment	Categ

Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R1IEARN	15126	17183.59	73539.49	0.00	4723420.00
R2IEARN	13662	12421.54	46357.16	0.00	2118000.00
R3IEARN	15721	16487.13	112209.83	0.00	6500000.00
R4IEARN	14745	16789.37	90379.57	0.00	6103403.00
R5IEARN	17094	21669.28	125743.12	0.00	9604000.00
S1IEARN	10632	20164.56	84570.50	0.00	4723420.00
S2IEARN	9547	14399.34	51584.09	0.00	2118000.00
S3IEARN	10590	19241.24	113510.10	0.00	6500000.00
S4IEARN	10343	19300.83	102511.76	0.00	6103403.00
S5IEARN	11969	24855.39	143942.00	0.00	9604000.00
R1IFEARN	15126	0.03	0.18	0.00	1.00
R2IFEARN	13673	0.02	0.15	-1.00	1.00
R3IFEARN	15723	0.03	0.16	-1.00	1.00
R4IFEARN	14745	0.02	0.14	0.00	1.00
R5IFEARN	17094	0.03	0.16	0.00	1.00
S1IFEARN	10932	0.01	0.25	-1.00	1.00
S2IFEARN	9673	0.01	0.20	-1.00	1.00
S3IFEARN	10941	0.00	0.26	-1.00	1.00
S4IFEARN	10414	0.02	0.18	-1.00	1.00
S5IFEARN	12059	0.03	0.21	-1.00	1.00

Categorical Variable Codes

Value-----	R1IFEARN	R2IFEARN	R3IFEARN	R4IFEARN	R5IFEARN
.m:Missing	60	31		34	20
-1.No Imput:section not complete		11	2		
0.Not imputed	14623	13377	15286	14443	16619

1.Imputed		503	285	435	302	475
Value-----		S1FEARN	S2FEARN	S3FEARN	S4FEARN	S5FEARN
.m:Missing		51	22		22	9
.u:Unmar		4203	4009	4782	4343	5223
-1.No Imput:section not complete		300	126	351	71	90
0.Not imputed		10231	9293	10226	10063	11516
1.Imputed		401	254	364	280	453

## How Constructed

RwIEARN and SwIEARN capture the respondent's and spouse's employment individual earnings at an annual-level, respectively. RwIEARN and SwIEARN include income from salary, commission, overtime, bonus and profit share for both the primary and secondary job. Employment earnings questions are asked without instruction as to whether these amounts should be reported before or after tax.

Income questions about the respondent and the respondent's spouse (if applicable) are asked separately, but both are answered by the financial respondent. If the financial respondent is the respondent, then questions the financial respondent answers about him/herself are assigned to the respondent and those about their spouse are assigned to the spouse. However, if the financial respondent is the respondent's spouse, then questions the financial respondent answers about him/herself are assigned to the spouse and those concerning their spouse are assigned to the respondent. Proxy respondents can also answer these income questions in the place of the respondent or their spouse and, in the case that they do, they are asked to answer about the respondent and their spouse (if applicable), and financial information is then assigned respectively.

The financial respondent is first asked "During last year, did you have a principal job?" If they answer yes, they are then asked "Excluding income you already mentioned, last year did you receive income from salary, commission, and overtime from your principal job?" If they answer yes, they are asked how much they earned per month. They are then asked "Excluding income you already mentioned, last year did you receive income from bonus and/or profit share from your principal job?" If they answer yes, they are asked about how much they earned yearly. For all respondents who are reported to have had a principal job during the last year, they are asked "During last year, did you have a secondary job?" If they answer yes, they are then asked "Excluding income you already mentioned, last year did you receive income from salary, commission, and overtime from your secondary job?". If they answer yes, they are asked how much they earned per month. They are then asked "Excluding income you already mentioned, last year did you receive income from bonus and/or profit share from your secondary job?". If they answer yes, they are asked about how much they earned yearly. At Wave 1 and 2, RwIEARN is derived as yearly income from employment earnings by multiplying the reported monthly amounts of salary, commission, and overtime by 12 and by adding the reported yearly amounts of bonus and profit share from both the primary and secondary job. Starting at Wave 3, RwIEARN is derived as yearly income from employment earnings by adding the reported monthly amounts of salary, commission, and overtime and the reported monthly amounts of bonus and profit share from both the primary and secondary job, and multiplying that amount by 12 to express a yearly value. In the case that the respondent did not have a primary job or that they did not receive any salary, commission, overtime, bonus and profit share for the primary or secondary job, RwIEARN has a value of 0. Special missing .m is used if at least one component of RwIEARN was not imputed because the section was not completed. RwIEARN is set to blank missing (.) if the respondent did not participate in the current wave.

If the respondent has a spouse, the financial respondent is asked "During last year, did your spouse have a principal job?" If they answer yes, they are then asked "Excluding income you already mentioned, last year did your spouse receive income from salary, commission, and overtime from his/her principal job?" If they answer yes, they are asked how much he/she earned per month. They are then asked "Excluding income you already mentioned, last year did your spouse receive income from bonus and/or profit share from his/her principal job?" If they answer yes, they are asked about how much he/she earned yearly. For all spouses who are reported to have had a principal job during the last year, the informant is asked "During last year, did your spouse have a secondary job?" If they answer yes, they are then asked "Excluding income you already mentioned, last year did your spouse receive income from salary, commission, and overtime from his/her secondary job?". If they answer yes, they are asked how much he/she earned per month. They are then asked "Excluding income you already mentioned, last year did your spouse receive income from bonus and/or profit share from his/her secondary job?". If they answer yes, they are asked about how much he/she earned yearly. At Wave 1 and 2, SwIEARN is derived as yearly income from employment earnings by multiplying the reported monthly amounts of salary, commission, and overtime by 12 and by adding the reported yearly amounts of bonus and profit share from both the primary and secondary job. Starting at Wave 3, SwIEARN is derived as yearly income from employment earnings by adding the reported



monthly amounts of salary, commission, and overtime and the reported monthly amounts of bonus and profit share from both the primary and secondary job, and multiplying that amount by 12 to express a yearly value. In the case that the spouse did not have a primary job or that they did not receive any salary, commission, overtime, bonus and profit share for the primary or secondary job, SwIEARN has a value of 0. Special missing .m is used if at least one component of SwIEARN was not imputed because the section was not completed. Special missing value .u is used when the respondent does not have a spouse at this wave. SwIEARN is set to blank missing (.) if the respondent did not participate in the current wave.

For questions eliciting a value included in Rwiearn and Swiearn, the MHAS used unfolding bracket questions when the respondent was unsure of the exact value. Using the information provided by the unfolding brackets, unknown amounts were replaced with imputed values using the imputed variables made available in the study website. Please see the 2001 ([here](#)), 2003 ([here](#)), 2012 ([here](#)), 2015 ([here](#)), and 2018 ([here](#)) MHAS documents titled "Imputation of Non-Response on Economic Variables in the MHAS", available in the study website [www.MHASweb.org](http://www.MHASweb.org) for more details on the imputation method used, variables imputed, and covariates included.

Rwiearn and Swiearn are flag variables indicating whether or not any component of Rwiearn or Swiearn was imputed. A code of 0 indicates that no component was imputed. A code of 1 indicates that at least one component was imputed. A code of -1 indicates that at least one component was not imputed because the respondent did not complete the section and this value has been left missing.

## Cross Wave Differences in MHAS

As part of MHAS imputation process at Wave 1 and 2, the imputed values of bonus and profit share from both the primary and secondary job were left as yearly amounts. Starting at Wave 3 imputation process, the imputed values of bonus and profit share from both the primary and secondary job were transformed to monthly amounts. Rwiearn and Swiearn account for this change and include the values of bonus and profit share from both the primary and secondary job at the annual level in all waves.

## Differences with the RAND HRS/Harmonized HRS

In the HRS respondents are asked to report employment earnings aside from self-employment income. The HRS then later specifically asks respondents about self-employment income. In the MHAS respondents are asked about all earnings from the principal and secondary job (regardless of whether the earnings are from self-employment). Therefore earnings from self-employment are captured in Rwiearn in the Harmonized MHAS while these earnings would not be captured in Rwiearn in the RAND HRS but instead are included as part of Hwicap in the RAND HRS.

In the HRS, respondents are instructed to report employment earnings before taxes and deductions. In the MHAS, employment earnings questions are asked without instruction as to whether these amounts should be reported before or after tax.

The individual earnings variable in MHAS is measured in nominal pesos, whereas the equivalent measure in RAND HRS is in nominal dollars. Therefore, conversion into a common currency is necessary before comparison of these data.

## MHAS Variables Used

### Wave 1:

IMAM44	own earned income-1 (imputed)
IMAM45	own earned income-2 (imputed)
IMAM47	own earned income-3 (imputed)
IMAM48	own earned income-4 (imputed)
IMAM50	spouse's earned income-1 (imputed)
IMAM51	spouse's earned income-2 (imputed)
IMAM53	spouse's earned income-3 (imputed)
IMAM54	spouse's earned income-4 (imputed)
K44IMP	if imputed value
K45IMP	if imputed value
K47IMP	if imputed value
K48IMP	if imputed value
K50IMP	if imputed value
K51IMP	if imputed value

K53IMP	if imputed value
K54IMP	if imputed value
Wave 2:	
IMAM47	own earned income-1 (imputed)
IMAM48	own earned income-2 (imputed)
IMAM50	own earned income-3 (imputed)
IMAM51	own earned income-4 (imputed)
IMAM53	spouse's earned income-1 (imputed)
IMAM54	spouse's earned income-2 (imputed)
IMAM56	spouse's earned income-3 (imputed)
IMAM57	spouse's earned income-4 (imputed)
K47IMP	if imputed value
K48IMP	if imputed value
K50IMP	if imputed value
K51IMP	if imputed value
K53IMP	if imputed value
K54IMP	if imputed value
K56IMP	if imputed value
K57IMP	if imputed value
Wave 3:	
IMAMK47A_12	Own earned income-1 (imputed)
IMAMK48A_12	Own earned income-2 (imputed)
IMAMK50A_12	Own earned income-3 (imputed)
IMAMK51A_12	Own earned income-4 (imputed)
IMAMK53A_12	Spouse's earned income-1 (imputed)
IMAMK54A_12	Spouse's earned income-2 (imputed)
IMAMK56A_12	Spouse's earned income-3 (imputed)
IMAMK57A_12	Spouse's earned income-4 (imputed)
K47A_IMP_12	Own earned income-1 (Flag if imputed value)
K48A_IMP_12	Own earned income-2 (Flag if imputed value)
K50A_IMP_12	Own earned income-3 (Flag if imputed value)
K51A_IMP_12	Own earned income-4 (Flag if imputed value)
K53A_IMP_12	Spouse's earned income-1 (Flag if imputed value)
K53A_IMP_12	Spouse's earned income-1 (Flag if imputed value)
K53A_IMP_12	Spouse's earned income-1 (Flag if imputed value)
K54A_IMP_12	Spouse's earned income-2 (Flag if imputed value)
K54A_IMP_12	Spouse's earned income-2 (Flag if imputed value)
K54A_IMP_12	Spouse's earned income-2 (Flag if imputed value)
K56A_IMP_12	Spouse's earned income-3 (Flag if imputed value)
K56A_IMP_12	Spouse's earned income-3 (Flag if imputed value)
K56A_IMP_12	Spouse's earned income-3 (Flag if imputed value)
K57A_IMP_12	Spouse's earned income-4 (Flag if imputed value)
K57A_IMP_12	Spouse's earned income-4 (Flag if imputed value)
K57A_IMP_12	Spouse's earned income-4 (Flag if imputed value)
Wave 4:	
IMAMK47A_15	Own earned income-1 (imputed)
IMAMK48A_15	Own earned income-2 (imputed)
IMAMK50A_15	Own earned income-3 (imputed)
IMAMK51A_15	Own earned income-4 (imputed)
IMAMK53A_15	Spouse's earned income-1 (imputed)
IMAMK54A_15	Spouse's earned income-2 (imputed)
IMAMK56A_15	Spouse's earned income-3 (imputed)
IMAMK57A_15	Spouse's earned income-4 (imputed)
K47A_IMP_15	Own earned income-1 (Flag if imputed value)
K48A_IMP_15	Own earned income-2 (Flag if imputed value)
K50A_IMP_15	Own earned income-3 (Flag if imputed value)
K51A_IMP_15	Own earned income-4 (Flag if imputed value)
K53A_IMP_15	Spouse's earned income-1 (Flag if imputed value)
K53A_IMP_15	Spouse's earned income-1 (Flag if imputed value)
K53A_IMP_15	Spouse's earned income-1 (Flag if imputed value)
K54A_IMP_15	Spouse's earned income-2 (Flag if imputed value)
K54A_IMP_15	Spouse's earned income-2 (Flag if imputed value)
K54A_IMP_15	Spouse's earned income-2 (Flag if imputed value)
K56A_IMP_15	Spouse's earned income-3 (Flag if imputed value)

K56A_IMP_15	Spouse's earned income-3 (Flag if imputed value)
K56A_IMP_15	Spouse's earned income-3 (Flag if imputed value)
K57A_IMP_15	Spouse's earned income-4 (Flag if imputed value)
K57A_IMP_15	Spouse's earned income-4 (Flag if imputed value)
K57A_IMP_15	Spouse's earned income-4 (Flag if imputed value)
Wave 5:	
IMAMK47A_18	Own earned income-1 (imputed)
IMAMK48A_18	Own earned income-2 (imputed)
IMAMK50A_18	Own earned income-3 (imputed)
IMAMK51A_18	Own earned income-4 (imputed)
IMAMK53A_18	Spouse's earned income-1 (imputed)
IMAMK54A_18	Spouse's earned income-2 (imputed)
IMAMK56A_18	Spouse's earned income-3 (imputed)
IMAMK57A_18	Spouse's earned income-4 (imputed)
K47A_IMP_18	Own earned income-1 (Flag if imputed value)
K48A_IMP_18	Own earned income-2 (Flag if imputed value)
K50A_IMP_18	Own earned income-3 (Flag if imputed value)
K51A_IMP_18	Own earned income-4 (Flag if imputed value)
K53A_IMP_18	Spouse's earned income-1 (Flag if imputed value)
K53A_IMP_18	Spouse's earned income-1 (Flag if imputed value)
K53A_IMP_18	Spouse's earned income-1 (Flag if imputed value)
K54A_IMP_18	Spouse's earned income-2 (Flag if imputed value)
K54A_IMP_18	Spouse's earned income-2 (Flag if imputed value)
K54A_IMP_18	Spouse's earned income-2 (Flag if imputed value)
K56A_IMP_18	Spouse's earned income-3 (Flag if imputed value)
K56A_IMP_18	Spouse's earned income-3 (Flag if imputed value)
K56A_IMP_18	Spouse's earned income-3 (Flag if imputed value)
K57A_IMP_18	Spouse's earned income-4 (Flag if imputed value)
K57A_IMP_18	Spouse's earned income-4 (Flag if imputed value)
K57A_IMP_18	Spouse's earned income-4 (Flag if imputed value)

<b>Household Capital Income</b>
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Wave	Variable	Label		Type
1	H1ISEMP	h1isemp:w1	Income:H Earnings from business	Cont
2	H2ISEMP	h2isemp:w2	Income:H Earnings from business	Cont
3	H3ISEMP	h3isemp:w3	Income:H Earnings from business	Cont
4	H4ISEMP	h4isemp:w4	Income:H Earnings from business	Cont
5	H5ISEMP	h5isemp:w5	Income:H Earnings from business	Cont
1	H1IFSEMP	h1ifsemp:w1	IncFlag:H Earnings from business	Categ
2	H2IFSEMP	h2ifsemp:w2	IncFlag:H Earnings from business	Categ
3	H3IFSEMP	h3ifsemp:w3	IncFlag:H Earnings from business	Categ
4	H4IFSEMP	h4ifsemp:w4	IncFlag:H Earnings from business	Categ
5	H5IFSEMP	h5ifsemp:w5	IncFlag:H Earnings from business	Categ
1	H1IRENT	h1irent:w1	Income:H Rental income	Cont
2	H2IRENT	h2irent:w2	Income:H Rental income	Cont
3	H3IRENT	h3irent:w3	Income:H Rental income	Cont
4	H4IRENT	h4irent:w4	Income:H Rental income	Cont
5	H5IRENT	h5irent:w5	Income:H Rental income	Cont
1	H1IFRENT	h1ifrent:w1	IncFlag:H Rental income	Categ
2	H2IFRENT	h2ifrent:w2	IncFlag:H Rental income	Categ
3	H3IFRENT	h3ifrent:w3	IncFlag:H Rental income	Categ
4	H4IFRENT	h4ifrent:w4	IncFlag:H Rental income	Categ
5	H5IFRENT	h5ifrent:w5	IncFlag:H Rental income	Categ
1	H1ITREST	h1itrest:w1	Income:H Interest income from financial assets	Cont
2	H2ITREST	h2itrest:w2	Income:H Interest income from financial assets	Cont
3	H3ITREST	h3itrest:w3	Income:H Interest income from financial assets	Cont
4	H4ITREST	h4itrest:w4	Income:H Interest income from financial assets	Cont
5	H5ITREST	h5itrest:w5	Income:H Interest income from financial assets	Cont
1	H1IFTREST	h1iftrest:w1	Impflag:H Interest income from financial assets	Categ
2	H2IFTREST	h2iftrest:w2	Impflag:H Interest income from financial assets	Categ
3	H3IFTREST	h3iftrest:w3	Impflag:H Interest income from financial assets	Categ
4	H4IFTREST	h4iftrest:w4	Impflag:H Interest income from financial assets	Categ
5	H5IFTREST	h5iftrest:w5	Impflag:H Interest income from financial assets	Categ
1	H1ICAP	h1icap:w1	Income:H Capital Income	Cont
2	H2ICAP	h2icap:w2	Income:H Capital Income	Cont
3	H3ICAP	h3icap:w3	Income:H Capital Income	Cont
4	H4ICAP	h4icap:w4	Income:H Capital Income	Cont
5	H5ICAP	h5icap:w5	Income:H Capital Income	Cont
1	H1IFCAP	h1ifcap:w1	IncFlag:H Capital Inc	Categ
2	H2IFCAP	h2ifcap:w2	IncFlag:H Capital Inc	Categ
3	H3IFCAP	h3ifcap:w3	IncFlag:H Capital Inc	Categ
4	H4IFCAP	h4ifcap:w4	IncFlag:H Capital Inc	Categ
5	H5IFCAP	h5ifcap:w5	IncFlag:H Capital Inc	Categ

## Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
H1ISEMP	15636	25154.95	469626.52	-6000000.00	27506664.00
H2ISEMP	14032	32822.81	525179.42	0.00	30000000.00
H3ISEMP	15723	25077.79	437181.01	0.00	36000000.00
H4ISEMP	14745	17888.44	134710.11	0.00	4800000.00
H5ISEMP	17094	39054.66	770823.51	0.00	60000000.00

H1IFSEMP	15186	0.06	0.25	-1.00	1.00
H2IFSEMP	13704	0.05	0.23	-1.00	1.00
H3IFSEMP	15723	0.03	0.17	0.00	1.00
H4IFSEMP	14779	0.02	0.16	-1.00	1.00
H5IFSEMP	17114	0.03	0.17	-1.00	1.00
H1IRENT	15636	21201.53	1098904.32	-6000000.00	90000000.00
H2IRENT	14032	2434.64	29388.49	-300000.00	960000.00
H3IRENT	15723	4906.16	168221.64	-1200000.00	8430600.00
H4IRENT	14745	5649.63	173288.62	-1200000.00	11940000.00
H5IRENT	17094	878.52	61420.95	-4800000.00	900000.00
H1IFRENT	15186	0.00	0.11	-1.00	1.00
H2IFRENT	13704	0.01	0.11	-1.00	1.00
H3IFRENT	15723	0.01	0.12	0.00	1.00
H4IFRENT	14779	0.01	0.12	-1.00	1.00
H5IFRENT	17114	0.01	0.12	-1.00	1.00
H1ITREST	15636	927.84	6500.70	0.00	165300.00
H2ITREST	14032	460.72	4126.64	0.00	106923.75
H3ITREST	15723	1327.33	30831.86	0.00	2400000.00
H4ITREST	14745	7690.25	559878.52	0.00	48032464.00
H5ITREST	17094	11349.16	258447.92	0.00	10466244.00
H1IFTREST	15186	0.03	0.19	-1.00	1.00
H2IFTREST	13704	0.02	0.17	-1.00	1.00
H3IFTREST	15723	0.02	0.14	0.00	1.00
H4IFTREST	14779	0.01	0.14	-1.00	1.00
H5IFTREST	17114	0.01	0.13	-1.00	1.00
H1ICAP	15636	47284.32	1264500.12	-6000000.00	90000000.00
H2ICAP	14032	35718.17	530366.33	-300000.00	30474000.00
H3ICAP	15723	31311.28	469786.94	-1200000.00	36000000.00
H4ICAP	14745	31228.32	644602.58	-1200000.00	51558275.25
H5ICAP	17094	51282.33	827681.05	-4800000.00	60000000.00
H1IFCAP	15186	0.09	0.30	-1.00	1.00
H2IFCAP	13704	0.08	0.28	-1.00	1.00
H3IFCAP	15723	0.06	0.23	0.00	1.00
H4IFCAP	14779	0.04	0.21	-1.00	1.00
H5IFCAP	17114	0.05	0.23	-1.00	1.00

## Categorical Variable Codes

Value-----	H1IFSEMP	H2IFSEMP	H3IFSEMP	H4IFSEMP	H5IFSEMP
-1.No Imput:section not complete	59	31		34	20
0.Not imputed	14194	12960	15237	14389	16616
1.Imputed	933	713	486	356	478
Value-----	H1IFRENT	H2IFRENT	H3IFRENT	H4IFRENT	H5IFRENT
-1.No Imput:section not complete	59	31		34	20
0.Not imputed	14993	13529	15501	14570	16851
1.Imputed	134	144	222	175	243
Value-----	H1IFTREST	H2IFTREST	H3IFTREST	H4IFTREST	H5IFTREST
-1.No Imput:section not complete	59	31		34	20
0.Not imputed	14598	13314	15391	14504	16836
1.Imputed	529	359	332	241	258
Value-----	H1IFCAP	H2IFCAP	H3IFCAP	H4IFCAP	H5IFCAP
-1.No Imput:section not complete	59	31		34	20
0.Not imputed	13648	12538	14833	14079	16199
1.Imputed	1479	1135	890	666	895

## How Constructed

HwISEMP captures the household's business income at an annual-level. At Wave 1, HwISEMP is derived using questions about income and expenses from a business or farm. Starting in Wave 2, HwISEMP is derived using questions about profits from a business or farm. Business income questions are asked without instruction as to whether these amounts should be reported before or after tax.

The informant for the subject or the couple is asked "do you (and/or spouse) own a business or farm?". If the respondent answers yes, they are then asked "during the last year, did this business generate income for you (and/or your spouse)?" If the business did generate income they are asked "about how much income did this business generate in a typical month? Consider income before expenses." All respondents who report owning a business/farm are also asked "about how much did you spend on this business in a typical month?". Starting in Wave 2, all respondents who report owning a business/farm are also asked "how much profit does this business give you (and/or your spouse) in a typical month?" At Wave 1, HwISEMP is derived as the gross monthly income minus the monthly expenses of the business, multiplied by 12. Starting in Wave 2, HwISEMP is derived as the profit of the business, multiplied by 12. In the case that neither the respondent nor the spouse owns a business, HwISEMP has a value of 0.

HwIRENT captures the household's rental income at an annual-level. At Wave 1, 2, and 3 HwIRENT includes gross income minus expenses from real estate property (other than the main and primary house), land, vacant lots, and properties for rent. In Wave 4 HwIRENT includes income generated from the current or secondary residence and gross income minus expenses from real estate property (other than the main and primary house), land, vacant lots, and properties for rent. Starting in Wave 5, respondents were asked to report both the gross income and the expenses on only one property, the most important one. Rental income questions are asked without instruction as to whether these amounts should be reported before or after tax.

The informant for the subject or the couple is asked "excluding your main house or second residence, do you (or your spouse) own any real estate property, such as land, vacant lots and/or properties for rent?". If the respondent answers yes, they are then asked "during the last year, did this property generate income for you (and/or your spouse)?" If the property did generate income they are asked "about how much income did this property generate in a typical month? Consider income before expenses." All respondents who report owning real estate are also asked "about how much did you spend on this property in a typical month?". Starting in Wave 4, MHAS added a question to all household respondents asking "Does the house you live in (or the second residence) generate you income?" If the respondent answers yes, they are then asked "About how much per month?" At Waves 1, 2, and 3 HwIRENT is derived as the gross monthly income minus the monthly expenses of the property, multiplied by 12. In the case that neither the respondent nor spouse owns real estate, HwIRENT has a value of 0. In the case that neither the respondent nor spouse owns real estate, HwIRENT has a value of 0. Starting at Wave 4 HwIRENT is derived as the rental income from the current or secondary residence plus the gross monthly income minus the monthly expenses of the property, all multiplied by 12. In the case that the current or secondary residence does not generate income and neither the respondent nor spouse owns real estate, HwIRENT has a value of 0.

HwITREST captures the household's income from financial assets at an annual-level. HwITREST includes income generated from checking, saving accounts, fixed investments, loans made to others, stocks, company shares, and bonds. Questions about income from financial assets are asked without instruction as to whether these amounts should be reported before or after tax.

The informant for the subject or the couple is asked "Do you (and/or your spouse) have checking or saving account, or fixed investment?". If the respondent answers yes, they are then asked "During the previous year, did these [assets] generate income for you (and/or your spouse)?" If the asset did generate income they are asked "about how much per month?" Next the informant for the subject or the couple is asked "Do you (and/or your spouse) have loans made out to others?". If the respondent answers yes, they are then asked "During the previous year, did these [assets] generate income for you (and/or your spouse)?" If the asset did generate income they are asked "about how much per month?" Next the informant for the subject or the couple is asked "Do you (and/or your spouse) have stocks, company shares or bonds?". If the respondent answers yes, they are then asked "During the previous year, did these [assets] generate income for you (and/or your spouse)?" If the asset did generate income they are asked "about how much per month?" HwITREST is derived as the sum of the monthly income generated from checking or saving account, or fixed investment, loans made out to others, and stocks, company shares, or bonds, multiplied by 12. In the case that neither the respondent nor spouse has checking or saving account, fixed investment, loans made out to others, stocks, company shares, or bonds, or that the respondent or spouse have these assets but they did not generate any income from them in the last year, HwITREST has a value of 0.

For all questions eliciting a value included in HwISEMP, HwIRENT, or HwITREST the MHAS used unfolding bracket questions when the respondent was unsure of the exact value. Using the information provided by the unfolding brackets, unknown amounts were replaced with imputed values using the imputed variables made available in the study website. Please see the 2001 ([here](#)), 2003 ([here](#)), 2012 ([here](#)), 2015 ([here](#)), and 2018 ([here](#)) MHAS documents titled "Imputation of Non-Response on Economic Variables in the MHAS", available in the study website [www.MHASweb.org](http://www.MHASweb.org) for more details on the imputation method used, variables imputed, and covariates included.

HwISEMP, HwIRENT, and HwITREST are derived at the household level. In MHAS this is a couple or a single person. Special missing .m is used if at least one component of HwISEMP, HwIRENT, and HwITREST was not imputed because the respondent did not complete the section. HwISEMP, HwIRENT, and HwITREST are set to blank missing (.) if the respondent did not participate in the current wave.

HwIFSEMP, HwIFRENT, and HwIFTREST are flag variables indicating whether or not any component of HwISEMP, HwIRENT, and HwITREST was imputed, respectively. A code of 0 indicates that no component was imputed. A code of 1 indicates that at least one component was imputed. A code of -1 indicates that at least one component was not imputed because the respondent did not complete the section and this value has been left missing.

HwICAP captures the household's total capital income at an annual-level and is based on information from:

Income from business earnings, as previously described

Income from rental income, as previously described

Income from financial assets, as previously described

HwICAP is constructed as the sum of the income from business earnings, rental income, and interest income from financial assets. All components of this variable are constructed at the household level and include imputed values. In MHAS, the household is a couple or a single person. Special missing .m is used if at least one component of HwICAP was not imputed because the respondent did not complete the section. HwICAP is set to blank missing (.) if the respondent did not participate in the current wave.

HwIFCAP is a flag variable based on the original flag variables (previously defined as HwIFSEMP, HwIFRENT, and HwIFTREST), indicating whether or not any component of HwICAP was imputed. A code of 0 indicates that no component of HwICAP was imputed. A code of 1 indicates that at least one component of HwICAP was imputed. A code of -1 indicates that at least one component was not imputed because the respondent did not complete the section and this value has been left missing.

## Cross Wave Differences in MHAS

Starting in Wave 2, the MHAS added a question which asked "How much profit does this business give you (and/or your spouse) in a typical month?" With this change the derivation of HwISEMP also changed so that starting in Wave 2 HwISEMP is derived using the monthly profit of the business multiplied by 12 instead of the gross monthly income minus the monthly expenses of the business, multiplied by 12 as was used at Wave 1. Due to this change, it is possible that HwISEMP takes negative values in Wave 2. However, the question regarding the business profit only allows positive values (thus the minimum possible value for HwISEMP is 0).

In Wave 4, MHAS added a question to all household respondents asking "Does the house you live in (or the second residence) generate you income?" If the respondent answers yes, they are then asked "About how much per month?" With this change the derivation of HwIRENT also changed so that starting in Wave 4 HwIRENT is derived by adding the income generated from the current or secondary residence to the gross monthly income minus the monthly expenses of the property, all multiplied by 12 instead of just the the gross monthly income minus the monthly expenses of the property multiplied by 12 as was used before Wave 4. Starting in Wave 5, respondents were asked to report both the gross income and the expenses on only one property, the most important one.

## Differences with the RAND HRS/Harmonized HRS

In the HRS respondents are asked about income from household business or farm income, self-employment earnings, business income, gross rent, dividend and interest income, trust funds or royalties, and other asset income. In the MHAS, respondents are not specifically asked about self-employment earnings but are

asked about all earnings from the principal and secondary job. These values of all earnings are captured in RwieARN. Also different, the MHAS does not ask about income from "other" assets.

In the HRS, respondents are instructed to report capital income before taxes and deductions. In the MHAS, capital income questions are asked without instruction as to whether these amounts should be reported before or after tax.

Capital income in MHAS is measured in nominal pesos, whereas the equivalent measure in RAND HRS is in nominal dollars. Therefore, conversion into a common currency is necessary before comparison of these data.

## MHAS Variables Used

### Wave 1:

IMAM10_1	business income-1 (imputed)
IMAM10_2	business income-2 (imputed)
IMAM13_1	business expenditures-1 (imputed)
IMAM13_2	business expenditures-2 (imputed)
IMAM24_1	property rent income-1 (imputed)
IMAM24_2	property rent income-2 (imputed)
IMAM27_1	property expenditures-1 (imputed)
IMAM27_2	property expenditures-2 (imputed)
IMAM33_1	capital assets income-1 (imputed)
IMAM33_2	capital assets income-2 (imputed)
IMAM33_3	capital assets income-3 (imputed)
K10_1IMP	if imputed value
K10_2IMP	if imputed value
K13_1IMP	if imputed value
K13_2IMP	if imputed value
K24_1IMP	if imputed value
K24_2IMP	if imputed value
K27_1IMP	if imputed value
K27_2IMP	if imputed value
K33_1IMP	if imputed value
K33_2IMP	if imputed value
K33_3IMP	if imputed value

### Wave 2:

IMAM15_1	business profits-1 (imputed)
IMAM15_2	business profits-2 (imputed)
IMAM26_1	property rent income-1 (imputed)
IMAM26_2	property rent income-2 (imputed)
IMAM29_1	property expenditures-1 (imputed)
IMAM29_2	property expenditures-2 (imputed)
IMAM35_1	capital assets income-1 (imputed)
IMAM35_2	capital assets income-2 (imputed)
IMAM35_3	capital assets income-3 (imputed)
K15_1IMP	if imputed value
K15_2IMP	if imputed value
K26_1IMP	if imputed value
K26_2IMP	if imputed value
K29_1IMP	if imputed value
K29_2IMP	if imputed value
K35_1IMP	if imputed value
K35_2IMP	if imputed value
K35_3IMP	if imputed value

### Wave 3:

IMAMK15_1_12	Business profits-1 (imputed)
IMAMK15_2_12	Business profits-2 (imputed)
IMAMK27_1_12	Property rent income-1 (imputed)
IMAMK27_2_12	Property rent income-2 (imputed)
IMAMK29_1_12	Property expenditures-1 (imputed)
IMAMK29_2_12	Property expenditures-2 (imputed)
IMAMK36_1_12	Capital assets income-1 (imputed)
IMAMK36_2_12	Capital assets income-2 (imputed)



IMAMK36_3_12	Capital assets income-3 (imputed)
K15_1_IMP_12	Business profits-1 (Flag if imputed value)
K15_2_IMP_12	Business profits-2 (Flag if imputed value)
K27_1_IMP_12	Property rent income-1 (Flag if imputed value)
K27_2_IMP_12	Property rent income-2 (Flag if imputed value)
K29_1_IMP_12	Property expenditures-1 (Flag if imputed value)
K29_2_IMP_12	Property expenditures-2 (Flag if imputed value)
K36_1_IMP_12	Capital assets income-1 (Flag if imputed value)
K36_2_IMP_12	Capital assets income-2 (Flag if imputed value)
K36_3_IMP_12	Capital assets income-3 (Flag if imputed value)

## Wave 4:

IMAMJ36B_15	Rent from residence (imputed)
IMAMK15_1_15	Business profits-1 (imputed)
IMAMK15_2_15	Business profits-2 (imputed)
IMAMK27_1_15	Property rent income-1 (imputed)
IMAMK27_2_15	Property rent income-2 (imputed)
IMAMK29_1_15	Property expenditures-1 (imputed)
IMAMK29_2_15	Property expenditures-2 (imputed)
IMAMK36_1_15	Capital assets income-1 (imputed)
IMAMK36_2_15	Capital assets income-2 (imputed)
IMAMK36_3_15	Capital assets income-3 (imputed)
J36B_IMP_15	Rent from residence (Flag if imputed value)
K15_1_IMP_15	Business profits-1 (Flag if imputed value)
K15_2_IMP_15	Business profits-2 (Flag if imputed value)
K27_1_IMP_15	Property rent income-1 (Flag if imputed value)
K27_2_IMP_15	Property rent income-2 (Flag if imputed value)
K29_1_IMP_15	Property expenditures-1 (Flag if imputed value)
K29_2_IMP_15	Property expenditures-2 (Flag if imputed value)
K36_1_IMP_15	Capital assets income-1 (Flag if imputed value)
K36_2_IMP_15	Capital assets income-2 (Flag if imputed value)
K36_3_IMP_15	Capital assets income-3 (Flag if imputed value)

## Wave 5:

IMAMJ36B_18	Rent from residence (imputed)
IMAMK15_1_18	Business profits-1 (imputed)
IMAMK15_2_18	Business profits-2 (imputed)
IMAMK27_1_18	Property rent income (imputed)
IMAMK29_1_18	Property expenditures (imputed)
IMAMK36_1_18	Capital assets income-1 (imputed)
IMAMK36_2_18	Capital assets income-2 (imputed)
IMAMK36_3_18	Capital assets income-3 (imputed)
J36B_IMP_18	Rent from residence (Flag if imputed value)
K15_1_IMP_18	Business profits-1 (Flag if imputed value)
K15_2_IMP_18	Business profits-2 (Flag if imputed value)
K27_1_IMP_18	Property rent income (Flag if imputed value)
K29_1_IMP_18	Property expenditures (Flag if imputed value)
K36_1_IMP_18	Capital assets income-1 (Flag if imputed value)
K36_2_IMP_18	Capital assets income-2 (Flag if imputed value)
K36_3_IMP_18	Capital assets income-3 (Flag if imputed value)

Individual Income from Private Pension

Wave	Variable	Label	Type
1	R1IPENA	rlipena:w1 Income:R Pension + Annuity	Cont
2	R2IPENA	r2ipena:w2 Income:R Pension + Annuity	Cont
5	R5IPENA	r5ipena:w5 Income:R Pension + Annuity	Cont
1	S1IPENA	slipena:w1 Income:S Pension + Annuity	Cont
2	S2IPENA	s2ipena:w2 Income:S Pension + Annuity	Cont
5	S5IPENA	s5ipena:w5 Income:S Pension + Annuity	Cont
1	R1IFPENA	rlifpena:w1 ImpFlag:R Pension + Annuity	Categ
2	R2IFPENA	r2ifpena:w2 ImpFlag:R Pension + Annuity	Categ
5	S5IFPENA	s5ifpena:w5 ImpFlag:S Pension + Annuity	Categ
1	S1IFPENA	slifpena:w1 ImpFlag:S Pension + Annuity	Categ
2	S2IFPENA	s2ifpena:w2 ImpFlag:S Pension + Annuity	Categ
5	S5IFPENA	s5ifpena:w5 ImpFlag:S Pension + Annuity	Categ

Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R1IPENA	15114	122.56	3945.22	0.00	360000.00
R2IPENA	13662	112.51	4207.83	0.00	324000.00
R5IPENA	16783	296.06	8896.13	0.00	540000.00
S1IPENA	10821	97.97	3968.60	0.00	360000.00
S2IPENA	9665	101.37	3534.96	0.00	216000.00
S5IPENA	11641	249.36	8805.09	0.00	540000.00
R1IFPENA	15114	0.00	0.01	0.00	1.00
R2IFPENA	13662	0.00	0.01	0.00	1.00
S5IFPENA	11641	0.00	0.01	0.00	1.00
S1IFPENA	10822	0.00	0.01	-1.00	1.00
S2IFPENA	9666	0.00	0.01	-1.00	1.00
S5IFPENA	11641	0.00	0.01	0.00	1.00

Categorical Variable Codes

Value-----	R1IFPENA	R2IFPENA	S5IFPENA
.m:Missing	72	42	427
.u:Unmar			5223
0.Not imputed	15112	13661	11640
1.Imputed	2	1	1
Value-----	S1IFPENA	S2IFPENA	S5IFPENA
.m:Missing	176	30	427
.u:Unmar	4188	4008	5223
-1.No Imput:section not complete	1	1	
0.Not imputed	10820	9664	11640
1.Imputed	1	1	1

How Constructed

RwIPENA and SwIPENA capture the respondent's and spouse's individual income from private pensions at an annual-level, respectively. RwIPENA and SwIPENA include income from all pensions from a private provider, including retirement pensions, widowhood pensions, disability or work accident pensions, or other pensions. Private pension income questions are asked without instruction as to whether these amounts should be reported before or after tax.

Income questions about the respondent and the respondent's spouse (if applicable) are asked separately, but both are answered by the financial respondent. If the financial respondent is the respondent, then questions the financial respondent answers about him/herself are assigned to the respondent and those about their spouse are assigned to the spouse. However, if the financial respondent is the respondent's spouse, then questions the financial respondent answers about him/herself are assigned to the spouse and those concerning their spouse are assigned to the respondent. Proxy respondents can also answer these income questions in the place of the respondent or their spouse and, in the case that they do, they are asked to answer about the respondent and their spouse (if applicable), and financial information is then assigned respectively.

The financial respondent is first asked "Excluding income you have already mentioned, during the last year did you receive income from retirement pension." If they answer yes, they are then asked "This pension comes from...?" and are given 7 possible pension providers including "Private". If they answer "Private", they are asked "About how much was it in a typical month?" The financial respondent is next asked "Excluding income you have already mentioned, during the last year did you receive income from widowhood pension." If they answer yes, they are then asked "This pension comes from...?" and are given 7 possible pension providers including "Private". If they answer "Private", they are asked "About how much was it in a typical month?" The financial respondent is next asked "Excluding income you have already mentioned, during the last year did you receive income from disability or work accident pension." If they answer yes, they are then asked "This pension comes from...?" and are given 7 possible pension providers including "Private". If they answer "Private", they are asked "About how much was it in a typical month?" The financial respondent is finally asked "Excluding income you have already mentioned, during the last year did you receive income from other pensions." If they answer yes, they are then asked "This pension comes from...?" and are given 7 possible pension providers including "Private". If they answer "Private", they are asked "About how much was it in a typical month?" RwiPENA is derived as yearly income from private pensions by adding the reported monthly private pension income from retirement pensions, widowhood pensions, disability or work accident pensions, or other pensions, and then multiplying by 12. In the case that the respondent does not receive any pension income from a private provider, RwiPENA has a value of 0. Special missing .m is used if at least one component of RwiPENA was not imputed because the section was not completed. RwiPENA is set to blank missing (.) if the respondent did not participate in the current wave.

If the respondent has a spouse, the financial respondent is first asked "Excluding income you have already mentioned, during the last year did your spouse receive income from retirement pension." If they answer yes, they are then asked "This pension comes from...?" and are given 7 possible pension providers including "Private". If they answer "Private", they are asked "About how much was it in a typical month?" The financial respondent is next asked "Excluding income you have already mentioned, during the last year did your spouse receive income from widowhood pension." If they answer yes, they are then asked "This pension comes from...?" and are given 7 possible pension providers including "Private". If they answer "Private", they are asked "About how much was it in a typical month?" The financial respondent is next asked "Excluding income you have already mentioned, during the last year did your spouse receive income from disability or work accident pension." If they answer yes, they are then asked "This pension comes from...?" and are given 7 possible pension providers including "Private". If they answer "Private", they are asked "About how much was it in a typical month?" The financial respondent is finally asked "Excluding income you have already mentioned, during the last year did your spouse receive income from other pensions." If they answer yes, they are then asked "This pension comes from...?" and are given 7 possible pension providers including "Private". If they answer "Private", they are asked "About how much was it in a typical month?" SwiPENA is derived as yearly income from private pensions by adding the reported monthly private pension income from retirement pensions, widowhood pensions, disability or work accident pensions, or other pensions, and then multiplying by 12. In the case that the spouse does not receive any pension income from a private provider, SwiPENA has a value of 0. Special missing .m is used if at least one component of SwiPENA was not imputed because the section was not completed. Special missing value .u is used when the respondent does not have a spouse at this wave. SwiPENA is set to blank missing (.) if the respondent did not participate in the current wave.

For questions eliciting a value included in RwiPENA and SwiPENA, the MHAS used unfolding bracket questions when the respondent was unsure of the exact value. Using the information provided by the unfolding brackets, unknown amounts were replaced with imputed values using the imputed variables made available in the study website. Please see the 2001 ([here](#)), 2003 ([here](#)), 2012 ([here](#)), 2015 ([here](#)), and 2018 ([here](#)) MHAS documents titled "Imputation of Non-Response on Economic Variables in the MHAS", available in the study website [www.MHASweb.org](http://www.MHASweb.org) for more details on the imputation method used, variables imputed, and covariates included.

RwIFPENA and SwIPENA are flag variables indicating whether or not any component of RwIPENA or SwIPENA was imputed. A code of 0 indicates that no component was imputed. A code of 1 indicates that at least one component was imputed. A code of -1 indicates that at least one component was not imputed because the respondent did not complete the section and this value has been left missing. RwIFPENA and SwIFPENA are set to blank missing (.) if the respondent did not participate in the current wave.

## Cross Wave Differences in MHAS

In Waves 1 and 2 of MHAS, respondents were allowed to identify a single pension type for retirement pensions, widowhood pensions, disability or work accident pensions, or other pensions, and RwIPENA was able to be created. In Waves 3 and 4 of MHAS, respondents were allowed to identify multiple pension providers for each type of pension but were only asked one amount, regardless of how many different providers were identified. Given this, in Waves 3 and 4, it is not possible to identify private pension income exclusively from other pension providers and RwIPENA cannot be created. Starting in Wave 5, respondents were asked to report up to two pensions types for retirement pensions, widowhood pensions, disability or work accident pensions, or other pensions and for each of these they had to select only one provider. Thus, it was possible to create RwIPENA again in Wave 5.

A total measure of pension income is available for all waves in the variable RwIPENT.

## Differences with the RAND HRS/Harmonized HRS

In the HRS, respondents are instructed to report pension income before taxes and deductions. In the MHAS, pension income questions are asked without instruction as to whether these amounts should be reported before or after tax.

Individual income from private pensions in MHAS is measured in nominal pesos, whereas the equivalent measure in RAND HRS is in nominal dollars. Therefore, conversion into a common currency is necessary before comparison of these data.

## MHAS Variables Used

### Wave 1:

IMAM55A	own pension income -retirement (imputed)
IMAM55B	own pension income -widow (imputed)
IMAM55C	own pension income -disability (imputed)
IMAM55D	own other pension income
IMAM61A	spouse's pension income -retirement (imputed)
IMAM61B	spouse's pension income -widow (imputed)
IMAM61C	spouse's pension income -disability (imputed)
IMAM61D	spouse's other pension income (imputed)
K55AIMP	if imputed value
K55BIMP	if imputed value
K55CIMP	if imputed value
K55DIMP	if imputed value
K56_1	source of retirement pension
K56_2	source of widowhood pension
K56_3	source of disability pension
K56_4	source of other pension
K61AIMP	if imputed value
K61BIMP	if imputed value
K61CIMP	if imputed value
K61DIMP	if imputed value
K62_1	source of retirement pension of spouse
K62_2	source of widowhood pension of spouse
K62_3	source of disability pension of spouse
K62_4	source of other pension of spouse

### Wave 2:

IMAM58A	own pension income -retirement (imputed)
IMAM58B	own pension income -widow (imputed)
IMAM58C	own pension income -disability (imputed)
IMAM58D	own other pension income
IMAM64C	spouse's pension income -retirement (imputed)

IMAM64D	spouse's pension income -widow (imputed)
IMAM64E	spouse's pension income -disability (imputed)
IMAM64F	spouse's other pension income (imputed)
K58AIMP	if imputed value
K58BIMP	if imputed value
K58DIMP	if imputed value
K59A	source of retirement pension
K59B	source of widowhood pension
K59C	source of disability pension
K59D	source of other pension
K64CIMP	if imputed value
K64DIMP	if imputed value
K64EIMP	if imputed value
K64FIMP	if imputed value
K65C	source of retirement pension of spouse
K65D	source of widowhood pension of spouse
K65E	source of disability pension of spouse
K65F	source of other pension of spouse

## Wave 5:

IMAMK61_1_1_18	Own pension income -retirement 1 (imputed)
IMAMK61_1_2_18	Own pension income -retirement 2 (imputed)
IMAMK61_2_1_18	Own pension income -widow 1 (imputed)
IMAMK61_2_2_18	Own pension income -widow 2 (imputed)
IMAMK61_3_1_18	Own pension income -disability 1 (imputed)
IMAMK61_3_2_18	Own pension income -disability 2 (imputed)
IMAMK61_4_1_18	Own other pension income 1 (imputed)
IMAMK61_4_2_18	Own other pension income 2 (imputed)
IMAMK67_1_1_18	Spouse's pension income - retirement 1 (imputed)
IMAMK67_1_2_18	Spouse's pension income - retirement 2 (imputed)
IMAMK67_2_1_18	Spouse's pension income - widow 1 (imputed)
IMAMK67_2_2_18	Spouse's pension income - widow 2 (imputed)
IMAMK67_3_1_18	Spouse's pension income - disability 1 (imputed)
IMAMK67_3_2_18	Spouse's pension income - disability 2 (imputed)
IMAMK67_4_1_18	Spouse's other pension income 1 (imputed)
IMAMK67_4_2_18	Spouse's other pension income 2 (imputed)
K58A_18	Last year: Did respondent receive pension income from r
K58B_18	Last year: Did respondent receive widowhood pension inc
K58C_18	Last year: Did respondent receive disability pension in
K58D_18	Last year: Did respondent receive income from other pen
K59_1_1_18	Respondent's retirement pension source (First Pension)
K59_1_2_18	Respondent's retirement pension source (Second Pension)
K59_2_1_18	Respondent's widowhood pension source (First Pension)
K59_2_2_18	Respondent's widowhood pension source (Second Pension)
K59_3_1_18	Respondent's disability pension source (First Pension)
K59_3_2_18	Respondent's disability pension source (Second Pension)
K59_4_1_18	Respondent's other pension(s) source (First Pension)
K59_4_2_18	Respondent's other pension(s) source (Second Pension)
K61_1_1_IMP_18	Own pension income -retirement 1 (Flag if imputed value
K61_1_2_IMP_18	Own pension income -retirement 2 (Flag if imputed value
K61_2_1_IMP_18	Own pension income -widow 1 (Flag if imputed value)
K61_2_2_IMP_18	Own pension income -widow 2 (Flag if imputed value)
K61_3_1_IMP_18	Own pension income -disability 1 (Flag if imputed value
K61_3_2_IMP_18	Own pension income -disability 2 (Flag if imputed value
K61_4_1_IMP_18	Own other pension income 1 (Flag if imputed value)
K61_4_2_IMP_18	Own other pension income 2 (Flag if imputed value)
K64C_18	Last year: Did respondent's spouse receive retirement p
K64D_18	Last year: Did respondent's spouse receive widowhood pe
K64E_18	Last year: Did respondent's spouse receive disability p
K64F_18	Last year: Did respondent's spouse receive income from
K65_1_1_18	Spouse's retirement pension source (First Pension)
K65_1_2_18	Spouse's retirement pension source (Second Pension)
K65_2_1_18	Spouse's widowhood pension income source (First Pension
K65_2_2_18	Spouse's widowhood pension income source (Second Pensio
K65_3_1_18	Spouse's disability pension income source (First Pensio

K65_3_2_18	Spouse's disability pension income source (Second Pensi
K65_4_1_18	Spouse's other pension(s) income source (First Pension)
K65_4_2_18	Spouse's other pension(s) income source (Second Pension
K67_1_1_IMP_18	Spouse's pension income - retirement 1 (Flag if imputed
K67_1_2_IMP_18	Spouse's pension income - retirement 2 (Flag if imputed
K67_2_1_IMP_18	Spouse's pension income - widow 1 (Flag if imputed valu
K67_2_2_IMP_18	Spouse's pension income - widow 2 (Flag if imputed valu
K67_3_1_IMP_18	Spouse's pension income - disability 1 (Flag if imputed
K67_3_2_IMP_18	Spouse's pension income - disability 2 (Flag if imputed
K67_4_1_IMP_18	Spouse's other pension income 1 (Flag if imputed value)
K67_4_2_IMP_18	Spouse's other pension income 2 (Flag if imputed value)

<b>Individual Public Pension Income</b>
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Wave	Variable	Label	Type
1	R1ISRET	r1isret:w1 Income:R Public Old Age + Survivor Pensions	Cont
2	R2ISRET	r2isret:w2 Income:R Public Old Age + Survivor Pensions	Cont
5	R5ISRET	r5isret:w5 Income:R Public Old Age + Survivor Pensions	Cont
1	S1ISRET	s1isret:w1 Income:S Public Old Age + Survivor Pensions	Cont
2	S2ISRET	s2isret:w2 Income:S Public Old Age + Survivor Pensions	Cont
5	S5ISRET	s5isret:w5 Income:S Public Old Age + Survivor Pensions	Cont
1	R1IFSRET	r1ifsret:w1 IncFlag:R Public Old Age + Survivor Pensions	Categ
2	R2IFSRET	r2ifsret:w2 IncFlag:R Public Old Age + Survivor Pensions	Categ
5	R5IFSRET	r5ifsret:w5 IncFlag:R Public Old Age + Survivor Pensions	Categ
1	S1IFSRET	s1ifsret:w1 IncFlag:S Public Old Age + Survivor Pensions	Categ
2	S2IFSRET	s2ifsret:w2 IncFlag:S Public Old Age + Survivor Pensions	Categ
5	S5IFSRET	s5ifsret:w5 IncFlag:S Public Old Age + Survivor Pensions	Categ
1	R1ISSDI	r1issdi:w1 Income:R Public Disability Pensions	Cont
2	R2ISSDI	r2issdi:w2 Income:R Public Disability Pensions	Cont
5	R5ISSDI	r5issdi:w5 Income:R Public Disability Pensions	Cont
1	S1ISSDI	s1issdi:w1 Income:S Public Disability Pensions	Cont
2	S2ISSDI	s2issdi:w2 Income:S Public Disability Pensions	Cont
5	S5ISSDI	s5issdi:w5 Income:S Public Disability Pensions	Cont
1	R1IFSSDI	r1ifssdi:w1 IncFlag:R Public Disability Pensions	Categ
2	R2IFSSDI	r2ifssdi:w2 IncFlag:R Public Disability Pensions	Categ
5	R5IFSSDI	r5ifssdi:w5 IncFlag:R Public Disability Pensions	Categ
1	S1IFSSDI	s1ifssdi:w1 IncFlag:S Public Disability Pensions	Categ
2	S2IFSSDI	s2ifssdi:w2 IncFlag:S Public Disability Pensions	Categ
5	S5IFSSDI	s5ifssdi:w5 IncFlag:S Public Disability Pensions	Categ
1	R1IPUBO	r1ipubo:w1 Income:R Other Public Pensions	Cont
2	R2IPUBO	r2ipubo:w2 Income:R Other Public Pensions	Cont
5	R5IPUBO	r5ipubo:w5 Income:R Other Public Pensions	Cont
1	S1IPUBO	s1ipubo:w1 Income:S Other Public Pensions	Cont
2	S2IPUBO	s2ipubo:w2 Income:S Other Public Pensions	Cont
5	S5IPUBO	s5ipubo:w5 Income:S Other Public Pensions	Cont
1	R1IFPUBO	r1ifpubo:w1 IncFlag:R Other Public Pensions	Categ
2	R2IFPUBO	r2ifpubo:w2 IncFlag:R Other Public Pensions	Categ
5	R5IFPUBO	r5ifpubo:w5 IncFlag:R Other Public Pensions	Categ
1	S1IFPUBO	s1ifpubo:w1 IncFlag:S Other Public Pensions	Categ
2	S2IFPUBO	s2ifpubo:w2 IncFlag:S Other Public Pensions	Categ
5	S5IFPUBO	s5ifpubo:w5 IncFlag:S Other Public Pensions	Categ
1	R1IPUBPEN	r1ipubpen:w1 Income:R Public Pensions	Cont
2	R2IPUBPEN	r2ipubpen:w2 Income:R Public Pensions	Cont
5	R5IPUBPEN	r5ipubpen:w5 Income:R Public Pensions	Cont
1	S1IPUBPEN	s1ipubpen:w1 Income:S Public Pensions	Cont
2	S2IPUBPEN	s2ipubpen:w2 Income:S Public Pensions	Cont
5	S5IPUBPEN	s5ipubpen:w5 Income:S Public Pensions	Cont
1	R1IFPUBPEN	r1ifpubpen:w1 Impflag:R Public Pensions	Categ
2	R2IFPUBPEN	r2ifpubpen:w2 Impflag:R Public Pensions	Categ
5	R5IFPUBPEN	r5ifpubpen:w5 Impflag:R Public Pensions	Categ

1	S1IFPUBPEN	slifpubpen:w1	IncFlag:S	Public Pensions	Categ
2	S2IFPUBPEN	s2ifpubpen:w2	IncFlag:S	Public Pensions	Categ
5	S5IFPUBPEN	s5ifpubpen:w5	IncFlag:S	Public Pensions	Categ

## Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R1ISRET	15118	3854.63	21732.07	0.00	1896648.00
R2ISRET	13662	5212.17	20224.69	0.00	672000.00
R5ISRET	16896	16239.70	61814.88	0.00	3600000.00
S1ISRET	10813	3250.01	15132.94	0.00	480000.00
S2ISRET	9655	4777.12	20858.89	0.00	672000.00
S5ISRET	12498	13525.45	55050.26	0.00	2400000.00
R1IFSRET	15118	0.01	0.07	0.00	1.00
R2IFSRET	13663	0.01	0.08	-1.00	1.00
R5IFSRET	16802	0.02	0.14	0.00	1.00
S1IFSRET	10826	0.00	0.08	-1.00	1.00
S2IFSRET	9666	0.00	0.08	-1.00	1.00
S5IFSRET	11651	0.02	0.14	0.00	1.00
R1ISSDI	15124	195.23	2837.93	0.00	144000.00
R2ISSDI	13673	165.90	2976.68	0.00	192000.00
R5ISSDI	16815	394.60	6968.83	0.00	336000.00
S1ISSDI	10828	191.58	2424.40	0.00	108000.00
S2ISSDI	9671	195.51	3371.06	0.00	192000.00
S5ISSDI	11658	399.19	6867.57	0.00	300000.00
R1IFSSDI	15124	0.00	0.02	0.00	1.00
R2IFSSDI	13673	-0.00	0.01	-1.00	0.00
R5IFSSDI	16814	0.00	0.02	0.00	1.00
S1IFSSDI	10828	0.00	0.02	0.00	1.00
S2IFSSDI	9671	0.00	0.00	0.00	0.00
S5IFSSDI	11658	0.00	0.02	0.00	1.00
R1IPUBO	15124	76.40	2437.76	0.00	240000.00
R2IPUBO	13673	84.94	2851.40	0.00	240000.00
R5IPUBO	16813	194.55	6590.08	0.00	540000.00
S1IPUBO	10826	40.86	1196.55	0.00	72000.00
S2IPUBO	9670	102.04	3342.12	0.00	240000.00
S5IPUBO	11657	220.61	7548.81	0.00	540000.00
R1IFPUBO	15124	0.00	0.01	0.00	1.00
R2IFPUBO	13673	-0.00	0.04	-1.00	0.00
R5IFPUBO	16813	0.00	0.02	0.00	1.00
S1IFPUBO	10826	0.00	0.00	0.00	0.00
S2IFPUBO	9556	-0.00	0.05	-1.00	0.00
S5IFPUBO	11657	0.00	0.02	0.00	1.00
R1IPUBPEN	15114	4126.51	22091.10	0.00	1896648.00
R2IPUBPEN	13662	5463.21	20946.85	0.00	672000.00
R5IPUBPEN	16794	16904.04	62635.11	0.00	3600000.00
S1IPUBPEN	10794	3487.56	15382.06	0.00	480000.00
S2IPUBPEN	9654	5075.68	21798.82	0.00	672000.00
S5IPUBPEN	11642	15119.45	57686.92	0.00	2400000.00



R1IFPUBPEN	15126	0.01	0.08	0.00	1.00
R2IFPUBPEN	13673	0.00	0.09	-1.00	1.00
R5IFPUBPEN	16821	0.02	0.14	0.00	1.00
S1IFPUBPEN	10813	0.00	0.08	-1.00	1.00
S2IFPUBPEN	9671	0.00	0.09	-1.00	1.00
S5IFPUBPEN	11658	0.02	0.14	0.00	1.00

## Categorical Variable Codes

Value-----	R1IFSRET	R2IFSRET	R5IFSRET
.m:Missing	68	41	312
-1.No Imput:section not complete		2	
0.Not imputed	15033	13585	16482
1.Imputed	85	76	320

Value-----	S1IFSRET	S2IFSRET	S5IFSRET
.m:Missing	173	30	417
.u:Unmar	4187	4008	5223
-1.No Imput:section not complete	13	13	
0.Not imputed	10759	9605	11418
1.Imputed	54	48	233

Value-----	R1IFSSDI	R2IFSSDI	R5IFSSDI
.m:Missing	62	31	300
-1.No Imput:section not complete		1	
0.Not imputed	15118	13672	16805
1.Imputed	6		9

Value-----	S1IFSSDI	S2IFSSDI	S5IFSSDI
.m:Missing	171	25	410
.u:Unmar	4187	4008	5223
0.Not imputed	10824	9671	11652
1.Imputed	4		6

Value-----	R1IFPUBO	R2IFPUBO	R5IFPUBO
.m:Missing	62	31	301
-1.No Imput:section not complete		24	
0.Not imputed	15122	13649	16808
1.Imputed	2		5

Value-----	S1IFPUBO	S2IFPUBO	S5IFPUBO
.m:Missing	172	140	411
.u:Unmar	4188	4008	5223
-1.No Imput:section not complete		23	
0.Not imputed	10826	9533	11653
1.Imputed			4

Value-----	R1IFPUBPEN	R2IFPUBPEN	R5IFPUBPEN
.m:Missing	60	31	293
-1.No Imput:section not complete		27	
0.Not imputed	15034	13570	16489
1.Imputed	92	76	332

Value-----	S1IFPUBPEN	S2IFPUBPEN	S5IFPUBPEN
.m:Missing	170	25	405
.u:Unmar	4203	4008	5227
-1.No Imput:section not complete	13	36	
0.Not imputed	10742	9587	11417
1.Imputed	58	48	241

## How Constructed

Income questions about the respondent and the respondent's spouse (if applicable) are asked separately, but both are answered by the financial respondent. If the financial respondent is the respondent, then questions the financial respondent answers about him/herself are assigned to the respondent and those about their spouse are assigned to the spouse. However, if the financial respondent is the respondent's spouse, then questions the financial respondent answers about him/herself are assigned to the spouse and

those concerning their spouse are assigned to the respondent. Proxy respondents can also answer these income questions in the place of the respondent or their spouse and, in the case that they do, they are asked to answer about the respondent and their spouse (if applicable), and financial information is then assigned respectively.

RwISRET and SwISRET capture the respondent's and spouse's individual income from public retirement and widowhood pensions at an annual-level, respectively. RwISRET and SwISRET include income from retirement pensions and widowhood pensions from public providers. Public retirement and widowhood pension income questions are asked without instruction as to whether these amounts should be reported before or after tax.

The financial respondent is first asked "Excluding income you have already mentioned, during the last year did you receive income from retirement pension." If they answer yes, they are then asked "This pension comes from...?" and are given 7 possible pension providers including "IMSS", "ISSSTE", and "Other Public (PEMEX, DEFENSA, MARINA, CFE, BANXICO)". If they answer any of the public providers, they are asked "About how much was it in a typical month?" The financial respondent is next asked "Excluding income you have already mentioned, during the last year did you receive income from widowhood pension." If they answer yes, they are then asked "This pension comes from...?" and are given 7 possible pension providers including "IMSS", "ISSSTE", and "Other Public (PEMEX, DEFENSA, MARINA, CFE, BANXICO)". If they answer any of the public providers, they are asked "About how much was it in a typical month?" RwISRET is derived as yearly income from public retirement and widowhood pensions by adding the reported monthly public pension income from retirement pensions and widowhood pensions, and then multiplying by 12. In the case that the respondent does not receive any pension income from a public retirement or widowhood pension, RwISRET has a value of 0. Special missing .m is used if at least one component of RwISRET was not imputed because the section was not completed. RwISRET is set to blank missing (.) if the respondent did not participate in the current wave.

If the respondent has a spouse, the financial respondent is first asked "Excluding income you have already mentioned, during the last year did your spouse receive income from retirement pension." If they answer yes, they are then asked "This pension comes from...?" and are given 7 possible pension providers including "IMSS", "ISSSTE", and "Other Public (PEMEX, DEFENSA, MARINA, CFE, BANXICO)". If they answer any of the public providers, they are asked "About how much was it in a typical month?" The financial respondent is next asked "Excluding income you have already mentioned, during the last year did your spouse receive income from widowhood pension." If they answer yes, they are then asked "This pension comes from...?" and are given 7 possible pension providers including "IMSS", "ISSSTE", and "Other Public (PEMEX, DEFENSA, MARINA, CFE, BANXICO)". If they answer any of the public providers, they are asked "About how much was it in a typical month?" SwISRET is derived as yearly income from public retirement and widowhood pensions by adding the reported monthly public pension income from retirement pensions and widowhood pensions, and then multiplying by 12. In the case that the spouse does not receive any pension income from a public retirement or widowhood pension, SwISRET has a value of 0. Special missing .m is used if at least one component of SwISRET was not imputed because the section was not completed. Special missing value .u is used when the respondent does not have a spouse at this wave. SwISRET is set to blank missing (.) if the respondent did not participate in the current wave.

RwIFSRET and SwIFSRET are flag variables indicating whether or not any component of RwISRET or SwISRET was imputed. A code of 0 indicates that no component was imputed. A code of 1 indicates that at least one component was imputed. A code of -1 indicates that at least one component was not imputed because the respondent did not complete the section and this value has been left missing. RwIFSRET and SwIFSRET are set to blank missing (.) if the respondent did not participate in the current wave.

RwISSDI and SwISSDI capture the respondent's and spouse's income from public disability pensions at an annual-level, respectively. RwISSDI and SwISSDI capture income from disability or work accident pensions from public providers. Public disability pension income questions are asked without instruction as to whether these amounts should be reported before or after tax.

The financial respondent is next asked "Excluding income you have already mentioned, during the last year did you receive income from disability or work accident pension." If they answer yes, they are then asked "This pension comes from...?" and are given 7 possible pension providers including "IMSS", "ISSSTE", and "Other Public (PEMEX, DEFENSA, MARINA, CFE, BANXICO)". If they answer any of the public providers, they are asked "About how much was it in a typical month?" RwISSDI is derived as yearly income from public disability pensions by multiplying the reported monthly public pension income from disability and work accident pensions by 12. In the case that the respondent does not receive any pension income from a public disability or work accident pension, RwISSDI has a value of 0. Special missing .m is used if at

least one component of RwiSSDI was not imputed because the section was not completed. RwiSSDI is set to blank missing (.) if the respondent did not participate in the current wave.

If the respondent has a spouse, the financial respondent is next asked "Excluding income you have already mentioned, during the last year did your spouse receive income from disability or work accident pension." If they answer yes, they are then asked "This pension comes from...?" and are given 7 possible pension providers including "IMSS", "ISSSTE", and "Other Public (PEMEX, DEFENSA, MARINA, CFE, BANXICO)". If they answer any of the public providers, they are asked "About how much was it in a typical month?" SwiSSDI is derived as yearly income from public disability pensions by multiplying the reported monthly public pension income from disability and work accident pensions by 12. In the case that the spouse does not receive any pension income from a public disability or work accident pension, SwiSSDI has a value of 0. Special missing .m is used if at least one component of SwiSSDI was not imputed because the section was not completed. Special missing value .u is used when the respondent does not have a spouse at this wave. SwiSSDI is set to blank missing (.) if the respondent did not participate in the current wave.

RwiFSSDI and SwiFSSDI are flag variables indicating whether or not any component of RwiSSDI or SwiSSDI was imputed. A code of 0 indicates that no component was imputed. A code of 1 indicates that at least one component was imputed. A code of -1 indicates that at least one component was not imputed because the respondent did not complete the section and this value has been left missing. RwiFSSDI and SwiFSSDI are set to blank missing (.) if the respondent did not participate in the current wave.

RwiPUBO and SwiPUBO capture the respondent's and spouse's income from other public pensions at an annual-level, respectively. RwiPUBO and SwiPUBO capture income from other pensions from public providers. Other public pension income questions are asked without instruction as to whether these amounts should be reported before or after tax.

The financial respondent is asked "Excluding income you have already mentioned, during the last year did you receive income from other pensions." If they answer yes, they are then asked "This pension comes from...?" and are given 7 possible pension providers including "IMSS", "ISSSTE", and "Other Public (PEMEX, DEFENSA, MARINA, CFE, BANXICO)". If they answer any of the public providers, they are asked "About how much was it in a typical month?" RwiPUBO is derived as yearly income from other public pensions by multiplying the reported monthly public pension income from other pensions by 12. In the case that the respondent does not receive any pension income from other public pensions, RwiPUBO has a value of 0. Special missing .m is used if at least one component of RwiPUBO was not imputed because the section was not completed. RwiPUBO is set to blank missing (.) if the respondent did not participate in the current wave.

If the respondent has a spouse, the financial respondent is asked "Excluding income you have already mentioned, during the last year did your spouse receive income from other pensions." If they answer yes, they are then asked "This pension comes from...?" and are given 7 possible pension providers including "IMSS", "ISSSTE", and "Other Public (PEMEX, DEFENSA, MARINA, CFE, BANXICO)". If they answer any of the public providers, they are asked "About how much was it in a typical month?" SwiPUBO is derived as yearly income from other public pensions by multiplying the reported monthly public pension income from other pensions by 12. In the case that the spouse does not receive any pension income from other public pensions, SwiPUBO has a value of 0. Special missing .m is used if at least one component of SwiPUBO was not imputed because the section was not completed. Special missing value .u is used when the respondent does not have a spouse at this wave. SwiPUBO is set to blank missing (.) if the respondent did not participate in the current wave.

RwiFPUBO and SwiFPUBO are flag variables indicating whether or not any component of RwiPUBO or SwiPUBO was imputed. A code of 0 indicates that no component was imputed. A code of 1 indicates that at least one component was imputed. A code of -1 indicates that at least one component was not imputed because the respondent did not complete the section and this value has been left missing. RwiFPUBO and SwiFPUBO are set to blank missing (.) if the respondent did not participate in the current wave.

RwiPUBPEN and SwiPUBPEN capture the respondent's and spouse's total income from public pensions at an annual-level, respectively. RwiPUBPEN and SwiPUBPEN are based on information from:

Income from public retirement and widowhood pensions, as previously described.

Income from public disability pensions, as previously described.

Income from other public pensions, as previously described.

RwIPUBPEN and SwIPUBPEN are, respectively, constructed as the sum of respondent's or spouse's income from public retirement and widowhood pensions, public disability pensions, and other public pensions. All components of these variables are constructed at the respondent level and include imputed values. Special missing .m is used if at least one component of RwIPUBPEN or SwIPUBPEN was not imputed because the respondent did not complete the section. RwIPUBPEN and SwIPUBPEN are set to blank missing (.) if the respondent did not participate in the current wave.

RwIFPUBPEN and SwIFPUBPEN are flag variables indicating whether or not any component of RwIPUBPEN or SwIPUBPEN was imputed. A code of 0 indicates that no component was imputed. A code of 1 indicates that at least one component was imputed. A code of -1 indicates that at least one component was not imputed because the respondent did not complete the section and this value has been left missing. RwIFPUBPEN and SwIFPUBPEN are set to blank missing (.) if the respondent did not participate in the current wave.

## Cross Wave Differences in MHAS

In Waves 1 and 2 of MHAS, respondents were allowed to identify a single pension type for retirement pensions, widowhood pensions, disability or work accident pensions, or other pensions, and RwIPUBPEN (and its components) were able to be created. In Waves 3 and 4 of MHAS, respondents were allowed to identify multiple pension providers for each type of pension but were only asked one amount, regardless of how many different providers were identified. Given this, it is not possible to identify pension income in Waves 3 and 4 exclusively from public providers and RwIPUBPEN (and its components) cannot be created. Starting in Wave 5, respondents were asked to report up to two pensions types for retirement pensions, widowhood pensions, disability or work accident pensions, or other pensions and for each of these they had to select only one provider. Thus, it was possible to create RwIPUBPEN (and its components) again in Wave 5.

A total measure of pension income is available for all waves in the variable RwIPENT.

## Differences with the RAND HRS/Harmonized HRS

The RAND HRS does not include a variable capturing total public pension income like RwIPUBPEN in the Harmonized MHAS. While RwISRET and RwISSDI are generally comparable between Harmonized MHAS and RAND HRS, military pension income which can be included in RwISRET, RwISSDI, or RwIPUBO in the Harmonized MHAS is instead aggregated with other government transfers in RwIGXFR in the RAND HRS.

In the HRS, respondents are instructed to report pension income before taxes and deductions. In the MHAS, pension income questions are asked without instruction as to whether these amounts should be reported before or after tax.

Income from public pensions in MHAS is measured in nominal pesos, whereas public pension income in the RAND HRS is in nominal dollars. Therefore, conversion into a common currency is necessary before comparison of these data.

## MHAS Variables Used

### Wave 1:

IMAM55A	own pension income -retirement (imputed)
IMAM55B	own pension income -widow (imputed)
IMAM55C	own pension income -disability (imputed)
IMAM55D	own other pension income
IMAM61A	spouse's pension income -retirement (imputed)
IMAM61B	spouse's pension income -widow (imputed)
IMAM61C	spouse's pension income -disability (imputed)
IMAM61D	spouse's other pension income (imputed)
K55AIMP	if imputed value
K55BIMP	if imputed value
K55CIMP	if imputed value
K55DIMP	if imputed value
K56_1	source of retirement pension
K56_2	source of widowhood pension
K56_3	source of disability pension
K56_4	source of other pension
K61AIMP	if imputed value

K61BIMP if imputed value  
 K61CIMP if imputed value  
 K61DIMP if imputed value  
 K62\_1 source of retirement pension of spouse  
 K62\_2 source of widowhood pension of spouse  
 K62\_3 source of disability pension of spouse  
 K62\_4 source of other pension of spouse

## Wave 2:

IMAM58A own pension income -retirement (imputed)  
 IMAM58B own pension income -widow (imputed)  
 IMAM58C own pension income -disability (imputed)  
 IMAM58D own other pension income  
 IMAM64C spouse's pension income -retirement (imputed)  
 IMAM64D spouse's pension income -widow (imputed)  
 IMAM64E spouse's pension income -disability (imputed)  
 IMAM64F spouse's other pension income (imputed)  
 K58AIMP if imputed value  
 K58BIMP if imputed value  
 K58DIMP if imputed value  
 K59A source of retirement pension  
 K59B source of widowhood pension  
 K59C source of disability pension  
 K59D source of other pension  
 K64CIMP if imputed value  
 K64DIMP if imputed value  
 K64EIMP if imputed value  
 K64FIMP if imputed value  
 K65C source of retirement pension of spouse  
 K65D source of widowhood pension of spouse  
 K65E source of disability pension of spouse  
 K65F source of other pension of spouse

## Wave 5:

IMAMK61\_1\_1\_18 Own pension income -retirement 1 (imputed)  
 IMAMK61\_1\_2\_18 Own pension income -retirement 2 (imputed)  
 IMAMK61\_2\_1\_18 Own pension income -widow 1 (imputed)  
 IMAMK61\_2\_2\_18 Own pension income -widow 2 (imputed)  
 IMAMK61\_3\_1\_18 Own pension income -disability 1 (imputed)  
 IMAMK61\_3\_2\_18 Own pension income -disability 2 (imputed)  
 IMAMK61\_4\_1\_18 Own other pension income 1 (imputed)  
 IMAMK61\_4\_2\_18 Own other pension income 2 (imputed)  
 IMAMK67\_1\_1\_18 Spouse's pension income - retirement 1 (imputed)  
 IMAMK67\_1\_2\_18 Spouse's pension income - retirement 2 (imputed)  
 IMAMK67\_2\_1\_18 Spouse's pension income - widow 1 (imputed)  
 IMAMK67\_2\_2\_18 Spouse's pension income - widow 2 (imputed)  
 IMAMK67\_3\_1\_18 Spouse's pension income - disability 1 (imputed)  
 IMAMK67\_3\_2\_18 Spouse's pension income - disability 2 (imputed)  
 IMAMK67\_4\_1\_18 Spouse's other pension income 1 (imputed)  
 IMAMK67\_4\_2\_18 Spouse's other pension income 2 (imputed)  
 K58A\_18 Last year: Did respondent receive pension income from r  
 K58B\_18 Last year: Did respondent receive widowhood pension inc  
 K58C\_18 Last year: Did respondent receive disability pension in  
 K58D\_18 Last year: Did respondent receive income from other pen  
 K59\_1\_1\_18 Respondent's retirement pension source (First Pension)  
 K59\_1\_2\_18 Respondent's retirement pension source (Second Pension)  
 K59\_2\_1\_18 Respondent's widowhood pension source (First Pension)  
 K59\_2\_2\_18 Respondent's widowhood pension source (Second Pension)  
 K59\_3\_1\_18 Respondent's disability pension source (First Pension)  
 K59\_3\_2\_18 Respondent's disability pension source (Second Pension)  
 K59\_4\_1\_18 Respondent's other pension(s) source (First Pension)  
 K59\_4\_2\_18 Respondent's other pension(s) source (Second Pension)  
 K61\_1\_1\_IMP\_18 Own pension income -retirement 1 (Flag if imputed value  
 K61\_1\_2\_IMP\_18 Own pension income -retirement 2 (Flag if imputed value  
 K61\_2\_1\_IMP\_18 Own pension income -widow 1 (Flag if imputed value)  
 K61\_2\_2\_IMP\_18 Own pension income -widow 2 (Flag if imputed value)

K61_3_1_IMP_18	Own pension income -disability 1 (Flag if imputed value
K61_3_2_IMP_18	Own pension income -disability 2 (Flag if imputed value
K61_4_1_IMP_18	Own other pension income 1 (Flag if imputed value)
K61_4_2_IMP_18	Own other pension income 2 (Flag if imputed value)
K64C_18	Last year: Did respondent's spouse receive retirement p
K64D_18	Last year: Did respondent's spouse receive widowhood pe
K64E_18	Last year: Did respondent's spouse receive disability p
K64F_18	Last year: Did respondent's spouse receive income from
K65_1_1_18	Spouse's retirement pension source (First Pension)
K65_1_2_18	Spouse's retirement pension source (Second Pension)
K65_2_1_18	Spouse's widowhood pension income source (First Pension
K65_2_2_18	Spouse's widowhood pension income source (Second Pensio
K65_3_1_18	Spouse's disability pension income source (First Pensio
K65_3_2_18	Spouse's disability pension income source (Second Pensi
K65_4_1_18	Spouse's other pension(s) income source (First Pension)
K65_4_2_18	Spouse's other pension(s) income source (Second Pension
K67_1_1_IMP_18	Spouse's pension income - retirement 1 (Flag if imputed
K67_1_2_IMP_18	Spouse's pension income - retirement 2 (Flag if imputed
K67_2_1_IMP_18	Spouse's pension income - widow 1 (Flag if imputed valu
K67_2_2_IMP_18	Spouse's pension income - widow 2 (Flag if imputed valu
K67_3_1_IMP_18	Spouse's pension income - disability 1 (Flag if imputed
K67_3_2_IMP_18	Spouse's pension income - disability 2 (Flag if imputed
K67_4_1_IMP_18	Spouse's other pension income 1 (Flag if imputed value)
K67_4_2_IMP_18	Spouse's other pension income 2 (Flag if imputed value)

<b>Individual Other Pensions Income</b>
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Wave	Variable	Label	Type
1	R1IPENO	r1ipeno:w1 Income:R Other Pensions	Cont
2	R2IPENO	r2ipeno:w2 Income:R Other Pensions	Cont
5	R5IPENO	r5ipeno:w5 Income:R Other Pensions	Cont
1	S1IPENO	s1ipeno:w1 Income:S Other Pensions	Cont
2	S2IPENO	s2ipeno:w2 Income:S Other Pensions	Cont
5	S5IPENO	s5ipeno:w5 Income:S Other Pensions	Cont
1	R1IFPENO	r1ifpeno:w1 ImpFlag:R Other Pensions	Categ
2	R2IFPENO	r2ifpeno:w2 ImpFlag:R Other Pensions	Categ
5	R5IFPENO	r5ifpeno:w5 ImpFlag:R Other Pensions	Categ
1	S1IFPENO	s1ifpeno:w1 ImpFlag:S Other Pensions	Categ
2	S2IFPENO	s2ifpeno:w2 ImpFlag:S Other Pensions	Categ
5	S5IFPENO	s5ifpeno:w5 ImpFlag:S Other Pensions	Categ

### Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R1IPENO	15114	547.59	8133.50	0.00	453600.00
R2IPENO	13661	619.03	7199.61	0.00	240000.00
R5IPENO	16783	1787.01	18100.75	0.00	1056000.00
S1IPENO	10820	443.40	7957.30	0.00	453600.00
S2IPENO	9665	615.96	7716.95	0.00	240000.00
S5IPENO	11642	1384.66	15159.08	0.00	600000.00
R1IFPENO	15114	0.00	0.03	0.00	1.00
R2IFPENO	13662	0.00	0.03	-1.00	1.00
R5IFPENO	16783	0.00	0.05	0.00	1.00
S1IFPENO	10822	0.00	0.03	-1.00	1.00
S2IFPENO	9666	0.00	0.03	-1.00	1.00
S5IFPENO	11642	0.00	0.04	0.00	1.00

### Categorical Variable Codes

Value-----	R1IFPENO	R2IFPENO	R5IFPENO
.m:Missing	72	42	331
-1.No Imput:section not complete		1	
0.Not imputed	15097	13649	16748
1.Imputed	17	12	35
Value-----	S1IFPENO	S2IFPENO	S5IFPENO
.m:Missing	176	30	426
.u:Unmar	4188	4008	5223
-1.No Imput:section not complete	2	1	
0.Not imputed	10814	9655	11619
1.Imputed	6	10	23

### How Constructed

RwIPENO and SwIPENO capture the respondent's and spouse's individual income from other pensions at an annual-level, respectively. RwIPENO and SwIPENO include income from all pensions from an other type of pension provider (not specially a private provider or a public provider), including retirement pensions, widowhood pensions, disability or work accident pensions, or other pensions. Other pension income

questions are asked without instruction as to whether these amounts should be reported before or after tax.

Income questions about the respondent and the respondent's spouse (if applicable) are asked separately, but both are answered by the financial respondent. If the financial respondent is the respondent, then questions the financial respondent answers about him/herself are assigned to the respondent and those about their spouse are assigned to the spouse. However, if the financial respondent is the respondent's spouse, then questions the financial respondent answers about him/herself are assigned to the spouse and those concerning their spouse are assigned to the respondent. Proxy respondents can also answer these income questions in the place of the respondent or their spouse and, in the case that they do, they are asked to answer about the respondent and their spouse (if applicable), and financial information is then assigned respectively.

The financial respondent is first asked "Excluding income you have already mentioned, during the last year did you receive income from retirement pension." If they answer yes, they are then asked "This pension comes from...?" and are given 7 possible pension providers including "U.S. Social Security", "Other Institution", "A Person", or "Refused" or "Don't know" pension provider. If they answer any of these non-public, non-private pension providers, they are asked "About how much was it in a typical month?" The financial respondent is next asked "Excluding income you have already mentioned, during the last year did you receive income from widowhood pension." If they answer yes, they are then asked "This pension comes from...?" and are given 7 possible pension providers including "U.S. Social Security", "Other Institution", "A Person", or "Refused" or "Don't know" pension provider. If they answer any of these non-public, non-private pension providers, they are asked "About how much was it in a typical month?" The financial respondent is next asked "Excluding income you have already mentioned, during the last year did you receive income from disability or work accident pension." If they answer yes, they are then asked "This pension comes from...?" and are given 7 possible pension providers including "U.S. Social Security", "Other Institution", "A Person", or "Refused" or "Don't know" pension provider. If they answer any of these non-public, non-private pension providers, they are asked "About how much was it in a typical month?" The financial respondent is finally asked "Excluding income you have already mentioned, during the last year did you receive income from other pensions." If they answer yes, they are then asked "This pension comes from...?" and are given 7 possible pension providers including "U.S. Social Security", "Other Institution", "A Person", or "Refused" or "Don't know" pension provider. If they answer any of these non-public, non-private pension providers, they are asked "About how much was it in a typical month?" RwiPEN0 is derived as yearly income from other pensions by adding the reported monthly other pension income from retirement pensions, widowhood pensions, disability or work accident pensions, or other pensions, and then multiplying by 12. In the case that the respondent does not receive any pension income from a other pension provider, RwiPEN0 has a value of 0. Special missing .m is used if at least one component of RwiPEN0 was not imputed because the section was not completed. RwiPEN0 is set to blank missing (.) if the respondent did not participate in the current wave.

If the respondent has a spouse, the financial respondent is first asked "Excluding income you have already mentioned, during the last year did your spouse receive income from retirement pension." If they answer yes, they are then asked "This pension comes from...?" and are given 7 possible pension providers including "U.S. Social Security", "Other Institution", "A Person", or "Refused" or "Don't know" pension provider. If they answer any of these non-public, non-private pension providers, they are asked "About how much was it in a typical month?" The financial respondent is next asked "Excluding income you have already mentioned, during the last year did your spouse receive income from widowhood pension." If they answer yes, they are then asked "This pension comes from...?" and are given 7 possible pension providers including "U.S. Social Security", "Other Institution", "A Person", or "Refused" or "Don't know" pension provider. If they answer any of these non-public, non-private pension providers, they are asked "About how much was it in a typical month?" The financial respondent is next asked "Excluding income you have already mentioned, during the last year did your spouse receive income from disability or work accident pension." If they answer yes, they are then asked "This pension comes from...?" and are given 7 possible pension providers including "U.S. Social Security", "Other Institution", "A Person", or "Refused" or "Don't know" pension provider. If they answer any of these non-public, non-private pension providers, they are asked "About how much was it in a typical month?" The financial respondent is finally asked "Excluding income you have already mentioned, during the last year did your spouse receive income from other pensions." If they answer yes, they are then asked "This pension comes from...?" and are given 7 possible pension providers including "U.S. Social Security", "Other Institution", "A Person", or "Refused" or "Don't know" pension provider. If they answer any of these non-public, non-private pension providers, they are asked "About how much was it in a typical month?" SwIPEN0 is derived as yearly income from other pensions by adding the reported monthly other pension income from retirement pensions, widowhood pensions, disability or work accident pensions, or other pensions, and then multiplying by 12. In the case that the spouse does not receive any pension income from an other pension provider, SwIPEN0



has a value of 0. Special missing .m is used if at least one component of SwIPENO was not imputed because the section was not completed. Special missing value .u is used when the respondent does not have a spouse at this wave. SwIPENO is set to blank missing (.) if the respondent did not participate in the current wave.

For questions eliciting a value included in RwIPENO and SwIPENO, the MHAS used unfolding bracket questions when the respondent was unsure of the exact value. Using the information provided by the unfolding brackets, unknown amounts were replaced with imputed values using the imputed variables made available in the study website. Please see the 2001 [\(here\)](#), 2003 [\(here\)](#), 2012 [\(here\)](#), 2015 [\(here\)](#), and 2018 [\(here\)](#) MHAS documents titled "Imputation of Non-Response on Economic Variables in the MHAS", available in the study website [www.MHASweb.org](http://www.MHASweb.org) for more details on the imputation method used, variables imputed, and covariates included.

RwIFPEN0 and SwIFPEN0 are flag variables indicating whether or not any component of RwIPENO or SwIPENO was imputed. A code of 0 indicates that no component was imputed. A code of 1 indicates that at least one component was imputed. A code of -1 indicates that at least one component was not imputed because the respondent did not complete the section and this value has been left missing. RwIFPEN0 and SwIFPEN0 are set to blank missing (.) if the respondent did not participate in the current wave.

## Cross Wave Differences in MHAS

In Waves 1 and 2 of MHAS, respondents were allowed to identify a single pension type for retirement pensions, widowhood pensions, disability or work accident pensions, or other pensions, and RwIPENO was able to be created. In Waves 3 and 4 of MHAS, respondents were allowed to identify multiple pension providers for each type of pension but were only asked one amount, regardless of how many different providers were identified. Given this, in Waves 3 and 4, it is not possible to identify pension income exclusively from other pension providers and RwIPENO cannot be created. Starting in Wave 5, respondents were asked to report up to two pensions and for each of these they had to select only one provider. Thus RwIPENO was possible to create.

A total measure of pension income is available for all waves in the variable RwIPENT.

## Differences with the RAND HRS/Harmonized HRS

The RAND HRS does not have an equivalent variable. All non-Social Security pension and annuity income in the RAND HRS is captured in RwIPENA.

In the HRS, respondents are instructed to report pension income before taxes and deductions. In the MHAS, pension income questions are asked without instruction as to whether these amounts should be reported before or after tax.

Income from other pensions in MHAS is measured in nominal pesos, whereas pension income in the RAND HRS is in nominal dollars. Therefore, conversion into a common currency is necessary before comparison of these data.

## MHAS Variables Used

Wave 1:

IMAM55A	own pension income -retirement (imputed)
IMAM55B	own pension income -widow (imputed)
IMAM55C	own pension income -disability (imputed)
IMAM55D	own other pension income
IMAM61A	spouse's pension income -retirement (imputed)
IMAM61B	spouse's pension income -widow (imputed)
IMAM61C	spouse's pension income -disability (imputed)
IMAM61D	spouse's other pension income (imputed)
K55AIMP	if imputed value
K55BIMP	if imputed value
K55CIMP	if imputed value
K55DIMP	if imputed value
K56_1	source of retirement pension
K56_2	source of widowhood pension
K56_3	source of disability pension

K56_4	source of other pension
K61AIMP	if imputed value
K61BIMP	if imputed value
K61CIMP	if imputed value
K61DIMP	if imputed value
K62_1	source of retirement pension of spouse
K62_2	source of widowhood pension of spouse
K62_3	source of disability pension of spouse
K62_4	source of other pension of spouse

## Wave 2:

IMAM58A	own pension income -retirement (imputed)
IMAM58B	own pension income -widow (imputed)
IMAM58C	own pension income -disability (imputed)
IMAM58D	own other pension income
IMAM64C	spouse's pension income -retirement (imputed)
IMAM64D	spouse's pension income -widow (imputed)
IMAM64E	spouse's pension income -disability (imputed)
IMAM64F	spouse's other pension income (imputed)
K58AIMP	if imputed value
K58BIMP	if imputed value
K58DIMP	if imputed value
K59A	source of retirement pension
K59B	source of widowhood pension
K59C	source of disability pension
K59D	source of other pension
K64CIMP	if imputed value
K64DIMP	if imputed value
K64EIMP	if imputed value
K64FIMP	if imputed value
K65C	source of retirement pension of spouse
K65D	source of widowhood pension of spouse
K65E	source of disability pension of spouse
K65F	source of other pension of spouse

## Wave 5:

IMAMK61_1_1_18	Own pension income -retirement 1 (imputed)
IMAMK61_1_2_18	Own pension income -retirement 2 (imputed)
IMAMK61_2_1_18	Own pension income -widow 1 (imputed)
IMAMK61_2_2_18	Own pension income -widow 2 (imputed)
IMAMK61_3_1_18	Own pension income -disability 1 (imputed)
IMAMK61_3_2_18	Own pension income -disability 2 (imputed)
IMAMK61_4_1_18	Own other pension income 1 (imputed)
IMAMK61_4_2_18	Own other pension income 2 (imputed)
IMAMK67_1_1_18	Spouse's pension income - retirement 1 (imputed)
IMAMK67_1_2_18	Spouse's pension income - retirement 2 (imputed)
IMAMK67_2_1_18	Spouse's pension income - widow 1 (imputed)
IMAMK67_2_2_18	Spouse's pension income - widow 2 (imputed)
IMAMK67_3_1_18	Spouse's pension income - disability 1 (imputed)
IMAMK67_3_2_18	Spouse's pension income - disability 2 (imputed)
IMAMK67_4_1_18	Spouse's other pension income 1 (imputed)
IMAMK67_4_2_18	Spouse's other pension income 2 (imputed)
K58A_18	Last year: Did respondent receive pension income from r
K58B_18	Last year: Did respondent receive widowhood pension inc
K58C_18	Last year: Did respondent receive disability pension in
K58D_18	Last year: Did respondent receive income from other pen
K59_1_1_18	Respondent's retirement pension source (First Pension)
K59_1_2_18	Respondent's retirement pension source (Second Pension)
K59_2_1_18	Respondent's widowhood pension source (First Pension)
K59_2_2_18	Respondent's widowhood pension source (Second Pension)
K59_3_1_18	Respondent's disability pension source (First Pension)
K59_3_2_18	Respondent's disability pension source (Second Pension)
K59_4_1_18	Respondent's other pension(s) source (First Pension)
K59_4_2_18	Respondent's other pension(s) source (Second Pension)
K61_1_1_IMP_18	Own pension income -retirement 1 (Flag if imputed value
K61_1_2_IMP_18	Own pension income -retirement 2 (Flag if imputed value

K61_2_1_IMP_18	Own pension income -widow 1 (Flag if imputed value)
K61_2_2_IMP_18	Own pension income -widow 2 (Flag if imputed value)
K61_3_1_IMP_18	Own pension income -disability 1 (Flag if imputed value)
K61_3_2_IMP_18	Own pension income -disability 2 (Flag if imputed value)
K61_4_1_IMP_18	Own other pension income 1 (Flag if imputed value)
K61_4_2_IMP_18	Own other pension income 2 (Flag if imputed value)
K64C_18	Last year: Did respondent's spouse receive retirement p
K64D_18	Last year: Did respondent's spouse receive widowhood pe
K64E_18	Last year: Did respondent's spouse receive disability p
K64F_18	Last year: Did respondent's spouse receive income from
K65_1_1_18	Spouse's retirement pension source (First Pension)
K65_1_2_18	Spouse's retirement pension source (Second Pension)
K65_2_1_18	Spouse's widowhood pension income source (First Pension
K65_2_2_18	Spouse's widowhood pension income source (Second Pensio
K65_3_1_18	Spouse's disability pension income source (First Pensio
K65_3_2_18	Spouse's disability pension income source (Second Pensio
K65_4_1_18	Spouse's other pension(s) income source (First Pension)
K65_4_2_18	Spouse's other pension(s) income source (Second Pension
K67_1_1_IMP_18	Spouse's pension income - retirement 1 (Flag if imputed
K67_1_2_IMP_18	Spouse's pension income - retirement 2 (Flag if imputed
K67_2_1_IMP_18	Spouse's pension income - widow 1 (Flag if imputed valu
K67_2_2_IMP_18	Spouse's pension income - widow 2 (Flag if imputed valu
K67_3_1_IMP_18	Spouse's pension income - disability 1 (Flag if imputed
K67_3_2_IMP_18	Spouse's pension income - disability 2 (Flag if imputed
K67_4_1_IMP_18	Spouse's other pension income 1 (Flag if imputed value)
K67_4_2_IMP_18	Spouse's other pension income 2 (Flag if imputed value)

Individual Total Pensions Income

Wave	Variable	Label				Type
1	R1IPENT	r1ipent:w1	Income:R	Total	Pensions	Cont
2	R2IPENT	r2ipent:w2	Income:R	Total	Pensions	Cont
3	R3IPENT	r3ipent:w3	Income:R	Total	Pensions	Cont
4	R4IPENT	r4ipent:w4	Income:R	Total	Pensions	Cont
5	R5IPENT	r5ipent:w5	Income:R	Total	Pensions	Cont
1	S1IPENT	s1ipent:w1	Income:S	Total	Pensions	Cont
2	S2IPENT	s2ipent:w2	Income:S	Total	Pensions	Cont
3	S3IPENT	s3ipent:w3	Income:S	Total	Pensions	Cont
4	S4IPENT	s4ipent:w4	Income:S	Total	Pensions	Cont
5	S5IPENT	s5ipent:w5	Income:S	Total	Pensions	Cont
1	R1IFPENT	r1ifpent:w1	Impflag:R	Total	Pensions	Categ
2	R2IFPENT	r2ifpent:w2	Impflag:R	Total	Pensions	Categ
3	R3IFPENT	r3ifpent:w3	Impflag:R	Total	Pensions	Categ
4	R4IFPENT	r4ifpent:w4	Impflag:R	Total	Pensions	Categ
5	R5IFPENT	r5ifpent:w5	Impflag:R	Total	Pensions	Categ
1	S1IFPENT	s1ifpent:w1	IncFlag:S	Total	Pensions	Categ
2	S2IFPENT	s2ifpent:w2	IncFlag:S	Total	Pensions	Categ
3	S3IFPENT	s3ifpent:w3	IncFlag:S	Total	Pensions	Categ
4	S4IFPENT	s4ifpent:w4	IncFlag:S	Total	Pensions	Categ
5	S5IFPENT	s5ifpent:w5	IncFlag:S	Total	Pensions	Categ

Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R1IPENT	15126	4808.71	23989.14	0.00	1896648.00
R2IPENT	13662	6242.92	22519.06	0.00	672000.00
R3IPENT	15721	13151.05	46446.20	0.00	2400000.00
R4IPENT	14745	33634.35	1159588.49	0.00	108000000.00
R5IPENT	17094	18893.92	65537.60	0.00	3600000.00
S1IPENT	10632	4104.51	18209.60	0.00	516000.00
S2IPENT	9547	5898.99	23486.08	0.00	672000.00
S3IPENT	10590	12365.07	49709.32	0.00	2400000.00
S4IPENT	10343	27921.65	888056.79	0.00	90000000.00
S5IPENT	11969	16905.07	60165.14	0.00	2400000.00
R1IFPENT	15126	0.01	0.09	0.00	1.00
R2IFPENT	13673	0.01	0.09	-1.00	1.00
R3IFPENT	15723	0.02	0.15	-1.00	1.00
R4IFPENT	14745	0.02	0.15	0.00	1.00
R5IFPENT	17094	0.04	0.19	0.00	1.00
S1IFPENT	10932	-0.02	0.18	-1.00	1.00
S2IFPENT	9673	-0.01	0.14	-1.00	1.00
S3IFPENT	10941	-0.01	0.23	-1.00	1.00
S4IFPENT	10414	0.02	0.17	-1.00	1.00
S5IFPENT	12059	0.04	0.23	-1.00	1.00

Categorical Variable Codes

Value-----	R1IFPENT	R2IFPENT	R3IFPENT	R4IFPENT	R5IFPENT
.m:Missing	60	31		34	20
-1.No Imput:section not complete		11	2		
0.Not imputed	15014	13570	15337	14417	16424

1.Imputed	112	92	384	328	670
Value-----	S1IFPENT	S2IFPENT	S3IFPENT	S4IFPENT	S5IFPENT
.m:Missing	51	23		22	9
.u:Unmar	4203	4008	4782	4343	5223
-1.No Imput:section not complete	300	126	351	71	90
0.Not imputed	10565	9488	10339	10100	11372
1.Imputed	67	59	251	243	597

## How Constructed

RwIPENT and SwIPENT capture the respondent's and spouse's total income from pensions at an annual-level, respectively. RwIPENT and SwIPENT include income from retirement pensions, widowhood pensions, disability or work accident pensions, or other pensions, regardless of the provider. These variables were created to specifically capture pension income after Wave 2, given that it is not possible to separate income from different types of pension providers in Waves 3 and 4. For all other waves, RwIPENA, RwIPUBPEN, and RwIPUBO, as a group, also capture total income from pensions. Pension income questions are asked without instruction as to whether these amounts should be reported before or after tax.

Income questions about the respondent and the respondent's spouse (if applicable) are asked separately, but both are answered by the financial respondent. If the financial respondent is the respondent, then questions the financial respondent answers about him/herself are assigned to the respondent and those about their spouse are assigned to the spouse. However, if the financial respondent is the respondent's spouse, then questions the financial respondent answers about him/herself are assigned to the spouse and those concerning their spouse are assigned to the respondent. Proxy respondents can also answer these income questions in the place of the respondent or their spouse and, in the case that they do, they are asked to answer about the respondent and their spouse (if applicable), and financial information is then assigned respectively.

The financial respondent is first asked "Excluding income you have already mentioned, during the last year did you receive income from retirement pension." If they answer yes, they are asked "About how much was it in a typical month?" The financial respondent is next asked "Excluding income you have already mentioned, during the last year did you receive income from widowhood pension." If they answer yes, they are asked "About how much was it in a typical month?" The financial respondent is next asked "Excluding income you have already mentioned, during the last year did you receive income from disability or work accident pension." If they answer yes, they are asked "About how much was it in a typical month?" The financial respondent is finally asked "Excluding income you have already mentioned, during the last year did you receive income from other pensions." If they answer yes, they are asked "About how much was it in a typical month?" RwIPENT is derived as yearly income from pensions by adding the reported monthly pension income from retirement pensions, widowhood pensions, disability or work accident pensions, or other pensions, and then multiplying by 12. In the case that the respondent does not receive any pension income, RwIPENT has a value of 0. Special missing .m is used if at least one component of RwIPENT was not imputed because the section was not completed. RwIPENT is set to blank missing (.) if the respondent did not participate in the current wave.

If the respondent has a spouse, the financial respondent is first asked "Excluding income you have already mentioned, during the last year did your spouse receive income from retirement pension." If they answer yes, they are asked "About how much was it in a typical month?" The financial respondent is next asked "Excluding income you have already mentioned, during the last year did your spouse receive income from widowhood pension." If they answer yes, they are asked "About how much was it in a typical month?" The financial respondent is next asked "Excluding income you have already mentioned, during the last year did your spouse receive income from disability or work accident pension." If they answer yes, they are asked "About how much was it in a typical month?" The financial respondent is finally asked "Excluding income you have already mentioned, during the last year did your spouse receive income from other pensions." If they answer yes, they are asked "About how much was it in a typical month?" SwIPENT is derived as yearly income from pensions by adding the reported monthly pension income from retirement pensions, widowhood pensions, disability or work accident pensions, or other pensions, and then multiplying by 12. In the case that the spouse does not receive any pension income, SwIPENT has a value of 0. Special missing .m is used if at least one component of SwIPENT was not imputed because the section was not completed. Special missing value .u is used when the respondent does not have a spouse at this wave. SwIPENT is set to blank missing (.) if the respondent did not participate in the current wave.

For questions eliciting a value included in RwIPENT and SwIPENT, the MHAS used unfolding bracket questions when the respondent was unsure of the exact value. Using the information provided by the unfolding brackets, unknown amounts were replaced with imputed values using the imputed variables made

available in the study website. Please see the 2001 ([here](#)), 2003 ([here](#)), 2012 ([here](#)), 2015 ([here](#)), and 2018 ([here](#)) MHAS documents titled "Imputation of Non-Response on Economic Variables in the MHAS", available in the study website [www.MHASweb.org](http://www.MHASweb.org) for more details on the imputation method used, variables imputed, and covariates included.

RwIFPENT and SwIFPENT are flag variables indicating whether or not any component of RwIPENT or SwIPENT was imputed. A code of 0 indicates that no component was imputed. A code of 1 indicates that at least one component was imputed. A code of -1 indicates that at least one component was not imputed because the respondent did not complete the section and this value has been left missing. RwIFPENT and SwIFPENT are set to blank missing (.) if the respondent did not participate in the current wave.

## Cross Wave Differences in MHAS

In Waves 1 and 2 of MHAS, respondents were allowed to identify a single pension type for retirement pensions, widowhood pensions, disability or work accident pensions, or other pensions. In Wave 3, respondents were allowed to identify multiple pension providers for each type of pension but were only asked one amount, regardless of how many different providers were identified. In Wave 4, respondents were also allowed to identify multiple providers for up to three pensions. Respondents were also asked to provide the amount for up to three pensions, however, since the respondent could select multiple providers it is not possible to associate one amount for public or private providers. In Wave 5, respondents were asked to report up to two pensions and for each of these they had to select only one provider.

## Differences with the RAND HRS/Harmonized HRS

The RAND HRS does not have an equivalent variable.

In the HRS, respondents are instructed to report pension income before taxes and deductions. In the MHAS, pension income questions are asked without instruction as to whether these amounts should be reported before or after tax.

Income from pensions in MHAS is measured in nominal pesos, whereas pension income in the RAND HRS is in nominal dollars. Therefore, conversion into a common currency is necessary before comparison of these data.

## MHAS Variables Used

### Wave 1:

IMAM55A	own pension income -retirement (imputed)
IMAM55B	own pension income -widow (imputed)
IMAM55C	own pension income -disability (imputed)
IMAM55D	own other pension income
IMAM61A	spouse's pension income -retirement (imputed)
IMAM61B	spouse's pension income -widow (imputed)
IMAM61C	spouse's pension income -disability (imputed)
IMAM61D	spouse's other pension income (imputed)
K55AIMP	if imputed value
K55BIMP	if imputed value
K55CIMP	if imputed value
K55DIMP	if imputed value
K56_1	source of retirement pension
K56_2	source of widowhood pension
K56_3	source of disability pension
K56_4	source of other pension
K61AIMP	if imputed value
K61BIMP	if imputed value
K61CIMP	if imputed value
K61DIMP	if imputed value
K62_1	source of retirement pension of spouse
K62_2	source of widowhood pension of spouse
K62_3	source of disability pension of spouse
K62_4	source of other pension of spouse

### Wave 2:

IMAM58A	own pension income -retirement (imputed)
IMAM58B	own pension income -widow (imputed)
IMAM58C	own pension income -disability (imputed)
IMAM58D	own other pension income
IMAM64C	spouse's pension income -retirement (imputed)
IMAM64D	spouse's pension income -widow (imputed)
IMAM64E	spouse's pension income -disability (imputed)
IMAM64F	spouse's other pension income (imputed)
K58AIMP	if imputed value
K58BIMP	if imputed value
K58DIMP	if imputed value
K59A	source of retirement pension
K59B	source of widowhood pension
K59C	source of disability pension
K59D	source of other pension
K64CIMP	if imputed value
K64DIMP	if imputed value
K64EIMP	if imputed value
K64FIMP	if imputed value
K65C	source of retirement pension of spouse
K65D	source of widowhood pension of spouse
K65E	source of disability pension of spouse
K65F	source of other pension of spouse

## Wave 3:

IMAMK61_1_12	Own pension income -retirement (imputed)
IMAMK61_2_12	Own pension income -widow (imputed)
IMAMK61_3_12	Own pension income -disability (imputed)
IMAMK61_4_12	Own other pension income (imputed)
IMAMK67_1_12	Spouse's pension income - retirement (imputed)
IMAMK67_2_12	Spouse's pension income - widow (imputed)
IMAMK67_3_12	Spouse's pension income - disability (imputed)
IMAMK67_4_12	Spouse's other pension income (imputed)
K61_1_IMP_12	Own pension income -retirement (Flag if imputed value)
K61_2_IMP_12	Own pension income -widow (Flag if imputed value)
K61_3_IMP_12	Own pension income -disability (Flag if imputed value)
K61_4_IMP_12	Own other pension income (Flag if imputed value)
K67_1_IMP_12	Spouse's pension income - retirement (Flag if imputed v
K67_2_IMP_12	Spouse's pension income - widow (Flag if imputed value)
K67_3_IMP_12	Spouse's pension income - disability (Flag if imputed v
K67_4_IMP_12	Spouse's other pension income (Flag if imputed value)

## Wave 4:

IMAMK61_1_1_15	Own pension income -retirement 1(imputed)
IMAMK61_1_2_15	Own pension income -retirement 2(imputed)
IMAMK61_1_3_15	Own pension income -retirement 3(imputed)
IMAMK61_2_1_15	Own pension income -widow 1(imputed)
IMAMK61_2_2_15	Own pension income -widow 2(imputed)
IMAMK61_2_3_15	Own pension income -widow 3(imputed)
IMAMK61_3_1_15	Own pension income -disability 1(imputed)
IMAMK61_3_2_15	Own pension income -disability 2(imputed)
IMAMK61_3_3_15	Own pension income -disability 3(imputed)
IMAMK61_4_1_15	Own other pension income 1(imputed)
IMAMK61_4_2_15	Own other pension income 2(imputed)
IMAMK61_4_3_15	Own other pension income 3(imputed)
IMAMK67_1_1_15	Spouse's pension income - retirement 1(imputed)
IMAMK67_1_2_15	Spouse's pension income - retirement 2(imputed)
IMAMK67_1_3_15	Spouse's pension income - retirement 3(imputed)
IMAMK67_2_1_15	Spouse's pension income - widow 1(imputed)
IMAMK67_2_2_15	Spouse's pension income - widow 2(imputed)
IMAMK67_2_3_15	Spouse's pension income - widow 3(imputed)
IMAMK67_3_1_15	Spouse's pension income - disability 1(imputed)
IMAMK67_3_2_15	Spouse's pension income - disability 2(imputed)
IMAMK67_3_3_15	Spouse's pension income - disability 3(imputed)
IMAMK67_4_1_15	Spouse's other pension income 1(imputed)
IMAMK67_4_2_15	Spouse's other pension income 2(imputed)

IMAMK67\_4\_3\_15 Spouse's other pension income 3(imputed)  
 K61\_1\_1\_IMP\_15 Own pension income -retirement 1(Flag if imputed value)  
 K61\_1\_2\_IMP\_15 Own pension income -retirement 2(Flag if imputed value)  
 K61\_1\_3\_IMP\_15 Own pension income -retirement 3(Flag if imputed value)  
 K61\_2\_1\_IMP\_15 Own pension income -widow 1(Flag if imputed value)  
 K61\_2\_2\_IMP\_15 Own pension income -widow 2(Flag if imputed value)  
 K61\_2\_3\_IMP\_15 Own pension income -widow 3(Flag if imputed value)  
 K61\_3\_1\_IMP\_15 Own pension income -disability 1(Flag if imputed value)  
 K61\_3\_2\_IMP\_15 Own pension income -disability 2(Flag if imputed value)  
 K61\_3\_3\_IMP\_15 Own pension income -disability 3(Flag if imputed value)  
 K61\_4\_1\_IMP\_15 Own other pension income 1(Flag if imputed value)  
 K61\_4\_2\_IMP\_15 Own other pension income 2(Flag if imputed value)  
 K61\_4\_3\_IMP\_15 Own other pension income 3(Flag if imputed value)  
 K67\_1\_1\_IMP\_15 Spouse's pension income - retirement 1(Flag if imputed  
 K67\_1\_2\_IMP\_15 Spouse's pension income - retirement 2(Flag if imputed  
 K67\_1\_3\_IMP\_15 Spouse's pension income - retirement 3(Flag if imputed  
 K67\_2\_1\_IMP\_15 Spouse's pension income - widow 1(Flag if imputed value  
 K67\_2\_2\_IMP\_15 Spouse's pension income - widow 2(Flag if imputed value  
 K67\_2\_3\_IMP\_15 Spouse's pension income - widow 3(Flag if imputed value  
 K67\_3\_1\_IMP\_15 Spouse's pension income - disability 1(Flag if imputed  
 K67\_3\_2\_IMP\_15 Spouse's pension income - disability 2(Flag if imputed  
 K67\_3\_3\_IMP\_15 Spouse's pension income - disability 3(Flag if imputed  
 K67\_4\_1\_IMP\_15 Spouse's other pension income 1(Flag if imputed value)  
 K67\_4\_2\_IMP\_15 Spouse's other pension income 2(Flag if imputed value)  
 K67\_4\_3\_IMP\_15 Spouse's other pension income 3(Flag if imputed value)

## Wave 5:

IMAMK61\_1\_1\_18 Own pension income -retirement 1 (imputed)  
 IMAMK61\_1\_2\_18 Own pension income -retirement 2 (imputed)  
 IMAMK61\_2\_1\_18 Own pension income -widow 1 (imputed)  
 IMAMK61\_2\_2\_18 Own pension income -widow 2 (imputed)  
 IMAMK61\_3\_1\_18 Own pension income -disability 1 (imputed)  
 IMAMK61\_3\_2\_18 Own pension income -disability 2 (imputed)  
 IMAMK61\_4\_1\_18 Own other pension income 1 (imputed)  
 IMAMK61\_4\_2\_18 Own other pension income 2 (imputed)  
 IMAMK67\_1\_1\_18 Spouse's pension income - retirement 1 (imputed)  
 IMAMK67\_1\_2\_18 Spouse's pension income - retirement 2 (imputed)  
 IMAMK67\_2\_1\_18 Spouse's pension income - widow 1 (imputed)  
 IMAMK67\_2\_2\_18 Spouse's pension income - widow 2 (imputed)  
 IMAMK67\_3\_1\_18 Spouse's pension income - disability 1 (imputed)  
 IMAMK67\_3\_2\_18 Spouse's pension income - disability 2 (imputed)  
 IMAMK67\_4\_1\_18 Spouse's other pension income 1 (imputed)  
 IMAMK67\_4\_2\_18 Spouse's other pension income 2 (imputed)  
 K61\_1\_1\_IMP\_18 Own pension income -retirement 1 (Flag if imputed value  
 K61\_1\_2\_IMP\_18 Own pension income -retirement 2 (Flag if imputed value  
 K61\_2\_1\_IMP\_18 Own pension income -widow 1 (Flag if imputed value)  
 K61\_2\_2\_IMP\_18 Own pension income -widow 2 (Flag if imputed value)  
 K61\_3\_1\_IMP\_18 Own pension income -disability 1 (Flag if imputed value  
 K61\_3\_2\_IMP\_18 Own pension income -disability 2 (Flag if imputed value  
 K61\_4\_1\_IMP\_18 Own other pension income 1 (Flag if imputed value)  
 K61\_4\_2\_IMP\_18 Own other pension income 2 (Flag if imputed value)  
 K67\_1\_1\_IMP\_18 Spouse's pension income - retirement 1 (Flag if imputed  
 K67\_1\_2\_IMP\_18 Spouse's pension income - retirement 2 (Flag if imputed  
 K67\_2\_1\_IMP\_18 Spouse's pension income - widow 1 (Flag if imputed valu  
 K67\_2\_2\_IMP\_18 Spouse's pension income - widow 2 (Flag if imputed valu  
 K67\_3\_1\_IMP\_18 Spouse's pension income - disability 1 (Flag if imputed  
 K67\_3\_2\_IMP\_18 Spouse's pension income - disability 2 (Flag if imputed  
 K67\_4\_1\_IMP\_18 Spouse's other pension income 1 (Flag if imputed value)  
 K67\_4\_2\_IMP\_18 Spouse's other pension income 2 (Flag if imputed value)



Individual Income from Other Government Transfers

Wave	Variable	Label				Type
1	R1IGXFR	r1igxfr:w1	Income:R	Other	Government Transfers	Cont
2	R2IGXFR	r2igxfr:w2	Income:R	Other	Government Transfers	Cont
3	R3IGXFR	r3igxfr:w3	Income:R	Other	Government Transfers	Cont
4	R4IGXFR	r4igxfr:w4	Income:R	Other	Government Transfers	Cont
5	R5IGXFR	r5igxfr:w5	Income:R	Other	Government Transfers	Cont
1	S1IGXFR	s1igxfr:w1	Income:S	Other	Government Transfers	Cont
2	S2IGXFR	s2igxfr:w2	Income:S	Other	Government Transfers	Cont
3	S3IGXFR	s3igxfr:w3	Income:S	Other	Government Transfers	Cont
4	S4IGXFR	s4igxfr:w4	Income:S	Other	Government Transfers	Cont
5	S5IGXFR	s5igxfr:w5	Income:S	Other	Government Transfers	Cont
1	R1IFGXFR	r1ifgxfr:w1	IncFlag:R	Other	Government Transfers	Categ
2	R2IFGXFR	r2ifgxfr:w2	IncFlag:R	Other	Government Transfers	Categ
3	R3IFGXFR	r3ifgxfr:w3	IncFlag:R	Other	Government Transfers	Categ
4	R4IFGXFR	r4ifgxfr:w4	IncFlag:R	Other	Government Transfers	Categ
4	R4IFGXFR	r5ifgxfr:w4	IncFlag:R	Other	Government Transfers	Categ
1	S1IFGXFR	s1ifgxfr:w1	IncFlag:S	Other	Government Transfers	Categ
2	S2IFGXFR	s2ifgxfr:w2	IncFlag:S	Other	Government Transfers	Categ
3	S3IFGXFR	s3ifgxfr:w3	IncFlag:S	Other	Government Transfers	Categ
4	S4IFGXFR	s4ifgxfr:w4	IncFlag:S	Other	Government Transfers	Categ
5	S5IFGXFR	s5ifgxfr:w5	IncFlag:S	Other	Government Transfers	Categ

Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R1IGXFR	15126	806.65	9039.99	0.00	672000.00
R2IGXFR	13662	3403.59	85719.23	0.00	9333312.00
R3IGXFR	15721	1740.54	13935.49	0.00	960000.00
R4IGXFR	14745	2272.67	11667.32	0.00	636000.00
R5IGXFR	17094	2529.68	11044.10	0.00	960000.00
S1IGXFR	10632	821.35	9732.48	0.00	672000.00
S2IGXFR	9547	3582.35	100684.41	0.00	9333312.00
S3IGXFR	10590	1558.95	8587.16	0.00	504000.00
S4IGXFR	10343	2063.04	11926.47	0.00	636000.00
S5IGXFR	11969	2389.03	12500.03	0.00	960000.00
R1IFGXFR	15126	0.00	0.07	0.00	1.00
R2IFGXFR	13673	0.01	0.09	-1.00	1.00
R3IFGXFR	15723	0.01	0.09	-1.00	1.00
R4IFGXFR	14745	0.01	0.09	0.00	1.00
R5IFGXFR	17094	0.03	0.16	0.00	1.00
S1IFGXFR	10932	-0.02	0.18	-1.00	1.00
S2IFGXFR	9673	-0.01	0.14	-1.00	1.00
S3IFGXFR	10941	-0.03	0.19	-1.00	1.00
S4IFGXFR	10414	0.00	0.12	-1.00	1.00
S5IFGXFR	12059	0.03	0.21	-1.00	1.00

Categorical Variable Codes

Value-----	R1IFGXFR	R2IFGXFR	R3IFGXFR	R4IFGXFR	R5IFGXFR
.m:Missing	60	31		34	20
-1.No Imput:section not complete		11	2		
0.Not imputed	15052	13554	15596	14634	16658

1.Imputed		74	108	125	111	436
Value-----		S1IFGXFR	S2IFGXFR	S3IFGXFR	S4IFGXFR	S5IFGXFR
.m:Missing		51	22		22	9
.u:Unmar		4203	4009	4782	4343	5223
-1.No Imput:section not complete		300	126	351	71	90
0.Not imputed		10591	9470	10522	10257	11534
1.Imputed		41	77	68	86	435

## How Constructed

RwIGXFR and SwIGXFR capture the respondent's and spouse's other government transfer individual income at an annual-level, respectively. RwIGXFR and SwIGXFR include any monetary or in-kind transfer from public institutions, not already mentioned. Government transfer income questions are asked without instruction as to whether these amounts should be reported before or after tax.

Income questions about the respondent and the respondent's spouse (if applicable) are asked separately, but both are answered by the financial respondent. If the financial respondent is the respondent, then questions the financial respondent answers about him/herself are assigned to the respondent and those about their spouse are assigned to the spouse. However, if the financial respondent is the respondent's spouse, then questions the financial respondent answers about him/herself are assigned to the spouse and those concerning their spouse are assigned to the respondent. Proxy respondents can also answer these income questions in the place of the respondent or their spouse and, in the case that they do, they are asked to answer about the respondent and their spouse (if applicable), and financial information is then assigned respectively.

At all waves the financial respondent is first asked "Excluding income you have already mentioned, during the last year did you receive any monetary or in-kind transfer from public institutions such as Procampo, Progres, INSEN, Seguro Popular?" In Wave 1 -4 if they answer yes, they are then asked "About how much was it in a typical month?" Starting in Wave 5 if they answer yes, they are then asked separately for up to two transfers "About how much was it in a typical month?" RwIGXFR is derived as yearly income from other government transfers by multiplying the reported monthly amount by 12. In the case that the respondent did not receive any monetary or in-kind transfers from public institutions, RwIGXFR has a value of 0. Special missing .m is used if at least one component of RwIGXFR was not imputed because the section was not completed. RwIGXFR is set to blank missing (.) if the respondent did not participate in the current wave.

If the respondent has a spouse, the financial respondent is asked "Excluding income you have already mentioned, during the last year did your spouse receive any monetary or in-kind transfer from public institutions such as Procampo, Progres, INSEN, Seguro Popular?" If they answer yes, they are then asked "About how much was it in a typical month?" SwIGXFR is derived as yearly income from other government transfers by multiplying the reported monthly amount by 12. In the case that the spouse did not receive any monetary or in-kind transfers from public institutions, SwIGXFR has a value of 0. Special missing .m is used if at least one component of SwIGXFR was not imputed because the section was not completed. Special missing value .u is used when the respondent does not have a spouse at this wave. SwIGXFR is set to blank missing (.) if the respondent did not participate in the current wave.

For questions eliciting a value included in RwIGXFR and SwIGXFR, the MHAS used unfolding bracket questions when the respondent was unsure of the exact value. Using the information provided by the unfolding brackets, unknown amounts were replaced with imputed values using the imputed variables made available in the study website. Please see the 2001 ([here](#)), 2003 ([here](#)), 2012 ([here](#)), 2015 ([here](#)), and 2018 ([here](#)) MHAS documents titled "Imputation of Non-Response on Economic Variables in the MHAS", available in the study website [www.MHASweb.org](http://www.MHASweb.org) for more details on the imputation method used, variables imputed, and covariates included.

RwIFGXFR and SwIGXFR are flag variables indicating whether or not any component of RwIGXFR or SwIGXFR was imputed. A code of 0 indicates that no component was imputed. A code of 1 indicates that at least one component was imputed. A code of -1 indicates that at least one component was not imputed because the respondent did not complete the section and this value has been left missing.

## Cross Wave Differences in MHAS

In Waves 1-4, MHAS asked the respondent to report the total amount of government transfers in a single values. Starting in Wave 5, MHAS asked the respondent to report up to two government transfers.

## Differences with the RAND HRS/Harmonized HRS

In the HRS, respondents are asked to report income from veterans' benefits, welfare, and food stamps. In the MHAS, respondents are asked to report any monetary or in-kind transfer from public institutions such as Procampo, Progres, INSEN, Seguro Popular. Since Seguro Popular started to be implemented in 2003, this institution is only listed starting in wave 2. This difference implies that what is captured in RwigXFR in the Harmonized MHAS might differ from what is captured by RwigXFR in the RAND HRS.

In the HRS, respondents are instructed to report other government transfer income before taxes and deductions. In the MHAS, other government transfer income questions are asked without instruction as to whether these amounts should be reported before or after tax.

Other government transfers in MHAS is measured in nominal pesos, whereas the equivalent measure in RAND HRS is in nominal dollars. Therefore, conversion into a common currency is necessary before comparison of these data.

## MHAS Variables Used

### Wave 1:

IMAM76A	own transfer income from institutions (imputed)
IMAM79A	spouse's transfer income from institutions (imputed)
K76AIMP	if imputed value
K79AIMP	if imputed value

### Wave 2:

IMAM79A	own transfer income from institutions (imputed)
IMAM82C	spouse's transfer income from institutions (imputed)
K79AIMP	if imputed value
K82CIMP	if imputed value

### Wave 3:

IMAMK80_1_12	Own transfer income from institutions (imputed)
IMAMK83_1_12	Spouse's transfer income from institutions (imputed)
K80_1_IMP_12	Own transfer income from institutions (Flag if imputed)
K83_1_IMP_12	Spouse's transfer income from institutions (Flag if imputed)

### Wave 4:

IMAMK80_1_15	Own transfer income from institutions (imputed)
IMAMK83_1_15	Spouse's transfer income from institutions (imputed)
K80_1_IMP_15	Own transfer income from institutions (Flag if imputed)
K83_1_IMP_15	Spouse's transfer income from institutions (Flag if imputed)

### Wave 5:

IMAMK80_1_1_18	Own transfer income from institutions 1 (imputed)
IMAMK80_1_2_18	Own transfer income from institutions 2 (imputed)
IMAMK83_1_1_18	Spouse's transfer income from institutions 1 (imputed)
IMAMK83_1_2_18	Spouse's transfer income from institutions 2 (imputed)
K80_1_1_IMP_18	Own transfer income from institutions 1 (Flag if imputed)
K80_1_2_IMP_18	Own transfer income from institutions 2 (Flag if imputed)
K83_1_1_IMP_18	Spouse's transfer income from institutions 1 (Flag if imputed)
K83_1_2_IMP_18	Spouse's transfer income from institutions 2 (Flag if imputed)

All Other Income

Wave	Variable	Label			Type
1	R1IOTHR	r1iothr:w1	Income:R	Other Income	Cont
2	R2IOTHR	r2iothr:w2	Income:R	Other Income	Cont
3	R3IOTHR	r3iothr:w3	Income:R	Other Income	Cont
4	R4IOTHR	r4iothr:w4	Income:R	Other Income	Cont
5	R5IOTHR	r5iothr:w5	Income:R	Other Income	Cont
1	S1IOTHR	s1iothr:w1	Income:S	Other Income	Cont
2	S2IOTHR	s2iothr:w2	Income:S	Other Income	Cont
3	S3IOTHR	s3iothr:w3	Income:S	Other Income	Cont
4	S4IOTHR	s4iothr:w4	Income:S	Other Income	Cont
5	S5IOTHR	s5iothr:w5	Income:S	Other Income	Cont
1	R1IFOTHR	r1ifothr:w1	IncFlag:R	Other Income	Categ
2	R2IFOTHR	r2ifothr:w2	IncFlag:R	Other Income	Categ
3	R3IFOTHR	r3ifothr:w3	IncFlag:R	Other Income	Categ
4	R4IFOTHR	r4ifothr:w4	IncFlag:R	Other Income	Categ
5	R5IFOTHR	r5ifothr:w5	IncFlag:R	Other Income	Categ
1	S1IFOTHR	s1ifothr:w1	IncFlag:S	Other Income	Categ
2	S2IFOTHR	s2ifothr:w2	IncFlag:S	Other Income	Categ
3	S3IFOTHR	s3ifothr:w3	IncFlag:S	Other Income	Categ
4	S4IFOTHR	s4ifothr:w4	IncFlag:S	Other Income	Categ
5	S5IFOTHR	s5ifothr:w5	IncFlag:S	Other Income	Categ

Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R1IOTHR	15126	55.01	1310.06	0.00	60000.00
R2IOTHR	13662	4862.05	132496.59	0.00	6000000.00
R3IOTHR	15721	12181.17	276542.81	0.00	16800000.00
R4IOTHR	14745	8227.42	212717.13	0.00	14400000.00
R5IOTHR	17094	26926.96	657457.31	0.00	48000000.00
S1IOTHR	10632	5.77	346.83	0.00	33600.00
S2IOTHR	9547	4090.11	119606.70	0.00	6000000.00
S3IOTHR	10590	10489.39	266187.48	0.00	16800000.00
S4IOTHR	10343	8339.55	231241.51	0.00	14400000.00
S5IOTHR	11969	26141.80	612089.55	0.00	30000000.00
R1IFOTHR	15126	0.00	0.01	0.00	1.00
R2IFOTHR	13673	-0.00	0.04	-1.00	1.00
R3IFOTHR	15723	0.01	0.08	-1.00	1.00
R4IFOTHR	14745	0.00	0.06	0.00	1.00
R5IFOTHR	17094	0.02	0.13	0.00	1.00
S1IFOTHR	10928	-0.03	0.16	-1.00	1.00
S2IFOTHR	9673	-0.01	0.11	-1.00	1.00
S3IFOTHR	10941	-0.03	0.19	-1.00	1.00
S4IFOTHR	10414	-0.00	0.11	-1.00	1.00
S5IFOTHR	12059	0.02	0.18	-1.00	1.00

Categorical Variable Codes

Value-----	R1IFOTHR	R2IFOTHR	R3IFOTHR	R4IFOTHR	R5IFOTHR
.m:Missing	60	31		34	20
-1.No Imput:section not complete		11	2		
0.Not imputed	15123	13656	15627	14688	16784

1.Imputed	3	6	94	57	310
Value-----	S1IFOTHR	S2IFOTHR	S3IFOTHR	S4IFOTHR	S5IFOTHR
.m:Missing	55	22		22	9
.u:Unmar	4203	4009	4782	4343	5223
-1.No Imput:section not complete	296	126	351	71	90
0.Not imputed	10630	9545	10544	10284	11642
1.Imputed	2	2	46	59	327

## How Constructed

RwIOTHR and SwIOTHR capture the respondent's and spouse's other individual income at an annual-level, respectively. The questions eliciting other income have changed over the different waves of MAHS. In Wave 1 RwIOTHR and SwIOTHR include any divorce, separation, or survival pensions, not already mentioned. In waves 2-4 RwIOTHR and SwIOTHR include any divorce, separation, or survival pensions, not already mentioned and any income from the sale of some good such as property, a gift, or an inheritance. Starting in Wave 5, RwIOTHR and SwIOTHR only include any income from the sale of some good such as property, a gift, or an inheritance. Other income questions are asked without instruction as to whether these amounts should be reported before or after tax.

Income questions about the respondent and the respondent's spouse (if applicable) are asked separately, but both are answered by the financial respondent. If the financial respondent is the respondent, then questions the financial respondent answers about him/herself are assigned to the respondent and those about their spouse are assigned to the spouse. However, if the financial respondent is the respondent's spouse, then questions the financial respondent answers about him/herself are assigned to the spouse and those concerning their spouse are assigned to the respondent. Proxy respondents can also answer these income questions in the place of the respondent or their spouse and, in the case that they do, they are asked to answer about the respondent and their spouse (if applicable), and financial information is then assigned respectively.

In waves 1-4 The financial respondent is first asked "Excluding income you have already mentioned, during the last year did you receive any divorce, separation or survival pension?" If they answer yes, they are then asked "About how much was it in a typical month?" Starting in Wave 2, the financial respondent is then asked "Excluding income you have already mentioned, during the last year did you receive income for the sale of some good such as property, a gift, or an inheritance?" If they answer yes, they are then asked "About how much was it in a typical month?" Starting in Wave 5, income from divorce, separation or survival pension is no longer asked about and only income from the the sale of some good like a property, a gift, or an inheritance. In wave 1, RwIOTHR is derived as yearly other income by multiplying the reported monthly amount by 12. In waves 2-4, RwIOTHR is derived as yearly other income by multiplying the reported monthly amounts of income from divorce, separation, or survival pensions and income from the sale of some good such as property, a gift, or an inheritance by 12. In Wave 5, RwIOTHR is derived as yearly other income by multiplying the reported monthly amounts of income from the sale of some good such as property, a gift, or an inheritance by 12. In the case that the respondent did not receive any income from divorce, separation, or survival pensions (up until Wave 4) or income from the sale of some good such as property, a gift, or an inheritance (starting in Wave 2), RwIOTHR has a value of 0. Special missing .m is used if at least one component of RwIOTHR was not imputed because the section was not completed. RwIOTHR is set to blank missing (.) if the respondent did not participate in the current wave.

If the respondent has a spouse, the financial respondent is asked "Excluding income you have already mentioned, during the last year did your spouse receive any divorce, separation or survival pension?" If they answer yes, they are then asked "About how much was it in a typical month?" Starting in Wave 2, the financial respondent is then asked "Excluding income you have already mentioned, during the last year did your spouse receive income for the sale of some good such as property, a gift, or an inheritance?" If they answer yes, they are then asked "About how much was it in a typical month?" In wave 1, SwIOTHR is derived as yearly other income by multiplying the reported monthly amount by 12. Starting in Wave 2, SwIOTHR is derived as yearly other income by multiplying the reported monthly amounts of income from divorce, separation, or survival pensions and income from the sale of some good such as property, a gift, or an inheritance by 12. In the case that the spouse did not receive any income from divorce, separation, or survival pensions or income from the sale of some good such as property, a gift, or an inheritance (starting in Wave 2), SwIOTHR has a value of 0. Special missing .m is used if at least one component of SwIOTHR was not imputed because the section was not completed. Special missing value .u is used when the respondent does not have a spouse at this wave. SwIOTHR is set to blank missing (.) if the respondent did not participate in the current wave.

For questions eliciting a value included in RwiOTHR and SwiOTHR, the MHAS used unfolding bracket questions when the respondent was unsure of the exact value. Using the information provided by the unfolding brackets, unknown amounts were replaced with imputed values using the imputed variables made available in the study website. Please see the 2001 ([here](#)), 2003 ([here](#)), 2012 ([here](#)), 2015 ([here](#)), and 2018 ([here](#)) MHAS documents titled "Imputation of Non-Response on Economic Variables in the MHAS", available in the study website [www.MHASweb.org](http://www.MHASweb.org) for more details on the imputation method used, variables imputed, and covariates included.

RwiFOTHR and SwiOTHR are flag variables indicating whether or not any component of RwiOTHR or SwiOTHR was imputed. A code of 0 indicates that no component was imputed. A code of 1 indicates that at least one component was imputed. A code of -1 indicates that at least one component was not imputed because the respondent did not complete the section and this value has been left missing.

## Cross Wave Differences in MHAS

In Wave 1, MHAS asks respondents about income they received from any divorce, separation or survival pension. Starting in Wave 2, MHAS added a question that asks respondents about income they received from the sale of some good such as property, a gift, or an inheritance. Therefore, RwiOTHR in Wave 1 only takes into account income received from divorce, separation or survival pension, but starting in Wave 2, RwiOTHR takes into account income received from divorce, separation or survival pension and income received from the sale of some good such as property, a gift, or an inheritance. Also, starting in Wave 5, respondents were not asked about any income from divorce, separation or survival pension.

## Differences with the RAND HRS/Harmonized HRS

In the HRS, respondents are asked to report income from alimony, other income, and lump sums from insurance, pension, and inheritance. In the MHAS, respondents are asked to report income from divorce, separation, or survival pensions and income from the sale of some good such as property, a gift, or an inheritance (starting in Wave 2). This difference implies that what is captured in RwiOTHR in the Harmonized MHAS might differ from what is captured by RwiOTHR in the RAND HRS.

In the HRS, respondents are instructed to report other income before taxes and deductions. In the MHAS, other income questions are asked without instruction as to whether these amounts should be reported before or after tax.

Other income in MHAS is measured in nominal pesos, whereas the equivalent measure in RAND HRS is in nominal dollars. Therefore, conversion into a common currency is necessary before comparison of these data.

## MHAS Variables Used

### Wave 1:

IMAM76B	own transfer income from individuals (imputed)
IMAM79B	spouse's transfer income from individuals (imputed)
K76BIMP	if imputed value
K79BIMP	if imputed value

### Wave 2:

IMAM79B	own transfer income from individuals (imputed)
IMAM79C	own transfer income from properties (imputed)
IMAM82D	spouse's transfer income from individuals (imputed)
IMAM82E	spouse's transfer income from properties (imputed)
K79BIMP	if imputed value
K79CIMP	if imputed value
K82DIMP	if imputed value
K82EIMP	if imputed value

### Wave 3:

IMAMK80_2_12	Own transfer income from individuals (imputed)
IMAMK80_3_12	Own transfer income from properties (imputed)
IMAMK83_2_12	Spouse's transfer income from individuals (imputed)
IMAMK83_3_12	Spouse's transfer income from properties (imputed)
K80_2_IMP_12	Own transfer income from individuals (Flag if imputed v
K80_3_IMP_12	Own transfer income from properties (Flag if imputed va
K83_2_IMP_12	Spouse's transfer income from individuals (Flag if impu

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K83_3_IMP_12	Spouse's transfer income from properties (Flag if imput
Wave 4:	
IMAMK80_2_15	Own transfer income from individuals (imputed)
IMAMK80_3_15	Own transfer income from properties (imputed)
IMAMK83_2_15	Spouse's transfer income from individuals (imputed)
IMAMK83_3_15	Spouse's transfer income from properties (imputed)
K80_2_IMP_15	Own transfer income from individuals (Flag if imputed v
K80_3_IMP_15	Own transfer income from properties (Flag if imputed va
K83_2_IMP_15	Spouse's transfer income from individuals (Flag if impu
K83_3_IMP_15	Spouse's transfer income from properties (Flag if imput
Wave 5:	
IMAMK80_2_18	
IMAMK80_3_18	Own transfer income from properties (imputed)
IMAMK83_2_18	Spouse's transfer income from properties (imputed)
IMAMK83_3_18	
K80_2_IMP_18	
K80_3_IMP_18	Own transfer income from properties (Flag if imputed va
K83_2_IMP_18	Spouse's transfer income from properties (Flag if imput
K83_3_IMP_18	

Total Household Income (respondent & spouse)

Wave	Variable	Label	Type
1	H1ITOT	h1itot:w1 Incm:H Total Income	Cont
2	H2ITOT	h2itot:w2 Incm:H Total Income	Cont
3	H3ITOT	h3itot:w3 Incm:H Total Income	Cont
4	H4ITOT	h4itot:w4 Incm:H Total Income	Cont
5	H5ITOT	h5itot:w5 Incm:H Total Income	Cont
1	H1IFTOT	h1iftot:w1 IncFlag:H Total Inc	Categ
2	H2IFTOT	h2iftot:w2 IncFlag:H Total Inc	Categ
3	H3IFTOT	h3iftot:w3 IncFlag:H Total Inc	Categ
4	H4IFTOT	h4iftot:w4 IncFlag:H Total Inc	Categ
5	H5IFTOT	h5iftot:w5 IncFlag:H Total Inc	Categ

Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
H1ITOT	14824	88577.16	1304117.63	-5990400.00	90000000.00
H2ITOT	13539	82340.75	616644.39	-222000.00	34334852.00
H3ITOT	15370	104728.19	627940.14	-1194747.88	36021600.00
H4ITOT	14674	132437.77	1555378.87	-650309.00	108000000.00
H5ITOT	17004	170284.54	1198125.37	-4118774.50	60000000.00
H1IFTOT	15184	0.13	0.40	-1.00	1.00
H2IFTOT	13703	0.12	0.36	-1.00	1.00
H3IFTOT	15723	0.11	0.38	-1.00	1.00
H4IFTOT	14779	0.11	0.33	-1.00	1.00
H5IFTOT	17114	0.16	0.39	-1.00	1.00

Categorical Variable Codes

Value-----	H1IFTOT	H2IFTOT	H3IFTOT	H4IFTOT	H5IFTOT
.m:Missing	2	1			
-1.No Imput:section not complete	359	164	353	105	110
0.Not imputed	12522	11774	13270	13007	14084
1.Imputed	2303	1765	2100	1667	2920

How Constructed

HwITOT captures the household's total income at an annual-level and is based on information from:

Respondent's and spouse's employment earnings, as previously described

Household's total capital income, as previously described

Respondent's and spouse's income from private pensions, as previously described

Respondent's and spouse's income from public pensions, as previously described

Respondent's and spouse's income from other pensions, as previously described

Respondent's and spouse's other government transfer income, as previously described

Respondent's and spouse's other income, as previously described

For unpartnered and unmarried respondents HwITOT is constructed as the sum of the respondent's employment earnings, households' total capital income, respondent's income from private pensions, respondent's income from public pensions, respondent's income from other pensions, respondent's income from other government transfers, and respondent's income from other income. For married/partnered respondents HwITOT



is constructed as the sum of the respondent's and spouse's employment earnings, households' total capital income, respondent's and spouse's income from private pensions, respondent's and spouse's income from public pensions, respondent's and spouse's income from other pensions, respondent's and spouse's income from other government transfers, and respondent's and spouse's income from other income. All components of this variable are constructed at the household level and include imputed values. In MHAS, the household is a couple or a single person. Also special missing .m is used if at least one component of HwITOT was not imputed because the respondent did not complete the section. HwITOT is set to blank missing (.) if the respondent did not participate in the current wave.

HwIFTOT is a flag variable based on the original flag variables (previously defined as RwIFEARN, SwIEARN, HwIFCAP, RwIFPENA, SwIPENA, RwIFPUBPEN, SwIFPUBPEN, RwIFPEN, SwIPEN, RwIFGXFR, SwIGXFR, RwIFOTHR, SwIOTHR), indicating whether or not any component of HwITOT was imputed. A code of 0 indicates that no component of HwITOT was imputed. A code of 1 indicates that at least one component of HwITOT was imputed. A code of -1 indicates that at least one component was not imputed because the respondent did not complete the section and this value has been left missing.

Both the MHAS created income variable (available to the public at [www.MHASweb.org](http://www.MHASweb.org)) and HwITOT are derived from the same components. However, there are two main differences between these two variables. The MHAS income variable represents the total individual income per month and HwITOT captures the household's total income at an annual-level. Therefore, the MHAS income variable only considers the individual income for those who completed the interview while HwITOT includes the reported spouse income for spouses even if they did not complete the interview.

Please see the 2001 ([here](#)), 2003 ([here](#)), 2012 ([here](#)), 2015 ([here](#)), and 2018 ([here](#)) MHAS documents titled "Imputation of Non-Response on Economic Variables in the MHAS", available in the study website [www.MHASweb.org](http://www.MHASweb.org) for more details on how the MHAS income variable was created.

## Cross Wave Differences in MHAS

See individual components.

Starting in Wave 3 of MHAS, respondents were allowed to identify multiple pension providers for each type of pension but were only asked one amount, regardless of how many different providers were identified. Given this, after Wave 2 it was not possible to identify pension income by the type of pension provider as we have for earlier waves. As a result, starting in Wave 3, HwITOT is constructed using respondent's and spouses total pension income instead of respondent's and spouse's income from private pensions, respondent's and spouse's income from public pensions, and respondent's and spouse's income from other pensions. This should not affect what is captured by HwITOT in waves after Wave 2 as compared to Waves 1 and 2.

## Differences with the RAND HRS/Harmonized HRS

See individual components.

In the HRS, respondents are instructed to report income before taxes and deductions. In the MHAS, income questions are asked without instruction as to whether these amounts should be reported before or after tax.

Total family income in MHAS is measured in nominal pesos, whereas the equivalent measure in RAND HRS is in nominal dollars. Therefore, conversion into a common currency is necessary before comparison of these data.

## MHAS Variables Used

Wave 1:

IMAM10_1	business income-1 (imputed)
IMAM10_2	business income-2 (imputed)
IMAM13_1	business expenditures-1 (imputed)
IMAM13_2	business expenditures-2 (imputed)
IMAM24_1	property rent income-1 (imputed)
IMAM24_2	property rent income-2 (imputed)
IMAM27_1	property expenditures-1 (imputed)
IMAM27_2	property expenditures-2 (imputed)

IMAM33_1	capital assets income-1 (imputed)
IMAM33_2	capital assets income-2 (imputed)
IMAM33_3	capital assets income-3 (imputed)
IMAM44	own earned income-1 (imputed)
IMAM45	own earned income-2 (imputed)
IMAM47	own earned income-3 (imputed)
IMAM48	own earned income-4 (imputed)
IMAM50	spouse's earned income-1 (imputed)
IMAM51	spouse's earned income-2 (imputed)
IMAM53	spouse's earned income-3 (imputed)
IMAM54	spouse's earned income-4 (imputed)
IMAM55A	own pension income -retirement (imputed)
IMAM55B	own pension income -widow (imputed)
IMAM55C	own pension income -disability (imputed)
IMAM55D	own other pension income
IMAM61A	spouse's pension income -retirement (imputed)
IMAM61B	spouse's pension income -widow (imputed)
IMAM61C	spouse's pension income -disability (imputed)
IMAM61D	spouse's other pension income (imputed)
IMAM76A	own transfer income from institutions (imputed)
IMAM76B	own transfer income from individuals (imputed)
IMAM76B	own transfer income from individuals (imputed)
IMAM79A	spouse's transfer income from institutions (imputed)
IMAM79B	spouse's transfer income from individuals (imputed)
IMAM79B	spouse's transfer income from individuals (imputed)
K10_1IMP	if imputed value
K10_2IMP	if imputed value
K13_1IMP	if imputed value
K13_2IMP	if imputed value
K24_1IMP	if imputed value
K24_2IMP	if imputed value
K27_1IMP	if imputed value
K27_2IMP	if imputed value
K33_1IMP	if imputed value
K33_2IMP	if imputed value
K33_3IMP	if imputed value
K44IMP	if imputed value
K45IMP	if imputed value
K47IMP	if imputed value
K48IMP	if imputed value
K50IMP	if imputed value
K51IMP	if imputed value
K53IMP	if imputed value
K54IMP	if imputed value
K55AIMP	if imputed value
K55BIMP	if imputed value
K55CIMP	if imputed value
K55DIMP	if imputed value
K56_1	source of retirement pension
K56_2	source of widowhood pension
K56_3	source of disability pension
K56_4	source of other pension
K61AIMP	if imputed value
K61BIMP	if imputed value
K61CIMP	if imputed value
K61DIMP	if imputed value
K62_1	source of retirement pension of spouse
K62_2	source of widowhood pension of spouse
K62_3	source of disability pension of spouse
K62_4	source of other pension of spouse
K76AIMP	if imputed value
K76BIMP	if imputed value
K76BIMP	if imputed value
K79AIMP	if imputed value

K79BIMP	if imputed value
K79BIMP	if imputed value
Wave 2:	
IMAM10_1	business income-1 (imputed)
IMAM10_2	business income-2 (imputed)
IMAM13_1	business expenditures-1 (imputed)
IMAM13_2	business expenditures-2 (imputed)
IMAM26_1	property rent income-1 (imputed)
IMAM26_2	property rent income-2 (imputed)
IMAM29_1	property expenditures-1 (imputed)
IMAM29_2	property expenditures-2 (imputed)
IMAM35_1	capital assets income-1 (imputed)
IMAM35_2	capital assets income-2 (imputed)
IMAM35_3	capital assets income-3 (imputed)
IMAM47	own earned income-1 (imputed)
IMAM48	own earned income-2 (imputed)
IMAM50	own earned income-3 (imputed)
IMAM51	own earned income-4 (imputed)
IMAM53	spouse's earned income-1 (imputed)
IMAM54	spouse's earned income-2 (imputed)
IMAM56	spouse's earned income-3 (imputed)
IMAM57	spouse's earned income-4 (imputed)
IMAM79A	own transfer income from institutions (imputed)
IMAM79B	own transfer income from individuals (imputed)
IMAM79C	own transfer income from properties (imputed)
IMAM82C	spouse's transfer income from institutions (imputed)
IMAM82D	spouse's transfer income from individuals (imputed)
IMAM82E	spouse's transfer income from properties (imputed)
K10_1IMP	if imputed value
K10_2IMP	if imputed value
K13_1IMP	if imputed value
K13_2IMP	if imputed value
K26_1IMP	if imputed value
K26_2IMP	if imputed value
K29_1IMP	if imputed value
K29_2IMP	if imputed value
K35_1IMP	if imputed value
K35_2IMP	if imputed value
K35_3IMP	if imputed value
K47IMP	if imputed value
K48IMP	if imputed value
K50IMP	if imputed value
K51IMP	if imputed value
K53IMP	if imputed value
K54IMP	if imputed value
K56IMP	if imputed value
K57IMP	if imputed value
K79AIMP	if imputed value
K79BIMP	if imputed value
K79CIMP	if imputed value
K82CIMP	if imputed value
K82DIMP	if imputed value
K82EIMP	if imputed value
Wave 3:	
IMAMK11_1_12	Business income-1 (imputed)
IMAMK11_2_12	Business income-2 (imputed)
IMAMK13_1_12	Business expenditures-1 (imputed)
IMAMK13_2_12	Business expenditures-2 (imputed)
IMAMK27_1_12	Property rent income-1 (imputed)
IMAMK27_2_12	Property rent income-2 (imputed)
IMAMK29_1_12	Property expenditures-1 (imputed)
IMAMK29_2_12	Property expenditures-2 (imputed)
IMAMK36_1_12	Capital assets income-1 (imputed)
IMAMK36_2_12	Capital assets income-2 (imputed)

IMAMK36_3_12	Capital assets income-3 (imputed)
IMAMK47A_12	Own earned income-1 (imputed)
IMAMK48A_12	Own earned income-2 (imputed)
IMAMK50A_12	Own earned income-3 (imputed)
IMAMK51A_12	Own earned income-4 (imputed)
IMAMK53A_12	Spouse's earned income-1 (imputed)
IMAMK54A_12	Spouse's earned income-2 (imputed)
IMAMK56A_12	Spouse's earned income-3 (imputed)
IMAMK57A_12	Spouse's earned income-4 (imputed)
IMAMK61_1_12	Own pension income -retirement (imputed)
IMAMK61_2_12	Own pension income -widow (imputed)
IMAMK61_3_12	Own pension income -disability (imputed)
IMAMK61_4_12	Own other pension income (imputed)
IMAMK67_1_12	Spouse's pension income - retirement (imputed)
IMAMK67_2_12	Spouse's pension income - widow (imputed)
IMAMK67_3_12	Spouse's pension income - disability (imputed)
IMAMK67_4_12	Spouse's other pension income (imputed)
IMAMK80_1_12	Own transfer income from institutions (imputed)
IMAMK80_2_12	Own transfer income from individuals (imputed)
IMAMK80_3_12	Own transfer income from properties (imputed)
IMAMK83_1_12	Spouse's transfer income from institutions (imputed)
IMAMK83_2_12	Spouse's transfer income from individuals (imputed)
IMAMK83_3_12	Spouse's transfer income from properties (imputed)
K11_1_IMP_12	Business income-1 (Flag if imputed value)
K11_2_IMP_12	Business income-2 (Flag if imputed value)
K13_1_IMP_12	Business expenditures-1 (Flag if imputed value)
K13_2_IMP_12	Business expenditures-2 (Flag if imputed value)
K27_1_IMP_12	Property rent income-1 (Flag if imputed value)
K27_2_IMP_12	Property rent income-2 (Flag if imputed value)
K29_1_IMP_12	Property expenditures-1 (Flag if imputed value)
K29_2_IMP_12	Property expenditures-2 (Flag if imputed value)
K36_1_IMP_12	Capital assets income-1 (Flag if imputed value)
K36_2_IMP_12	Capital assets income-2 (Flag if imputed value)
K36_3_IMP_12	Capital assets income-3 (Flag if imputed value)
K47A_IMP_12	Own earned income-1 (Flag if imputed value)
K48A_IMP_12	Own earned income-2 (Flag if imputed value)
K50A_IMP_12	Own earned income-3 (Flag if imputed value)
K51A_IMP_12	Own earned income-4 (Flag if imputed value)
K53A_IMP_12	Spouse's earned income-1 (Flag if imputed value)
K53A_IMP_12	Spouse's earned income-1 (Flag if imputed value)
K53A_IMP_12	Spouse's earned income-1 (Flag if imputed value)
K54A_IMP_12	Spouse's earned income-2 (Flag if imputed value)
K54A_IMP_12	Spouse's earned income-2 (Flag if imputed value)
K54A_IMP_12	Spouse's earned income-2 (Flag if imputed value)
K56A_IMP_12	Spouse's earned income-3 (Flag if imputed value)
K56A_IMP_12	Spouse's earned income-3 (Flag if imputed value)
K56A_IMP_12	Spouse's earned income-3 (Flag if imputed value)
K57A_IMP_12	Spouse's earned income-4 (Flag if imputed value)
K57A_IMP_12	Spouse's earned income-4 (Flag if imputed value)
K57A_IMP_12	Spouse's earned income-4 (Flag if imputed value)
K61_1_IMP_12	Own pension income -retirement (Flag if imputed value)
K61_2_IMP_12	Own pension income -widow (Flag if imputed value)
K61_3_IMP_12	Own pension income -disability (Flag if imputed value)
K61_4_IMP_12	Own other pension income (Flag if imputed value)
K67_1_IMP_12	Spouse's pension income - retirement (Flag if imputed v
K67_2_IMP_12	Spouse's pension income - widow (Flag if imputed value)
K67_3_IMP_12	Spouse's pension income - disability (Flag if imputed v
K67_4_IMP_12	Spouse's other pension income (Flag if imputed value)
K80_1_IMP_12	Own transfer income from institutions (Flag if imputed
K80_2_IMP_12	Own transfer income from individuals (Flag if imputed v
K80_3_IMP_12	Own transfer income from properties (Flag if imputed va
K83_1_IMP_12	Spouse's transfer income from institutions (Flag if imp
K83_2_IMP_12	Spouse's transfer income from individuals (Flag if impu
K83_3_IMP_12	Spouse's transfer income from properties (Flag if imput

## Wave 4:

IMAMK11_1_15	Business income-1 (imputed)
IMAMK11_2_15	Business income-2 (imputed)
IMAMK13_1_15	Business expenditures-1 (imputed)
IMAMK13_2_15	Business expenditures-2 (imputed)
IMAMK27_1_15	Property rent income-1 (imputed)
IMAMK27_2_15	Property rent income-2 (imputed)
IMAMK29_1_15	Property expenditures-1 (imputed)
IMAMK29_2_15	Property expenditures-2 (imputed)
IMAMK36_1_15	Capital assets income-1 (imputed)
IMAMK36_2_15	Capital assets income-2 (imputed)
IMAMK36_3_15	Capital assets income-3 (imputed)
IMAMK47A_15	Own earned income-1 (imputed)
IMAMK48A_15	Own earned income-2 (imputed)
IMAMK50A_15	Own earned income-3 (imputed)
IMAMK51A_15	Own earned income-4 (imputed)
IMAMK53A_15	Spouse's earned income-1 (imputed)
IMAMK54A_15	Spouse's earned income-2 (imputed)
IMAMK56A_15	Spouse's earned income-3 (imputed)
IMAMK57A_15	Spouse's earned income-4 (imputed)
IMAMK61_1_1_15	Own pension income -retirement 1(imputed)
IMAMK61_1_2_15	Own pension income -retirement 2(imputed)
IMAMK61_1_3_15	Own pension income -retirement 3(imputed)
IMAMK61_2_1_15	Own pension income -widow 1(imputed)
IMAMK61_2_2_15	Own pension income -widow 2(imputed)
IMAMK61_2_3_15	Own pension income -widow 3(imputed)
IMAMK61_3_1_15	Own pension income -disability 1(imputed)
IMAMK61_3_2_15	Own pension income -disability 2(imputed)
IMAMK61_3_3_15	Own pension income -disability 3(imputed)
IMAMK61_4_1_15	Own other pension income 1(imputed)
IMAMK61_4_2_15	Own other pension income 2(imputed)
IMAMK61_4_3_15	Own other pension income 3(imputed)
IMAMK67_1_1_15	Spouse's pension income - retirement 1(imputed)
IMAMK67_1_2_15	Spouse's pension income - retirement 2(imputed)
IMAMK67_1_3_15	Spouse's pension income - retirement 3(imputed)
IMAMK67_2_1_15	Spouse's pension income - widow 1(imputed)
IMAMK67_2_2_15	Spouse's pension income - widow 2(imputed)
IMAMK67_2_3_15	Spouse's pension income - widow 3(imputed)
IMAMK67_3_1_15	Spouse's pension income - disability 1(imputed)
IMAMK67_3_2_15	Spouse's pension income - disability 2(imputed)
IMAMK67_3_3_15	Spouse's pension income - disability 3(imputed)
IMAMK67_4_1_15	Spouse's other pension income 1(imputed)
IMAMK67_4_2_15	Spouse's other pension income 2(imputed)
IMAMK67_4_3_15	Spouse's other pension income 3(imputed)
IMAMK80_1_15	Own transfer income from institutions (imputed)
IMAMK80_2_15	Own transfer income from individuals (imputed)
IMAMK80_3_15	Own transfer income from properties (imputed)
IMAMK83_1_15	Spouse's transfer income from institutions (imputed)
IMAMK83_2_15	Spouse's transfer income from individuals (imputed)
IMAMK83_3_15	Spouse's transfer income from properties (imputed)
K11_1_IMP_15	Business income-1 (Flag if imputed value)
K11_2_IMP_15	Business income-2 (Flag if imputed value)
K13_1_IMP_15	Business expenditures-1 (Flag if imputed value)
K13_2_IMP_15	Business expenditures-2 (Flag if imputed value)
K27_1_IMP_15	Property rent income-1 (Flag if imputed value)
K27_2_IMP_15	Property rent income-2 (Flag if imputed value)
K29_1_IMP_15	Property expenditures-1 (Flag if imputed value)
K29_2_IMP_15	Property expenditures-2 (Flag if imputed value)
K36_1_IMP_15	Capital assets income-1 (Flag if imputed value)
K36_2_IMP_15	Capital assets income-2 (Flag if imputed value)
K36_3_IMP_15	Capital assets income-3 (Flag if imputed value)
K47A_IMP_15	Own earned income-1 (Flag if imputed value)
K48A_IMP_15	Own earned income-2 (Flag if imputed value)
K50A_IMP_15	Own earned income-3 (Flag if imputed value)

K51A\_IMP\_15 Own earned income-4 (Flag if imputed value)  
 K53A\_IMP\_15 Spouse's earned income-1 (Flag if imputed value)  
 K53A\_IMP\_15 Spouse's earned income-1 (Flag if imputed value)  
 K53A\_IMP\_15 Spouse's earned income-1 (Flag if imputed value)  
 K54A\_IMP\_15 Spouse's earned income-2 (Flag if imputed value)  
 K54A\_IMP\_15 Spouse's earned income-2 (Flag if imputed value)  
 K54A\_IMP\_15 Spouse's earned income-2 (Flag if imputed value)  
 K56A\_IMP\_15 Spouse's earned income-3 (Flag if imputed value)  
 K56A\_IMP\_15 Spouse's earned income-3 (Flag if imputed value)  
 K56A\_IMP\_15 Spouse's earned income-3 (Flag if imputed value)  
 K57A\_IMP\_15 Spouse's earned income-4 (Flag if imputed value)  
 K57A\_IMP\_15 Spouse's earned income-4 (Flag if imputed value)  
 K57A\_IMP\_15 Spouse's earned income-4 (Flag if imputed value)  
 K61\_1\_1\_IMP\_15 Own pension income -retirement 1(Flag if imputed value)  
 K61\_1\_2\_IMP\_15 Own pension income -retirement 2(Flag if imputed value)  
 K61\_1\_3\_IMP\_15 Own pension income -retirement 3(Flag if imputed value)  
 K61\_2\_1\_IMP\_15 Own pension income -widow 1(Flag if imputed value)  
 K61\_2\_2\_IMP\_15 Own pension income -widow 2(Flag if imputed value)  
 K61\_2\_3\_IMP\_15 Own pension income -widow 3(Flag if imputed value)  
 K61\_3\_1\_IMP\_15 Own pension income -disability 1(Flag if imputed value)  
 K61\_3\_2\_IMP\_15 Own pension income -disability 2(Flag if imputed value)  
 K61\_3\_3\_IMP\_15 Own pension income -disability 3(Flag if imputed value)  
 K61\_4\_1\_IMP\_15 Own other pension income 1(Flag if imputed value)  
 K61\_4\_2\_IMP\_15 Own other pension income 2(Flag if imputed value)  
 K61\_4\_3\_IMP\_15 Own other pension income 3(Flag if imputed value)  
 K67\_1\_1\_IMP\_15 Spouse's pension income - retirement 1(Flag if imputed  
 K67\_1\_2\_IMP\_15 Spouse's pension income - retirement 2(Flag if imputed  
 K67\_1\_3\_IMP\_15 Spouse's pension income - retirement 3(Flag if imputed  
 K67\_2\_1\_IMP\_15 Spouse's pension income - widow 1(Flag if imputed value  
 K67\_2\_2\_IMP\_15 Spouse's pension income - widow 2(Flag if imputed value  
 K67\_2\_3\_IMP\_15 Spouse's pension income - widow 3(Flag if imputed value  
 K67\_3\_1\_IMP\_15 Spouse's pension income - disability 1(Flag if imputed  
 K67\_3\_2\_IMP\_15 Spouse's pension income - disability 2(Flag if imputed  
 K67\_3\_3\_IMP\_15 Spouse's pension income - disability 3(Flag if imputed  
 K67\_4\_1\_IMP\_15 Spouse's other pension income 1(Flag if imputed value)  
 K67\_4\_2\_IMP\_15 Spouse's other pension income 2(Flag if imputed value)  
 K67\_4\_3\_IMP\_15 Spouse's other pension income 3(Flag if imputed value)  
 K80\_1\_IMP\_15 Own transfer income from institutions (Flag if imputed  
 K80\_2\_IMP\_15 Own transfer income from individuals (Flag if imputed v  
 K80\_3\_IMP\_15 Own transfer income from properties (Flag if imputed va  
 K83\_1\_IMP\_15 Spouse's transfer income from institutions (Flag if imp  
 K83\_2\_IMP\_15 Spouse's transfer income from individuals (Flag if impu  
 K83\_3\_IMP\_15 Spouse's transfer income from properties (Flag if imput

## Wave 5:

IMAMK11\_1\_18 Business income-1 (imputed)  
 IMAMK11\_2\_18 Business income-2 (imputed)  
 IMAMK13\_1\_18 Business expenditures-1 (imputed)  
 IMAMK13\_2\_18 Business expenditures-2 (imputed)  
 IMAMK27\_1\_18 Property rent income (imputed)  
 IMAMK27\_2\_18  
 IMAMK29\_1\_18 Property expeditures (imputed)  
 IMAMK29\_2\_18  
 IMAMK36\_1\_18 Capital assets income-1 (imputed)  
 IMAMK36\_2\_18 Capital assets income-2 (imputed)  
 IMAMK36\_3\_18 Capital assets income-3 (imputed)  
 IMAMK47A\_18 Own earned income-1 (imputed)  
 IMAMK48A\_18 Own earned income-2 (imputed)  
 IMAMK50A\_18 Own earned income-3 (imputed)  
 IMAMK51A\_18 Own earned income-4 (imputed)  
 IMAMK53A\_18 Spouse's earned income-1 (imputed)  
 IMAMK54A\_18 Spouse's earned income-2 (imputed)  
 IMAMK56A\_18 Spouse's earned income-3 (imputed)  
 IMAMK57A\_18 Spouse's earned income-4 (imputed)  
 IMAMK61\_1\_1\_18 Own pension income -retirement 1 (imputed)

IMAMK61_1_2_18	Own pension income -retirement 2 (imputed)
IMAMK61_2_1_18	Own pension income -widow 1 (imputed)
IMAMK61_2_2_18	Own pension income -widow 2 (imputed)
IMAMK61_3_1_18	Own pension income -disability 1 (imputed)
IMAMK61_3_2_18	Own pension income -disability 2 (imputed)
IMAMK61_4_1_18	Own other pension income 1 (imputed)
IMAMK61_4_2_18	Own other pension income 2 (imputed)
IMAMK67_1_1_18	Spouse's pension income - retirement 1 (imputed)
IMAMK67_1_2_18	Spouse's pension income - retirement 2 (imputed)
IMAMK67_2_1_18	Spouse's pension income - widow 1 (imputed)
IMAMK67_2_2_18	Spouse's pension income - widow 2 (imputed)
IMAMK67_3_1_18	Spouse's pension income - disability 1 (imputed)
IMAMK67_3_2_18	Spouse's pension income - disability 2 (imputed)
IMAMK67_4_1_18	Spouse's other pension income 1 (imputed)
IMAMK67_4_2_18	Spouse's other pension income 2 (imputed)
IMAMK80_1_18	
IMAMK80_2_18	
IMAMK80_3_18	Own transfer income from properties (imputed)
IMAMK83_1_18	
IMAMK83_2_18	Spouse's transfer income from properties (imputed)
IMAMK83_3_18	
K11_1_IMP_18	Business income-1 (Flag if imputed value)
K11_2_IMP_18	Business income-2 (Flag if imputed value)
K13_1_IMP_18	Business expenditures-1 (Flag if imputed value)
K13_2_IMP_18	Business expenditures-2 (Flag if imputed value)
K27_1_IMP_18	Property rent income (Flag if imputed value)
K27_2_IMP_18	
K29_1_IMP_18	Property expenditures (Flag if imputed value)
K29_2_IMP_18	
K36_1_IMP_18	Capital assets income-1 (Flag if imputed value)
K36_2_IMP_18	Capital assets income-2 (Flag if imputed value)
K36_3_IMP_18	Capital assets income-3 (Flag if imputed value)
K47A_IMP_18	Own earned income-1 (Flag if imputed value)
K48A_IMP_18	Own earned income-2 (Flag if imputed value)
K50A_IMP_18	Own earned income-3 (Flag if imputed value)
K51A_IMP_18	Own earned income-4 (Flag if imputed value)
K53A_IMP_18	Spouse's earned income-1 (Flag if imputed value)
K53A_IMP_18	Spouse's earned income-1 (Flag if imputed value)
K53A_IMP_18	Spouse's earned income-1 (Flag if imputed value)
K54A_IMP_18	Spouse's earned income-2 (Flag if imputed value)
K54A_IMP_18	Spouse's earned income-2 (Flag if imputed value)
K54A_IMP_18	Spouse's earned income-2 (Flag if imputed value)
K56A_IMP_18	Spouse's earned income-3 (Flag if imputed value)
K56A_IMP_18	Spouse's earned income-3 (Flag if imputed value)
K56A_IMP_18	Spouse's earned income-3 (Flag if imputed value)
K57A_IMP_18	Spouse's earned income-4 (Flag if imputed value)
K57A_IMP_18	Spouse's earned income-4 (Flag if imputed value)
K57A_IMP_18	Spouse's earned income-4 (Flag if imputed value)
K61_1_1_IMP_18	Own pension income -retirement 1 (Flag if imputed value)
K61_1_2_IMP_18	Own pension income -retirement 2 (Flag if imputed value)
K61_2_1_IMP_18	Own pension income -widow 1 (Flag if imputed value)
K61_2_2_IMP_18	Own pension income -widow 2 (Flag if imputed value)
K61_3_1_IMP_18	Own pension income -disability 1 (Flag if imputed value)
K61_3_2_IMP_18	Own pension income -disability 2 (Flag if imputed value)
K61_4_1_IMP_18	Own other pension income 1 (Flag if imputed value)
K61_4_2_IMP_18	Own other pension income 2 (Flag if imputed value)
K67_1_1_IMP_18	Spouse's pension income - retirement 1 (Flag if imputed)
K67_1_2_IMP_18	Spouse's pension income - retirement 2 (Flag if imputed)
K67_2_1_IMP_18	Spouse's pension income - widow 1 (Flag if imputed valu
K67_2_2_IMP_18	Spouse's pension income - widow 2 (Flag if imputed valu
K67_3_1_IMP_18	Spouse's pension income - disability 1 (Flag if imputed)
K67_3_2_IMP_18	Spouse's pension income - disability 2 (Flag if imputed)
K67_4_1_IMP_18	Spouse's other pension income 1 (Flag if imputed value)
K67_4_2_IMP_18	Spouse's other pension income 2 (Flag if imputed value)

K80_1_IMP_18	
K80_2_IMP_18	
K80_3_IMP_18	Own transfer income from properties (Flag if imputed va
K83_1_IMP_18	
K83_2_IMP_18	Spouse's transfer income from properties (Flag if imput
K83_3_IMP_18	



Total Household Consumption (full household)

Wave	Variable	Label	Type
1	HH1CTOT1M	hh1ctot1m:w1 Hhold monthly total consumption	Cont
2	HH2CTOT1M	hh2ctot1m:w2 Hhold monthly total consumption	Cont
3	HH3CTOT1M	hh3ctot1m:w3 Hhold monthly total consumption	Cont
4	HH4CTOT1M	hh4ctot1m:w4 Hhold monthly total consumption	Cont
5	HH5CTOT1M	hh5ctot1m:w5 Hhold monthly total consumption	Cont
1	HH1CFTOT1M	hh1cftot1m:w1Flag: Hhold monthly total consumption	Categ
2	HH2CFTOT1M	hh2cftot1m:w2Flag: Hhold monthly total consumption	Categ
3	HH3CFTOT1M	hh3cftot1m:w3Flag: Hhold monthly total consumption	Categ
4	HH4CFTOT1M	hh4cftot1m:w4Flag: Hhold monthly total consumption	Categ
5	HH5CFTOT1M	hh5cftot1m:w5Flag: Hhold monthly total consumption	Categ

Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
HH1CTOT1M	15636	3860.09	27795.23	1.00	2222100.00
HH2CTOT1M	14032	3719.21	19469.46	0.00	1500212.00
HH3CTOT1M	15723	3742.95	4989.94	1.00	250000.00
HH4CTOT1M	14745	5319.53	60484.67	1.00	5000000.00
HH5CTOT1M	17094	6571.82	40053.95	15.54	5000000.00
HH1CFTOT1M	15186	0.08	0.28	-1.00	1.00
HH2CFTOT1M	13704	0.09	0.29	-1.00	1.00
HH3CFTOT1M	15723	0.09	0.29	0.00	1.00
HH4CFTOT1M	14779	0.06	0.24	-1.00	1.00
HH5CFTOT1M	17114	0.08	0.27	-1.00	1.00

Categorical Variable Codes

Value-----	HH1CFTOT1M	HH2CFTOT1M	HH3CFTOT1M	HH4CFTOT1M	HH5CFTOT1M
-1.No Imput:section not complete	59	31		34	20
0.Not imputed	13857	12470	14258	13887	15732
1.Imputed	1270	1203	1465	858	1362

How Constructed

HHwCTOT1M captures the full household's total consumption at the monthly-level. HHwCTOT1M includes all household expenditures but does not include the value of goods produced for home consumption.

The financial informant is asked "In total, about how much do you spend in a month for household expenditures? Exclude the value of what you produce for home consumption." HHwCTOT1M is derived as this reported monthly value of the full household's total consumption. HHwCTOT1M is derived at the household level but is assumed to include expenditures for all members of the household, meaning that its value represents the full household not just the respondent and or/spouse. Special missing .m is used if HHwCTOT1M was not imputed because the respondent did not complete the section. HHwCTOT1M is set to blank missing (.) if the respondent did not participate in the current wave.

HHwCFTOT1M is a flag variable indicating whether or not HHwCTOT1M was imputed. A code of 0 indicates that HHwCTOT1M was not imputed. A code of 1 indicates that HHwCTOT1M was imputed. A code of -1 indicates that at HHwCTOT1M was not imputed because the respondent did not complete the section and this value has been left missing.

Cross Wave Differences in MHAS

No differences known.

Differences with the RAND HRS/Harmonized HRS

The HRS does not have an equivalent variable.

MHAS Variables Used

Wave 1:	
IMAM85	total household consumption (imputed)
K85IMP	if imputed value
Wave 2:	
IMAMK88	total household consumption (imputed)
K88IMP	if imputed value
Wave 3:	
IMAMK88_12	Total cost household consumption (imputed)
K88_IMP_12	Total cost household consumption (Flag if imputed value
Wave 4:	
IMAMK88_15	Total cost household consumption (imputed)
K88_IMP_15	Total cost household consumption (Flag if imputed value
Wave 5:	
IMAMK88_18	Total cost household consumption (imputed)
K88_IMP_18	Total cost household consumption (Flag if imputed value

**Section G: Family Structure**

Number of People Living in Household

Wave	Variable	Label	Type
1	H1HHRES	h1hhres: w1 Number of people in HH	Cont
2	H2HHRES	h2hhres: w2 Number of people in HH	Cont
3	H3HHRES	h3hhres: w3 Number of people in HH	Cont
4	H4HHRES	h4hhres: w4 Number of people in HH	Cont
5	H5HHRES	h5hhres: w5 Number of people in HH	Cont

Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
H1HHRES	15186	4.11	2.29	1.00	19.00
H2HHRES	13704	4.49	2.56	1.00	21.00
H3HHRES	15723	4.39	2.48	1.00	21.00
H4HHRES	14779	3.61	2.13	1.00	21.00
H5HHRES	17114	3.57	2.05	1.00	19.00

How Constructed

HwHHRES counts the number of people living in the household, including the respondents. At Wave 1 the number of residents living in a household is obtained using the Household Roster Section (TRH) which includes all members reported to live in the household, as identified by the household respondent, whether or not they are eligible for the MHAS. Starting at Wave 2, the number of residents living in a household is obtained using the Household Roster Section (TRH) plus the number of respondents to the survey (HwHHRESP), as household respondents were not included in the TRH starting at Wave 2. HwHHRES is set to plain missing (.) if the respondent did not participate in the current wave.

Cross Wave Differences in MHAS

In Wave 1, the Household Roster included the respondent and spouse. Thus, the number of household residents was derived from the count of people reported in the Roster. Starting in Wave 2, the Household Roster did not include the respondent and spouse and the list only included only other residents, if any. Thus, the number of household residents was derived from the count of people reported in the Roster plus the number of respondents to the survey. Also, starting in Wave 2, if the respondent and the spouse (if any) lived alone, the Household Roster was not completed and the number of household members was completed using the HwHHRESP variable available in the Demographics section.

Starting in Wave 3, the MHAS has separate modules for follow-up and new sample interviews. Thus, each household variable accounts for both the follow-up and the new samples.

Differences with the RAND HRS/Harmonized HRS

No differences known.

MHAS Variables Used

Wave 1:	
TRH2	registration number of household member
Wave 2:	
TRH2_1	total number of people listed
Wave 3:	
NTRH2B_12	Interviewer:Report the total number of listed individua
TRH2B_12	Interviewer:Report the total number of listed individua
Wave 4:	
NTRH2B_15	Interviewer:Report the total number of listed individua
TRH2B_15	Interviewer:Report the total number of listed individua
Wave 5:	
NTRH2B_18	(New person) Interviewer:Report total number of individ

TRH2B\_18 (Follow-up) Interviewer:Report total number of individu

<b>Number of Living Children</b>
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Wave	Variable	Label	Type
1	H1CHILD	h1child: w1 Number of living children R/P	Cont
2	H2CHILD	h2child: w2 Number of living children R/P	Cont
3	H3CHILD	h3child: w3 Number of living children R/P	Cont
4	H4CHILD	h4child: w4 Number of living children R/P	Cont
5	H5CHILD	h5child: w5 Number of living children R/P	Cont
1	H1SON	h1son: w1 Number of living sons R/P	Cont
2	H2SON	h2son: w2 Number of living sons R/P	Cont
3	H3SON	h3son: w3 Number of living sons R/P	Cont
4	H4SON	h4son: w4 Number of living sons R/P	Cont
5	H5SON	h5son: w5 Number of living sons R/P	Cont
1	H1DAU	h1dau: w1 Number of living daughters R/P	Cont
2	H2DAU	h2dau: w2 Number of living daughters R/P	Cont
3	H3DAU	h3dau: w3 Number of living daughters R/P	Cont
4	H4DAU	h4dau: w4 Number of living daughters R/P	Cont
5	H5DAU	h5dau: w5 Number of living daughters R/P	Cont

### Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
H1CHILD	15186	5.27	3.12	0.00	21.00
H2CHILD	13704	5.45	3.15	0.00	21.00
H3CHILD	15723	4.78	2.93	0.00	21.00
H4CHILD	14779	4.79	2.89	0.00	21.00
H5CHILD	17114	4.29	2.71	0.00	22.00
H1SON	15186	2.65	1.93	0.00	13.00
H2SON	13704	2.75	1.96	0.00	13.00
H3SON	15723	2.39	1.82	0.00	13.00
H4SON	14779	2.39	1.80	0.00	13.00
H5SON	17114	2.13	1.68	0.00	14.00
H1DAU	15186	2.62	1.94	0.00	13.00
H2DAU	13704	2.70	1.96	0.00	13.00
H3DAU	15723	2.39	1.84	0.00	12.00
H4DAU	14779	2.40	1.84	0.00	13.00
H5DAU	17114	2.15	1.73	0.00	12.00

### How Constructed

HwSON is the number of living sons of the respondent and their spouse or partner. HwDAU is the number of living daughters of the respondent and their spouse or partner. HwCHILD provides the number of living children of the respondent and their spouse or partner. The number of children is obtained by counting anyone in the Household Roster (TRH) who is a child, step child, adopted child, or foster child, using the relationship variable included in this module. In addition, the variable included the count of non-resident children reported in the Non-Resident Children (MHAS Section B) module. All of the respondent's and spouse's living children are counted in one total. The number of sons and daughters is obtained following the same process in addition to the reported gender for each child. HwSON, HwDAU, and HwCHILD are set to plain missing (.) if the respondent did not participate in the current wave.

### Cross Wave Differences in MHAS

Starting in Wave 3, the MHAS has separate modules for follow-up and new sample interviews. Thus, each household variable accounts for both the follow-up and the new samples.

## Differences with the RAND HRS/Harmonized HRS

Unlike the HRS, the MHAS ask respondents to identify foster children in the Household Roster, and they are included in the count of living children.

## MHAS Variables Used

### Wave 1:

B3	registration number of nonresident child
B5	sex of nonresident child
B6	relationship of nonresident child to sampled person
B7	relationship of nonresident child to spouse of sampled
TRH2	registration number of household member
TRH5	sex of household member
TRH6	relationship of household member to selected person
TRH7	relationship of household member to spouse of sel. pers

### Wave 2:

B3	registration number
B5	sex
B7	residency status
TRH10	relationship with spouse
TRH3	registration number
TRH8	gender
TRH9	relationship

### Wave 3:

B3_12	Follow-up respondent's registration number
B5_12	Sex of non-resident child
B7_12	Residency status of non-resident child
NB3_12	New respondent's registration number
NB5_12	Sex of non-resident child
NB6_12	Non-resident child's relationship to you
NB7_12	Non-resident child's relationship to respondent's spouse
NTRH3_12	Resident's registration number
NTRH5_12	Sex of resident
NTRH6_12	Resident's relationship to respondent
NTRH7_12	Resident's relationship with respondent's spouse
TRH10_12	Resident's relationship to respondent's spouse
TRH3_12	Household Resident registration number
TRH8_12	Resident's Sex
TRH9_12	Resident's relationship to respondent

### Wave 4:

B3_15	Non-resident Child: Registration number
B5_15	Non-resident Child: Sex
B7_15	Non-resident Child: Residency status of non-resident ch
NB3_15	Non-resident Child: Registration number
NB5_15	Non-resident Child: Sex
NB6_15	Non-resident Child: Relationship to Respondent
NB7_15	Non-resident Child: Relationship to Respondent's spouse
NTRH3_15	Resident's registration number
NTRH5_15	Sex of resident
NTRH6_15	Resident's relationship to respondent
NTRH7_15	Resident's relationship with respondent's spouse
TRH10_15	Resident's relationship to respondent's spouse
TRH3_15	Household resident registration number
TRH8_15	Resident's sex
TRH9_15	Resident's relationship to respondent

### Wave 5:

B3_18	Non-resident Child: Registration number
B5_18	Non-resident Child: Sex
B7_18	Non-resident Child: Residency status of non-resident ch
NB3_18	Non-resident Child: Registration number
NB5_18	Non-resident Child: Sex (Male=1)
NB6_18	Non-resident Child: Relationship to Respondent
NB7_18	Non-resident Child: Relationship to Respondent's spouse

NTRH3_18	Household resident registration number
NTRH5_18	Resident's sex (Male=1)
NTRH6_18	Resident's relationship to respondent
NTRH7_18	Resident's relationship to respondent's spouse
TRH10_18	Resident's relationship to respondent's spouse
TRH3_18	Household resident registration number
TRH8_18	Resident's sex (Male=1)
TRH9_18	Resident's relationship to respondent



<b>Number of Deceased Children</b>
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Wave	Variable	Label	Type
1	H1DCHILD	h1dchild: w1 Number of deceased children R/P	Cont
2	H2DCHILD	h2dchild: w2 Number of deceased children R/P	Cont
3	H3DCHILD	h3dchild: w3 Number of deceased children R/P	Cont
4	H4DCHILD	h4dchild: w4 Number of deceased children R/P	Cont
5	H5DCHILD	h5dchild: w5 Number of deceased children R/P	Cont

### Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
H1DCHILD	15186	0.75	1.31	0.00	11.00
H2DCHILD	13704	0.76	1.31	0.00	11.00
H3DCHILD	15723	0.61	1.19	0.00	12.00
H4DCHILD	14779	0.61	1.18	0.00	15.00
H5DCHILD	17114	0.49	1.07	0.00	15.00

### How Constructed

HwDCHILD indicates the number of deceased children of the respondent and their spouse or partner.

In Wave 1, the number of deceased children is obtained by counting all the deceased children listed in the 'Deceased Children' section that is part of the Non-Resident Children (MHAS Section B) module.

In Wave 2, HwDCHILD was obtained by counting the additional deceased children reported in the Household Roster (TRH) and the Non-Resident Children (MHAS Section B) sections. A residential status variable included in the TRH was used to identify the deceased children listed in the Household Roster in the previous wave. In addition, a residential status variable included in Section B was used to identify the deceased children listed in the Non-Resident Children roster. The counts of resident and non-resident children were used to update the number of deceased children in Wave 2, adding the total count to the number reported in the previous wave.

Starting in Wave 3, the MHAS has separate modules for follow-up and new sample interviews. Thus, HwDCHILD was constructed in different ways for the follow-up and the new samples. Similar to Wave 1, HwDCHILD was obtained for the new sample by counting the number of all the deceased children listed in the 'Deceased Children' section that is part of the Non-Resident Children (MHAS Section B) module. Similar to Wave 2, HwDCHILD was obtained for the follow-up sample by updating the number of deceased children.

HwDCHILD is set to plain missing (.) if the respondent did not participate in the current wave.

### Cross Wave Differences in MHAS

In Wave 2, the 'Deceased Children' section was not asked since the study only included the follow-up sample (as well as new spouses) in this wave. However, both the Household Roster (TRH) and the Non-Resident Children (MHAS Section B) sections included a variable to establish the new status in the wave and update the rosters. The residential status variable in the TRH included the following options: Still lives here or temporarily absent, Permanently absent, Deceased, Listed by mistake, and New resident. The residential status in Section B included the following options: Still lives elsewhere, Omitted non-resident child, Deceased, Resides in residence of respondent, Listed by mistake. These statuses were used to establish the deceased children not accounted for in the previous wave.

Starting in Wave 3, the MHAS has separate modules for follow-up and new sample interviews. Thus, each household variable accounts for both the follow-up and the new sample. In a similar way to Wave 2, the count of deceased children for follow-up households was updated using the residential status variables.

## Differences with the RAND HRS/Harmonized HRS

Unlike the HRS, the MHAS ask respondents to identify foster children in the Household Roster, and they are included in the count of living children.

## MHAS Variables Used

Wave 1:	
B25	registration number of deceased children
Wave 2:	
B1	code of respondent
TRH10	relationship with spouse
TRH3	registration number
TRH5	current situation
TRH9	relationship
Wave 3:	
B21B_12	Deceased CHILD: registration number
B3_12	Follow-up respondent's registration number
B7_12	Residency status of non-resident child
NB25_12	New respondent's registration number
TRH10_12	Resident's relationship to respondent's spouse
TRH3_12	Household Resident registration number
TRH5_12	Former Resident's current residential status
TRH9_12	Resident's relationship to respondent
Wave 4:	
B21B_15	Deceased Child: Registration number
B3_15	Non-resident Child: Registration number
B7_15	Non-resident Child: Residency status of non-resident ch
NB25_15	Deceased Child: Registration number
TRH10_15	Resident's relationship to respondent's spouse
TRH3_15	Household resident registration number
TRH5_15	Former resident's current residential status
TRH9_15	Resident's relationship to respondent
Wave 5:	
B21B_18	
B3_18	Non-resident Child: Registration number
B7_18	Non-resident Child: Residency status of non-resident ch
NB25_18	Deceased Child: Registration number
TRH10_18	Resident's relationship to respondent's spouse
TRH3_18	Household resident registration number
TRH5_18	Former resident's current residential status
TRH9_18	Resident's relationship to respondent

Number of Children Ever Born

Wave	Variable	Label	Type
1	RAEVBRN	raevbrn: R Number of children ever born	Cont
1	S1EVBRN	s1evbrn: w1 S Number of children ever born	Cont
2	S2EVBRN	s2evbrn: w2 S Number of children ever born	Cont
3	S3EVBRN	s3evbrn: w3 S Number of children ever born	Cont
4	S4EVBRN	s4evbrn: w4 S Number of children ever born	Cont
5	S5EVBRN	s5evbrn: w5 S Number of children ever born	Cont

Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
RAEVBRN	26776	4.85	3.28	0.00	27.00
S1EVBRN	10635	5.94	3.47	0.00	23.00
S2EVBRN	9835	6.01	3.48	0.00	23.00
S3EVBRN	10555	5.03	3.07	0.00	23.00
S4EVBRN	9814	4.96	2.97	0.00	22.00
S5EVBRN	7461	4.94	2.93	0.00	20.00

How Constructed

RAEVBRN provides the number of children ever born to the respondent. Number of children ever born does not include stepchildren, adoptions or miscarriages. RAEVBRN is based on responses to the question, "How many children have you had that were born alive?". RAEVBRN is obtained using the number of children reported in Section A (Demographics), for each respondent. The number is not calculated using the number of children reported the Household Roster (TRH) and in the Non-Resident Children (MHAS Section B) modules. When respondents don't know, refuse, or their answer is missing for another reason RAEVBRN is assigned special missing values .d, .r, or .m. respectively. RAEVBRN is set to plain missing (.) for respondents who did not respond to the current wave.

The spouse variable SwEVBRN is taken from the Wave 'w' spouse's RAEVBRN variable. Special missing value .u is used when the respondent does not report being coupled in the current wave. Special missing value .v is used when the respondent reports being coupled in the current wave but their spouse is not interviewed.

Cross Wave Differences in MHAS

In Wave 2, the number of children ever born was asked only to new subjects. However, starting in Wave 3, the question was asked to new subjects and for follow-up interviews, and an additional question was included to verify the number of children ever born reported in the previous waves. If the respondent declared that the number was incorrect the question was asked again. Thus, the variable RAEVBRN was updated with the correct number of children reported.

Differences with the RAND HRS/Harmonized HRS

Unlike the HRS, the MHAS explicitly asks respondents to report the number of live births.

MHAS Variables Used

Wave 1:	
A19	number of children born alive
Wave 2:	
AA19	how many children born alive do you have
Wave 3:	
A7_1_12	Respondent's stated number of children born alive corre
A7_2_12	Correct number of children born alive

AA19_12	Respondent's number of children born alive
Wave 4:	
A7_1_15	Respondent's stated number of children born alive - Cor
A7_2_15	Correct number of children born alive
AA19_15	Respondent's number of children born alive
Wave 5:	
A7A_18	Correct number of children born alive
A7_18	R's stated number of children born alive - Correct
AA19_18	R's number of children born alive

<b>Number of Grandchildren</b>
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Wave	Variable	Label	Type
1	H1GRCHILD	h1grchild: w1 Number of grandchildren R/P	Cont
2	H2GRCHILD	h2grchild: w2 Number of grandchildren R/P	Cont
3	H3GRCHILD	h3grchild: w3 Number of grandchildren R/P	Cont
4	H4GRCHILD	h4grchild: w4 Number of grandchildren R/P	Cont
5	H5GRCHILD	h5grchild: w5 Number of grandchildren R/P	Cont

### Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
H1GRCHILD	15186	9.37	10.39	0.00	89.00
H2GRCHILD	13704	10.27	10.49	0.00	79.00
H3GRCHILD	15723	8.00	8.53	0.00	50.00
H4GRCHILD	14779	9.12	8.79	0.00	50.00
H5GRCHILD	17114	7.35	8.07	0.00	50.00

### How Constructed

HwGRCHILD provides the number of grandchildren of the respondent and their spouse (if any). The variable was obtained by adding the number of grandchildren for each resident child (from the Household Roster-TRH) and non-resident children (from the Non-resident Children-Section B). In both rosters, if the respondent listed children, for each child 12 years or older, the MHAS asks the respondent how many children the child has. HwGRCHILD is set to plain missing (.) if the respondent did not participate in the current wave.

### Cross Wave Differences in MHAS

Starting in Wave 3, the MHAS has separate modules for follow-up and new sample interviews. Thus, each household variable accounts for both the follow-up and the new sample.

### Differences with the RAND HRS/Harmonized HRS

The total number of grandchildren is provided in HwGRCHILD in the Harmonized HRS, while the the number of grandchildren from each child is provided in KwNKID in the RAND HRS Family Data. Unlike the HRS, in MHAS the number of grandchildren is only asked for each child 12 years or older.

### MHAS Variables Used

Wave 1:	
B16	number of children of nonresident child
TRH15	number of children of household member
Wave 2:	
B15	number of children
TRH17	number of children - resident children
Wave 3:	
B15_12	How many children does non-resident child 12 years or o
NB16_12	How many children does non-resident child have
NTRH15_12	Number of children resident has
TRH17_12	Resident CHILD age 12+: number of children
Wave 4:	
B15_15	Non-resident Child 12 years+: Number of children
NB16_15	Non-resident Child 12 years+: Number of children
NTRH15_15	Number of children resident has
TRH17_15	Resident CHILD 12 years+: Number of children
Wave 5:	
B15_18	Non-resident Child 12 years+: Number of children
NB16_18	Non-resident Child 12 years+: Number of children

NTRH15_18	Resident CHILD 12 years+: Number of children
TRH17_18	Resident CHILD 12 years+: Number of children

<b>Number of Living Siblings</b>
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Wave	Variable	Label	Type
1	R1LIVSIB	r1livsib: w1 R Number of living siblings	Cont
2	R2LIVSIB	r2livsib: w2 R Number of living siblings	Cont
3	R3LIVSIB	r3livsib: w3 R Number of living siblings	Cont
4	R4LIVSIB	r4livsib: w4 R Number of living siblings	Cont
5	R5LIVSIB	r5livsib: w5 R Number of living siblings	Cont
1	S1LIVSIB	s1livsib: w1 S Number of living siblings	Cont
2	S2LIVSIB	s2livsib: w2 S Number of living siblings	Cont
3	S3LIVSIB	s3livsib: w3 S Number of living siblings	Cont
4	S4LIVSIB	s4livsib: w4 S Number of living siblings	Cont
5	S5LIVSIB	s5livsib: w5 S Number of living siblings	Cont

### Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R1LIVSIB	14826	4.71	3.07	0.00	21.00
R2LIVSIB	13413	4.64	3.03	0.00	21.00
R3LIVSIB	14268	5.06	3.12	0.00	24.00
R4LIVSIB	13474	4.91	3.05	0.00	23.00
R5LIVSIB	15568	5.14	3.04	0.00	24.00
S1LIVSIB	10436	5.02	3.08	0.00	21.00
S2LIVSIB	9399	4.96	3.05	0.00	21.00
S3LIVSIB	9757	5.32	3.10	0.00	21.00
S4LIVSIB	8991	5.19	3.02	0.00	23.00
S5LIVSIB	6812	5.13	3.02	0.00	22.00

### How Constructed

RwLIVSIB is the number of the respondent's living siblings. In both Wave 1 and Wave 2, all participants are asked, "How many siblings who were born alive do you have?". They are then asked, "Of your siblings who were born alive, how many are living now?" In the case that the respondent reports not having any siblings born alive RwLIVSIB is set to 0. In all other cases, RwLIVSIB records the number of living siblings. In Wave 3, follow-up participants were only asked "Of your siblings who were born alive, how many are living now?" and only if they reported having a sibling in a previous wave or if they didn't know or refused to answer the questions in the previous wave. Starting in Wave 4, all participants (follow-up and new sample) were asked both questions. When respondents don't know, refuse, or their answer is missing for another reason, RwLIVSIB is assigned special missing values .d, .r, or .m, respectively. Also starting in Wave 3, RwLIVSIB is set to special missing .p if the sibling questions were skipped because the interview was by proxy. RwLIVSIB is set to plain missing (.) for respondents who did not respond to the current wave.

SwLIVSIB is the number of the spouse's siblings. They are taken from the spouse's RwLIVSIB. If the respondent is not designated as coupled in the current wave and assumed to be single, a special missing value of .u is used. If the respondent is not designated as coupled in the current wave but reports being married, a special missing value of .v is used.

### Cross Wave Differences in MHAS

Starting in Wave 3, proxy interviews skipped these questions. Also in Wave 3, the number of siblings ever born was pre-loaded for follow-up interviews. If the subject reported having siblings in the previous waves they were asked how many are living now. If the subject reported no siblings they skipped the number of living sibling's question. Thus, for follow-up interviews, the total number of living siblings was obtained using the number of siblings ever born reported in the previous waves as well as the number of living siblings reported in wave 3. For the new sample, the total number was obtained similar to the previous waves. Starting in Wave 4, all participants (follow-up and new sample) were asked both questions.

Differences with the RAND HRS/Harmonized HRS

In Waves 1, 2H, 3H, 4 and 5 of the HRS, this information is provided by the Family Respondent. In all other HRS Waves, each respondent reports the number of their living siblings.

MHAS Variables Used

Wave 1:	
F30	siblings born alive
F31	siblings still alive
Wave 2:	
F34	how many siblings were born alive
F36	how many siblings are still alive
Wave 3:	
F34_12	Respondent's number of siblings born alive
F36_12	Currently:How many of the respondent's siblings are liv
Wave 4:	
F34_15	Respondent's number of siblings born alive
F36_15	Currently: Of the siblings born alive, how many are sti
Wave 5:	
F34_18	R's number of siblings born alive
F36_18	Currently: Of the siblings born alive, how many are sti



<b>Number of Deceased Siblings</b>
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Wave	Variable	Label	Type
1	R1DECSIB	r1decsib: w1 R Number of deceased siblings	Cont
2	R2DECSIB	r2decsib: w2 R Number of deceased siblings	Cont
3	R3DECSIB	r3decsib: w3 R Number of deceased siblings	Cont
4	R4DECSIB	r4decsib: w4 R Number of deceased siblings	Cont
5	R5DECSIB	r5decsib: w5 R Number of deceased siblings	Cont
1	S1DECSIB	s1decsib: w1 S Number of deceased siblings	Cont
2	S2DECSIB	s2decsib: w2 S Number of deceased siblings	Cont
3	S3DECSIB	s3decsib: w3 S Number of deceased siblings	Cont
4	S4DECSIB	s4decsib: w4 S Number of deceased siblings	Cont
5	S5DECSIB	s5decsib: w5 S Number of deceased siblings	Cont

### Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R1DECSIB	14826	1.79	2.36	0.00	20.00
R2DECSIB	13413	1.93	2.40	0.00	20.00
R3DECSIB	15706	1.71	2.45	0.00	21.00
R4DECSIB	13474	1.73	2.25	0.00	22.00
R5DECSIB	15568	1.59	2.17	0.00	22.00
S1DECSIB	10436	1.63	2.24	0.00	18.00
S2DECSIB	9399	1.76	2.29	0.00	20.00
S3DECSIB	10580	1.59	2.34	0.00	21.00
S4DECSIB	8991	1.61	2.17	0.00	22.00
S5DECSIB	6812	1.73	2.23	0.00	22.00

### How Constructed

RwDECSIB is the number of the respondent's deceased siblings. In both Wave 1 and Wave 2, all participants are asked "How many siblings who were born alive do you have?" They are then asked "Of your siblings who were born alive, how many are living now?" In Wave 3, follow-up participants were only asked "Of your siblings who were born alive, how many are living now?" and only if they reported having a sibling in a previous wave or if they didn't know or refused to answer the questions in the previous wave. Starting in Wave 4, all participants (follow-up and new sample) were asked both questions. RwDECSIB was obtained by subtracting the number of living siblings by the number of siblings ever born. In the case that the respondent reports not having any siblings born alive, RwDECSIB is set to 0. There are cases in which respondents report more living siblings than the number of siblings ever born, in these cases RwDECSIB is assigned a 0 value. When respondents don't know, refuse, or their answer is missing for another reason, RwDECSIB is assigned special missing values .d, .r, or .m. respectively. RwDECSIB is set to special missing (.p) if the sibling questions were skipped because the interview was by proxy. RwDECSIB is set to plain missing (.) for respondents who did not respond to the current wave.

SwDECSIB is the number of the spouse's deceased siblings. They are taken from the spouse's RwDECSIB. If the respondent is not designated as coupled in the current wave and assumed to be single, a special missing value of .u is used. If the respondent is not designated as coupled in the current wave but reports being married, a special missing value of .v is used.

### Cross Wave Differences in MHAS

Starting in Wave 3, proxy interviews skipped these questions. Also in Wave 3, the number of siblings ever born was pre-loaded for follow-up interviews. If the subject reported having siblings in the previous waves they were asked how many are living now. If the subject reported no siblings they skipped the number of living siblings question. Thus, for follow-up interviews, the total number of deceased siblings was obtained using the number of sibling's ever born reported in the most recent previous wave as well as the number of living siblings reported in Wave 3. For the new sample, the total number was obtained

similar to the previous waves. Starting in Wave 4, all participants (follow-up and new sample) were asked both questions.

Differences with the RAND HRS/Harmonized HRS

In Waves 1, 2H, 3H, 4 and 5 of the HRS, this information is provided by the Family Respondent. In all other HRS Waves, each respondent reports the number of their living siblings.

MHAS Variables Used

Wave 1:	
F30	siblings born alive
F31	siblings still alive
Wave 2:	
F34	how many siblings were born alive
F36	how many siblings are still alive
Wave 3:	
F34_12	Respondent's number of siblings born alive
F36_12	Currently:How many of the respondent's siblings are liv
Wave 4:	
F34_15	Respondent's number of siblings born alive
F36_15	Currently: Of the siblings born alive, how many are sti
Wave 5:	
F34_18	R's number of siblings born alive
F36_18	Currently: Of the siblings born alive, how many are sti

<b>Number of Living Parents</b>
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Wave	Variable	Label	Type
1	R1LIVPAR	r1livpar: w1 R Number of living parents	Cont
2	R2LIVPAR	r2livpar: w2 R Number of living parents	Cont
3	R3LIVPAR	r3livpar: w3 R Number of living parents	Cont
4	R4LIVPAR	r4livpar: w4 R Number of living parents	Cont
5	R5LIVPAR	r5livpar: w5 R Number of living parents	Cont
1	S1LIVPAR	s1livpar: w1 S Number of living parents	Cont
2	S2LIVPAR	s2livpar: w2 S Number of living parents	Cont
3	S3LIVPAR	s3livpar: w3 S Number of living parents	Cont
4	S4LIVPAR	s4livpar: w4 S Number of living parents	Cont
5	S5LIVPAR	s5livpar: w5 S Number of living parents	Cont

### Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R1LIVPAR	14904	0.43	0.66	0.00	2.00
R2LIVPAR	13404	0.38	0.62	0.00	2.00
R3LIVPAR	15551	0.52	0.69	0.00	2.00
R4LIVPAR	14582	0.33	0.58	0.00	2.00
R5LIVPAR	16920	0.41	0.64	0.00	2.00
S1LIVPAR	10483	0.51	0.69	0.00	2.00
S2LIVPAR	9381	0.45	0.66	0.00	2.00
S3LIVPAR	10471	0.58	0.71	0.00	2.00
S4LIVPAR	9541	0.38	0.62	0.00	2.00
S5LIVPAR	7401	0.29	0.55	0.00	2.00

### How Constructed

RwLIVPAR provides the number of the living parents for the respondent. The following is asked in all waves: "Is your mother/father alive now?". RwLIVPAR is coded as 0 if neither parent is alive, 1 if one parent is alive, and 2 if both parents are alive. When respondents don't know, refuse, or their answer is missing for another reason RwLIVPAR is assigned special missing values .d, .r, or .m. respectively. RwLIVPAR is set to plain missing (.) for respondents who did not respond to the current wave.

SwLIVPAR records the number of living parents of the spouse in the current wave. It is taken from the spouse's RwLIVPAR. If the respondent is not designated as coupled in the current wave and assumed to be single, a special missing value of .u is used. If the respondent is not designated as coupled in the current wave but reports being married, a special missing value of .v is used.

### Cross Wave Differences in MHAS

In Wave 3, for follow-up interviews an additional question was added to verify the mother and father status. The new question is "In the last interview, you said your mother/father (was alive/had passed away). Is this correct?" The information from previous waves was preloaded and the options were: "She/he was alive" or "She/he had passed away". This reported status was also used to construct the R3LIVPAR and S3LIVPAR variables. If the subject reported the mother/father had passed away these follow-up questions were skipped. Starting in Wave 4, follow-up and new respondents were asked the same questions.

### Differences with the RAND HRS/Harmonized HRS

No differences known.

### MHAS Variables Used

Wave 1:

F10	father alive
F3	mother alive
Wave 2:	
F12	father presently alive
F3	mother presently alive
Wave 3:	
F10A_12	Last interview:Was respondent's father living
F12_12	Currently:Is respondent's father living
F1A_12	Last interview:Was respondent's mother living
F3_12	Currently:Is respondent's mother living
Wave 4:	
F12_15	Is respondent's father alive
F3_15	Is respondent's mother alive
Wave 5:	
F12_18	Is R's father alive
F3_18	Is R's mother alive

Parental Mortality

Wave	Variable	Label	Type
1	R1MOMLIV	r1momliv: w1 R Mother Alive	Categ
2	R2MOMLIV	r2momliv: w2 R Mother Alive	Categ
3	R3MOMLIV	r3momliv: w3 R Mother Alive	Categ
4	R4MOMLIV	r4momliv: w4 R Mother Alive	Categ
5	R5MOMLIV	r5momliv: w5 R Mother Alive	Categ
1	S1MOMLIV	s1momliv: w1 S Mother Alive	Categ
2	S2MOMLIV	s2momliv: w2 S Mother Alive	Categ
3	S3MOMLIV	s3momliv: w3 S Mother Alive	Categ
4	S4MOMLIV	s4momliv: w4 S Mother Alive	Categ
5	S5MOMLIV	s5momliv: w5 S Mother Alive	Categ
1	R1DADLIV	r1dadliv: w1 R Father Alive	Categ
2	R2DADLIV	r2dadliv: w2 R Father Alive	Categ
3	R3DADLIV	r3dadliv: w3 R Father Alive	Categ
4	R4DADLIV	r4dadliv: w4 R Father Alive	Categ
5	R5DADLIV	r5dadliv: w5 R Father Alive	Categ
1	S1DADLIV	s1dadliv: w1 S Father Alive	Categ
2	S2DADLIV	s2dadliv: w2 S Father Alive	Categ
3	S3DADLIV	s3dadliv: w3 S Father Alive	Categ
4	S4DADLIV	s4dadliv: w4 S Father Alive	Categ
5	S5DADLIV	s5dadliv: w5 S Father Alive	Categ

Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R1MOMLIV	15045	0.28	0.45	0.00	1.00
R2MOMLIV	13588	0.25	0.43	0.00	1.00
R3MOMLIV	15665	0.34	0.47	0.00	1.00
R4MOMLIV	14705	0.22	0.41	0.00	1.00
R5MOMLIV	17050	0.26	0.44	0.00	1.00
S1MOMLIV	10567	0.32	0.47	0.00	1.00
S2MOMLIV	9493	0.29	0.45	0.00	1.00
S3MOMLIV	10554	0.37	0.48	0.00	1.00
S4MOMLIV	9614	0.25	0.43	0.00	1.00
S5MOMLIV	7438	0.19	0.39	0.00	1.00
R1DADLIV	14852	0.15	0.36	0.00	1.00
R2DADLIV	13388	0.13	0.34	0.00	1.00
R3DADLIV	15499	0.18	0.39	0.00	1.00
R4DADLIV	14557	0.11	0.31	0.00	1.00
R5DADLIV	16845	0.15	0.35	0.00	1.00
S1DADLIV	10433	0.18	0.39	0.00	1.00
S2DADLIV	9364	0.16	0.36	0.00	1.00
S3DADLIV	10424	0.21	0.41	0.00	1.00
S4DADLIV	9521	0.13	0.33	0.00	1.00
S5DADLIV	7386	0.09	0.29	0.00	1.00

Categorical Variable Codes

Value-----	R1MOMLIV	R2MOMLIV	R3MOMLIV	R4MOMLIV	R5MOMLIV
.d:DK	103	89	47	33	36
.m:Missing	34	23		36	17
.r:Refuse	4	4	11	5	11

0.No		10860	10198	10355	11518	12586
1.Yes		4185	3390	5310	3187	4464
Value-----		S1MOMLIV	S2MOMLIV	S3MOMLIV	S4MOMLIV	S5MOMLIV
.d:DK		66	61	31	27	15
.m:Missing		13	7		8	3
.r:Refuse		2	3	7	3	5
.u:Unmar		4205	4009	4782	4847	5227
.v:SP NR		333	131	349	280	501
0.No		7155	6736	6616	7246	6008
1.Yes		3412	2757	3938	2368	1430
Value-----		R1DADLIV	R2DADLIV	R3DADLIV	R4DADLIV	R5DADLIV
.d:DK		296	287	211	182	234
.m:Missing		34	23		36	17
.r:Refuse		4	6	13	4	18
0.No		12603	11642	12663	12987	14388
1.Yes		2249	1746	2836	1570	2457
Value-----		S1DADLIV	S2DADLIV	S3DADLIV	S4DADLIV	S5DADLIV
.d:DK		200	189	160	121	64
.m:Missing		13	7		8	3
.r:Refuse		2	4	8	2	8
.u:Unmar		4205	4009	4782	4847	5227
.v:SP NR		333	131	349	280	501
0.No		8529	7902	8251	8299	6694
1.Yes		1904	1462	2173	1222	692

## How Constructed

RwMOMLIV and RwDADLIV indicate whether the respondent's mother or father is alive at the current wave. These variables are taken from the Section F, Parents and Help to Parents. A code of 0 indicates that the respondent's mother or father is not alive and a code of 1 indicates that the respondent's mother or father is alive. When respondents don't know or refuse to answer, RwMOMLIV and RwDADLIV are assigned special missing values .d or .r respectively. The variables are also assigned special missing value .m for the cases that failed to complete Section F (Parents and Help to Parents). RwMOMLIV and RwDADLIV are set to plain missing (.) for respondents who did not respond to the current wave.

SwMOMLIV and SwDADLIV indicate whether the current wave's spouse's father is alive at the current wave. It is taken from the spouse's RwMOMLIV and RwDADLIV, respectively. In addition to the special missing codes used in RwMOMLIV and RwDADLIV, if the respondent is not designated as coupled in the current wave and assumed to be single, a special missing value of .u is used. If the respondent is not designated as coupled in the current wave but reports being married, a special missing value of .v is used.

## Cross Wave Differences in MHAS

Information about parental mortality is reported in the Section F, Parents and Help to Parents. In Waves 1 and 2, the respondents are asked whether their mother/father is alive. However in Wave 3, follow-up respondents are asked "In the last interview, you said your mother/father (was alive/had passed away). Is this correct?". Respondents can indicate whether they were alive or had passed away. If they indicate the mother/father was alive they are asked a follow-up question to establish if they are alive in the current wave. For new interviews the question remains the same as in the first two waves. Starting in Wave 4, follow-up and new respondents were asked the same questions.

## Differences with the RAND HRS/Harmonized HRS

No differences known.

## MHAS Variables Used

Wave 1:  
  F10                father alive  
  F3                mother alive

Wave 2:  
  F12               father presently alive  
  F3                mother presently alive

Wave 3:	
F10A_12	Last interview:Was respondent's father living
F12_12	Currently:Is respondent's father living
F1A_12	Last interview:Was respondent's mother living
F3_12	Currently:Is respondent's mother living
Wave 4:	
F12_15	Is respondent's father alive
F3_15	Is respondent's mother alive
Wave 5:	
F12_18	Is R's father alive
F3_18	Is R's mother alive

<b>Parents' Current Age or Age at Death</b>
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Wave	Variable	Label	Type
1	R1MOMAGE	r1momage: w1 R Mother's age - current/at death	Cont
2	R2MOMAGE	r2momage: w2 R Mother's age - current/at death	Cont
3	R3MOMAGE	r3momage: w3 R Mother's age - current/at death	Cont
4	R4MOMAGE	r4momage: w4 R Mother's age - current/at death	Cont
5	R5MOMAGE	r5momage: w5 R Mother's age - current/at death	Cont
1	S1MOMAGE	s1momage: w1 S Mother's age - current/at death	Cont
2	S2MOMAGE	s2momage: w2 S Mother's age - current/at death	Cont
3	S3MOMAGE	s3momage: w3 S Mother's age - current/at death	Cont
4	S4MOMAGE	s4momage: w4 S Mother's age - current/at death	Cont
5	S5MOMAGE	s5momage: w5 S Mother's age - current/at death	Cont
1	R1DADAGE	r1dadage: w1 R Father's age - current/at death	Cont
2	R2DADAGE	r2dadage: w2 R Father's age - current/at death	Cont
3	R3DADAGE	r3dadage: w3 R Father's age - current/at death	Cont
4	R4DADAGE	r4dadage: w4 R Father's age - current/at death	Cont
5	R5DADAGE	r5dadage: w5 R Father's age - current/at death	Cont
1	S1DADAGE	s1dadage: w1 S Father's age - current/at death	Cont
2	S2DADAGE	s2dadage: w2 S Father's age - current/at death	Cont
3	S3DADAGE	s3dadage: w3 S Father's age - current/at death	Cont
4	S4DADAGE	s4dadage: w4 S Father's age - current/at death	Cont
5	S5DADAGE	s5dadage: w5 S Father's age - current/at death	Cont

### Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R1MOMAGE	13431	70.85	16.24	15.00	128.00
R2MOMAGE	11906	71.82	16.45	15.00	131.00
R3MOMAGE	14296	73.20	15.95	15.00	128.00
R4MOMAGE	13479	74.69	16.25	15.00	130.00
R5MOMAGE	15534	74.42	15.37	15.00	130.00
S1MOMAGE	9546	70.63	15.61	16.00	128.00
S2MOMAGE	8426	71.68	15.92	15.00	128.00
S3MOMAGE	9703	72.97	15.58	15.00	128.00
S4MOMAGE	8927	74.53	15.86	15.00	130.00
S5MOMAGE	6734	75.07	15.91	15.00	128.00
R1DADAGE	12629	70.59	16.34	16.00	130.00
R2DADAGE	11181	71.48	16.36	15.00	131.00
R3DADAGE	13537	72.48	15.96	15.00	130.00
R4DADAGE	12721	73.63	16.53	15.00	130.00
R5DADAGE	14680	73.83	15.79	17.00	130.00
S1DADAGE	9091	70.83	15.98	18.00	130.00
S2DADAGE	8082	71.67	16.02	16.00	130.00
S3DADAGE	9289	72.70	15.64	18.00	120.00
S4DADAGE	8504	73.79	16.10	15.00	115.00
S5DADAGE	6429	74.63	15.98	19.00	116.00

### How Constructed

RwMOMAGE and RwDADAGE are the respondent's mother's or father's current age in years if the mother or father is still alive or the respondent's mother's or father's age at death. When respondents don't know or refuse to answer, RwMOMAGE and RwDADAGE are assigned special missing values .d or .r respectively. The variables are also assigned special missing value .m for the cases that failed to complete Section F



(Parents and Help to Parents). RwmOMAGE and RwdADAGE are set to plain missing (.) for respondents who did not respond to the current wave.

SwMOMAGE and SwDADAGE are the spouse's mother's or father's current age or age at death. It is taken from the spouse's values to RwmOMAGE and RwdADAGE. In addition to the special missing codes used in RwmOMAGE and RwdADAGE, if the respondent is not designated as coupled in the current wave and assumed to be single, a special missing value of .u is used. If the respondent is not designated as coupled in the current wave but reports being married, a special missing value of .v is used.

## Cross Wave Differences in MHAS

No differences known.

## Differences with the RAND HRS/Harmonized HRS

No differences known.

## MHAS Variables Used

Wave 1:	
F11	age father
F14	age father when died
F4	age mother
F7	age mother when died
Wave 2:	
F13	age of father
F17	age of father when he passed away
F4	age of mother
F8	age of mother when she passed away
Wave 3:	
F13_12	Currently:Age of respondent's father
F17_12	At death:How old was respondent's father
F4_12	Currently:Age of respondent's mother
F8_12	At death:How old was respondent's mother
Wave 4:	
F12_15	Is respondent's father alive
F13_15	Respondent's father age
F17_15	How old was respondent's father when he died
F3_15	Is respondent's mother alive
F4_15	Respondent's mother age
F8_15	How old was respondent's mother when she died
Wave 5:	
F12_18	Is R's father alive
F13_18	R's father age
F17_18	How old was R's father when he died
F3_18	Is R's mother alive
F4_18	R's mother age
F8_18	How old was R's mother when she died

Parents' Education

Wave	Variable	Label	Type
1	RAMEDUC_M	rateduc_m: R Mother's Education	Categ
1	S1MEDUC_M	s1meduc_m: w1 S Mother's Education	Categ
2	S2MEDUC_M	s2meduc_m: w2 S Mother's Education	Categ
3	S3MEDUC_M	s3meduc_m: w3 S Mother's Education	Categ
4	S4MEDUC_M	s4meduc_m: w4 S Mother's Education	Categ
5	S5MEDUC_M	s5meduc_m: w5 S Mother's Education	Categ
1	RAFEDUC_M	rafeduc_m: R Father's Education	Categ
1	S1FEDUC_M	s1feduc_m: w1 S Father's Education	Categ
2	S2FEDUC_M	s2feduc_m: w2 S Father's Education	Categ
3	S3FEDUC_M	s3feduc_m: w3 S Father's Education	Categ
4	S4FEDUC_M	s4feduc_m: w4 S Father's Education	Categ
5	S5FEDUC_M	s5feduc_m: w5 S Father's Education	Categ

Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
RAMEDUC_M	22882	1.73	0.88	1.00	4.00
S1MEDUC_M	9177	1.62	0.81	1.00	4.00
S2MEDUC_M	8527	1.61	0.80	1.00	4.00
S3MEDUC_M	9124	1.69	0.83	1.00	4.00
S4MEDUC_M	8375	1.71	0.84	1.00	4.00
S5MEDUC_M	6402	1.69	0.83	1.00	4.00
RAFEDUC_M	22122	1.86	0.94	1.00	4.00
S1FEDUC_M	9019	1.74	0.89	1.00	4.00
S2FEDUC_M	8372	1.72	0.87	1.00	4.00
S3FEDUC_M	8876	1.82	0.90	1.00	4.00
S4FEDUC_M	8146	1.83	0.91	1.00	4.00
S5FEDUC_M	6226	1.79	0.89	1.00	4.00

Categorical Variable Codes

Value-----	RAMEDUC_M	S1MEDUC_M	S2MEDUC_M	S3MEDUC_M	S4MEDUC_M	S5MEDUC_M
.d:DK	2154	785	726	824	825	626
.m:Missing	1111	672	601	328	330	211
.p:Proxy interview, not asked	625		54	284	258	197
.r:Refuse	67	14	14	32	33	25
1.None	11335	4205	3755	4782	4846	5227
2.Some primary	7592	333	27	349	112	501
3.Primary	2643	5053	4728	4570	4139	3231
4.More than primary	1312	2886	2707	3196	2959	2242
		872	774	936	877	638
		366	318	422	400	291

Value-----	RAFEDUC_M
.d:DK	2900
.m:Missing	1111
.p:Proxy interview, not asked	625
.r:Refuse	81
1.None	9658
2.Some primary	7874
3.Primary	2657
4.More than primary	1933

Value-----	S1FEDUC_M	S2FEDUC_M	S3FEDUC_M	S4FEDUC_M	S5FEDUC_M
.d:DK	939	877	1073	1056	802
.m:Missing	672	601	328	330	211
.p:Proxy interview, not asked		54	284	258	197
.r:Refuse	18	18	31	31	25
.u:Unmar	4205	3755	4782	4846	5227
.v:SP NR	333	27	349	112	501
1.None	4443	4178	3944	3561	2800
2.Some primary	3082	2886	3253	3026	2323
3.Primary	880	798	1033	961	683
4.More than primary	614	510	646	598	420

## How Constructed

RAMEDUC\_M and RAFEDUC\_M are the parent's education variables. They are assigned by looking at reports from the Parents and Help to Parents section (Section F). These variables are constructed by looking at all waves of data for the first non-missing values. A code of 1 indicates no education; a code of 2 indicates 'some primary'; a code of 3 indicates 'primary'; and a code of 4 indicates 'more than primary'. When respondents don't know, refuse, or their answer is missing for another reason, RAMEDUC\_M and RAFEDUC\_M are assigned special missing values .d, .r, or .m. respectively. They are also set to special missing (.p) if the parents' education question was skipped because the interview was by proxy. RAMEDUC\_M and RAFEDUC\_M are set to plain missing (.) for respondents who did not respond to the current wave.

SwMEDUC\_M and SwFEDUC\_M indicate the current wave's spouse's parent's education level. It is taken from the spouse's variables RAMEDUC\_M and RAFEDUC\_M. If the respondent is not designated as coupled in the current wave and assumed to be single, a special missing value of .u is used. If the respondent is not designated as coupled in the current wave but reports being married, a special missing value of .v is used.

## Cross Wave Differences in MHAS

No differences known.

## Differences with the RAND HRS/Harmonized HRS

Unlike the HRS, the parent's education question in the MHAS does not ask for the number years of education, but for the education level. The MHAS variable is categorical and includes 4 categories to indicate whether the respondent's parents completed 'some primary', 'primary', 'more than primary', or did not complete any formal education.

## MHAS Variables Used

Wave 1:	
F1	mother's education
F8	father's education
Wave 2:	
F1	mother's education
F10	father's education
Wave 3:	
F10B_12	Respondent's father education level
F1B_12	Respondent's mother education level
Wave 4:	
F10_15	Respondent's father education level
F1_15	Respondent's mother education level
Wave 5:	
F10_18	R's father education level

F1\_18

R's mother education level

Any Child Co-Resides with Respondent

Wave	Variable	Label	Type
1	H1CORESD	h1coresd: w1 Any child co-resides with R/P	Categ
2	H2CORESD	h2coresd: w2 Any child co-resides with R/P	Categ
3	H3CORESD	h3coresd: w3 Any child co-resides with R/P	Categ
4	H4CORESD	h4coresd: w4 Any child co-resides with R/P	Categ
5	H5CORESD	h5coresd: w5 Any child co-resides with R/P	Categ

Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
H1CORESD	14847	0.75	0.43	0.00	1.00
H2CORESD	13408	0.78	0.41	0.00	1.00
H3CORESD	15073	0.79	0.41	0.00	1.00
H4CORESD	14369	0.73	0.44	0.00	1.00
H5CORESD	16306	0.72	0.45	0.00	1.00

Categorical Variable Codes

Value-----	H1CORESD	H2CORESD	H3CORESD	H4CORESD	H5CORESD
.k:no kids	740	573	650	550	808
0.No	3686	2954	3135	3873	4608
1.Yes	11161	10454	11938	10496	11698

How Constructed

HwCORESD indicates if the respondent and the spouse co-reside with children. When at least one child (natural, step, adopted, or foster) is listed in the MHAS Household Roster (TRH), a code of 1 is assigned to indicate child co-residence. If no children are included in the MHAS Household Roster, a code of 0 is assigned to indicate no child co-residence. Special missing code .k is assigned if the respondent and spouse (if any) reports not having any living children. HwCORESD is set to plain missing (.) if the respondent did not participate in the current wave.

Cross Wave Differences in MHAS

Starting in Wave 3, the MHAS has separate modules for follow-up and new sample interviews. Thus, each variable accounts for both the follow-up and the new sample.

Differences with the RAND HRS/Harmonized HRS

Whether any child co-resides is included in the RAND HRS Family Data.

MHAS Variables Used

Wave 1:	
TRH2	registration number of household member
TRH6	relationship of household member to selected person
TRH7	relationship of household member to spouse of sel. pers
Wave 2:	
TRH10	relationship with spouse
TRH3	registration number
TRH9	relationship
Wave 3:	
NTRH3_12	Resident's registration number
NTRH6_12	Resident's relationship to respondent
NTRH7_12	Resident's relationship with respondent's spouse
TRH10_12	Resident's relationship to respondent's spouse

TRH3_12	Household Resident registration number
TRH9_12	Resident's relationship to respondent
Wave 4:	
NTRH3_15	Resident's registration number
NTRH6_15	Resident's relationship to respondent
NTRH7_15	Resident's relationship with respondent's spouse
TRH10_15	Resident's relationship to respondent's spouse
TRH3_15	Household resident registration number
TRH9_15	Resident's relationship to respondent
Wave 5:	
NTRH3_18	Household resident registration number
NTRH6_18	Resident's relationship to respondent
NTRH7_18	Resident's relationship to respondent's spouse
TRH10_18	Resident's relationship to respondent's spouse
TRH3_18	Household resident registration number
TRH9_18	Resident's relationship to respondent

Any Children Living in the Same City

Wave	Variable	Label	Type
1	H1LVNEAR	h1lvnear: w1 Any child lives in the same city	Categ
2	H2LVNEAR	h2lvnear: w2 Any child lives in the same city	Categ
3	H3LVNEAR	h3lvnear: w3 Any child lives in the same city	Categ
4	H4LVNEAR	h4lvnear: w4 Any child lives in the same city	Categ
5	H5LVNEAR	h5lvnear: w5 Any child lives in the same city	Categ

Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
H1LVNEAR	14947	0.97	0.18	0.00	1.00
H2LVNEAR	13488	0.97	0.17	0.00	1.00
H3LVNEAR	15073	0.97	0.17	0.00	1.00
H4LVNEAR	14397	0.96	0.19	0.00	1.00
H5LVNEAR	16306	0.95	0.21	0.00	1.00

Categorical Variable Codes

Value-----	H1LVNEAR	H2LVNEAR	H3LVNEAR	H4LVNEAR	H5LVNEAR
.k:no kids	739	573	650	550	808
0.No	485	415	470	548	776
1.Yes	14462	13073	14603	13849	15530

How Constructed

HwLVNEAR indicates if the respondent and the spouse (if any) live in the same city with at least one of their children. If the respondent and the spouse (if any) co-reside with at least one child (natural, step, adopted, or foster), that is if HwCORESD has a value of 1, a code of 1 is assigned to indicate that the respondent and the spouse live near their children. Also, if the respondent and the spouse list non-resident children in the Non-Resident Children Module (Section B), the MHAS asks "Where does (NAME) live?". A code of 1 was assigned to HwLVNEAR if the respondent and the spouse (if any) indicate that at least one child lives in the same house or building, same locality or neighborhood, or different locality or neighborhood but in the same city. A code of 0 indicates none of the children reported in the Non-Resident Children Module live in the same house or building, same locality or neighborhood, or different locality or neighborhood but in the same city. Special missing code .k is assigned if the respondent and spouse (if any) reports not having any living children. HwLVNEAR is set to plain missing (.) if the respondent did not participate in the current wave.

Cross Wave Differences in MHAS

Starting in Wave 3, the MHAS has separate modules for follow-up and new sample interviews. Thus, each variable accounts for both the follow-up and the new sample.

Differences with the RAND HRS/Harmonized HRS

The RAND HRS Family Data includes RwLVNEAR which is a categorical variable indicating how closely the child lives to the respondent's home, whether co-resides, lives within 10 miles, or lives more than 10 miles away. Different from the RAND HRS variable, HwLVNEAR in the Harmonized MHAS indicates whether any child lives within the same city as the respondent and/or spouse.

MHAS Variables Used

Wave 1:	
B18	where does nonresident child live
Wave 2:	
B17	where person lives

Wave 3:	
B17_12	Where does non-resident child 12 years or older live
NB18_12	Where non-resident child lives
Wave 4:	
B17_15	Non-resident Child 12 years+: Where does he/she live
NB18_15	Non-resident Child 12 years+: Where does he/she live
Wave 5:	
B17_18	Non-resident Child 12 years+: Where does he/she live
NB18_18	Non-resident Child 12 years+: Where does he/she live



Any Weekly Contact with Children

Wave	Variable	Label	Type
1	H1KCNT	h1kcnt: w1 Any weekly contact w/ children in person/phone/em	Categ
2	H2KCNT	h2kcnt: w2 Any weekly contact w/ children in person/phone/em	Categ
3	H3KCNT	h3kcnt: w3 Any weekly contact w/ children in person/phone/em	Categ
4	H4KCNT	h4kcnt: w4 Any weekly contact w/ children in person/phone/em	Categ
5	H5KCNT	h5kcnt: w5 Any weekly contact w/ children in person/phone/em	Categ

Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
H1KCNT	14947	0.96	0.19	0.00	1.00
H2KCNT	13485	0.97	0.17	0.00	1.00
H3KCNT	15073	0.98	0.15	0.00	1.00
H4KCNT	14403	0.98	0.15	0.00	1.00
H5KCNT	16306	0.98	0.15	0.00	1.00

Categorical Variable Codes

Value-----	H1KCNT	H2KCNT	H3KCNT	H4KCNT	H5KCNT
.k:no kids	739	573	650	550	808
0.No	565	420	365	317	382
1.Yes	14382	13065	14708	14086	15924

How Constructed

HwKCNT indicates whether the respondent and the spouse (if any) have weekly contact with any of their children on a regular basis. If the respondent and the spouse (if any) co-reside with at least one child (natural, step, adopted, or foster), that is if HwCORESD has a value of 1, a code 1 is assigned to indicate contact with children. Also, if the respondent and the spouse (if any) list non-resident children in the Non-Resident children module (Section B), the MHAS asks "How often did you (or your spouse) have contact with (NAME) either in person, by mail, or by telephone?" for each listed child. A code of 1 is assigned to HwKCNT if they report weekly contact, that is one or more times per week, 4 or more times per month, or 52 times or more per year. A code of 0 indicates that the respondent has less than weekly contact with all of the children reported in the Non-Resident Children Module. Special missing code .k is assigned if the respondent and spouse (if any) report not having any living children. HwKCNT is set to plain missing (.) if the respondent did not participate in the current wave.

Cross Wave Differences in MHAS

Starting in Wave 3, the MHAS has separate modules for follow-up and new sample interviews. Thus, each variable accounts for both the follow-up and the new sample.

Differences with the RAND HRS/Harmonized HRS

The RAND HRS Family Data includes KwCONTYR, which records the frequency of contact with children per year. The Harmonized HRS includes HwKCNT, which indicates any weekly contact with children in person or electronically, and RwKCNTF, which indicates any weekly contact in person with their children. HwKCNT in the Harmonized MHAS indicates whether the respondent has weekly contact with their children.

MHAS Variables Used

Wave 1:	
B10_1	in the last 2 years, how often did you/your spouse cont
B10_2	in the last 2 years, how often did you/your spouse cont
Wave 2:	
B10_1	contact - times

B10_2	contact - per period
Wave 3:	
B10_1_12	Frequent contact with non-resident child 12 years or ol
B10_2_12	Frequent contact with non-resident child 12 years or ol
NB10_1_12	Last two years, how often contact non-resident child -
NB10_2_12	Last two years, how often contact non-resident child -
Wave 4:	
B10_1_15	Non-resident Child 12 years+: Frequency of contact - Ti
B10_2_15	Non-resident Child 12 years+: Frequency of contact - Pe
NB10_1_15	Non-resident Child 12 years+: Frequency of contact - Ti
NB10_2_15	Non-resident Child 12 years+: Frequency of contact - Pe
Wave 5:	
B10_1_18	Non-resident Child 12 years+: Frequency of contact - Ti
B10_2_18	Non-resident Child 12 years+: Frequency of contact - Pe
NB10_1_18	Non-resident Child 12 years+: Frequency of contact - Ti
NB10_2_18	Non-resident Child 12 years+: Frequency of contact - Pe

Frequent or Weekly Contact with Relatives and Friends

Wave	Variable	Label	Type
3	R3RFCNT	r3rfcnt: w3 R Any weekly contact w/friends and relatives	Categ
4	R4RFCNT	r4rfcnt: w4 R Any weekly contact w/friends and relatives	Categ
5	R5RFCNT	r5rfcnt: w5 R Any weekly contact w/friends and relatives	Categ
3	S3RFCNT	s3rfcnt: w3 S Any weekly contact w/friends and relatives	Categ
4	S4RFCNT	s4rfcnt: w4 S Any weekly contact w/friends and relatives	Categ
5	S5RFCNT	s5rfcnt: w5 S Any weekly contact w/friends and relatives	Categ
3	R3RFCNTX_M	r3rfcntx_m: w3 R Freq contact w/friends and relatives	Categ
4	R4RFCNTX_M	r4rfcntx_m: w4 R Freq contact w/friends and relatives	Categ
5	R5RFCNTX_M	r5rfcntx_m: w5 R Freq contact w/friends and relatives	Categ
3	S3RFCNTX_M	s3rfcntx_m: w3 S Freq contact w/friends and relatives	Categ
4	S4RFCNTX_M	s4rfcntx_m: w4 S Freq contact w/friends and relatives	Categ
5	S5RFCNTX_M	s5rfcntx_m: w5 S Freq contact w/friends and relatives	Categ

Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R3RFCNT	14417	0.56	0.50	0.00	1.00
R4RFCNT	13800	0.68	0.47	0.00	1.00
R5RFCNT	15767	0.72	0.45	0.00	1.00
S3RFCNT	9845	0.56	0.50	0.00	1.00
S4RFCNT	9161	0.69	0.46	0.00	1.00
S5RFCNT	6895	0.71	0.45	0.00	1.00
R3RFCNTX_M	14417	4.98	3.27	1.00	9.00
R4RFCNTX_M	13800	4.10	3.09	1.00	9.00
R5RFCNTX_M	15767	3.76	3.07	1.00	9.00
S3RFCNTX_M	9845	4.95	3.25	1.00	9.00
S4RFCNTX_M	9161	4.03	3.04	1.00	9.00
S5RFCNTX_M	6895	3.88	3.07	1.00	9.00

Categorical Variable Codes

Value-----	R3RFCNT	R4RFCNT	R5RFCNT
.d:DK	4	9	3
.i:Invalid	22	16	10
.m:Missing		23	
.p:Proxy interview, not asked	1275	929	1328
.r:Refuse	5	2	6
0.No	6378	4407	4342
1.Yes	8039	9393	11425
Value-----	S3RFCNT	S4RFCNT	S5RFCNT
.d:DK	4	5	1
.i:Invalid	15	9	3
.m:Missing		5	
.p:Proxy interview, not asked	726	470	560
.r:Refuse	2	2	2
.u:Unmar	4782	4847	5227
.v:SP NR	349	280	501
0.No	4312	2842	1985
1.Yes	5533	6319	4910
Value-----	R3RFCNTX_M	R4RFCNTX_M	R5RFCNTX_M
.d:DK	4	9	3

.i:Invalid		22	16	10
.m:Missing			23	
.p:Proxy interview, not asked		1275	929	1328
.r:Refuse		5	2	6
1.Almost every day		3506	4490	6125
2.4 or more times a week		768	868	1001
3.2 or 3 times a week		2157	2333	2471
4.Once a week		1409	1526	1646
5.4 or more times a month		199	176	182
6.2 or 3 times a month		629	614	564
7.Once a month		578	758	565
8.Almost Never, sporadic		676		
9.Never		4495	3035	3213

Value-----		S3RFCNTX_M	S4RFCNTX_M	S5RFCNTX_M
.d:DK		4	5	1
.i:Invalid		15	9	3
.m:Missing			5	
.p:Proxy interview, not asked		726	470	560
.r:Refuse		2	2	2
.u:Unmar		4782	4847	5227
.v:SP NR		349	280	501
1.Almost every day		2408	2980	2473
2.4 or more times a week		510	575	458
3.2 or 3 times a week		1488	1612	1166
4.Once a week		982	1029	731
5.4 or more times a month		145	123	82
6.2 or 3 times a month		446	427	277
7.Once a month		413	516	260
8.Almost Never, sporadic		474		
9.Never		2979	1899	1448

## How Constructed

RwRFCNTX\_M indicates the frequency of contacting with relatives and friends: 1.almost every day, 2.four or more times per week, 3.two or three times a week, 4.once a week, 5.four or more times a month, 6.two or three times a month, 7.once a month, 8.almost never/sporadic, or 9.never.

RwRFCNT indicates whether the respondent has weekly contact with relatives and friends. A code of 1 indicates the respondent has contact with relatives and friends at least once a week, that is RwRFCNTX\_M is either almost every day, once a week, two or three times a week, four or more times a week, or four or more times per month. Otherwise, RwRFCNT is assigned a code of 0 indicating no weekly contact.

RwRFCNTX\_M and RwRFCNT are assigned special missing values .d or .r if respondents don't know or refuse to answer, respectively. The variables are also assigned special missing value .p, for proxy interviews. The variables are assigned special missing value .m for the cases that failed to complete Section D. In addition, RwRFCNTX\_M is assigned special missing value .i to indicate inconsistent frequency, if the respondent reports contact with relatives and friends more than 21 times per week or more than 81 times per month (that is more than 3 times per day). RwRFCNTX\_M and RwRFCNT are set to plain missing (.) for respondents who did not respond to the current wave.

SwRFCNTX\_M and SwRFCNT are the respective contact with relatives and friends variables for the respondent's spouse or partner. SwRFCNTX\_M and SwRFCNT are taken from the Wave 'w' spouse's value for RwRFCNTX\_M and RwRFCNT. In addition to the special missing codes used in RwRFCNTX\_M and RwRFCNT, if the respondent is not designated as coupled in the current wave and assumed to be single, a special missing value of .u is used. If the respondent is not designated as coupled in the current wave but reports being married, a special missing value of .v is used.

## Cross Wave Differences in MHAS

The contact with friends and relatives information was derived from the 'Use of Time' battery included in Section D (Control and Health Services). This battery was included starting in Wave 3. In Wave 3, there is a code to indicate that the respondent had contact with friends and relatives sporadically in the past year. Starting in Wave 4, this code is no longer present.

Differences with the RAND HRS/Harmonized HRS

The Harmonized HRS includes `RwRFCNT`, which indicates whether the respondent had any weekly contact with relatives or friends in person or electronically, which is comparable to `RwRFCNT` in the Harmonized MHAS. The Harmonized MHAS also includes `RwRFCNTF` and `RwRFCNTPM`, which indicate whether the respondent had weekly contact with relatives and friends in person or electronically, respectively. While the Harmonized MHAS includes `RwRFCNTX_M` indicating the frequency of contact with friends and relatives.

MHAS Variables Used

Wave 3:	
D34I1_12	Does respondent communicate with relatives/friends via
D34I2_12	Number of times respondent communicates with his/her re
D34I3_12	Respondent's time period to report communicating with h
Wave 4:	
D34I1_15	Does respondent talk to relatives or friends via phone,
D34I2_15	Number of times respondent has talked with relatives or
D34I3_15	Respondent's time period talking with relatives or frie
Wave 5:	
D34I1_18	Does R talk to relatives or friends via phone, computer
D34I2_18	Number of times R has talked with relatives or friends
D34I3_18	R's time period talking with relatives or friends

<b>Any Weekly Social Activities or Participate in Religious Groups</b>
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Wave	Variable	Label	Type
3	R3SOCWK	r3socwk: w3 R Any weekly social activities	Categ
4	R4SOCWK	r4socwk: w4 R Any weekly social activities	Categ
5	R5SOCWK	r5socwk: w5 R Any weekly social activities	Categ
3	S3SOCWK	s3socwk: w3 S Any weekly social activities	Categ
4	S4SOCWK	s4socwk: w4 S Any weekly social activities	Categ
5	S5SOCWK	s5socwk: w5 S Any weekly social activities	Categ
3	R3SOCACT_M	r3socact_m: w3 R Freq social activities	Categ
4	R4SOCACT_M	r4socact_m: w4 R Freq social activities	Categ
5	R5SOCACT_M	r5socact_m: w5 R Freq social activities	Categ
3	S3SOCACT_M	s3socact_m: w3 S Freq social activities	Categ
4	S4SOCACT_M	s4socact_m: w4 S Freq social activities	Categ
5	S5SOCACT_M	s5socact_m: w5 S Freq social activities	Categ
3	R3RELGWK	r3relgwk: w3 R Any weekly participation in religious service	Categ
4	R4RELGWK	r4relgwk: w4 R Any weekly participation in religious service	Categ
5	R5RELGWK	r5relgwk: w5 R Any weekly participation in religious service	Categ
3	S3RELGWK	s3relgwk: w3 S Any weekly participation in religious service	Categ
4	S4RELGWK	s4relgwk: w4 S Any weekly participation in religious service	Categ
5	S5RELGWK	s5relgwk: w5 S Any weekly participation in religious service	Categ
1	R1RELGIMP	r1relgimp:w1 R importance of religion	Categ
2	R2RELGIMP	r2relgimp:w2 R importance of religion	Categ
3	R3RELGIMP	r3relgimp:w3 R importance of religion	Categ
4	R4RELGIMP	r4relgimp:w4 R importance of religion	Categ
5	R5RELGIMP	r5relgimp:w5 R importance of religion	Categ
1	S1RELGIMP	s1relgimp:w1 S importance of religion	Categ
2	S2RELGIMP	s2relgimp:w2 S importance of religion	Categ
3	S3RELGIMP	s3relgimp:w3 S importance of religion	Categ
4	S4RELGIMP	s4relgimp:w4 S importance of religion	Categ
5	S5RELGIMP	s5relgimp:w5 S importance of religion	Categ

### Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R3SOCWK	14446	0.42	0.49	0.00	1.00
R4SOCWK	13826	0.45	0.50	0.00	1.00
R5SOCWK	15781	0.45	0.50	0.00	1.00
S3SOCWK	9864	0.43	0.50	0.00	1.00
S4SOCWK	9176	0.47	0.50	0.00	1.00
S5SOCWK	6900	0.43	0.50	0.00	1.00
R3SOCACT_M	14446	5.89	3.49	1.00	9.00
R4SOCACT_M	13826	5.69	3.47	1.00	9.00
R5SOCACT_M	15781	5.72	3.49	1.00	9.00
S3SOCACT_M	9864	5.77	3.51	1.00	9.00
S4SOCACT_M	9176	5.53	3.46	1.00	9.00
S5SOCACT_M	6900	5.81	3.49	1.00	9.00
R3RELGWK	14444	0.36	0.48	0.00	1.00
R4RELGWK	13845	0.39	0.49	0.00	1.00

R5RELGWK	15772	0.32	0.47	0.00	1.00
S3RELGWK	9863	0.36	0.48	0.00	1.00
S4RELGWK	9179	0.38	0.49	0.00	1.00
S5RELGWK	6898	0.35	0.48	0.00	1.00
R1RELGIMP	14098	1.34	0.54	1.00	3.00
R2RELGIMP	12343	1.27	0.50	1.00	3.00
R3RELGIMP	14423	1.33	0.54	1.00	3.00
R4RELGIMP	13835	1.34	0.54	1.00	3.00
R5RELGIMP	15763	1.36	0.56	1.00	3.00
S1RELGIMP	9949	1.35	0.55	1.00	3.00
S2RELGIMP	8576	1.28	0.51	1.00	3.00
S3RELGIMP	9852	1.34	0.55	1.00	3.00
S4RELGIMP	9177	1.35	0.55	1.00	3.00
S5RELGIMP	6895	1.33	0.54	1.00	3.00

### Categorical Variable Codes

Value-----	R3SOCWK	R4SOCWK	R5SOCWK
.d:DK	2	1	1
.m:Missing		23	
.p:Proxy interview, not asked	1275	929	1328
.r:Refuse			4
0.No	8425	7647	8740
1.Yes	6021	6179	7041
Value-----	S3SOCWK	S4SOCWK	S5SOCWK
.d:DK	2	1	
.m:Missing		5	
.p:Proxy interview, not asked	726	470	560
.r:Refuse			1
.u:Unmar	4782	4847	5227
.v:SP NR	349	280	501
0.No	5609	4874	3915
1.Yes	4255	4302	2985
Value-----	R3SOCACT_M	R4SOCACT_M	R5SOCACT_M
.d:DK	2	1	1
.m:Missing		23	
.p:Proxy interview, not asked	1275	929	1328
.r:Refuse			4
1.Almost every day	3496	3270	3788
2.4 or more times a week	663	799	877
3.2 or 3 times a week	961	1119	1181
4.Once a week	697	762	984
5.4 or more times a month	204	229	211
6.2 or 3 times a month	247	352	318
7.Once a month	420	726	725
8.Almost Never, sporadic	691		
9.Never	7067	6569	7697
Value-----	S3SOCACT_M	S4SOCACT_M	S5SOCACT_M
.d:DK	2	1	
.m:Missing		5	
.p:Proxy interview, not asked	726	470	560
.r:Refuse			1
.u:Unmar	4782	4847	5227
.v:SP NR	349	280	501
1.Almost every day	2499	2241	1629
2.4 or more times a week	452	566	390
3.2 or 3 times a week	684	786	471
4.Once a week	482	550	405
5.4 or more times a month	138	159	90
6.2 or 3 times a month	181	256	136
7.Once a month	298	523	312
8.Almost Never, sporadic	482		
9.Never	4648	4095	3467

Value-----		R3RELGWK	R4RELGWK	R5RELGWK
.d:DK			1	7
.p:Proxy interview, not asked		1275	929	1328
.r:Refuse		4	4	7
0.No		9191	8477	10711
1.Yes		5253	5368	5061

Value-----		S3RELGWK	S4RELGWK	S5RELGWK
.d:DK			1	1
.p:Proxy interview, not asked		726	470	560
.r:Refuse		3	2	2
.u:Unmar		4782	4847	5227
.v:SP NR		349	280	501
0.No		6326	5655	4499
1.Yes		3537	3524	2399

Value-----	R1RELGIMP	R2RELGIMP	R3RELGIMP	R4RELGIMP	R5RELGIMP
.d:DK	27	13	8	4	15
.m:Missing		163			
.p:Proxy interview, not asked	1032	1178	1275	929	1328
.r:Refuse	29	7	17	11	8
1.very important	9853	9404	10222	9673	10722
2.somewhat important	3748	2590	3672	3679	4377
3.not important	497	349	529	483	664

Value-----	S1RELGIMP	S2RELGIMP	S3RELGIMP	S4RELGIMP	S5RELGIMP
.d:DK	17	10	5	2	4
.m:Missing		151			
.p:Proxy interview, not asked	660	821	726	470	560
.r:Refuse	22	6	9	3	2
.u:Unmar	4205	4009	4782	4847	5227
.v:SP NR	333	131	349	280	501
1.very important	6777	6446	6882	6311	4871
2.somewhat important	2819	1869	2600	2534	1767
3.not important	353	261	370	332	257

## How Constructed

RwSOCACT\_M indicates the frequency of participating in social activities including the following: 'Caring for a sick or disabled adult', 'Caring for children under 12 years old', 'Work(ing) as a volunteer or help with a non-profit organization without pay or compensation', 'Attend(ing) a lecture, seminar or class', and 'Attend(ing) a sport or social club'. The frequency is coded as: 1.almost every day, 2.four or more times per week, 3.two or three times a week, 4.once a week, 5.four or more times a month, 6.two or three times a month, 7.once a month, 8.almost never/sporadic, or 9.never.

RwSOCWK indicates whether the respondent participates weekly in these social activities. A code of 1 indicates the respondent participates in any of these activities at least once a week, that is RwSOCACT\_M is either almost every day, once a week, two or three times a week, four or more times a week, or four or more times per month. Otherwise, RwSOCWK is assigned a code of 0 indicating no weekly contact.

RwRELGWK indicates whether the respondent participates weekly in 'activities organized by the church'. A code of 1 indicates the respondent participates one or more times per week, while a code of 0 indicates the respondent participates less than weekly.

RwSOCACT\_M, RwSOCWK, and RwRELGWK are assigned special missing values .d or .r if respondents don't know or refuse to answer, respectively. The variables are also assigned special missing value .p, for proxy interviews. The variables are assigned special missing value .m for the cases that failed to complete Section D. In addition, RwSOCACT\_M is assigned special missing value .i to indicate inconsistent frequency, if the respondent reports contact with relatives and friends more than 21 times per week or more than 81 times per month (that is more than 3 times per day). RwSOCACT\_M, RwSOCWK, and RwRELGWK are set to plain missing (.) for respondents who did not respond to the current wave.

SwSOCACT\_M, SwSOCWK, and SwRELGWK are the respective social and religious activities variables for the respondent's spouse or partner. SwSOCACT\_M, SwSOCWK, and SwRELGWK are taken from the Wave 'w' spouse's value for RwSOCACT\_M, RwSOCWK, and RwRELGWK. In addition to the special missing codes used in RwSOCACT\_M, RwSOCWK, and RwRELGWK, if the respondent is not designated as coupled in the current wave and assumed to



be single, a special missing value of .u is used. If the respondent is not designated as coupled in the current wave but reports being married, a special missing value of .v is used.

## Cross Wave Differences in MHAS

The social activity information was derived from the 'Use of Time' battery included in Section D (Control and Health Services). This battery was included starting in Wave 3. In Wave 3, there is a code to indicate that the respondent did activities sporadically in the past year. Starting in Wave 4, this code is no longer present.

## Differences with the RAND HRS/Harmonized HRS

The Harmonized HRS includes RwsOCWK, which indicates whether the respondent participates in weekly social activities, and is comparable to RwsOCWK in the Harmonized MHAS. The Harmonized HRS also includes RwsOCMN, which indicates whether the respondent participates in monthly social activities, while the Harmonized MHAS includes RwsOACT\_M indicating the frequency of participating in social activities.

The HRS includes doing activities with grandchildren or other children, while the MHAS includes caring for children under 12 years old. The HRS includes doing volunteer work with children or young people, and doing any other volunteer or charity work, while the MHAS includes only volunteer work or supporting an organization without pay or reward. The HRS includes attending an education or training course, while the MHAS includes attending a training course, lecture or class. The HRS includes going to a sport/social/other club and attending meetings of non-religious organizations, while the MHAS includes only attending a sporting or social club. Despite this slight differences, the variables contain largely comparable activities.

The Harmonized HRS includes RwsRELGWK, which indicates whether the respondent participates in weekly religious services, and is comparable to RwsRELGWK in the Harmonized MHAS. The Harmonized HRS also includes RwsOCRELG\_H, which indicates the frequency the respondent attends religious services, and RwsRELGIMP, which indicates how important religion is to the respondent.

## MHAS Variables Used

Wave 1:	
A39	importance of religion
Wave 2:	
A36	importance of religion
Wave 3:	
A35B_12	Frequency of respondent participating in church activit
A36_12	Importance of religion
AA39_12	Importance of religion to respondent
D34A1_12	Does respondent care for a sick/disabled adult
D34A2_12	Respondent's frequency caring for a sick/disabled adult
D34A3_12	Respondent's time period caring for a sick/disabled adu
D34B1_12	Does respondent care for children under 12 years old
D34B2_12	Respondent's frequency caring for children under 12 yea
D34B3_12	Respondent's time period caring for children under 12 y
D34C1_12	Does respondent volunteer/support an organization witho
D34C2_12	Number of times respondent volunteers
D34C3_12	Respondent's time period used to report volunteering
D34D1_12	Does respondent attend a training course
D34D2_12	Number of times respondent has attended a training cour
D34D3_12	Respondent's time period to report a training course
D34E1_12	Does respondent attend a sporting/social club
D34E2_12	Number of times respondent has attended a sporting/soci
D34E3_12	Respondent's time period used to report sporting/social
Wave 4:	
A36_15	Importance of religion in respondent's life
AA39_15	Importance of religion to respondent
D34A1_15	Does respondent care for a sick or disabled adult
D34A2_15	Respondent's frequency caring for a sick or disabled ad
D34A3_15	Respondent's time period caring for a sick or disabled
D34B1_15	Does respondent care for children under 12 years old

D34B2_15	Respondent's frequency caring for children under 12 yea
D34B3_15	Respondent's time period caring for children under 12 y
D34C1_15	Does respondent volunteer/help with a non- profit organ
D34C2_15	Number of times respondent volunteers/helps
D34C3_15	Respondent's time period volunteering/helping
D34D1_15	Does respondent assist a lecture, seminar or class
D34D2_15	Number of times respondent has assisted a lecture, semi
D34D3_15	Respondent's time period assisting a lecture, seminar o
D34E1_15	Does respondent assisting a sport or social club
D34E2_15	Number of times respondent has assisted a sport or soci
D34E3_15	Respondent's time period assisting a sport or social cl

## Wave 5:

A36_18	Importance of religion in R's life
AA39_18	Importance of religion to R
D34A1_18	Does R care for a sick or disabled adult
D34A2_18	R's frequency caring for a sick or disabled adult
D34A3_18	R's time period caring for a sick or disabled adult
D34B1_18	Does R care for children under 12 years old
D34B2_18	R's frequency caring for children under 12 years old
D34B3_18	R's time period caring for children under 12 years old
D34C1_18	Does R volunteer/help with a non-profit organization wi
D34C2_18	Number of times R volunteers/helps
D34C3_18	R's time period volunteering/helping
D34D1_18	Does R assist a lecture, seminar or class
D34D2_18	Number of times R has assisted a lecture, seminar or cl
D34D3_18	R's time period assisting a lecture, seminar or class
D34E1_18	Does R assisting a sport or social club
D34E2_18	Number of times R has assisted a sport or social club
D34E3_18	R's time period assisting a sport or social club

### Financial Transfer from Children

Wave	Variable	Label	Type
1	H1FCANY	h1fcany: w1 Any transfer from children	Categ
2	H2FCANY	h2fcany: w2 Any transfer from children	Categ
3	H3FCANY	h3fcany: w3 Any transfer from children	Categ
4	H4FCANY	h4fcany: w4 Any transfer from children	Categ
5	H5FCANY	h5fcany: w5 Any transfer from children	Categ
1	H1FCAMT	h1fcamt: w1 Financial transfer from children	Cont
2	H2FCAMT	h2fcamt: w2 Financial transfer from children	Cont
3	H3FCAMT	h3fcamt: w3 Financial transfer from children	Cont
4	H4FCAMT	h4fcamt: w4 Financial transfer from children	Cont
1	H1FCFLAG	h1fcflag: w1 Financial transfer from children - Flag	Categ
2	H2FCFLAG	h2fcflag: w2 Financial transfer from children - Flag	Categ
3	H3FCFLAG	h3fcflag: w3 Financial transfer from children - Flag	Categ
4	H4FCFLAG	h4fcflag: w4 Financial transfer from children - Flag	Categ

### Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
H1FCANY	15513	0.33	0.47	0.00	1.00
H2FCANY	14028	0.43	0.49	0.00	1.00
H3FCANY	15668	0.33	0.47	0.00	1.00
H4FCANY	14883	0.39	0.49	0.00	1.00
H5FCANY	17048	0.32	0.47	0.00	1.00
H1FCAMT	15513	23481.06	158530.73	0.00	8542800.00
H2FCAMT	14028	33280.46	282892.18	0.00	26699024.00
H3FCAMT	15314	7102.34	27010.39	0.00	1704000.00
H4FCAMT	14593	9135.04	26314.98	0.00	1396321.88
H1FCFLAG	14931	0.05	0.22	0.00	1.00
H2FCFLAG	13450	0.06	0.24	0.00	1.00
H3FCFLAG	14570	0.04	0.19	0.00	1.00
H4FCFLAG	13964	0.02	0.14	0.00	1.00

### Categorical Variable Codes

Value-----	H1FCANY	H2FCANY	H3FCANY	H4FCANY	H5FCANY
.d:DK	125	6	18	9	37
.m:Missing	11165	12800	11116	34	20
.r:Refuse	36	5	37	19	9
0.No	10408	8011	10441	9143	11643
1.Yes	5105	6017	5227	5740	5405

Value-----	H1FCFLAG	H2FCFLAG	H3FCFLAG	H4FCFLAG
.d:DK			2	4
.k:no children	743	589	744	629
.m:Missing	11165	12800	11521	347
.r:Refuse			2	
0.Not imputed	14186	12592	14052	13697
1.Imputed	745	858	518	267

### How Constructed

HwFCANY indicates whether the respondent and spouse received any financial help from their children/grandchildren in the last two years. Respondents are asked: "In the last two years, have you (or your spouse) received financial or in-kind support from any of your children and/or grandchildren (and those of your spouse)?" HwFCANY is coded as 0 if the respondent and spouse did not receive any financial

support from their children/grandchildren or if they have no living children, and is coded as 1 if they did receive financial support from their children/grandchildren.

HwFCAMT is the total imputed financial transfer amount the respondent and spouse received from their children/grandchildren in the last year. The monetary or in-kind transfers were reported in weekly, monthly, yearly, or as a unique transfer. At Waves 1 and 2, the amounts were imputed and calculated to a total amount in a 2-year period by the MHAS team and the imputed variables are available in the study website. Please see the 2001 ([here](#)) and 2003 ([here](#)) for more details on the imputation method used, variables imputed, and covariates included. At these early waves HwFCAMT represents the sum of the imputed amounts (up to seven different children/grandchildren) divided by 2, so that a yearly value is expressed.

At Waves 3 and 4, the amounts were imputed and calculated to a monthly amount by the MHAS team and the imputed variables are available in the study website. Please see the 2012 ([here](#)) and 2015 ([here](#)) MHAS documents titled "Imputation of Non-Response on Economic Variables in the MHAS", available in the study website [www.MHASweb.org](http://www.MHASweb.org) for more details on the imputation method used, variables imputed, and covariates included. In Waves 3 and 4, HwFCAMT represents the sum of the imputed amounts (up to seven different children/grandchildren) multiplied by 12, so that a yearly value is expressed. HwFCAMT is assigned a value of 0 if the respondent and spouse do not have any living children.

HwFCFLAG indicates whether the derived variable, HwFCAMT, used at least one imputed amount or not. HwFCFLAG is coded as 0 if none of the values were imputed and is coded as 1 if at least one of the values were imputed. HwFCFLAG is assigned special missing value .k if the respondent and spouse have no living children.

HwFCANY, HwFCAMT and HwFCFLAG are assigned special missing values .d or .r, if they answered don't know or refused, respectively. The variables are also assigned special missing value .m for the cases that failed to complete Section G (Help and Children). The variables are set to plain missing (.) for respondents who did not respond to the current wave.

## Cross Wave Differences in MHAS

As part of MHAS imputation process at Waves 1 and 2, the imputed values of financial help from children/grandchildren were left as two-year amounts. In Waves 3 and 4, the imputed values of financial help from children/grandchildren were transformed to monthly amounts during the imputation process. HwFCAMT accounts for this change and includes the values of financial help from children/grandchildren at a one-year level in all waves.

In Wave 5, the respondent is not asked the amount of monetary transfers from their children/grandchildren.

## Differences with the RAND HRS/Harmonized HRS

Comparable variables are not available in the RAND HRS, but are available in the RAND Family data.

The MHAS imputed all the variables used as components of RwFCAMT and RwTCFLAG. Please see the 2001 ([here](#)), 2003 ([here](#)), 2012 ([here](#)), and 2015 ([here](#)) MHAS documents titled "Imputation of Non-Response on Economic Variables in the MHAS", available in the study website [www.MHASweb.org](http://www.MHASweb.org) for more details on the imputation method used, variables imputed, and covariates included.

## MHAS Variables Used

### Wave 1:

G17	help from children
G18	help from children 5,000
G18_1IMP	if imputed value
G18_2IMP	if imputed value
G18_3IMP	if imputed value
G18_4IMP	if imputed value
G18_5IMP	if imputed value
G18_6IMP	if imputed value
G18_7IMP	if imputed value
IMAM18_1	family help income_1 (imputed)

IMAM18_2	family help income_2 (imputed)
IMAM18_3	family help income_3 (imputed)
IMAM18_4	family help income_4 (imputed)
IMAM18_5	family help income_5 (imputed)
IMAM18_6	family help income_6 (imputed)
IMAM18_7	family help income_7 (imputed)
Wave 2:	
G17	received financial support from (grand)children
G17_1IMP	if imputed value
G17_2IMP	if imputed value
G17_3IMP	if imputed value
G17_4IMP	if imputed value
G17_5IMP	if imputed value
G17_6IMP	if imputed value
G17_7IMP	if imputed value
IMAM17_1	family help income_1 (imputed)
IMAM17_2	family help income_2 (imputed)
IMAM17_3	family help income_3 (imputed)
IMAM17_4	family help income_4 (imputed)
IMAM17_5	family help income_5 (imputed)
IMAM17_6	family help income_6 (imputed)
IMAM17_7	family help income_7 (imputed)
Wave 3:	
G17_12	Last 2 years:Respondent received financial assistance f
G19_1_IMP_12	
G19_2_IMP_12	
G19_3_IMP_12	
G19_4_IMP_12	
G19_5_IMP_12	
G19_6_IMP_12	
G19_7_IMP_12	
IMAMG19_1_12	MonthlyReceived 1
IMAMG19_2_12	MonthlyReceived 2
IMAMG19_3_12	MonthlyReceived 3
IMAMG19_4_12	MonthlyReceived 4
IMAMG19_5_12	MonthlyReceived 5
IMAMG19_6_12	MonthlyReceived 6
IMAMG19_7_12	MonthlyReceived 7
Wave 4:	
G17_15	Last 2 years:Respondent received financial assistance f
G19_1_IMP_15	Family help income_1 (Flag if imputed value)
G19_2_IMP_15	Family help income_2 (Flag if imputed value)
G19_3_IMP_15	Family help income_3 (Flag if imputed value)
G19_4_IMP_15	Family help income_4 (Flag if imputed value)
G19_5_IMP_15	Family help income_5 (Flag if imputed value)
G19_6_IMP_15	Family help income_6 (Flag if imputed value)
G19_7_IMP_15	Family help income_7 (Flag if imputed value)
IMAMG19_1_15	Family help income_1 (imputed)
IMAMG19_2_15	Family help income_2 (imputed)
IMAMG19_3_15	Family help income_3 (imputed)
IMAMG19_4_15	Family help income_4 (imputed)
IMAMG19_5_15	Family help income_5 (imputed)
IMAMG19_6_15	Family help income_6 (imputed)
IMAMG19_7_15	Family help income_7 (imputed)
Wave 5:	
G17_18	Last 2 years:R/spouse received financial assistance fro

## Financial Transfer to Children

Wave	Variable	Label	Type
1	H1TCANY	h1tcany: w1 Any transfer to children	Categ
2	H2TCANY	h2tcany: w2 Any transfer to children	Categ
3	H3TCANY	h3tcany: w3 Any transfer to children	Categ
4	H4TCANY	h4tcany: w4 Any transfer to children	Categ
5	H5TCANY	h5tcany: w5 Any transfer to children	Categ
1	H1TCAMT	h1tcamt: w1 Financial transfer to children	Cont
2	H2TCAMT	h2tcamt: w2 Financial transfer to children	Cont
3	H3TCAMT	h3tcamt: w3 Financial transfer to children	Cont
4	H4TCAMT	h4tcamt: w4 Financial transfer to children	Cont
1	H1TCFLAG	h1tcflag: w1 Financial transfer to children - Flag	Categ
2	H2TCFLAG	h2tcflag: w2 Financial transfer to children - Flag	Categ
3	H3TCFLAG	h3tcflag: w3 Financial transfer to children - Flag	Categ
4	H4TCFLAG	h4tcflag: w4 Financial transfer to children - Flag	Categ

### Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
H1TCANY	15544	0.16	0.37	0.00	1.00
H2TCANY	14039	0.17	0.38	0.00	1.00
H3TCANY	15676	0.22	0.42	0.00	1.00
H4TCANY	14883	0.24	0.42	0.00	1.00
H5TCANY	17050	0.22	0.42	0.00	1.00
H1TCAMT	15544	14304.41	131919.23	0.00	8736000.00
H2TCAMT	14039	19906.13	446587.10	0.00	31200000.00
H3TCAMT	15620	6201.96	27803.34	0.00	1260000.00
H4TCAMT	14856	6076.07	29575.55	0.00	1000000.00
H1TCFLAG	14931	0.03	0.17	0.00	1.00
H2TCFLAG	13450	0.02	0.15	0.00	1.00
H3TCFLAG	14876	0.03	0.16	0.00	1.00
H4TCFLAG	14227	0.02	0.13	0.00	1.00

### Categorical Variable Codes

Value-----	H1TCANY	H2TCANY	H3TCANY	H4TCANY	H5TCANY
.d:DK	89		17	12	21
.m:Missing	11165	12800	11116	33	20
.r:Refuse	41		30	18	23
0.No	13066	11629	12200	11367	13259
1.Yes	2478	2410	3476	3516	3791
Value-----	H1TCFLAG	H2TCFLAG	H3TCFLAG	H4TCFLAG	
.d:DK			2	4	
.k:no children	743	589	744	629	
.m:Missing	11165	12800	11214	86	
.r:Refuse			3		
0.Not imputed	14466	13120	14486	13972	
1.Imputed	465	330	390	255	

### How Constructed

HwTCANY indicates whether the respondent and spouse gave any financial help to their children/grandchildren in the last two years. Respondents are asked: "In the last two years, have you (or your spouse) given financial or in-kind support to any of your children and/or grandchildren (and to those of your spouse)? Include help for education; exclude housing or shared meals and other basic daily

expenses". HwTCANY is coded as 0 if the respondent and spouse did not give any financial help to their children or if they have no living children, and is coded as 1 if they gave some financial help to their children.

HwTCAMT is the total imputed financial transfer amount the respondent and spouse gave to their children/grandchildren in the last year. The monetary or in-kind transfers were reported in weekly, monthly, yearly, or as a unique transfer. At Waves 1 and 2, the amounts were imputed and calculated to a total amount in a 2-year period by the MHAS team and the imputed variables are available in the study website. Please see the 2001 [\(here\)](#) and 2003 [\(here\)](#) for more details on the imputation method used, variables imputed, and covariates included. At these early waves HwTCAMT represents the sum of the imputed amounts (up to seven different children/grandchildren) divided by 2, so that a yearly value is expressed.

At Waves 3 and 4, the amounts were imputed and calculated to a monthly amount by the MHAS team and the imputed variables are available in the study website. Please see the 2012 [\(here\)](#) and 2015 [\(here\)](#) MHAS documents titled "Imputation of Non-Response on Economic Variables in the MHAS", available in the study website [www.MHASweb.org](http://www.MHASweb.org) for more details on the imputation method used, variables imputed, and covariates included. In Waves 3 and 4, HwTCAMT represents the sum of the imputed amounts (up to seven different children/grandchildren) multiplied by 12, so that a yearly value is expressed. HwTCAMT is assigned a value of 0 if they have no living children.

HwTCFLAG indicates whether the derived variable, HwTCAMT, used at least one imputed amount or not. HwTCFLAG is coded as 0 if none of the values were imputed and is coded as 1 if at least one of the values were imputed. HwTCFLAG is assigned special missing value .k if the respondent and spouse had no living children.

HwTCANY, HwTCAMT and HwTCFLAG are assigned special missing values .d or .r, if they answered don't know or refused, respectively. The variables are also assigned special missing .m for the cases that failed to complete Section G (Help and Children). The variables are set to plain missing (.) for respondents who did not respond to the current wave.

## Cross Wave Differences in MHAS

As part of MHAS imputation process at Waves 1 and 2, the imputed values of financial help to children/grandchildren were left as two-year amounts. In Waves 3 and 4, the imputed values of financial help to children/grandchildren were transformed to monthly amounts during the imputation process. HwTCAMT accounts for this change and includes the values of financial help to children/grandchildren at a one-year level in all waves.

In Wave 5, the respondent is not asked the amount of monetary transfers to their children/grandchildren.

## Differences with the RAND HRS/Harmonized HRS

Comparable variables are not available in the RAND HRS, but are available in the RAND Family data.

The MHAS imputed all the variables used as components of RwTCAMT and RwTCFLAG. Please see the 2001 [\(here\)](#), 2003 [\(here\)](#), 2012 [\(here\)](#), and 2015 [\(here\)](#) MHAS documents titled "Imputation of Non-Response on Economic Variables in the MHAS", available in the study website [www.MHASweb.org](http://www.MHASweb.org) for more details on the imputation method used, variables imputed, and covariates included.

## MHAS Variables Used

### Wave 1:

G17	help from children
G18	help from children 5,000
G18_1IMP	if imputed value
G18_2IMP	if imputed value
G18_3IMP	if imputed value
G18_4IMP	if imputed value
G18_5IMP	if imputed value
G18_6IMP	if imputed value
G18_7IMP	if imputed value
IMAM18_1	family help income_1 (imputed)

IMAM18_2	family help income_2 (imputed)
IMAM18_3	family help income_3 (imputed)
IMAM18_4	family help income_4 (imputed)
IMAM18_5	family help income_5 (imputed)
IMAM18_6	family help income_6 (imputed)
IMAM18_7	family help income_7 (imputed)
Wave 2:	
G17	received financial support from (grand)children
G17_1IMP	if imputed value
G17_2IMP	if imputed value
G17_3IMP	if imputed value
G17_4IMP	if imputed value
G17_5IMP	if imputed value
G17_6IMP	if imputed value
G17_7IMP	if imputed value
IMAM17_1	family help income_1 (imputed)
IMAM17_2	family help income_2 (imputed)
IMAM17_3	family help income_3 (imputed)
IMAM17_4	family help income_4 (imputed)
IMAM17_5	family help income_5 (imputed)
IMAM17_6	family help income_6 (imputed)
IMAM17_7	family help income_7 (imputed)
Wave 3:	
G7_12	Last 2 years:Did respondent/spouse financially assist c
G8B1_IMP_12	
G8B2_IMP_12	
G8B3_IMP_12	
G8B4_IMP_12	
G8B5_IMP_12	
G8B6_IMP_12	
G8B7_IMP_12	
IMAMG8B1_12	
IMAMG8B2_12	
IMAMG8B3_12	
IMAMG8B4_12	
IMAMG8B5_12	
IMAMG8B6_12	
IMAMG8B7_12	
Wave 4:	
G7_15	Last 2 years:Did respondent/spouse financially assist c
G8B1_IMP_15	Financial assistance given_1 (Flag if imputed value)
G8B2_IMP_15	Financial assistance given_2 (Flag if imputed value)
G8B3_IMP_15	Financial assistance given_3 (Flag if imputed value)
G8B4_IMP_15	Financial assistance given_4 (Flag if imputed value)
G8B5_IMP_15	Financial assistance given_5 (Flag if imputed value)
G8B6_IMP_15	Financial assistance given_6 (Flag if imputed value)
G8B7_IMP_15	Financial assistance given_7 (Flag if imputed value)
IMAMG8B1_15	Financial assistance given_1 (imputed)
IMAMG8B2_15	Financial assistance given_2 (imputed)
IMAMG8B3_15	Financial assistance given_3 (imputed)
IMAMG8B4_15	Financial assistance given_4 (imputed)
IMAMG8B5_15	Financial assistance given_5 (imputed)
IMAMG8B6_15	Financial assistance given_6 (imputed)
IMAMG8B7_15	Financial assistance given_7 (imputed)
Wave 5:	
G7_18	Last 2 years:Did respondent/spouse financially assist c



<b>Financial Transfer to Parents</b>
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Wave	Variable	Label	Type
1	R1TPANY	r1tpany: w1 R Any transfer to parents	Categ
2	R2TPANY	r2tpany: w2 R Any transfer to parents	Categ
3	R3TPANY	r3tpany: w3 R Any transfer to parents	Categ
4	R4TPANY	r4tpany: w4 R Any transfer to parents	Categ
5	R5TPANY	r5tpany: w5 R Any transfer to parents	Categ
1	S1TPANY	s1tpany: w1 S Any transfer to parents	Categ
2	S2TPANY	s2tpany: w2 S Any transfer to parents	Categ
3	S3TPANY	s3tpany: w3 S Any transfer to parents	Categ
4	S4TPANY	s4tpany: w4 S Any transfer to parents	Categ
5	S5TPANY	s5tpany: w5 S Any transfer to parents	Categ
1	R1TPAMT	r1tpamt: w1 R Financial transfer amount to parents	Cont
2	R2TPAMT	r2tpamt: w2 R Financial transfer amount to parents	Cont
3	R3TPAMT	r3tpamt: w3 R Financial transfer amount to parents	Cont
4	R4TPAMT	r4tpamt: w4 R Financial transfer amount to parents	Cont
1	S1TPAMT	s1tpamt: w1 S Financial transfer amount to parents	Cont
2	S2TPAMT	s2tpamt: w2 S Financial transfer amount to parents	Cont
3	S3TPAMT	s3tpamt: w3 S Financial transfer amount to parents	Cont
4	S4TPAMT	s4tpamt: w4 S Financial transfer amount to parents	Cont
2	R2TPFLAG	r2tpflag: w2 R Financial transfer to parents - Flag	Categ
3	R3TPFLAG	r3tpflag: w3 R Financial transfer to parents - Flag	Categ
4	R4TPFLAG	r4tpflag: w4 R Financial transfer to parents - Flag	Categ
2	S2TPFLAG	s2tpflag: w2 S Financial transfer to parents - Flag	Categ
3	S3TPFLAG	s3tpflag: w3 S Financial transfer to parents - Flag	Categ
4	S4TPFLAG	s4tpflag: w4 S Financial transfer to parents - Flag	Categ

### Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R1TPANY	14108	0.16	0.36	0.00	1.00
R2TPANY	12500	0.14	0.35	0.00	1.00
R3TPANY	7685	0.26	0.44	0.00	1.00
R4TPANY	14439	0.13	0.33	0.00	1.00
R5TPANY	16635	0.16	0.37	0.00	1.00
S1TPANY	9965	0.18	0.38	0.00	1.00
S2TPANY	8734	0.17	0.37	0.00	1.00
S3TPANY	5837	0.26	0.44	0.00	1.00
S4TPANY	9441	0.15	0.35	0.00	1.00
S5TPANY	7297	0.12	0.32	0.00	1.00
R1TPAMT	13810	432.06	7570.31	0.00	560251.50
R2TPAMT	12502	678.07	5714.56	0.00	400000.00
R3TPAMT	15723	554.68	3593.30	0.00	240000.00
R4TPAMT	14763	596.14	3496.98	0.00	110000.00
S1TPAMT	9724	524.56	8889.89	0.00	560251.50
S2TPAMT	8735	813.71	6587.81	0.00	400000.00
S3TPAMT	10592	600.90	3974.80	0.00	240000.00
S4TPAMT	9650	630.90	3498.33	0.00	110000.00
R2TPFLAG	3799	0.12	0.33	0.00	1.00
R3TPFLAG	6298	0.06	0.25	0.00	1.00

R4TPFLAG	4065	0.04	0.21	0.00	1.00
S2TPFLAG	3080	0.12	0.33	0.00	1.00
S3TPFLAG	4682	0.06	0.24	0.00	1.00
S4TPFLAG	3008	0.04	0.20	0.00	1.00

## Categorical Variable Codes

Value-----	R1TPANY	R2TPANY	R3TPANY	R4TPANY	R5TPANY
.d:DK	8	4	162	152	144
.m:Missing	33	22	6796	36	16
.p:Proxy interview, not asked	1032	1178	1071	145	296
.r:Refuse	5		9	7	23
0.No	11918	10707	5671	12620	13951
1.Yes	2190	1793	2014	1819	2684

Value-----	S1TPANY	S2TPANY	S3TPANY	S4TPANY	S5TPANY
.d:DK	7	3	116	99	41
.m:Missing	12	6	4075	8	2
.p:Proxy interview, not asked	660	821	558	100	112
.r:Refuse	4		6	4	9
.u:Unmar	4205	4009	4782	4847	5227
.v:SP NR	333	131	349	280	501
0.No	8174	7257	4292	8045	6437
1.Yes	1791	1477	1545	1396	860

Value-----	R2TPFLAG	R3TPFLAG	R4TPFLAG
.m:Missing	24		16
.n:no parents	8703	9425	10698
.p:Proxy interview, not asked	1178		
0.Not imputed	3336	5891	3884
1.Imputed	463	407	181

Value-----	S2TPFLAG	S3TPFLAG	S4TPFLAG
.m:Missing	8		2
.n:no parents	5655	5910	6642
.p:Proxy interview, not asked	821		
.u:Unmar	4009	4782	4847
.v:SP NR	131	349	280
0.Not imputed	2705	4391	2881
1.Imputed	375	291	127

## How Constructed

RwTPANY indicates whether the respondent and spouse gave any financial help to their parents in the last two years. Respondents are asked: "In the last 2 years, have you (and/or your spouse) given financial assistance to your parent(s)?" RwTPANY is coded as 0 if the respondent and spouse did not give any financial help to their parents or if they have no living parents, and is coded as 1 if they have given financial help to their parents.

In Wave 1, RwTPAMT is financial transfer amount the respondent and spouse gave to their parents in the last two years, divided by two. In Waves 2 through 4, the monetary or in-kind transfers were imputed by the MHAS team and the imputed variables are available in the study website. Please see the 2001 ([here](#)), 2003 ([here](#)), 2012 ([here](#)), and 2015 ([here](#)) MHAS documents titled "Imputation of Non-Response on Economic Variables in the MHAS", available in the study website [www.MHASweb.org](http://www.MHASweb.org) for more details on the imputation method used, variables imputed, and covariates included. RwTPAMT is given a value of 0 if the respondent has no living parents.

RwTPFLAG indicates whether the derived variable, RwTPAMT, used an imputed amount or not. RwTPFLAG is coded as 0 if the amount was not imputed, and is coded as 1 if the amount was imputed. RwTPFLAG is assigned special missing .n if the respondent has no living parents. RwTPFLAG is only available starting in Wave 2.

RwTPANY, RwTPAMT and RwTPFLAG are assigned special missing values .d or .r, if they answered don't know or refused, respectively. The variables are also assigned special missing value .m for the cases that failed to complete Section F (Parents and Help to Parents). The variables are set to plain missing (.) for respondents who did not respond to the current wave.

SwTPANY, SwTPAMT and SwTPFLAG are taken from the Wave 'w' spouse's value for RwTPANY, RwTPAMT and RwTPFLAG. In addition to the special missing codes used in RwTPANY, RwTPAMT and RwTPFLAG, if the respondent is not designated as coupled in the current wave and assumed to be single, a special missing value of .u is used. Also, if the respondent is not designated as coupled in the current wave but reports being married, a special missing value of .v is used.

## Cross Wave Differences in MHAS

In Wave 1, RwTPAMT is the financial transfer amount the respondent and spouse gave to their parents in the last two years, divided by two.

In Waves 2 through 4, the monetary or in-kind transfers were imputed by the MHAS team and the imputed variables are available in the study website.

In Wave 5, the respondent is not asked the amount of monetary transfers to their parents.

## Differences with the RAND HRS/Harmonized HRS

Comparable variables are not available in the RAND HRS, but are available in the RAND Family data.

The MHAS imputed all the variables used as components of RwTPAMT and RwTPFLAG. Please see the 2001 ([here](#)), 2003 ([here](#)), 2012 ([here](#)), and 2015 ([here](#)) MHAS documents titled "Imputation of Non-Response on Economic Variables in the MHAS", available in the study website [www.MHASweb.org](http://www.MHASweb.org) for more details on the imputation method used, variables imputed, and covariates included.

## MHAS Variables Used

Wave 1:	
F34	economic help to parents
F35	help to parents 5,000
F36	amount help to parents
Wave 2:	
F40	financial assistance to parents in last two years
F40IMP	if imputed value
IMAMF40	economic help to parents (imputed)
Wave 3:	
F40_12	Last 2 years:Did respondent/spouse provide...assistance
F41_IMP_12	
IMAMF41_12	total expense for assisting parent(s)
Wave 4:	
F40_15	In the last 2 years: Has respondent (and/or spouse) giv
F41_IMP_15	Economic Help to Parents (Flag if imputed value)
IMAMF41_15	Economic Help to Parents (imputed)
Wave 5:	
F40_18	In the last 2 years: Has R (and/or spouse) given any fi

**Section H: Employment History**

Currently Working for Pay

Wave	Variable	Label	Type
1	R1WORK	r1work: w1 R Currently working for pay	Categ
2	R2WORK	r2work: w2 R Currently working for pay	Categ
3	R3WORK	r3work: w3 R Currently working for pay	Categ
4	R4WORK	r4work: w4 R Currently working for pay	Categ
5	R5WORK	r5work: w5 R Currently working for pay	Categ
1	S1WORK	s1work: w1 S Currently working for pay	Categ
2	S2WORK	s2work: w2 S Currently working for pay	Categ
3	S3WORK	s3work: w3 S Currently working for pay	Categ
4	S4WORK	s4work: w4 S Currently working for pay	Categ
5	S5WORK	s5work: w5 S Currently working for pay	Categ

Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R1WORK	15094	0.44	0.50	0.00	1.00
R2WORK	13652	0.42	0.49	0.00	1.00
R3WORK	15712	0.36	0.48	0.00	1.00
R4WORK	14679	0.38	0.49	0.00	1.00
R5WORK	17067	0.41	0.49	0.00	1.00
S1WORK	10601	0.48	0.50	0.00	1.00
S2WORK	9537	0.46	0.50	0.00	1.00
S3WORK	10586	0.40	0.49	0.00	1.00
S4WORK	9594	0.42	0.49	0.00	1.00
S5WORK	7443	0.36	0.48	0.00	1.00

Categorical Variable Codes

Value-----	R1WORK	R2WORK	R3WORK	R4WORK	R5WORK
.d:DK	21	17	3	53	7
.m:Missing	42	29		40	18
.r:Refuse	29	6	8	7	22
0.Not working for pay	8426	7870	10027	9108	10016
1.Working for pay	6668	5782	5685	5571	7051
Value-----	S1WORK	S2WORK	S3WORK	S4WORK	S5WORK
.d:DK	10	15	1	44	2
.m:Missing	14	7		10	3
.r:Refuse	23	5	5	4	13
.u:Unmar	4205	4009	4782	4847	5227
.v:SP NR	333	131	349	280	501
0.Not working for pay	5550	5132	6379	5555	4778
1.Working for pay	5051	4405	4207	4039	2665

How Constructed

RwWORK indicates whether the respondent is working in the current wave. R1WORK is derived from the question: 'Last week did you... Worked, Did not work but you had a job, Looked for work, Were a student, Dedicated self to household chores, or Did not work?'. The 'Worked' and 'Did not work but had a job' answers were treated as currently 'Working for pay'. The rest of the answers were treated as 'Not working for pay'. Starting in Wave 2, RwWORK was derived from the question: 'Are you currently... Working, Looking for work, or Don't work'. The 'Looking for work' and 'Don't work' answers were treated as currently 'Not Working for pay'. RwWORK is coded as 0 if the respondent is not working and as 1 if the respondent is working. RwWORK is assigned special missing values .d or .r, if they answered don't know or refused, respectively. RwWORK is also assigned special missing value .m if the section was not completed. The variables are set to plain missing (.) for respondents who did not respond to the current wave.

SwWORK is taken from the Wave 'w' spouse's value for RwWORK. In addition to the special missing codes used in RwWORK, if the respondent is not designated as coupled in the current wave and assumed to be single, a special missing value of .u is used. Also, if the respondent is not designated as coupled in the current wave but reports being married, a special missing value of .v is used.

Cross Wave Differences in MHAS

The MHAS Employment Section changed between Wave 1, 2 and 3. First, the content of the section was revised and modified each wave. Second, the dynamics of the section (determined by the skip patterns) was modified depending on the type of interview: follow-up or new subject interviews, in particular for the 'Work History' and 'Principal Occupation' questions. Also, in Wave 1 respondents were asked 'Last week did you... Worked, Did not work but you had a job, Looked for work, Were a student, Dedicated self to household chores, or Did not work?'. After Wave 2, respondents were asked 'Are you currently... Working, Looking for work, or Don't work'.

Differences with the RAND HRS/Harmonized HRS

The questions used from the MHAS to determine this harmonized variable are significantly different from the questions used to determine the RAND HRS variable.

MHAS Variables Used

Wave 1:	
I1	ever had a job
I2	job without payment
I5	worked previous week
Wave 2:	
I16	work status
I3	ever worked without pay
Wave 3:	
I16_12	Current work status
I3_12	Have you ever/since last time we spoke, worked without
Wave 4:	
I16_15	Current labor force status
I3_15	Has respondent ever helped in a business, farm, or ranc
Wave 5:	
I16_18	Current labor force status
I3_18	Has R ever helped in a business/farm/ranch without rece

Whether Self-Employed

Wave	Variable	Label	Type
1	R1SLFEMP	r1slfemp: w1 R Whether Self-Employed	Categ
2	R2SLFEMP	r2slfemp: w2 R Whether Self-Employed	Categ
3	R3SLFEMP	r3slfemp: w3 R Whether Self-Employed	Categ
4	R4SLFEMP	r4slfemp: w4 R Whether Self-Employed	Categ
5	R5SLFEMP	r5slfemp: w5 R Whether Self-Employed	Categ
1	S1SLFEMP	s1slfemp: w1 S Whether Self-Employed	Categ
2	S2SLFEMP	s2slfemp: w2 S Whether Self-Employed	Categ
3	S3SLFEMP	s3slfemp: w3 S Whether Self-Employed	Categ
4	S4SLFEMP	s4slfemp: w4 S Whether Self-Employed	Categ
5	S5SLFEMP	s5slfemp: w5 S Whether Self-Employed	Categ

Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R1SLFEMP	6668	0.33	0.47	0.00	1.00
R2SLFEMP	1702	0.40	0.49	0.00	1.00
R3SLFEMP	5682	0.36	0.48	0.00	1.00
R4SLFEMP	5519	0.45	0.50	0.00	1.00
R5SLFEMP	7016	0.39	0.49	0.00	1.00
S1SLFEMP	5045	0.33	0.47	0.00	1.00
S2SLFEMP	1299	0.38	0.49	0.00	1.00
S3SLFEMP	4205	0.35	0.48	0.00	1.00
S4SLFEMP	3993	0.46	0.50	0.00	1.00
S5SLFEMP	2648	0.47	0.50	0.00	1.00

Categorical Variable Codes

Value-----	R1SLFEMP	R2SLFEMP	R3SLFEMP	R4SLFEMP	R5SLFEMP
.d:DK	17	30	4	103	9
.m:Missing	42	29		40	18
.r:Refuse	32	7	10	9	55
.s:Skip		4066			
.w:not working	8427	7870	10027	9108	10016
0.Not self-employed	4471	1018	3643	3016	4301
1.Self-employed	2197	684	2039	2503	2715
Value-----	S1SLFEMP	S2SLFEMP	S3SLFEMP	S4SLFEMP	S5SLFEMP
.d:DK	12	27	2	89	4
.m:Missing	14	7		10	3
.r:Refuse	27	6	6	5	28
.s:Skip		3093			
.u:Unmar	4205	4009	4782	4847	5227
.v:SP NR	333	131	349	280	501
.w:not working	5550	5132	6379	5555	4778
0.Not self-employed	3400	801	2722	2171	1408
1.Self-employed	1645	498	1483	1822	1240

How Constructed

RwSLFEMP indicates whether the respondent is self-employed in the current wave. RwSLFEMP is derived from the question: 'In your current primary job you are a(n)...' with the possible responses: boss, self-employed, employee in a co-op, employee with fixed salary, employee working on commission, non-family worker without pay, family worker without pay'. RwSLFEMP is coded as 0 if the respondent is not self-employed and coded as 1 if the respondent is self-employed. RwSLFEMP is set to .w, if the respondent is currently not working (that is if RWORK is 0). In Wave 2, RwSLFEMP is also set to special missing value .s to indicate that the 'Principal Occupation' questions are not available because they were skipped for

follow-up interviews. RWSLFEMP is also assigned special missing values .d or .r, if they answered don't know or refused, respectively. Other missing responses are assigned special missing value .m. RWSLFEMP is set to plain missing (.) for respondents who did not respond to the current wave.

SWSLFEMP is taken from the Wave 'w' spouse's value for RWSLFEMP. In addition to the special missing codes used in RWSLFEMP, if the respondent is not designated as coupled in the current wave and assumed to be single, a special missing value of .u is used. Also, if the respondent is not designated as coupled in the current wave but reports being married, a special missing value of .v is used.

## Cross Wave Differences in MHAS

The MHAS Employment Section changed between Wave 1, 2 and 3. The wording of the questions was modified depending on the type of interview: follow-up or new subject interviews, in particular for the 'Work History' questions. Also the dynamics of the section, determined by the skip patterns, was modified across these waves. In Wave 2, the 'Work History' and 'Principal Occupation' questions are only asked to new subjects. The number of questions included in the section also changed after Wave 2.

## Differences with the RAND HRS/Harmonized HRS

The questions used from the MHAS to determine this harmonized variable are significantly different from the questions used to determine the RAND HRS variable.

## MHAS Variables Used

Wave 1:	
I1	ever had a job
I10	main position
I2	job without payment
Wave 2:	
I16	work status
I19	current work roles similar to past roles
I21	type of employee
I7	type of employee
Wave 3:	
I16_12	Current work status
I19_12	Current work activities are similar to activities over
I21_12	Current job: position at work
I3_12	Have you ever/since last time we spoke, worked without
I7_12	In this main job, what has been (was) your position at
Wave 4:	
I16_15	Current labor force status
I19_15	Current occupation: Are activities at respondent's cure
I21_15	Respondent's position in his/her current primary job
I3_15	Has respondent ever helped in a business, farm, or ranc
I7_15	Respondent's position in this primary job
Wave 5:	
I16_18	Current labor force status
I19_18	Are activities at R's current job like those done in ma
I21_18	R's position in his/her current primary job
I3_18	Has R ever helped in a business/farm/ranch without rece
I7_18	R's position in this primary job



Labor Force Status

Wave	Variable	Label	Type
1	R1LBRF_M	r1lbrf_m: w1 R Labor force status	Categ
2	R2LBRF_M	r2lbrf_m: w2 R Labor force status	Categ
3	R3LBRF_M	r3lbrf_m: w3 R Labor force status	Categ
4	R4LBRF_M	r4lbrf_m: w4 R Labor force status	Categ
5	R5LBRF_M	r5lbrf_m: w5 R Labor force status	Categ
1	S1LBRF_M	s1lbrf_m: w1 S Labor force status	Categ
2	S2LBRF_M	s2lbrf_m: w2 S Labor force status	Categ
3	S3LBRF_M	s3lbrf_m: w3 S Labor force status	Categ
4	S4LBRF_M	s4lbrf_m: w4 S Labor force status	Categ
5	S5LBRF_M	s5lbrf_m: w5 S Labor force status	Categ

Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R1LBRF_M	15094	3.42	2.18	1.00	6.00
R2LBRF_M	13659	2.99	1.84	1.00	5.00
R3LBRF_M	15715	3.17	1.78	1.00	5.00
R4LBRF_M	14701	3.06	1.76	1.00	5.00
R5LBRF_M	17068	2.96	1.78	1.00	5.00
S1LBRF_M	10601	3.28	2.21	1.00	6.00
S2LBRF_M	9543	2.85	1.84	1.00	5.00
S3LBRF_M	10588	3.05	1.80	1.00	5.00
S4LBRF_M	9611	2.92	1.78	1.00	5.00
S5LBRF_M	7444	3.11	1.74	1.00	5.00

Categorical Variable Codes

Value-----	R1LBRF_M	R2LBRF_M	R3LBRF_M	R4LBRF_M	R5LBRF_M
.d:DK	21	11	3	32	7
.m:Missing	42	29		40	18
.r:Refuse	29	5	5	6	21
1.Working	6667	5782	5685	5571	7051
2.Unemployed		284	255	206	289
3.Retired		1305	1869	2106	2133
4.Disabled		835	1555	1473	1517
5.Not in labor force	5551	5453	6351	5345	6078
6.Unemployed, Retired or Disabled	2876				
Value-----	S1LBRF_M	S2LBRF_M	S3LBRF_M	S4LBRF_M	S5LBRF_M
.d:DK	10	10	1	27	2
.m:Missing	14	7		10	3
.r:Refuse	23	4	3	4	12
.u:Unmar	4205	4009	4782	4847	5227
.v:SP NR	333	131	349	280	501
1.Working	5051	4405	4207	4039	2665
2.Unemployed		212	184	139	128
3.Retired		878	1204	1305	1146
4.Disabled		516	900	789	708
5.Not in labor force	3529	3532	4093	3339	2797
6.Unemployed, Retired or Disabled	2021				

How Constructed

RwLBRF\_M is an MHAS specific variable; it summarizes the labor force status for the respondent at each wave indicating one of the following statuses: 1 working, 2 unemployed, 3 retired, 4 disabled, 5 not in the labor force. In Wave 1, RwLBRF\_M includes an additional status that indicates if the respondent is

either unemployed, retired, or disabled. This extra category had to be created because the questions included in Wave 1, did not allow to distinguish between categories 2, 3 and 4.

RwLBRF\_M is derived from different questions that are available each wave. These questions allow us to establish if the respondent has ever worked and if they are currently working. An additional question also indicates the main reason the respondent is not currently working. The following are the different reasons for not currently working: dedicated to household chores, retired, old age, sick or temporarily disabled, unable to work for rest of life, and doesn't have customers or can't find work. The reason for not working question is not included in Wave 1.

If the respondent indicates they are currently working, RwLBRF\_M is set to working. If the respondent indicates they are currently looking for work, or does not work but 'doesn't have customers or can't find work', RwLBRF\_M is set to unemployed. If the respondent indicates they are retired, regardless if they are currently working, RwLBRF\_M is set to retired. If the respondent is 'sick or temporarily disabled' or 'unable to work for rest of life', RwLBRF\_M is set to disabled. Otherwise, RwLBRF\_M is set to "not in the labor force".

RwLBRF\_M is assigned special missing values .d or .r, if they answered don't know or refused, respectively. RwLBRF\_M is also assigned the special missing value .m if the section was not completed. The variables are set to plain missing (.) for respondents who did not respond to the current wave.

SwLBRF\_M summarizes the labor force status for the respondent's spouse or partner. SwLBRF\_M is taken from the Wave 'w' spouse's value for RwLBRF\_M. In addition to the special missing codes used in RwLBRF\_M, if the respondent is not designated as coupled in the current wave and assumed to be single, a special missing value of .u is used. Also, if the respondent is not designated as coupled in the current wave but reports being married, a special missing value of .v is used.

## Cross Wave Differences in MHAS

The MHAS Employment Section changed between Wave 1, 2 and 3. The wording of the questions was modified depending on the type of interview: follow-up or new subject interviews, in particular for the 'Work History' questions. Also the dynamics of the section, determined by the skip patterns, was modified across these waves. In Wave 2, the 'Work History' and 'Principal Occupation' questions are only asked to new subjects. The number of questions included in the section also changed after Wave 2.

In particular, the reason for not working question is not included in Wave 1. This affects the derivation of RwLBRF\_M and an additional category had to be created because it was not possible to distinguish between unemployed, retired and disabled.

## Differences with the RAND HRS/Harmonized HRS

The questions used from the MHAS to determine this harmonized variable are significantly different from the questions used to determine the RAND HRS variable. Also, the reason for not working question is not asked if the respondent reported they are currently working.

## MHAS Variables Used

Wave 1:	
I1	ever had a job
I2	job without payment
I5	worked previous week
Wave 2:	
I16	work status
I26	main reason for not working
I3	ever worked without pay
Wave 3:	
I16_12	Current work status
I26_2_12	Reason for not working - retired
I26_4_12	Reason for not working - sick or temporary disability
I26_5_12	Reason for not working - unable to work rest of life
I26_6_12	Reason for not working - no customers or work
I3_12	Have you ever/since last time we spoke, worked without
Wave 4:	

I16_15	Current labor force status
I26_2_15	Reason respondent does not work: Retired
I26_4_15	Reason respondent does not work: Sick or temporarily di
I26_5_15	Reason respondent does not work: Unable to work for res
I26_6_15	Reason respondent does not work: Doesn't have customers
I3_15	Has respondent ever helped in a business, farm, or ranc

Wave 5:

I16_18	Current labor force status
I26_2_18	Reason R does not work: Retired
I26_4_18	Reason R does not work: Sick or temporarily disabled
I26_5_18	Reason R does not work: Unable to work for rest of life
I26_6_18	Reason R does not work: Doesn't have customers or can't
I3_18	Has R ever helped in a business/farm/ranch without rece

In the Labor Force

Wave	Variable	Label	Type
2	R2INLBRF	r2inlbrf: w2 R In the Labor Force	Categ
3	R3INLBRF	r3inlbrf: w3 R In the Labor Force	Categ
4	R4INLBRF	r4inlbrf: w4 R In the Labor Force	Categ
5	R5INLBRF	r5inlbrf: w5 R In the Labor Force	Categ
2	S2INLBRF	s2inlbrf: w2 S In the Labor Force	Categ
3	S3INLBRF	s3inlbrf: w3 S In the Labor Force	Categ
4	S4INLBRF	s4inlbrf: w4 S In the Labor Force	Categ
5	S5INLBRF	s5inlbrf: w5 S In the Labor Force	Categ

Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R2INLBRF	13659	0.44	0.50	0.00	1.00
R3INLBRF	15715	0.38	0.48	0.00	1.00
R4INLBRF	14701	0.39	0.49	0.00	1.00
R5INLBRF	17068	0.43	0.50	0.00	1.00
S2INLBRF	9543	0.48	0.50	0.00	1.00
S3INLBRF	10588	0.41	0.49	0.00	1.00
S4INLBRF	9611	0.43	0.50	0.00	1.00
S5INLBRF	7444	0.38	0.48	0.00	1.00

Categorical Variable Codes

Value-----	R2INLBRF	R3INLBRF	R4INLBRF	R5INLBRF
.d:DK	11	3	32	6
.m:Missing	29		40	18
.r:Refuse	5	5	6	22
0.No	7593	9775	8924	9728
1.Yes	6066	5940	5777	7340

Value-----	S2INLBRF	S3INLBRF	S4INLBRF	S5INLBRF
.d:DK	10	1	27	2
.m:Missing	7		10	3
.r:Refuse	4	3	4	12
.u:Unmar	4009	4782	4847	5227
.v:SP NR	131	349	280	501
0.No	4926	6197	5433	4651
1.Yes	4617	4391	4178	2793

How Constructed

RwINLBRF is an indicator for whether the respondent is considered part of the labor force as defined by the Bureau of Labor Statistics (BLS). Briefly, this definition considers those who are working for pay or those who are not working but actively seeking work as part of the labor force.

RwINLBRF is derived using the summary of the labor force status variable for the respondent at each wave, RwLBRF\_M. RwLBRF\_M indicates one of the following statuses: 1 working, 2 unemployed, 3 retired, 4 disabled, 5 not in the labor force. Since the questions included in Wave 1 did not allow to distinguish between categories unemployed, retired, and disabled status, RwINLBRF is only available starting Wave 2. Reflecting the BLS definition of being in the labor force, RwINLBRF is categorized as 1 if the respondent is working or unemployed and RwINLBRF is categorized as 2 for all other labor force statuses.

RwINLBRF is assigned special missing values .d or .r, if they answered don't know or refused, respectively. RwINLBRF is also assigned the special missing value .m if the section was not completed. The variables are set to plain missing (.) for respondents who did not respond to the current wave.

SWINLBRF is an indicator for whether the respondent's spouse is considered part of the labor force. SWINLBRF is taken from the Wave 'w' spouse's value for RWINLBRF. In addition to the special missing codes used in RWINLBRF, if the respondent is not designated as coupled in the current wave and assumed to be single, a special missing value of .u is used. Also, if the respondent is not designated as coupled in the current wave but reports being married, a special missing value of .v is used.

## Cross Wave Differences in MHAS

The MHAS Employment Section changed between Wave 1, 2 and 3. The wording of the questions was modified depending on the type of interview: follow-up or new subject interviews, in particular for the 'Work History' questions. Also the dynamics of the section, determined by the skip patterns, was modified across these waves. In Wave 2, the 'Work History' and 'Principal Occupation' questions are only asked to new subjects. The number of questions included in the section also changed after Wave 2.

Since the questions included in Wave 1 did not allow us to distinguish between the categories of unemployed, retired, and disabled statuses, RWINLBRF is only available starting in Wave 2.

## Differences with the RAND HRS/Harmonized HRS

The questions used from the MHAS to determine this harmonized variable are significantly different from the questions used to determine the RAND HRS variable.

## MHAS Variables Used

### Wave 2:

I16	work status
I26	main reason for not working
I3	ever worked without pay

### Wave 3:

I16_12	Current work status
I26_2_12	Reason for not working - retired
I26_4_12	Reason for not working - sick or temporary disability
I26_5_12	Reason for not working - unable to work rest of life
I26_6_12	Reason for not working - no customers or work
I26_8_12	Reason for not working - RF
I26_9_12	Reason for not working - DK
I3_12	Have you ever/since last time we spoke, worked without

### Wave 4:

I16_15	Current labor force status
I26_2_15	Reason respondent does not work: Retired
I26_4_15	Reason respondent does not work: Sick or temporarily di
I26_5_15	Reason respondent does not work: Unable to work for res
I26_6_15	Reason respondent does not work: Doesn't have customers
I26_8_15	Reason respondent does not work: RF
I26_9_15	Reason respondent does not work: DK
I3_15	Has respondent ever helped in a business, farm, or ranc

### Wave 5:

I16_18	Current labor force status
I26_2_18	Reason R does not work: Retired
I26_4_18	Reason R does not work: Sick or temporarily disabled
I26_5_18	Reason R does not work: Unable to work for rest of life
I26_6_18	Reason R does not work: Doesn't have customers or can't
I26_8_18	Reason R does not work: RF
I26_9_18	Reason R does not work: DK
I3_18	Has R ever helped in a business/farm/ranch without rece

Unemployment Status

Wave	Variable	Label	Type
1	R1UNEMP	r1unemp: w1 R Unemployed	Categ
2	R2UNEMP	r2unemp: w2 R Unemployed	Categ
3	R3UNEMP	r3unemp: w3 R Unemployed	Categ
4	R4UNEMP	r4unemp: w4 R Unemployed	Categ
5	R5UNEMP	r5unemp: w5 R Unemployed	Categ
1	S1UNEMP	s1unemp: w1 S Unemployed	Categ
2	S2UNEMP	s2unemp: w2 S Unemployed	Categ
3	S3UNEMP	s3unemp: w3 S Unemployed	Categ
4	S4UNEMP	s4unemp: w4 S Unemployed	Categ
5	S5UNEMP	s5unemp: w5 S Unemployed	Categ

Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R1UNEMP	6728	0.01	0.09	0.00	1.00
R2UNEMP	6104	0.05	0.22	0.00	1.00
R3UNEMP	5982	0.05	0.22	0.00	1.00
R4UNEMP	5808	0.04	0.20	0.00	1.00
R5UNEMP	7386	0.05	0.21	0.00	1.00
S1UNEMP	5094	0.01	0.09	0.00	1.00
S2UNEMP	4643	0.05	0.22	0.00	1.00
S3UNEMP	4421	0.05	0.21	0.00	1.00
S4UNEMP	4200	0.04	0.19	0.00	1.00
S5UNEMP	2809	0.05	0.22	0.00	1.00

Categorical Variable Codes

Value-----	R1UNEMP	R2UNEMP	R3UNEMP	R4UNEMP	R5UNEMP
.d:DK	21	11	3	32	7
.m:Missing	42	29		40	18
.r:Refuse	29	5	5	6	21
.x:Not working/never worked	8366	7555	9733	8893	9682
0.No	6668	5782	5685	5571	7051
1.Yes	60	322	297	237	335
Value-----	S1UNEMP	S2UNEMP	S3UNEMP	S4UNEMP	S5UNEMP
.d:DK	10	10	1	27	2
.m:Missing	14	7		10	3
.r:Refuse	23	4	3	4	12
.u:Unmar	4205	4009	4782	4847	5227
.v:SP NR	333	131	349	280	501
.x:Not working/never worked	5507	4900	6167	5411	4635
0.No	5051	4405	4207	4039	2665
1.Yes	43	238	214	161	144

How Constructed

RwUNEMP indicates whether the respondent is considered unemployed, including the respondents that report they are not working but seeking work as unemployed. The derivation uses questions about current work status and reason for not working.

If the respondent reports they are currently 'looking for work', RwUNEMP is set to 'unemployed'. If the respondent indicates they 'do not work' and the reason for not working is 'doesn't have customers or can't find work', RwUNEMP is also set to unemployed. Otherwise, RwUNEMP is set to 0.

RwUNEMP is assigned special missing values .d or .r, if they answered don't know or refused, respectively. If the respondent is not working and the reason for not working isn't 'doesn't have customers or can't find work' or if they have never worked, RwUNEMP is also assigned special missing values .x. RwUNEMP is also assigned the special missing value .m if the section was not completed. The variables are set to plain missing (.) for respondents who did not respond to the current wave.

SwUNEMP is taken from the Wave 'w' spouse's value for RwUNEMP. In addition to the special missing codes used in RwUNEMP, if the respondent is not designated as coupled in the current wave and assumed to be single, a special missing value of .u is used. Also, if the respondent is not designated as coupled in the current wave but reports being married, a special missing value of .v is used.

## Cross Wave Differences in MHAS

The MHAS Employment Section changed between Wave 1, 2 and 3. The wording of the questions was modified depending on the type of interview: follow-up or new subject interviews, in particular for the 'Work History' questions. Also the dynamics of the section, determined by the skip patterns, was modified across these waves. In Wave 2, the 'Work History' and 'Principal Occupation' questions are only asked to new subjects. The number of questions included in the section also changed after Wave 2.

In particular, the reason for not working question is not included in Wave 1. This affects the derivation of the RwlBRF\_M and an additional category had to be created because it was not possible to distinguish between unemployed, retired, and disabled. Also, in Wave 1 respondents were asked 'Last week did you... Worked, Did not work but you had a job, Looked for work, Were a student, Dedicated self to household chores, or Did not work?'. After Wave 2, respondents were asked 'Are you currently... Working, Looking for work, or Don't work'.

## Differences with the RAND HRS/Harmonized HRS

The questions used from the MHAS to determine this harmonized variable are significantly different from the questions used to determine the RAND HRS variable. Also different to the HRS, the reason for not working question is not asked if the respondent reported they are currently working.

## MHAS Variables Used

Wave 1:	
I1	ever had a job
I2	job without payment
I5	worked previous week
Wave 2:	
I16	work status
I26	main reason for not working
I3	ever worked without pay
Wave 3:	
I16_12	Current work status
I26_6_12	Reason for not working - no customers or work
I3_12	Have you ever/since last time we spoke, worked without
Wave 4:	
I16_15	Current labor force status
I26_6_15	Reason respondent does not work: Doesn't have customers
I3_15	Has respondent ever helped in a business, farm, or ranc
Wave 5:	
I16_18	Current labor force status
I26_6_18	Reason R does not work: Doesn't have customers or can't
I3_18	Has R ever helped in a business/farm/ranch without rece

Retired Employment Status

Wave	Variable	Label	Type
2	R2RETEMP	r2retemp: w2 R Retired employment status	Categ
3	R3RETEMP	r3retemp: w3 R Retired employment status	Categ
4	R4RETEMP	r4retemp: w4 R Retired employment status	Categ
5	R5RETEMP	r5retemp: w5 R Retired employment status	Categ
2	S2RETEMP	s2retemp: w2 S Retired employment status	Categ
3	S3RETEMP	s3retemp: w3 S Retired employment status	Categ
4	S4RETEMP	s4retemp: w4 S Retired employment status	Categ
5	S5RETEMP	s5retemp: w5 S Retired employment status	Categ

Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R2RETEMP	13632	0.10	0.29	0.00	1.00
R3RETEMP	15714	0.15	0.41	0.00	2.00
R4RETEMP	14695	0.17	0.43	0.00	2.00
R5RETEMP	17068	0.15	0.42	0.00	2.00
S2RETEMP	9517	0.09	0.29	0.00	1.00
S3RETEMP	10587	0.14	0.39	0.00	2.00
S4RETEMP	9607	0.16	0.40	0.00	2.00
S5RETEMP	7444	0.19	0.45	0.00	2.00

Categorical Variable Codes

Value-----	R2RETEMP	R3RETEMP	R4RETEMP	R5RETEMP
.d:DK	14	3	38	7
.m:Missing	52		40	18
.r:Refuse	6	6	6	21
0.Working	12327	13736	12496	14830
1.Retired	1305	1628	1891	1856
2.Retired and other status		350	308	382

Value-----	S2RETEMP	S3RETEMP	S4RETEMP	S5RETEMP
.d:DK	12	1	31	2
.m:Missing	30		10	3
.r:Refuse	5	4	4	12
.u:Unmar	4009	4782	4847	5227
.v:SP NR	131	349	280	501
0.Working	8639	9315	8252	6239
1.Retired	878	1086	1204	1022
2.Retired and other status		186	151	183

How Constructed

RwRETEMP is derived from two different questions available only starting in Wave 2. Also, starting in Wave 3 the respondent can report a retired status alone or in addition to other statuses, such as disabled, doesn't have customers or can't find work, or dedicated to household chores. In Wave 1, RwRETEMP is only set to 1 if the respondent reports a retired status. Likewise in Wave 1, RwRETEMP is only set to 0 if no retirement status is reported at all. However, starting in Wave 2, RwRETEMP is set to 1 if the respondent reports only a retired status, to 2 if they report being retired in addition to other statuses, or to 0 if no retirement status is reported at all.

RwRETEMP is assigned special missing values .d or .r, if they answered don't know or refused, respectively. RwRETEMP is also assigned the special missing value .m if the section was not completed. The variables are set to plain missing (.) for respondents who did not respond to the current wave.



SwRETEMP is taken from the Wave 'w' spouse's value for RwRETEMP. In addition to the special missing codes used in RwRETEMP, if the respondent is not designated as coupled in the current wave and assumed to be single, a special missing value of .u is used. Also, if the respondent is not designated as coupled in the current wave but reports being married, a special missing value of .v is used.

## Cross Wave Differences in MHAS

The MHAS Employment Section changed between Wave 1, 2 and 3. The wording of the questions was modified depending on the type of interview: follow-up or new subject interviews, in particular for the 'Work History' questions. Also the dynamics of the section, determined by the skip patterns, was modified across these waves. In Wave 2, the 'Work History' and 'Principal Occupation' questions are only asked to new subjects. The number of questions included in the section also changed after Wave 2.

In particular, the reason for not working question is not included in Wave 1. This affects the derivation of the RwLBRF\_M and an additional category had to be created because it was not possible to distinguish between unemployed, retired and disabled.

## Differences with the RAND HRS/Harmonized HRS

The questions used from the MHAS to determine this harmonized variable are significantly different from the questions used to determine the RAND HRS variable. Also different to the HRS, the reason for not working question is not asked if the respondent reported he/she is currently working.

## MHAS Variables Used

### Wave 2:

I16	work status
I26	main reason for not working
I3	ever worked without pay

### Wave 3:

I16_12	Current work status
I26_1_12	Reason for not working - dedicated to household chores
I26_2_12	Reason for not working - retired
I26_3_12	Reason for not working - old age
I26_4_12	Reason for not working - sick or temporary disability
I26_5_12	Reason for not working - unable to work rest of life
I26_6_12	Reason for not working - no customers or work
I26_7_12	Reason for not working - other
I3_12	Have you ever/since last time we spoke, worked without

### Wave 4:

I16_15	Current labor force status
I26_1_15	Reason respondent does not work: Dedicated to household
I26_2_15	Reason respondent does not work: Retired
I26_3_15	Reason respondent does not work: Old age
I26_4_15	Reason respondent does not work: Sick or temporarily di
I26_5_15	Reason respondent does not work: Unable to work for res
I26_6_15	Reason respondent does not work: Doesn't have customers
I26_7_15	Reason respondent does not work: Other
I3_15	Has respondent ever helped in a business, farm, or ranc

### Wave 5:

I16_18	Current labor force status
I26_1_18	Reason R does not work: Dedicated to household chores
I26_2_18	Reason R does not work: Retired
I26_3_18	Reason R does not work: Old age
I26_4_18	Reason R does not work: Sick or temporarily disabled
I26_5_18	Reason R does not work: Unable to work for rest of life
I26_6_18	Reason R does not work: Doesn't have customers or can't
I26_7_18	Reason R does not work: Other
I3_18	Has R ever helped in a business/farm/ranch without rece

<b>Hours at Main Job</b>
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Wave	Variable	Label	Type
1	R1JHOURSD	r1jhoursd: w1 R Hours/day worked at main job	Cont
1	S1JHOURSD	s1jhoursd: w1 S Hours/day worked at main job	Cont
2	R2JHOURS	r2jhours: w2 R Hours/week worked at main job	Cont
3	R3JHOURS	r3jhours: w3 R Hours/week worked at main job	Cont
4	R4JHOURS	r4jhours: w4 R Hours/week worked at main job	Cont
5	R5JHOURS	r5jhours: w5 R Hours/week worked at main job	Cont
2	S2JHOURS	s2jhours: w2 S Hours/week worked at main job	Cont
3	S3JHOURS	s3jhours: w3 S Hours/week worked at main job	Cont
4	S4JHOURS	s4jhours: w4 S Hours/week worked at main job	Cont
5	S5JHOURS	s5jhours: w5 S Hours/week worked at main job	Cont

### Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R1JHOURSD	6590	8.13	2.98	1.00	24.00
S1JHOURSD	4990	8.30	2.96	1.00	24.00
R2JHOURS	5782	44.03	20.29	1.00	99.00
R3JHOURS	16771	14.91	24.25	0.00	168.00
R4JHOURS	17613	13.31	22.86	0.00	168.00
R5JHOURS	16718	18.71	25.85	0.00	168.00
S2JHOURS	4405	45.32	19.96	1.00	99.00
S3JHOURS	4180	45.27	20.78	0.00	168.00
S4JHOURS	4234	41.21	22.25	0.00	168.00
S5JHOURS	2638	43.74	21.07	0.00	168.00

### How Constructed

RwJHOURSD is the number of hours per day the respondent works in a normal day, and it ranges from 0 to 24. RwJHOURSD was only determined for Wave 1 using the following question: 'About how many hours do you work in a usual day?'. Respondents were not asked to provide the number of hours per day they worked each day in a normal week, but only to indicate a number of hours in one normal day as an average. RwJHOURSD is set to .w, if the respondent is currently not working (that is if RWORK is 0). RwJHOURSD is also assigned special missing values .d or .r, if they answered don't know or refused, respectively. Other missing responses are assigned special missing value .m. RwJHOURSD is set to plain missing (.) for respondents who did not respond to the current wave.

While in Wave 1 it was only possible to determine the number of hours in a normal day, after Wave 2, the question was changed indicating the number of hours per day, in a normal week, for each day of the week. Therefore, a second variable RwJHOURS was created to indicate the number of hours per week the respondents work.

RwJHOURS indicates the number of hours per week the respondent works in a normal week, at their main job, and it has possible values from 0 to 168. After Wave 2, Respondents were asked 'Normally, which days and how many hours do you spend at your primary job?'. Respondents are then asked to give a number of hours for each day of week. RwJHOURS is the sum of the number of hours for each day of the week the respondent reported normally working. RwJHOURS is set to .w, if the respondent is currently not working (that is if RWORK is 0). RwJHOURS is also assigned special missing values .d or .r, if they answered don't know or refused, respectively. Other missing responses are assigned special missing value .m. RwJHOURS is set to plain missing (.) for respondents who did not respond to the current wave.

SwJHOURS and SwJHOURSD are taken from the Wave 'w' spouse's value for RwJHOURS and RwJHOURSD. In addition to the special missing codes used in RwJHOURS and RwJHOURSD, if the respondent is not designated as coupled in the current wave and assumed to be single, a special missing value of .u is used. Also, if the respondent is not designated as coupled in the current wave but reports being married, a special missing value of .v is used.

## Cross Wave Differences in MHAS

The MHAS Employment Section changed between Wave 1, 2 and 3. The wording of the questions was modified depending on the type of interview: follow-up or new subject interviews, in particular for the 'Work History' questions. Also the dynamics of the section, determined by the skip patterns, was modified across these waves. In Wave 2, the 'Work History' and 'Principal Occupation' questions are only asked to new subjects. The number of questions included in the section also changed after Wave 2.

In Wave 1, respondents were only asked to indicate a number of hours in one normal day (as an average). After Wave 2, the question was changed and respondents were asked to indicate the number of hours per day, in a normal week, for each day of the week. Therefore, two different variables were created, RwJHOURSD and RwJHOURS, to indicate the number of hours per day or per week (respectively) the respondents work.

## Differences with the RAND HRS/Harmonized HRS

In the HRS, hours worked per week was collocated at all waves. Unlike the HRS, in the MHAS hours worked per week was only collected since Wave 2.

## MHAS Variables Used

### Wave 1:

I1	ever had a job
I2	job without payment
I5	worked previous week
I6	hours worked

### Wave 2:

I16	work status
I17	when work at primary job
I3	ever worked without pay

### Wave 3:

I16_12	Current work status
I17_1_12	Normally: hours worked primary job - Monday
I17_2_12	Normally: hours worked primary job - Tuesday
I17_3_12	Normally: hours worked primary job - Wednesday
I17_4_12	Normally: hours worked primary job - Thursday
I17_5_12	Normally: hours worked primary job - Friday
I17_6_12	Normally: hours worked primary job - Saturday
I17_7_12	Normally: hours worked primary job - Sunday
I3_12	Have you ever/since last time we spoke, worked without

### Wave 4:

I16_15	Current labor force status
I17_1_15	Regularly, number of hours worked at primary job - Mond
I17_2_15	Regularly, number of hours worked at primary job - Tues
I17_3_15	Regularly, number of hours worked at primary job - Wedn
I17_4_15	Regularly, number of hours worked at primary job - Thur
I17_5_15	Regularly, number of hours worked at primary job - Frid
I17_6_15	Regularly, number of hours worked at primary job - Satu
I17_7_15	Regularly, number of hours worked at primary job - Sund
I3_15	Has respondent ever helped in a business, farm, or ranc

### Wave 5:

I16_18	Current labor force status
I17_1_18	Regularly, number of hours worked at primary job - Mond
I17_2_18	Regularly, number of hours worked at primary job - Tues
I17_3_18	Regularly, number of hours worked at primary job - Wedn
I17_4_18	Regularly, number of hours worked at primary job - Thur
I17_5_18	Regularly, number of hours worked at primary job - Frid

I17_6_18	Regularly, number of hours worked at primary job - Satu
I17_7_18	Regularly, number of hours worked at primary job - Sund
I3_18	Has R ever helped in a business/farm/ranch without rece

<b>Main Activity Years of Tenure</b>
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Wave	Variable	Label	Type
1	R1JCTEN	r1jcten: w1 R Current job tenure	Cont
2	R2JCTEN	r2jcten: w2 R Current job tenure	Cont
3	R3JCTEN	r3jcten: w3 R Current job tenure	Cont
4	R4JCTEN	r4jcten: w4 R Current job tenure	Cont
5	R5JCTEN	r5jcten: w5 R Current job tenure	Cont
1	S1JCTEN	s1jcten: w1 S Current job tenure	Cont
2	S2JCTEN	s2jcten: w2 S Current job tenure	Cont
3	S3JCTEN	s3jcten: w3 S Current job tenure	Cont
4	S4JCTEN	s4jcten: w4 S Current job tenure	Cont
5	S5JCTEN	s5jcten: w5 S Current job tenure	Cont

### Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R1JCTEN	6561	25.92	14.67	0.00	85.00
R2JCTEN	5709	24.54	17.13	1.00	80.00
R3JCTEN	5604	25.15	16.79	1.00	87.00
R4JCTEN	5505	24.55	18.04	1.00	85.00
R5JCTEN	6873	23.71	16.70	1.00	93.00
S1JCTEN	4965	25.82	14.34	0.00	85.00
S2JCTEN	4350	24.70	17.02	1.00	77.00
S3JCTEN	4148	25.60	16.69	1.00	85.00
S4JCTEN	3982	25.27	18.13	1.00	82.00
S5JCTEN	2604	26.70	18.63	1.00	93.00

### How Constructed

RwJCTEN is the respondent's number of years of tenure on their current job. RwJCTEN is set to .w, if the respondent is currently not working (that is if RwwORK is 0). RwJCTEN is set to .i, if the number of years is greater than the respondent's age in the current wave. RwJCTEN is also assigned special missing values .d or .r, if they answered don't know or refused, respectively. Other missing responses are assigned special missing value .m. RwJCTEN is set to plain missing (.) for respondents who did not respond to the current wave.

SwJCTEN is taken from the Wave 'w' spouse's value for RwJCTEN. In addition to the special missing codes used in RwJCTEN, if the respondent is not designated as coupled in the current wave and assumed to be single, a special missing value of .u is used. Also, if the respondent is not designated as coupled in the current wave but reports being married, a special missing value of .v is used.

### Cross Wave Differences in MHAS

The MHAS Employment Section changed between Wave 1, 2 and 3. The wording of the questions was modified depending on the type of interview: follow-up or new subject interviews, in particular for the 'Work History' questions. Also the dynamics of the section, determined by the skip patterns, was modified across these waves. In Wave 2, the 'Work History' and 'Principal Occupation' questions are only asked to new subjects. The number of questions included in the section also changed after Wave 2. Despite the differences across waves, the changes in the questions and dynamics of the section did not affect the outcome of RwJCTEN.

### Differences with the RAND HRS/Harmonized HRS

No differences known.

**MHAS Variables Used**

## Wave 1:

I1 ever had a job  
 I13 years in main job  
 I2 job without payment  
 I5 worked previous week

## Wave 2:

I16 work status  
 I24 number of years at current primary job  
 I3 ever worked without pay

## Wave 3:

I16\_12 Current work status  
 I24\_12 Number of years has worked on this type of activities/j  
 I3\_12 Have you ever/since last time we spoke, worked without

## Wave 4:

I10\_15 Number of years respondent has worked doing these type  
 I16\_15 Current labor force status  
 I19\_15 Current occupation: Are activities at respondent's cure  
 I24\_15 Number of years respondent has worked doing these type  
 I3\_15 Has respondent ever helped in a business, farm, or ranc

## Wave 5:

I10\_18 Number of years R has worked doing these type of activi  
 I16\_18 Current labor force status  
 I19\_18 Are activities at R's current job like those done in ma  
 I24\_18 Number of years R has worked doing these type of activi  
 I3\_18 Has R ever helped in a business/farm/ranch without rece

### Job Allows Move to Less Demanding Work

Wave	Variable	Label	Type
2	R2JREDHR	r2jredhr: w2 R Job allows move to less demanding work	Categ
3	R3JREDHR	r3jredhr: w3 R Job allows move to less demanding work	Categ
4	R4JREDHR	r4jredhr: w4 R Job allows move to less demanding work	Categ
5	R5JREDHR	r5jredhr: w5 R Job allows move to less demanding work	Categ
2	S2JREDHR	s2jredhr: w2 S Job allows move to less demanding work	Categ
3	S3JREDHR	s3jredhr: w3 S Job allows move to less demanding work	Categ
4	S4JREDHR	s4jredhr: w4 S Job allows move to less demanding work	Categ
5	S5JREDHR	s5jredhr: w5 S Job allows move to less demanding work	Categ

### Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R2JREDHR	5264	0.54	0.50	0.00	1.00
R3JREDHR	5354	0.46	0.50	0.00	1.00
R4JREDHR	5392	0.47	0.50	0.00	1.00
R5JREDHR	6651	0.44	0.50	0.00	1.00
S2JREDHR	3965	0.53	0.50	0.00	1.00
S3JREDHR	3937	0.45	0.50	0.00	1.00
S4JREDHR	3897	0.47	0.50	0.00	1.00
S5JREDHR	2492	0.49	0.50	0.00	1.00

### Categorical Variable Codes

Value-----	R2JREDHR	R3JREDHR	R4JREDHR	R5JREDHR
.d:DK	36	11	55	25
.m:Missing	26		40	17
.p:Proxy interview, not asked	1178	1275	929	1328
.r:Refuse	21	9	8	41
.x:Not working/never worked	7179	9074	8355	9052
0.No	2424	2901	2833	3692
1.Yes	2840	2453	2559	2959

Value-----	S2JREDHR	S3JREDHR	S4JREDHR	S5JREDHR
.d:DK	27	6	47	8
.m:Missing	6		10	2
.p:Proxy interview, not asked	821	726	470	560
.r:Refuse	14	6	5	17
.u:Unmar	4009	4782	4847	5227
.v:SP NR	131	349	280	501
.x:Not working/never worked	4731	5917	5223	4382
0.No	1872	2167	2075	1283
1.Yes	2093	1770	1822	1209

### How Constructed

RwJREDHR indicates if the respondent could reduce the number of hours at work if they wanted, even if the salary would be reduced as well, and is set to 0.No or 1.Yes. RwJREDHR is only available starting in Wave 2. RwJREDHR is set to .x, if the respondent is currently not working (that is if RwwORK is 0). RwJREDHR is also assigned special missing values .d or .r, if they answered don't know or refused, respectively and it is also set to .p for proxy interviews. Other missing responses are assigned special missing value .m. The variable is set to plain missing (.) for respondents who did not respond to the current wave.

SwJREDHR is taken from the Wave 'w' spouse's value for RwJREDHR. In addition to the special missing codes used in RwJREDHR, if the respondent is not designated as coupled in the current wave and assumed to be single, a special missing value of .u is used. Also, if the respondent is not designated as coupled in the current wave but reports being married, a special missing value of .v is used.

Cross Wave Differences in MHAS

The MHAS Employment Section changed between Wave 1, 2 and 3. Starting in Wave 2, the question regarding the possibility of reducing the number of hours was added to the 'Current Work' questions.

Differences with the RAND HRS/Harmonized HRS

The Harmonized HRS includes RwJGRREDHRA, which indicates the respondent's agreement that they would prefer to gradually reduce their hours. RwJREDHR indicates whether the respondent could reduce the number of hours of work if they wanted to. As such, these variables are not directly comparable and thus use different variable names.

MHAS Variables Used

Wave 2:	
I16	work status
I18	possible to decrease work hours
I3	ever worked without pay
Wave 3:	
I16_12	Current work status
I18_12	If you wanted, could you decrease work hours
I3_12	Have you ever/since last time we spoke, worked without
Wave 4:	
I16_15	Current labor force status
I18_15	If respondent wanted to, could he/she decrease the numb
I3_15	Has respondent ever helped in a business, farm, or ranc
Wave 5:	
I16_18	Current labor force status
I18_18	If R wanted to, could he/she decrease hours worked, eve
I3_18	Has R ever helped in a business/farm/ranch without rece



Occupation Code for Job with Longest Reported Tenure

Wave	Variable	Label	Type
1	R1JLOCC_M	r1jlocc_m: w1 R Longest job occupation code	Categ
2	R2JLOCC_M	r2jlocc_m: w2 R Longest job occupation code	Categ
3	R3JLOCC_M	r3jlocc_m: w3 R Longest job occupation code	Categ
4	R4JLOCC_M	r4jlocc_m: w4 R Longest job occupation code	Categ
5	R5JLOCC_M	r5jlocc_m: w5 R Longest job occupation code	Categ
1	S1JLOCC_M	s1jlocc_m: w1 S Longest job occupation code	Categ
2	S2JLOCC_M	s2jlocc_m: w2 S Longest job occupation code	Categ
3	S3JLOCC_M	s3jlocc_m: w3 S Longest job occupation code	Categ
4	S4JLOCC_M	s4jlocc_m: w4 S Longest job occupation code	Categ
5	S5JLOCC_M	s5jlocc_m: w5 S Longest job occupation code	Categ

Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R1JLOCC_M	6667	9.62	4.60	1.00	19.00
R2JLOCC_M	1771	12.11	4.37	1.00	19.00
R3JLOCC_M	8460	10.49	4.81	1.00	18.00
R4JLOCC_M	5641	10.35	4.73	1.00	18.00
R5JLOCC_M	8040	10.42	4.80	1.00	18.00
S1JLOCC_M	5051	9.31	4.48	1.00	19.00
S2JLOCC_M	1363	11.96	4.38	1.00	19.00
S3JLOCC_M	6165	10.15	4.73	1.00	18.00
S4JLOCC_M	4085	9.98	4.62	1.00	18.00
S5JLOCC_M	2654	9.91	4.59	1.00	18.00

Categorical Variable Codes

Value-----	R1JLOCC_M	R2JLOCC_M	R3JLOCC_M	R4JLOCC_M	R5JLOCC_M
.c: Job not classifiable			57	84	70
.d:DK	21	17	3	53	7
.m:Missing	42	30	1	42	22
.r:Refuse	29	6	6	6	18
.s:Skip		4066		2	4
.w:not working	8427	7814	7196	8951	8953
1.Professionals	222	13	267	187	226
2.Technicians	186	25	204	126	320
3.Educators	235	22	362	187	304
4.Workers in Art, Shows, and Sports	49	10	43	30	42
5.Officials and Directors Public, Privat	154	52	163	126	91
6.Workers in Agriculture, Livestock, For	1410	146	1198	932	1090
7.Bosses/Supervisors etc in Artistic, In	87	16	93	58	91
8.Artisans and Workers in Production, Re	1251	275	1535	1088	1558
9.Operators of Fixed Machinery and Equip	169	29	213	67	233
10.Asst/Laborers etc in Ind. Production,	170	41	191	80	164
11.Drivers and Asst Drivers of Mobile Ma	339	63	385	268	364
12.Department Heads/Coordinators/Supervi	127	17	117	72	111
13.Administrative Support Staff	292	80	517	232	443
14.Merchants and Sales Representatives	831	375	904	732	880
15.Traveling Salespeople and Traveling S	207	135	473	412	456
16.Workers in the Service Industry	348	219	797	567	796
17.Domestic Workers	420	137	748	358	671
18.Safety and Security Personnel	135	92	250	119	200
19.Other Workers	35	24			
Value-----	S1JLOCC_M	S2JLOCC_M	S3JLOCC_M	S4JLOCC_M	S5JLOCC_M
.c: Job not classifiable			46	71	29
.d:DK	10	15	1	44	2
.m:Missing	14	8	1	11	6

.r:Refuse		23	5	3	4	13
.s:Skip			3093		2	3
.u:Unmar		4205	4009	4782	4847	5227
.v:SP NR		333	131	349	280	501
.w:not working		5550	5080	4376	5435	4754
1.Professionals		185	9	203	144	57
2.Technicians		136	23	145	81	98
3.Educators		180	14	269	136	70
4.Workers in Art, Shows, and Sports		39	5	33	24	14
5.Officials and Directors Public, Privat		125	42	130	94	42
6.Workers in Agriculture, Livestock, For		1141	125	963	775	560
7.Bosses/Supervisors etc in Artistic, In		76	15	75	47	22
8.Artisans and Workers in Production, Re		967	210	1175	810	564
9.Operators of Fixed Machinery and Equip		137	25	177	58	42
10.Asst/Laborers etc in Ind. Production,		134	34	148	63	39
11.Drivers and Asst Drivers of Mobile Ma		298	59	336	231	117
12.Department Heads/Coordinators/Supervi		96	14	86	57	32
13.Administrative Support Staff		209	66	346	158	97
14.Merchants and Sales Representatives		604	279	625	499	306
15.Traveling Salespeople and Traveling S		136	94	317	280	188
16.Workers in the Service Industry		240	169	518	353	223
17.Domestic Workers		211	86	416	183	122
18.Safety and Security Personnel		112	73	203	92	61
19.Other Workers		25	21			

## How Constructed

RwJLOCC\_M is the occupation code for the primary job performed most of their life. RwJLOCC\_M was determined using the Mexican Classification of Occupations provided for the 2001 and 2003 data, and available at the MHAS website using the following links: [\(here\)](#) and [\(here\)](#).

RwJLOCC\_M is set to .w, if the respondent is currently not working (that is if RwWORK is 0). In Wave 2, RwJLOCC\_M is also set to special missing value .s to indicate that the 'Principal Occupation' questions are not available because they were skipped for follow-up interviews. RwJLOCC\_M is also assigned special missing values .d or .r, if they answered don't know or refused, respectively. Other missing responses are assigned special missing value .m. RwJLOCC\_M is set to plain missing (.) for respondents who did not respond to the current wave.

SwJLOCC\_M is taken from the Wave 'w' spouse's value for RwJLOCC\_M. In addition to the special missing codes used in RwJLOCC\_M, if the respondent is not designated as coupled in the current wave and assumed to be single, a special missing value of .u is used. Also, if the respondent is not designated as coupled in the current wave but reports being married, a special missing value of .v is used.

## Cross Wave Differences in MHAS

The MHAS Employment Section changed between Wave 1, 2 and 3. The wording of the questions was modified depending on the type of interview: follow-up or new subject interviews, in particular for the 'Work History' questions. Also the dynamics of the section, determined by the skip patterns, was modified across these waves. In Wave 2, the 'Work History' and 'Principal Occupation' questions are only asked to new subjects. The number of questions included in the section also changed after Wave 2.

## Differences with the RAND HRS/Harmonized HRS

The questions used from the MHAS to determine this harmonized variable are significantly different from the questions used to determine the RAND HRS variable.

RwJLOCC\_M was determined using the occupation codes provided in the MHAS raw variables and the occupations classification from the Mexican Classification of Occupations provided for the 2001 and 2003 data. Since the codes included in the Mexican classification of occupations are particular to Mexico and considered different from the set of codes used to create the RAND HRS variable, RwJLOCC\_M was created as an MHAS specific variable.

## MHAS Variables Used

Wave 1:  
I1 ever had a job

I2	job without payment
I5	worked previous week
I9	main job
Wave 2:	
I19	current work roles similar to past roles
I20	principal functions in current primary job
I3	ever worked without pay
I6	principal functions at primary job
Wave 3:	
I20_12	
I3_12	Have you ever/since last time we spoke, worked without
I6_12	
Wave 4:	
I16_15	Current labor force status
I19_15	Current occupation: Are activities at respondent's cure
I20_15	Classification of occupation for respondent's current p
I3_15	Has respondent ever helped in a business, farm, or ranc
I6_15	Classification of occupation for respondent's primary j
Wave 5:	
I16_18	Current labor force status
I19_18	Are activities at R's current job like those done in ma
I20_18	Classification of occupation for R's current primary jo
I3_18	Has R ever helped in a business/farm/ranch without rece
I6_18	Classification of occupation for R's primary job

<b>Year Last Job Ended</b>
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Wave	Variable	Label	Type
2	R2JLASTY	r2jlasty: w2 R Year last job ended	Cont
3	R3JLASTY	r3jlasty: w3 R Year last job ended	Cont
4	R4JLASTY	r4jlasty: w4 R Year last job ended	Cont
5	R5JLASTY	r5jlasty: w5 R Year last job ended	Cont
2	S2JLASTY	s2jlasty: w2 S Year last job ended	Cont
3	S3JLASTY	s3jlasty: w3 S Year last job ended	Cont
4	S4JLASTY	s4jlasty: w4 S Year last job ended	Cont
5	S5JLASTY	s5jlasty: w5 S Year last job ended	Cont

### Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R2JLASTY	2353	1988.76	13.97	1917.00	2003.00
R3JLASTY	2429	1991.43	19.54	1907.00	2012.00
R4JLASTY	3698	1988.66	23.09	1922.00	2015.00
R5JLASTY	2887	1993.47	21.97	1918.00	2019.00
S2JLASTY	1515	1988.87	13.88	1917.00	2003.00
S3JLASTY	1656	1992.38	18.69	1907.00	2012.00
S4JLASTY	2253	1990.50	22.11	1932.00	2015.00
S5JLASTY	1132	1992.56	22.86	1932.00	2019.00

### How Constructed

RwJLASTY is the year when the respondent last worked. RwJLASTY is not available for Wave 1. In Wave 2, RwJLASTY is the year reported by the respondent. Starting in Wave 3, RwJLASTY is the year reported by the respondent or it is calculated using the reported number of years since they last worked and the year of the interview. RwJLASTY is set to .s, if the respondent is currently working (that is if RwwORK is 1) and .n if the respondent has never worked. It is also set to .p for proxy interviews. RwJLASTY is set to .i if the year is after the year of the current interview. RwJLASTY is also assigned special missing values .d, or .r, if they answered don't know or refused, respectively. Other missing responses are assigned special missing value .m. RwJLASTY is set to plain missing (.) for respondents who did not respond to the current wave.

SwJLASTY is taken from the Wave 'w' spouse's value for RwJLASTY. In addition to the special missing codes used in RwJLASTY, if the respondent is not designated as coupled in the current wave and assumed to be single, a special missing value of .u is used. Also, if the respondent is not designated as coupled in the current wave but reports being married, a special missing value of .v is used.

### Cross Wave Differences in MHAS

The MHAS Employment Section changed between Wave 1, 2 and 3. The wording of the questions was modified depending on the type of interview: follow-up or new subject interviews, in particular for the 'Work History' questions. Also the dynamics of the section, determined by the skip patterns, was modified across these waves. In Wave 2, the 'Work History' and 'Principal Occupation' questions are only asked to new subjects. The number of questions included in the section also changed after Wave 2.

### Differences with the RAND HRS/Harmonized HRS

The questions used from the MHAS to determine this harmonized variable are slightly different from the questions used to determine the RAND HRS variable. In the MHAS, the question regarding the year last job ended is only asked if the respondent reported they are not currently working and is skipped for proxy interviews, without regard to the working status reported in the previous interview (if any). However, in the HRS, in an interview where the respondent is not working they are asked when the previous interview job ended.

**MHAS Variables Used****Wave 2:**

I16	work status
I27	ever worked without pay
I29	when leave last job
I3	ever worked without pay

**Wave 3:**

A2A2_3_12	Correct year of birth
AA2_3_12	Year of birth
I16_12	Current work status
I27_12	(Follow-up person) Ever worked without pay
I29_1_12	In what year did you leave your last job
I29_2_12	How many years ago did you leave your last job
I3_12	Have you ever/since last time we spoke, worked without

**Wave 4:**

A2A2_3_15	Correct year of birth
AA2_3_15	Year of birth
I16_15	Current labor force status
I27_15	(Only for follow-up interviews) Has respondent ever wor
I29_1_15	Year the respondent left his/her last job
I29_2_15	How many years ago did respondent leave his/her last jo
I3_15	Has respondent ever helped in a business, farm, or ranc

**Wave 5:**

A2A2_3_18	Correct year of birth
AA2_3_18	Year of birth
I16_18	Current labor force status
I27_18	(Follow-ups only) R ever worked in firm/self-employed a
I29_1_18	Year the R left his/her last job
I29_2_18	How many years ago did R leave his/her last job
I3_18	Has R ever helped in a business/farm/ranch without rece

Reason Job Ended

Wave	Variable	Label	Type
2	R2JRSLEFT	r2jrsleft: w2 R Reason last job ended	Categ
3	R3JRSLEFT	r3jrsleft: w3 R Reason last job ended	Categ
4	R4JRSLEFT	r4jrsleft: w4 R Reason last job ended	Categ
5	R5JRSLEFT	r5jrsleft: w5 R Reason last job ended	Categ
2	S2JRSLEFT	s2jrsleft: w2 S Reason last job ended	Categ
3	S3JRSLEFT	s3jrsleft: w3 S Reason last job ended	Categ
4	S4JRSLEFT	s4jrsleft: w4 S Reason last job ended	Categ
5	S5JRSLEFT	s5jrsleft: w5 S Reason last job ended	Categ

Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R2JRSLEFT	2433	4.15	2.21	1.00	8.00
R3JRSLEFT	2505	4.34	2.44	1.00	8.00
R4JRSLEFT	3748	4.16	2.45	1.00	8.00
R5JRSLEFT	3068	4.13	2.34	1.00	8.00
S2JRSLEFT	1558	4.05	2.20	1.00	8.00
S3JRSLEFT	1707	4.30	2.45	1.00	8.00
S4JRSLEFT	2281	4.09	2.47	1.00	8.00
S5JRSLEFT	1192	3.87	2.40	1.00	8.00

Categorical Variable Codes

Value-----	R2JRSLEFT	R3JRSLEFT	R4JRSLEFT	R5JRSLEFT
.d:DK	6	3	44	15
.m:Missing	26		40	17
.n:never worked	4752	6566	4606	5941
.p:Proxy interview, not asked	1178	1275	929	1328
.r:Refuse	4	11	7	48
.w:working	5305	5363	5405	6697
1.Retired	536	543	962	714
3.Laid off	259	393	430	411
4.Health reason	552	437	835	735
5.Family reason	705	548	727	623
8.Other	381	584	794	585

Value-----	S2JRSLEFT	S3JRSLEFT	S4JRSLEFT	S5JRSLEFT
.d:DK	4	1	39	1
.m:Missing	6		10	2
.n:never worked	3182	4208	2941	3181
.p:Proxy interview, not asked	821	726	470	560
.r:Refuse	1	7	4	18
.u:Unmar	4009	4782	4847	5227
.v:SP NR	131	349	280	501
.w:working	3992	3943	3907	2507
1.Retired	367	387	623	345
3.Laid off	177	273	255	162
4.Health reason	331	272	490	291
5.Family reason	459	382	439	179
8.Other	224	393	474	215

How Constructed

RwJRSLEFT indicates the reason the respondent left their last job and is only available starting in Wave 2. Starting in Wave 2, this question is asked to every respondent, from the follow-up and new sample, that is not working and has ever worked. RwJRSLEFT is set to 1. if the respondent retired, 2. if fired, 3. if laid off (including source of work closed, temporary work ended, or business moved), 4. for health

reason or due to sickness, 5. for family reason or to care for children, 6. if got a new job, 7. if respondent quit, and 8. if any other reason (including made too little money, schedule was inconvenient, job was not related to studies or training). `RwJRSLEFT` is set to `.w`, if the respondent is currently working (that is if `RwWORK` is 1) and `.n` if the respondent reported in the current wave that they have never worked. It is also set to `.p` for proxy interviews. `RwJRSLEFT` is also assigned special missing values `.d`, or `.r`, if they answered don't know or refused, respectively. Other missing responses are assigned special missing value `.m`. The variable is set to plain missing (`.`) for respondents who did not respond to the current wave.

`SwJRSLEFT` are taken from the Wave 'w' spouse's value for `RwJRSLEFT`. In addition to the special missing codes used in `RwJRSLEFT`, if the respondent is not designated as coupled in the current wave and assumed to be single, a special missing value of `.u` is used. Also, if the respondent is not designated as coupled in the current wave but reports being married, a special missing value of `.v` is used.

## Cross Wave Differences in MHAS

The MHAS Employment Section changed between Wave 1, 2 and 3. Starting in Wave 2, the 'Reason the Respondent left last job' questions were added for both follow-up and new sample interviews.

## Differences with the RAND HRS/Harmonized HRS

The questions used from the MHAS to determine this harmonized variable are slightly different from the questions used to determine the RAND HRS variable. In the MHAS, the question regarding the year last job ended is only asked if the respondent reported they are not currently working and is skipped for proxy interviews, without regard to the working status reported in the previous interview (if any). However, in the HRS, in an interview where the respondent is not working they are asked when the previous interview job ended.

## MHAS Variables Used

### Wave 2:

I16	work status
I27	ever worked without pay
I28	reason for leaving last job
I3	ever worked without pay

### Wave 3:

I16_12	Current work status
I27_12	(Follow-up person) Ever worked without pay
I28_01_12	Reason left last job - work closed/bankrupt
I28_02_12	Reason left last job - it was temporary
I28_03_12	Reason left last job - the business moved
I28_04_12	Reason left last job - made too little money
I28_05_12	Reason left last job - inconvenient work schedule
I28_06_12	Reason left last job - not related to training/studies
I28_07_12	Reason left last job - to care for children/family memb
I28_08_12	Reason left last job - due to sickness
I28_09_12	Reason left last job - retirement
I28_10_12	Reason left last job - other
I28_88_12	Reason left last job - RF
I28_99_12	Reason left last job - DK
I3_12	Have you ever/since last time we spoke, worked without

### Wave 4:

I16_15	Current labor force status
I27_15	(Only for follow-up interviews) Has respondent ever wor
I28_01_15	Reason respondent left his/her last job: Source of work
I28_02_15	Reason respondent left his/her last job: It was tempora
I28_03_15	Reason respondent left his/her last job: The business m
I28_04_15	Reason respondent left his/her last job: Made too littl
I28_05_15	Reason respondent left his/her last job: The work sched
I28_06_15	Reason respondent left his/her last job: It wasn't rela
I28_07_15	Reason respondent left his/her last job: To care for ch
I28_08_15	Reason respondent left his/her last job: Due to sicknes
I28_09_15	Reason respondent left his/her last job: Retirement

I28_10_15	Reason respondent left his/her last job: Other
I28_88_15	Reason respondent left his/her last job: RF
I28_99_15	Reason respondent left his/her last job: DK
I3_15	Has respondent ever helped in a business, farm, or ranc

Wave 5:

I16_18	Current labor force status
I27_18	(Follow-ups only) R ever worked in firm/self-employed a
I28_01_18	Reason R left last job: Source of work closed down/cut
I28_02_18	Reason R left his/her last job: It was temporary and th
I28_03_18	Reason R left his/her last job: The business moved
I28_04_18	Reason R left his/her last job: Made too little money
I28_05_18	Reason R left his/her last job: The work schedule was i
I28_06_18	Reason R left his/her last job: It wasn't related to hi
I28_07_18	Reason R left his/her last job: To care for children or
I28_08_18	Reason R left his/her last job: Due to sickness
I28_09_18	Reason R left his/her last job: Retirement
I28_10_18	Reason R left his/her last job: Other
I28_88_18	Reason R left his/her last job: RF
I28_99_18	Reason R left his/her last job: DK
I3_18	Has R ever helped in a business/farm/ranch without rece



**Section I: Retirement**

<b>Whether Retired: Retirement year, if says retired</b>
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Wave	Variable	Label	Type
2	R2RETYR	r2retyr: w2 R Whether retired: Retirement year	Cont
3	R3RETYR	r3retyr: w3 R Whether retired: Retirement year	Cont
4	R4RETYR	r4retyr: w4 R Whether retired: Retirement year	Cont
5	R5RETYR	r5retyr: w5 R Whether retired: Retirement year	Cont
2	S2RETYR	s2retyr: w2 S Whether retired: Retirement year	Cont
3	S3RETYR	s3retyr: w3 S Whether retired: Retirement year	Cont
4	S4RETYR	s4retyr: w4 S Whether retired: Retirement year	Cont
5	S5RETYR	s5retyr: w5 S Whether retired: Retirement year	Cont

### Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R2RETYR	596	1993.20	7.58	1957.00	2003.00
R3RETYR	654	1998.40	15.56	1935.00	2012.00
R4RETYR	1245	2001.56	13.42	1941.00	2015.00
R5RETYR	861	2002.69	16.55	1942.00	2018.00
S2RETYR	406	1994.31	6.79	1957.00	2003.00
S3RETYR	452	1998.45	16.16	1935.00	2012.00
S4RETYR	773	2002.99	12.63	1941.00	2015.00
S5RETYR	401	2002.82	15.80	1942.00	2018.00

### How Constructed

RwRETYR is derived only for respondents who reported they are retired, and it is only available starting in Wave 2. In Wave 2, it is directly taken from the year reported by the respondent. However, starting in Wave 3 the respondent was allowed to give the year of retirement or the number of years they have been retired. If the respondent reported the number of years, RwRETYR was derived using the year of the interview and the reported number of years since retirement.

RwRETYR is assigned special missing values .d or .r, if they answered don't know or refused, respectively. It is assigned .p for proxy interviews. RwRETYR is set to special missing value .n if the respondent reported they have never worked, is currently unemployed, or is currently working. RwRETYR is also assigned the special missing value .m if the section was not completed. RwRETYR is set to plain missing (.) for respondents who did not respond to the current wave.

SwRETYR is taken from the Wave 'w' spouse's value for RwRETYR. In addition to the special missing codes used in RwRETYR, if the respondent is not designated as coupled in the current wave and assumed to be single, a special missing value of .u is used. Also, if the respondent is not designated as coupled in the current wave but reports being married, a special missing value of .v is used.

### Cross Wave Differences in MHAS

The MHAS Employment section changed between Wave 1, 2 and 3. The wording of the questions was modified depending on the type of interview: follow-up or new subject interviews, in particular for the 'Work History' questions. Also the dynamics of the section, determined by the skip patterns, was modified across these waves. In Wave 2, the 'Work History' and 'Principal Occupation' questions are only asked to new subjects. The number of questions included in the section also changed after Wave 2.

The retirement questions are only included after Wave 2. In addition, starting at Wave 3 respondents are allowed to give either the year of retirement or the number of years since they retired.

### Differences with the RAND HRS/Harmonized HRS

The questions used from the MHAS to determine this harmonized variable are significantly different from

the questions used to determine the RAND HRS variable. MHAS does not consider any different retirement statuses such as partial retirement. Also, MHAS does not ask any questions regarding the probability of retirement or expectations related to the respondents' future retirement.

## MHAS Variables Used

### Wave 2:

I16	work status
I26	main reason for not working
I28	reason for leaving last job
I29	when leave last job
I3	ever worked without pay

### Wave 3:

I16_12	Current work status
I26_2_12	Reason for not working - retired
I27_12	(Follow-up person) Ever worked without pay
I28_09_12	Reason left last job - retirement
I29_1_12	In what year did you leave your last job
I29_2_12	How many years ago did you leave your last job
I2_12	Have you ever/since last time we spoke, worked for pay
I3_12	Have you ever/since last time we spoke, worked without

### Wave 4:

I16_15	Current labor force status
I26_2_15	Reason respondent does not work: Retired
I27_15	(Only for follow-up interviews) Has respondent ever wor
I28_09_15	Reason respondent left his/her last job: Retirement
I29_1_15	Year the respondent left his/her last job
I29_2_15	How many years ago did respondent leave his/her last jo
I2_15	Has respondent ever had a job for which he/she received
I3_15	Has respondent ever helped in a business, farm, or ranc

### Wave 5:

I16_18	Current labor force status
I26_2_18	Reason R does not work: Retired
I27_18	(Follow-ups only) R ever worked in firm/self-employed a
I28_09_18	Reason R left his/her last job: Retirement
I29_1_18	Year the R left his/her last job
I29_2_18	How many years ago did R leave his/her last job
I2_18	Has R ever had a job for which he/she received a paymen
I3_18	Has R ever helped in a business/farm/ranch without rece

<b>Whether Retired: Retirement age, if says retired</b>
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Wave	Variable	Label	Type
2	R2RETAGE	r2retage: w2 R Whether retired: Retirement age	Cont
3	R3RETAGE	r3retage: w3 R Whether retired: Retirement age	Cont
4	R4RETAGE	r4retage: w4 R Whether retired: Retirement age	Cont
5	R5RETAGE	r5retage: w5 R Whether retired: Retirement age	Cont
2	S2RETAGE	s2retage: w2 S Whether retired: Retirement age	Cont
3	S3RETAGE	s3retage: w3 S Whether retired: Retirement age	Cont
4	S4RETAGE	s4retage: w4 S Whether retired: Retirement age	Cont
5	S5RETAGE	s5retage: w5 S Whether retired: Retirement age	Cont

### Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R2RETAGE	595	58.57	9.31	21.00	89.00
R3RETAGE	653	51.87	15.30	0.00	82.00
R4RETAGE	1245	56.94	12.75	0.00	89.00
R5RETAGE	858	53.79	15.87	1.00	86.00
S2RETAGE	405	58.41	8.57	31.00	85.00
S3RETAGE	451	51.41	15.90	0.00	81.00
S4RETAGE	773	57.29	12.58	0.00	89.00
S5RETAGE	401	56.43	15.15	1.00	86.00

### How Constructed

RwRETAGE indicates the age the respondent retired, is derived only for respondents who reported they are retired, and it is only available starting in Wave 2. In Wave 2, it is derived using the year of retirement reported by the respondent and the birth year (taken from RABYEAR). Starting in Wave 3 the respondent was allowed to give the year of retirement or the number of years they have been retired. If the respondent reported their year of retirement, RwRETAGE is derived in the same way it was constructed in Wave 2, using the year of retirement reported by the respondent and the birth year (taken from RABYEAR). However, if the respondent reported the number of years, RwRETAGE was derived using the age and the reported number of years since retirement.

RwRETAGE is assigned special missing values .d or .r, if they answered don't know or refused, respectively. It is assigned .p for proxy interviews. RwRETAGE is set to special missing value .n if the respondent reported they have never worked, is currently unemployed, or is currently working. RwRETAGE is also assigned the special missing value .m if the section was not completed. The variables are set to plain missing (.) for respondents who did not respond to the current wave.

SwRETAGE is taken from the Wave 'w' spouse's value for RwRETAGE. In addition to the special missing codes used in RwRETAGE, if the respondent is not designated as coupled in the current wave and assumed to be single, a special missing value of .u is used. Also, if the respondent is not designated as coupled in the current wave but reports being married, a special missing value of .v is used.

### Cross Wave Differences in MHAS

The MHAS Employment section changed between Wave 1, 2 and 3. The wording of the questions was modified depending on the type of interview: follow-up or new subject interviews, in particular for the 'Work History' questions. Also the dynamics of the section, determined by the skip patterns, was modified across these waves. In Wave 2, the 'Work History' and 'Principal Occupation' questions are only asked to new subjects. The number of questions included in the section also changed after Wave 2.

The retirement questions are only included after Wave 2. In addition, starting at Wave 3 respondents are allowed to give either the year of retirement or the number of years since they retired.

## Differences with the RAND HRS/Harmonized HRS

The questions used from the MHAS to determine this harmonized variable are significantly different from the questions used to determine the RAND HRS variable. MHAS does not consider any different retirement statuses such as partial retirement. Also, MHAS does not ask any questions regarding the probability of retirement or expectations related to the respondents' future retirement.

## MHAS Variables Used

### Wave 2:

AA2_2	dob - month
AA2_3	dob - year
I16	work status
I26	main reason for not working
I28	reason for leaving last job
I29	when leave last job
I3	ever worked without pay

### Wave 3:

A2A2_2_12	Correct month of birth
A2A2_3_12	Correct year of birth
AA2_2_12	Month of birth
AA2_3_12	Year of birth
I16_12	Current work status
I26_2_12	Reason for not working - retired
I27_12	(Follow-up person) Ever worked without pay
I28_09_12	Reason left last job - retirement
I29_1_12	In what year did you leave your last job
I29_2_12	How many years ago did you leave your last job
I2_12	Have you ever/since last time we spoke, worked for pay
I3_12	Have you ever/since last time we spoke, worked without

### Wave 4:

A2A2_2_15	Correct month of birth
A2A2_3_15	Correct year of birth
AA2_2_15	Month of birth
AA2_3_15	Year of birth
I16_15	Current labor force status
I26_2_15	Reason respondent does not work: Retired
I27_15	(Only for follow-up interviews) Has respondent ever wor
I28_09_15	Reason respondent left his/her last job: Retirement
I29_1_15	Year the respondent left his/her last job
I29_2_15	How many years ago did respondent leave his/her last jo
I2_15	Has respondent ever had a job for which he/she received
I3_15	Has respondent ever helped in a business, farm, or ranc

### Wave 5:

A2A2_2_18	Correct month of birth
A2A2_3_18	Correct year of birth
AA2_2_18	Month of birth
AA2_3_18	Year of birth
I16_18	Current labor force status
I26_2_18	Reason R does not work: Retired
I27_18	(Follow-ups only) R ever worked in firm/self-employed a
I28_09_18	Reason R left his/her last job: Retirement
I29_1_18	Year the R left his/her last job
I29_2_18	How many years ago did R leave his/her last job
I2_18	Has R ever had a job for which he/she received a paymen
I3_18	Has R ever helped in a business/farm/ranch without rece

**Section J: Pension**

### Whether Receives Public Pension

Wave	Variable	Label	Type
1	R1PUBPEN	r1pubpen: w1 R Whether receives public pension	Categ
2	R2PUBPEN	r2pubpen: w2 R Whether receives public pension	Categ
3	R3PUBPEN	r3pubpen: w3 R Whether receives public pension	Categ
4	R4PUBPEN	r4pubpen: w4 R Whether receives public pension	Categ
5	R5PUBPEN	r5pubpen: w5 R Whether receives public pension	Categ
1	S1PUBPEN	s1pubpen: w1 S Whether receives public pension	Categ
2	S2PUBPEN	s2pubpen: w2 S Whether receives public pension	Categ
3	S3PUBPEN	s3pubpen: w3 S Whether receives public pension	Categ
4	S4PUBPEN	s4pubpen: w4 S Whether receives public pension	Categ
5	S5PUBPEN	s5pubpen: w5 S Whether receives public pension	Categ

### Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R1PUBPEN	15326	0.13	0.33	0.00	1.00
R2PUBPEN	13665	0.16	0.36	0.00	1.00
R3PUBPEN	15691	0.19	0.39	0.00	1.00
R4PUBPEN	14718	0.22	0.42	0.00	1.00
R5PUBPEN	16819	0.19	0.39	0.00	1.00
S1PUBPEN	10833	0.10	0.30	0.00	1.00
S2PUBPEN	9551	0.12	0.33	0.00	1.00
S3PUBPEN	10581	0.15	0.36	0.00	1.00
S4PUBPEN	9643	0.18	0.39	0.00	1.00
S5PUBPEN	7447	0.20	0.40	0.00	1.00

### Categorical Variable Codes

Value-----	R1PUBPEN	R2PUBPEN	R3PUBPEN	R4PUBPEN	R5PUBPEN
.d:DK	2	5	18	17	261
.m:Missing	59	31	2	34	20
.r:Refuse	3	3	12	10	14
0.No	13355	11544	12781	11429	13573
1.Yes	1971	2121	2910	3289	3246

Value-----	S1PUBPEN	S2PUBPEN	S3PUBPEN	S4PUBPEN	S5PUBPEN
.d:DK	1	3	3	2	9
.m:Missing	16	8	2	4	
.r:Refuse	2	2	6	3	5
.u:Unmar	4051	4009	4782	4847	5227
.v:SP NR	283	131	349	280	501
0.No	9759	8362	8987	7862	5928
1.Yes	1074	1189	1594	1781	1519

### How Constructed

RwPUBPEN indicates whether the respondent is currently receiving any public pension, from retirement or widowhood. Public pension refers only to retirement and it includes pensions from IMSS, ISSSTE, or other public institution (PEMEX, DEFENSE, NAVY, CFE, BANXICO). Other pensions such as Disability or Work Accident, or Other Pensions are included in the MHAS but not in the construction of RwPUBPEN.

A value 0 indicates the respondent is not receiving any public pension. A value of 1 indicates the respondent is receiving at least one public pension. RwPUBPEN is assigned special missing values .d or .r, if they answered don't know or refused, respectively. RwPUBPEN is also assigned the special missing

value .m if the section was not completed. The variable is set to plain missing (.) for respondents who did not respond to the current wave.

SwPUBPEN indicates whether the current wave's spouse is receiving any public pension, and is taken from the spouse's values of RwpUBPEN. In addition to the special missing codes used in RwpUBPEN, if the respondent is not designated as coupled in the current wave and assumed to be single, a special missing value of .u is used. Also, if the respondent is not designated as coupled in the current wave but reports being married, a special missing value of .v is used.

Pension questions are asked only to the financial respondent about the financial respondent's pension income and, if married, the financial respondent's spouse's pension income. If the respondent is the financial respondent, then measures concerning the financial respondent are assigned to the respondent and those about the financial respondent's spouse are assigned to the respondent's spouse. However, if the respondent's spouse is the financial respondent, then measures about the financial respondent are assigned to the respondent's spouse and those concerning the financial respondent's spouse are assigned to the respondent.

## Cross Wave Differences in MHAS

The pension income questions in the MHAS, from Section K (Pension, Income and Assets), changed across waves. In Waves 1 and 2, the financial respondent had the option to report only one pension. In Waves 3 and 4 they can report up to three different pensions, for both retirement and widowhood pensions. Starting in Wave 5 they can report up to two different pensions, for both retirement and widowhood pensions.

## Differences with the RAND HRS/Harmonized HRS

RwpUBPEN in the MHAS is comparable to RASSRECV in the RAND HRS. While RwpUBPEN indicates whether the MHAS respondent is receiving any public pension at each wave, RASSRECV indicates whether the respondent to HRS received social security income at any wave. Components included in Harmonized MHAS and RAND HRS are slightly different for public pensions representing different institutional arrangements in each country. However, we kept the concepts included as comparable as possible. In the MHAS, any public pension includes pensions from IMSS, ISSSTE, or other public institution (PEMEX, DEFENSE, NAVY, CFE, BANXICO).

## MHAS Variables Used

Wave 1:	
K55A	retirement pension
K56_1	source of retirement pension
K61A	spouse received retirement pension
K62_1	source of retirement pension of spouse
Wave 2:	
K58A	retirement pension
K59A	source of retirement pension
K64C	spouse received retirement pension
K65C	source of retirement pension of spouse
Wave 3:	
K58A_12	Last year: Respondent retirement income pension
K59_1_01_12	Respondent's retirement pension source_IMSS
K59_1_02_12	Respondent's retirement pension source_ISSSTE
K59_1_03_12	Respondent's retirement pension source_Other Public Sec
K64C_12	Last year: Respondent's spouse received retirement pen
K65_1_01_12	Spouse's retirement pension source_IMSS
K65_1_02_12	Spouse's retirement pension source_ISSSTE
K65_1_03_12	Spouse's retirement pension source_Other Public Service
Wave 4:	
K58A_15	Last year: Did respondent receive pension income from r
K59_1_01_15	Respondent's retirement pension source: IMSS
K59_1_02_15	Respondent's retirement pension source: ISSSTE
K59_1_03_15	Respondent's retirement pension source: Other Public
K59_2_01_15	Respondent's widowhood pension source: IMSS
K59_2_02_15	Respondent's widowhood pension source: ISSSTE



K59_2_03_15	Respondent's widowhood pension source: Other Public
K64C_15	Last year: Did respondent's spouse receive retirement p
K65_1_01_15	Spouse's retirement pension source: IMSS
K65_1_02_15	Spouse's retirement pension source: ISSSTE
K65_1_03_15	Spouse's retirement pension source: Other Public
K65_2_01_15	Spouse's widowhood pension income source: IMSS
K65_2_02_15	Spouse's widowhood pension income source: ISSSTE
K65_2_03_15	Spouse's widowhood pension income source: Other Public

Wave 5:

K58A_18	Last year: Did respondent receive pension income from r
K59_1_1_18	Respondent's retirement pension source (First Pension)
K59_1_2_18	Respondent's retirement pension source (Second Pension)
K59_2_1_18	Respondent's widowhood pension source (First Pension)
K59_2_2_18	Respondent's widowhood pension source (Second Pension)
K64C_18	Last year: Did respondent's spouse receive retirement p
K65_1_1_18	Spouse's retirement pension source (First Pension)
K65_1_2_18	Spouse's retirement pension source (Second Pension)
K65_2_1_18	Spouse's widowhood pension income source (First Pension)
K65_2_2_18	Spouse's widowhood pension income source (Second Pensio

### Whether Receives Private Pension

Wave	Variable	Label	Type
1	R1PENINC	r1peninc: w1 R Whether receives private pension	Categ
2	R2PENINC	r2peninc: w2 R Whether receives private pension	Categ
3	R3PENINC	r3peninc: w3 R Whether receives private pension	Categ
4	R4PENINC	r4peninc: w4 R Whether receives private pension	Categ
5	R5PENINC	r5peninc: w5 R Whether receives private pension	Categ
1	S1PENINC	s1peninc: w1 S Whether receives private pension	Categ
2	S2PENINC	s2peninc: w2 S Whether receives private pension	Categ
3	S3PENINC	s3peninc: w3 S Whether receives private pension	Categ
4	S4PENINC	s4peninc: w4 S Whether receives private pension	Categ
5	S5PENINC	s5peninc: w5 S Whether receives private pension	Categ

### Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R1PENINC	15326	0.00	0.04	0.00	1.00
R2PENINC	13665	0.00	0.04	0.00	1.00
R3PENINC	15691	0.00	0.04	0.00	1.00
R4PENINC	14718	0.00	0.04	0.00	1.00
R5PENINC	16819	0.00	0.04	0.00	1.00
S1PENINC	10833	0.00	0.04	0.00	1.00
S2PENINC	9551	0.00	0.04	0.00	1.00
S3PENINC	10581	0.00	0.03	0.00	1.00
S4PENINC	9643	0.00	0.02	0.00	1.00
S5PENINC	7447	0.00	0.04	0.00	1.00

### Categorical Variable Codes

Value-----	R1PENINC	R2PENINC	R3PENINC	R4PENINC	R5PENINC
.d:DK	2	5	18	17	261
.m:Missing	59	31	2	34	20
.r:Refuse	3	3	12	10	14
0.No	15299	13646	15669	14699	16790
1.Yes	27	19	22	19	29
Value-----	S1PENINC	S2PENINC	S3PENINC	S4PENINC	S5PENINC
.d:DK	1	3	3	2	9
.m:Missing	16	8	2	4	
.r:Refuse	2	2	6	3	5
.u:Unmar	4051	4009	4782	4847	5227
.v:SP NR	283	131	349	280	501
0.No	10819	9538	10572	9637	7434
1.Yes	14	13	9	6	13

### How Constructed

RwPENINC indicates whether the respondent is currently receiving a private pension, from retirement or widowhood. Other pensions such as Disability or Work Accident, or Other Pensions are included in the MHAS but not in the construction of RwPENINC.

A value of 0 indicates that the respondent is not currently receiving any private pension. A value of 1 indicates that the respondent is currently receiving a private pension. RwPENINC is assigned special missing values .d or .r, if they answered don't know or refused, respectively. RwPENINC is also assigned the special missing value .m if the section was not completed. The variable is set to plain missing (.) for respondents who did not respond to the current wave.

SwPENINC indicates whether the current wave's spouse is receiving a private pension, and is taken from the spouse's values of RwpENINC. In addition to the special missing codes used in RwpENINC, if the respondent is not designated as coupled in the current wave and assumed to be single, a special missing value of .u is used. Also, if the respondent is not designated as coupled in the current wave but reports being married, a special missing value of .v is used.

Pension questions are asked only to the financial respondent about the financial respondent's pension income and, if married, the financial respondent's spouse's pension income. If the respondent is the financial respondent, then measures concerning the financial respondent are assigned to the respondent and those about the financial respondent's spouse are assigned to the respondent's spouse. However, if the respondent's spouse is the financial respondent, then measures about the financial respondent are assigned to the respondent's spouse and those concerning the financial respondent's spouse are assigned to the respondent.

## Cross Wave Differences in MHAS

The pension income questions in the MHAS, from Section K (Pension, Income and Assets), changed across waves. In Waves 1 and 2, the financial respondent had the option to report only one pension. In Waves 3 and 4 they can report up to three different pensions, for both retirement and widowhood pensions. Starting in Wave 5 they can report up to two different pensions, for both retirement and widowhood pensions.

## Differences with the RAND HRS/Harmonized HRS

Components included in Harmonized MHAS and RAND HRS are slightly different for private pensions representing different institutional arrangements in each country. However, we kept the concepts included as comparable as possible.

## MHAS Variables Used

Wave 1:	
K55A	retirement pension
K56_1	source of retirement pension
K61A	spouse received retirement pension
K62_1	source of retirement pension of spouse
Wave 2:	
K58A	retirement pension
K59A	source of retirement pension
K64C	spouse received retirement pension
K65C	source of retirement pension of spouse
Wave 3:	
K58A_12	Last year: Respondent retirement income pension
K59_1_04_12	Respondent's retirement pension source_Private
K64C_12	Last year: Respondent's spouse received retirement pen
K65_1_04_12	Spouse's retirement pension source_Private
Wave 4:	
K58A_15	Last year: Did respondent receive pension income from r
K59_1_04_15	Respondent's retirement pension source: Private
K59_2_04_15	Respondent's widowhood pension source: Private
K64C_15	Last year: Did respondent's spouse receive retirement p
K65_1_04_15	Spouse's retirement pension source: Private
K65_2_04_15	Spouse's widowhood pension income source: Private
Wave 5:	
K58A_18	Last year: Did respondent receive pension income from r
K59_1_1_18	Respondent's retirement pension source (First Pension)
K59_1_2_18	Respondent's retirement pension source (Second Pension)
K59_2_1_18	Respondent's widowhood pension source (First Pension)
K59_2_2_18	Respondent's widowhood pension source (Second Pension)
K64C_18	Last year: Did respondent's spouse receive retirement p
K65_1_1_18	Spouse's retirement pension source (First Pension)
K65_1_2_18	Spouse's retirement pension source (Second Pension)

K65_2_1_18	Spouse's widowhood pension income source (First Pension
K65_2_2_18	Spouse's widowhood pension income source (Second Pensio

Whether Receives Other Pension

Wave	Variable	Label	Type
1	R1OPEN	r1open: w1 R Whether receives any other pension	Categ
2	R2OPEN	r2open: w2 R Whether receives any other pension	Categ
3	R3OPEN	r3open: w3 R Whether receives any other pension	Categ
4	R4OPEN	r4open: w4 R Whether receives any other pension	Categ
5	R5OPEN	r5open: w5 R Whether receives any other pension	Categ
1	S1OPEN	s1open: w1 S Whether receives any other pension	Categ
2	S2OPEN	s2open: w2 S Whether receives any other pension	Categ
3	S3OPEN	s3open: w3 S Whether receives any other pension	Categ
4	S4OPEN	s4open: w4 S Whether receives any other pension	Categ
5	S5OPEN	s5open: w5 S Whether receives any other pension	Categ

Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R1OPEN	15326	0.01	0.09	0.00	1.00
R2OPEN	13665	0.01	0.10	0.00	1.00
R3OPEN	15691	0.01	0.10	0.00	1.00
R4OPEN	14718	0.01	0.11	0.00	1.00
R5OPEN	16819	0.02	0.13	0.00	1.00
S1OPEN	10833	0.01	0.09	0.00	1.00
S2OPEN	9551	0.01	0.10	0.00	1.00
S3OPEN	10581	0.01	0.09	0.00	1.00
S4OPEN	9643	0.01	0.10	0.00	1.00
S5OPEN	7447	0.02	0.12	0.00	1.00

Categorical Variable Codes

Value-----	R1OPEN	R2OPEN	R3OPEN	R4OPEN	R5OPEN
.d:DK	2	5	18	17	261
.m:Missing	59	31	2	34	20
.r:Refuse	3	3	12	10	14
0.No	15188	13519	15517	14548	16539
1.Yes	138	146	174	170	280
Value-----	S1OPEN	S2OPEN	S3OPEN	S4OPEN	S5OPEN
.d:DK	1	3	3	2	9
.m:Missing	16	8	2	4	
.r:Refuse	2	2	6	3	5
.u:Unmar	4051	4009	4782	4847	5227
.v:SP NR	283	131	349	280	501
0.No	10754	9463	10486	9546	7333
1.Yes	79	88	95	97	114

How Constructed

RwOPEN indicates whether the respondent is currently receiving any retirement or widowhood pension not already included in public and private pensions (RwPUBPEN and RwPENINC). RwOPEN considers pensions from the US Social Security, other institutions (different from the ones included in RwPUBPEN and RwPENINC), and a pension from an individual. Other pensions such as Disability or Work Accident, or Other Pensions are included in the MHAS but not in the construction of RwOPEN.

A value of 0 indicates the respondent is not receiving any other pension. A value of 1 indicates the respondent is receiving at least one other pension. RwOPEN is assigned special missing values .d or .r, if they answered don't know or refused, respectively. RwOPEN is also assigned the special missing value

.m if the section was not completed. The variable is set to plain missing (.) for respondents who did not respond to the current wave.

SwOPEN indicates whether the current wave's spouse is receiving any other pension, and is taken from the spouse's values of RwOPEN. In addition to the special missing codes used in RwOPEN, if the respondent is not designated as coupled in the current wave and assumed to be single, a special missing value of .u is used. Also, if the respondent is not designated as coupled in the current wave but reports being married, a special missing value of .v is used.

Pension questions are asked only to the financial respondent about the financial respondent's pension income and, if married, the financial respondent's spouse's pension income. If the respondent is the financial respondent, then measures concerning the financial respondent are assigned to the respondent and those about the financial respondent's spouse are assigned to the respondent's spouse. However, if the respondent's spouse is the financial respondent, then measures about the financial respondent are assigned to the respondent's spouse and those concerning the financial respondent's spouse are assigned to the respondent.

## Cross Wave Differences in MHAS

The pension income questions in the MHAS, from Section K (Pension, Income and Assets), changed across waves. In Waves 1 and 2, the financial respondent had the option to report only one pension. However, starting in Wave 3 they can report up to three different pensions, for both retirement and widowhood pensions.

## Differences with the RAND HRS/Harmonized HRS

Components included in Harmonized MHAS and RAND HRS are slightly different representing different institutional arrangements in each country. In the MHAS, RwOPEN was created to supplement the information in RwPUBPEN and RwPENINC. In particular, to include other institutional arrangements such as the US Social Security, other institutions (different from the ones included in RwPUBPEN and RwPENINC), and a pension from an individual.

## MHAS Variables Used

### Wave 1:

K55A	retirement pension
K56_1	source of retirement pension
K61A	spouse received retirement pension
K62_1	source of retirement pension of spouse

### Wave 2:

K58A	retirement pension
K59A	source of retirement pension
K64C	spouse received retirement pension
K65C	source of retirement pension of spouse

### Wave 3:

K58A_12	Last year: Respondent retirement income pension
K59_1_05_12	Respondent's retirement pension source_US Social Security
K59_1_06_12	Respondent's retirement pension source_Other Institution
K59_1_07_12	Respondent's retirement pension source_A Person
K64C_12	Last year: Respondent's spouse received retirement pension
K65_1_05_12	Spouse's retirement pension source_US Social Security
K65_1_06_12	Spouse's retirement pension source_Other Institution
K65_1_07_12	Spouse's retirement pension source_A Person

### Wave 4:

K58A_15	Last year: Did respondent receive pension income from r
K59_1_05_15	Respondent's retirement pension source: US Social Security
K59_1_06_15	Respondent's retirement pension source: Other Institution
K59_1_07_15	Respondent's retirement pension source: A Person
K59_2_05_15	Respondent's widowhood pension source: US Social Security
K59_2_06_15	Respondent's widowhood pension source: Other Institution
K59_2_07_15	Respondent's widowhood pension source: A Person
K64C_15	Last year: Did respondent's spouse receive retirement p

K65_1_05_15	Spouse's retirement pension source: US Social Security
K65_1_06_15	Spouse's retirement pension source: Other Institution
K65_1_07_15	Spouse's retirement pension source: A Person
K65_2_05_15	Spouse's widowhood pension income source: US Social Sec
K65_2_06_15	Spouse's widowhood pension income source: Other Institu
K65_2_07_15	Spouse's widowhood pension income source: A Person

Wave 5:

K58A_18	Last year: Did respondent receive pension income from r
K59_1_1_18	Respondent's retirement pension source (First Pension)
K59_1_2_18	Respondent's retirement pension source (Second Pension)
K59_2_1_18	Respondent's widowhood pension source (First Pension)
K59_2_2_18	Respondent's widowhood pension source (Second Pension)
K64C_18	Last year: Did respondent's spouse receive retirement p
K65_1_1_18	Spouse's retirement pension source (First Pension)
K65_1_2_18	Spouse's retirement pension source (Second Pension)
K65_2_1_18	Spouse's widowhood pension income source (First Pension)
K65_2_2_18	Spouse's widowhood pension income source (Second Pensio

### Age When Started to Receive a Public Pension

Wave	Variable	Label	Type
1	R1PUBAGE	r1pubage: w1 R Age when started to receive public pension	Cont
2	R2PUBAGE	r2pubage: w2 R Age when started to receive public pension	Cont
5	R5PUBAGE	r5pubage: w5 R Age when started to receive public pension	Cont
1	S1PUBAGE	s1pubage: w1 S Age when started to receive public pension	Cont
2	S2PUBAGE	s2pubage: w2 S Age when started to receive public pension	Cont
5	S5PUBAGE	s5pubage: w5 S Age when started to receive public pension	Cont

### Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R1PUBAGE	1866	58.42	9.76	9.00	89.00
R2PUBAGE	1983	58.05	9.39	8.00	93.00
R5PUBAGE	2305	59.70	9.89	10.00	99.00
S1PUBAGE	1023	58.27	8.65	9.00	87.00
S2PUBAGE	1124	58.04	8.40	8.00	83.00
S5PUBAGE	752	58.68	8.86	10.00	82.00

### How Constructed

RwPUBAGE indicates the age when the respondent started receiving a public pension, from retirement or widowhood. RwPUBAGE was derived using the year the respondent reported they started to receive a pension and the respondent's birth year or age, if they currently receive a public pension. RwPUBAGE is assigned special missing values .d or .r, if they answered don't know or refused, respectively. RwPUBAGE is also assigned special missing values .n if the respondent is currently not receiving a public pension and .i if the year reported is beyond each wave (i.e. higher than 2001 in Wave 1). It is also assigned the special missing value .m if the section was not completed. The variable is set to plain missing (.) for respondents who did not respond to the current wave.

SwPUBAGE indicates the current wave's spouse age when they started receiving a public pension, and is taken from the spouse's values of RwPUBAGE. In addition to the special missing codes used in RwPUBAGE, if the respondent is not designated as coupled in the current wave and assumed to be single, a special missing value of .u is used. Also, if the respondent is not designated as coupled in the current wave but reports being married, a special missing value of .v is used.

Pension questions are asked only to the financial respondent about the financial respondent's pension income and, if married, the financial respondent's spouse's pension income. If the respondent is the financial respondent, then measures concerning the financial respondent are assigned to the respondent and those about the financial respondent's spouse are assigned to the respondent's spouse. However, if the respondent's spouse is the financial respondent, then measures about the financial respondent are assigned to the respondent's spouse and those concerning the financial respondent's spouse are assigned to the respondent.

### Cross Wave Differences in MHAS

The pension income information is obtained from the MHAS, Section K (Pension, Income and Assets) changed across waves. In Waves 1 and 2, the financial respondent had the option to report only one pension. In Waves 3 and 4 they can report up to three different pensions, for both retirement and widowhood pensions. Starting in Wave 5 they can report up to two different pensions, for both retirement and widowhood pensions.

In Waves 1 to 3, the financial respondent could only give information about the year they started receiving the pension, the income received, and whether the spouse (if married) could continue to receive the pension after the death of the respondent for one pension. Since at Waves 3 and 4 respondents can



report up to three different pensions, for both retirement and widowhood pensions, and it was not possible to trace if the reported years belong to a public, private, or other pension, RWPUBAGE was not created in those waves. Starting in Wave 5, since respondents were able to report up to two pensions and it was possible to correctly identify the year for each type of pension, RWPUBAGE was constructed again.

### Differences with the RAND HRS/Harmonized HRS

Components included in RWPUBAGE in the Harmonized MHAS and RWSAGEB in the RAND HRS are slightly different for public pensions representing different institutional arrangements in each country. However, we kept the concepts included as comparable as possible.

### MHAS Variables Used

#### Wave 1:

K56_1	source of retirement pension
K56_2	source of widowhood pension
K57_1	start of retirement pension
K62_1	source of retirement pension of spouse
K62_2	source of widowhood pension of spouse
K63_1	start of retirement pension of spouse

#### Wave 2:

K59A	source of retirement pension
K59B	source of widowhood pension
K60A	start of retirement pension
K65C	source of retirement pension of spouse
K65D	source of widowhood pension of spouse
K66C	start of retirement pension of spouse

#### Wave 5:

K58A_18	Last year: Did respondent receive pension income from r
K59_1_1_18	Respondent's retirement pension source (First Pension)
K59_1_2_18	Respondent's retirement pension source (Second Pension)
K59_2_1_18	Respondent's widowhood pension source (First Pension)
K59_2_2_18	Respondent's widowhood pension source (Second Pension)
K60_1_1_18	Year respondent started to receive his/her (first) reti
K60_1_2_18	Year respondent started to receive his/her (second) ret
K60_2_1_18	Year respondent started to receive (first) widowhood pe
K60_2_2_18	Year respondent started to receive (second) widowhood p
K64C_18	Last year: Did respondent's spouse receive retirement p
K65_1_1_18	Spouse's retirement pension source (First Pension)
K65_1_2_18	Spouse's retirement pension source (Second Pension)
K65_2_1_18	Spouse's widowhood pension income source (First Pension
K65_2_2_18	Spouse's widowhood pension income source (Second Pensio
K66_1_1_18	Year spouse started to receive (first) retirement pensi
K66_1_2_18	Year spouse started to receive (second) retirement pens
K66_2_1_18	Year spouse started to receive (first) widowhood pensio
K66_2_2_18	Year spouse started to receive (second) widowhood pensi

### Age When Started to Receive a Private Pension

Wave	Variable	Label	Type
1	R1PENAGE	r1penage: w1 R Age when started to receive private pension	Cont
2	R2PENAGE	r2penage: w2 R Age when started to receive private pension	Cont
5	R5PENAGE	r5penage: w5 R Age when started to receive private pension	Cont
1	S1PENAGE	s1penage: w1 S Age when started to receive private pension	Cont
2	S2PENAGE	s2penage: w2 S Age when started to receive private pension	Cont
5	S5PENAGE	s5penage: w5 S Age when started to receive private pension	Cont

### Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R1PENAGE	26	54.12	8.89	31.00	70.00
R2PENAGE	17	58.41	10.95	37.00	82.00
R5PENAGE	13	54.77	9.90	39.00	81.00
S1PENAGE	14	53.36	8.50	31.00	68.00
S2PENAGE	12	59.83	12.33	37.00	82.00
S5PENAGE	4	63.00	13.29	49.00	81.00

### How Constructed

RwPENAGE indicates the age when the respondent started receiving a private pension, from retirement or widowhood. RwPENAGE was derived using the year the respondent reported they started to receive a pension and the respondent's birth year or age, if they currently receives a private pension. RwPENAGE is assigned special missing values .d or .r, if they answered don't know or refused, respectively. RwPENAGE is also assigned special missing values .n if the respondent is currently not receiving a private pension and .i if the year reported is beyond each wave (i.e. higher than 2001 in Wave 1). It is also assigned the special missing value .m if the section was not completed. The variable is set to plain missing (.) for respondents who did not respond to the current wave.

SwPENAGE indicates the current wave's spouse age when they started receiving a private pension, and is taken from the spouse's values of RwPENAGE. In addition to the special missing codes used in RwPENAGE, if the respondent is not designated as coupled in the current wave and assumed to be single, a special missing value of .u is used. Also, if the respondent is not designated as coupled in the current wave but reports being married, a special missing value of .v is used.

Pension questions are asked only to the financial respondent about the financial respondent's pension income and, if married, the financial respondent's spouse's pension income. If the respondent is the financial respondent, then measures concerning the financial respondent are assigned to the respondent and those about the financial respondent's spouse are assigned to the respondent's spouse. However, if the respondent's spouse is the financial respondent, then measures about the financial respondent are assigned to the respondent's spouse and those concerning the financial respondent's spouse are assigned to the respondent.

### Cross Wave Differences in MHAS

The pension income information is obtained from the MHAS, Section K (Pension, Income and Assets) changed across waves. In Waves 1 and 2, the financial respondent had the option to report only one pension. In Waves 3 and 4 they can report up to three different pensions, for both retirement and widowhood pensions. Starting in Wave 5 they can report up to two different pensions.

In Waves 1 to 3, the financial respondent could only give information about the year they started receiving the pension, the income received, and whether the spouse (if married) could continue after the death of the respondent for one pension. Since at Waves 3 and 4 respondents can report up to three different pensions, for both retirement and widowhood pensions, and it was not possible to trace if the

reported years belong to a public, private, or other pension, RWPENAGE was not created in Waves 3 and 4. Starting in Wave 5, since respondents were able to report up to two pensions and it was possible to correctly identify the year for each type of pension, RWPENAGE was constructed again.

## Differences with the RAND HRS/Harmonized HRS

Components included in Harmonized MHAS and RAND HRS are slightly different for private pensions representing different institutional arrangements in each country. However, we kept the concepts included as comparable as possible.

## MHAS Variables Used

### Wave 1:

K56_1	source of retirement pension
K56_2	source of widowhood pension
K57_1	start of retirement pension
K62_1	source of retirement pension of spouse
K62_2	source of widowhood pension of spouse
K63_1	start of retirement pension of spouse

### Wave 2:

K59A	source of retirement pension
K59B	source of widowhood pension
K60A	start of retirement pension
K65C	source of retirement pension of spouse
K65D	source of widowhood pension of spouse
K66C	start of retirement pension of spouse

### Wave 5:

K58A_18	Last year: Did respondent receive pension income from r
K59_1_1_18	Respondent's retirement pension source (First Pension)
K59_1_2_18	Respondent's retirement pension source (Second Pension)
K59_2_1_18	Respondent's widowhood pension source (First Pension)
K59_2_2_18	Respondent's widowhood pension source (Second Pension)
K60_1_1_18	Year respondent started to receive his/her (first) reti
K60_1_2_18	Year respondent started to receive his/her (second) ret
K60_2_1_18	Year respondent started to receive (first) widowhood pe
K60_2_2_18	Year respondent started to receive (second) widowhood p
K64C_18	Last year: Did respondent's spouse receive retirement p
K65_1_1_18	Spouse's retirement pension source (First Pension)
K65_1_2_18	Spouse's retirement pension source (Second Pension)
K65_2_1_18	Spouse's widowhood pension income source (First Pension
K65_2_2_18	Spouse's widowhood pension income source (Second Pensio
K66_1_1_18	Year spouse started to receive (first) retirement pensi
K66_1_2_18	Year spouse started to receive (second) retirement pens
K66_2_1_18	Year spouse started to receive (first) widowhood pensio
K66_2_2_18	Year spouse started to receive (second) widowhood pensi

Whether Current Public Pension(s) Can Continue

Wave	Variable	Label	Type
1	R1SSIC	r1ssic: w1 R Whether current public pension can continue	Categ
2	R2SSIC	r2ssic: w2 R Whether current public pension can continue	Categ
5	R5SSIC	r5ssic: w5 R Whether current public pension can continue	Categ
1	S1SSIC	s1ssic: w1 S Whether current public pension can continue	Categ
2	S2SSIC	s2ssic: w2 S Whether current public pension can continue	Categ
5	S5SSIC	s5ssic: w5 S Whether current public pension can continue	Categ

Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R1SSIC	10625	0.07	0.26	0.00	1.00
R2SSIC	9484	0.10	0.30	0.00	1.00
R5SSIC	11021	0.13	0.33	0.00	1.00
S1SSIC	10625	0.07	0.26	0.00	1.00
S2SSIC	9484	0.10	0.30	0.00	1.00
S5SSIC	7370	0.17	0.38	0.00	1.00

Categorical Variable Codes

Value-----	R1SSIC	R2SSIC	R5SSIC
.d:DK	112	68	353
.m:Missing	16	8	
.n:not married	4538	4140	5728
.r:Refuse	83	4	12
0.No	9861	8512	9636
1.Yes	764	972	1385

Value-----	S1SSIC	S2SSIC	S5SSIC
.d:DK	112	68	85
.m:Missing	16	8	
.r:Refuse	83	4	6
.u:Unmar	4065	4009	5227
.v:SP NR	285	131	501
0.No	9861	8512	6122
1.Yes	764	972	1248

How Constructed

RwSSIC indicates whether the respondent's spouse could receive part of the respondent's current public pension(s), from retirement or widowhood, if the respondent were to die. RwSSIC is coded as 0 for no and 1 for yes. RwSSIC is assigned special missing values .d or .r, if they answered don't know or refused, respectively. RwSSIC is assigned special missing value .n if the respondent is currently not married. It is also assigned the special missing value .m if the section was not completed. The variable is set to plain missing (.) for respondents who did not respond to the current wave.

SwSSIC indicates whether the current wave's spouse's public pension(s) can continue if the respondent's spouse were to die, and is taken from the spouse's values of RwSSIC. In addition to the special missing codes used in RwSSIC, if the respondent is not designated as coupled in the current wave and assumed to be single, a special missing value of .u is used. Also, if the respondent is not designated as coupled in the current wave but reports being married, a special missing value of .v is used.

Pension questions are asked only to the financial respondent about the financial respondent's pension income and, if married, the financial respondent's spouse's pension income. If the respondent is the financial respondent, then measures concerning the financial respondent are assigned to the respondent

and those about the financial respondent's spouse are assigned to the respondent's spouse. However, if the respondent's spouse is the financial respondent, then measures about the financial respondent are assigned to the respondent's spouse and those concerning the financial respondent's spouse are assigned to the respondent.

## Cross Wave Differences in MHAS

The pension income information is obtained from the MHAS, Section K (Pension, Income and Assets) changed across waves. In Waves 1 and 2, the financial respondent had the option to report only one pension. In Waves 3 and 4 they can report up to three different pensions, for both retirement and widowhood pensions. Starting in Wave 5 they can report up to two different pensions, for both retirement and widowhood pensions.

In Waves 1 and 2, the financial respondent could only give information regarding the year they started receiving the pension, the income received, and whether the spouse (if married) could continue to receive the pension after the death of the respondent for one pension. In Waves 3 and 4 respondents can report up to three different pensions, for both retirement and widowhood pensions, and it was not possible to trace if the variables belong to a public, private, or other pension. As such, it was not possible to create RwSSIC in Waves 3 and 4. Starting in Wave 5 respondents can report up to two different pensions, and it was possible to trace if the variables belonged to a public, private, or other pension, and so RwSSIC is available again.

## Differences with the RAND HRS/Harmonized HRS

Components included in Harmonized MHAS and RAND HRS are slightly different for private pensions representing different institutional arrangements in each country. However, we kept the concepts included as comparable as possible.

## MHAS Variables Used

### Wave 1:

K55A	retirement pension
K56_1	source of retirement pension
K60_1	retirement pension goes to spouse
K61A	spouse received retirement pension
K62_1	source of retirement pension of spouse
K66_1	would you receive spouse's retirement pension if he/she

### Wave 2:

K58A	retirement pension
K59A	source of retirement pension
K64C	spouse received retirement pension
K65C	source of retirement pension of spouse

### Wave 5:

K58A_18	Last year: Did respondent receive pension income from r
K59_1_1_18	Respondent's retirement pension source (First Pension)
K59_1_2_18	Respondent's retirement pension source (Second Pension)
K59_2_1_18	Respondent's widowhood pension source (First Pension)
K59_2_2_18	Respondent's widowhood pension source (Second Pension)
K63_1_1_18	At death: Could this (first) retirement pension go to s
K63_1_2_18	At death: Could this (second) retirement pension go to
K63_2_1_18	At death: Could this (first) widowhood pension go to sp
K63_2_2_18	At death: Could this (second) widowhood pension go to s
K64C_18	Last year: Did respondent's spouse receive retirement p
K65_1_1_18	Spouse's retirement pension source (First Pension)
K65_1_2_18	Spouse's retirement pension source (Second Pension)
K65_2_1_18	Spouse's widowhood pension income source (First Pension)
K65_2_2_18	Spouse's widowhood pension income source (Second Pensio
K69_1_1_18	At spouse's death: Could respondent receive this (first
K69_1_2_18	At spouse's death: Could respondent receive this (secon
K69_2_1_18	At spouses' death: Could respondent receive this (first
K69_2_2_18	At spouses' death: Could respondent receive this (secon

Whether Current Private Pension Can Continue

Wave	Variable	Label	Type
1	R1PENIC	r1penic: w1 R Whether current private pension can continue	Categ
2	R2PENIC	r2penic: w2 R Whether current private pension can continue	Categ
5	R5PENIC	r5penic: w5 R Whether current private pension can continue	Categ
1	S1PENIC	s1penic: w1 S Whether current private pension can continue	Categ
2	S2PENIC	s2penic: w2 S Whether current private pension can continue	Categ
5	S5PENIC	s5penic: w5 S Whether current private pension can continue	Categ

Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R1PENIC	10831	0.00	0.03	0.00	1.00
R2PENIC	9551	0.00	0.03	0.00	1.00
R5PENIC	11109	0.00	0.03	0.00	1.00
S1PENIC	10831	0.00	0.03	0.00	1.00
S2PENIC	9551	0.00	0.03	0.00	1.00
S5PENIC	7442	0.00	0.03	0.00	1.00

Categorical Variable Codes

Value-----	R1PENIC	R2PENIC	R5PENIC
.d:DK	2	3	265
.m:Missing	16	8	
.n:not married	4538	4140	5728
.r:Refuse	3	2	12
0.No	10820	9541	11099
1.Yes	11	10	10

Value-----	S1PENIC	S2PENIC	S5PENIC
.d:DK	2	3	13
.m:Missing	16	8	
.r:Refuse	3	2	6
.u:Unmar	4051	4009	5227
.v:SP NR	283	131	501
0.No	10820	9541	7433
1.Yes	11	10	9

How Constructed

RwPENIC indicates whether the respondent's spouse could receive part of the respondent's current private pension, from retirement or widowhood, if the respondent were to die. RwPENIC is coded as 0 for no and 1 for yes. RwPENIC is assigned special missing values .d or .r, if they answered don't know or refused, respectively. RwPENIC is assigned special missing value .n if the respondent is currently not married. It is also assigned the special missing value .m if the section was not completed. The variable is set to plain missing (.) for respondents who did not respond to the current wave.

SwPENIC indicates whether the current wave's spouse's private pension can continue if the respondent's spouse were to die, and is taken from the spouse's values of RwPENIC. In addition to the special missing codes used in RwPENIC, if the respondent is not designated as coupled in the current wave and assumed to be single, a special missing value of .u is used. Also, if the respondent is not designated as coupled in the current wave but reports being married, a special missing value of .v is used.

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and those about the financial respondent's spouse are assigned to the respondent's spouse. However, if the respondent's spouse is the financial respondent, then measures about the financial respondent are assigned to the respondent's spouse and those concerning the financial respondent's spouse are assigned to the respondent.

## Cross Wave Differences in MHAS

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## MHAS Variables Used

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K56_1	source of retirement pension
K60_1	retirement pension goes to spouse
K61A	spouse received retirement pension
K62_1	source of retirement pension of spouse
K66_1	would you receive spouse's retirement pension if he/she

### Wave 2:

K58A	retirement pension
K59A	source of retirement pension
K64C	spouse received retirement pension
K65C	source of retirement pension of spouse

### Wave 5:

K58A_18	Last year: Did respondent receive pension income from r
K59_1_1_18	Respondent's retirement pension source (First Pension)
K59_1_2_18	Respondent's retirement pension source (Second Pension)
K59_2_1_18	Respondent's widowhood pension source (First Pension)
K59_2_2_18	Respondent's widowhood pension source (Second Pension)
K63_1_1_18	At death: Could this (first) retirement pension go to s
K63_1_2_18	At death: Could this (second) retirement pension go to
K63_2_1_18	At death: Could this (first) widowhood pension go to sp
K63_2_2_18	At death: Could this (second) widowhood pension go to s
K64C_18	Last year: Did respondent's spouse receive retirement p
K65_1_1_18	Spouse's retirement pension source (First Pension)
K65_1_2_18	Spouse's retirement pension source (Second Pension)
K65_2_1_18	Spouse's widowhood pension income source (First Pension)
K65_2_2_18	Spouse's widowhood pension income source (Second Pensio
K69_1_1_18	At spouse's death: Could respondent receive this (first
K69_1_2_18	At spouse's death: Could respondent receive this (secon
K69_2_1_18	At spouses' death: Could respondent receive this (first
K69_2_2_18	At spouses' death: Could respondent receive this (secon

**Section K: Physical Measures**



<b>Height, Weight, Waist and Hip Circumference Measurements</b>
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Wave	Variable	Label	Type
1	R1MHEIGHT	r1mheight: w1 R Measured Height in meters	Cont
2	R2MHEIGHT	r2mheight: w2 R Measured Height in meters	Cont
3	R3MHEIGHT	r3mheight: w3 R Measured Height in meters	Cont
1	S1MHEIGHT	s1mheight: w1 S Measured Height in meters	Cont
2	S2MHEIGHT	s2mheight: w2 S Measured Height in meters	Cont
3	S3MHEIGHT	s3mheight: w3 S Measured Height in meters	Cont
1	R1HTCOMP	r1htcomp: w1 R willing & able to complete height measurement	Categ
2	R2HTCOMP	r2htcomp: w2 R willing & able to complete height measurement	Categ
3	R3HTCOMP	r3htcomp: w3 R willing & able to complete height measurement	Categ
1	S1HTCOMP	s1htcomp: w1 S willing & able to complete height measurement	Categ
2	S2HTCOMP	s2htcomp: w2 S willing & able to complete height measurement	Categ
3	S3HTCOMP	s3htcomp: w3 S willing & able to complete height measurement	Categ
1	R1MWEIGHT	r1mweight: w1 R Measured Weight in kilograms	Cont
2	R2MWEIGHT	r2mweight: w2 R Measured Weight in kilograms	Cont
3	R3MWEIGHT	r3mweight: w3 R Measured Weight in kilograms	Cont
1	S1MWEIGHT	s1mweight: w1 S Measured Weight in kilograms	Cont
2	S2MWEIGHT	s2mweight: w2 S Measured Weight in kilograms	Cont
3	S3MWEIGHT	s3mweight: w3 S Measured Weight in kilograms	Cont
1	R1WTCOMP	r1wtcomp: w1 R willing & able to complete weight measurement	Categ
2	R2WTCOMP	r2wtcomp: w2 R willing & able to complete weight measurement	Categ
3	R3WTCOMP	r3wtcomp: w3 R willing & able to complete weight measurement	Categ
1	S1WTCOMP	s1wtcomp: w1 S willing & able to complete weight measurement	Categ
2	S2WTCOMP	s2wtcomp: w2 S willing & able to complete weight measurement	Categ
3	S3WTCOMP	s3wtcomp: w3 S willing & able to complete weight measurement	Categ
1	R1MBMI	r1mbmi: w1 R Measured Body Mass Index=kg/m2	Cont
2	R2MBMI	r2mbmi: w2 R Measured Body Mass Index=kg/m2	Cont
3	R3MBMI	r3mbmi: w3 R Measured Body Mass Index=kg/m2	Cont
1	S1MBMI	s1mbmi: w1 S Measured Body Mass Index=kg/m2	Cont
2	S2MBMI	s2mbmi: w2 S Measured Body Mass Index=kg/m2	Cont
3	S3MBMI	s3mbmi: w3 S Measured Body Mass Index=kg/m2	Cont
1	R1MBMICAT	r1mbmicat: w1 R Measured Body Mass Index Categorization	Categ
2	R2MBMICAT	r2mbmicat: w2 R Measured Body Mass Index Categorization	Categ
3	R3MBMICAT	r3mbmicat: w3 R Measured Body Mass Index Categorization	Categ
1	S1MBMICAT	s1mbmicat: w1 S Measured Body Mass Index Categorization	Categ
2	S2MBMICAT	s2mbmicat: w2 S Measured Body Mass Index Categorization	Categ
3	S3MBMICAT	s3mbmicat: w3 S Measured Body Mass Index Categorization	Categ
1	R1MWAIST	r1mwaist: w1 R Measured Waist Circumference in cm	Cont
2	R2MWAIST	r2mwaist: w2 R Measured Waist Circumference in cm	Cont
3	R3MWAIST	r3mwaist: w3 R Measured Waist Circumference in cm	Cont
1	S1MWAIST	s1mwaist: w1 S Measured Waist Circumference in cm	Cont
2	S2MWAIST	s2mwaist: w2 S Measured Waist Circumference in cm	Cont
3	S3MWAIST	s3mwaist: w3 S Measured Waist Circumference in cm	Cont
1	R1WATCOMP	r1watcomp: w1 R willing & able to complete waist measurement	Categ
2	R2WATCOMP	r2watcomp: w2 R willing & able to complete waist measurement	Categ
3	R3WATCOMP	r3watcomp: w3 R willing & able to complete waist measurement	Categ

1	S1WATCOMP	s1watcomp: w1 S willing & able to complete waist measurement	Categ
2	S2WATCOMP	s2watcomp: w2 S willing & able to complete waist measurement	Categ
3	S3WATCOMP	s3watcomp: w3 S willing & able to complete waist measurement	Categ
1	R1MHIP	r1mhip: w1 R Measured Hip Circumference in cm	Cont
2	R2MHIP	r2mhip: w2 R Measured Hip Circumference in cm	Cont
3	R3MHIP	r3mhip: w3 R Measured Hip Circumference in cm	Cont
1	S1MHIP	s1mhip: w1 S Measured Hip Circumference in cm	Cont
2	S2MHIP	s2mhip: w2 S Measured Hip Circumference in cm	Cont
3	S3MHIP	s3mhip: w3 S Measured Hip Circumference in cm	Cont
1	R1HIPCOMP	r1hipcomp: w1 R willing & able to complete hip measurement	Categ
2	R2HIPCOMP	r2hipcomp: w2 R willing & able to complete hip measurement	Categ
3	R3HIPCOMP	r3hipcomp: w3 R willing & able to complete hip measurement	Categ
1	S1HIPCOMP	s1hipcomp: w1 S willing & able to complete hip measurement	Categ
2	S2HIPCOMP	s2hipcomp: w2 S willing & able to complete hip measurement	Categ
3	S3HIPCOMP	s3hipcomp: w3 S willing & able to complete hip measurement	Categ
1	R1MWHRATIO	r1mwhratio: w1 R Measured Waist to Hip Ratio	Cont
2	R2MWHRATIO	r2mwhratio: w2 R Measured Waist to Hip Ratio	Cont
3	R3MWHRATIO	r3mwhratio: w3 R Measured Waist to Hip Ratio	Cont
1	S1MWHRATIO	s1mwhratio: w1 S Measured Waist to Hip Ratio	Cont
2	S2MWHRATIO	s2mwhratio: w2 S Measured Waist to Hip Ratio	Cont
3	S3MWHRATIO	s3mwhratio: w3 S Measured Waist to Hip Ratio	Cont

## Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R1MHEIGHT	2537	1.57	0.10	0.98	2.00
R2MHEIGHT	2220	1.56	0.10	1.00	1.98
R3MHEIGHT	2049	1.55	0.10	1.28	1.90
S1MHEIGHT	1776	1.59	0.10	0.98	1.94
S2MHEIGHT	1550	1.58	0.10	1.00	1.98
S3MHEIGHT	1394	1.56	0.09	1.33	1.90
R1HTCOMP	2813	0.90	0.30	0.00	1.00
R2HTCOMP	2361	0.94	0.24	0.00	1.00
R3HTCOMP	2086	0.98	0.13	0.00	1.00
S1HTCOMP	1965	0.90	0.29	0.00	1.00
S2HTCOMP	1635	0.95	0.22	0.00	1.00
S3HTCOMP	1411	0.99	0.11	0.00	1.00
R1MWEIGHT	2537	68.68	14.15	24.00	150.00
R2MWEIGHT	2225	68.49	14.47	30.00	173.00
R3MWEIGHT	2057	69.65	14.98	32.35	150.00
S1MWEIGHT	1777	70.79	14.03	24.00	150.00
S2MWEIGHT	1557	70.43	14.34	35.00	173.00
S3MWEIGHT	1399	71.24	15.05	33.50	150.00
R1WTCOMP	2813	0.90	0.30	0.00	1.00
R2WTCOMP	2361	0.94	0.23	0.00	1.00
R3WTCOMP	2086	0.99	0.12	0.00	1.00
S1WTCOMP	1965	0.90	0.29	0.00	1.00
S2WTCOMP	1635	0.95	0.21	0.00	1.00
S3WTCOMP	1411	0.99	0.09	0.00	1.00

R1MBMI	2527	27.82	5.23	8.71	90.84
R2MBMI	2216	27.99	5.41	14.54	73.61
R3MBMI	2048	28.89	5.28	15.74	53.33
S1MBMI	1770	28.18	5.28	8.71	90.84
S2MBMI	1549	28.25	5.39	14.54	73.61
S3MBMI	1394	29.05	5.30	15.74	53.33
R1MBMICAT	2527	3.07	0.97	1.00	6.00
R2MBMICAT	2216	3.10	1.00	1.00	6.00
R3MBMICAT	2048	3.28	1.04	1.00	6.00
S1MBMICAT	1770	3.14	0.96	1.00	6.00
S2MBMICAT	1549	3.15	0.99	1.00	6.00
S3MBMICAT	1394	3.30	1.04	1.00	6.00
R1MWAIST	2531	97.44	12.96	40.00	194.00
R2MWAIST	2220	98.95	12.52	50.00	180.00
R3MWAIST	2053	98.08	12.53	48.10	165.60
S1MWAIST	1768	98.26	12.68	46.00	194.00
S2MWAIST	1550	99.54	12.30	51.00	180.00
S3MWAIST	1396	98.72	12.46	62.00	163.80
R1WATCOMP	2813	0.90	0.30	0.00	1.00
R2WATCOMP	2361	0.94	0.24	0.00	1.00
R3WATCOMP	2086	0.98	0.12	0.00	1.00
S1WATCOMP	1965	0.90	0.30	0.00	1.00
S2WATCOMP	1635	0.95	0.22	0.00	1.00
S3WATCOMP	1411	0.99	0.10	0.00	1.00
R1MHIP	2529	105.63	12.16	45.00	192.00
R2MHIP	2220	105.56	11.96	50.00	156.00
R3MHIP	2054	103.66	11.22	75.20	168.50
S1MHIP	1768	106.25	12.09	59.00	192.00
S2MHIP	1550	105.90	11.60	50.00	150.00
S3MHIP	1396	103.63	11.17	77.45	168.50
R1HIPCOMP	2813	0.90	0.30	0.00	1.00
R2HIPCOMP	2361	0.94	0.24	0.00	1.00
R3HIPCOMP	2086	0.98	0.12	0.00	1.00
S1HIPCOMP	1965	0.90	0.30	0.00	1.00
S2HIPCOMP	1635	0.95	0.22	0.00	1.00
S3HIPCOMP	1411	0.99	0.10	0.00	1.00
R1MWHRATIO	2527	0.92	0.09	0.40	1.96
R2MWHRATIO	2219	0.94	0.09	0.46	2.16
R3MWHRATIO	2053	0.95	0.08	0.55	1.68
S1MWHRATIO	1766	0.93	0.09	0.45	1.96
S2MWHRATIO	1549	0.94	0.09	0.46	2.16
S3MWHRATIO	1396	0.95	0.08	0.66	1.68

Categorical Variable Codes

Value-----	R1HTCOMP	R2HTCOMP	R3HTCOMP
.m:Missing	131		218
.s:Skip	12242	11343	13419
0.no	276	141	37
1.yes	2537	2220	2049

Value-----	S1HTCOMP	S2HTCOMP	S3HTCOMP
.m:Missing	95		141
.s:Skip	8588	7929	9040
.u:Unmar	4205	4009	4782
.v:SP NR	333	131	349
0.no	189	85	17
1.yes	1776	1550	1394

Value-----	R1WTCOMP	R2WTCOMP	R3WTCOMP
.m:Missing	131		218
.s:Skip	12242	11343	13419
0.no	276	136	29
1.yes	2537	2225	2057

Value-----	S1WTCOMP	S2WTCOMP	S3WTCOMP
.m:Missing	95		141
.s:Skip	8588	7929	9040
.u:Unmar	4205	4009	4782
.v:SP NR	333	131	349
0.no	188	78	12
1.yes	1777	1557	1399

Value-----	R1MBMICAT	R2MBMICAT	R3MBMICAT
.m:Missing	131		218
.n:not willing/able	134	34	37
.r:Refuse	141	97	
.s:Skip	12242	11343	13419
.x:tried but unable	11	14	1
1.Underweight (lt 18.5)	36	35	15
2.Normal (18.5-24.9)	707	593	468
3.Pre-obesity (25-29.9)	1062	936	806
4.Obesity class 1 (30-34.9)	523	467	510
5.obesity class 2 (35-39.9)	153	129	181
6.obesity class 3 (40+)	46	56	68

Value-----	S1MBMICAT	S2MBMICAT	S3MBMICAT
.m:Missing	95		141
.n:not willing/able	89	21	17
.r:Refuse	100	57	
.s:Skip	8588	7929	9040
.u:Unmar	4205	4009	4782
.v:SP NR	333	131	349
.x:tried but unable	6	8	
1.Underweight (lt 18.5)	14	15	8
2.Normal (18.5-24.9)	452	395	310
3.Pre-obesity (25-29.9)	763	650	556
4.Obesity class 1 (30-34.9)	390	358	350
5.obesity class 2 (35-39.9)	115	86	121
6.obesity class 3 (40+)	36	45	49

Value-----	R1WATCOMP	R2WATCOMP	R3WATCOMP
.m:Missing	131		218
.s:Skip	12242	11343	13419
0.no	282	141	33
1.yes	2531	2220	2053

Value-----	S1WATCOMP	S2WATCOMP	S3WATCOMP
.m:Missing	95		141
.s:Skip	8588	7929	9040
.u:Unmar	4205	4009	4782
.v:SP NR	333	131	349
0.no	197	85	15
1.yes	1768	1550	1396

Value-----	R1HIPCOMP	R2HIPCOMP	R3HIPCOMP
.m:Missing	131		218
.s:Skip	12242	11343	13419
0.no	284	141	32
1.yes	2529	2220	2054

Value-----	S1HIPCOMP	S2HIPCOMP	S3HIPCOMP
.m:Missing	95		141

.s:Skip		8588	7929	9040
.u:Unmar		4205	4009	4782
.v:SP NR		333	131	349
0.no		197	85	15
1.yes		1768	1550	1396

## How Constructed

RwMHEIGHT and RwMWEIGHT are the respective measured height and weight variables, taken from a subsample of the MHAS. Height is given in meters and weight in kilograms. A special missing value .s is used to indicate that the subject was not selected to be part of the subsample. Also, a special missing value .x is used if they tried to measure the height or weight but couldn't do it and a special missing value .n is used if they couldn't stand up or the measurements were not taken for the respondent's safety. Refused and didn't try responses are assigned .r, and other missing responses of these variables are assigned special missing value .m. These variables are set to plain missing (.) for respondents who did not participate in the current wave.

RwHTCOMP and RwWTCOMP indicate whether the respondent is willing and able to complete the height and weight measures, respectively. RwHTCOMP and RwWTCOMP are coded as 1 if the respondent understood the directions for the test, the respondent felt it would be safe to complete the test, and the interviewer was able to complete the measures. RwHTCOMP and RwWTCOMP are coded as 0 if they tried to measure the height or weight but couldn't do it, the respondent didn't try, couldn't stand up, the tests were not attempted for their safety, or they refused to complete the measures. A special missing value .s is used to indicate that the subject was not selected to be part of the subsample. Also other missing responses of these variables are assigned special missing value .m. These measures are set to plain missing (.) for respondents who did not respond to the current wave.

SwMHEIGHT, SwHTCOMP, SwMWEIGHT, and SwWTCOMP are the measures of the respondent's spouse and are taken directly from the spouse's RwMHEIGHT, RwHTCOMP, RwMWEIGHT, and RwWTCOMP, respectively. In addition to the special missing values employed by the respondent variables, the spouse variables employ two additional special missing codes. SwMHEIGHT, SwHTCOMP, SwMWEIGHT, and SwWTCOMP employ the special missing value .u, when the respondent does not report being coupled in the current wave, and the special missing value .v, when the respondent reports being coupled in the current wave but their spouse is not interviewed.

RwMBMI is the respondent's body mass index and it is derived by dividing the respondent's measured weight (kg) by the squared value of their measured height, taken from a subsample of the MHAS. RwMBMICAT indicates the respondent's reported BMI category according to WHO standards. RwMBMICAT is coded as follows: 1.underweight, less than 18.5, 2.normal weight, 18.5 to 24.9, 3.pre-obesity, 25 to 25.9, 4.obesity class 1, 30 to 34.9, 5.obesity class 2, 35 to 39.9, 6.obesity class 3, greater than 40. A special missing value .s is used to indicate that the subject was not selected to be part of the subsample. Also, a special missing value .x is used if they tried to measure the height or weight but couldn't do it and a special missing value .n is used if they couldn't stand up or the measurements were not taken for the respondent's safety. Refused and didn't try responses are assigned .r, and other missing responses of these variables are assigned special missing value .m. These variables are set to plain missing (.) for respondents who did not participate in the current wave.

SwMBMI and SwMBMICAT are the measures of the respondent's spouse and are taken directly from the spouse's RwMBMI and RwMBMICAT, respectively. In addition to the special missing values employed by the respondent variables, the spouse variables employ two additional special missing codes. SwMBMI and SwMBMICAT employ the special missing value .u, when the respondent does not report being coupled in the current wave, and the special missing value .v, when the respondent reports being coupled in the current wave but their spouse is not interviewed.

RwMWAIST and RwMHIP are the respective measured waist and hip circumference variables (in centimeters), taken from a subsample of the MHAS. A special missing value .s is used to indicate that the subject was not selected to be part of the subsample. Also, a special missing value .x is used if they tried to measure the height or weight but couldn't do it and a special missing value .n is used if they couldn't stand up or the measurements were not taken for the respondent's safety. Refused and didn't try responses are assigned .r, and other missing responses of these variables are assigned special missing value .m. These variables are set to plain missing (.) for respondents who did not participate in the current wave.

RwWATCOMP and RwHIPCOMP indicate whether the respondent is willing and able to complete the waist and hip circumference measurements, respectively. RwWATCOMP and RwHIPCOMP are coded as 1 if the respondent understood the directions for the test, the respondent felt it would be safe to complete the test, and the interviewer was able to complete the measures. RwWATCOMP and RwHIPCOMP are coded as 0 if they tried

to measure the waist and hip circumference but couldn't do it, the respondent didn't try, couldn't stand up, the tests were not attempted for their safety, or they refused to complete the measures. A special missing value .s is used to indicate that the subject was not selected to be part of the subsample. Also other missing responses of these variables are assigned special missing value .m. These measures are set to plain missing (.) for respondents who did not respond to the current wave.

RwMWHRATIO is the respondent's waist to hip ratio, taken from a subsample of the MHAS. It is calculated by dividing the respondent's waist measurement by their hip measurement. A special missing value .s is used to indicate that the subject was not selected to be part of the subsample. Also, a special missing value .x is used if they tried to measure the waist or hip but couldn't do it and a special missing value .n is used if they couldn't stand up or the measurements were not taken for the respondent's safety. Refused and didn't try responses are assigned .r, and other missing responses of this variable are assigned special missing value .m. This variable is set to plain missing (.) for respondents who did not participate in the current wave.

SwMWAIST, SwMHIP, SwWATCOMP, SwHIPCOMP, and SwMWHRATIO are the measures of the respondent's spouse and are taken directly from the spouse's RwMWAIST, RwMHIP, RwWATCOMP, RwHIPCOMP, and RwMWHRATIO, respectively. In addition to the special missing values employed by the respondent variables, the spouse variables employ two additional special missing codes. SwMWAIST, SwMHIP, SwWATCOMP, SwHIPCOMP, and SwMWHRATIO employ the special missing value .u, when the respondent does not report being coupled in the current wave, and the special missing value .v, when the respondent reports being coupled in the current wave but their spouse is not interviewed.

## Cross Wave Differences in MHAS

In Waves 1 and 2 anthropometric measures (including height, weight, and waist and hip circumference) were obtained from a sub-sample selected randomly from the baseline sample, distributed in the 32 states. However, in Wave 3 a new sub-sample was selected to complete anthropometric, biomarkers, and other measures. This sub-sample was limited to the complete sample of four states. Anthropometrics data was not collected in Waves 4 and 5.

In Waves 1 and 2, a single measurement was taken, which is used to assign values for these variables in these waves. In Wave 3, two measurements were taken, so the average of the two measurements is used to assign values for these variables in this wave.

## Differences with the RAND HRS/Harmonized HRS

The HRS does not complete a hip measurement, so RwMHIP, RwHIPCOMP, and RwMWHRATIO are not available in the RAND HRS or Harmonized HRS. The Harmonized HRS also includes RwHTFLR and RwWTFLR, indicating the floor surface during the respondent's height and weight measurements, RwSHOEH and RwSHOEW, indicating whether the respondent was wearing shoes during their height and weight measurements, and RwBULKY, indicating whether the respondent had on bulky clothes during their waist measurement.

## MHAS Variables Used

### Master File:

ANTRO_01	Selected for anthropometric measurement 2001
ANTRO_03	Selected for anthropometric measurement 2003
SUBSAMPLE_12	Selected subsample for Biomarkers/Anthropometrics 2012

### Wave 1:

L1	selected for anthropometric measures
L3	weight
L4	height
L5	waist
L6	hip

### Wave 2:

L1	selected for anthropometric measures
L1A	present for measures
L3	weight
L4	height
L5	waist
L6	hip

### Wave 3:

A0104_12	Is the respondent able to stand without support?
A0105_12	Does the respondent have a visible spinal curvature?
A0106_12	Can the respondent get a proper upright posture?
CADERA1_12	Hip circumference - first measurement
CADERA2_12	Hip circumference - second measurement
CINTURA1_12	Waist circumference - first measurement
CINTURA2_12	Waist circumference - second measurement
ESTATU1_12	Height - first measurement
ESTATU2_12	Height - second measurement
PESO1_12	Weight - first measurement
PESO2_12	Weight - second measurement

<b>Height, Weight, Waist and Hip Circumference Measurements: Reason Didn't Complete</b>
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Wave	Variable	Label	Type
1	R1HGHTSFT	r1hghtsft: w1 R cannot stand/straighten to complete height m	Categ
2	R2HGHTSFT	r2hghtsft: w2 R cannot stand/straighten to complete height m	Categ
3	R3HGHTSFT	r3hghtsft: w3 R cannot stand/straighten to complete height m	Categ
1	S1HGHTSFT	s1hghtsft: w1 S cannot stand/straighten to complete height m	Categ
2	S2HGHTSFT	s2hghtsft: w2 S cannot stand/straighten to complete height m	Categ
3	S3HGHTSFT	s3hghtsft: w3 S cannot stand/straighten to complete height m	Categ
1	R1HGHTTRYU	r1hghttryu: w1 R tried but could not complete height measure	Categ
2	R2HGHTTRYU	r2hghttryu: w2 R tried but could not complete height measure	Categ
3	R3HGHTTRYU	r3hghttryu: w3 R tried but could not complete height measure	Categ
1	S1HGHTTRYU	s1hghttryu: w1 S tried but could not complete height measure	Categ
2	S2HGHTTRYU	s2hghttryu: w2 S tried but could not complete height measure	Categ
3	S3HGHTTRYU	s3hghttryu: w3 S tried but could not complete height measure	Categ
1	R1HGHTREF	r1hghtref: w1 R refused and did not try to complete height m	Categ
2	R2HGHTREF	r2hghtref: w2 R refused and did not try to complete height m	Categ
3	R3HGHTREF	r3hghtref: w3 R refused and did not try to complete height m	Categ
1	S1HGHTREF	s1hghtref: w1 S refused and did not try to complete height m	Categ
2	S2HGHTREF	s2hghtref: w2 S refused and did not try to complete height m	Categ
3	S3HGHTREF	s3hghtref: w3 S refused and did not try to complete height m	Categ
1	R1WGHTSFT	r1wghtsft: w1 R cannot stand to complete weight measurement	Categ
2	R2WGHTSFT	r2wghtsft: w2 R cannot stand to complete weight measurement	Categ
3	R3WGHTSFT	r3wghtsft: w3 R cannot stand to complete weight measurement	Categ
1	S1WGHTSFT	s1wghtsft: w1 S cannot stand to complete weight measurement	Categ
2	S2WGHTSFT	s2wghtsft: w2 S cannot stand to complete weight measurement	Categ
3	S3WGHTSFT	s3wghtsft: w3 S cannot stand to complete weight measurement	Categ
1	R1WGHTTRYU	r1wghttryu: w1 R tried but could not complete weight measure	Categ
2	R2WGHTTRYU	r2wghttryu: w2 R tried but could not complete weight measure	Categ
3	R3WGHTTRYU	r3wghttryu: w3 R tried but could not complete weight measure	Categ
1	S1WGHTTRYU	s1wghttryu: w1 S tried but could not complete weight measure	Categ
2	S2WGHTTRYU	s2wghttryu: w2 S tried but could not complete weight measure	Categ
3	S3WGHTTRYU	s3wghttryu: w3 S tried but could not complete weight measure	Categ
1	R1WGHTREF	r1wghtref: w1 R refused and did not try to complete weight m	Categ
2	R2WGHTREF	r2wghtref: w2 R refused and did not try to complete weight m	Categ
3	R3WGHTREF	r3wghtref: w3 R refused and did not try to complete weight m	Categ
1	S1WGHTREF	s1wghtref: w1 S refused and did not try to complete weight m	Categ
2	S2WGHTREF	s2wghtref: w2 S refused and did not try to complete weight m	Categ
3	S3WGHTREF	s3wghtref: w3 S refused and did not try to complete weight m	Categ
1	R1WSTSFT	r1wstsft: w1 R cannot stand to complete waist measurement	Categ
2	R2WSTSFT	r2wstsft: w2 R cannot stand to complete waist measurement	Categ
3	R3WSTSFT	r3wstsft: w3 R cannot stand to complete waist measurement	Categ
1	S1WSTSFT	s1wstsft: w1 S cannot stand to complete waist measurement	Categ
2	S2WSTSFT	s2wstsft: w2 S cannot stand to complete waist measurement	Categ
3	S3WSTSFT	s3wstsft: w3 S cannot stand to complete waist measurement	Categ
1	R1WSTTRYU	r1wsttryu: w1 R tried but could not complete waist measureme	Categ
2	R2WSTTRYU	r2wsttryu: w2 R tried but could not complete waist measureme	Categ
3	R3WSTTRYU	r3wsttryu: w3 R tried but could not complete waist measureme	Categ



1	S1WSTTRYU	s1wsttryu: w1 S tried but could not complete waist measureme	Categ
2	S2WSTTRYU	s2wsttryu: w2 S tried but could not complete waist measureme	Categ
3	S3WSTTRYU	s3wsttryu: w3 S tried but could not complete waist measureme	Categ
1	R1WSTREF	rlwstref: w1 R refused and did not try to complete waist mea	Categ
2	R2WSTREF	r2wstref: w2 R refused and did not try to complete waist mea	Categ
3	R3WSTREF	r3wstref: w3 R refused and did not try to complete waist mea	Categ
1	S1WSTREF	s1wstref: w1 S refused and did not try to complete waist mea	Categ
2	S2WSTREF	s2wstref: w2 S refused and did not try to complete waist mea	Categ
3	S3WSTREF	s3wstref: w3 S refused and did not try to complete waist mea	Categ
1	R1HIPSFT	rlhipsft: w1 R cannot stand to complete hip measurement	Categ
2	R2HIPSFT	r2hipsft: w2 R cannot stand to complete hip measurement	Categ
3	R3HIPSFT	r3hipsft: w3 R cannot stand to complete hip measurement	Categ
1	S1HIPSFT	s1hipsft: w1 S cannot stand to complete hip measurement	Categ
2	S2HIPSFT	s2hipsft: w2 S cannot stand to complete hip measurement	Categ
3	S3HIPSFT	s3hipsft: w3 S cannot stand to complete hip measurement	Categ
1	R1HIPTRYU	rlhiptryu: w1 R tried but could not complete hip measurement	Categ
2	R2HIPTRYU	r2hiptryu: w2 R tried but could not complete hip measurement	Categ
3	R3HIPTRYU	r3hiptryu: w3 R tried but could not complete hip measurement	Categ
1	S1HIPTRYU	s1hiptryu: w1 S tried but could not complete hip measurement	Categ
2	S2HIPTRYU	s2hiptryu: w2 S tried but could not complete hip measurement	Categ
3	S3HIPTRYU	s3hiptryu: w3 S tried but could not complete hip measurement	Categ
1	R1HIPREF	rlhipref: w1 R refused and did not try to complete hip measu	Categ
2	R2HIPREF	r2hipref: w2 R refused and did not try to complete hip measu	Categ
3	R3HIPREF	r3hipref: w3 R refused and did not try to complete hip measu	Categ
1	S1HIPREF	s1hipref: w1 S refused and did not try to complete hip measu	Categ
2	S2HIPREF	s2hipref: w2 S refused and did not try to complete hip measu	Categ
3	S3HIPREF	s3hipref: w3 S refused and did not try to complete hip measu	Categ

## Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R1HGHTSFT	276	0.48	0.50	0.00	1.00
R2HGHTSFT	141	0.23	0.42	0.00	1.00
R3HGHTSFT	37	1.00	0.00	1.00	1.00
S1HGHTSFT	189	0.47	0.50	0.00	1.00
S2HGHTSFT	85	0.24	0.43	0.00	1.00
S3HGHTSFT	17	1.00	0.00	1.00	1.00
R1HGHTTRYU	276	0.03	0.17	0.00	1.00
R2HGHTTRYU	141	0.09	0.29	0.00	1.00
R3HGHTTRYU	37	0.00	0.00	0.00	0.00
S1HGHTTRYU	189	0.02	0.14	0.00	1.00
S2HGHTTRYU	85	0.09	0.29	0.00	1.00
S3HGHTTRYU	17	0.00	0.00	0.00	0.00
R1HGHTREF	276	0.49	0.50	0.00	1.00
R2HGHTREF	141	0.68	0.47	0.00	1.00
R3HGHTREF	37	0.00	0.00	0.00	0.00
S1HGHTREF	189	0.51	0.50	0.00	1.00
S2HGHTREF	85	0.67	0.47	0.00	1.00
S3HGHTREF	17	0.00	0.00	0.00	0.00

R1WGHTSFT	276	0.48	0.50	0.00	1.00
R2WGHTSFT	136	0.24	0.43	0.00	1.00
R3WGHTSFT	29	0.93	0.26	0.00	1.00
S1WGHTSFT	188	0.47	0.50	0.00	1.00
S2WGHTSFT	78	0.26	0.44	0.00	1.00
S3WGHTSFT	12	1.00	0.00	1.00	1.00
R1WGHTTRYU	276	0.03	0.16	0.00	1.00
R2WGHTTRYU	136	0.07	0.25	0.00	1.00
R3WGHTTRYU	29	0.07	0.26	0.00	1.00
S1WGHTTRYU	188	0.02	0.13	0.00	1.00
S2WGHTTRYU	78	0.05	0.22	0.00	1.00
S3WGHTTRYU	12	0.00	0.00	0.00	0.00
R1WGHTREF	276	0.50	0.50	0.00	1.00
R2WGHTREF	136	0.69	0.46	0.00	1.00
R3WGHTREF	2	0.00	0.00	0.00	0.00
S1WGHTREF	188	0.51	0.50	0.00	1.00
S2WGHTREF	78	0.69	0.46	0.00	1.00
S3WGHTREF	0	.	.	.	.
R1WSTSFT	282	0.45	0.50	0.00	1.00
R2WSTSFT	141	0.21	0.41	0.00	1.00
R3WSTSFT	33	0.85	0.36	0.00	1.00
S1WSTSFT	197	0.43	0.50	0.00	1.00
S2WSTSFT	85	0.21	0.41	0.00	1.00
S3WSTSFT	15	0.87	0.35	0.00	1.00
R1WSTTRYU	282	0.02	0.14	0.00	1.00
R2WSTTRYU	141	0.07	0.26	0.00	1.00
R3WSTTRYU	33	0.06	0.24	0.00	1.00
S1WSTTRYU	197	0.01	0.10	0.00	1.00
S2WSTTRYU	85	0.07	0.26	0.00	1.00
S3WSTTRYU	15	0.00	0.00	0.00	0.00
R1WSTREF	282	0.53	0.50	0.00	1.00
R2WSTREF	141	0.72	0.45	0.00	1.00
R3WSTREF	33	0.09	0.29	0.00	1.00
S1WSTREF	197	0.56	0.50	0.00	1.00
S2WSTREF	85	0.72	0.45	0.00	1.00
S3WSTREF	15	0.13	0.35	0.00	1.00
R1HIPSFT	284	0.45	0.50	0.00	1.00
R2HIPSFT	141	0.21	0.41	0.00	1.00
R3HIPSFT	32	0.88	0.34	0.00	1.00
S1HIPSFT	197	0.44	0.50	0.00	1.00
S2HIPSFT	85	0.20	0.40	0.00	1.00
S3HIPSFT	15	0.87	0.35	0.00	1.00
R1HIPTRYU	284	0.02	0.14	0.00	1.00
R2HIPTRYU	141	0.08	0.27	0.00	1.00
R3HIPTRYU	32	0.03	0.18	0.00	1.00
S1HIPTRYU	197	0.01	0.10	0.00	1.00
S2HIPTRYU	85	0.08	0.28	0.00	1.00
S3HIPTRYU	15	0.00	0.00	0.00	0.00

R1HIPREF	284	0.53	0.50	0.00	1.00
R2HIPREF	141	0.72	0.45	0.00	1.00
R3HIPREF	32	0.09	0.30	0.00	1.00
S1HIPREF	197	0.55	0.50	0.00	1.00
S2HIPREF	85	0.72	0.45	0.00	1.00
S3HIPREF	15	0.13	0.35	0.00	1.00

Categorical Variable Codes

Value-----	R1HGHTSFT	R2HGHTSFT	R3HGHTSFT
.c:completed test	2537	2220	2049
.m:Missing	131		218
.s:Skip	12242	11343	13419
0.no	144	109	
1.yes	132	32	37
Value-----	S1HGHTSFT	S2HGHTSFT	S3HGHTSFT
.c:completed test	1776	1550	1394
.m:Missing	95		141
.s:Skip	8588	7929	9040
.u:Unmar	4205	4009	4782
.v:SP NR	333	131	349
0.no	101	65	
1.yes	88	20	17
Value-----	R1HGHTTRYU	R2HGHTTRYU	R3HGHTTRYU
.c:completed test	2537	2220	2049
.m:Missing	131		218
.s:Skip	12242	11343	13419
0.no	268	128	37
1.yes	8	13	
Value-----	S1HGHTTRYU	S2HGHTTRYU	S3HGHTTRYU
.c:completed test	1776	1550	1394
.m:Missing	95		141
.s:Skip	8588	7929	9040
.u:Unmar	4205	4009	4782
.v:SP NR	333	131	349
0.no	185	77	17
1.yes	4	8	
Value-----	R1HGHTREF	R2HGHTREF	R3HGHTREF
.c:completed test	2537	2220	2049
.m:Missing	131		218
.s:Skip	12242	11343	13419
0.no	140	45	37
1.yes	136	96	
Value-----	S1HGHTREF	S2HGHTREF	S3HGHTREF
.c:completed test	1776	1550	1394
.m:Missing	95		141
.s:Skip	8588	7929	9040
.u:Unmar	4205	4009	4782
.v:SP NR	333	131	349
0.no	92	28	17
1.yes	97	57	
Value-----	R1WGHTSFT	R2WGHTSFT	R3WGHTSFT
.c:completed test	2537	2225	2057
.m:Missing	131		218
.s:Skip	12242	11343	13419
0.no	144	103	2
1.yes	132	33	27
Value-----	S1WGHTSFT	S2WGHTSFT	S3WGHTSFT
.c:completed test	1777	1557	1399
.m:Missing	95		141
.s:Skip	8588	7929	9040

.u:Unmar		4205	4009	4782
.v:SP NR		333	131	349
0.no		99	58	
1.yes		89	20	12
Value-----		R1WGHTTRYU	R2WGHTTRYU	R3WGHTTRYU
.c:completed test		2537	2225	2057
.m:Missing		131		218
.s:Skip		12242	11343	13419
0.no		269	127	27
1.yes		7	9	2
Value-----		S1WGHTTRYU	S2WGHTTRYU	S3WGHTTRYU
.c:completed test		1777	1557	1399
.m:Missing		95		141
.s:Skip		8588	7929	9040
.u:Unmar		4205	4009	4782
.v:SP NR		333	131	349
0.no		185	74	12
1.yes		3	4	
Value-----		R1WGHTREF	R2WGHTREF	R3WGHTREF
.c:completed test		2537	2225	2057
.m:Missing		131		245
.s:Skip		12242	11343	13419
0.no		139	42	2
1.yes		137	94	
Value-----		S1WGHTREF	S2WGHTREF	S3WGHTREF
.c:completed test		1777	1557	1399
.m:Missing		95		153
.s:Skip		8588	7929	9040
.u:Unmar		4205	4009	4782
.v:SP NR		333	131	349
0.no		92	24	
1.yes		96	54	
Value-----		R1WSTSFT	R2WSTSFT	R3WSTSFT
.c:completed test		2531	2220	2053
.m:Missing		131		218
.s:Skip		12242	11343	13419
0.no		156	111	5
1.yes		126	30	28
Value-----		S1WSTSFT	S2WSTSFT	S3WSTSFT
.c:completed test		1768	1550	1396
.m:Missing		95		141
.s:Skip		8588	7929	9040
.u:Unmar		4205	4009	4782
.v:SP NR		333	131	349
0.no		112	67	2
1.yes		85	18	13
Value-----		R1WSTTRYU	R2WSTTRYU	R3WSTTRYU
.c:completed test		2531	2220	2053
.m:Missing		131		218
.s:Skip		12242	11343	13419
0.no		276	131	31
1.yes		6	10	2
Value-----		S1WSTTRYU	S2WSTTRYU	S3WSTTRYU
.c:completed test		1768	1550	1396
.m:Missing		95		141
.s:Skip		8588	7929	9040
.u:Unmar		4205	4009	4782
.v:SP NR		333	131	349
0.no		195	79	15
1.yes		2	6	
Value-----		R1WSTREF	R2WSTREF	R3WSTREF
.c:completed test		2531	2220	2053
.m:Missing		131		218
.s:Skip		12242	11343	13419

0.no		132	40	30
1.yes		150	101	3
Value-----		S1WSTREF	S2WSTREF	S3WSTREF
.c:completed test		1768	1550	1396
.m:Missing		95		141
.s:Skip		8588	7929	9040
.u:Unmar		4205	4009	4782
.v:SP NR		333	131	349
0.no		87	24	13
1.yes		110	61	2
Value-----		R1HIPSFT	R2HIPSFT	R3HIPSFT
.c:completed test		2529	2220	2054
.m:Missing		131		218
.s:Skip		12242	11343	13419
0.no		156	112	4
1.yes		128	29	28
Value-----		S1HIPSFT	S2HIPSFT	S3HIPSFT
.c:completed test		1768	1550	1396
.m:Missing		95		141
.s:Skip		8588	7929	9040
.u:Unmar		4205	4009	4782
.v:SP NR		333	131	349
0.no		111	68	2
1.yes		86	17	13
Value-----		R1HIPTRYU	R2HIPTRYU	R3HIPTRYU
.c:completed test		2529	2220	2054
.m:Missing		131		218
.s:Skip		12242	11343	13419
0.no		278	130	31
1.yes		6	11	1
Value-----		S1HIPTRYU	S2HIPTRYU	S3HIPTRYU
.c:completed test		1768	1550	1396
.m:Missing		95		141
.s:Skip		8588	7929	9040
.u:Unmar		4205	4009	4782
.v:SP NR		333	131	349
0.no		195	78	15
1.yes		2	7	
Value-----		R1HIPREF	R2HIPREF	R3HIPREF
.c:completed test		2529	2220	2054
.m:Missing		131		218
.s:Skip		12242	11343	13419
0.no		134	40	29
1.yes		150	101	3
Value-----		S1HIPREF	S2HIPREF	S3HIPREF
.c:completed test		1768	1550	1396
.m:Missing		95		141
.s:Skip		8588	7929	9040
.u:Unmar		4205	4009	4782
.v:SP NR		333	131	349
0.no		88	24	13
1.yes		109	61	2

## How Constructed

RwHGHTSFT and RwWGHTSFT indicate whether the respondent couldn't complete the height and weight measures because of safety reasons, respectively. RwHGHTSFT and RwWGHTSFT are coded as 1 if the respondent couldn't stand to complete the measures or the measurements were not attempted for the respondent's safety. RwHGHTSFT and RwWGHTSFT are coded as 0 if they tried to measure the height or weight but couldn't do it, the respondent didn't try, or refused to complete the measures. A special missing value .s is used to indicate that the subject was not selected to be part of the subsample. A special missing value .c is used to indicate that the respondent completed the measurements. Also other missing responses of these variables are assigned special missing value .m. These measures are set to plain missing (.) for respondents who did not respond to the current wave.

RwHGHTTRYU and RwwGHTRYU indicate whether the respondent tried to complete the height and weight measures but couldn't do it, respectively. RwhGHTSFT and RwwGHTSFT are coded as 1 if the respondent tried but couldn't complete the measures. RwhGHTSFT and RwwGHTSFT are coded as 0 if the respondent didn't try, couldn't stand, the measurements were not attempted for the respondent's safety, or they refused to complete the measures. A special missing value .s is used to indicate that the subject was not selected to be part of the subsample. A special missing value .c is used to indicate that the respondent completed the measurements. Also other missing responses of these variables are assigned special missing value .m. These measures are set to plain missing (.) for respondents who did not respond to the current wave.

RwHGHTREF and RwwGHTRF indicate whether the respondent refused to complete the height and weight measures, respectively. RwhGHTREF and RwwGHTRF are coded as 1 if the respondent refused or didn't try to complete the measures. RwhGHTREF and RwwGHTRF are coded as 0 if they tried to measure the height or weight but couldn't do it, the respondent couldn't stand, or the measurements were not attempted for the respondent's safety. A special missing value .s is used to indicate that the subject was not selected to be part of the subsample. A special missing value .c is used to indicate that the respondent completed the measurements. Also other missing responses of these variables are assigned special missing value .m. These measures are set to plain missing (.) for respondents who did not respond to the current wave.

SwHGHTSFT, SwWGHTSFT, SwHGHTTRYU, SwWGHTTRYU, SwHGHTREF, and SwWGHTREF are the measures of the respondent's spouse and are taken directly from the spouse's RwhGHTSFT, RwwGHTSFT, RwhGHTTRYU, RwwGHTRYU, RwhGHTREF, and RwwGHTRF, respectively. In addition to the special missing values employed by the respondent variables, the spouse variables employ two additional special missing codes. SwHGHTSFT, SwWGHTSFT, SwHGHTTRYU, SwWGHTTRYU, SwHGHTREF, and SwWGHTREF employ the special missing value .u, when the respondent does not report being coupled in the current wave, and the special missing value .v, when the respondent reports being coupled in the current wave but their spouse is not interviewed.

RwWSTSFT and RwhIPSFT indicate whether the respondent couldn't complete the waist and hip circumference measurements because of safety reasons, respectively. RwwSTSFT and RwhIPSFT are coded as 1 if the respondent couldn't stand to complete the measures or the measurements were not attempted for the respondent's safety. RwwSTSFT and RwhIPSFT are coded as 0 if they tried to measure the waist and hip circumference but couldn't do it, the respondent didn't try, or refused to complete the measures. A special missing value .s is used to indicate that the subject was not selected to be part of the subsample. A special missing value .c is used to indicate that the respondent completed the measurements. Also other missing responses of these variables are assigned special missing value .m. These measures are set to plain missing (.) for respondents who did not respond to the current wave.

RwWSTTRYU and RwhIPTRYU indicate whether the respondent tried to complete the waist and hip circumference measurements but couldn't do it, respectively. RwwSTTRYU and RwhIPTRYU are coded as 1 if the respondent tried but couldn't complete the measures. RwwSTTRYU and RwhIPTRYU are coded as 0 if the respondent didn't try, couldn't stand, the measurements were not attempted for the respondent's safety, or they refused to complete the measures. A special missing value .s is used to indicate that the subject was not selected to be part of the subsample. A special missing value .c is used to indicate that the respondent completed the measurements. Also other missing responses of these variables are assigned special missing value .m. These measures are set to plain missing (.) for respondents who did not respond to the current wave.

RwWSTREF and RwhIPREF indicate whether the respondent refused to complete the waist and hip circumference measurements, respectively. RwwSTREF and RwhIPREF are coded as 1 if the respondent refused or didn't try to complete the measures. RwwSTREF and RwhIPREF are coded as 0 if they tried to measure waist and hip circumference measurements but couldn't do it, the respondent couldn't stand, or the measurements were not attempted for the respondent's safety. A special missing value .s is used to indicate that the subject was not selected to be part of the subsample. A special missing value .c is used to indicate that the respondent completed the measurements. Also other missing responses of these variables are assigned special missing value .m. These measures are set to plain missing (.) for respondents who did not respond to the current wave.

SwWSTSFT, SwHIPSFT, SwWSTTRYU, SwHIPTRYU, SwWSTREF, and SwHIPREF are the measures of the respondent's spouse and are taken directly from the spouse's RwhSTSFT, RwhIPSFT, RwwSTTRYU, RwhIPTRYU, RwwSTREF, and RwhIPREF, respectively. In addition to the special missing values employed by the respondent variables, the spouse variables employ two additional special missing codes. SwWSTSFT, SwHIPSFT, SwWSTTRYU, SwHIPTRYU, SwWSTREF, and SwHIPREF employ the special missing value .u, when the respondent does not report being coupled in the current wave, and the special missing value .v, when the respondent reports being coupled in the current wave but their spouse is not interviewed.

## Cross Wave Differences in MHAS

In Waves 1 and 2 anthropometric measures (including height, weight, and waist and hip circumference) were obtained from a sub-sample selected randomly from the baseline sample, distributed in the 32 states. However, in Wave 3 a new sub-sample was selected to complete anthropometric, biomarkers, and other measures. This sub-sample was limited to the complete sample of four states. Anthropometrics data was not collected in Waves 4 and 5.

## Differences with the RAND HRS/Harmonized HRS

The HRS does not complete a hip measurement, so `RwHIPSFT`, `RwHIPTRYU`, and `RwHIPREF` are not available in the RAND HRS or Harmonized HRS. The Harmonized HRS includes additional variables to indicate if the respondent did not complete the height, weight, and waist measurements due to faulty equipment or for other reasons. In the HRS, multiple reasons can be chosen to explain why the respondent did not complete the measurements, while a single reason is chosen to explain why the respondent did not complete the measurements in the MHAS.

## MHAS Variables Used

### Master File:

<code>ANTRO_01</code>	Selected for anthropometric measurement 2001
<code>ANTRO_03</code>	Selected for anthropometric measurement 2003
<code>SUBSAMPLE_12</code>	Selected subsample for Biomarkers/Antropometrics 2012

### Wave 1:

<code>L1</code>	selected for anthropometric measures
<code>L3</code>	weight
<code>L4</code>	height
<code>L5</code>	waist
<code>L6</code>	hip

### Wave 2:

<code>L1</code>	selected for anthropometric measures
<code>L1A</code>	present for measures
<code>L3</code>	weight
<code>L4</code>	height
<code>L5</code>	waist
<code>L6</code>	hip

### Wave 3:

<code>A0104_12</code>	Is the respondent able to stand without support?
<code>A0105_12</code>	Does the respondent have a visible spinal curvature?
<code>A0106_12</code>	Can the respondent get a proper upright posture?
<code>CADERA1_12</code>	Hip circumference - first measurement
<code>CADERA2_12</code>	Hip circumference - second measurement
<code>CINTURA1_12</code>	Waist circumference - first measurement
<code>CINTURA2_12</code>	Waist circumference - second measurement
<code>ESTATU1_12</code>	Height - first measurement
<code>ESTATU2_12</code>	Height - second measurement
<code>PESO1_12</code>	Weight - first measurement
<code>PESO2_12</code>	Weight - second measurement

Sitting Height

Wave	Variable	Label	Type
2	R2SITHGHT	r2sithght: w2 R Measured Sitting Height in cm	Cont
3	R3SITHGHT	r3sithght: w3 R Measured Sitting Height in cm	Cont
2	S2SITHGHT	s2sithght: w2 S Measured Sitting Height in cm	Cont
3	S3SITHGHT	s3sithght: w3 S Measured Sitting Height in cm	Cont
2	R2CHAIRHGHT	r2chairhght: w2 R Chair Height in cm	Cont
3	R3CHAIRHGHT	r3chairhght: w3 R Chair Height in cm	Cont
2	S2CHAIRHGHT	s2chairhght: w2 S Chair Height in cm	Cont
3	S3CHAIRHGHT	s3chairhght: w3 S Chair Height in cm	Cont
2	R2STHTCOMP	r2sthtcomp: w2 R willing & able to complete sitting height m	Categ
3	R3STHTCOMP	r3sthtcomp: w3 R willing & able to complete sitting height m	Categ
2	S2STHTCOMP	s2sthtcomp: w2 S willing & able to complete sitting height m	Categ
3	S3STHTCOMP	s3sthtcomp: w3 S willing & able to complete sitting height m	Categ

Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R2SITHGHT	2191	121.23	9.56	50.00	150.00
R3SITHGHT	2048	125.26	6.65	91.00	160.10
S2SITHGHT	1538	122.18	9.74	50.00	150.00
S3SITHGHT	1394	126.04	6.47	91.00	160.10
R2CHAIRHGHT	2193	43.88	4.45	25.00	70.00
R3CHAIRHGHT	2048	43.82	4.01	30.00	69.00
S2CHAIRHGHT	1538	44.08	4.50	25.00	70.00
S3CHAIRHGHT	1394	43.77	4.02	30.00	68.55
R2STHTCOMP	2361	0.93	0.26	0.00	1.00
R3STHTCOMP	2086	0.98	0.13	0.00	1.00
S2STHTCOMP	1635	0.94	0.24	0.00	1.00
S3STHTCOMP	1411	0.99	0.11	0.00	1.00

Categorical Variable Codes

Value-----	R2STHTCOMP	R3STHTCOMP
.m:Missing		218
.s:Skip	11343	13419
0.no	170	38
1.yes	2191	2048
Value-----	S2STHTCOMP	S3STHTCOMP
.m:Missing		141
.s:Skip	7929	9040
.u:Unmar	4009	4782
.v:SP NR	131	349
0.no	97	17
1.yes	1538	1394

How Constructed



RwSITHGHT is the measured sitting height variable and RwCHAIRHGHT is the chair height used to complete the measurement. RwSITHGHT and RwCHAIRHGHT are taken from a subsample of the MHAS and given in centimeters. A special missing value .s is used to indicate that the subject was not selected to be part of the subsample. Also, a special missing value .x is used if they tried to measure the sitting height but couldn't do it and a special missing value .n is used if they couldn't stop moving or cannot sit. Refused and didn't try responses are assigned .r, and other missing responses of these variables are assigned special missing value .m. These variables are set to plain missing (.) for respondents who did not participate in the current wave.

RwSTHTCOMP indicates whether the respondent is willing and able to complete the sitting height measure. RwSTHTCOMP is coded as 1 if the respondent understood the directions for the test, the respondent felt it would be safe to complete the test, and the interviewer was able to complete the measures. RwSTHTCOMP is coded as 0 if they tried to measure the sitting height but couldn't do it, the respondent didn't try, couldn't stop moving, cannot sit, or refused to complete the measures. A special missing value .s is used to indicate that the subject was not selected to be part of the subsample. Also other missing responses of this variable are assigned special missing value .m. This measure is set to plain missing (.) for respondents who did not respond to the current wave.

SwSITHGHT, SwCHAIRHGHT, and SwSTHTCOMP are the measures of the respondent's spouse and are taken directly from the spouse's RwSITHGHT, RwCHAIRHGHT, and RwSTHTCOMP, respectively. In addition to the special missing values employed by the respondent variables, the spouse variables employ two additional special missing codes. SwSITHGHT, SwCHAIRHGHT, and SwSTHTCOMP employ the special missing value .u, when the respondent does not report being coupled in the current wave, and the special missing value .v, when the respondent reports being coupled in the current wave but their spouse is not interviewed.

## Cross Wave Differences in MHAS

The sitting height measures are only available for waves 2 and 3. In wave 2 anthropometric measures (including height, weight, and waist and hip circumference) were obtained from a sub-sample selected randomly from the baseline sample, distributed in the 32 states. However, in wave 3 a new sub-sample was selected to complete anthropometric, biomarkers, and other measures. This sub-sample was limited to the complete sample of four states. Anthropometrics data was not collected in Waves 4 and 5.

In Wave 2, a single measurement was taken, which is used to assign values for these variables in this wave. In Wave 3, two measurements were taken, so the average of the two measurements is used to assign values for these variables in this wave.

The reasons the respondent could not complete the sitting height measurement changes between waves. In Wave 2, the option "cannot stand" is replaced with "cannot sit" in Wave 3.

## Differences with the RAND HRS/Harmonized HRS

The HRS does not complete a sitting height measurement, so these variables are not available in the RAND HRS or Harmonized HRS.

## MHAS Variables Used

### Master File:

ANTRO_03	Selected for anthropometric measurement 2003
SUBSAMPLE_12	Selected subsample for Biomarkers/Anthropometrics 2012

### Wave 2:

L1	selected for anthropometric measures
L1A	present for measures
L7_1	seated height
L7_2	height of chair

### Wave 3:

A0104_12	Is the respondent able to stand without support?
A0105_12	Does the respondent have a visible spinal curvature?
A0106_12	Can the respondent get a proper upright posture?
ASENT1_12	Sitting height - first measurement
ASENT2_12	Sitting height - second measurement
ASILLA1_12	Height of the chair - first measurement
ASILLA2_12	Height of the chair - second measurement

Sitting Height: Reason Didn't Complete

Wave	Variable	Label	Type
2	R2STHTSFT	r2sthtsft: w2 R cannot sit/straighten to complete sitting he	Categ
3	R3STHTSFT	r3sthtsft: w3 R cannot sit/straighten to complete sitting he	Categ
2	S2STHTSFT	s2sthtsft: w2 S cannot sit/straighten to complete sitting he	Categ
3	S3STHTSFT	s3sthtsft: w3 S cannot sit/straighten to complete sitting he	Categ
2	R2STHTTRYU	r2sthttryu: w2 R tried but could not complete sitting height	Categ
3	R3STHTTRYU	r3sthttryu: w3 R tried but could not complete sitting height	Categ
2	S2STHTTRYU	s2sthttryu: w2 S tried but could not complete sitting height	Categ
3	S3STHTTRYU	s3sthttryu: w3 S tried but could not complete sitting height	Categ
2	R2STHTREF	r2sthtref: w2 R refused and did not try to complete sitting	Categ
3	R3STHTREF	r3sthtref: w3 R refused and did not try to complete sitting	Categ
2	S2STHTREF	s2sthtref: w2 S refused and did not try to complete sitting	Categ
3	S3STHTREF	s3sthtref: w3 S refused and did not try to complete sitting	Categ

Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R2STHTSFT	170	0.15	0.36	0.00	1.00
R3STHTSFT	38	0.97	0.16	0.00	1.00
S2STHTSFT	97	0.16	0.37	0.00	1.00
S3STHTSFT	17	1.00	0.00	1.00	1.00
R2STHTTRYU	170	0.09	0.28	0.00	1.00
R3STHTTRYU	38	0.03	0.16	0.00	1.00
S2STHTTRYU	97	0.06	0.24	0.00	1.00
S3STHTTRYU	17	0.00	0.00	0.00	0.00
R2STHTREF	170	0.76	0.43	0.00	1.00
R3STHTREF	38	0.00	0.00	0.00	0.00
S2STHTREF	97	0.77	0.42	0.00	1.00
S3STHTREF	17	0.00	0.00	0.00	0.00

Categorical Variable Codes

Value-----	R2STHTSFT	R3STHTSFT
.c:completed test	2191	2048
.m:Missing		218
.s:Skip	11343	13419
0.no	144	1
1.yes	26	37
Value-----	S2STHTSFT	S3STHTSFT
.c:completed test	1538	1394
.m:Missing		141
.s:Skip	7929	9040
.u:Unmar	4009	4782
.v:SP NR	131	349
0.no	81	
1.yes	16	17
Value-----	R2STHTTRYU	R3STHTTRYU

.c:completed test		2191	2048
.m:Missing			218
.s:Skip		11343	13419
0.no		155	37
1.yes		15	1
Value-----		S2STHTTRYU	S3STHTTRYU
.c:completed test		1538	1394
.m:Missing			141
.s:Skip		7929	9040
.u:Unmar		4009	4782
.v:SP NR		131	349
0.no		91	17
1.yes		6	
Value-----		R2STHTREF	R3STHTREF
.c:completed test		2191	2048
.m:Missing			218
.s:Skip		11343	13419
0.no		41	38
1.yes		129	
Value-----		S2STHTREF	S3STHTREF
.c:completed test		1538	1394
.m:Missing			141
.s:Skip		7929	9040
.u:Unmar		4009	4782
.v:SP NR		131	349
0.no		22	17
1.yes		75	

## How Constructed

RwSTHTSFT indicates whether the respondent couldn't complete the sitting height measure because of safety reasons. RwSTHTSFT is coded as 1 if the respondent couldn't stop moving or cannot sit to complete the measure. RwSTHTSFT is coded as 0 if they tried to measure the sitting height but couldn't do it, the respondent didn't try, or refused to complete the measures. A special missing value .s is used to indicate that the subject was not selected to be part of the subsample. A special missing value .c is used to indicate that the subject completed the measurements. Also other missing responses of this variable are assigned special missing value .m. This measure is set to plain missing (.) for respondents who did not respond to the current wave.

RwSTHTTRYU indicates whether the respondent tried to complete the sitting height measure but couldn't do it. RwSTHTTRYU is coded as 1 if the respondent tried but couldn't complete the measure. RwSTHTTRYU is coded as 0 if the respondent didn't try, couldn't stop moving, cannot sit, or refused to complete the measures. A special missing value .s is used to indicate that the subject was not selected to be part of the subsample. A special missing value .c is used to indicate that the subject completed the measurements. Also other missing responses of this variable are assigned special missing value .m. This measure is set to plain missing (.) for respondents who did not respond to the current wave.

RwSTHTREF indicates whether the respondent refused to complete the sitting height measure. RwSTHTREF is coded as 1 if the respondent refused to complete the measure. RwSTHTREF is coded as 0 if they tried to measure the sitting height but couldn't do it, the respondent didn't try, couldn't stop moving, or cannot sit. A special missing value .s is used to indicate that the subject was not selected to be part of the subsample. A special missing value .c is used to indicate that the subject completed the measurements. Also other missing responses of this variable are assigned special missing value .m. This measure is set to plain missing (.) for respondents who did not respond to the current wave.

SwSTHTSFT, SwSTHTTRYU, and SwSTHTREF are the measures of the respondent's spouse and are taken directly from the spouse's RwSTHTSFT, RwSTHTTRYU, and RwSTHTREF, respectively. In addition to the special missing values employed by the respondent variables, the spouse variables employ two additional special missing codes. SwSTHTSFT, SwSTHTTRYU, and SwSTHTREF employ the special missing value .u, when the respondent does not report being coupled in the current wave, and the special missing value .v, when the respondent reports being coupled in the current wave but their spouse is not interviewed.

## Cross Wave Differences in MHAS

The sitting height measures are only available for Waves 2 and 3. In Wave 2 anthropometric measures (including height, weight, and waist and hip circumference) were obtained from a sub-sample selected randomly from the baseline sample, distributed in the 32 states. However, in Wave 3 a new sub-sample was selected to complete anthropometric, biomarkers, and other measures. This sub-sample was limited to the complete sample of four states. Anthropometrics data was not collected in Waves 4 and 5.

The reasons the respondent could not complete the sitting height measurement changes between waves. In Wave 2, the option "cannot stand" is replaced with "cannot sit" in Wave 3.

Differences with the RAND HRS/Harmonized HRS

The HRS does not complete a sitting height measurement, so these variables are not available in the RAND HRS or Harmonized HRS.

MHAS Variables Used

Master File:	
ANTRO_03	Selected for anthropometric measurement 2003
SUBSAMPLE_12	Selected subsample for Biomarkers/Anthropometrics 2012
Wave 2:	
L1	selected for anthropometric measures
L1A	present for measures
L7_1	seated height
L7_2	height of chair
Wave 3:	
A0104_12	Is the respondent able to stand without support?
A0105_12	Does the respondent have a visible spinal curvature?
A0106_12	Can the respondent get a proper upright posture?
ASENT1_12	Sitting height - first measurement
ASENT2_12	Sitting height - second measurement

<b>Balance Test</b>
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Wave	Variable	Label	Type
1	R1BALRTSEC	r1balrtsec: w1 R Right Foot Balance Results (sec)	Cont
2	R2BALRTSEC	r2balrtsec: w2 R Right Foot Balance Results (sec)	Cont
3	R3BALRTSEC	r3balrtsec: w3 R Right Foot Balance Results (sec)	Cont
1	S1BALRTSEC	s1balrtsec: w1 S Right Foot Balance Results (sec)	Cont
2	S2BALRTSEC	s2balrtsec: w2 S Right Foot Balance Results (sec)	Cont
3	S3BALRTSEC	s3balrtsec: w3 S Right Foot Balance Results (sec)	Cont
1	R1BALRT	r1balrt: w1 R Right Foot Balance Test Completed 10 sec	Categ
2	R2BALRT	r2balrt: w2 R Right Foot Balance Test Completed 10 sec	Categ
3	R3BALRT	r3balrt: w3 R Right Foot Balance Test Completed 10 sec	Categ
1	S1BALRT	s1balrt: w1 S Right Foot Balance Test Completed 10 sec	Categ
2	S2BALRT	s2balrt: w2 S Right Foot Balance Test Completed 10 sec	Categ
3	S3BALRT	s3balrt: w3 S Right Foot Balance Test Completed 10 sec	Categ
1	R1BALRTCOMP	r1balrtcomp: w1 R willing & able to complete right foot bala	Categ
2	R2BALRTCOMP	r2balrtcomp: w2 R willing & able to complete right foot bala	Categ
3	R3BALRTCOMP	r3balrtcomp: w3 R willing & able to complete right foot bala	Categ
1	S1BALRTCOMP	s1balrtcomp: w1 S willing & able to complete right foot bala	Categ
2	S2BALRTCOMP	s2balrtcomp: w2 S willing & able to complete right foot bala	Categ
3	S3BALRTCOMP	s3balrtcomp: w3 S willing & able to complete right foot bala	Categ
1	R1BALLFSEC	r1ballfsec: w1 R Left Foot Balance Results (sec)	Cont
2	R2BALLFSEC	r2ballfsec: w2 R Left Foot Balance Results (sec)	Cont
3	R3BALLFSEC	r3ballfsec: w3 R Left Foot Balance Results (sec)	Cont
1	S1BALLFSEC	s1ballfsec: w1 S Left Foot Balance Results (sec)	Cont
2	S2BALLFSEC	s2ballfsec: w2 S Left Foot Balance Results (sec)	Cont
3	S3BALLFSEC	s3ballfsec: w3 S Left Foot Balance Results (sec)	Cont
1	R1BALLF	r1ballf: w1 R Left Foot Balance Test Completed 10 sec	Categ
2	R2BALLF	r2ballf: w2 R Left Foot Balance Test Completed 10 sec	Categ
3	R3BALLF	r3ballf: w3 R Left Foot Balance Test Completed 10 sec	Categ
1	S1BALLF	s1ballf: w1 S Left Foot Balance Test Completed 10 sec	Categ
2	S2BALLF	s2ballf: w2 S Left Foot Balance Test Completed 10 sec	Categ
3	S3BALLF	s3ballf: w3 S Left Foot Balance Test Completed 10 sec	Categ
1	R1BALLFCOMP	r1ballfcomp: w1 R willing & able to complete left foot balan	Categ
2	R2BALLFCOMP	r2ballfcomp: w2 R willing & able to complete left foot balan	Categ
3	R3BALLFCOMP	r3ballfcomp: w3 R willing & able to complete left foot balan	Categ
1	S1BALLFCOMP	s1ballfcomp: w1 S willing & able to complete left foot balan	Categ
2	S2BALLFCOMP	s2ballfcomp: w2 S willing & able to complete left foot balan	Categ
3	S3BALLFCOMP	s3ballfcomp: w3 S willing & able to complete left foot balan	Categ

## Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R1BALRTSEC	2048	8.41	2.55	1.00	10.00
R2BALRTSEC	1887	8.29	2.78	1.00	10.00
R3BALRTSEC	1913	7.48	3.37	1.00	10.00
S1BALRTSEC	1477	8.57	2.45	1.00	10.00
S2BALRTSEC	1374	8.46	2.66	1.00	10.00

S3BALRTSEC	1332	7.72	3.24	1.00	10.00
R1BALRT	2048	0.65	0.48	0.00	1.00
R2BALRT	1887	0.67	0.47	0.00	1.00
R3BALRT	1913	0.58	0.49	0.00	1.00
S1BALRT	1477	0.68	0.47	0.00	1.00
S2BALRT	1374	0.70	0.46	0.00	1.00
S3BALRT	1332	0.61	0.49	0.00	1.00
R1BALRTCOMP	2759	0.74	0.44	0.00	1.00
R2BALRTCOMP	2361	0.80	0.40	0.00	1.00
R3BALRTCOMP	2086	0.92	0.28	0.00	1.00
S1BALRTCOMP	1925	0.77	0.42	0.00	1.00
S2BALRTCOMP	1635	0.84	0.37	0.00	1.00
S3BALRTCOMP	1411	0.94	0.23	0.00	1.00
R1BALLFSEC	2036	8.20	2.73	1.00	10.00
R2BALLFSEC	1872	8.18	2.82	1.00	10.00
R3BALLFSEC	1916	7.29	3.39	1.00	10.00
S1BALLFSEC	1472	8.37	2.64	1.00	10.00
S2BALLFSEC	1366	8.34	2.70	1.00	10.00
S3BALLFSEC	1334	7.54	3.29	1.00	10.00
R1BALLF	2036	0.63	0.48	0.00	1.00
R2BALLF	1872	0.65	0.48	0.00	1.00
R3BALLF	1916	0.54	0.50	0.00	1.00
S1BALLF	1472	0.66	0.47	0.00	1.00
S2BALLF	1366	0.68	0.47	0.00	1.00
S3BALLF	1334	0.58	0.49	0.00	1.00
R1BALLFCOMP	2758	0.74	0.44	0.00	1.00
R2BALLFCOMP	2361	0.79	0.41	0.00	1.00
R3BALLFCOMP	2086	0.92	0.27	0.00	1.00
S1BALLFCOMP	1924	0.77	0.42	0.00	1.00
S2BALLFCOMP	1635	0.84	0.37	0.00	1.00
S3BALLFCOMP	1411	0.95	0.23	0.00	1.00

Categorical Variable Codes

Value-----	R1BALRT	R2BALRT	R3BALRT
.e:measured in error	54		
.m:Missing	131		218
.n:not willing/able	367	240	85
.r:Refuse	225	97	
.s:Skip	12242	11343	13419
.x:tried but unable	119	137	88
0.no	712	615	801
1.yes	1336	1272	1112

Value-----	S1BALRT	S2BALRT	S3BALRT
.e:measured in error	40		
.m:Missing	95		141
.n:not willing/able	209	116	39
.r:Refuse	172	62	
.s:Skip	8588	7929	9040
.u:Unmar	4205	4009	4782
.v:SP NR	333	131	349
.x:tried but unable	67	83	40
0.no	475	409	518
1.yes	1002	965	814

Value-----	R1BALRTCOMP	R2BALRTCOMP	R3BALRTCOMP
.e:measured in error	54		
.m:Missing	131		218
.s:Skip	12242	11343	13419
0.no	711	474	173
1.yes	2048	1887	1913

Value-----	S1BALRTCOMP	S2BALRTCOMP	S3BALRTCOMP
.e:measured in error	40		
.m:Missing	95		141
.s:Skip	8588	7929	9040
.u:Unmar	4205	4009	4782
.v:SP NR	333	131	349
0.no	448	261	79
1.yes	1477	1374	1332

Value-----	R1BALLF	R2BALLF	R3BALLF
.e:measured in error	55		
.m:Missing	131		218
.n:not willing/able	370	254	81
.r:Refuse	230	97	
.s:Skip	12242	11343	13419
.x:tried but unable	122	138	89
0.no	746	646	876
1.yes	1290	1226	1040

Value-----	S1BALLF	S2BALLF	S3BALLF
.e:measured in error	41		
.m:Missing	95		141
.n:not willing/able	208	126	38
.r:Refuse	177	62	
.s:Skip	8588	7929	9040
.u:Unmar	4205	4009	4782
.v:SP NR	333	131	349
.x:tried but unable	67	81	39
0.no	497	443	565
1.yes	975	923	769

Value-----	R1BALLFCOMP	R2BALLFCOMP	R3BALLFCOMP
.e:measured in error	55		
.m:Missing	131		218
.s:Skip	12242	11343	13419
0.no	722	489	170
1.yes	2036	1872	1916

Value-----	S1BALLFCOMP	S2BALLFCOMP	S3BALLFCOMP
.e:measured in error	41		
.m:Missing	95		141
.s:Skip	8588	7929	9040
.u:Unmar	4205	4009	4782
.v:SP NR	333	131	349
0.no	452	269	77
1.yes	1472	1366	1334

## How Constructed

RwBALRTSEC and RwBALLFSEC are the respective right and left foot balance test results, taken from a subsample of the MHAS and given in seconds. RwBALRT and RwBALLF indicate whether the respondent completed the balance test for at least 10 seconds, with the right and left foot, respectively. A special missing value .s is used to indicate that the subject was not selected to be part of the subsample. Also, a special missing value .x is used if the respondent tried to complete the test but couldn't do it and a special missing value .n is used if they had a missing or injured extremity, couldn't stand up, or did not try for safety reasons. Refused responses are assigned .r, and other missing responses of these variables are assigned special missing value .m. If the measurement was taken by mistake, then these variables are assigned special missing value .e. These variables are set to plain missing (.) for respondents who did not participate in the current wave.

RwBALRTCOMP and RwBALLFCOMP indicate whether the respondent is willing and able to complete the balance test. RwSTHTCOMP is coded as 1 if the respondent understood the directions for the test, the respondent felt it would be safe to complete the test, and the interviewer was able to complete the measures.

RwSTHTCOMP is coded as 0 if the respondent tried to complete the test but couldn't do it, the respondent was missing a leg or was injured, the respondent didn't try, couldn't stand up, or refused to complete the measures. A special missing value .s is used to indicate that the subject was not selected to be part of the subsample. Also other missing responses of these variables are assigned special missing value .m. If the measurement was taken by mistake, then these variables are assigned special missing value .e. These measures are set to plain missing (.) for respondents who did not respond to the current wave.

SwBALRTSEC, SwBALLFSEC, SwBALRT, SwBALLF, SwBALRTCOMP, and SwBALLFCOMP are the measures of the respondent's spouse and are taken directly from the spouse's RwBALRTSEC, RwBALLFSEC, RwBALRT, RwBALLF, RwBALRTCOMP, and RwBALLFCOMP, respectively. In addition to the special missing values employed by the respondent variables, the spouse variables employ two additional special missing codes. SwBALRTSEC, SwBALLFSEC, SwBALRT, SwBALLF, SwBALRTCOMP, and SwBALLFCOMP, employ the special missing value .u, when the respondent does not report being coupled in the current wave, and the special missing value .v, when the respondent reports being coupled in the current wave but their spouse is not interviewed.

## Cross Wave Differences in MHAS

In Waves 1 and 2 anthropometric and performance measures (including the balance test) were obtained from a sub-sample selected randomly from the baseline sample, distributed in the 32 states. However, in Wave 3 a new sub-sample was selected to complete anthropometric and performance measures, biomarkers, and other measures. This sub-sample was limited to the complete sample of four states. Anthropometrics and performance measures data was not collected in Waves 4 and 5.

## Differences with the RAND HRS/Harmonized HRS

While the HRS completes balance tests, they are not comparable to those completed in the MHAS. As such, there are no comparable variables in the RAND HRS or Harmonized HRS.

## MHAS Variables Used

### Master File:

ANTRO_01	Selected for anthropometric measurement 2001
ANTRO_03	Selected for anthropometric measurement 2003
SUBSAMPLE_12	Selected subsample for Biomarkers/Antropometrics 2012

### Wave 1:

L1	selected for anthropometric measures
L9_1	right foot
L9_2	left foot

### Wave 2:

L1	selected for anthropometric measures
L1A	present for measures
L9_1	right foot
L9_2	left foot

### Wave 3:

PIEDER_12	Balance - on right foot
PIEIZQ_12	Balance - on left foot



Balance Test: Reason Didn't Complete

Wave	Variable	Label	Type
1	R1BALSFT	r1balsft: w1 R cannot complete balance test for safety reaso	Categ
2	R2BALSFT	r2balsft: w2 R cannot complete balance test for safety reaso	Categ
3	R3BALSFT	r3balsft: w3 R cannot complete balance test for safety reaso	Categ
1	S1BALSFT	s1balsft: w1 S cannot complete balance test for safety reaso	Categ
2	S2BALSFT	s2balsft: w2 S cannot complete balance test for safety reaso	Categ
3	S3BALSFT	s3balsft: w3 S cannot complete balance test for safety reaso	Categ
1	R1BALREF	r1balref: w1 R refused and did not try to complete balance t	Categ
2	R2BALREF	r2balref: w2 R refused and did not try to complete balance t	Categ
3	R3BALREF	r3balref: w3 R refused and did not try to complete balance t	Categ
1	S1BALREF	s1balref: w1 S refused and did not try to complete balance t	Categ
2	S2BALREF	s2balref: w2 S refused and did not try to complete balance t	Categ
3	S3BALREF	s3balref: w3 S refused and did not try to complete balance t	Categ
1	R1BALTRYU	r1baltryu: w1 R tried but could not complete balance test	Categ
2	R2BALTRYU	r2baltryu: w2 R tried but could not complete balance test	Categ
3	R3BALTRYU	r3baltryu: w3 R tried but could not complete balance test	Categ
1	S1BALTRYU	s1baltryu: w1 S tried but could not complete balance test	Categ
2	S2BALTRYU	s2baltryu: w2 S tried but could not complete balance test	Categ
3	S3BALTRYU	s3baltryu: w3 S tried but could not complete balance test	Categ

Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R1BALSFT	722	0.51	0.50	0.00	1.00
R2BALSFT	489	0.52	0.50	0.00	1.00
R3BALSFT	170	0.48	0.50	0.00	1.00
S1BALSFT	452	0.46	0.50	0.00	1.00
S2BALSFT	269	0.47	0.50	0.00	1.00
S3BALSFT	77	0.49	0.50	0.00	1.00
R1BALREF	722	0.32	0.47	0.00	1.00
R2BALREF	489	0.20	0.40	0.00	1.00
R3BALREF	170	0.00	0.00	0.00	0.00
S1BALREF	452	0.39	0.49	0.00	1.00
S2BALREF	269	0.23	0.42	0.00	1.00
S3BALREF	77	0.00	0.00	0.00	0.00
R1BALTRYU	722	0.17	0.37	0.00	1.00
R2BALTRYU	489	0.28	0.45	0.00	1.00
R3BALTRYU	170	0.52	0.50	0.00	1.00
S1BALTRYU	452	0.15	0.36	0.00	1.00
S2BALTRYU	269	0.30	0.46	0.00	1.00
S3BALTRYU	77	0.51	0.50	0.00	1.00

Categorical Variable Codes

Value-----	R1BALSFT	R2BALSFT	R3BALSFT
.c:completed test	2036	1872	1916
.e:measured in error	55		
.m:Missing	131		218

.s:Skip		12242	11343	13419
0.no		352	235	89
1.yes		370	254	81
Value-----		S1BALSFT	S2BALSFT	S3BALSFT
.c:completed test		1472	1366	1334
.e:measured in error		41		
.m:Missing		95		141
.s:Skip		8588	7929	9040
.u:Unmar		4205	4009	4782
.v:SP NR		333	131	349
0.no		244	143	39
1.yes		208	126	38
Value-----		R1BALREF	R2BALREF	R3BALREF
.c:completed test		2036	1872	1916
.e:measured in error		55		
.m:Missing		131		218
.s:Skip		12242	11343	13419
0.no		492	392	170
1.yes		230	97	
Value-----		S1BALREF	S2BALREF	S3BALREF
.c:completed test		1472	1366	1334
.e:measured in error		41		
.m:Missing		95		141
.s:Skip		8588	7929	9040
.u:Unmar		4205	4009	4782
.v:SP NR		333	131	349
0.no		275	207	77
1.yes		177	62	
Value-----		R1BALTRYU	R2BALTRYU	R3BALTRYU
.c:completed test		2036	1872	1916
.e:measured in error		55		
.m:Missing		131		218
.s:Skip		12242	11343	13419
0.no		600	351	81
1.yes		122	138	89
Value-----		S1BALTRYU	S2BALTRYU	S3BALTRYU
.c:completed test		1472	1366	1334
.e:measured in error		41		
.m:Missing		95		141
.s:Skip		8588	7929	9040
.u:Unmar		4205	4009	4782
.v:SP NR		333	131	349
0.no		385	188	38
1.yes		67	81	39

## How Constructed

RwBALSFT indicates whether the respondent couldn't complete the balance test because of safety reasons. RwBALSFT is coded as 1 if the respondent was missing a leg or was injured, if the respondent couldn't stand to complete the measure, or if no attempt was made to complete the measure to be safe. RwBALSFT is coded as 0 if they tried to complete the balance test but couldn't do it, or refused to complete the measures. A special missing value .s is used to indicate that the subject was not selected to be part of the subsample. A special missing value .c is used to indicate that the subject completed the tests. Also other missing responses of this variable are assigned special missing value .m. This measure is set to plain missing (.) for respondents who did not respond to the current wave.

RwBALTRYU indicates whether the respondent tried to complete the balance test but couldn't do it. RwBALTRYU is coded as 1 if the respondent tried but couldn't complete the balance test. RwBALTRYU is coded as 0 if the respondent was missing a leg or was injured, couldn't stand, refused to complete the measures, or no attempt was made to be safe. A special missing value .s is used to indicate that the subject was not selected to be part of the subsample. A special missing value .c is used to indicate that the subject completed the tests. Also other missing responses of this variable are assigned special missing value .m. This measure is set to plain missing (.) for respondents who did not respond to the current wave.

RwBALREF indicates whether the respondent refused to complete the balance test. RwBALREF is coded as 1 if the respondent refused to complete the balance test. RwBALREF is coded as 0 if they tried to complete the balance test but couldn't do it, was missing a leg or was injured, couldn't stand, or no attempt was made to be safe. A special missing value .s is used to indicate that the subject was not selected to be part of the subsample. A special missing value .c is used to indicate that the subject completed the tests. Also other missing responses of this variable are assigned special missing value .m. This measure is set to plain missing (.) for respondents who did not respond to the current wave.

SwBALSFT, SwBALTRYU, and SwBALREF are the measures of the respondent's spouse and are taken directly from the spouse's RwBALSFT, RwBALTRYU, and RwBALREF, respectively. In addition to the special missing codes employed by the respondent variables, the spouse variables employ two additional special missing codes. SwBALSFT, SwBALTRYU, and SwBALREF employ the special missing value .u, when the respondent does not report being coupled in the current wave, and the special missing value .v, when the respondent reports being coupled in the current wave but their spouse is not interviewed.

Cross Wave Differences in MHAS

In Waves 1 and 2 anthropometric and performance measures (including the balance test) were obtained from a sub-sample selected randomly from the baseline sample, distributed in the 32 states. However, in Wave 3 a new sub-sample was selected to complete anthropometric and performance measures, biomarkers, and other measures. This sub-sample was limited to the complete sample of four states. Anthropometrics and performance measures data was not collected in Waves 4 and 5.

Differences with the RAND HRS/Harmonized HRS

While the HRS completes balance tests, they are not comparable to those completed in the MHAS. RwBALSFT, RwBALREF, and RwBALTRYU in the Harmonized HRS have the same naming as the variables in the MHAS, however the balance tests completed in the two studies are not comparable. The Harmonized HRS also includes RwBALEQUP and RwBALOTHR to indicate whether the respondent did not complete the tests due to faulty equipment/space issue or for other reasons. In the HRS, multiple reasons can be chosen to explain why the respondent did not complete the balance tests, while a single reason is chosen to explain why the respondent did not complete the balance tests in the MHAS.

MHAS Variables Used

Master File:	
ANTRO_01	Selected for anthropometric measurement 2001
ANTRO_03	Selected for anthropometric measurement 2003
SUBSAMPLE_12	Selected subsample for Biomarkers/Anthropometrics 2012
Wave 1:	
L1	selected for anthropometric measures
L9_1	right foot
L9_2	left foot
Wave 2:	
L1	selected for anthropometric measures
L1A	present for measures
L9_1	right foot
L9_2	left foot
Wave 3:	
PIEDER_12	Balance - on right foot
PIEIZQ_12	Balance - on left foot

<b>Blood Pressure Measurements</b>
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Wave	Variable	Label	Type
3	R3SYSTO1	r3systo1: w3 R Blood Pressure - Systolic Measure 1	Cont
3	S3SYSTO1	s3systo1: w3 S Blood Pressure - Systolic Measure 1	Cont
3	R3SYSTO2	r3systo2: w3 R Blood Pressure - Systolic Measure 2	Cont
3	S3SYSTO2	s3systo2: w3 S Blood Pressure - Systolic Measure 2	Cont
3	R3SYSTO	r3systo: w3 R Average Blood Pressure - Systolic Measures 1 &	Cont
3	S3SYSTO	s3systo: w3 S Average Blood Pressure - Systolic Measures 1 &	Cont
3	R3DIASTO1	r3diasto1: w3 R Blood Pressure - Diastolic Measure 1	Cont
3	S3DIASTO1	s3diasto1: w3 S Blood Pressure - Diastolic Measure 1	Cont
3	R3DIASTO2	r3diasto2: w3 R Blood Pressure - Diastolic Measure 2	Cont
3	S3DIASTO2	s3diasto2: w3 S Blood Pressure - Diastolic Measure 2	Cont
3	R3DIASTO	r3diasto: w3 R Average Blood Pressure - Diastolic Measures 1	Cont
3	S3DIASTO	s3diasto: w3 S Average Blood Pressure - Diastolic Measures 1	Cont
3	R3PULSE1	r3pulse1: w3 R Pulse Measure 1	Cont
3	S3PULSE1	s3pulse1: w3 S Pulse Measure 1	Cont
3	R3PULSE2	r3pulse2: w3 R Pulse Measure 2	Cont
3	S3PULSE2	s3pulse2: w3 S Pulse Measure 2	Cont
3	R3PULSE	r3pulse: w3 R Average Pulse - Measures 1 & 2	Cont
3	S3PULSE	s3pulse: w3 S Average Pulse - Measures 1 & 2	Cont
3	R3BPComp	r3bpcomp: w3 R willing & able to complete blood pressure mea	Categ
3	S3BPComp	s3bpcomp: w3 S willing & able to complete blood pressure mea	Categ

### Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R3SYSTO1	2086	139.86	21.80	82.00	190.00
S3SYSTO1	1411	138.80	21.26	88.00	190.00
R3SYSTO2	2086	137.06	21.38	72.00	190.00
S3SYSTO2	1411	136.00	20.86	72.00	190.00
R3SYSTO	2086	138.46	20.96	82.00	190.00
S3SYSTO	1411	137.40	20.42	85.50	190.00
R3DIASTO1	2086	79.21	11.66	42.00	126.00

S3DIASTO1	1411	79.46	11.51	43.00	126.00
R3DIASTO2	2086	78.57	11.60	40.00	121.00
S3DIASTO2	1411	78.83	11.33	40.00	121.00
R3DIASTO	2086	78.89	11.10	43.50	123.00
S3DIASTO	1411	79.14	10.91	43.50	123.00
R3PULSE1	2086	75.01	11.40	50.00	125.00
S3PULSE1	1411	74.91	11.48	50.00	125.00
R3PULSE2	2086	74.53	11.38	50.00	117.00
S3PULSE2	1411	74.36	11.36	50.00	117.00
R3PULSE	2086	74.77	11.13	50.00	116.00
S3PULSE	1411	74.63	11.16	50.00	116.00
R3BPCOMP	2086	1.00	0.00	1.00	1.00
S3BPCOMP	1411	1.00	0.00	1.00	1.00

Categorical Variable Codes

Value-----	R3BPCOMP
.m:Missing	218
.s:Skip	13419
1.yes	2086
Value-----	S3BPCOMP
.m:Missing	141
.s:Skip	9040
.u:Unmar	4782
.v:SP NR	349
1.yes	1411

How Constructed

RwSYSTO1 and RwSYSTO1 are the respondent's first and second systolic blood pressure measures. RwSYSTO is the average of the first and second systolic blood pressure readings. RwDIASTO1 and RwDIASTO2 are the respondent's first and second diastolic blood pressure measures. RwDIASTO is the average of the first and second diastolic blood pressure readings. A special missing value .s is used to indicate that the subject was not selected to be part of the subsample. Respondents who refused to participate or did not cooperate are assigned special missing value .r. Also other missing responses of these variables are assigned special missing value .m. These variables are set to plain missing (.) for respondents who did not participate in the current wave.

RwPULSE1 and RwPULSE2 are the respondent's first and second pulse reading. RwPULSE is the average of the first and the second pulse readings. A special missing value .s is used to indicate that the subject was not selected to be part of the subsample. Respondents who refused to participate or did not cooperate are assigned special missing value .r. Also other missing responses of these variables are assigned special missing value .m. These variables are set to plain missing (.) for respondents who did not participate in the current wave.

RwBPCOMP indicates whether the respondent is willing and able to complete the blood pleasure measurements. RwBPCOMP is coded as 1 if the respondent understood the directions for the test, the respondent felt it would be safe to complete the measures, and the interviewer was able to complete the measures. RwBPCOMP is coded as 0 if the respondent had any physical problem, the respondent did not cooperate, or refused to participate. A special missing value .s is used to indicate that the subject was not selected to be part of the subsample. Also other missing responses of this variable are assigned

special missing value .m. This measure is set to plain missing (.) for respondents who did not respond to the current wave.

SwSYST01, SwSYST01, SwSYSTO, SwDIAST01, SwDIAST02, SwDIASTO, SwPULSE1, SwPULSE2, SwPULSE, and SwBPCOMP are the measures of the respondent’s spouse and are taken directly from the spouse’s RwsYST01, RwsYST01, RwsYSTO, RwdIAST01, RwdIAST02, RwdIASTO, RwpULSE1, RwpULSE2, RwpULSE, and RwbPCOMP, respectively. In addition to the special missing values employed by the respondent variables, the spouse variables employ two additional special missing codes. SwSYST01, SwSYST01, SwSYSTO, SwDIAST01, SwDIAST02, SwDIASTO, SwPULSE1, SwPULSE2, SwPULSE, and SwBPCOMP, employ the special missing value .u, when the respondent does not report being coupled in the current wave, and the special missing value .v, when the respondent reports being coupled in the current wave but their spouse is not interviewed.

Cross Wave Differences in MHAS

The blood pressure measurements were only part of the MHAS Wave 3 anthropometrics and performance measures in a sub-sample that was limited to the complete sample of four states.

Differences with the RAND HRS/Harmonized HRS

The HRS measures blood pressure three times, while the MHAS measures blood pressure two times. As a result of this difference, the Harmonized HRS includes RwsYST03, RwdIAST03, and RwpULSE3, and RwsYSTO, RwdIASTO, and RwpULSE are the average of the second and third measurements, where available. The Harmonized HRS also includes RwbPACT30, indicating whether the respondent did any activity in the last 30 minutes that could impact their blood pressure reading, and RwBLDPOS, indicating the respondent's position during the blood pressure readings.

MHAS Variables Used

Master File:	
SUBSAMPLE_12	Selected subsample for Biomarkers/Anthropometrics 2012
Wave 3:	
DIAS1_12	First measurement - diastolic pressure
DIAS2_12	Second measurement - diastolic pressure
PULSO1_12	First measurement - pulse
PULSO2_12	Second measurement - pulse
RPRES1_12	First measurement - Results of the measure
RPRES2_12	Second measurement - Results of the measure
SIST1_12	First measurement - systolic pressure
SIST2_12	Second measurement - systolic pressure

Blood Pressure Measurements: Reason Didn't Complete

Wave	Variable	Label	Type
3	R3BPSFT	r3bpsft: w3 R cannot complete blood pressure measures for sa	Categ
3	S3BPSFT	s3bpsft: w3 S cannot complete blood pressure measures for sa	Categ
3	R3BPREF	r3bpref: w3 R refused to complete blood pressure measures	Categ
3	S3BPREF	s3bpref: w3 S refused to complete blood pressure measures	Categ

Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R3BPSFT	0	.	.	.	.
S3BPSFT	0	.	.	.	.
R3BPREF	0	.	.	.	.
S3BPREF	0	.	.	.	.

Categorical Variable Codes

Value-----	R3BPSFT
.c:completed test	2086
.m:Missing	218
.s:Skip	13419
Value-----	S3BPSFT
.c:completed test	1411
.m:Missing	141
.s:Skip	9040
.u:Unmar	4782
.v:SP NR	349
Value-----	R3BPREF
.c:completed test	2086
.m:Missing	218
.s:Skip	13419
Value-----	S3BPREF
.c:completed test	1411
.m:Missing	141
.s:Skip	9040
.u:Unmar	4782
.v:SP NR	349

How Constructed

RwBPSFT indicates whether the respondent couldn't complete the blood pressure measurements because of safety reasons. RwBPSFT is coded as 1 if the respondent had any physical problem. RwBPSFT is coded as 0 if the respondent did not cooperate or refused to participate to complete the measures. A special missing value .s is used to indicate that the subject was not selected to be part of the subsample. A special missing value .c is used to indicate that the subject completed the measurements. Also other missing responses of this variable are assigned special missing value .m. This measure is set to plain missing (.) for respondents who did not respond to the current wave.

RwBPREF indicates whether the respondent refused to complete the blood pressure measurements. RwBPREF is coded as 1 if the respondent did not cooperate or refused to participate to complete the measures. RwBPREF is coded as 0 if the respondent had any physical problem. A special missing value .s is used to indicate that the subject was not selected to be part of the subsample. A special missing value .c is

used to indicate that the subject completed the measurements. Also other missing responses of this variable are assigned special missing value .m. This measure is set to plain missing (.) for respondents who did not respond to the current wave.

SwBPSFT and SwBPREF are the measures of the respondent’s spouse and are taken directly from the spouse’s RwbPSFT and RwbPREF, respectively. In addition to the special missing values employed by the respondent variables, the spouse variables employ two additional special missing codes. SwBPSFT and SwBPREF employ the special missing value .u, when the respondent does not report being coupled in the current wave, and the special missing value .v, when the respondent reports being coupled in the current wave but their spouse is not interviewed.

Please note that these variables are provided in the Harmonized MHAS, however, since all respondents either completed the measure, were not part of the subsample, or had missing values, there are no 0 or 1 values present in these variables.

Cross Wave Differences in MHAS

The blood pressure measurements were only part of the MHAS Wave 3 anthropometrics and performance measures in a sub-sample that was limited to the complete sample of four states.

Differences with the RAND HRS/Harmonized HRS

The Harmonized HRS also includes RwbPTRYU, RwbPEQUP, and RwbPOTHR, indicating whether the respondent did not complete the blood pressure measurements for safety, equipment, or other reasons, respectively. In the HRS, multiple reasons can be chosen to explain why the respondent did not complete the measurements, while a single reason is chosen to explain why the respondent did not complete the measurements in the MHAS.

MHAS Variables Used

Master File:	
SUBSAMPLE_12	Selected subsample for Biomarkers/Anthropometrics 2012
Wave 3:	
DIAS1_12	First measurement - diastolic pressure
DIAS2_12	Second measurement - diastolic pressure
PULSO1_12	First measurement - pulse
PULSO2_12	Second measurement - pulse
RPRES1_12	First measurement - Results of the measure
RPRES2_12	Second measurement - Results of the measure
SIST1_12	First measurement - systolic pressure
SIST2_12	Second measurement - systolic pressure



Timed Walk Measurements

Wave	Variable	Label	Type
3	R3WSPEED1	r3wspeed1: w3 R Walking Speed (sec) - Measure 1	Cont
3	S3WSPEED1	s3wspeed1: w3 S Walking Speed (sec) - Measure 1	Cont
3	R3WSPEED2	r3wspeed2: w3 R Walking Speed (sec) - Measure 2	Cont
3	S3WSPEED2	s3wspeed2: w3 S Walking Speed (sec) - Measure 2	Cont
3	R3WSPEED	r3wspeed: w3 R Average Walking Speed - Measures 1 & 2	Cont
3	S3WSPEED	s3wspeed: w3 S Average Walking Speed - Measures 1 & 2	Cont
3	R3WALKCOMP	r3walkcomp: w3 R willing & able to complete walking speed te	Categ
3	S3WALKCOMP	s3walkcomp: w3 S willing & able to complete walking speed te	Categ
3	R3WALKAID_M	r3walkaid_m: w3 Type of Aid Used during R's Walking Speed Te	Categ
3	S3WALKAID_M	s3walkaid_m: w3 Type of Aid Used during S's Walking Speed Te	Categ

Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R3WSPEED1	2058	5.07	3.06	2.00	47.00
S3WSPEED1	1400	4.74	2.55	2.00	47.00
R3WSPEED2	2059	4.75	2.89	1.00	58.00
S3WSPEED2	1401	4.43	2.31	2.00	58.00
R3WSPEED	2057	4.91	2.91	2.00	52.50
S3WSPEED	1400	4.59	2.33	2.00	52.50
R3WALKCOMP	2078	0.99	0.10	0.00	1.00
S3WALKCOMP	1407	1.00	0.07	0.00	1.00
R3WALKAID_M	2065	0.04	0.23	0.00	2.00
S3WALKAID_M	1404	0.02	0.17	0.00	2.00

Categorical Variable Codes

Value-----	R3WALKCOMP
.m:Missing	226
.s:Skip	13419
0.no	21
1.yes	2057
Value-----	S3WALKCOMP
.m:Missing	145
.s:Skip	9040
.u:Unmar	4782
.v:SP NR	349
0.no	7
1.yes	1400

Value-----	R3WALKAID_M
.m:Missing	218
.n:not willing/able	17
.r:Refuse	1
.s:Skip	13419
.x:tried but unable	3
0.None	2007
1.Cane	41
2.Other	17

Value-----	S3WALKAID_M
.m:Missing	141
.n:not willing/able	5
.r:Refuse	1
.s:Skip	9040
.u:Unmar	4782
.v:SP NR	349
.x:tried but unable	1
0.None	1380
1.Cane	18
2.Other	6

## How Constructed

RwWSPEED1 and RwWSPEED2 are the respondent's first and second walking speed measures over a distance of 3 meters and RwWSPEED is the respective average. A special missing value .s is used to indicate that the subject was not selected to be part of the subsample. If the respondent could not maintain the position without help, couldn't understand the instructions, no attempt was made for safety, or did not complete the tests for other reasons, then these variables are assigned special missing value .n. RwWSPEED1, RwWSPEED2, and RwWSPEED are assigned special missing value .i if the reported completion time was greater than 100 seconds. Respondents who tried to complete the tests but were unable to are assigned special missing value .x, and respondents who refused to complete the tests are assigned special missing value .r. Also other missing responses of these variables are assigned special missing value .m. These variables are set to plain missing (.) for respondents who did not participate in the current wave.

RwWALKCOMP indicates whether the respondent is willing and able to complete the walking speed exercise. RwWALKCOMP is coded as 1 if the respondent understood the directions for the test and the respondent felt it would be safe to complete the exercise. RwWALKCOMP coded as 0 if the respondent tried but couldn't do it, the respondent couldn't hold the position without any help, refused to participate, couldn't understand the instructions, or didn't attempt the exercise for safety reasons or for other reasons. A special missing value .s is used to indicate that the subject was not selected to be part of the subsample. Also other missing responses of these variables are assigned special missing value .m. These measures are set to plain missing (.) for respondents who did not respond to the current wave.

RwWALKAID\_M indicates the type of walking aid the respondent used to complete the walking speed exercise. RwWALKAID\_M is coded as 0 if the respondent didn't use any aid to complete the exercise. RwWALKAID\_M is coded as 1 if the respondent used a cane, and is coded as 2 if the respondent used some other walking aid. A special missing value .s is used to indicate that the subject was not selected to be part of the subsample. If the respondent could not maintain the position without help, couldn't understand the instructions, no attempt was made for safety, or did not complete the tests for other reasons, then this variable is assigned special missing value .n. Respondents who tried to complete the tests but were unable to are assigned special missing value .x, and respondents who refused to complete the tests are assigned special missing value .r. Also other missing responses of this variable is assigned special missing value .m. These measures are set to plain missing (.) for respondents who did not respond to the current wave.

SwWSPEED1, SwWSPEED1, SwWSPEED, SwWALKCOMP and SwWALKAID\_M are the measures of the respondent's spouse and are taken directly from the spouse's RwWSPEED1, RwWSPEED1, RwWSPEED, RwWALKCOMP and RwWALKAID\_M, respectively. In addition to the special missing values employed by the respondent variables, the spouse variables employ two additional special missing codes. SwWSPEED1, SwWSPEED1, SwWSPEED, SwWALKCOMP and SwWALKAID\_M, employ the special missing value .u, when the respondent does not report being coupled in the current wave, and the special missing value .v, when the respondent reports being coupled in the current wave but their spouse is not interviewed.

Cross Wave Differences in MHAS

The walking speed exercise was only part of the MHAS Wave 3 anthropometrics and performance measures in a sub-sample that was limited to the complete sample of four states.

Differences with the RAND HRS/Harmonized HRS

The walking speed test in the HRS is completed over a distance of 2.5 meters, while the walking speed test in the MHAS is completed over a distance of 3 meters.

In the Harmonized HRS, `RwWALKAID` is coded as 1.none, 2.walking stick or cane, 3.elbow crutches, 4.walking frame, 5.other. In the Harmonized MHAS, `RwWALKAID_M` is coded as 0.none, 1.cane, 2.other.

The Harmonized HRS also includes `RwWALKFLR`, indicating the floor surface during the respondent's walking speed test.

MHAS Variables Used

Master File:	
SUBSAMPLE_12	Selected subsample for Biomarkers/Anthropometrics 2012
Wave 3:	
AYUDA1_12	Walking speed - aids used for first test
AYUDA2_12	Walking speed - aids used for second test
RTCAM1_12	Walking speed - result of first test
RTCAM2_12	Walking speed - result of second test
TCAM1_12	Walking speed - time for first test
TCAM2_12	Walking speed - time for second test

Timed Walk Measurements: Reason Didn't Complete

Wave	Variable	Label	Type
3	R3WALKSFT	r3walksft: w3 R cannot complete walking speed test for safet	Categ
3	S3WALKSFT	s3walksft: w3 S cannot complete walking speed test for safet	Categ
3	R3WALKTRYU	r3walktryu: w3 R tried but could not complete walking speed	Categ
3	S3WALKTRYU	s3walktryu: w3 S tried but could not complete walking speed	Categ
3	R3WALKREF	r3walkref: w3 R refused to complete walking speed test	Categ
3	S3WALKREF	s3walkref: w3 S refused to complete walking speed test	Categ
3	R3WALKOTHR	r3walkothr: w3 R failed to complete walking speed test - oth	Categ
3	S3WALKOTHR	s3walkothr: w3 S failed to complete walking speed test - oth	Categ

Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R3WALKSFT	21	0.24	0.44	0.00	1.00
S3WALKSFT	7	0.14	0.38	0.00	1.00
R3WALKTRYU	21	0.14	0.36	0.00	1.00
S3WALKTRYU	7	0.14	0.38	0.00	1.00
R3WALKREF	21	0.05	0.22	0.00	1.00
S3WALKREF	7	0.14	0.38	0.00	1.00
R3WALKOTHR	21	0.57	0.51	0.00	1.00
S3WALKOTHR	7	0.57	0.53	0.00	1.00

Categorical Variable Codes

Value-----	R3WALKSFT
.c:completed test	2057
.m:Missing	226
.s:Skip	13419
0.no	16
1.yes	5
Value-----	S3WALKSFT
.c:completed test	1400
.m:Missing	145
.s:Skip	9040
.u:Unmar	4782
.v:SP NR	349
0.no	6
1.yes	1
Value-----	R3WALKTRYU
.c:completed test	2057
.m:Missing	226
.s:Skip	13419
0.no	18
1.yes	3

Value-----	S3WALKTRYU
.c:completed test	1400
.m:Missing	145
.s:Skip	9040
.u:Unmar	4782
.v:SP NR	349
0.no	6
1.yes	1

Value-----	R3WALKREF
.c:completed test	2057
.m:Missing	226
.s:Skip	13419
0.no	20
1.yes	1

Value-----	S3WALKREF
.c:completed test	1400
.m:Missing	145
.s:Skip	9040
.u:Unmar	4782
.v:SP NR	349
0.no	6
1.yes	1

Value-----	R3WALKOTHR
.c:completed test	2057
.m:Missing	226
.s:Skip	13419
0.no	9
1.yes	12

Value-----	S3WALKOTHR
.c:completed test	1400
.m:Missing	145
.s:Skip	9040
.u:Unmar	4782
.v:SP NR	349
0.no	3
1.yes	4

## How Constructed

RwWALKSFT indicates whether the respondent couldn't complete the walking speed exercise because of safety reasons. RwWALKSFT is coded as 1 if the respondent couldn't hold the position without any help, or no attempt was made because the respondent or interviewer didn't feel it would be safe. RwWALKSFT is coded as 0 if the respondent tried but couldn't do it, couldn't understand the instructions, refused to participate, or because of any other reason not mentioned before. A special missing value .s is used to indicate that the subject was not selected to be part of the subsample. A special missing value .c is used to indicate that the subject completed the tests. Also other missing responses of this variable are assigned special missing value .m. These measures are set to plain missing (.) for respondents who did not respond to the current wave.

RwWALKTRYU indicates whether the respondent tried to complete the walking speed exercise but couldn't do it. RwWALKTRYU is coded as 1 if the respondent tried but couldn't complete the exercise. RwWALKTRYU is coded as 0 if the respondent couldn't hold the position without any help, not attempt was made because the respondent or interviewer didn't feel it would be safe, the respondent couldn't understand the instructions, refused to participate, or because of any other reason not mentioned before. A special missing value .s is used to indicate that the subject was not selected to be part of the subsample. A special missing value .c is used to indicate that the subject completed the tests. Also other missing responses of this variable are assigned special missing value .m. These measures are set to plain missing (.) for respondents who did not respond to the current wave.

RwWALKREF indicates whether the respondent refused to complete the walking speed exercise. RwWALKREF is coded as 1 if the respondent refused to complete the measures. RwWALKREF is coded as 0 if the respondent tried to complete the walking speed exercise but couldn't do it, couldn't hold the position without any help, no attempt was made because the respondent or interviewer didn't feel it would be safe, the respondent couldn't understand the instructions, or because of any other reason not mentioned before. A

special missing value .s is used to indicate that the subject was not selected to be part of the subsample. A special missing value .c is used to indicate that the subject completed the tests. Also other missing responses of this variable are assigned special missing value .m. These measures are set to plain missing (.) for respondents who did not respond to the current wave.

RwWALKOTHR indicates whether the respondent didn't complete the walking speed exercise for other reasons. RwWALKOTHR is coded as 1 if the respondent could not understand the instructions or indicated other reasons for not completing the exercise. RwWALKOTHR is coded as 0 if the respondent tried to complete the walking speed exercise but couldn't do it, couldn't hold the position without any help, no attempt was made because the respondent or interviewer didn't feel it would be safe, or the respondent refused to complete the exercise. A special missing value .s is used to indicate that the subject was not selected to be part of the subsample. A special missing value .c is used to indicate that the subject completed the tests. Also other missing responses of this variable are assigned special missing value .m. These measures are set to plain missing (.) for respondents who did not respond to the current wave.

SwWALKSFT, SwWALKTRYU, SwWALKREF, and SwWALKOTHR are the measures of the respondent’s spouse and are taken directly from the spouse’s RwWALKSFT, RwWALKTRYU, RwWALKREF, and RwWALKOTHR, respectively. In addition to the special missing values employed by the respondent variables, the spouse variables employ two additional special missing codes. SwWALKSFT, SwWALKTRYU, SwWALKREF, and SwWALKOTHR employ the special missing value .u, when the respondent does not report being coupled in the current wave, and the special missing value .v, when the respondent reports being coupled in the current wave but their spouse is not interviewed.

Cross Wave Differences in MHAS

The walking speed exercise was only part of the MHAS Wave 3 anthropometrics and performance measures in a sub-sample that was limited to the complete sample of four states.

Differences with the RAND HRS/Harmonized HRS

The walking speed test in the HRS is completed over a distance of 12 feet, while the walking speed test in the MHAS is completed over a distance of 3 meters.

The Harmonized HRS also includes RwWALKEQUP, indicating whether the respondent didn't complete the walking speed tests due to faulty equipment or space issues. In the HRS, multiple reasons can be chosen to explain why the respondent did not complete the tests, while a single reason is chosen to explain why the respondent did not complete the tests in the MHAS.

MHAS Variables Used

Master File:	
SUBSAMPLE_12	Selected subsample for Biomarkers/Anthropometrics 2012
Wave 3:	
AYUDA1_12	Walking speed - aids used for first test
AYUDA2_12	Walking speed - aids used for second test
RTCAM1_12	Walking speed - result of first test
RTCAM2_12	Walking speed - result of second test
TCAM1_12	Walking speed - time for first test
TCAM2_12	Walking speed - time for second test

<b>Hand Grip Strength Measurements</b>
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Wave	Variable	Label	Type
3	R3DOMHAND	r3domhand: w3 R Hand Grip Strength Measures - Dominant hand	Categ
3	S3DOMHAND	s3domhand: w3 S Hand Grip Strength Measures - Dominant hand	Categ
3	R3RGRIP1	r3rgrip1: w3 R Hand Grip Strength Right Hand - Measure 1 (kg	Cont
3	S3RGRIP1	s3rgrip1: w3 S Hand Grip Strength Right Hand - Measure 1 (kg	Cont
3	R3RGRIP2	r3rgrip2: w3 R Hand Grip Strength Right Hand - Measure 2 (kg	Cont
3	S3RGRIP2	s3rgrip2: w3 S Hand Grip Strength Right Hand - Measure 2 (kg	Cont
3	R3RGRIP	r3rgrip: w3 R Maximum Hand Grip Strength Right Hand - Measur	Cont
3	S3RGRIP	s3rgrip: w3 S Maximum Hand Grip Strength Right Hand - Measur	Cont
3	R3LGRIP1	r3lgrip1: w3 R Hand Grip Strength Left Hand - Measure 1 (kg)	Cont
3	S3LGRIP1	s3lgrip1: w3 S Hand Grip Strength Left Hand - Measure 1 (kg)	Cont
3	R3LGRIP2	r3lgrip2: w3 R Hand Grip Strength Left Hand - Measure 2 (kg)	Cont
3	S3LGRIP2	s3lgrip2: w3 S Hand Grip Strength Left Hand - Measure 2 (kg)	Cont
3	R3LGRIP	r3lgrip: w3 R Maximum Hand Grip Strength Left Hand - Measure	Cont
3	S3LGRIP	s3lgrip: w3 S Maximum Hand Grip Strength Left Hand - Measure	Cont
3	R3GRIPSUM	r3gripsum: w3 R Hand Grip Strength Dominant Hand	Cont
3	S3GRIPSUM	s3gripsum: w3 S Hand Grip Strength Dominant Hand	Cont
3	R3GRIPCOMP	r3gripcomp: w3 R willing & able to complete hand grip test	Categ
3	S3GRIPCOMP	s3gripcomp: w3 S willing & able to complete hand grip test	Categ

**Descriptive Statistics**

Variable	N	Mean	Std Dev	Minimum	Maximum
R3DOMHAND	2080	1.16	0.48	1.00	3.00
S3DOMHAND	1408	1.16	0.48	1.00	3.00
R3RGRIP1	1950	25.00	8.92	0.80	62.00
S3RGRIP1	1317	26.26	9.05	0.80	62.00
R3RGRIP2	1950	25.62	8.84	0.30	58.00
S3RGRIP2	1317	26.89	8.97	0.30	58.00
R3RGRIP	1950	26.25	8.88	2.00	62.00
S3RGRIP	1317	27.58	9.00	2.00	62.00
R3LGRIP1	257	25.39	10.24	1.40	62.00

S3LGRIPI1	176	27.30	10.18	2.00	62.00
R3LGRIPI2	257	25.93	10.05	2.00	56.00
S3LGRIPI2	176	27.93	9.97	2.00	56.00
R3LGRIPI	257	26.63	10.21	2.00	62.00
S3LGRIPI	176	28.55	10.15	2.00	62.00
R3GRIPSUM	2072	26.20	9.00	2.00	62.00
S3GRIPSUM	1402	27.59	9.07	2.00	62.00
R3GRIPCOMP	2086	1.00	0.05	0.00	1.00
S3GRIPCOMP	1411	1.00	0.05	0.00	1.00

Categorical Variable Codes

Value-----	R3DOMHAND
.m:Missing	218
.n:not willing/able	6
.s:Skip	13419
1.Right hand	1848
2.Left hand	132
3.Both hands equally dominant	100
Value-----	S3DOMHAND
.m:Missing	141
.n:not willing/able	3
.s:Skip	9040
.u:Unmar	4782
.v:SP NR	349
1.Right hand	1248
2.Left hand	93
3.Both hands equally dominant	67
Value-----	R3GRIPCOMP
.m:Missing	218
.s:Skip	13419
0.no	6
1.yes	2080
Value-----	S3GRIPCOMP
.m:Missing	141
.s:Skip	9040
.u:Unmar	4782
.v:SP NR	349
0.no	3
1.yes	1408

How Constructed

RwDOMHAND indicates the respondent's dominant hand. RwDOMHAND is coded as follows: 1.right hand, 2.left hand, and 3.both hands are equally dominant. A special missing value .s is used to indicate that the subject was not selected to be part of the subsample. A special missing value .n is used if the respondent reported that it was not possible to do the test with any hand, and so was not asked this question. Other missing responses are assigned special missing code .m and the variable is set to plain missing (.) for respondents who did not participate in the current wave.

SwDOMHAND indicates the current wave's spouse's dominant hand, and is taken from RwDOMHAND. In addition to the special missing codes used for RwDOMHAND, SwDOMHAND employs two additional missing codes, .u and .v. A special missing value .u is used when the respondent does not report being coupled in the current wave. A special missing value .v is used when the respondent reports being coupled in the current wave but their spouse is not interviewed.



RwLGRIPI1, RwLGRIPI2, RwRGRIP1, and RwRGRIP2 indicate the respondent's first and second hand strength measurements for the left and right hand, respectively. RwLGRIPI and RwRGRIP indicate the respondent's maximum hand strength measurement for the left and right hand, respectively. RwGRIPSUM indicates the maximum measurement of the dominant hand, as such, RwLGRIPI is used for respondents with a dominant left hand, and RwRGRIP is used for respondents with a dominant right hand. For respondents with equally dominant hands, the greater value between RwLGRIPI and RwRGRIP is used. A special missing value .s is used to indicate that the subject was not selected to be part of the subsample. A special missing value .n is used if the respondent reported that it was not possible to do the test with any hand. A special missing value .t is used for RwRGRIP1, RwRGRIP2, RwRGRIP, and RwGRIPSUM if the respondent could not complete the test with their right hand. A special missing value .l is used to RwLGRIPI1, RwLGRIPI2, RwLGRIPI, and RwGRIPSUM if the respondent could not complete the test with their left hand. Other missing responses are assigned special missing code .m. These variables are set to plain missing (.) for respondents who did not participate in the current wave.

SwLGRIPI1, SwLGRIPI2, SwRGRIP1, SwRGRIP2, SwLGRIPI, SwRGRIP, and SwGRIPSUM are the measures of the respondent's spouse and are taken directly from the spouse's RwLGRIPI1, RwLGRIPI2, RwRGRIP1, RwRGRIP2, RwLGRIPI, RwRGRIP, and RwGRIPSUM, respectively. In addition to the special missing codes used for the respondent variables, the spouse variables employ two additional missing codes, .u and .v. SwLGRIPI1, SwLGRIPI2, SwRGRIP1, SwRGRIP2, SwLGRIPI, SwRGRIP, and SwGRIPSUM, employ the special missing value .u, when the respondent does not report being coupled in the current wave, and the special missing value .v, when the respondent reports being coupled in the current wave but their spouse is not interviewed.

RwGRIPCOMP indicates whether the respondent is willing and able to complete the hand strength measurements. RwGRIPCOMP is coded as 1 if the respondent was able to complete the measurements with at least one hand. RwGRIPCOMP coded as 0 if the respondent was not able to complete the measurements with any hand. A special missing value .s is used to indicate that the subject was not selected to be part of the subsample. Also other missing responses of this variable are assigned special missing value .m. These measures are set to plain missing (.) for respondents who did not respond to the current wave.

SwGRIPCOMP is the measure of the respondent's spouse and is taken directly from the spouse's RwGRIPCOMP. In addition to the special missing codes used for the RwGRIPCOMP, SwGRIPCOMP employs two additional missing codes, .u and .v. SwGRIPCOMP employs the special missing value .u, when the respondent does not report being coupled in the current wave, and the special missing value .v, when the respondent reports being coupled in the current wave but their spouse is not interviewed.

## Cross Wave Differences in MHAS

The hand strength measurements were only part of the MHAS Wave 3 anthropometrics and performance measures in a sub-sample that was limited to the complete sample of four states.

## Differences with the RAND HRS/Harmonized HRS

The Harmonized HRS includes additional variables indicating the amount of effort the respondent gave the grip strength test (RwGRIPEFF), the respondent's position during the grip strength test (RwGRIPPOS), and whether the respondent rested their arms on a support during the grip strength test (RwGRIPRSTA).

## MHAS Variables Used

Master File:

SUBSAMPLE\_12 Selected subsample for Biomarkers/Anthropometrics 2012

Wave 3:

FUERZA_12	Hand grip strength - Is it safe for you to do this meas
MANOF_12	Hand grip strength - dominant hand?
MDER1_12	Hand grip strength - right hand, first measurement
MDER2_12	Hand grip strength - right hand, second measurement
MIZQ1_12	Hand grip strength - left hand, first measurement
MIZQ2_12	Hand grip strength - left hand, second measurement
RFUERZA_12	Hand grip strength - Interviewer: reason test was not p

Hand Grip Strength Measurements: Reason Didn't Complete

Wave	Variable	Label	Type
3	R3GRIPSFT	r3gripsft: w3 R cannot complete hand grip test for safety re	Categ
3	S3GRIPSFT	s3gripsft: w3 S cannot complete hand grip test for safety re	Categ
3	R3GRIPREF	r3gripref: w3 R refused to complete hand grip test	Categ
3	S3GRIPREF	s3gripref: w3 S refused to complete hand grip test	Categ
3	R3GRIPOTHR	r3gripothr: w3 R didn't complete hand grip test - other	Categ
3	S3GRIPOTHR	s3gripothr: w3 S didn't complete hand grip test - other	Categ

Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R3GRIPSFT	6	0.67	0.52	0.00	1.00
S3GRIPSFT	3	0.67	0.58	0.00	1.00
R3GRIPREF	6	0.00	0.00	0.00	0.00
S3GRIPREF	3	0.00	0.00	0.00	0.00
R3GRIPOTHR	6	0.33	0.52	0.00	1.00
S3GRIPOTHR	3	0.33	0.58	0.00	1.00

Categorical Variable Codes

Value-----	R3GRIPSFT
.c:completed test	2080
.m:Missing	218
.s:Skip	13419
0.no	2
1.yes	4
Value-----	S3GRIPSFT
.c:completed test	1408
.m:Missing	141
.s:Skip	9040
.u:Unmar	4782
.v:SP NR	349
0.no	1
1.yes	2
Value-----	R3GRIPREF
.c:completed test	2080
.m:Missing	218
.s:Skip	13419
0.no	6
Value-----	S3GRIPREF
.c:completed test	1408
.m:Missing	141
.s:Skip	9040
.u:Unmar	4782
.v:SP NR	349
0.no	3
Value-----	R3GRIPOTHR

.c:completed test		2080
.m:Missing		218
.s:Skip		13419
0.no		4
1.yes		2
Value-----		
.c:completed test		S3GRIPOTHR 1408
.m:Missing		141
.s:Skip		9040
.u:Unmar		4782
.v:SP NR		349
0.no		2
1.yes		1

## How Constructed

RwGRIPSFT indicates whether the respondent couldn't complete the hand grip measurements because of safety reasons. RwGRIPSFT is coded as 1 if no attempt was made because the respondent or interviewer felt it was unsafe, or if the respondent couldn't participate due to surgery, inflammation, pain, etc, or other health condition. RwGRIPSFT is coded as 0 if the respondent didn't understand the instructions, refused to participate, or for any other reasons not mentioned before. A special missing value .s is used to indicate that the subject was not selected to be part of the subsample. A special missing value .c is used to indicate that the respondent completed the measurements. Also other missing responses of this variable are assigned special missing value .m. This measure is set to plain missing (.) for respondents who did not respond to the current wave.

RwGRIPREF indicates whether the respondent refused to complete hand grip measurements. RwGRIPREF is coded as 1 if the respondent refused to complete the measures. RwGRIPREF is coded as 0 if no attempt was made because the respondent or interviewer felt it was unsafe, the respondent didn't understand the instructions, couldn't participate because of an injury or any health condition, or any other reasons not mentioned before. A special missing value .s is used to indicate that the subject was not selected to be part of the subsample. A special missing value .c is used to indicate that the respondent completed the measurements. Also other missing responses of this variable are assigned special missing value .m. This measure is set to plain missing (.) for respondents who did not respond to the current wave.

RwGRIPOTHR indicates whether the respondent didn't complete the hand grip measurements for other reasons. RwGRIPOTHR is coded as 1 if the respondent couldn't understand the instructions or indicated other reasons for not completing the measurement. RwGRIPOTHR is coded as 0 if no attempt was made because the respondent or interviewer felt it was unsafe, the respondent refused to participate, or couldn't participate because of an injury or any health condition. A special missing value .s is used to indicate that the subject was not selected to be part of the subsample. A special missing value .c is used to indicate that the respondent completed the measurements. Also other missing responses of this variable are assigned special missing value .m. This measure is set to plain missing (.) for respondents who did not respond to the current wave.

SwGRIPSFT, SwGRIPREF, and SwGRIPOTHR are the measures of the respondent's spouse and are taken directly from the spouse's RwGRIPSFT, RwGRIPREF, and RwGRIPOTHR, respectively. In addition to the special missing codes employed by the respondent variables, the spouse variables employ two additional special missing values. SwGRIPSFT, SwGRIPREF, and SwGRIPOTHR employ the special missing value .u, when the respondent does not report being coupled in the current wave, and the special missing value .v, when the respondent reports being coupled in the current wave but their spouse is not interviewed.

## Cross Wave Differences in MHAS

The hand strength measurements were only part of the MHAS Wave 3 anthropometrics and performance measures in a sub-sample that was limited to the complete sample of four states.

## Differences with the RAND HRS/Harmonized HRS

The Harmonized HRS also includes RwGRIPTRYU and RwGRIPQUP, indicating whether the respondent did not complete the grip strength measurements because they tried but were unable to complete it or due to faulty equipment, respectively.

MHAS Variables Used

Master File:	
SUBSAMPLE_12	Selected subsample for Biomarkers/Anthropometrics 2012
Wave 3:	
FUERZA_12	Hand grip strength - Is it safe for you to do this meas
MANOF_12	Hand grip strength - dominant hand?
MDER1_12	Hand grip strength - right hand, first measurement
MDER2_12	Hand grip strength - right hand, second measurement
MIZQ1_12	Hand grip strength - left hand, first measurement
MIZQ2_12	Hand grip strength - left hand, second measurement
RFUERZA_12	Hand grip strength - Interviewer: reason test was not p

**Section L: Assistance and Caregiving**

<b>ADL Help</b>
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Wave	Variable	Label	Type
1	R1DRESSHLP	r1dresshlp: w1 whether anyone helps R dress	Categ
2	R2DRESSHLP	r2dresshlp: w2 whether anyone helps R dress	Categ
3	R3DRESSHLP	r3dresshlp: w3 whether anyone helps R dress	Categ
4	R4DRESSHLP	r4dresshlp: w4 whether anyone helps R dress	Categ
5	R5DRESSHLP	r5dresshlp: w5 whether anyone helps R dress	Categ
1	S1DRESSHLP	s1dresshlp: w1 whether anyone helps S dress	Categ
2	S2DRESSHLP	s2dresshlp: w2 whether anyone helps S dress	Categ
3	S3DRESSHLP	s3dresshlp: w3 whether anyone helps S dress	Categ
4	S4DRESSHLP	s4dresshlp: w4 whether anyone helps S dress	Categ
5	S5DRESSHLP	s5dresshlp: w5 whether anyone helps S dress	Categ
1	R1WALKHLP	r1walkhlp: w1 whether anyone helps R walk	Categ
2	R2WALKHLP	r2walkhlp: w2 whether anyone helps R walk	Categ
3	R3WALKHLP	r3walkhlp: w3 whether anyone helps R walk	Categ
4	R4WALKHLP	r4walkhlp: w4 whether anyone helps R walk	Categ
5	R5WALKHLP	r5walkhlp: w5 whether anyone helps R walk	Categ
1	S1WALKHLP	s1walkhlp: w1 whether anyone helps S walk	Categ
2	S2WALKHLP	s2walkhlp: w2 whether anyone helps S walk	Categ
3	S3WALKHLP	s3walkhlp: w3 whether anyone helps S walk	Categ
4	S4WALKHLP	s4walkhlp: w4 whether anyone helps S walk	Categ
5	S5WALKHLP	s5walkhlp: w5 whether anyone helps S walk	Categ
1	R1BATHEHLP	r1bathehlp: w1 whether anyone helps R bathe	Categ
2	R2BATHEHLP	r2bathehlp: w2 whether anyone helps R bathe	Categ
3	R3BATHEHLP	r3bathehlp: w3 whether anyone helps R bathe	Categ
4	R4BATHEHLP	r4bathehlp: w4 whether anyone helps R bathe	Categ
5	R5BATHEHLP	r5bathehlp: w5 whether anyone helps R bathe	Categ
1	S1BATHEHLP	s1bathehlp: w1 whether anyone helps S bathe	Categ
2	S2BATHEHLP	s2bathehlp: w2 whether anyone helps S bathe	Categ
3	S3BATHEHLP	s3bathehlp: w3 whether anyone helps S bathe	Categ
4	S4BATHEHLP	s4bathehlp: w4 whether anyone helps S bathe	Categ
5	S5BATHEHLP	s5bathehlp: w5 whether anyone helps S bathe	Categ
1	R1EATHLP	r1eathlp: w1 whether anyone helps R eat	Categ
2	R2EATHLP	r2eathlp: w2 whether anyone helps R eat	Categ
3	R3EATHLP	r3eathlp: w3 whether anyone helps R eat	Categ
4	R4EATHLP	r4eathlp: w4 whether anyone helps R eat	Categ
5	R5EATHLP	r5eathlp: w5 whether anyone helps R eat	Categ
1	S1EATHLP	s1eathlp: w1 whether anyone helps S eat	Categ
2	S2EATHLP	s2eathlp: w2 whether anyone helps S eat	Categ
3	S3EATHLP	s3eathlp: w3 whether anyone helps S eat	Categ
4	S4EATHLP	s4eathlp: w4 whether anyone helps S eat	Categ
5	S5EATHLP	s5eathlp: w5 whether anyone helps S eat	Categ
1	R1BEDHLP	r1bedhlp: w1 whether anyone helps R get in/out of bed	Categ
2	R2BEDHLP	r2bedhlp: w2 whether anyone helps R get in/out of bed	Categ
3	R3BEDHLP	r3bedhlp: w3 whether anyone helps R get in/out of bed	Categ
4	R4BEDHLP	r4bedhlp: w4 whether anyone helps R get in/out of bed	Categ
5	R5BEDHLP	r5bedhlp: w5 whether anyone helps R get in/out of bed	Categ
1	S1BEDHLP	s1bedhlp: w1 whether anyone helps S get in/out of bed	Categ
2	S2BEDHLP	s2bedhlp: w2 whether anyone helps S get in/out of bed	Categ
3	S3BEDHLP	s3bedhlp: w3 whether anyone helps S get in/out of bed	Categ
4	S4BEDHLP	s4bedhlp: w4 whether anyone helps S get in/out of bed	Categ
5	S5BEDHLP	s5bedhlp: w5 whether anyone helps S get in/out of bed	Categ

1	R1TOILETHLP	r1toilethlp: w1 whether anyone helps R use the toilet	Categ
2	R2TOILETHLP	r2toilethlp: w2 whether anyone helps R use the toilet	Categ
3	R3TOILETHLP	r3toilethlp: w3 whether anyone helps R use the toilet	Categ
4	R4TOILETHLP	r4toilethlp: w4 whether anyone helps R use the toilet	Categ
5	R5TOILETHLP	r5toilethlp: w5 whether anyone helps R use the toilet	Categ
1	S1TOILETHLP	s1toilethlp: w1 whether anyone helps S use the toilet	Categ
2	S2TOILETHLP	s2toilethlp: w2 whether anyone helps S use the toilet	Categ
3	S3TOILETHLP	s3toilethlp: w3 whether anyone helps S use the toilet	Categ
4	S4TOILETHLP	s4toilethlp: w4 whether anyone helps S use the toilet	Categ
5	S5TOILETHLP	s5toilethlp: w5 whether anyone helps S use the toilet	Categ

## Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R1DRESSHLP	870	0.37	0.48	0.00	1.00
R2DRESSHLP	773	0.40	0.49	0.00	1.00
R3DRESSHLP	1339	0.29	0.46	0.00	1.00
R4DRESSHLP	1506	0.37	0.48	0.00	1.00
R5DRESSHLP	1607	0.32	0.47	0.00	1.00
S1DRESSHLP	551	0.37	0.48	0.00	1.00
S2DRESSHLP	464	0.40	0.49	0.00	1.00
S3DRESSHLP	815	0.29	0.46	0.00	1.00
S4DRESSHLP	875	0.35	0.48	0.00	1.00
S5DRESSHLP	736	0.32	0.47	0.00	1.00
R1WALKHLP	775	0.57	0.49	0.00	1.00
R2WALKHLP	763	0.60	0.49	0.00	1.00
R3WALKHLP	1244	0.43	0.50	0.00	1.00
R4WALKHLP	1354	0.41	0.49	0.00	1.00
R5WALKHLP	1450	0.55	0.50	0.00	1.00
S1WALKHLP	421	0.61	0.49	0.00	1.00
S2WALKHLP	395	0.62	0.49	0.00	1.00
S3WALKHLP	621	0.38	0.49	0.00	1.00
S4WALKHLP	639	0.40	0.49	0.00	1.00
S5WALKHLP	601	0.52	0.50	0.00	1.00
R1BATHEHLP	543	0.73	0.44	0.00	1.00
R2BATHEHLP	518	0.77	0.42	0.00	1.00
R3BATHEHLP	802	0.71	0.45	0.00	1.00
R4BATHEHLP	1009	0.69	0.46	0.00	1.00
R5BATHEHLP	1002	0.75	0.43	0.00	1.00
S1BATHEHLP	285	0.73	0.44	0.00	1.00
S2BATHEHLP	273	0.79	0.40	0.00	1.00
S3BATHEHLP	357	0.65	0.48	0.00	1.00
S4BATHEHLP	470	0.63	0.48	0.00	1.00
S5BATHEHLP	413	0.73	0.45	0.00	1.00
R1EATHLP	295	0.79	0.41	0.00	1.00
R2EATHLP	267	0.83	0.38	0.00	1.00
R3EATHLP	580	0.65	0.48	0.00	1.00
R4EATHLP	603	0.70	0.46	0.00	1.00
R5EATHLP	565	0.77	0.42	0.00	1.00
S1EATHLP	143	0.75	0.44	0.00	1.00
S2EATHLP	141	0.87	0.34	0.00	1.00
S3EATHLP	283	0.59	0.49	0.00	1.00
S4EATHLP	295	0.62	0.49	0.00	1.00
S5EATHLP	206	0.75	0.44	0.00	1.00

R1BEDHLP	771	0.51	0.50	0.00	1.00
R2BEDHLP	672	0.54	0.50	0.00	1.00
R3BEDHLP	1304	0.39	0.49	0.00	1.00
R4BEDHLP	1479	0.38	0.49	0.00	1.00
R5BEDHLP	1317	0.53	0.50	0.00	1.00
S1BEDHLP	464	0.54	0.50	0.00	1.00
S2BEDHLP	377	0.56	0.50	0.00	1.00
S3BEDHLP	731	0.34	0.47	0.00	1.00
S4BEDHLP	807	0.36	0.48	0.00	1.00
S5BEDHLP	553	0.53	0.50	0.00	1.00
R1TOILETHLP	533	0.53	0.50	0.00	1.00
R2TOILETHLP	488	0.63	0.48	0.00	1.00
R3TOILETHLP	1015	0.46	0.50	0.00	1.00
R4TOILETHLP	989	0.46	0.50	0.00	1.00
R5TOILETHLP	1138	0.51	0.50	0.00	1.00
S1TOILETHLP	295	0.51	0.50	0.00	1.00
S2TOILETHLP	258	0.65	0.48	0.00	1.00
S3TOILETHLP	509	0.42	0.49	0.00	1.00
S4TOILETHLP	507	0.42	0.49	0.00	1.00
S5TOILETHLP	465	0.50	0.50	0.00	1.00

### Categorical Variable Codes

Value-----	R1DRESSHLP	R2DRESSHLP	R3DRESSHLP	R4DRESSHLP	R5DRESSHLP
.d:DK	42		1	7	2
.m:Missing	38	25		40	17
.p:Proxy interview, not asked	1032	1178	1275	929	1328
.r:Refuse	57	1	5	1	9
.x:no difficulty	13147	11727	13103	12296	14151
0.No	551	461	945	951	1089
1.Yes	319	312	394	555	518

Value-----	S1DRESSHLP	S2DRESSHLP	S3DRESSHLP	S4DRESSHLP	S5DRESSHLP
.d:DK	33		1	7	1
.m:Missing	13	6		10	2
.p:Proxy interview, not asked	660	821	726	470	560
.r:Refuse	36	1	1		5
.u:Unmar	4205	4009	4782	4847	5227
.v:SP NR	333	131	349	280	501
.x:no difficulty	9355	8272	9049	8290	6157
0.No	348	279	575	572	502
1.Yes	203	185	240	303	234

Value-----	R1WALKHLP	R2WALKHLP	R3WALKHLP	R4WALKHLP	R5WALKHLP
.d:DK	37		31	6	4
.m:Missing	40	56		40	18
.r:Refuse	152	5	5	1	87
.x:no difficulty	14182	12880	14443	13378	15555
0.No	331	304	711	795	655
1.Yes	444	459	533	559	795

Value-----	S1WALKHLP	S2WALKHLP	S3WALKHLP	S4WALKHLP	S5WALKHLP
.d:DK	23		25	5	
.m:Missing	14	30		10	3
.r:Refuse	96	3	2		57
.u:Unmar	4205	4009	4782	4847	5227
.v:SP NR	333	131	349	280	501
.x:no difficulty	10094	9136	9944	8998	6800
0.No	164	152	383	386	286
1.Yes	257	243	238	253	315

Value-----	R1BATHEHLP	R2BATHEHLP	R3BATHEHLP	R4BATHEHLP	R5BATHEHLP
.d:DK	37	1	31	7	2
.m:Missing	40	59		40	18



.r:Refuse		166	5	2	1	87
.x:no difficulty		14400	13121	14888	13722	16005
0.No		147	118	231	316	247
1.Yes		396	400	571	693	755
Value-----		S1BATHEHLP	S2BATHEHLP	S3BATHEHLP	S4BATHEHLP	S5BATHEHLP
.d:DK		23		25	6	
.m:Missing		14	29		10	3
.r:Refuse		98	3	1		56
.u:Unmar		4205	4009	4782	4847	5227
.v:SP NR		333	131	349	280	501
.x:no difficulty		10228	9259	10209	9166	6989
0.No		77	56	124	173	112
1.Yes		208	217	233	297	301
Value-----		R1EATHLP	R2EATHLP	R3EATHLP	R4EATHLP	R5EATHLP
.d:DK		36	1	31	6	2
.m:Missing		40	53		40	18
.r:Refuse		160	5	3	2	87
.x:no difficulty		14655	13378	15109	14128	16442
0.No		62	46	202	179	132
1.Yes		233	221	378	424	433
Value-----		S1EATHLP	S2EATHLP	S3EATHLP	S4EATHLP	S5EATHLP
.d:DK		23		25	5	
.m:Missing		14	27		10	3
.r:Refuse		97	3	1	1	57
.u:Unmar		4205	4009	4782	4847	5227
.v:SP NR		333	131	349	280	501
.x:no difficulty		10371	9393	10283	9341	7195
0.No		36	19	115	113	52
1.Yes		107	122	168	182	154
Value-----		R1BEDHLP	R2BEDHLP	R3BEDHLP	R4BEDHLP	R5BEDHLP
.d:DK		38	1	32	6	3
.m:Missing		40	52		40	18
.r:Refuse		163	5	4	1	89
.x:no difficulty		14174	12974	14383	13253	15687
0.No		374	307	796	913	624
1.Yes		397	365	508	566	693
Value-----		S1BEDHLP	S2BEDHLP	S3BEDHLP	S4BEDHLP	S5BEDHLP
.d:DK		23		26	5	
.m:Missing		14	27		10	3
.r:Refuse		102	3	2		58
.u:Unmar		4205	4009	4782	4847	5227
.v:SP NR		333	131	349	280	501
.x:no difficulty		10045	9157	9833	8830	6847
0.No		215	164	482	517	258
1.Yes		249	213	249	290	295
Value-----		R1TOILETHLP	R2TOILETHLP	R3TOILETHLP	R4TOILETHLP	R5TOILETHLP
.d:DK		48	1	33	6	6
.m:Missing		40	54		40	18
.r:Refuse		180	5	4	1	87
.x:no difficulty		14385	13156	14671	13743	15865
0.No		250	183	551	535	553
1.Yes		283	305	464	454	585
Value-----		S1TOILETHLP	S2TOILETHLP	S3TOILETHLP	S4TOILETHLP	S5TOILETHLP
.d:DK		29		26	5	2
.m:Missing		14	27		10	3
.r:Refuse		110	3	1		57
.u:Unmar		4205	4009	4782	4847	5227
.v:SP NR		333	131	349	280	501
.x:no difficulty		10200	9276	10056	9130	6934
0.No		144	91	296	296	231
1.Yes		151	167	213	211	234

## How Constructed

RwDRESSHLP, RwWALKHLP, RwBATHEHLP, RWEATHLP, RwbEDHLP, and RwTOILETHLP indicate whether anyone helps the respondent with each ADL. RwDRESSHLP indicates whether anyone helps the respondent dress. RwWALKHLP indicates whether anyone helps the respondent walk across a room. RwBATHEHLP indicates whether anyone helps the respondent bathe or shower. RWEATHLP indicates whether anyone helps the respondent eat, such as cutting up food. RwbEDHLP indicates whether anyone helps the respondent get into or out of bed. RwTOILETHLP indicates whether anyone helps the respondent use the toilet, including getting on or off the toilet or squatting. These variables are coded as 1 if someone helps the respondent with the ADL. These variables are coded as 0 if nobody helps the respondent with the ADL. If the respondent indicates having no difficulty with the ADL or with other mobility tasks that precede the ADL questions in the interview, then RwDRESSHLP, RwWALKHLP, RwBATHEHLP, RWEATHLP, RwbEDHLP, and RwTOILETHLP are assigned special missing value .x. If the interview is conducted by proxy, then questions about help dressing are not asked and RwDRESSHLP is assigned special missing value .p. Don't know, refused, or other missing responses are assigned special missing codes .d, .r, and .m, respectively. These variables are set to plain missing (.) for respondents who did not participate in the current wave.

SwDRESSHLP, SwWALKHLP, SwBATHEHLP, SweATHLP, SwBEDHLP, and SwTOILETHLP indicate whether anyone helps the respondent's current wave's spouse with the associated ADL. These values are taken from RwDRESSHLP, RwWALKHLP, RwBATHEHLP, RWEATHLP, RwbEDHLP, and RwTOILETHLP. In addition to the special missing codes employed by RwDRESSHLP, RwWALKHLP, RwBATHEHLP, RWEATHLP, RwbEDHLP, and RwTOILETHLP, SwDRESSHLP, SwWALKHLP, SwBATHEHLP, SweATHLP, SwBEDHLP, and SwTOILETHLP employ two additional special missing codes. A special missing value .u is used when the respondent does not report being coupled in the current wave. A special missing value .v is used when the respondent reports being coupled in the current wave but their spouse is not interviewed.

## Cross Wave Differences in MHAS

In Waves 1 and 2, respondents can be asked up to 2 questions regarding help received for ADL activities. If the respondent is married or in a union, then the respondent is first asked: "Does your spouse help you?". All respondents are asked: "Does anyone (else) ever help you?". The variables in Waves 1 and 2 indicate help received from the respondent's spouse or someone else. Starting in Wave 3, only a single question is asked: "Does someone help you?". As such, starting in Wave 3, the variables indicate help received from anyone.

In Waves 1 and 2, respondents are only asked if they received help with an ADL activity if they reported that they had difficulty with, didn't do, or can't do the activity. Starting in Wave 3, all respondents are asked whether they received help with an ADL activity regardless of reporting difficulty with the activity. While these variables have been constructed to be as comparable as possible across waves, it is possible that those who reported having no difficulty with an ADL could receive help with the ADL and so would be assigned a value of 1 for these variables starting in Wave 3.

## Differences with the RAND HRS/Harmonized HRS

These variables are somewhat comparable to RwWALKRH, RwDRESSH, RwBATHH, RWEATH, RwbEDH, and RwTOILTH in the RAND HRS. Please keep in mind that no difficulty is assigned special missing .s and don't do is assigned special missing .x in the RAND HRS, while no difficulty is assigned special missing .x in the Harmonized MHAS. This difference and the difference in naming ensure comparability between the Harmonized MHAS and other Harmonized datasets.

Help received using the toilet includes getting on and off the toilet or squatting in RwTOILETHLP in the Harmonized MHAS, and only includes getting up or down from the toilet in RwTOILTH in the RAND HRS.

## MHAS Variables Used

Wave 1:

H14	help dressing
H15_1	difficult walking
H15_3	spouse helps walking
H15_4	other helps walking
H16_1	difficult bathing
H16_3	spouse helps bathing
H16_4	other helps bathing
H17_1	difficult eating
H17_3	spouse helps eating

H17_4	other helps eating
H18_1	difficult getting in an out of bed
H18_3	spouse helps getting in an out of bed
H18_4	other helps getting in an out of bed
H19_1	difficult using toilet
H19_3	spouse helps using toilet
H19_4	other helps using toilet
Wave 2:	
H14	someone help you to get dressed
H15E	spouse helps
H15F	additional person helps
H16E	spouse helps
H16F	additional person helps
H17E	spouse helps
H17F	additional person helps
H18E	spouse helps
H18F	additional person helps
H19E	spouse helps
H19F	additional person helps
Wave 3:	
H14_12	Someone help you to get dressed
H15D_12	Someone help you walk across room
H16D_12	Someone help you to bathe or shower
H17D_12	Does someone help you eat your food
H18D_12	Does someone help you get into or out of bed
H19D_12	Does someone help you use toilet, get on off
Wave 4:	
H14_15	Does someone help respondent to get dressed
H15D_15	Does someone help respondent walking across a room
H16D_15	Does someone help respondent bathing or showering
H17D_15	Does someone help respondent eating
H18D_15	Does someone help respondent getting in or out of bed
H19D_15	Does someone help respondent using the toilet
Wave 5:	
H14_18	Does someone help R to get dressed
H15D_18	Does someone help R walking across a room
H16D_18	Does someone help R bathing or showering
H17D_18	Does someone help R eating
H18D_18	Does someone help R getting in or out of bed
H19D_18	Does someone help R using the toilet

<b>IADL Help</b>
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Wave	Variable	Label	Type
1	R1MEALHLP	r1mealhlp: w1 whether anyone helps R with meal preparation	Categ
2	R2MEALHLP	r2mealhlp: w2 whether anyone helps R with meal preparation	Categ
3	R3MEALHLP	r3mealhlp: w3 whether anyone helps R with meal preparation	Categ
4	R4MEALHLP	r4mealhlp: w4 whether anyone helps R with meal preparation	Categ
5	R5MEALHLP	r5mealhlp: w5 whether anyone helps R with meal preparation	Categ
1	S1MEALHLP	s1mealhlp: w1 whether anyone helps S with meal preparation	Categ
2	S2MEALHLP	s2mealhlp: w2 whether anyone helps S with meal preparation	Categ
3	S3MEALHLP	s3mealhlp: w3 whether anyone helps S with meal preparation	Categ
4	S4MEALHLP	s4mealhlp: w4 whether anyone helps S with meal preparation	Categ
5	S5MEALHLP	s5mealhlp: w5 whether anyone helps S with meal preparation	Categ
1	R1SHOPHLP	r1shophlp: w1 whether anyone helps R with grocery shopping	Categ
2	R2SHOPHLP	r2shophlp: w2 whether anyone helps R with grocery shopping	Categ
3	R3SHOPHLP	r3shophlp: w3 whether anyone helps R with grocery shopping	Categ
4	R4SHOPHLP	r4shophlp: w4 whether anyone helps R with grocery shopping	Categ
5	R5SHOPHLP	r5shophlp: w5 whether anyone helps R with grocery shopping	Categ
1	S1SHOPHLP	s1shophlp: w1 whether anyone helps S with grocery shopping	Categ
2	S2SHOPHLP	s2shophlp: w2 whether anyone helps S with grocery shopping	Categ
3	S3SHOPHLP	s3shophlp: w3 whether anyone helps S with grocery shopping	Categ
4	S4SHOPHLP	s4shophlp: w4 whether anyone helps S with grocery shopping	Categ
5	S5SHOPHLP	s5shophlp: w5 whether anyone helps S with grocery shopping	Categ
1	R1MEDHLP	r1medhlp: w1 whether anyone helps R with taking medication	Categ
2	R2MEDHLP	r2medhlp: w2 whether anyone helps R with taking medication	Categ
3	R3MEDHLP	r3medhlp: w3 whether anyone helps R with taking medication	Categ
4	R4MEDHLP	r4medhlp: w4 whether anyone helps R with taking medication	Categ
5	R5MEDHLP	r5medhlp: w5 whether anyone helps R with taking medication	Categ
1	S1MEDHLP	s1medhlp: w1 whether anyone helps S with taking medication	Categ
2	S2MEDHLP	s2medhlp: w2 whether anyone helps S with taking medication	Categ
3	S3MEDHLP	s3medhlp: w3 whether anyone helps S with taking medication	Categ
4	S4MEDHLP	s4medhlp: w4 whether anyone helps S with taking medication	Categ
5	S5MEDHLP	s5medhlp: w5 whether anyone helps S with taking medication	Categ
1	R1MONEYHLP	r1moneyhlp: w1 whether anyone helps R with managing money	Categ
2	R2MONEYHLP	r2moneyhlp: w2 whether anyone helps R with managing money	Categ
3	R3MONEYHLP	r3moneyhlp: w3 whether anyone helps R with managing money	Categ
4	R4MONEYHLP	r4moneyhlp: w4 whether anyone helps R with managing money	Categ
5	R5MONEYHLP	r5moneyhlp: w5 whether anyone helps R with managing money	Categ
1	S1MONEYHLP	s1moneyhlp: w1 whether anyone helps S with managing money	Categ
2	S2MONEYHLP	s2moneyhlp: w2 whether anyone helps S with managing money	Categ
3	S3MONEYHLP	s3moneyhlp: w3 whether anyone helps S with managing money	Categ
4	S4MONEYHLP	s4moneyhlp: w4 whether anyone helps S with managing money	Categ
5	S5MONEYHLP	s5moneyhlp: w5 whether anyone helps S with managing money	Categ

## Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R1MEALHLP	1103	0.83	0.38	0.00	1.00
R2MEALHLP	1015	0.84	0.36	0.00	1.00
R3MEALHLP	1253	0.70	0.46	0.00	1.00
R4MEALHLP	1241	0.77	0.42	0.00	1.00
R5MEALHLP	1045	0.75	0.43	0.00	1.00

S1MEALHLP	779	0.85	0.36	0.00	1.00
S2MEALHLP	720	0.78	0.41	0.00	1.00
S3MEALHLP	814	0.64	0.48	0.00	1.00
S4MEALHLP	712	0.70	0.46	0.00	1.00
S5MEALHLP	474	0.70	0.46	0.00	1.00
R1SHOPHLP	1109	0.86	0.34	0.00	1.00
R2SHOPHLP	999	0.91	0.29	0.00	1.00
R3SHOPHLP	1519	0.82	0.39	0.00	1.00
R4SHOPHLP	1684	0.87	0.33	0.00	1.00
R5SHOPHLP	1392	0.85	0.35	0.00	1.00
S1SHOPHLP	657	0.87	0.33	0.00	1.00
S2SHOPHLP	582	0.84	0.37	0.00	1.00
S3SHOPHLP	803	0.79	0.40	0.00	1.00
S4SHOPHLP	835	0.85	0.36	0.00	1.00
S5SHOPHLP	591	0.84	0.37	0.00	1.00
R1MEDHLP	356	0.84	0.36	0.00	1.00
R2MEDHLP	291	0.88	0.32	0.00	1.00
R3MEDHLP	502	0.53	0.50	0.00	1.00
R4MEDHLP	660	0.59	0.49	0.00	1.00
R5MEDHLP	426	0.70	0.46	0.00	1.00
S1MEDHLP	185	0.87	0.34	0.00	1.00
S2MEDHLP	173	0.80	0.40	0.00	1.00
S3MEDHLP	292	0.48	0.50	0.00	1.00
S4MEDHLP	351	0.53	0.50	0.00	1.00
S5MEDHLP	164	0.70	0.46	0.00	1.00
R1MONEYHLP	346	0.83	0.38	0.00	1.00
R2MONEYHLP	283	0.96	0.20	0.00	1.00
R3MONEYHLP	382	0.73	0.44	0.00	1.00
R4MONEYHLP	481	0.74	0.44	0.00	1.00
R5MONEYHLP	404	0.81	0.39	0.00	1.00
S1MONEYHLP	175	0.83	0.37	0.00	1.00
S2MONEYHLP	160	0.93	0.26	0.00	1.00
S3MONEYHLP	212	0.69	0.46	0.00	1.00
S4MONEYHLP	245	0.72	0.45	0.00	1.00
S5MONEYHLP	173	0.79	0.41	0.00	1.00

Categorical Variable Codes

Value-----	R1MEALHLP	R2MEALHLP	R3MEALHLP	R4MEALHLP	R5MEALHLP
.d:DK	49		2	6	5
.m:Missing	38	104		40	17
.p:Proxy interview, not asked	1032	1162	1275	929	1328
.r:Refuse	123	3	3	3	18
.x:no difficulty	12841	11420	13190	12560	14701
0.No	188	158	372	291	257
1.Yes	915	857	881	950	788
Value-----	S1MEALHLP	S2MEALHLP	S3MEALHLP	S4MEALHLP	S5MEALHLP
.d:DK	40		2	6	3
.m:Missing	13	12		10	2
.p:Proxy interview, not asked	660	814	726	470	560
.r:Refuse	103	2	2	2	8
.u:Unmar	4205	4009	4782	4847	5227
.v:SP NR	333	131	349	280	501
.x:no difficulty	9053	8016	9048	8452	6414
0.No	119	158	296	213	140
1.Yes	660	562	518	499	334
Value-----	R1SHOPHLP	R2SHOPHLP	R3SHOPHLP	R4SHOPHLP	R5SHOPHLP
.d:DK	37		3	6	2

.m:Missing		38	106	40	17
.p:Proxy interview, not asked		1032	1162	1275	929
.r:Refuse		112	2	2	1
.x:no difficulty		12858	11435	12924	12119
0.No		151	94	276	213
1.Yes		958	905	1243	1471
Value-----		S1SHOPHLP	S2SHOPHLP	S3SHOPHLP	S4SHOPHLP
.d:DK		28		1	6
.m:Missing		13	8		10
.p:Proxy interview, not asked		660	814	726	470
.r:Refuse		83	2		6
.u:Unmar		4205	4009	4782	4847
.v:SP NR		333	131	349	280
.x:no difficulty		9207	8158	9062	8331
0.No		83	92	165	128
1.Yes		574	490	638	707
Value-----		R1MEDHLP	R2MEDHLP	R3MEDHLP	R4MEDHLP
.d:DK		20		1	6
.m:Missing		38	57		40
.p:Proxy interview, not asked		1032	1162	1275	929
.r:Refuse		48	1	1	1
.x:no difficulty		13692	12193	13944	13143
0.No		56	34	235	269
1.Yes		300	257	267	391
Value-----		S1MEDHLP	S2MEDHLP	S3MEDHLP	S4MEDHLP
.d:DK		13		1	6
.m:Missing		13	8		10
.p:Proxy interview, not asked		660	814	726	470
.r:Refuse		32	1		7
.u:Unmar		4205	4009	4782	4847
.v:SP NR		333	131	349	280
.x:no difficulty		9745	8568	9573	8815
0.No		24	34	151	165
1.Yes		161	139	141	186
Value-----		R1MONEYHLP	R2MONEYHLP	R3MONEYHLP	R4MONEYHLP
.d:DK		21		8	7
.m:Missing		38	53		40
.p:Proxy interview, not asked		1032	1161	1275	929
.r:Refuse		56	2	2	1
.x:no difficulty		13693	12205	14056	13321
0.No		60	12	102	124
1.Yes		286	271	280	357
Value-----		S1MONEYHLP	S2MONEYHLP	S3MONEYHLP	S4MONEYHLP
.d:DK		14		4	5
.m:Missing		13	11		10
.p:Proxy interview, not asked		660	814	726	470
.r:Refuse		39	2		6
.u:Unmar		4205	4009	4782	4847
.v:SP NR		333	131	349	280
.x:no difficulty		9747	8577	9650	8922
0.No		29	12	65	69
1.Yes		146	148	147	176

## How Constructed

RwMEALHLP, RwSHOPHLP, RwMEDHLP, and RwMONEYHLP indicate whether anyone helps the respondent with each IADL. RwMEALHLP indicates whether respondents who have difficulty with meal preparation have anyone help them prepare hot meals. RwSHOPHLP indicates whether respondents who have difficulty with grocery shopping have anyone help them shop for groceries. RwMEDHLP indicates whether respondents who have difficulty with taking medications have anyone help them with taking medications. RwMONEYHLP indicates whether respondents who have difficulty managing money have anyone help them manage their money. Respondents who report that they have difficulty with, "can't do", or "don't do" an IADL activity are asked whether they receive help with the IADL. These variables are coded as 1 if someone helps the respondent with the IADL, while a 0 indicates that nobody helps the respondent with the IADL. Respondents who do not have difficulty with a particular IADL are assigned special missing value code .x. These variables are assigned special missing value .p if the interview was completed by proxy. Don't know, refused, or other

missing responses are assigned special missing codes .d, .r, and .m, respectively. RwMEALHLP, RwSHOPHLP, RwMEDHLP, and RwmoneyHLP are set to plain missing (.) for respondents who did not participate in the current wave.

SwMEALHLP, SwSHOPHLP, SwMEDHLP, and SwMONEYHLP indicate whether anyone helps the respondent's current wave's spouse with the associated IADL. These values are taken from RwMEALHLP, RwSHOPHLP, RwMEDHLP, and RwmoneyHLP. In addition to the special missing codes employed by RwMEALHLP, RwSHOPHLP, RwMEDHLP, and RwmoneyHLP, SwMEALHLP, SwSHOPHLP, SwMEDHLP, and SwMONEYHLP employ two additional special missing codes. A special missing value .u is used when the respondent does not report being coupled in the current wave. A special missing value .v is used when the respondent reports being coupled in the current wave but their spouse is not interviewed.

## Cross Wave Differences in MHAS

In Waves 1 and 2, the respondent is asked in separate questions whether their spouse helps with the IADL activity and whether anyone (else) ever helps with the IADL activity. Starting in Wave 3, the respondent is asked in a single question whether anyone ever helps with the IADL activity.

## Differences with the RAND HRS/Harmonized HRS

Unlike the HRS, the MHAS does not include using the phone and using a map as IADLs. In the HRS, if the respondent reports that they "can't do" or "don't do" the activity or if they have difficulty that is not the result of a health or memory problem, then they are not asked whether they receive help with that activity. Respondents in the MHAS, however, are asked whether they receive help with the activity if they report that they "can't do", "don't do", or have difficulty with the activity, regardless of whether it is the result of a health or memory problem.

## MHAS Variables Used

### Wave 1:

H26_3	spouse helps with hot meal
H26_4	someone helps with hot meal
H27_3	spouse helps with shopping
H27_4	someone helps with shopping
H28_3	spouse helps with taking medication
H28_4	someone helps with taking medication
H29_3	spouse helps with managing money
H29_4	someone helps with managing money

### Wave 2:

H26D	spouse helps
H26E	additional person helps
H27D	spouse helps
H27E	additional person helps
H28D	spouse helps
H28E	additional person helps
H29D	spouse helps
H29E	additional person helps

### Wave 3:

H26C_12	Does anyone help you prepare a hot meal
H27C_12	Does anyone help you shop for groceries
H28C_12	Does anyone help you take medications
H29C_12	Does anyone one help you manage your money

### Wave 4:

H26C_15	Does someone help respondent to prepare a hot meal
H27C_15	Does someone help respondent to shop for groceries
H28C_15	Does someone help respondent to take medications
H29C_15	Does someone help respondent to manage his/her money

### Wave 5:

H26C_18	Does someone help R to prepare a hot meal
H27C_18	Does someone help R to shop for groceries
H28C_18	Does someone help R to take medications
H29C_18	Does someone help R to manage his/her money

Whether Uses Personal Aids

Wave	Variable	Label	Type
1	R1WALKRE	r1walkre: w1 R uses equipment-Walking across room	Categ
2	R2WALKRE	r2walkre: w2 R uses equipment-Walking across room	Categ
3	R3WALKRE	r3walkre: w3 R uses equipment-Walking across room	Categ
4	R4WALKRE	r4walkre: w4 R uses equipment-Walking across room	Categ
5	R5WALKRE	r5walkre: w5 R uses equipment-Walking across room	Categ
1	S1WALKRE	s1walkre: w1 S uses equipment-Walking across room	Categ
2	S2WALKRE	s2walkre: w2 S uses equipment-Walking across room	Categ
3	S3WALKRE	s3walkre: w3 S uses equipment-Walking across room	Categ
4	S4WALKRE	s4walkre: w4 S uses equipment-Walking across room	Categ
5	S5WALKRE	s5walkre: w5 S uses equipment-Walking across room	Categ
1	R1BEDE	r1bede: w1 R uses equipment-Getting in/out of bed	Categ
2	R2BEDE	r2bede: w2 R uses equipment-Getting in/out of bed	Categ
3	R3BEDE	r3bede: w3 R uses equipment-Getting in/out of bed	Categ
4	R4BEDE	r4bede: w4 R uses equipment-Getting in/out of bed	Categ
5	R5BEDE	r5bede: w5 R uses equipment-Getting in/out of bed	Categ
1	S1BEDE	s1bede: w1 S uses equipment-Getting in/out of bed	Categ
2	S2BEDE	s2bede: w2 S uses equipment-Getting in/out of bed	Categ
3	S3BEDE	s3bede: w3 S uses equipment-Getting in/out of bed	Categ
4	S4BEDE	s4bede: w4 S uses equipment-Getting in/out of bed	Categ
5	S5BEDE	s5bede: w5 S uses equipment-Getting in/out of bed	Categ

Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R1WALKRE	7955	0.08	0.27	0.00	1.00
R2WALKRE	7231	0.09	0.29	0.00	1.00
R3WALKRE	9918	0.13	0.34	0.00	1.00
R4WALKRE	9800	0.17	0.38	0.00	1.00
R5WALKRE	10102	0.15	0.36	0.00	1.00
S1WALKRE	5230	0.06	0.24	0.00	1.00
S2WALKRE	4763	0.07	0.25	0.00	1.00
S3WALKRE	6257	0.10	0.30	0.00	1.00
S4WALKRE	6052	0.12	0.33	0.00	1.00
S5WALKRE	4573	0.14	0.34	0.00	1.00
R1BEDE	7880	0.05	0.22	0.00	1.00
R2BEDE	7230	0.05	0.23	0.00	1.00
R3BEDE	9915	0.07	0.25	0.00	1.00
R4BEDE	9797	0.09	0.29	0.00	1.00
R5BEDE	10101	0.08	0.27	0.00	1.00
S1BEDE	5184	0.04	0.19	0.00	1.00
S2BEDE	4762	0.04	0.19	0.00	1.00
S3BEDE	6255	0.05	0.21	0.00	1.00
S4BEDE	6049	0.06	0.24	0.00	1.00
S5BEDE	4573	0.07	0.26	0.00	1.00

Categorical Variable Codes

Value-----	R1WALKRE	R2WALKRE	R3WALKRE	R4WALKRE	R5WALKRE
.d:DK	38	1	31	6	2
.m:Missing	40	47		40	18
.r:Refuse	139	5	2	1	84



.x:no difficulty		7014	6420	5772	4932	6908
0.No		7306	6553	8606	8094	8580
1.Yes		649	678	1312	1706	1522
Value-----		S1WALKRE	S2WALKRE	S3WALKRE	S4WALKRE	S5WALKRE
.d:DK		22	1	25	5	
.m:Missing		14	23		10	3
.r:Refuse		90	3	1		55
.u:Unmar		4205	4009	4782	4847	5227
.v:SP NR		333	131	349	280	501
.x:no difficulty		5292	4774	4309	3585	2830
0.No		4915	4432	5653	5303	3954
1.Yes		315	331	604	749	619
Value-----		R1BEDE	R2BEDE	R3BEDE	R4BEDE	R5BEDE
.d:DK		43	1	32	6	3
.m:Missing		40	47		40	18
.r:Refuse		149	5	4	2	86
.x:no difficulty		7074	6421	5772	4934	6906
0.No		7473	6843	9249	8923	9272
1.Yes		407	387	666	874	829
Value-----		S1BEDE	S2BEDE	S3BEDE	S4BEDE	S5BEDE
.d:DK		25	1	26	5	
.m:Missing		14	23		10	3
.r:Refuse		96	3	1	1	55
.u:Unmar		4205	4009	4782	4847	5227
.v:SP NR		333	131	349	280	501
.x:no difficulty		5329	4775	4310	3587	2830
0.No		4991	4580	5953	5671	4232
1.Yes		193	182	302	378	341

## How Constructed

RwWALKRE and RwBEDE indicate whether the respondent uses any equipment or devices, such as a cane, walker, or wheelchair, to walk across a room or to get in and out of bed, respectively. These questions are asked regardless of difficulty with walking across a room or getting in and out of bed. These variables are coded as 1 if the respondent uses any equipment or devices to help with the ADL. These variables are coded as 0 if the respondent does not use any equipment or devices to help with the ADL despite having difficulty with the ADL. If the respondent indicates having no difficulty with the ADL or with other mobility tasks that precede the ADL questions in the interview, then RwWALKRE and RwBEDE are assigned special missing value .x. Don't know, refused, or other missing responses are assigned special missing codes .d, .r, and .m, respectively. These variables are set to plain missing (.) for respondents who did not participate in the current wave.

SwWALKRE and SwBEDE indicate whether the respondent's current wave's spouse uses any equipment or devices to walk across a room or to get in and out of bed, respectively. These values are taken from RwWALKRE and RwBEDE. In addition to the special missing codes employed by RwWALKRE and RwBEDE, SwWALKRE and SwDRESSE employ two additional special missing codes. A special missing value .u is used when the respondent does not report being coupled in the current wave. A special missing value .v is used when the respondent reports being coupled in the current wave but their spouse is not interviewed.

## Cross Wave Differences in MHAS

No differences known.

## Differences with the RAND HRS/Harmonized HRS

These variables are somewhat comparable to RwWALKRE and RwBEDE in the RAND HRS. Please keep in mind that no difficulty is assigned special missing .s and don't do is assigned a value of 9 in the RAND HRS, while no difficulty is assigned special missing .x in the Harmonized MHAS. This difference and the difference in naming ensure comparability between the Harmonized MHAS and other Harmonized datasets.

## MHAS Variables Used

Wave 1:  
H1 long walk

H10	pulling
H11	picking up
H12	picking up a coin
H13	dressing
H15_1	difficult walking
H15_2	help walking
H18_1	difficult getting in an out of bed
H18_2	help getting in an out of bed
H4	sitting 2 hours
H5	getting up
H6	long climbing
H7	short climbing
H8	bending
H9	extending arms
Wave 2:	
H1	health problems-trouble walking blocks
H10	health problems-trouble pushing or pulling
H11	health problems-trouble carrying objects
H12	health problems-trouble picking up a coin
H13	health problems-trouble dressing self
H15A	health problem-trouble walking
H15B	use equipment to walk
H18A	health problem-get in/out of bed
H18B	use equipment to get in/out of bed
H4	health problems-trouble staying seated
H5	health problems-trouble getting up from chair
H6	health problems-trouble with flights of stairs
H7	health problems-trouble with 1 flight of stairs
H8	health problems-trouble sitting up
H9	health problems-trouble lifting arms
Wave 3:	
H11_12	Because of health problem, difficulty carrying objects
H12_12	Because of health problem, difficulty picking up a coin
H13_12	Because of health problem, difficulty dressing self
H15A_12	Because of health problem, difficulty walking
H15B_12	You use equipment to walk
H18A_12	Because of health problem, difficulty get in/out of bed
H18B_12	You use equipment to get in/out of bed
H1_12	Because of health problem, difficulty walking blocks
H4_12	Because of health problem, difficulty staying seated
H5_12	Because of health problem, difficulty getting up from c
H6_12	Because of health problem, difficulty with flights of s
H7_12	Because of health problem, difficulty with 1 flight of
H8_12	Because of health problem, difficulty sitting up
H9_12	Because of health problem, difficulty lifting arms
Wave 4:	
H11_15	Because of health problem, does respondent have difficu
H12_15	Because of health problem, does respondent have difficu
H13_15	Because of health problem, does respondent have difficu
H15A_15	Because of health problem, does respondent have any dif
H15B_15	Does respondent ever use equipment (to walk across a ro
H18A_15	Because of health problem, does respondent have any dif
H18B_15	Does respondent ever use equipment (to get in or out of
H1_15	Because of health problem, does respondent have difficu
H4_15	Because of health problem, does respondent have difficu
H5_15	Because of health problem, does respondent have difficu
H6_15	Because of health problem, does respondent have difficu
H7_15	Because of health problem, does respondent have difficu
H8_15	Because of health problem, does respondent have difficu
H9_15	Because of health problem, does respondent have difficu
Wave 5:	
H11_18	Due to health problem, difficult for R to lift/carry ob
H12_18	Due to health problem, does R have difficulty picking u
H13_18	Due to health problem, difficult for R to dress, includ

H15A_18	Because of health problem, does R have any difficulty w
H15B_18	R ever uses equipment (to walk across room) such as can
H18A_18	Because of health problem, does R have any difficulty g
H18B_18	R ever uses equipment to get in or out of bed, e.g. can
H1_18	Because of health problem, does R have difficulty walki
H4_18	Because of health problem, does R have difficulty sitti
H5_18	Due to health problem, difficult for R to get up from c
H6_18	Due to health problem, hard for R to climb several flig
H7_18	Due to health problem, difficult for R to climb 1 fligh
H8_18	Due to health problem, does R have difficulty stooping,
H9_18	Due to health problem, difficult for R to reach/extend

<b>Future ADL Help</b>
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Wave	Variable	Label	Type
3	R3FTRHLP	r3ftrhlp: w3 anyone able to help R with future adl needs	Categ
4	R4FTRHLP	r4ftrhlp: w4 anyone able to help R with future adl needs	Categ
5	R5FTRHLP	r5ftrhlp: w5 anyone able to help R with future adl needs	Categ
3	S3FTRHLP	s3ftrhlp: w3 anyone able to help S with future adl needs	Categ
4	S4FTRHLP	s4ftrhlp: w4 anyone able to help S with future adl needs	Categ
5	S5FTRHLP	s5ftrhlp: w5 anyone able to help S with future adl needs	Categ

### Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R3FTRHLP	14073	0.62	0.49	0.00	1.00
R4FTRHLP	13730	0.60	0.49	0.00	1.00
R5FTRHLP	15710	0.66	0.47	0.00	1.00
S3FTRHLP	9732	0.61	0.49	0.00	1.00
S4FTRHLP	9309	0.59	0.49	0.00	1.00
S5FTRHLP	7000	0.66	0.47	0.00	1.00

### Categorical Variable Codes

Value-----	R3FTRHLP	R4FTRHLP	R5FTRHLP
.d:DK	703	578	554
.m:Missing		34	20
.p:Proxy interview, not asked	923	592	803
.r:Refuse	24	11	27
0.No	5352	5461	5280
1.Yes	8721	8269	10430

Value-----	S3FTRHLP	S4FTRHLP	S5FTRHLP
.d:DK	474	391	246
.m:Missing		4	
.p:Proxy interview, not asked	368	134	201
.r:Refuse	18	8	14
.u:Unmar	4782	4844	5227
.v:SP NR	349	89	501
0.No	3834	3784	2395
1.Yes	5898	5525	4605

### How Constructed

RwFTRHLP indicates whether, supposing in the future the respondent needed help with basic personal care activities like eating or dressing (i.e. ADL), they have relatives or friends who could and would be willing to help them over a long period with said needs. RwFTRHLP is coded as 1 if the respondent would have someone who could and would help them in the future if need be, while a 0 indicates they do not have anyone. RwFTRHLP is assigned special missing value .p if this question is not asked because this section was answered by proxy. Don't know, refused, or other missing responses are assigned special missing values codes .d, .r, and .m, respectively. RwFTRHLP is set to plain missing (.) for respondents who did not participate in the current wave.

SwFTRHLP indicates whether the respondent's current wave's spouse has someone who could help with future ADL needs, and is taken from RwFTRHLP. In addition to the special missing codes employed by RwFTRHLP, SwFTRHLP employs two additional special missing codes. A special missing value .u is used when the respondent does not report being coupled in the current wave. A special missing value .v is used when the respondent reports being coupled in the current wave but their spouse is not interviewed.

### Cross Wave Differences in MHAS

This question is asked starting in Wave 3.

Differences with the RAND HRS/Harmonized HRS

The HRS asks whether the respondent has any relative or friends besides a spouse who would be able to help, while the MHAS asks whether the respondent has any relative or friends who would be able to help, and makes no distinctions about a spouse.

The HRS only asks this question if the respondent does not already receive help with personal care (ADL) needs, those currently receiving help are assigned special missing .h in RwfTRHLP in the Harmonized HRS. This question is asked of everyone in the MHAS. Unlike the HRS, the MHAS does not ask who would be able to help in the future.

MHAS Variables Used

Wave 3:	
G33_12	In the future:Will respondent...from family/friends with
TIPENTG_12	Type of interview section G 2012
Wave 4:	
G33_15	In the future:Will respondent from family/friends with
TIPENTG_15	Type of interview Section G 2015
Wave 5:	
G33_18	In the future:Will respondent from family/friends with
TIPENT_HH_18	Type of interview Household Sections 2018

### Activities of Daily Living: Whether Receives Any Care

Wave	Variable	Label	Type
1	R1RACANY	r1racany: w1 R receives any care for ADLs	Categ
2	R2RACANY	r2racany: w2 R receives any care for ADLs	Categ
3	R3RACANY	r3racany: w3 R receives any care for ADLs	Categ
4	R4RACANY	r4racany: w4 R receives any care for ADLs	Categ
5	R5RACANY	r5racany: w5 R receives any care for ADLs	Categ
1	S1RACANY	s1racany: w1 S receives any care for ADLs	Categ
2	S2RACANY	s2racany: w2 S receives any care for ADLs	Categ
3	S3RACANY	s3racany: w3 S receives any care for ADLs	Categ
4	S4RACANY	s4racany: w4 S receives any care for ADLs	Categ
5	S5RACANY	s5racany: w5 S receives any care for ADLs	Categ

### Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R1RACANY	1653	0.47	0.50	0.00	1.00
R2RACANY	1526	0.52	0.50	0.00	1.00
R3RACANY	2957	0.40	0.49	0.00	1.00
R4RACANY	3012	0.43	0.50	0.00	1.00
R5RACANY	3034	0.45	0.50	0.00	1.00
S1RACANY	980	0.47	0.50	0.00	1.00
S2RACANY	865	0.53	0.50	0.00	1.00
S3RACANY	1682	0.34	0.47	0.00	1.00
S4RACANY	1650	0.39	0.49	0.00	1.00
S5RACANY	1296	0.44	0.50	0.00	1.00

### Categorical Variable Codes

Value-----	R1RACANY	R2RACANY	R3RACANY	R4RACANY	R5RACANY
.d:DK	1		1	6	2
.m:Missing	40	34		40	18
.r:Refuse	2		1	1	82
.x:no difficulty	13490	12144	12764	11720	13978
0.No	873	737	1785	1715	1654
1.Yes	780	789	1172	1297	1380
Value-----	S1RACANY	S2RACANY	S3RACANY	S4RACANY	S5RACANY
.d:DK			1	5	
.m:Missing	14	12		10	3
.r:Refuse	1				55
.u:Unmar	4205	4009	4782	4847	5227
.v:SP NR	333	131	349	280	501
.x:no difficulty	9653	8687	8909	7987	6107
0.No	524	408	1107	1012	724
1.Yes	456	457	575	638	572

### How Constructed

RwRACANY indicates whether the respondent receives any care for difficulties with activities of daily living (ADL). If the respondent reports having difficulty with an ADL, then they are asked whether someone helps them with that activity. The activities of daily living include dressing, walking across a room, bathing, eating, getting in and out of bed, and using the toilet. RwRACANY is assigned a value of 0 if the respondent has difficulty with at least one ADL but receives no help with the activity. RwRACANY is assigned a value of 1 if the respondent has difficulty with at least one ADL and someone helps with at least one of the activities. RwRACANY is assigned special missing value .x if the respondent has no difficulty with any ADLs. Don't know, refused, and other missing responses are assigned special missing

values .d, .r, and .m, respectively. RWRACANY is assigned a blank missing (.) if the respondent did not participate in the current wave.

SwRACANY indicates whether the respondent's current wave's spouse receives any care for difficulties with ADLs, and its values are taken from RWRACANY. In addition to the special missing codes employed by RWRACANY, SwRACANY employs two additional special missing codes. A special missing value .u is used when the respondent does not report being coupled in the current wave. A special missing value .v is used when the respondent reports being coupled in the current wave but their spouse is not interviewed.

## Cross Wave Differences in MHAS

No differences known.

## Differences with the RAND HRS/Harmonized HRS

No differences known.

## MHAS Variables Used

### Wave 1:

H14	help dressing
H15_3	spouse helps walking
H15_4	other helps walking
H16_3	spouse helps bathing
H16_4	other helps bathing
H17_3	spouse helps eating
H17_4	other helps eating
H18_3	spouse helps getting in an out of bed
H18_4	other helps getting in an out of bed
H19_3	spouse helps using toilet
H19_4	other helps using toilet

### Wave 2:

H14	someone help you to get dressed
H15E	spouse helps
H15F	additional person helps
H16E	spouse helps
H16F	additional person helps
H17E	spouse helps
H17F	additional person helps
H18E	spouse helps
H18F	additional person helps
H19E	spouse helps
H19F	additional person helps

### Wave 3:

H14_12	Someone help you to get dressed
H15D_12	Someone help you walk across room
H16D_12	Someone help you to bathe or shower
H17D_12	Does someone help you eat your food
H18D_12	Does someone help you get into or out of bed
H19D_12	Does someone help you use toilet, get on off

### Wave 4:

H14_15	Does someone help respondent to get dressed
H15D_15	Does someone help respondent walking across a room
H16D_15	Does someone help respondent bathing or showering
H17D_15	Does someone help respondent eating
H18D_15	Does someone help respondent getting in or out of bed
H19D_15	Does someone help respondent using the toilet

### Wave 5:

H14_18	Does someone help R to get dressed
H15D_18	Does someone help R walking across a room
H16D_18	Does someone help R bathing or showering
H17D_18	Does someone help R eating
H18D_18	Does someone help R getting in or out of bed

H19D\_18 Does someone help R using the toilet



### Activities of Daily Living: Whether Receives Any Informal Care

Wave	Variable	Label	Type
1	R1RACAANY	r1racaany: w1 R receives any informal care for ADLs	Categ
2	R2RACAANY	r2racaany: w2 R receives any informal care for ADLs	Categ
3	R3RACAANY	r3racaany: w3 R receives any informal care for ADLs	Categ
4	R4RACAANY	r4racaany: w4 R receives any informal care for ADLs	Categ
5	R5RACAANY	r5racaany: w5 R receives any informal care for ADLs	Categ
1	S1RACAANY	s1racaany: w1 S receives any informal care for ADLs	Categ
2	S2RACAANY	s2racaany: w2 S receives any informal care for ADLs	Categ
3	S3RACAANY	s3racaany: w3 S receives any informal care for ADLs	Categ
4	S4RACAANY	s4racaany: w4 S receives any informal care for ADLs	Categ
5	S5RACAANY	s5racaany: w5 S receives any informal care for ADLs	Categ

### Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R1RACAANY	1653	0.41	0.49	0.00	1.00
R2RACAANY	1530	0.44	0.50	0.00	1.00
R3RACAANY	2957	0.35	0.48	0.00	1.00
R4RACAANY	3012	0.37	0.48	0.00	1.00
R5RACAANY	3034	0.40	0.49	0.00	1.00
S1RACAANY	980	0.41	0.49	0.00	1.00
S2RACAANY	869	0.45	0.50	0.00	1.00
S3RACAANY	1682	0.28	0.45	0.00	1.00
S4RACAANY	1650	0.31	0.46	0.00	1.00
S5RACAANY	1296	0.37	0.48	0.00	1.00

### Categorical Variable Codes

Value-----	R1RACAANY	R2RACAANY	R3RACAANY	R4RACAANY	R5RACAANY
.d:DK	1		1	6	2
.m:Missing	40	30		40	18
.r:Refuse	2		1	1	82
.x:no difficulty	13490	12144	12764	11720	13978
0.No	969	852	1926	1912	1834
1.Yes	684	678	1031	1100	1200
Value-----	S1RACAANY	S2RACAANY	S3RACAANY	S4RACAANY	S5RACAANY
.d:DK			1	5	
.m:Missing	14	8		10	3
.r:Refuse	1				55
.u:Unmar	4205	4009	4782	4847	5227
.v:SP NR	333	131	349	280	501
.x:no difficulty	9653	8687	8909	7987	6107
0.No	581	479	1208	1133	816
1.Yes	399	390	474	517	480

### How Constructed

RwRACAANY indicates whether the respondent receives any informal care for difficulties with activities of daily living (ADL). The activities of daily living include dressing, walking across a room, bathing, eating, getting in and out of bed, and using the toilet. If the respondent reports having difficulty with an ADL, then they are asked whether someone helps them with that activity. If someone helps with the activity, they are asked for the relationships of up to 12 people in Waves 1 and 2, up to 8 people in Waves 3 and 4, and up to 3 people in Wave 5 who help them with ADLs. The following relationships are considered to provide informal care: spouse, child, child-in-law, grandchild, parent, other relative, other person.

Please note that for each caregiver, the respondent is asked to report their relationship to the caregiver and the caregiver's roster number, if any. In cases where the reported relationship disagrees with the roster number, the roster number takes precedence in defining the relationship for spouses and children, for which the roster numbers follow clear rules. In cases where the reported relationship is "spouse" but the roster number indicates a non-spouse household member or an individual with no roster number, meaning they are not a child or within the household, the relationship type is changed to "other person". In cases of multiple records with the same caregiver relationship and roster number, we only consider the caregiver with the highest level of care provided to the respondent. In cases of multiple records with the same caregiver relationship and no roster number, we assume all mentions are separate individuals.

RwRACAANY is assigned a value of 0 if the respondent has difficulty with at least one ADL but receives no help with the activity from an informal caregiver, or does not receive any help at all. RwRACAANY is assigned a value of 1 if the respondent has difficulty with at least one ADL and an informal caregiver helps with at least one of the activities. RwRACAANY is assigned special missing value .x if the respondent has no difficulty with any ADLs. Don't know, refused, and other missing responses are assigned special missing values .d, .r, and .m, respectively. RwRACAANY is assigned a blank missing (.) if the respondent did not participate in the current wave.

SwRACAANY indicates whether the respondent's current wave's spouse receives any informal care for difficulties with ADLs, and its values are taken from RwRACAANY. In addition to the special missing codes employed by RwRACAANY, SwRACAANY employs two additional special missing codes. A special missing value .u is used when the respondent does not report being coupled in the current wave. A special missing value .v is used when the respondent reports being coupled in the current wave but their spouse is not interviewed.

## Cross Wave Differences in MHAS

Respondents are allowed to mention up to 12 caregivers in Waves 1 and 2, up to 8 caregivers in Waves 3 and 4, and up to 3 caregivers in Wave 5.

## Differences with the RAND HRS/Harmonized HRS

The HRS has different categories of relationships between the respondent and their caregiver, but these variables have been created to be as comparable as possible in the Harmonized HRS and Harmonized MHAS.

## MHAS Variables Used

### Wave 1:

H14	help dressing
H15_3	spouse helps walking
H15_4	other helps walking
H16_3	spouse helps bathing
H16_4	other helps bathing
H17_3	spouse helps eating
H17_4	other helps eating
H18_3	spouse helps getting in an out of bed
H18_4	other helps getting in an out of bed
H19_3	spouse helps using toilet
H19_4	other helps using toilet

### Wave 1 Helper:

H22	kinship of helper
H23	roster number of helper

### Wave 2:

H14	someone help you to get dressed
H15E	spouse helps
H15F	additional person helps
H16E	spouse helps
H16F	additional person helps
H17E	spouse helps
H17F	additional person helps
H18E	spouse helps
H18F	additional person helps

H19E	spouse helps
H19F	additional person helps
Wave 2 Helper:	
H22	relationship
H23	registration number
Wave 3:	
H14_12	Someone help you to get dressed
H15D_12	Someone help you walk across room
H16D_12	Someone help you to bathe or shower
H17D_12	Does someone help you eat your food
H18D_12	Does someone help you get into or out of bed
H19D_12	Does someone help you use toilet, get on off
H22_1_12	Relationship with helper for ADLs
H22_2_12	Relationship with helper for ADLs
H22_3_12	Relationship with helper for ADLs
H22_4_12	Relationship with helper for ADLs
H22_5_12	Relationship with helper for ADLs
H22_6_12	Relationship with helper for ADLs
H22_7_12	Relationship with helper for ADLs
H22_8_12	Relationship with helper for ADLs
H23_1_12	Registration number of helper for ADLs
H23_2_12	Registration number of helper for ADLs
H23_3_12	Registration number of helper for ADLs
H23_4_12	Registration number of helper for ADLs
H23_5_12	Registration number of helper for ADLs
H23_6_12	Registration number of helper for ADLs
H23_7_12	Registration number of helper for ADLs
H23_8_12	Registration number of helper for ADLs
Wave 4:	
H14_15	Does someone help respondent to get dressed
H15D_15	Does someone help respondent walking across a room
H16D_15	Does someone help respondent bathing or showering
H17D_15	Does someone help respondent eating
H18D_15	Does someone help respondent getting in or out of bed
H19D_15	Does someone help respondent using the toilet
H22_1_15	Respondent's relationship with person helping with ADLs
H22_2_15	Respondent's relationship with person helping with ADLs
H22_3_15	Respondent's relationship with person helping with ADLs
H22_4_15	Respondent's relationship with person helping with ADLs
H22_5_15	Respondent's relationship with person helping with ADLs
H22_6_15	Respondent's relationship with person helping with ADLs
H22_7_15	Respondent's relationship with person helping with ADLs
H22_8_15	Respondent's relationship with person helping with ADLs
H23_1_15	Registration number of person helping with ADLs
H23_2_15	Registration number of person helping with ADLs
H23_3_15	Registration number of person helping with ADLs
H23_4_15	Registration number of person helping with ADLs
H23_5_15	Registration number of person helping with ADLs
H23_6_15	Registration number of person helping with ADLs
H23_7_15	Registration number of person helping with ADLs
H23_8_15	Registration number of person helping with ADLs
Wave 5:	
H14_18	Does someone help R to get dressed
H15D_18	Does someone help R walking across a room
H16D_18	Does someone help R bathing or showering
H17D_18	Does someone help R eating
H18D_18	Does someone help R getting in or out of bed
H19D_18	Does someone help R using the toilet
H22_1_18	R's relationship with person helping with ADLs
H22_2_18	R's relationship with person helping with ADLs
H22_3_18	R's relationship with person helping with ADLs
H23_1_18	Registration number of person helping with ADLs
H23_2_18	Registration number of person helping with ADLs
H23_3_18	Registration number of person helping with ADLs

<b>Activities of Daily Living: Receives Informal Care from Spouse</b>
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Wave	Variable	Label	Type
1	R1RASCARE	r1rascare: w1 R receives informal care from spouse for ADLs	Categ
2	R2RASCARE	r2rascare: w2 R receives informal care from spouse for ADLs	Categ
3	R3RASCARE	r3rascare: w3 R receives informal care from spouse for ADLs	Categ
4	R4RASCARE	r4rascare: w4 R receives informal care from spouse for ADLs	Categ
5	R5RASCARE	r5rascare: w5 R receives informal care from spouse for ADLs	Categ
1	S1RASCARE	s1rascare: w1 S receives informal care from spouse for ADLs	Categ
2	S2RASCARE	s2rascare: w2 S receives informal care from spouse for ADLs	Categ
3	S3RASCARE	s3rascare: w3 S receives informal care from spouse for ADLs	Categ
4	S4RASCARE	s4rascare: w4 S receives informal care from spouse for ADLs	Categ
5	S5RASCARE	s5rascare: w5 S receives informal care from spouse for ADLs	Categ
2	R2RASCAREDPM	r2rascaredpm: w2 days/month spouse helps R with ADLs	Cont
3	R3RASCAREDPM	r3rascaredpm: w3 days/month spouse helps R with ADLs	Cont
4	R4RASCAREDPM	r4rascaredpm: w4 days/month spouse helps R with ADLs	Cont
5	R5RASCAREDPM	r5rascaredpm: w5 days/month spouse helps R with ADLs	Cont
2	S2RASCAREDPM	s2rascaredpm: w2 days/month spouse helps S with ADLs	Cont
3	S3RASCAREDPM	s3rascaredpm: w3 days/month spouse helps S with ADLs	Cont
4	S4RASCAREDPM	s4rascaredpm: w4 days/month spouse helps S with ADLs	Cont
5	S5RASCAREDPM	s5rascaredpm: w5 days/month spouse helps S with ADLs	Cont
2	R2RASCAREDPMM	r2rascaredpmm: w2 R # spouse missing days of help for ADLs	Cont
3	R3RASCAREDPMM	r3rascaredpmm: w3 R # spouse missing days of help for ADLs	Cont
4	R4RASCAREDPMM	r4rascaredpmm: w4 R # spouse missing days of help for ADLs	Cont
5	R5RASCAREDPMM	r5rascaredpmm: w5 R # spouse missing days of help for ADLs	Cont
2	S2RASCAREDPMM	s2rascaredpmm: w2 S # spouse missing days of help for ADLs	Cont
3	S3RASCAREDPMM	s3rascaredpmm: w3 S # spouse missing days of help for ADLs	Cont
4	S4RASCAREDPMM	s4rascaredpmm: w4 S # spouse missing days of help for ADLs	Cont
5	S5RASCAREDPMM	s5rascaredpmm: w5 S # spouse missing days of help for ADLs	Cont
2	R2RASCAREHR	r2rascarehr: w2 hours/day spouse helps R with ADLs	Cont
3	R3RASCAREHR	r3rascarehr: w3 hours/day spouse helps R with ADLs	Cont
4	R4RASCAREHR	r4rascarehr: w4 hours/day spouse helps R with ADLs	Cont
5	R5RASCAREHR	r5rascarehr: w5 hours/day spouse helps R with ADLs	Cont
2	S2RASCAREHR	s2rascarehr: w2 hours/day spouse helps S with ADLs	Cont
3	S3RASCAREHR	s3rascarehr: w3 hours/day spouse helps S with ADLs	Cont
4	S4RASCAREHR	s4rascarehr: w4 hours/day spouse helps S with ADLs	Cont
5	S5RASCAREHR	s5rascarehr: w5 hours/day spouse helps S with ADLs	Cont
2	R2RASCAREHRM	r2rascarehrm: w2 R # spouse missing hours of help for ADLs	Cont
3	R3RASCAREHRM	r3rascarehrm: w3 R # spouse missing hours of help for ADLs	Cont
4	R4RASCAREHRM	r4rascarehrm: w4 R # spouse missing hours of help for ADLs	Cont
5	R5RASCAREHRM	r5rascarehrm: w5 R # spouse missing hours of help for ADLs	Cont
2	S2RASCAREHRM	s2rascarehrm: w2 S # spouse missing hours of help for ADLs	Cont
3	S3RASCAREHRM	s3rascarehrm: w3 S # spouse missing hours of help for ADLs	Cont
4	S4RASCAREHRM	s4rascarehrm: w4 S # spouse missing hours of help for ADLs	Cont
5	S5RASCAREHRM	s5rascarehrm: w5 S # spouse missing hours of help for ADLs	Cont

### Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R1RASCARE	780	0.45	0.50	0.00	1.00
R2RASCARE	793	0.34	0.48	0.00	1.00

R3RASCARE	1172	0.25	0.43	0.00	1.00
R4RASCARE	1297	0.25	0.43	0.00	1.00
R5RASCARE	1380	0.17	0.38	0.00	1.00
S1RASCARE	456	0.75	0.43	0.00	1.00
S2RASCARE	461	0.59	0.49	0.00	1.00
S3RASCARE	575	0.50	0.50	0.00	1.00
S4RASCARE	638	0.50	0.50	0.00	1.00
S5RASCARE	572	0.33	0.47	0.00	1.00
R2RASCAREDPM	793	8.60	13.16	0.00	30.00
R3RASCAREDPM	1172	5.89	11.49	0.00	30.00
R4RASCAREDPM	1295	5.22	10.80	0.00	30.00
R5RASCAREDPM	1362	4.10	10.10	0.00	30.00
S2RASCAREDPM	461	14.73	14.36	0.00	30.00
S3RASCAREDPM	575	11.76	13.96	0.00	30.00
S4RASCAREDPM	636	10.32	13.34	0.00	30.00
S5RASCAREDPM	556	7.98	13.01	0.00	30.00
R2RASCAREDPMM	793	0.00	0.00	0.00	0.00
R3RASCAREDPMM	1172	0.00	0.00	0.00	0.00
R4RASCAREDPMM	1297	0.00	0.04	0.00	1.00
R5RASCAREDPMM	1380	0.01	0.11	0.00	1.00
S2RASCAREDPMM	461	0.00	0.00	0.00	0.00
S3RASCAREDPMM	575	0.00	0.00	0.00	0.00
S4RASCAREDPMM	638	0.00	0.06	0.00	1.00
S5RASCAREDPMM	572	0.03	0.17	0.00	1.00
R2RASCAREHR	791	2.08	4.98	0.00	24.00
R3RASCAREHR	1170	2.67	6.73	0.00	24.00
R4RASCAREHR	1295	1.51	4.01	0.00	24.00
R5RASCAREHR	1360	1.21	4.31	0.00	24.00
S2RASCAREHR	459	3.58	6.12	0.00	24.00
S3RASCAREHR	573	5.36	8.77	0.00	24.00
S4RASCAREHR	636	2.97	5.21	0.00	24.00
S5RASCAREHR	553	2.61	6.23	0.00	24.00
R2RASCAREHRM	793	0.00	0.05	0.00	1.00
R3RASCAREHRM	1172	0.00	0.04	0.00	1.00
R4RASCAREHRM	1297	0.00	0.04	0.00	1.00
R5RASCAREHRM	1380	0.01	0.12	0.00	1.00
S2RASCAREHRM	461	0.00	0.07	0.00	1.00
S3RASCAREHRM	575	0.00	0.06	0.00	1.00
S4RASCAREHRM	638	0.00	0.06	0.00	1.00
S5RASCAREHRM	572	0.03	0.18	0.00	1.00

Categorical Variable Codes

Value-----	R1RASCARE	R2RASCARE	R3RASCARE	R4RASCARE	R5RASCARE
.d:DK	1		1	6	2
.h:no help received	873	737	1785	1715	1654
.m:Missing	40	30		40	18
.r:Refuse	2		1	1	82
.x:no difficulty	13490	12144	12764	11720	13978
0.No	432	521	878	971	1143
1.Yes	348	272	294	326	237
Value-----	S1RASCARE	S2RASCARE	S3RASCARE	S4RASCARE	S5RASCARE
.d:DK			1	5	
.h:no help received	524	408	1107	1012	724
.m:Missing	14	8		10	3

.r:Refuse		1				55
.u:Unmar		4205	4009	4782	4847	5227
.v:SP NR		333	131	349	280	501
.x:no difficulty		9653	8687	8909	7987	6107
0.No		112	190	288	321	386
1.Yes		344	271	287	317	186

## How Constructed

The following variables indicate whether the respondent's spouse helps the respondent with any ADL needs. The activities of daily living include dressing, walking across a room, bathing, eating, getting in and out of bed, and using the toilet. If the respondent reports having difficulty with an ADL, then they are asked whether someone helps them with that activity. If someone helps with the activity, they are asked for the relationships of up to 12 people in Waves 1 and 2, up to 8 people in Waves 3 and 4, and up to 3 people in Wave 5 who help them with ADLs. The information used to derive these variables is taken from the help files in Waves 1 and 2 and from the individual files in Waves 3 and forward. For each caregiver, the respondent is asked to report their relationship to the caregiver and the caregiver's roster number, if any. In cases where the reported relationship disagrees with the roster number, the roster number takes precedence in defining the relationship for spouses and children, for which the roster numbers follow clear rules. In cases where the reported relationship is "spouse" but the roster number indicates a non-spouse household member or an individual with no roster number, meaning they are not a child or within the household, the relationship type is changed to "other person". In cases of multiple records with the same caregiver relationship and roster number, we only consider the caregiver with the highest level of care provided to the respondent. In cases of multiple records with the same caregiver relationship and no roster number, we assume all mentions are separate individuals.

The following variables are coded as special missing value .x if the respondent reports no difficulty with any ADL, and are coded as special missing value .h if the respondent reports difficulty with an ADL but does not receive any help. Don't know, refused, and other missing responses are assigned special missing values .d, .r, and .m, respectively. These variables are set to plain missing (.) for respondents who did not participate in the current wave.

RwRASCARE, RwRASCAREDPM, RwRASCAREDPMM, RwRASCAREHR, and RwRASCAREHRM include help from the respondent's spouse.

RwRASCARE indicates whether the respondent's spouse helps the respondent with any ADL needs. RwRASCARE is coded as 0 if the respondent receives no assistance from their spouse; and is coded as 1 if the respondent does receive help from their spouse.

RwRASCAREDPM indicates the number of days in the last month the respondent's spouse helped the respondent with ADL needs. If the respondent reports receiving help every day from their spouse, then a value of 30 is assumed. RwRASCAREDPM is assigned a value of 0 if the respondent did not receive help from their spouse. RwRASCAREDPMM indicates whether no value of days was reported for their spouse helper and so was not accounted for in RwRASCAREDPM. RwRASCAREDPMM is assigned special missing value .m if the respondent was not helped by their spouse. RwRASCAREDPM and RwRASCAREDPMM are not available in wave 1.

RwRASCAREHR indicates the number of hours per day the respondent's spouse helps the respondent with any ADL needs on the days that the respondent receives help. Respondents are asked, on days their spouse helps with a particular ADL need, how many hours per day their spouse helps. If the respondent reports less than an hour for their spouse, then a 1 is assumed. RwRASCAREHR is assigned a value of 0 if the respondent did not receive help from their spouse. RwRASCAREHRM indicates whether no value of hours was reported for their spouse helper and so was not accounted for in RwRASCAREHR. RwRASCAREHRM is assigned special missing value .m if the respondent was not helped by their spouse. RwRASCAREHR and RwRASCAREHRM are not available in wave 1.

SwRASCARE, SwRASCAREDPM, and SwRASCAREHR indicate whether and the frequency with which the respondent's current wave's spouse receives help from the respondent, and their values are taken from RwRASCARE, RwRASCAREDPM, and RwRASCAREHR. SwRASCAREDPMM and SwRASCAREHRM indicate whether or not a value was reported for the number of days and hours the respondent's current spouse was helped by the respondent and are taken from RwRASCAREDPMM and RwRASCAREHRM. In addition to the special missing codes employed by the respondent variables, the spouse variables employ two additional special missing codes. A special missing value .u is used when the respondent does not report being coupled in the current wave. A special missing value .v is used when the respondent reports being coupled in the current wave but their spouse is not interviewed.

## Cross Wave Differences in MHAS

The respondent is asked the number of days per month and hours per day the respondent receives help from their spouse starting in Wave 2.

Respondents are allowed to mention up to 12 caregivers in Waves 1 and 2, up to 8 caregivers in Waves 3 and 4, and up to 3 caregivers in Wave 5.

## Differences with the RAND HRS/Harmonized HRS

The HRS has different categories of relationships between the respondent and their caregiver, but these variables have been created to be as comparable as possible. These variables in the Harmonized HRS include help provided by the respondent's spouse or former spouse, whereas these variables only include help provided by the respondent's spouse in the Harmonized MHAS.

The HRS asks for up to 7 relationships of people who help with ADLs (dressing, walking across a room, bathing, eating, getting in and out of bed, and using the toilet). The MHAS, in contrast, asks for the relationships of a varying number of people across waves who help with ADLs.

## MHAS Variables Used

### Wave 1:

H14	help dressing
H15_3	spouse helps walking
H15_4	other helps walking
H16_3	spouse helps bathing
H16_4	other helps bathing
H17_3	spouse helps eating
H17_4	other helps eating
H18_3	spouse helps getting in an out of bed
H18_4	other helps getting in an out of bed
H19_3	spouse helps using toilet
H19_4	other helps using toilet

### Wave 1 Helper:

H22	kinship of helper
H23	roster number of helper
H24	days of help
H25	hours of help

### Wave 2:

H14	someone help you to get dressed
H15E	spouse helps
H15F	additional person helps
H16E	spouse helps
H16F	additional person helps
H17E	spouse helps
H17F	additional person helps
H18E	spouse helps
H18F	additional person helps
H19E	spouse helps
H19F	additional person helps

### Wave 2 Helper:

H22	relationship
H23	registration number
H24	number of days (name) helped last month
H25	number of hours during those days

### Wave 3:

H14_12	Someone help you to get dressed
H15D_12	Someone help you walk across room
H16D_12	Someone help you to bathe or shower
H17D_12	Does someone help you eat your food
H18D_12	Does someone help you get into or out of bed
H19D_12	Does someone help you use toilet, get on off
H22_1_12	Relationship with helper for ADLs

H22_2_12	Relationship with helper for ADLs
H22_3_12	Relationship with helper for ADLs
H22_4_12	Relationship with helper for ADLs
H22_5_12	Relationship with helper for ADLs
H22_6_12	Relationship with helper for ADLs
H22_7_12	Relationship with helper for ADLs
H22_8_12	Relationship with helper for ADLs
H23_1_12	Registration number of helper for ADLs
H23_2_12	Registration number of helper for ADLs
H23_3_12	Registration number of helper for ADLs
H23_4_12	Registration number of helper for ADLs
H23_5_12	Registration number of helper for ADLs
H23_6_12	Registration number of helper for ADLs
H23_7_12	Registration number of helper for ADLs
H23_8_12	Registration number of helper for ADLs
H24_1_12	Number of days (name) helped last month
H24_2_12	Number of days (name) helped last month
H24_3_12	Number of days (name) helped last month
H24_4_12	Number of days (name) helped last month
H24_5_12	Number of days (name) helped last month
H24_6_12	Number of days (name) helped last month
H24_7_12	Number of days (name) helped last month
H24_8_12	Number of days (name) helped last month
H25_1_12	Number of hours during those days (NAME) helped
H25_2_12	Number of hours during those days (NAME) helped
H25_3_12	Number of hours during those days (NAME) helped
H25_4_12	Number of hours during those days (NAME) helped
H25_5_12	Number of hours during those days (NAME) helped
H25_6_12	Number of hours during those days (NAME) helped
H25_7_12	Number of hours during those days (NAME) helped
H25_8_12	Number of hours during those days (NAME) helped

## Wave 4:

H14_15	Does someone help respondent to get dressed
H15D_15	Does someone help respondent walking across a room
H16D_15	Does someone help respondent bathing or showering
H17D_15	Does someone help respondent eating
H18D_15	Does someone help respondent getting in or out of bed
H19D_15	Does someone help respondent using the toilet
H22_1_15	Respondent's relationship with person helping with ADLs
H22_2_15	Respondent's relationship with person helping with ADLs
H22_3_15	Respondent's relationship with person helping with ADLs
H22_4_15	Respondent's relationship with person helping with ADLs
H22_5_15	Respondent's relationship with person helping with ADLs
H22_6_15	Respondent's relationship with person helping with ADLs
H22_7_15	Respondent's relationship with person helping with ADLs
H22_8_15	Respondent's relationship with person helping with ADLs
H23_1_15	Registration number of person helping with ADLs
H23_2_15	Registration number of person helping with ADLs
H23_3_15	Registration number of person helping with ADLs
H23_4_15	Registration number of person helping with ADLs
H23_5_15	Registration number of person helping with ADLs
H23_6_15	Registration number of person helping with ADLs
H23_7_15	Registration number of person helping with ADLs
H23_8_15	Registration number of person helping with ADLs
H24_1_15	Number of days the person helped during last month
H24_2_15	Number of days the person helped during last month
H24_3_15	Number of days the person helped during last month
H24_4_15	Number of days the person helped during last month
H24_5_15	Number of days the person helped during last month
H24_6_15	Number of days the person helped during last month
H24_7_15	Number of days the person helped during last month
H24_8_15	Number of days the person helped during last month
H25_1_15	Number of hours during those days that the person helped
H25_2_15	Number of hours during those days that the person helped



H25_3_15	Number of hours during those days that the person helps
H25_4_15	Number of hours during those days that the person helps
H25_5_15	Number of hours during those days that the person helps
H25_6_15	Number of hours during those days that the person helps
H25_7_15	Number of hours during those days that the person helps
H25_8_15	Number of hours during those days that the person helps
Wave 5:	
H14_18	Does someone help R to get dressed
H15D_18	Does someone help R walking across a room
H16D_18	Does someone help R bathing or showering
H17D_18	Does someone help R eating
H18D_18	Does someone help R getting in or out of bed
H19D_18	Does someone help R using the toilet
H22_1_18	R's relationship with person helping with ADLs
H22_2_18	R's relationship with person helping with ADLs
H22_3_18	R's relationship with person helping with ADLs
H23_1_18	Registration number of person helping with ADLs
H23_2_18	Registration number of person helping with ADLs
H23_3_18	Registration number of person helping with ADLs
H24_1_18	Number of days the person helped during last month
H24_2_18	Number of days the person helped during last month
H24_3_18	Number of days the person helped during last month
H25_1_18	Number of hours during those days that the person helps
H25_2_18	Number of hours during those days that the person helps
H25_3_18	Number of hours during those days that the person helps

### Activities of Daily Living: Receives Informal Care from Children or Grandchildren

Wave	Variable	Label	Type
1	R1RACCARE	r1raccare: w1 R receives informal care from kids/grandkids f	Categ
2	R2RACCARE	r2raccare: w2 R receives informal care from kids/grandkids f	Categ
3	R3RACCARE	r3raccare: w3 R receives informal care from kids/grandkids f	Categ
4	R4RACCARE	r4raccare: w4 R receives informal care from kids/grandkids f	Categ
5	R5RACCARE	r5raccare: w5 R receives informal care from kids/grandkids f	Categ
1	S1RACCARE	s1raccare: w1 S receives informal care from kids/grandkids f	Categ
2	S2RACCARE	s2raccare: w2 S receives informal care from kids/grandkids f	Categ
3	S3RACCARE	s3raccare: w3 S receives informal care from kids/grandkids f	Categ
4	S4RACCARE	s4raccare: w4 S receives informal care from kids/grandkids f	Categ
5	S5RACCARE	s5raccare: w5 S receives informal care from kids/grandkids f	Categ
1	R1RACCAREN	r1raccaren: w1 # kids/grandkids who help R with ADLs	Cont
2	R2RACCAREN	r2raccaren: w2 # kids/grandkids who help R with ADLs	Cont
3	R3RACCAREN	r3raccaren: w3 # kids/grandkids who help R with ADLs	Cont
4	R4RACCAREN	r4raccaren: w4 # kids/grandkids who help R with ADLs	Cont
5	R5RACCAREN	r5raccaren: w5 # kids/grandkids who help R with ADLs	Cont
1	S1RACCAREN	s1raccaren: w1 # kids/grandkids who help S with ADLs	Cont
2	S2RACCAREN	s2raccaren: w2 # kids/grandkids who help S with ADLs	Cont
3	S3RACCAREN	s3raccaren: w3 # kids/grandkids who help S with ADLs	Cont
4	S4RACCAREN	s4raccaren: w4 # kids/grandkids who help S with ADLs	Cont
5	S5RACCAREN	s5raccaren: w5 # kids/grandkids who help S with ADLs	Cont
1	R1RACCAREDPM	r1raccaredpm: w1 days/month kids/grandkids help R with ADLs	Cont
2	R2RACCAREDPM	r2raccaredpm: w2 days/month kids/grandkids help R with ADLs	Cont
3	R3RACCAREDPM	r3raccaredpm: w3 days/month kids/grandkids help R with ADLs	Cont
4	R4RACCAREDPM	r4raccaredpm: w4 days/month kids/grandkids help R with ADLs	Cont
5	R5RACCAREDPM	r5raccaredpm: w5 days/month kids/grandkids help R with ADLs	Cont
1	S1RACCAREDPM	s1raccaredpm: w1 days/month kids/grandkids help S with ADLs	Cont
2	S2RACCAREDPM	s2raccaredpm: w2 days/month kids/grandkids help S with ADLs	Cont
3	S3RACCAREDPM	s3raccaredpm: w3 days/month kids/grandkids help S with ADLs	Cont
4	S4RACCAREDPM	s4raccaredpm: w4 days/month kids/grandkids help S with ADLs	Cont
5	S5RACCAREDPM	s5raccaredpm: w5 days/month kids/grandkids help S with ADLs	Cont
1	R1RACCAREDPMM	r1raccaredpmm: w1 R # kids/grandkids missing days of help fo	Cont
2	R2RACCAREDPMM	r2raccaredpmm: w2 R # kids/grandkids missing days of help fo	Cont
3	R3RACCAREDPMM	r3raccaredpmm: w3 R # kids/grandkids missing days of help fo	Cont
4	R4RACCAREDPMM	r4raccaredpmm: w4 R # kids/grandkids missing days of help fo	Cont
5	R5RACCAREDPMM	r5raccaredpmm: w5 R # kids/grandkids missing days of help fo	Cont
1	S1RACCAREDPMM	s1raccaredpmm: w1 S # kids/grandkids missing days of help fo	Cont
2	S2RACCAREDPMM	s2raccaredpmm: w2 S # kids/grandkids missing days of help fo	Cont
3	S3RACCAREDPMM	s3raccaredpmm: w3 S # kids/grandkids missing days of help fo	Cont
4	S4RACCAREDPMM	s4raccaredpmm: w4 S # kids/grandkids missing days of help fo	Cont
5	S5RACCAREDPMM	s5raccaredpmm: w5 S # kids/grandkids missing days of help fo	Cont
1	R1RACCAREHR	r1raccarehr: w1 hours/day kids/grandkids help R with ADLs	Cont
2	R2RACCAREHR	r2raccarehr: w2 hours/day kids/grandkids help R with ADLs	Cont
3	R3RACCAREHR	r3raccarehr: w3 hours/day kids/grandkids help R with ADLs	Cont
4	R4RACCAREHR	r4raccarehr: w4 hours/day kids/grandkids help R with ADLs	Cont
5	R5RACCAREHR	r5raccarehr: w5 hours/day kids/grandkids help R with ADLs	Cont
1	S1RACCAREHR	s1raccarehr: w1 hours/day kids/grandkids help S with ADLs	Cont
2	S2RACCAREHR	s2raccarehr: w2 hours/day kids/grandkids help S with ADLs	Cont
3	S3RACCAREHR	s3raccarehr: w3 hours/day kids/grandkids help S with ADLs	Cont
4	S4RACCAREHR	s4raccarehr: w4 hours/day kids/grandkids help S with ADLs	Cont
5	S5RACCAREHR	s5raccarehr: w5 hours/day kids/grandkids help S with ADLs	Cont

1	R1RACCAREHRM	r1raccarehrm: w1	R # kids/grandkids	missing hours of help fo	Cont
2	R2RACCAREHRM	r2raccarehrm: w2	R # kids/grandkids	missing hours of help fo	Cont
3	R3RACCAREHRM	r3raccarehrm: w3	R # kids/grandkids	missing hours of help fo	Cont
4	R4RACCAREHRM	r4raccarehrm: w4	R # kids/grandkids	missing hours of help fo	Cont
5	R5RACCAREHRM	r5raccarehrm: w5	R # kids/grandkids	missing hours of help fo	Cont
1	S1RACCAREHRM	s1raccarehrm: w1	S # kids/grandkids	missing hours of help fo	Cont
2	S2RACCAREHRM	s2raccarehrm: w2	S # kids/grandkids	missing hours of help fo	Cont
3	S3RACCAREHRM	s3raccarehrm: w3	S # kids/grandkids	missing hours of help fo	Cont
4	S4RACCAREHRM	s4raccarehrm: w4	S # kids/grandkids	missing hours of help fo	Cont
5	S5RACCAREHRM	s5raccarehrm: w5	S # kids/grandkids	missing hours of help fo	Cont

## Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R1RACCARE	780	0.55	0.50	0.00	1.00
R2RACCARE	793	0.54	0.50	0.00	1.00
R3RACCARE	1172	0.58	0.49	0.00	1.00
R4RACCARE	1297	0.56	0.50	0.00	1.00
R5RACCARE	1380	0.61	0.49	0.00	1.00
S1RACCARE	456	0.43	0.50	0.00	1.00
S2RACCARE	461	0.42	0.49	0.00	1.00
S3RACCARE	575	0.39	0.49	0.00	1.00
S4RACCARE	638	0.39	0.49	0.00	1.00
S5RACCARE	572	0.49	0.50	0.00	1.00
R1RACCAREN	780	0.89	1.16	0.00	12.00
R2RACCAREN	793	0.87	1.12	0.00	9.00
R3RACCAREN	1172	0.80	0.90	0.00	8.00
R4RACCAREN	1297	0.79	0.93	0.00	8.00
R5RACCAREN	1380	1.02	1.03	0.00	3.00
S1RACCAREN	456	0.70	1.04	0.00	8.00
S2RACCAREN	461	0.69	1.08	0.00	7.00
S3RACCAREN	575	0.54	0.85	0.00	6.00
S4RACCAREN	638	0.53	0.87	0.00	8.00
S5RACCAREN	572	0.76	0.94	0.00	3.00
R1RACCAREDPM	780	21.95	31.72	0.00	360.00
R2RACCAREDPM	793	20.03	27.12	0.00	195.00
R3RACCAREDPM	1168	17.83	22.55	0.00	178.00
R4RACCAREDPM	1295	16.21	21.06	0.00	210.00
R5RACCAREDPM	1355	24.15	27.55	0.00	90.00
S1RACCAREDPM	456	16.78	26.35	0.00	150.00
S2RACCAREDPM	461	15.52	26.09	0.00	195.00
S3RACCAREDPM	572	10.81	19.30	0.00	150.00
S4RACCAREDPM	637	10.16	16.88	0.00	92.00
S5RACCAREDPM	565	17.46	25.07	0.00	90.00
R1RACCAREDPMM	780	0.00	0.00	0.00	0.00
R2RACCAREDPMM	793	0.00	0.00	0.00	0.00
R3RACCAREDPMM	1172	0.01	0.07	0.00	1.00
R4RACCAREDPMM	1297	0.01	0.08	0.00	2.00
R5RACCAREDPMM	1380	0.03	0.21	0.00	3.00
S1RACCAREDPMM	456	0.00	0.00	0.00	0.00
S2RACCAREDPMM	461	0.00	0.00	0.00	0.00
S3RACCAREDPMM	575	0.01	0.07	0.00	1.00
S4RACCAREDPMM	638	0.00	0.04	0.00	1.00
S5RACCAREDPMM	572	0.02	0.18	0.00	3.00

R1RACCAREHR	780	4.79	8.23	0.00	80.00
R2RACCAREHR	793	4.98	11.19	0.00	216.00
R3RACCAREHR	1164	7.45	11.16	0.00	90.00
R4RACCAREHR	1293	4.92	9.21	0.00	168.00
R5RACCAREHR	1355	7.14	11.78	0.00	72.00
S1RACCAREHR	456	3.36	7.39	0.00	80.00
S2RACCAREHR	461	2.93	5.86	0.00	48.00
S3RACCAREHR	570	4.16	9.37	0.00	90.00
S4RACCAREHR	636	2.64	5.51	0.00	55.00
S5RACCAREHR	565	4.55	8.84	0.00	72.00
R1RACCAREHRM	780	0.00	0.00	0.00	0.00
R2RACCAREHRM	793	0.00	0.00	0.00	0.00
R3RACCAREHRM	1172	0.01	0.13	0.00	3.00
R4RACCAREHRM	1297	0.01	0.14	0.00	4.00
R5RACCAREHRM	1380	0.04	0.24	0.00	3.00
S1RACCAREHRM	456	0.00	0.00	0.00	0.00
S2RACCAREHRM	461	0.00	0.00	0.00	0.00
S3RACCAREHRM	575	0.01	0.15	0.00	3.00
S4RACCAREHRM	638	0.00	0.06	0.00	1.00
S5RACCAREHRM	572	0.02	0.18	0.00	3.00

## Categorical Variable Codes

Value-----	R1RACCARE	R2RACCARE	R3RACCARE	R4RACCARE	R5RACCARE
.d:DK	1		1	6	2
.h:no help received	873	737	1785	1715	1654
.m:Missing	40	30		40	18
.r:Refuse	2		1	1	82
.x:no difficulty	13490	12144	12764	11720	13978
0.No	351	363	495	570	534
1.Yes	429	430	677	727	846

Value-----	S1RACCARE	S2RACCARE	S3RACCARE	S4RACCARE	S5RACCARE
.d:DK			1	5	
.h:no help received	524	408	1107	1012	724
.m:Missing	14	8		10	3
.r:Refuse	1				55
.u:Unmar	4205	4009	4782	4847	5227
.v:SP NR	333	131	349	280	501
.x:no difficulty	9653	8687	8909	7987	6107
0.No	259	267	352	387	293
1.Yes	197	194	223	251	279

## How Constructed

The following variables indicate whether the respondent's children or grandchildren help the respondent with any ADL needs. The activities of daily living include dressing, walking across a room, bathing, eating, getting in and out of bed, and using the toilet. If the respondent reports having difficulty with an ADL, then they are asked whether someone helps them with that activity. If someone helps with the activity, they are asked for the relationships of up to 12 people in Waves 1 and 2, up to 8 people in Waves 3 and 4, and up to 3 people in Wave 5 who help them with ADLs. The information used to derive these variables is taken from the help files in Waves 1 and 2 and from the individual files in Waves 3 and forward. For each caregiver, the respondent is asked to report their relationship to the caregiver and the caregiver's roster number, if any. In cases where the reported relationship disagrees with the roster number, the roster number takes precedence in defining the relationship for spouses and children, for which the roster numbers follow clear rules. In cases where the reported relationship is "spouse" but the roster number indicates a non-spouse household member or an individual with no roster number, meaning they are not a child or within the household, the relationship type is changed to "other person". In cases of multiple records with the same caregiver relationship and roster number, we only consider the caregiver with the highest level of care provided to the respondent. In cases of multiple records with the same caregiver relationship and no roster number, we assume all mentions are separate individuals.

The following variables are coded as special missing value .x if the respondent reports no difficulty with any ADL, and are coded as special missing value .h if the respondent reports difficulty with an ADL but does not receive any help. Don't know, refused, or other missing responses are assigned special missing values .d, .r, and .m, respectively. These variables are set to plain missing (.) for respondents who did not participate in the current wave.

RwRACCARE, RwRACCAREN, RwRACCAREDPM, RwRACCAREDPMM, RwRACCAREHR, and RwRACCAREHRM include help from a child, child-in-law, or grandchild.

RwRACCARE indicates whether any of the respondent's children or grandchildren help the respondent with ADL needs. RwRACCAREN indicates the number of the respondent's children or grandchildren who help the respondent with ADL needs. RwRACCARE is coded as 0 if none of the respondent's children or grandchildren help the respondent with ADLs; and is coded as 1 if at least one of the respondent's children or grandchildren help the respondent with ADLs.

RwRACCAREDPM indicates the number of total days per month the respondent's children or grandchildren help the respondent with ADL needs. If the respondent reports receiving help every day from that child or grandchild, then a value of 30 is assumed. RwRACCAREDPM is the sum of days per month for all children or grandchildren helpers, and so values can be over 30 days. RwRACCAREDPM is calculated as long as there is one non-missing value. RwRACCAREDPM is assigned a value of 0 if the respondent did not receive help from any children or grandchildren. RwRACCAREDPMM indicates the number of children or grandchildren who helped the respondent for whom no value of days was reported and was not accounted for in RwRACCAREDPM. RwRACCAREDPMM is assigned special missing value .m if the respondent was not helped by any children or grandchildren.

RwRACCAREHR indicates the number of hours per day the respondent's children or grandchildren help the respondent with ADL needs. Respondents are asked, on days their children or grandchildren help, how many hours per day that is. If the respondent reports less than an hour for that child or grandchild, then a 1 is assumed. RwRACCAREHR is the sum of hours per day for all children or grandchildren helpers, and so values can be over 24 hours. RwRACCAREHR is calculated as long as there is one non-missing value. RwRACCAREHR is assigned a value of 0 if the respondent did not receive help from any children or grandchildren. RwRACCAREHRM indicates the number of children or grandchildren who helped the respondent for whom no value of hours was reported and was not accounted for in RwRACCAREHR. RwRACCAREHRM is assigned special missing value .m if the respondent was not helped by any children or grandchildren.

SwRACCARE, SwRACCAREN, SwRACCAREDPM, and SwRACCAREHR indicate whether the respondent's current wave's spouse receives help from children or grandchildren, the number, and the frequency with which, and their values are taken from RwRACCARE, RwRACCAREN, RwRACCAREDPM, and RwRACCAREHR. SwRACCAREDPMM and SwRACCAREHRM indicate the number of children who helped the respondent's current spouse for whom a value was not reported for the number of days and hours and are taken from RwRACCAREDPMM and RwRACCAREHRM. In addition to the special missing codes employed by the respondent variables, the spouse variables employ two additional special missing codes. A special missing value .u is used when the respondent does not report being coupled in the current wave. A special missing value .v is used when the respondent reports being coupled in the current wave but their spouse is not interviewed.

## Cross Wave Differences in MHAS

Respondents are allowed to mention up to 12 caregivers in Waves 1 and 2, up to 8 caregivers in Waves 3 and 4, and up to 3 caregivers in Wave 5.

## Differences with the RAND HRS/Harmonized HRS

The HRS has different categories of relationships between the respondent and their caregiver, but these variables have been created to be as comparable as possible.

The HRS asks for up to 7 relationships of people who help with ADLs (dressing, walking across a room, bathing, eating, getting in and out of bed, and using the toilet). The MHAS, in contrast, asks for the relationships of a varying number of people across waves who help with ADLs.

## MHAS Variables Used

Wave 1:

H14	help dressing
H15_3	spouse helps walking
H15_4	other helps walking
H16_3	spouse helps bathing
H16_4	other helps bathing
H17_3	spouse helps eating
H17_4	other helps eating
H18_3	spouse helps getting in an out of bed
H18_4	other helps getting in an out of bed
H19_3	spouse helps using toilet
H19_4	other helps using toilet
Wave 1 Helper:	
H22	kinship of helper
H23	roster number of helper
H24	days of help
H25	hours of help
Wave 2:	
H14	someone help you to get dressed
H15E	spouse helps
H15F	additional person helps
H16E	spouse helps
H16F	additional person helps
H17E	spouse helps
H17F	additional person helps
H18E	spouse helps
H18F	additional person helps
H19E	spouse helps
H19F	additional person helps
Wave 2 Helper:	
H22	relationship
H23	registration number
H24	number of days (name) helped last month
H25	number of hours during those days
Wave 3:	
H14_12	Someone help you to get dressed
H15D_12	Someone help you walk across room
H16D_12	Someone help you to bathe or shower
H17D_12	Does someone help you eat your food
H18D_12	Does someone help you get into or out of bed
H19D_12	Does someone help you use toilet, get on off
H22_1_12	Relationship with helper for ADLs
H22_2_12	Relationship with helper for ADLs
H22_3_12	Relationship with helper for ADLs
H22_4_12	Relationship with helper for ADLs
H22_5_12	Relationship with helper for ADLs
H22_6_12	Relationship with helper for ADLs
H22_7_12	Relationship with helper for ADLs
H22_8_12	Relationship with helper for ADLs
H23_1_12	Registration number of helper for ADLs
H23_2_12	Registration number of helper for ADLs
H23_3_12	Registration number of helper for ADLs
H23_4_12	Registration number of helper for ADLs
H23_5_12	Registration number of helper for ADLs
H23_6_12	Registration number of helper for ADLs
H23_7_12	Registration number of helper for ADLs
H23_8_12	Registration number of helper for ADLs
H24_1_12	Number of days (name) helped last month
H24_2_12	Number of days (name) helped last month
H24_3_12	Number of days (name) helped last month
H24_4_12	Number of days (name) helped last month
H24_5_12	Number of days (name) helped last month
H24_6_12	Number of days (name) helped last month
H24_7_12	Number of days (name) helped last month
H24_8_12	Number of days (name) helped last month

H25_1_12	Number of hours during those days (NAME) helped
H25_2_12	Number of hours during those days (NAME) helped
H25_3_12	Number of hours during those days (NAME) helped
H25_4_12	Number of hours during those days (NAME) helped
H25_5_12	Number of hours during those days (NAME) helped
H25_6_12	Number of hours during those days (NAME) helped
H25_7_12	Number of hours during those days (NAME) helped
H25_8_12	Number of hours during those days (NAME) helped

## Wave 4:

H14_15	Does someone help respondent to get dressed
H15D_15	Does someone help respondent walking across a room
H16D_15	Does someone help respondent bathing or showering
H17D_15	Does someone help respondent eating
H18D_15	Does someone help respondent getting in or out of bed
H19D_15	Does someone help respondent using the toilet
H22_1_15	Respondent's relationship with person helping with ADLs
H22_2_15	Respondent's relationship with person helping with ADLs
H22_3_15	Respondent's relationship with person helping with ADLs
H22_4_15	Respondent's relationship with person helping with ADLs
H22_5_15	Respondent's relationship with person helping with ADLs
H22_6_15	Respondent's relationship with person helping with ADLs
H22_7_15	Respondent's relationship with person helping with ADLs
H22_8_15	Respondent's relationship with person helping with ADLs
H23_1_15	Registration number of person helping with ADLs
H23_2_15	Registration number of person helping with ADLs
H23_3_15	Registration number of person helping with ADLs
H23_4_15	Registration number of person helping with ADLs
H23_5_15	Registration number of person helping with ADLs
H23_6_15	Registration number of person helping with ADLs
H23_7_15	Registration number of person helping with ADLs
H23_8_15	Registration number of person helping with ADLs
H24_1_15	Number of days the person helped during last month
H24_2_15	Number of days the person helped during last month
H24_3_15	Number of days the person helped during last month
H24_4_15	Number of days the person helped during last month
H24_5_15	Number of days the person helped during last month
H24_6_15	Number of days the person helped during last month
H24_7_15	Number of days the person helped during last month
H24_8_15	Number of days the person helped during last month
H25_1_15	Number of hours during those days that the person helped
H25_2_15	Number of hours during those days that the person helped
H25_3_15	Number of hours during those days that the person helped
H25_4_15	Number of hours during those days that the person helped
H25_5_15	Number of hours during those days that the person helped
H25_6_15	Number of hours during those days that the person helped
H25_7_15	Number of hours during those days that the person helped
H25_8_15	Number of hours during those days that the person helped

## Wave 5:

H14_18	Does someone help R to get dressed
H15D_18	Does someone help R walking across a room
H16D_18	Does someone help R bathing or showering
H17D_18	Does someone help R eating
H18D_18	Does someone help R getting in or out of bed
H19D_18	Does someone help R using the toilet
H22_1_18	R's relationship with person helping with ADLs
H22_2_18	R's relationship with person helping with ADLs
H22_3_18	R's relationship with person helping with ADLs
H23_1_18	Registration number of person helping with ADLs
H23_2_18	Registration number of person helping with ADLs
H23_3_18	Registration number of person helping with ADLs
H24_1_18	Number of days the person helped during last month
H24_2_18	Number of days the person helped during last month
H24_3_18	Number of days the person helped during last month
H25_1_18	Number of hours during those days that the person helped

H25_2_18	Number of hours during those days that the person helps
H25_3_18	Number of hours during those days that the person helps



<b>Activities of Daily Living: Receives Informal Care from Relatives</b>
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Wave	Variable	Label	Type
1	R1RARCARE	r1rarcare: w1 R receives informal care from relatives for AD	Categ
2	R2RARCARE	r2rarcare: w2 R receives informal care from relatives for AD	Categ
3	R3RARCARE	r3rarcare: w3 R receives informal care from relatives for AD	Categ
4	R4RARCARE	r4rarcare: w4 R receives informal care from relatives for AD	Categ
5	R5RARCARE	r5rarcare: w5 R receives informal care from relatives for AD	Categ
1	S1RARCARE	s1rarcare: w1 S receives informal care from relatives for AD	Categ
2	S2RARCARE	s2rarcare: w2 S receives informal care from relatives for AD	Categ
3	S3RARCARE	s3rarcare: w3 S receives informal care from relatives for AD	Categ
4	S4RARCARE	s4rarcare: w4 S receives informal care from relatives for AD	Categ
5	S5RARCARE	s5rarcare: w5 S receives informal care from relatives for AD	Categ
1	R1RARCAREN	r1rarcaren: w1 # relatives who help R with ADLs	Cont
2	R2RARCAREN	r2rarcaren: w2 # relatives who help R with ADLs	Cont
3	R3RARCAREN	r3rarcaren: w3 # relatives who help R with ADLs	Cont
4	R4RARCAREN	r4rarcaren: w4 # relatives who help R with ADLs	Cont
5	R5RARCAREN	r5rarcaren: w5 # relatives who help R with ADLs	Cont
1	S1RARCAREN	s1rarcaren: w1 # relatives who help S with ADLs	Cont
2	S2RARCAREN	s2rarcaren: w2 # relatives who help S with ADLs	Cont
3	S3RARCAREN	s3rarcaren: w3 # relatives who help S with ADLs	Cont
4	S4RARCAREN	s4rarcaren: w4 # relatives who help S with ADLs	Cont
5	S5RARCAREN	s5rarcaren: w5 # relatives who help S with ADLs	Cont
1	R1RARCAREDPM	r1rarcaredpm: w1 days/month relatives help R with ADLs	Cont
2	R2RARCAREDPM	r2rarcaredpm: w2 days/month relatives help R with ADLs	Cont
3	R3RARCAREDPM	r3rarcaredpm: w3 days/month relatives help R with ADLs	Cont
4	R4RARCAREDPM	r4rarcaredpm: w4 days/month relatives help R with ADLs	Cont
5	R5RARCAREDPM	r5rarcaredpm: w5 days/month relatives help R with ADLs	Cont
1	S1RARCAREDPM	s1rarcaredpm: w1 days/month relatives help S with ADLs	Cont
2	S2RARCAREDPM	s2rarcaredpm: w2 days/month relatives help S with ADLs	Cont
3	S3RARCAREDPM	s3rarcaredpm: w3 days/month relatives help S with ADLs	Cont
4	S4RARCAREDPM	s4rarcaredpm: w4 days/month relatives help S with ADLs	Cont
5	S5RARCAREDPM	s5rarcaredpm: w5 days/month relatives help S with ADLs	Cont
1	R1RARCAREDPMM	r1rarcaredpmm: w1 R # relatives missing days of help for ADL	Cont
2	R2RARCAREDPMM	r2rarcaredpmm: w2 R # relatives missing days of help for ADL	Cont
3	R3RARCAREDPMM	r3rarcaredpmm: w3 R # relatives missing days of help for ADL	Cont
4	R4RARCAREDPMM	r4rarcaredpmm: w4 R # relatives missing days of help for ADL	Cont
5	R5RARCAREDPMM	r5rarcaredpmm: w5 R # relatives missing days of help for ADL	Cont
1	S1RARCAREDPMM	s1rarcaredpmm: w1 S # relatives missing days of help for ADL	Cont
2	S2RARCAREDPMM	s2rarcaredpmm: w2 S # relatives missing days of help for ADL	Cont
3	S3RARCAREDPMM	s3rarcaredpmm: w3 S # relatives missing days of help for ADL	Cont
4	S4RARCAREDPMM	s4rarcaredpmm: w4 S # relatives missing days of help for ADL	Cont
5	S5RARCAREDPMM	s5rarcaredpmm: w5 S # relatives missing days of help for ADL	Cont
1	R1RARCAREHR	r1rarcarehr: w1 hours/day relatives help R with ADLs	Cont
2	R2RARCAREHR	r2rarcarehr: w2 hours/day relatives help R with ADLs	Cont
3	R3RARCAREHR	r3rarcarehr: w3 hours/day relatives help R with ADLs	Cont
4	R4RARCAREHR	r4rarcarehr: w4 hours/day relatives help R with ADLs	Cont
5	R5RARCAREHR	r5rarcarehr: w5 hours/day relatives help R with ADLs	Cont
1	S1RARCAREHR	s1rarcarehr: w1 hours/day relatives help S with ADLs	Cont
2	S2RARCAREHR	s2rarcarehr: w2 hours/day relatives help S with ADLs	Cont
3	S3RARCAREHR	s3rarcarehr: w3 hours/day relatives help S with ADLs	Cont
4	S4RARCAREHR	s4rarcarehr: w4 hours/day relatives help S with ADLs	Cont
5	S5RARCAREHR	s5rarcarehr: w5 hours/day relatives help S with ADLs	Cont

1	R1RARCAREHRM	r1rarcarehrm: w1	R #	relatives	missing	hours	of	help	for	ADL	Cont
2	R2RARCAREHRM	r2rarcarehrm: w2	R #	relatives	missing	hours	of	help	for	ADL	Cont
3	R3RARCAREHRM	r3rarcarehrm: w3	R #	relatives	missing	hours	of	help	for	ADL	Cont
4	R4RARCAREHRM	r4rarcarehrm: w4	R #	relatives	missing	hours	of	help	for	ADL	Cont
5	R5RARCAREHRM	r5rarcarehrm: w5	R #	relatives	missing	hours	of	help	for	ADL	Cont
1	S1RARCAREHRM	s1rarcarehrm: w1	S #	relatives	missing	hours	of	help	for	ADL	Cont
2	S2RARCAREHRM	s2rarcarehrm: w2	S #	relatives	missing	hours	of	help	for	ADL	Cont
3	S3RARCAREHRM	s3rarcarehrm: w3	S #	relatives	missing	hours	of	help	for	ADL	Cont
4	S4RARCAREHRM	s4rarcarehrm: w4	S #	relatives	missing	hours	of	help	for	ADL	Cont
5	S5RARCAREHRM	s5rarcarehrm: w5	S #	relatives	missing	hours	of	help	for	ADL	Cont

## Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R1RARCARE	780	0.05	0.22	0.00	1.00
R2RARCARE	793	0.05	0.22	0.00	1.00
R3RARCARE	1172	0.05	0.23	0.00	1.00
R4RARCARE	1297	0.05	0.21	0.00	1.00
R5RARCARE	1380	0.05	0.22	0.00	1.00
S1RARCARE	456	0.02	0.15	0.00	1.00
S2RARCARE	461	0.02	0.12	0.00	1.00
S3RARCARE	575	0.02	0.13	0.00	1.00
S4RARCARE	638	0.01	0.11	0.00	1.00
S5RARCARE	572	0.01	0.08	0.00	1.00
R1RARCAREN	780	0.06	0.30	0.00	3.00
R2RARCAREN	793	0.08	0.42	0.00	8.00
R3RARCAREN	1172	0.07	0.34	0.00	4.00
R4RARCAREN	1297	0.06	0.36	0.00	8.00
R5RARCAREN	1380	0.07	0.35	0.00	3.00
S1RARCAREN	456	0.02	0.15	0.00	1.00
S2RARCAREN	461	0.02	0.12	0.00	1.00
S3RARCAREN	575	0.02	0.13	0.00	1.00
S4RARCAREN	638	0.01	0.13	0.00	2.00
S5RARCAREN	572	0.01	0.19	0.00	3.00
R1RARCAREDPM	780	1.44	7.15	0.00	90.00
R2RARCAREDPM	793	1.96	12.28	0.00	240.00
R3RARCAREDPM	1171	1.53	7.45	0.00	90.00
R4RARCAREDPM	1295	1.49	9.93	0.00	240.00
R5RARCAREDPM	1377	1.54	8.92	0.00	90.00
S1RARCAREDPM	456	0.57	4.00	0.00	30.00
S2RARCAREDPM	461	0.33	2.91	0.00	30.00
S3RARCAREDPM	575	0.48	3.66	0.00	30.00
S4RARCAREDPM	638	0.34	3.47	0.00	60.00
S5RARCAREDPM	572	0.23	3.97	0.00	90.00
R1RARCAREDPMM	780	0.00	0.00	0.00	0.00
R2RARCAREDPMM	793	0.00	0.00	0.00	0.00
R3RARCAREDPMM	1172	0.00	0.06	0.00	2.00
R4RARCAREDPMM	1297	0.00	0.04	0.00	1.00
R5RARCAREDPMM	1380	0.00	0.07	0.00	2.00
S1RARCAREDPMM	456	0.00	0.00	0.00	0.00
S2RARCAREDPMM	461	0.00	0.00	0.00	0.00
S3RARCAREDPMM	575	0.00	0.00	0.00	0.00
S4RARCAREDPMM	638	0.00	0.00	0.00	0.00
S5RARCAREDPMM	572	0.00	0.00	0.00	0.00

R1RARCAREHR	780	0.39	2.30	0.00	28.00
R2RARCAREHR	793	0.49	2.62	0.00	36.00
R3RARCAREHR	1171	0.66	4.06	0.00	50.00
R4RARCAREHR	1296	0.32	2.12	0.00	32.00
R5RARCAREHR	1377	0.55	4.69	0.00	72.00
S1RARCAREHR	456	0.21	1.86	0.00	24.00
S2RARCAREHR	461	0.16	1.34	0.00	16.00
S3RARCAREHR	575	0.12	1.29	0.00	24.00
S4RARCAREHR	638	0.04	0.46	0.00	8.00
S5RARCAREHR	572	0.18	3.26	0.00	72.00
R1RARCAREHRM	780	0.00	0.00	0.00	0.00
R2RARCAREHRM	793	0.00	0.00	0.00	0.00
R3RARCAREHRM	1172	0.00	0.03	0.00	1.00
R4RARCAREHRM	1297	0.00	0.03	0.00	1.00
R5RARCAREHRM	1380	0.00	0.07	0.00	2.00
S1RARCAREHRM	456	0.00	0.00	0.00	0.00
S2RARCAREHRM	461	0.00	0.00	0.00	0.00
S3RARCAREHRM	575	0.00	0.00	0.00	0.00
S4RARCAREHRM	638	0.00	0.00	0.00	0.00
S5RARCAREHRM	572	0.00	0.00	0.00	0.00

## Categorical Variable Codes

Value-----	R1RARCARE	R2RARCARE	R3RARCARE	R4RARCARE	R5RARCARE
.d:DK	1		1	6	2
.h:no help received	873	737	1785	1715	1654
.m:Missing	40	30		40	18
.r:Refuse	2		1	1	82
.x:no difficulty	13490	12144	12764	11720	13978
0.No	740	751	1109	1236	1313
1.Yes	40	42	63	61	67

Value-----	S1RARCARE	S2RARCARE	S3RARCARE	S4RARCARE	S5RARCARE
.d:DK			1	5	
.h:no help received	524	408	1107	1012	724
.m:Missing	14	8		10	3
.r:Refuse	1				55
.u:Unmar	4205	4009	4782	4847	5227
.v:SP NR	333	131	349	280	501
.x:no difficulty	9653	8687	8909	7987	6107
0.No	446	454	565	630	568
1.Yes	10	7	10	8	4

## How Constructed

The following variables indicate whether any of the respondent's relatives help the respondent with any ADL needs. The activities of daily living include dressing, walking across a room, bathing, eating, getting in and out of bed, and using the toilet. If the respondent reports having difficulty with an ADL, then they are asked whether someone helps them with that activity. If someone helps with the activity, they are asked for the relationships of up to 12 people in Waves 1 and 2, up to 8 people in Waves 3 and 4, and up to 3 people in Wave 5 who help them with ADLs. The information used to derive these variables is taken from the help files in Waves 1 and 2 and from the individual files in Waves 3 and forward. For each caregiver, the respondent is asked to report their relationship to the caregiver and the caregiver's roster number, if any. In cases where the reported relationship disagrees with the roster number, the roster number takes precedence in defining the relationship for spouses and children, for which the roster numbers follow clear rules. In cases where the reported relationship is "spouse" but the roster number indicates a non-spouse household member or an individual with no roster number, meaning they are not a child or within the household, the relationship type is changed to "other person". In cases of multiple records with the same caregiver relationship and roster number, we only consider the caregiver with the highest level of care provided to the respondent. In cases of multiple records with the same caregiver relationship and no roster number, we assume all mentions are separate individuals.

The following variables are coded as special missing value .x if the respondent reports no difficulty with any ADL, and are coded as special missing value .h if the respondent reports difficulty with an ADL or IADL but does not receive any help. Don't know, refused, or other missing responses are assigned special missing values .d, .r, and .m, respectively. These variables are set to plain missing (.) for respondents who did not participate in the current wave.

RwRARCARE, RwRARCAREN, RwRARCAREDPM, RwRARCAREDPMM, RwRARCAREHR, and RwRARCAREHRM include help from the respondent's parent or other relative.

RwRARCARE indicates whether any of the respondent's relatives help the respondent with ADL needs. RwRARCAREN indicates the number of the respondent's relatives who help the respondent with ADL needs. RwRARCARE is coded as 0 if none of the respondent's relatives help the respondent with ADLs; and is coded as 1 if at least one of the respondent's relatives help the respondent with ADLs.

RwRARCAREDPM indicates the number of total days per month the respondent's relatives help the respondent with ADL needs. If the respondent reports receiving help every day from that relative, then a value of 30 is assumed. RwRARCAREDPM is the sum of days per month for all relative helpers, and so values can be over 30 days. RwRARCAREDPM is calculated as long as there is one non-missing value. RwRARCAREDPM is assigned a value of 0 if the respondent did not receive help from any relatives. RwRARCAREDPMM indicates the number of relatives who helped the respondent for whom no value of days was reported and was not accounted for in RwRARCAREDPM. RwRARCAREDPMM is assigned special missing value .m if the respondent was not helped by any relatives.

RwRARCAREHR indicates the number of hours per day the respondent's relatives help the respondent with ADL needs. Respondents are asked, on days their relatives help, how many hours per day that is. If the respondent reports less than an hour for that relative, then a 1 is assumed. RwRARCAREHR is the sum of hours per day for all relative helpers, and so values can be over 24 hours. RwRARCAREHR is calculated as long as there is one non-missing value. RwRARCAREHR is assigned a value of 0 if the respondent did not receive help from any relatives. RwRARCAREHRM indicates the number of relatives who helped the respondent for whom no value of hours was reported and was not accounted for in RwRARCAREHR. RwRARCAREHRM is assigned special missing value .m if the respondent was not helped by any relatives.

SwRARCARE, SwRARCAREN, SwRARCAREDPM, and SwRARCAREHR indicate whether the respondent's current wave's spouse receives help from relatives, the number, and the frequency with which, and their values are taken from RwRARCARE, RwRARCAREN, RwRARCAREDPM, and RwRARCAREHR. SwRARCAREDPMM and SwRARCAREHRM indicate the number of relatives who helped the respondent's current spouse for whom a value was not reported for the number of days and hours and are taken from RwRARCAREDPMM and RwRARCAREHRM. In addition to the special missing codes employed by the respondent variables, the spouse variables employ two additional special missing codes. A special missing value .u is used when the respondent does not report being coupled in the current wave. A special missing value .v is used when the respondent reports being coupled in the current wave but their spouse is not interviewed.

## Cross Wave Differences in MHAS

Respondents are allowed to mention up to 12 caregivers in Waves 1 and 2, up to 8 caregivers in Waves 3 and 4, and up to 3 caregivers in Wave 5.

## Differences with the RAND HRS/Harmonized HRS

The HRS has different categories of relationships between the respondent and their caregiver, but these variables have been created to be as comparable as possible.

The HRS asks for up to 7 relationships of people who help with ADLs (dressing, walking across a room, bathing, eating, getting in and out of bed, and using the toilet). The MHAS, in contrast, asks for the relationships of a varying number of people across waves who help with ADLs.

## MHAS Variables Used

Wave 1:

H14	help dressing
H15_3	spouse helps walking
H15_4	other helps walking

H16_3	spouse helps bathing
H16_4	other helps bathing
H17_3	spouse helps eating
H17_4	other helps eating
H18_3	spouse helps getting in an out of bed
H18_4	other helps getting in an out of bed
H19_3	spouse helps using toilet
H19_4	other helps using toilet
Wave 1 Helper:	
H22	kinship of helper
H23	roster number of helper
H24	days of help
H25	hours of help
Wave 2:	
H14	someone help you to get dressed
H15E	spouse helps
H15F	additional person helps
H16E	spouse helps
H16F	additional person helps
H17E	spouse helps
H17F	additional person helps
H18E	spouse helps
H18F	additional person helps
H19E	spouse helps
H19F	additional person helps
Wave 2 Helper:	
H22	relationship
H23	registration number
H24	number of days (name) helped last month
H25	number of hours during those days
Wave 3:	
H14_12	Someone help you to get dressed
H15D_12	Someone help you walk across room
H16D_12	Someone help you to bathe or shower
H17D_12	Does someone help you eat your food
H18D_12	Does someone help you get into or out of bed
H19D_12	Does someone help you use toilet, get on off
H22_1_12	Relationship with helper for ADLs
H22_2_12	Relationship with helper for ADLs
H22_3_12	Relationship with helper for ADLs
H22_4_12	Relationship with helper for ADLs
H22_5_12	Relationship with helper for ADLs
H22_6_12	Relationship with helper for ADLs
H22_7_12	Relationship with helper for ADLs
H22_8_12	Relationship with helper for ADLs
H23_1_12	Registration number of helper for ADLs
H23_2_12	Registration number of helper for ADLs
H23_3_12	Registration number of helper for ADLs
H23_4_12	Registration number of helper for ADLs
H23_5_12	Registration number of helper for ADLs
H23_6_12	Registration number of helper for ADLs
H23_7_12	Registration number of helper for ADLs
H23_8_12	Registration number of helper for ADLs
H24_1_12	Number of days (name) helped last month
H24_2_12	Number of days (name) helped last month
H24_3_12	Number of days (name) helped last month
H24_4_12	Number of days (name) helped last month
H24_5_12	Number of days (name) helped last month
H24_6_12	Number of days (name) helped last month
H24_7_12	Number of days (name) helped last month
H24_8_12	Number of days (name) helped last month
H25_1_12	Number of hours during those days (NAME) helped
H25_2_12	Number of hours during those days (NAME) helped
H25_3_12	Number of hours during those days (NAME) helped

H25_4_12	Number of hours during those days (NAME) helped
H25_5_12	Number of hours during those days (NAME) helped
H25_6_12	Number of hours during those days (NAME) helped
H25_7_12	Number of hours during those days (NAME) helped
H25_8_12	Number of hours during those days (NAME) helped
Wave 4:	
H14_15	Does someone help respondent to get dressed
H15D_15	Does someone help respondent walking across a room
H16D_15	Does someone help respondent bathing or showering
H17D_15	Does someone help respondent eating
H18D_15	Does someone help respondent getting in or out of bed
H19D_15	Does someone help respondent using the toilet
H22_1_15	Respondent's relationship with person helping with ADLs
H22_2_15	Respondent's relationship with person helping with ADLs
H22_3_15	Respondent's relationship with person helping with ADLs
H22_4_15	Respondent's relationship with person helping with ADLs
H22_5_15	Respondent's relationship with person helping with ADLs
H22_6_15	Respondent's relationship with person helping with ADLs
H22_7_15	Respondent's relationship with person helping with ADLs
H22_8_15	Respondent's relationship with person helping with ADLs
H23_1_15	Registration number of person helping with ADLs
H23_2_15	Registration number of person helping with ADLs
H23_3_15	Registration number of person helping with ADLs
H23_4_15	Registration number of person helping with ADLs
H23_5_15	Registration number of person helping with ADLs
H23_6_15	Registration number of person helping with ADLs
H23_7_15	Registration number of person helping with ADLs
H23_8_15	Registration number of person helping with ADLs
H24_1_15	Number of days the person helped during last month
H24_2_15	Number of days the person helped during last month
H24_3_15	Number of days the person helped during last month
H24_4_15	Number of days the person helped during last month
H24_5_15	Number of days the person helped during last month
H24_6_15	Number of days the person helped during last month
H24_7_15	Number of days the person helped during last month
H24_8_15	Number of days the person helped during last month
H25_1_15	Number of hours during those days that the person helps
H25_2_15	Number of hours during those days that the person helps
H25_3_15	Number of hours during those days that the person helps
H25_4_15	Number of hours during those days that the person helps
H25_5_15	Number of hours during those days that the person helps
H25_6_15	Number of hours during those days that the person helps
H25_7_15	Number of hours during those days that the person helps
H25_8_15	Number of hours during those days that the person helps
Wave 5:	
H14_18	Does someone help R to get dressed
H15D_18	Does someone help R walking across a room
H16D_18	Does someone help R bathing or showering
H17D_18	Does someone help R eating
H18D_18	Does someone help R getting in or out of bed
H19D_18	Does someone help R using the toilet
H22_1_18	R's relationship with person helping with ADLs
H22_2_18	R's relationship with person helping with ADLs
H22_3_18	R's relationship with person helping with ADLs
H23_1_18	Registration number of person helping with ADLs
H23_2_18	Registration number of person helping with ADLs
H23_3_18	Registration number of person helping with ADLs
H24_1_18	Number of days the person helped during last month
H24_2_18	Number of days the person helped during last month
H24_3_18	Number of days the person helped during last month
H25_1_18	Number of hours during those days that the person helps
H25_2_18	Number of hours during those days that the person helps
H25_3_18	Number of hours during those days that the person helps

<b>Activities of Daily Living: Receives Informal Care from Other Individuals</b>
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Wave	Variable	Label	Type
1	R1RAFCARE	r1rafcare: w1 R receives informal care from non-relatives fo	Categ
2	R2RAFCARE	r2rafcare: w2 R receives informal care from non-relatives fo	Categ
3	R3RAFCARE	r3rafcare: w3 R receives informal care from non-relatives fo	Categ
4	R4RAFCARE	r4rafcare: w4 R receives informal care from non-relatives fo	Categ
5	R5RAFCARE	r5rafcare: w5 R receives informal care from non-relatives fo	Categ
1	S1RAFCARE	s1rafcare: w1 S receives informal care from non-relatives fo	Categ
2	S2RAFCARE	s2rafcare: w2 S receives informal care from non-relatives fo	Categ
3	S3RAFCARE	s3rafcare: w3 S receives informal care from non-relatives fo	Categ
4	S4RAFCARE	s4rafcare: w4 S receives informal care from non-relatives fo	Categ
5	S5RAFCARE	s5rafcare: w5 S receives informal care from non-relatives fo	Categ
1	R1RAFCAREN	r1rafcaren: w1 # non-relatives who help R with ADLs	Cont
2	R2RAFCAREN	r2rafcaren: w2 # non-relatives who help R with ADLs	Cont
3	R3RAFCAREN	r3rafcaren: w3 # non-relatives who help R with ADLs	Cont
4	R4RAFCAREN	r4rafcaren: w4 # non-relatives who help R with ADLs	Cont
5	R5RAFCAREN	r5rafcaren: w5 # non-relatives who help R with ADLs	Cont
1	S1RAFCAREN	s1rafcaren: w1 # non-relatives who help S with ADLs	Cont
2	S2RAFCAREN	s2rafcaren: w2 # non-relatives who help S with ADLs	Cont
3	S3RAFCAREN	s3rafcaren: w3 # non-relatives who help S with ADLs	Cont
4	S4RAFCAREN	s4rafcaren: w4 # non-relatives who help S with ADLs	Cont
5	S5RAFCAREN	s5rafcaren: w5 # non-relatives who help S with ADLs	Cont
1	R1RAFCAREDPM	r1rafcaredpm: w1 days/month non-relatives help R with ADLs	Cont
2	R2RAFCAREDPM	r2rafcaredpm: w2 days/month non-relatives help R with ADLs	Cont
3	R3RAFCAREDPM	r3rafcaredpm: w3 days/month non-relatives help R with ADLs	Cont
4	R4RAFCAREDPM	r4rafcaredpm: w4 days/month non-relatives help R with ADLs	Cont
5	R5RAFCAREDPM	r5rafcaredpm: w5 days/month non-relatives help R with ADLs	Cont
1	S1RAFCAREDPM	s1rafcaredpm: w1 days/month non-relatives help S with ADLs	Cont
2	S2RAFCAREDPM	s2rafcaredpm: w2 days/month non-relatives help S with ADLs	Cont
3	S3RAFCAREDPM	s3rafcaredpm: w3 days/month non-relatives help S with ADLs	Cont
4	S4RAFCAREDPM	s4rafcaredpm: w4 days/month non-relatives help S with ADLs	Cont
5	S5RAFCAREDPM	s5rafcaredpm: w5 days/month non-relatives help S with ADLs	Cont
1	R1RAFCAREDPMM	r1rafcaredpmm: w1 R # non-relatives missing days of help for	Cont
2	R2RAFCAREDPMM	r2rafcaredpmm: w2 R # non-relatives missing days of help for	Cont
3	R3RAFCAREDPMM	r3rafcaredpmm: w3 R # non-relatives missing days of help for	Cont
4	R4RAFCAREDPMM	r4rafcaredpmm: w4 R # non-relatives missing days of help for	Cont
5	R5RAFCAREDPMM	r5rafcaredpmm: w5 R # non-relatives missing days of help for	Cont
1	S1RAFCAREDPMM	s1rafcaredpmm: w1 S # non-relatives missing days of help for	Cont
2	S2RAFCAREDPMM	s2rafcaredpmm: w2 S # non-relatives missing days of help for	Cont
3	S3RAFCAREDPMM	s3rafcaredpmm: w3 S # non-relatives missing days of help for	Cont
4	S4RAFCAREDPMM	s4rafcaredpmm: w4 S # non-relatives missing days of help for	Cont
5	S5RAFCAREDPMM	s5rafcaredpmm: w5 S # non-relatives missing days of help for	Cont
1	R1RAFCAREHR	r1rafcarehr: w1 hours/day non-relatives help R with ADLs	Cont
2	R2RAFCAREHR	r2rafcarehr: w2 hours/day non-relatives help R with ADLs	Cont
3	R3RAFCAREHR	r3rafcarehr: w3 hours/day non-relatives help R with ADLs	Cont
4	R4RAFCAREHR	r4rafcarehr: w4 hours/day non-relatives help R with ADLs	Cont
5	R5RAFCAREHR	r5rafcarehr: w5 hours/day non-relatives help R with ADLs	Cont
1	S1RAFCAREHR	s1rafcarehr: w1 hours/day non-relatives help S with ADLs	Cont
2	S2RAFCAREHR	s2rafcarehr: w2 hours/day non-relatives help S with ADLs	Cont
3	S3RAFCAREHR	s3rafcarehr: w3 hours/day non-relatives help S with ADLs	Cont
4	S4RAFCAREHR	s4rafcarehr: w4 hours/day non-relatives help S with ADLs	Cont
5	S5RAFCAREHR	s5rafcarehr: w5 hours/day non-relatives help S with ADLs	Cont

1	R1RAFCAREHRM	r1rafcarehrm: w1	R # non-relatives	missing hours of help for	Cont
2	R2RAFCAREHRM	r2rafcarehrm: w2	R # non-relatives	missing hours of help for	Cont
3	R3RAFCAREHRM	r3rafcarehrm: w3	R # non-relatives	missing hours of help for	Cont
4	R4RAFCAREHRM	r4rafcarehrm: w4	R # non-relatives	missing hours of help for	Cont
5	R5RAFCAREHRM	r5rafcarehrm: w5	R # non-relatives	missing hours of help for	Cont
1	S1RAFCAREHRM	s1rafcarehrm: w1	S # non-relatives	missing hours of help for	Cont
2	S2RAFCAREHRM	s2rafcarehrm: w2	S # non-relatives	missing hours of help for	Cont
3	S3RAFCAREHRM	s3rafcarehrm: w3	S # non-relatives	missing hours of help for	Cont
4	S4RAFCAREHRM	s4rafcarehrm: w4	S # non-relatives	missing hours of help for	Cont
5	S5RAFCAREHRM	s5rafcarehrm: w5	S # non-relatives	missing hours of help for	Cont

## Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R1RAFCARE	780	0.03	0.17	0.00	1.00
R2RAFCARE	793	0.03	0.16	0.00	1.00
R3RAFCARE	1172	0.03	0.17	0.00	1.00
R4RAFCARE	1297	0.03	0.16	0.00	1.00
R5RAFCARE	1380	0.06	0.24	0.00	1.00
S1RAFCARE	456	0.01	0.10	0.00	1.00
S2RAFCARE	461	0.01	0.10	0.00	1.00
S3RAFCARE	575	0.01	0.10	0.00	1.00
S4RAFCARE	638	0.01	0.10	0.00	1.00
S5RAFCARE	572	0.05	0.23	0.00	1.00
R1RAFCAREN	780	0.04	0.28	0.00	6.00
R2RAFCAREN	793	0.03	0.18	0.00	2.00
R3RAFCAREN	1172	0.03	0.17	0.00	1.00
R4RAFCAREN	1297	0.03	0.18	0.00	2.00
R5RAFCAREN	1380	0.07	0.28	0.00	2.00
S1RAFCAREN	456	0.01	0.13	0.00	2.00
S2RAFCAREN	461	0.01	0.10	0.00	1.00
S3RAFCAREN	575	0.01	0.10	0.00	1.00
S4RAFCAREN	638	0.01	0.10	0.00	1.00
S5RAFCAREN	572	0.05	0.23	0.00	1.00
R1RAFCAREDPM	780	0.63	4.56	0.00	60.00
R2RAFCAREDPM	793	0.64	4.37	0.00	50.00
R3RAFCAREDPM	1171	0.67	4.27	0.00	30.00
R4RAFCAREDPM	1297	0.54	3.73	0.00	30.00
R5RAFCAREDPM	1368	1.33	6.43	0.00	60.00
S1RAFCAREDPM	456	0.12	2.16	0.00	46.00
S2RAFCAREDPM	461	0.33	3.11	0.00	30.00
S3RAFCAREDPM	575	0.23	2.53	0.00	30.00
S4RAFCAREDPM	638	0.13	1.75	0.00	30.00
S5RAFCAREDPM	567	1.09	5.43	0.00	30.00
R1RAFCAREDPMM	780	0.00	0.00	0.00	0.00
R2RAFCAREDPMM	793	0.00	0.00	0.00	0.00
R3RAFCAREDPMM	1172	0.00	0.03	0.00	1.00
R4RAFCAREDPMM	1297	0.00	0.00	0.00	0.00
R5RAFCAREDPMM	1380	0.01	0.13	0.00	2.00
S1RAFCAREDPMM	456	0.00	0.00	0.00	0.00
S2RAFCAREDPMM	461	0.00	0.00	0.00	0.00
S3RAFCAREDPMM	575	0.00	0.00	0.00	0.00
S4RAFCAREDPMM	638	0.00	0.00	0.00	0.00
S5RAFCAREDPMM	572	0.01	0.09	0.00	1.00



R1RAFCAREHR	780	0.17	1.51	0.00	24.00
R2RAFCAREHR	793	0.14	1.12	0.00	14.00
R3RAFCAREHR	1172	0.33	2.39	0.00	24.00
R4RAFCAREHR	1297	0.18	1.42	0.00	24.00
R5RAFCAREHR	1369	0.39	2.42	0.00	36.00
S1RAFCAREHR	456	0.03	0.48	0.00	10.00
S2RAFCAREHR	461	0.11	1.07	0.00	12.00
S3RAFCAREHR	575	0.21	2.23	0.00	24.00
S4RAFCAREHR	638	0.05	0.65	0.00	12.00
S5RAFCAREHR	567	0.35	2.00	0.00	20.00
R1RAFCAREHRM	780	0.00	0.00	0.00	0.00
R2RAFCAREHRM	793	0.00	0.00	0.00	0.00
R3RAFCAREHRM	1172	0.00	0.00	0.00	0.00
R4RAFCAREHRM	1297	0.00	0.00	0.00	0.00
R5RAFCAREHRM	1380	0.01	0.12	0.00	2.00
S1RAFCAREHRM	456	0.00	0.00	0.00	0.00
S2RAFCAREHRM	461	0.00	0.00	0.00	0.00
S3RAFCAREHRM	575	0.00	0.00	0.00	0.00
S4RAFCAREHRM	638	0.00	0.00	0.00	0.00
S5RAFCAREHRM	572	0.01	0.09	0.00	1.00

## Categorical Variable Codes

Value-----	R1RAFCARE	R2RAFCARE	R3RAFCARE	R4RAFCARE	R5RAFCARE
.d:DK	1		1	6	2
.h:no help received	873	737	1785	1715	1654
.m:Missing	40	30		40	18
.r:Refuse	2		1	1	82
.x:no difficulty	13490	12144	12764	11720	13978
0.No	758	773	1135	1261	1296
1.Yes	22	20	37	36	84

Value-----	S1RAFCARE	S2RAFCARE	S3RAFCARE	S4RAFCARE	S5RAFCARE
.d:DK			1	5	
.h:no help received	524	408	1107	1012	724
.m:Missing	14	8		10	3
.r:Refuse	1				55
.u:Unmar	4205	4009	4782	4847	5227
.v:SP NR	333	131	349	280	501
.x:no difficulty	9653	8687	8909	7987	6107
0.No	451	456	569	632	541
1.Yes	5	5	6	6	31

## How Constructed

The following variables indicate whether any non-relative helps the respondent with any ADL needs. The activities of daily living include dressing, walking across a room, bathing, eating, getting in and out of bed, and using the toilet. If the respondent reports having difficulty with an ADL, then they are asked whether someone helps them with that activity. If someone helps with the activity, they are asked for the relationships of up to 12 people in Waves 1 and 2, up to 8 people in Waves 3 and 4, and up to 3 people in Wave 5 who help them with ADLs. The information used to derive these variables is taken from the help files in Waves 1 and 2 and from the individual files in Waves 3 and forward. For each caregiver, the respondent is asked to report their relationship to the caregiver and the caregiver's roster number, if any. In cases where the reported relationship disagrees with the roster number, the roster number takes precedence in defining the relationship for spouses and children, for which the roster numbers follow clear rules. In cases where the reported relationship is "spouse" but the roster number indicates a non-spouse household member or an individual with no roster number, meaning they are not a child or within the household, the relationship type is changed to "other person". In cases of multiple records with the same caregiver relationship and roster number, we only consider the caregiver with the highest level of care provided to the respondent. In cases of multiple records with the same caregiver relationship and no roster number, we assume all mentions are separate individuals.

The following variables are coded as special missing value .x if the respondent reports no difficulty with any ADL, and are coded as special missing value .h if the respondent reports difficulty with an ADL but does not receive any help. Don't know, refused, or other missing responses are assigned special missing values .d, .r, and .m, respectively. These variables are set to plain missing (.) for respondents who did not participate in the current wave.

RwRAFCARE, RwRAFCAREN, RwRAFCAREDPM, RwRAFCAREDPMM, RwRAFCAREHR, and RwRAFCAREHRM include help from another person (not their spouse, child, child-in-law, grandchild, parent, other relative, or paid person).

RwRAFCARE indicates whether any of the respondent's non-relatives help the respondent with ADL needs. RwRAFCAREN indicates the number of the respondent's non-relatives who help the respondent with ADL needs. RwRAFCARE is coded as 0 if none of the respondent's non-relatives help the respondent with ADLs; and is coded as 1 if at least one of the respondent's non-relatives help the respondent with ADLs.

RwRAFCAREDPM indicates the number of total days per month the respondent's non-relatives help the respondent with ADL needs. If the respondent reports receiving help every day from that non-relative, then a value of 30 is assumed. RwRAFCAREDPM is the sum of days per month for all non-relative helpers, and so values can be over 30 days. RwRAFCAREDPM is calculated as long as there is one non-missing value. RwRAFCAREDPM is assigned a value of 0 if the respondent did not receive help from any non-relatives. RwRAFCAREDPMM indicates the number of non-relatives who helped the respondent for whom no value of days was reported and was not accounted for in RwRAFCAREDPM. RwRAFCAREDPMM is assigned special missing value .m if the respondent was not helped by any non-relatives.

RwRAFCAREHR indicates the number of hours per day the respondent's non-relatives help the respondent with ADL needs. Respondents are asked, on days their non-relatives help, how many hours per day that is. If the respondent reports less than an hour for that non-relative, then a 1 is assumed. RwRAFCAREHR is the sum of hours per day for all non-relative helpers, and so values can be over 24 hours. RwRAFCAREHR is calculated as long as there is one non-missing value. RwRAFCAREHRE is assigned a value of 0 if the respondent did not receive help from any non-relatives. RwRAFCAREHRM indicates the number of non-relatives who helped the respondent for whom no value of hours was reported and was not accounted for in RwRAFCAREHR. RwRAFCAREHRM is assigned special missing value .m if the respondent was not helped by any non-relatives.

SwRAFCARE, SwRAFCAREN, SwRAFCAREDPM, and SwRAFCAREHR indicate whether the respondent's current wave's spouse receives help from non-relatives, the number, and the frequency with which, and their values are taken from RwRAFCARE, RwRAFCAREN, RwRAFCAREDPM, and RwRAFCAREHR. SwRAFCAREDPMM and SwRAFCAREHRM indicate the number of non-relatives who helped the respondent's current spouse for whom a value was not reported for the number of days and hours and are taken from RwRAFCAREDPMM and RwRAFCAREHRM. In addition to the special missing codes employed by the respondent variables, the spouse variables employ two additional special missing codes. A special missing value .u is used when the respondent does not report being coupled in the current wave. A special missing value .v is used when the respondent reports being coupled in the current wave but their spouse is not interviewed.

## Cross Wave Differences in MHAS

Respondents are allowed to mention up to 12 caregivers in Waves 1 and 2, up to 8 caregivers in Waves 3 and 4, and up to 3 caregivers in Wave 5.

## Differences with the RAND HRS/Harmonized HRS

The HRS has different categories of relationships between the respondent and their caregiver, but these variables have been created to be as comparable as possible.

The HRS asks for up to 7 relationships of people who help with ADLs (dressing, walking across a room, bathing, eating, getting in and out of bed, and using the toilet). The MHAS, in contrast, asks for the relationships of a varying number of people across waves who help with ADLs.

## MHAS Variables Used

Wave 1:  
H14 help dressing

H15_3	spouse helps walking
H15_4	other helps walking
H16_3	spouse helps bathing
H16_4	other helps bathing
H17_3	spouse helps eating
H17_4	other helps eating
H18_3	spouse helps getting in an out of bed
H18_4	other helps getting in an out of bed
H19_3	spouse helps using toilet
H19_4	other helps using toilet
Wave 1 Helper:	
H22	kinship of helper
H23	roster number of helper
H24	days of help
H25	hours of help
Wave 2:	
H14	someone help you to get dressed
H15E	spouse helps
H15F	additional person helps
H16E	spouse helps
H16F	additional person helps
H17E	spouse helps
H17F	additional person helps
H18E	spouse helps
H18F	additional person helps
H19E	spouse helps
H19F	additional person helps
Wave 2 Helper:	
H22	relationship
H23	registration number
H24	number of days (name) helped last month
H25	number of hours during those days
Wave 3:	
H14_12	Someone help you to get dressed
H15D_12	Someone help you walk across room
H16D_12	Someone help you to bathe or shower
H17D_12	Does someone help you eat your food
H18D_12	Does someone help you get into or out of bed
H19D_12	Does someone help you use toilet, get on off
H22_1_12	Relationship with helper for ADLs
H22_2_12	Relationship with helper for ADLs
H22_3_12	Relationship with helper for ADLs
H22_4_12	Relationship with helper for ADLs
H22_5_12	Relationship with helper for ADLs
H22_6_12	Relationship with helper for ADLs
H22_7_12	Relationship with helper for ADLs
H22_8_12	Relationship with helper for ADLs
H23_1_12	Registration number of helper for ADLs
H23_2_12	Registration number of helper for ADLs
H23_3_12	Registration number of helper for ADLs
H23_4_12	Registration number of helper for ADLs
H23_5_12	Registration number of helper for ADLs
H23_6_12	Registration number of helper for ADLs
H23_7_12	Registration number of helper for ADLs
H23_8_12	Registration number of helper for ADLs
H24_1_12	Number of days (name) helped last month
H24_2_12	Number of days (name) helped last month
H24_3_12	Number of days (name) helped last month
H24_4_12	Number of days (name) helped last month
H24_5_12	Number of days (name) helped last month
H24_6_12	Number of days (name) helped last month
H24_7_12	Number of days (name) helped last month
H24_8_12	Number of days (name) helped last month
H25_1_12	Number of hours during those days (NAME) helped

H25_2_12	Number of hours during those days (NAME) helped
H25_3_12	Number of hours during those days (NAME) helped
H25_4_12	Number of hours during those days (NAME) helped
H25_5_12	Number of hours during those days (NAME) helped
H25_6_12	Number of hours during those days (NAME) helped
H25_7_12	Number of hours during those days (NAME) helped
H25_8_12	Number of hours during those days (NAME) helped
Wave 4:	
H14_15	Does someone help respondent to get dressed
H15D_15	Does someone help respondent walking across a room
H16D_15	Does someone help respondent bathing or showering
H17D_15	Does someone help respondent eating
H18D_15	Does someone help respondent getting in or out of bed
H19D_15	Does someone help respondent using the toilet
H22_1_15	Respondent's relationship with person helping with ADLs
H22_2_15	Respondent's relationship with person helping with ADLs
H22_3_15	Respondent's relationship with person helping with ADLs
H22_4_15	Respondent's relationship with person helping with ADLs
H22_5_15	Respondent's relationship with person helping with ADLs
H22_6_15	Respondent's relationship with person helping with ADLs
H22_7_15	Respondent's relationship with person helping with ADLs
H22_8_15	Respondent's relationship with person helping with ADLs
H23_1_15	Registration number of person helping with ADLs
H23_2_15	Registration number of person helping with ADLs
H23_3_15	Registration number of person helping with ADLs
H23_4_15	Registration number of person helping with ADLs
H23_5_15	Registration number of person helping with ADLs
H23_6_15	Registration number of person helping with ADLs
H23_7_15	Registration number of person helping with ADLs
H23_8_15	Registration number of person helping with ADLs
H24_1_15	Number of days the person helped during last month
H24_2_15	Number of days the person helped during last month
H24_3_15	Number of days the person helped during last month
H24_4_15	Number of days the person helped during last month
H24_5_15	Number of days the person helped during last month
H24_6_15	Number of days the person helped during last month
H24_7_15	Number of days the person helped during last month
H24_8_15	Number of days the person helped during last month
H25_1_15	Number of hours during those days that the person helped
H25_2_15	Number of hours during those days that the person helped
H25_3_15	Number of hours during those days that the person helped
H25_4_15	Number of hours during those days that the person helped
H25_5_15	Number of hours during those days that the person helped
H25_6_15	Number of hours during those days that the person helped
H25_7_15	Number of hours during those days that the person helped
H25_8_15	Number of hours during those days that the person helped
Wave 5:	
H14_18	Does someone help R to get dressed
H15D_18	Does someone help R walking across a room
H16D_18	Does someone help R bathing or showering
H17D_18	Does someone help R eating
H18D_18	Does someone help R getting in or out of bed
H19D_18	Does someone help R using the toilet
H22_1_18	R's relationship with person helping with ADLs
H22_2_18	R's relationship with person helping with ADLs
H22_3_18	R's relationship with person helping with ADLs
H23_1_18	Registration number of person helping with ADLs
H23_2_18	Registration number of person helping with ADLs
H23_3_18	Registration number of person helping with ADLs
H24_1_18	Number of days the person helped during last month
H24_2_18	Number of days the person helped during last month
H24_3_18	Number of days the person helped during last month
H25_1_18	Number of hours during those days that the person helped
H25_2_18	Number of hours during those days that the person helped

H25\_3\_18                      Number of hours during those days that the person helpe

Activities of Daily Living: Whether Receives Any Formal Care

Wave	Variable	Label	Type
1	R1RAFAANY	r1rafaany: w1 R receives any formal care for ADLs	Categ
2	R2RAFAANY	r2rafaany: w2 R receives any formal care for ADLs	Categ
3	R3RAFAANY	r3rafaany: w3 R receives any formal care for ADLs	Categ
4	R4RAFAANY	r4rafaany: w4 R receives any formal care for ADLs	Categ
5	R5RAFAANY	r5rafaany: w5 R receives any formal care for ADLs	Categ
1	S1RAFAANY	s1rafaany: w1 S receives any formal care for ADLs	Categ
2	S2RAFAANY	s2rafaany: w2 S receives any formal care for ADLs	Categ
3	S3RAFAANY	s3rafaany: w3 S receives any formal care for ADLs	Categ
4	S4RAFAANY	s4rafaany: w4 S receives any formal care for ADLs	Categ
5	S5RAFAANY	s5rafaany: w5 S receives any formal care for ADLs	Categ

Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R1RAFAANY	1653	0.02	0.14	0.00	1.00
R2RAFAANY	1530	0.02	0.14	0.00	1.00
R3RAFAANY	2957	0.01	0.11	0.00	1.00
R4RAFAANY	3012	0.02	0.14	0.00	1.00
R5RAFAANY	3034	0.02	0.13	0.00	1.00
S1RAFAANY	980	0.00	0.06	0.00	1.00
S2RAFAANY	869	0.00	0.07	0.00	1.00
S3RAFAANY	1682	0.00	0.06	0.00	1.00
S4RAFAANY	1650	0.01	0.08	0.00	1.00
S5RAFAANY	1296	0.01	0.11	0.00	1.00

Categorical Variable Codes

Value-----	R1RAFAANY	R2RAFAANY	R3RAFAANY	R4RAFAANY	R5RAFAANY
.d:DK	1		1	6	2
.m:Missing	40	30		40	18
.r:Refuse	2		1	1	82
.x:no difficulty	13490	12144	12764	11720	13978
0.No	1622	1501	2921	2955	2983
1.Yes	31	29	36	57	51
Value-----	S1RAFAANY	S2RAFAANY	S3RAFAANY	S4RAFAANY	S5RAFAANY
.d:DK			1	5	
.m:Missing	14	8		10	3
.r:Refuse	1				55
.u:Unmar	4205	4009	4782	4847	5227
.v:SP NR	333	131	349	280	501
.x:no difficulty	9653	8687	8909	7987	6107
0.No	976	865	1675	1639	1281
1.Yes	4	4	7	11	15

How Constructed

RwRAFAANY indicates whether the respondent receives any formal care for difficulties with activities of daily living (ADL). The activities of daily living include dressing, walking across a room, bathing, eating, getting in and out of bed, and using the toilet. If the respondent reports having difficulty with an ADL, then they are asked whether someone helps them with that activity. If someone helps with the activity, they are asked for the relationships of up to 12 people in Waves 1 and 2, up to 8 people in Waves 3 and 4, and up to 3 people in Wave 5 who help them with ADLs. The following relationship is considered to provide formal care: paid person.

Please note that for each caregiver, the respondent is asked to report their relationship to the caregiver and the caregiver's roster number, if any. In cases where the reported relationship disagrees with the roster number, the roster number takes precedence in defining the relationship for spouses and children, for which the roster numbers follow clear rules. In cases where the reported relationship is "spouse" but the roster number indicates a non-spouse household member or an individual with no roster number, meaning they are not a child or within the household, the relationship type is changed to "other person". In cases of multiple records with the same caregiver relationship and roster number, we only consider the caregiver with the highest level of care provided to the respondent. In cases of multiple records with the same caregiver relationship and no roster number, we assume all mentions are separate individuals.

RwRAFAANY is assigned a value of 0 if the respondent has difficulty with at least one ADL but receives no help with the activity from a formal caregiver, or does not receive any help at all. RwRAFAANY is assigned a value of 1 if the respondent has difficulty with at least one ADL and a formal caregiver helps with at least one of the activities. RwRAFAANY is assigned special missing value .x if the respondent has no difficulty with any ADLs. Don't know, refused, and other missing responses are assigned special missing values .d, .r, and .m, respectively. RwRAFAANY is assigned a blank missing (.) if the respondent did not participate in the current wave.

SwRAFAANY indicates whether the respondent's current wave's spouse receives any formal care for difficulties with ADLs, and its values are taken from RwRAFAANY. In addition to the special missing codes employed by RwRAFAANY, SwRAFAANY employs two additional special missing codes. A special missing value .u is used when the respondent does not report being coupled in the current wave. A special missing value .v is used when the respondent reports being coupled in the current wave but their spouse is not interviewed.

## Cross Wave Differences in MHAS

Respondents are allowed to mention up to 12 caregivers in Waves 1 and 2, up to 8 caregivers in Waves 3 and 4, and up to 3 caregivers in Wave 5.

## Differences with the RAND HRS/Harmonized HRS

The HRS has different categories of relationships between the respondent and their caregiver, but these variables have been created to be as comparable as possible in the Harmonized HRS and Harmonized MHAS. Please note that the Harmonized HRS includes categories for paid formal helpers and unpaid formal helpers, while the Harmonized MHAS only includes categories for paid formal helpers.

## MHAS Variables Used

### Wave 1:

H14	help dressing
H15_3	spouse helps walking
H15_4	other helps walking
H16_3	spouse helps bathing
H16_4	other helps bathing
H17_3	spouse helps eating
H17_4	other helps eating
H18_3	spouse helps getting in and out of bed
H18_4	other helps getting in and out of bed
H19_3	spouse helps using toilet
H19_4	other helps using toilet

### Wave 1 Helper:

H22	kinship of helper
H23	roster number of helper

### Wave 2:

H14	someone help you to get dressed
H15E	spouse helps
H15F	additional person helps
H16E	spouse helps
H16F	additional person helps
H17E	spouse helps
H17F	additional person helps

H18E	spouse helps
H18F	additional person helps
H19E	spouse helps
H19F	additional person helps
Wave 2 Helper:	
H22	relationship
H23	registration number
Wave 3:	
H14_12	Someone help you to get dressed
H15D_12	Someone help you walk across room
H16D_12	Someone help you to bathe or shower
H17D_12	Does someone help you eat your food
H18D_12	Does someone help you get into or out of bed
H19D_12	Does someone help you use toilet, get on off
H22_1_12	Relationship with helper for ADLs
H22_2_12	Relationship with helper for ADLs
H22_3_12	Relationship with helper for ADLs
H22_4_12	Relationship with helper for ADLs
H22_5_12	Relationship with helper for ADLs
H22_6_12	Relationship with helper for ADLs
H22_7_12	Relationship with helper for ADLs
H22_8_12	Relationship with helper for ADLs
H23_1_12	Registration number of helper for ADLs
H23_2_12	Registration number of helper for ADLs
H23_3_12	Registration number of helper for ADLs
H23_4_12	Registration number of helper for ADLs
H23_5_12	Registration number of helper for ADLs
H23_6_12	Registration number of helper for ADLs
H23_7_12	Registration number of helper for ADLs
H23_8_12	Registration number of helper for ADLs
Wave 4:	
H14_15	Does someone help respondent to get dressed
H15D_15	Does someone help respondent walking across a room
H16D_15	Does someone help respondent bathing or showering
H17D_15	Does someone help respondent eating
H18D_15	Does someone help respondent getting in or out of bed
H19D_15	Does someone help respondent using the toilet
H22_1_15	Respondent's relationship with person helping with ADLs
H22_2_15	Respondent's relationship with person helping with ADLs
H22_3_15	Respondent's relationship with person helping with ADLs
H22_4_15	Respondent's relationship with person helping with ADLs
H22_5_15	Respondent's relationship with person helping with ADLs
H22_6_15	Respondent's relationship with person helping with ADLs
H22_7_15	Respondent's relationship with person helping with ADLs
H22_8_15	Respondent's relationship with person helping with ADLs
H23_1_15	Registration number of person helping with ADLs
H23_2_15	Registration number of person helping with ADLs
H23_3_15	Registration number of person helping with ADLs
H23_4_15	Registration number of person helping with ADLs
H23_5_15	Registration number of person helping with ADLs
H23_6_15	Registration number of person helping with ADLs
H23_7_15	Registration number of person helping with ADLs
H23_8_15	Registration number of person helping with ADLs
Wave 5:	
H14_18	Does someone help R to get dressed
H15D_18	Does someone help R walking across a room
H16D_18	Does someone help R bathing or showering
H17D_18	Does someone help R eating
H18D_18	Does someone help R getting in or out of bed
H19D_18	Does someone help R using the toilet
H22_1_18	R's relationship with person helping with ADLs
H22_2_18	R's relationship with person helping with ADLs
H22_3_18	R's relationship with person helping with ADLs
H23_1_18	Registration number of person helping with ADLs



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H23_2_18	Registration number of person helping with ADLs
H23_3_18	Registration number of person helping with ADLs

<b>Activities of Daily Living: Receives Formal Care from Paid Professional</b>
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Wave	Variable	Label	Type
1	R1RAPFCARE	r1rapfcare: w1 R receives formal care from paid professional	Categ
2	R2RAPFCARE	r2rapfcare: w2 R receives formal care from paid professional	Categ
3	R3RAPFCARE	r3rapfcare: w3 R receives formal care from paid professional	Categ
4	R4RAPFCARE	r4rapfcare: w4 R receives formal care from paid professional	Categ
5	R5RAPFCARE	r5rapfcare: w5 R receives formal care from paid professional	Categ
1	S1RAPFCARE	s1rapfcare: w1 S receives formal care from paid professional	Categ
2	S2RAPFCARE	s2rapfcare: w2 S receives formal care from paid professional	Categ
3	S3RAPFCARE	s3rapfcare: w3 S receives formal care from paid professional	Categ
4	S4RAPFCARE	s4rapfcare: w4 S receives formal care from paid professional	Categ
5	S5RAPFCARE	s5rapfcare: w5 S receives formal care from paid professional	Categ
1	R1RAPFCAREN	r1rapfcaren: w1 # paid professionals who help R with ADLs	Cont
2	R2RAPFCAREN	r2rapfcaren: w2 # paid professionals who help R with ADLs	Cont
3	R3RAPFCAREN	r3rapfcaren: w3 # paid professionals who help R with ADLs	Cont
4	R4RAPFCAREN	r4rapfcaren: w4 # paid professionals who help R with ADLs	Cont
5	R5RAPFCAREN	r5rapfcaren: w5 # paid professionals who help R with ADLs	Cont
1	S1RAPFCAREN	s1rapfcaren: w1 # paid professionals who help S with ADLs	Cont
2	S2RAPFCAREN	s2rapfcaren: w2 # paid professionals who help S with ADLs	Cont
3	S3RAPFCAREN	s3rapfcaren: w3 # paid professionals who help S with ADLs	Cont
4	S4RAPFCAREN	s4rapfcaren: w4 # paid professionals who help S with ADLs	Cont
5	S5RAPFCAREN	s5rapfcaren: w5 # paid professionals who help S with ADLs	Cont
1	R1RAPFCAREDPM	r1rapfcaredpm: w1 days/month paid professionals help R with	Cont
2	R2RAPFCAREDPM	r2rapfcaredpm: w2 days/month paid professionals help R with	Cont
3	R3RAPFCAREDPM	r3rapfcaredpm: w3 days/month paid professionals help R with	Cont
4	R4RAPFCAREDPM	r4rapfcaredpm: w4 days/month paid professionals help R with	Cont
5	R5RAPFCAREDPM	r5rapfcaredpm: w5 days/month paid professionals help R with	Cont
1	S1RAPFCAREDPM	s1rapfcaredpm: w1 days/month paid professionals help S with	Cont
2	S2RAPFCAREDPM	s2rapfcaredpm: w2 days/month paid professionals help S with	Cont
3	S3RAPFCAREDPM	s3rapfcaredpm: w3 days/month paid professionals help S with	Cont
4	S4RAPFCAREDPM	s4rapfcaredpm: w4 days/month paid professionals help S with	Cont
5	S5RAPFCAREDPM	s5rapfcaredpm: w5 days/month paid professionals help S with	Cont
1	R1RAPFCAREDPMM	r1rapfcaredpmm: w1 R # paid professionals missing days of he	Cont
2	R2RAPFCAREDPMM	r2rapfcaredpmm: w2 R # paid professionals missing days of he	Cont
3	R3RAPFCAREDPMM	r3rapfcaredpmm: w3 R # paid professionals missing days of he	Cont
4	R4RAPFCAREDPMM	r4rapfcaredpmm: w4 R # paid professionals missing days of he	Cont
5	R5RAPFCAREDPMM	r5rapfcaredpmm: w5 R # paid professionals missing days of he	Cont
1	S1RAPFCAREDPMM	s1rapfcaredpmm: w1 S # paid professionals missing days of he	Cont
2	S2RAPFCAREDPMM	s2rapfcaredpmm: w2 S # paid professionals missing days of he	Cont
3	S3RAPFCAREDPMM	s3rapfcaredpmm: w3 S # paid professionals missing days of he	Cont
4	S4RAPFCAREDPMM	s4rapfcaredpmm: w4 S # paid professionals missing days of he	Cont
5	S5RAPFCAREDPMM	s5rapfcaredpmm: w5 S # paid professionals missing days of he	Cont
1	R1RAPFCAREHR	r1rapfcarehr: w1 hours/day paid professionals help R with AD	Cont
2	R2RAPFCAREHR	r2rapfcarehr: w2 hours/day paid professionals help R with AD	Cont
3	R3RAPFCAREHR	r3rapfcarehr: w3 hours/day paid professionals help R with AD	Cont
4	R4RAPFCAREHR	r4rapfcarehr: w4 hours/day paid professionals help R with AD	Cont
5	R5RAPFCAREHR	r5rapfcarehr: w5 hours/day paid professionals help R with AD	Cont
1	S1RAPFCAREHR	s1rapfcarehr: w1 hours/day paid professionals help S with AD	Cont
2	S2RAPFCAREHR	s2rapfcarehr: w2 hours/day paid professionals help S with AD	Cont
3	S3RAPFCAREHR	s3rapfcarehr: w3 hours/day paid professionals help S with AD	Cont
4	S4RAPFCAREHR	s4rapfcarehr: w4 hours/day paid professionals help S with AD	Cont
5	S5RAPFCAREHR	s5rapfcarehr: w5 hours/day paid professionals help S with AD	Cont

1	R1RAPFCAREHRM	r1rapfcarehrm: w1 R # paid professionals missing hours of he	Cont
2	R2RAPFCAREHRM	r2rapfcarehrm: w2 R # paid professionals missing hours of he	Cont
3	R3RAPFCAREHRM	r3rapfcarehrm: w3 R # paid professionals missing hours of he	Cont
4	R4RAPFCAREHRM	r4rapfcarehrm: w4 R # paid professionals missing hours of he	Cont
5	R5RAPFCAREHRM	r5rapfcarehrm: w5 R # paid professionals missing hours of he	Cont
1	S1RAPFCAREHRM	s1rapfcarehrm: w1 S # paid professionals missing hours of he	Cont
2	S2RAPFCAREHRM	s2rapfcarehrm: w2 S # paid professionals missing hours of he	Cont
3	S3RAPFCAREHRM	s3rapfcarehrm: w3 S # paid professionals missing hours of he	Cont
4	S4RAPFCAREHRM	s4rapfcarehrm: w4 S # paid professionals missing hours of he	Cont
5	S5RAPFCAREHRM	s5rapfcarehrm: w5 S # paid professionals missing hours of he	Cont

## Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R1RAPFCARE	780	0.04	0.20	0.00	1.00
R2RAPFCARE	793	0.04	0.19	0.00	1.00
R3RAPFCARE	1172	0.03	0.17	0.00	1.00
R4RAPFCARE	1297	0.04	0.21	0.00	1.00
R5RAPFCARE	1380	0.04	0.19	0.00	1.00
S1RAPFCARE	456	0.01	0.09	0.00	1.00
S2RAPFCARE	461	0.01	0.09	0.00	1.00
S3RAPFCARE	575	0.01	0.11	0.00	1.00
S4RAPFCARE	638	0.02	0.13	0.00	1.00
S5RAPFCARE	572	0.03	0.16	0.00	1.00
R1RAPFCAREN	780	0.04	0.24	0.00	3.00
R2RAPFCAREN	793	0.04	0.21	0.00	2.00
R3RAPFCAREN	1172	0.03	0.19	0.00	2.00
R4RAPFCAREN	1297	0.05	0.26	0.00	3.00
R5RAPFCAREN	1380	0.05	0.28	0.00	3.00
S1RAPFCAREN	456	0.01	0.09	0.00	1.00
S2RAPFCAREN	461	0.01	0.09	0.00	1.00
S3RAPFCAREN	575	0.01	0.11	0.00	1.00
S4RAPFCAREN	638	0.02	0.17	0.00	3.00
S5RAPFCAREN	572	0.03	0.21	0.00	3.00
R1RAPFCAREDPM	780	1.22	6.75	0.00	90.00
R2RAPFCAREDPM	793	1.12	5.97	0.00	60.00
R3RAPFCAREDPM	1172	0.81	4.88	0.00	60.00
R4RAPFCAREDPM	1297	1.12	6.25	0.00	90.00
R5RAPFCAREDPM	1380	1.11	6.94	0.00	90.00
S1RAPFCAREDPM	456	0.16	2.05	0.00	30.00
S2RAPFCAREDPM	461	0.26	2.79	0.00	30.00
S3RAPFCAREDPM	575	0.26	2.69	0.00	30.00
S4RAPFCAREDPM	638	0.50	4.72	0.00	90.00
S5RAPFCAREDPM	572	0.64	4.43	0.00	60.00
R1RAPFCAREDPMM	780	0.00	0.00	0.00	0.00
R2RAPFCAREDPMM	793	0.00	0.00	0.00	0.00
R3RAPFCAREDPMM	1172	0.00	0.00	0.00	0.00
R4RAPFCAREDPMM	1297	0.00	0.00	0.00	0.00
R5RAPFCAREDPMM	1380	0.00	0.00	0.00	0.00
S1RAPFCAREDPMM	456	0.00	0.00	0.00	0.00
S2RAPFCAREDPMM	461	0.00	0.00	0.00	0.00
S3RAPFCAREDPMM	575	0.00	0.00	0.00	0.00
S4RAPFCAREDPMM	638	0.00	0.00	0.00	0.00
S5RAPFCAREDPMM	572	0.00	0.00	0.00	0.00

R1RAPFCAREHR	780	0.52	3.22	0.00	48.00
R2RAPFCAREHR	793	0.35	2.26	0.00	24.00
R3RAPFCAREHR	1172	0.42	2.81	0.00	30.00
R4RAPFCAREHR	1297	0.51	3.08	0.00	36.00
R5RAPFCAREHR	1379	0.44	3.14	0.00	48.00
S1RAPFCAREHR	456	0.10	1.29	0.00	24.00
S2RAPFCAREHR	461	0.03	0.39	0.00	8.00
S3RAPFCAREHR	575	0.22	2.24	0.00	24.00
S4RAPFCAREHR	638	0.18	1.74	0.00	24.00
S5RAPFCAREHR	572	0.29	2.54	0.00	48.00
R1RAPFCAREHRM	780	0.00	0.00	0.00	0.00
R2RAPFCAREHRM	793	0.00	0.00	0.00	0.00
R3RAPFCAREHRM	1172	0.00	0.00	0.00	0.00
R4RAPFCAREHRM	1297	0.00	0.00	0.00	0.00
R5RAPFCAREHRM	1380	0.00	0.03	0.00	1.00
S1RAPFCAREHRM	456	0.00	0.00	0.00	0.00
S2RAPFCAREHRM	461	0.00	0.00	0.00	0.00
S3RAPFCAREHRM	575	0.00	0.00	0.00	0.00
S4RAPFCAREHRM	638	0.00	0.00	0.00	0.00
S5RAPFCAREHRM	572	0.00	0.00	0.00	0.00

## Categorical Variable Codes

Value-----	R1RAPFCARE	R2RAPFCARE	R3RAPFCARE	R4RAPFCARE	R5RAPFCARE
.d:DK	1		1	6	2
.h:no help received	873	737	1785	1715	1654
.m:Missing	40	30		40	18
.r:Refuse	2		1	1	82
.x:no difficulty	13490	12144	12764	11720	13978
0.No	749	764	1136	1240	1329
1.Yes	31	29	36	57	51

Value-----	S1RAPFCARE	S2RAPFCARE	S3RAPFCARE	S4RAPFCARE	S5RAPFCARE
.d:DK			1	5	
.h:no help received	524	408	1107	1012	724
.m:Missing	14	8		10	3
.r:Refuse	1				55
.u:Unmar	4205	4009	4782	4847	5227
.v:SP NR	333	131	349	280	501
.x:no difficulty	9653	8687	8909	7987	6107
0.No	452	457	568	627	557
1.Yes	4	4	7	11	15

## How Constructed

The following variables indicate whether paid formal caregivers help the respondent with any ADL needs. The activities of daily living include dressing, walking across a room, bathing, eating, getting in and out of bed, and using the toilet. If the respondent reports having difficulty with an ADL, then they are asked whether someone helps them with that activity. If someone helps with the activity, they are asked for the relationships of up to 12 people in Waves 1 and 2, up to 8 people in Waves 3 and 4, and up to 3 people in Wave 5 who help them with ADLs. The information used to derive these variables is taken from the help files in Waves 1 and 2 and from the individual files in Waves 3 and forward. For each caregiver, the respondent is asked to report their relationship to the caregiver and the caregiver's roster number, if any. In cases where the reported relationship disagrees with the roster number, the roster number takes precedence in defining the relationship for spouses and children, for which the roster numbers follow clear rules. In cases where the reported relationship is "spouse" but the roster number indicates a non-spouse household member or an individual with no roster number, meaning they are not a child or within the household, the relationship type is changed to "other person". In cases of multiple records with the same caregiver relationship and roster number, we only consider the caregiver with the highest level of care provided to the respondent. In cases of multiple records with the same caregiver relationship and no roster number, we assume all mentions are separate individuals.

The following variables are coded as special missing value .x if the respondent reports no difficulty with any ADL, and are coded as special missing value .h if the respondent reports difficulty with an ADL but does not receive any help. Don't know, refused, or other missing responses are assigned special missing values .d, .r, and .m, respectively. These variables are set to plain missing (.) for respondents who did not participate in the current wave.

RwRAPFCARE, RwRAPFCAREN, RwRAPFCAREDPM, RwRAPFCAREDPMM, RwRAPFCAREHR, and RwRAPFCAREHRM include help from a paid person.

RwRAPFCARE indicates whether any paid professionals help the respondent with ADL needs. RwRAPFCAREN indicates the number of paid professionals who help the respondent with ADL needs. RwRAPFCARE is coded as 0 if no paid professionals help the respondent with ADLs; and is coded as 1 if at least one paid professional helps the respondent with ADLs.

RwRAPFCAREDPM indicates the number of total days per month paid professionals help the respondent with ADL needs. If the respondent reports receiving help every day from that paid professional, then a value of 30 is assumed. RwRAPFCAREDPM is the sum of days per month for all paid professional helpers, and so values can be over 30 days. RwRAPFCAREDPM is calculated as long as there is one non-missing value. RwRAPFCAREDPM is assigned a value of 0 if the respondent did not receive help from any paid professionals. RwRAPFCAREDPMM indicates the number of paid professionals who helped the respondent for whom no value of days was reported and was not accounted for in RwRAPFCAREDPM. RwRAPFCAREDPMM is assigned special missing value .m if the respondent was not helped by any paid professionals. RwRAPFCAREDPM and RwRAPFCAREDPMM are not available in waves 1 and 2.

RwRAPFCAREHR indicates the number of hours per day paid professionals help the respondent with ADL needs. Respondents are asked, on days paid professionals help, how many hours per day that is. If the respondent reports less than an hour for that paid professional, then a 1 is assumed. RwRAPFCAREHR is the sum of hours per day for all paid professional helpers, and so values can be over 24 hours. RwRAPFCAREHR is calculated as long as there is one non-missing value. RwRAPFCAREHR is assigned a value of 0 if the respondent did not receive help from any paid professionals. RwRAPFCAREHRM indicates the number of paid professionals who helped the respondent for whom no value of hours was reported and was not accounted for in RwRAPFCAREHR. RwRAPFCAREHRM is assigned special missing value .m if the respondent was not helped by any paid professionals. RwRAPFCAREHR and RwRAPFCAREHRM are not available in HRS waves 1 and 2. If the respondent participated in HRS wave 2, then RwRAPFCAREHR and RwRAPFCAREHRM are assigned special missing value .q in wave 2.

SwRAPFCARE, SwRAPFCAREN, SwRAPFCAREDPM, and SwRAPFCAREHR indicate whether the respondent's current wave's spouse receives help from paid professionals, the number, and the frequency with which, and their values are taken from RwRAPFCARE, RwRAPFCAREN, RwRAPFCAREDPM, and RwRAPFCAREHR. SwRAPFCAREDPMM and SwRAPFCAREHRM indicate the number of paid professionals who helped the respondent's current spouse for whom a value was not reported for the number of days and hours and are taken from RwRAPFCAREDPMM and RwRAPFCAREHRM. In addition to the special missing codes employed by the respondent variables, the spouse variables employ two additional special missing codes. A special missing value .u is used when the respondent does not report being coupled in the current wave. A special missing value .v is used when the respondent reports being coupled in the current wave but their spouse is not interviewed.

## Cross Wave Differences in MHAS

Respondents are allowed to mention up to 12 caregivers in Waves 1 and 2, up to 8 caregivers in Waves 3 and 4, and up to 3 caregivers in Wave 5.

## Differences with the RAND HRS/Harmonized HRS

The HRS has different categories of relationships between the respondent and their caregiver, but these variables have been created to be as comparable as possible.

RwRAPFCARE in the Harmonized MHAS is also comparable to RwfAFAANY in the Harmonized HRS, indicating any formal care for ADLs, because the MHAS does not have a category for unpaid formal caregivers.

The HRS asks for up to 7 relationships of people who help with ADLs (dressing, walking across a room, bathing, eating, getting in and out of bed, and using the toilet). The MHAS, in contrast, asks for the relationships of a varying number of people across waves who help with ADLs.

**MHAS Variables Used****Wave 1:**

H14	help dressing
H15_3	spouse helps walking
H15_4	other helps walking
H16_3	spouse helps bathing
H16_4	other helps bathing
H17_3	spouse helps eating
H17_4	other helps eating
H18_3	spouse helps getting in an out of bed
H18_4	other helps getting in an out of bed
H19_3	spouse helps using toilet
H19_4	other helps using toilet

**Wave 1 Helper:**

H22	kinship of helper
H23	roster number of helper
H24	days of help
H25	hours of help

**Wave 2:**

H14	someone help you to get dressed
H15E	spouse helps
H15F	additional person helps
H16E	spouse helps
H16F	additional person helps
H17E	spouse helps
H17F	additional person helps
H18E	spouse helps
H18F	additional person helps
H19E	spouse helps
H19F	additional person helps

**Wave 2 Helper:**

H22	relationship
H23	registration number
H24	number of days (name) helped last month
H25	number of hours during those days

**Wave 3:**

H14_12	Someone help you to get dressed
H15D_12	Someone help you walk across room
H16D_12	Someone help you to bathe or shower
H17D_12	Does someone help you eat your food
H18D_12	Does someone help you get into or out of bed
H19D_12	Does someone help you use toilet, get on off
H22_1_12	Relationship with helper for ADLs
H22_2_12	Relationship with helper for ADLs
H22_3_12	Relationship with helper for ADLs
H22_4_12	Relationship with helper for ADLs
H22_5_12	Relationship with helper for ADLs
H22_6_12	Relationship with helper for ADLs
H22_7_12	Relationship with helper for ADLs
H22_8_12	Relationship with helper for ADLs
H23_1_12	Registration number of helper for ADLs
H23_2_12	Registration number of helper for ADLs
H23_3_12	Registration number of helper for ADLs
H23_4_12	Registration number of helper for ADLs
H23_5_12	Registration number of helper for ADLs
H23_6_12	Registration number of helper for ADLs
H23_7_12	Registration number of helper for ADLs
H23_8_12	Registration number of helper for ADLs
H24_1_12	Number of days (name) helped last month
H24_2_12	Number of days (name) helped last month
H24_3_12	Number of days (name) helped last month
H24_4_12	Number of days (name) helped last month
H24_5_12	Number of days (name) helped last month

H24_6_12	Number of days (name) helped last month
H24_7_12	Number of days (name) helped last month
H24_8_12	Number of days (name) helped last month
H25_1_12	Number of hours during those days (NAME) helped
H25_2_12	Number of hours during those days (NAME) helped
H25_3_12	Number of hours during those days (NAME) helped
H25_4_12	Number of hours during those days (NAME) helped
H25_5_12	Number of hours during those days (NAME) helped
H25_6_12	Number of hours during those days (NAME) helped
H25_7_12	Number of hours during those days (NAME) helped
H25_8_12	Number of hours during those days (NAME) helped

## Wave 4:

H14_15	Does someone help respondent to get dressed
H15D_15	Does someone help respondent walking across a room
H16D_15	Does someone help respondent bathing or showering
H17D_15	Does someone help respondent eating
H18D_15	Does someone help respondent getting in or out of bed
H19D_15	Does someone help respondent using the toilet
H22_1_15	Respondent's relationship with person helping with ADLs
H22_2_15	Respondent's relationship with person helping with ADLs
H22_3_15	Respondent's relationship with person helping with ADLs
H22_4_15	Respondent's relationship with person helping with ADLs
H22_5_15	Respondent's relationship with person helping with ADLs
H22_6_15	Respondent's relationship with person helping with ADLs
H22_7_15	Respondent's relationship with person helping with ADLs
H22_8_15	Respondent's relationship with person helping with ADLs
H23_1_15	Registration number of person helping with ADLs
H23_2_15	Registration number of person helping with ADLs
H23_3_15	Registration number of person helping with ADLs
H23_4_15	Registration number of person helping with ADLs
H23_5_15	Registration number of person helping with ADLs
H23_6_15	Registration number of person helping with ADLs
H23_7_15	Registration number of person helping with ADLs
H23_8_15	Registration number of person helping with ADLs
H24_1_15	Number of days the person helped during last month
H24_2_15	Number of days the person helped during last month
H24_3_15	Number of days the person helped during last month
H24_4_15	Number of days the person helped during last month
H24_5_15	Number of days the person helped during last month
H24_6_15	Number of days the person helped during last month
H24_7_15	Number of days the person helped during last month
H24_8_15	Number of days the person helped during last month
H25_1_15	Number of hours during those days that the person helps
H25_2_15	Number of hours during those days that the person helps
H25_3_15	Number of hours during those days that the person helps
H25_4_15	Number of hours during those days that the person helps
H25_5_15	Number of hours during those days that the person helps
H25_6_15	Number of hours during those days that the person helps
H25_7_15	Number of hours during those days that the person helps
H25_8_15	Number of hours during those days that the person helps

## Wave 5:

H14_18	Does someone help R to get dressed
H15D_18	Does someone help R walking across a room
H16D_18	Does someone help R bathing or showering
H17D_18	Does someone help R eating
H18D_18	Does someone help R getting in or out of bed
H19D_18	Does someone help R using the toilet
H22_1_18	R's relationship with person helping with ADLs
H22_2_18	R's relationship with person helping with ADLs
H22_3_18	R's relationship with person helping with ADLs
H23_1_18	Registration number of person helping with ADLs
H23_2_18	Registration number of person helping with ADLs
H23_3_18	Registration number of person helping with ADLs
H24_1_18	Number of days the person helped during last month

H24_2_18	Number of days the person helped during last month
H24_3_18	Number of days the person helped during last month
H25_1_18	Number of hours during those days that the person helpe
H25_2_18	Number of hours during those days that the person helpe
H25_3_18	Number of hours during those days that the person helpe



Instrumental Activities of Daily Living: Whether Receives Any Care

Wave	Variable	Label	Type
1	R1RICANY	r1ricany: w1 R receives any care for IADLs	Categ
2	R2RICANY	r2ricany: w2 R receives any care for IADLs	Categ
3	R3RICANY	r3ricany: w3 R receives any care for IADLs	Categ
4	R4RICANY	r4ricany: w4 R receives any care for IADLs	Categ
5	R5RICANY	r5ricany: w5 R receives any care for IADLs	Categ
1	S1RICANY	s1ricany: w1 S receives any care for IADLs	Categ
2	S2RICANY	s2ricany: w2 S receives any care for IADLs	Categ
3	S3RICANY	s3ricany: w3 S receives any care for IADLs	Categ
4	S4RICANY	s4ricany: w4 S receives any care for IADLs	Categ
5	S5RICANY	s5ricany: w5 S receives any care for IADLs	Categ

Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R1RICANY	1684	0.84	0.37	0.00	1.00
R2RICANY	1504	0.86	0.34	0.00	1.00
R3RICANY	2321	0.72	0.45	0.00	1.00
R4RICANY	2492	0.76	0.43	0.00	1.00
R5RICANY	1897	0.79	0.41	0.00	1.00
S1RICANY	1104	0.86	0.35	0.00	1.00
S2RICANY	998	0.80	0.40	0.00	1.00
S3RICANY	1418	0.66	0.48	0.00	1.00
S4RICANY	1375	0.70	0.46	0.00	1.00
S5RICANY	843	0.76	0.43	0.00	1.00

Categorical Variable Codes

Value-----	R1RICANY	R2RICANY	R3RICANY	R4RICANY	R5RICANY
.d:DK			1	5	
.m:Missing	38	39		40	17
.p:Proxy interview, not asked	1032	1161	1275	929	1328
.r:Refuse	13	1	1	1	12
.x:no difficulty	12419	10999	12125	11312	13860
0.No	267	204	658	605	406
1.Yes	1417	1300	1663	1887	1491
Value-----	S1RICANY	S2RICANY	S3RICANY	S4RICANY	S5RICANY
.d:DK			1	5	
.m:Missing	13	13		10	2
.p:Proxy interview, not asked	660	814	726	470	560
.r:Refuse	8	1			6
.u:Unmar	4205	4009	4782	4847	5227
.v:SP NR	333	131	349	280	501
.x:no difficulty	8863	7738	8447	7792	6050
0.No	154	202	487	406	205
1.Yes	950	796	931	969	638

How Constructed

RwRICANY indicates whether the respondent receives any care for difficulties with instrumental activities of daily living (IADL). If the respondent reports having difficulty with an IADL, then they are asked whether someone helps them with that activity. The instrumental activities of daily living include preparing meals, grocery shopping, taking medications, and managing money. RwRICANY is assigned a value of 0 if the respondent has difficulty with at least one IADL but receives no help with the activity. RwRICANY is assigned a value of 1 if the respondent has difficulty with at least one IADL and someone helps with at least one of the activities. RwRICANY is assigned special missing value .x if the

respondent has no difficulty with any IADLs. Don't know, refused, and other missing responses are assigned special missing values .d, .r, and .m, respectively. RWRICANY is assigned a blank missing (.) if the respondent did not participate in the current wave.

SwRICANY indicates whether the respondent's current wave's spouse receives any care for difficulties with IADLs, and its values are taken from RWRICANY. In addition to the special missing codes employed by RWRICANY, SwRICANY employs two additional special missing codes. A special missing value .u is used when the respondent does not report being coupled in the current wave. A special missing value .v is used when the respondent reports being coupled in the current wave but their spouse is not interviewed.

## Cross Wave Differences in MHAS

No differences known.

## Differences with the RAND HRS/Harmonized HRS

In the HRS, if the respondent reports that they "can't do" or "don't do" the activity or if they have difficulty that is not the result of a health or memory problem, then they are not asked whether they receive help with that activity. Respondents in the MHAS, however, are asked whether they receive help with the activity if they report that they "can't do", "don't do", or have difficulty with the activity, regardless of whether it is the result of a health or memory problem.

The HRS IADL list includes using the telephone, which is absent in the MHAS. As such, RWRICANY in the Harmonized HRS also includes help using the telephone, whereas RWRICANY in the Harmonized MHAS does not include help using the telephone.

## MHAS Variables Used

### Wave 1:

H26_3	spouse helps with hot meal
H26_4	someone helps with hot meal
H27_3	spouse helps with shopping
H27_4	someone helps with shopping
H28_3	spouse helps with taking medication
H28_4	someone helps with taking medication
H29_3	spouse helps with managing money
H29_4	someone helps with managing money

### Wave 2:

H26D	spouse helps
H26E	additional person helps
H27D	spouse helps
H27E	additional person helps
H28D	spouse helps
H28E	additional person helps
H29D	spouse helps
H29E	additional person helps

### Wave 3:

H26C_12	Does anyone help you prepare a hot meal
H27C_12	Does anyone help you shop for groceries
H28C_12	Does anyone help you take medications
H29C_12	Does anyone one help you manage your money
H32_1_12	Relationship with helper for IADLs
H32_2_12	Relationship with helper for IADLs
H32_3_12	Relationship with helper for IADLs
H32_4_12	Relationship with helper for IADLs
H32_5_12	Relationship with helper for IADLs
H32_6_12	Relationship with helper for IADLs
H32_7_12	Relationship with helper for IADLs
H32_8_12	Relationship with helper for IADLs
H33_1_12	Registration number of helper for IADLs
H33_2_12	Registration number of helper for ADLs
H33_3_12	Registration number of helper for IADLs
H33_4_12	Registration number of helper for IADLs

H33_5_12	Registration number of helper for IADLs
H33_6_12	Registration number of helper for IADLs
H33_7_12	Registration number of helper for IADLs
H33_8_12	Registration number of helper for IADLs

## Wave 4:

H26C_15	Does someone help respondent to prepare a hot meal
H27C_15	Does someone help respondent to shop for groceries
H28C_15	Does someone help respondent to take medications
H29C_15	Does someone help respondent to manage his/her money
H32_1_15	Respondent's relationship with person helping with IADL
H32_2_15	Respondent's relationship with person helping with IADL
H32_3_15	Respondent's relationship with person helping with IADL
H32_4_15	Respondent's relationship with person helping with IADL
H32_5_15	Respondent's relationship with person helping with IADL
H32_6_15	Respondent's relationship with person helping with IADL
H32_7_15	Respondent's relationship with person helping with IADL
H32_8_15	Respondent's relationship with person helping with IADL
H33_1_15	Registration number of person helping with IADLs
H33_2_15	Registration number of person helping with IADLs
H33_3_15	Registration number of person helping with IADLs
H33_4_15	Registration number of person helping with IADLs
H33_5_15	Registration number of person helping with IADLs
H33_6_15	Registration number of person helping with IADLs
H33_7_15	Registration number of person helping with IADLs
H33_8_15	Registration number of person helping with IADLs

## Wave 5:

H26C_18	Does someone help R to prepare a hot meal
H27C_18	Does someone help R to shop for groceries
H28C_18	Does someone help R to take medications
H29C_18	Does someone help R to manage his/her money
H32_1_18	R's relationship with person helping with IADLs
H32_2_18	R's relationship with person helping with IADLs
H32_3_18	R's relationship with person helping with IADLs
H33_1_18	Registration number of person helping with IADLs
H33_2_18	Registration number of person helping with IADLs
H33_3_18	Registration number of person helping with IADLs

Instrumental Activities of Daily Living: Whether Receives Any Informal Care

Wave	Variable	Label	Type
1	R1RICAANY	r1ricaany: w1 R receives any informal care for IADLs	Categ
2	R2RICAANY	r2ricaany: w2 R receives any informal care for IADLs	Categ
3	R3RICAANY	r3ricaany: w3 R receives any informal care for IADLs	Categ
4	R4RICAANY	r4ricaany: w4 R receives any informal care for IADLs	Categ
5	R5RICAANY	r5ricaany: w5 R receives any informal care for IADLs	Categ
1	S1RICAANY	s1ricaany: w1 S receives any informal care for IADLs	Categ
2	S2RICAANY	s2ricaany: w2 S receives any informal care for IADLs	Categ
3	S3RICAANY	s3ricaany: w3 S receives any informal care for IADLs	Categ
4	S4RICAANY	s4ricaany: w4 S receives any informal care for IADLs	Categ
5	S5RICAANY	s5ricaany: w5 S receives any informal care for IADLs	Categ

Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R1RICAANY	1684	0.84	0.37	0.00	1.00
R2RICAANY	1513	0.83	0.38	0.00	1.00
R3RICAANY	2321	0.72	0.45	0.00	1.00
R4RICAANY	2492	0.76	0.43	0.00	1.00
R5RICAANY	1897	0.77	0.42	0.00	1.00
S1RICAANY	1104	0.86	0.35	0.00	1.00
S2RICAANY	1005	0.75	0.43	0.00	1.00
S3RICAANY	1418	0.66	0.48	0.00	1.00
S4RICAANY	1375	0.70	0.46	0.00	1.00
S5RICAANY	843	0.75	0.43	0.00	1.00

Categorical Variable Codes

Value-----	R1RICAANY	R2RICAANY	R3RICAANY	R4RICAANY	R5RICAANY
.d:DK			1	5	
.m:Missing	38	30		40	17
.p:Proxy interview, not asked	1032	1161	1275	929	1328
.r:Refuse	13	1	1	1	12
.x:no difficulty	12419	10999	12125	11312	13860
0.No	268	256	658	605	427
1.Yes	1416	1257	1663	1887	1470

Value-----	S1RICAANY	S2RICAANY	S3RICAANY	S4RICAANY	S5RICAANY
.d:DK			1	5	
.m:Missing	13	6		10	2
.p:Proxy interview, not asked	660	814	726	470	560
.r:Refuse	8	1			6
.u:Unmar	4205	4009	4782	4847	5227
.v:SP NR	333	131	349	280	501
.x:no difficulty	8863	7738	8447	7792	6050
0.No	155	249	487	406	210
1.Yes	949	756	931	969	633

How Constructed

RwRICAANY indicates whether the respondent receives any informal care for difficulties with instrumental activities of daily living (IADL). The instrumental activities of daily living include preparing meals, grocery shopping, taking medications, and managing money. If the respondent reports having difficulty with an IADL, then they are asked whether someone helps them with that activity. If someone helps with the activity, they are asked for the relationships of up to 12 people in Waves 1 and 2, up to 8 people in Waves 3 and 4, and up to 3 people in Wave 5 who help them with IADLs. The following relationships are

considered to provide informal care: spouse, child, child-in-law, grandchild, parent, other relative, other person.

Please note that for each caregiver, the respondent is asked to report their relationship to the caregiver and the caregiver's roster number, if any. In cases where the reported relationship disagrees with the roster number, the roster number takes precedence in defining the relationship for spouses and children, for which the roster numbers follow clear rules. In cases where the reported relationship is "spouse" but the roster number indicates a non-spouse household member or an individual with no roster number, meaning they are not a child or within the household, the relationship type is changed to "other person". In cases of multiple records with the same caregiver relationship and roster number, we only consider the caregiver with the highest level of care provided to the respondent. In cases of multiple records with the same caregiver relationship and no roster number, we assume all mentions are separate individuals.

RwRICAANY is assigned a value of 0 if the respondent has difficulty with at least one IADL but receives no help with the activity from an informal caregiver, or does not receive any help at all. RwRICAANY is assigned a value of 1 if the respondent has difficulty with at least one IADL and an informal caregiver helps with at least one of the activities. RwRICAANY is assigned special missing value .x if the respondent has no difficulty with any IADLs. Don't know, refused, and other missing responses are assigned special missing values .d, .r, and .m, respectively. RwRICAANY is assigned a blank missing (.) if the respondent did not participate in the current wave.

SwRICAANY indicates whether the respondent's current wave's spouse receives any informal care for difficulties with IADLs, and its values are taken from RwRICAANY. In addition to the special missing codes employed by RwRICAANY, SwRICAANY employs two additional special missing codes. A special missing value .u is used when the respondent does not report being coupled in the current wave. A special missing value .v is used when the respondent reports being coupled in the current wave but their spouse is not interviewed.

## Cross Wave Differences in MHAS

Respondents are allowed to mention up to 12 caregivers in Waves 1 and 2, up to 8 caregivers in Waves 3 and 4, and up to 3 caregivers in Wave 5.

## Differences with the RAND HRS/Harmonized HRS

The HRS has different categories of relationships between the respondent and their caregiver, but these variables have been created to be as comparable as possible.

The HRS IADL list includes using the telephone, which is absent in the MHAS. As such, RwRICAANY in the Harmonized HRS also includes help using the telephone, whereas RwRICAANY in the Harmonized MHAS does not include help using the telephone.

## MHAS Variables Used

### Wave 1:

H26_3	spouse helps with hot meal
H26_4	someone helps with hot meal
H27_3	spouse helps with shopping
H27_4	someone helps with shopping
H28_3	spouse helps with taking medication
H28_4	someone helps with taking medication
H29_3	spouse helps with managing money
H29_4	someone helps with managing money

### Wave 1 Helper:

H32	kinship of helper
H33	roster number of helper
H34	days of help
H35	hours of help

### Wave 2:

H26D	spouse helps
H26E	additional person helps
H27D	spouse helps

H27E	additional person helps
H28D	spouse helps
H28E	additional person helps
H29D	spouse helps
H29E	additional person helps
Wave 2 Helper:	
H32	relationship
H33	registration number
H34	number of days (name) helped last month
H35	how many hours during those days
Wave 3:	
H26C_12	Does anyone help you prepare a hot meal
H27C_12	Does anyone help you shop for groceries
H28C_12	Does anyone help you take medications
H29C_12	Does anyone one help you manage your money
H32_1_12	Relationship with helper for IADLs
H32_2_12	Relationship with helper for IADLs
H32_3_12	Relationship with helper for IADLs
H32_4_12	Relationship with helper for IADLs
H32_5_12	Relationship with helper for IADLs
H32_6_12	Relationship with helper for IADLs
H32_7_12	Relationship with helper for IADLs
H32_8_12	Relationship with helper for IADLs
H33_1_12	Registration number of helper for IADLs
H33_2_12	Registration number of helper for ADLs
H33_3_12	Registration number of helper for IADLs
H33_4_12	Registration number of helper for IADLs
H33_5_12	Registration number of helper for IADLs
H33_6_12	Registration number of helper for IADLs
H33_7_12	Registration number of helper for IADLs
H33_8_12	Registration number of helper for IADLs
Wave 4:	
H26C_15	Does someone help respondent to prepare a hot meal
H27C_15	Does someone help respondent to shop for groceries
H28C_15	Does someone help respondent to take medications
H29C_15	Does someone help respondent to manage his/her money
H32_1_15	Respondent's relationship with person helping with IADL
H32_2_15	Respondent's relationship with person helping with IADL
H32_3_15	Respondent's relationship with person helping with IADL
H32_4_15	Respondent's relationship with person helping with IADL
H32_5_15	Respondent's relationship with person helping with IADL
H32_6_15	Respondent's relationship with person helping with IADL
H32_7_15	Respondent's relationship with person helping with IADL
H32_8_15	Respondent's relationship with person helping with IADL
H33_1_15	Registration number of person helping with IADLs
H33_2_15	Registration number of person helping with IADLs
H33_3_15	Registration number of person helping with IADLs
H33_4_15	Registration number of person helping with IADLs
H33_5_15	Registration number of person helping with IADLs
H33_6_15	Registration number of person helping with IADLs
H33_7_15	Registration number of person helping with IADLs
H33_8_15	Registration number of person helping with IADLs
Wave 5:	
H26C_18	Does someone help R to prepare a hot meal
H27C_18	Does someone help R to shop for groceries
H28C_18	Does someone help R to take medications
H29C_18	Does someone help R to manage his/her money
H32_1_18	R's relationship with person helping with IADLs
H32_2_18	R's relationship with person helping with IADLs
H32_3_18	R's relationship with person helping with IADLs
H33_1_18	Registration number of person helping with IADLs
H33_2_18	Registration number of person helping with IADLs
H33_3_18	Registration number of person helping with IADLs

<b>Instrumental Activities of Daily Living: Receives Informal Care from Spouse</b>
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Wave	Variable	Label	Type
1	R1RISCARE	r1riscare: w1 R receives informal care from spouse for IADLs	Categ
2	R2RISCARE	r2riscare: w2 R receives informal care from spouse for IADLs	Categ
3	R3RISCARE	r3riscare: w3 R receives informal care from spouse for IADLs	Categ
4	R4RISCARE	r4riscare: w4 R receives informal care from spouse for IADLs	Categ
5	R5RISCARE	r5riscare: w5 R receives informal care from spouse for IADLs	Categ
1	S1RISCARE	s1riscare: w1 S receives informal care from spouse for IADLs	Categ
2	S2RISCARE	s2riscare: w2 S receives informal care from spouse for IADLs	Categ
3	S3RISCARE	s3riscare: w3 S receives informal care from spouse for IADLs	Categ
4	S4RISCARE	s4riscare: w4 S receives informal care from spouse for IADLs	Categ
5	S5RISCARE	s5riscare: w5 S receives informal care from spouse for IADLs	Categ
2	R2RISCAREDPM	r2riscaredpm: w2 days/month spouse helps R with IADLs	Cont
3	R3RISCAREDPM	r3riscaredpm: w3 days/month spouse helps R with IADLs	Cont
4	R4RISCAREDPM	r4riscaredpm: w4 days/month spouse helps R with IADLs	Cont
5	R5RISCAREDPM	r5riscaredpm: w5 days/month spouse helps R with IADLs	Cont
2	S2RISCAREDPM	s2riscaredpm: w2 days/month spouse helps S with IADLs	Cont
3	S3RISCAREDPM	s3riscaredpm: w3 days/month spouse helps S with IADLs	Cont
4	S4RISCAREDPM	s4riscaredpm: w4 days/month spouse helps S with IADLs	Cont
5	S5RISCAREDPM	s5riscaredpm: w5 days/month spouse helps S with IADLs	Cont
2	R2RISCAREDPMM	r2riscaredpmm: w2 R # spouse missing days of help for IADLs	Cont
3	R3RISCAREDPMM	r3riscaredpmm: w3 R # spouse missing days of help for IADLs	Cont
4	R4RISCAREDPMM	r4riscaredpmm: w4 R # spouse missing days of help for IADLs	Cont
5	R5RISCAREDPMM	r5riscaredpmm: w5 R # spouse missing days of help for IADLs	Cont
2	S2RISCAREDPMM	s2riscaredpmm: w2 S # spouse missing days of help for IADLs	Cont
3	S3RISCAREDPMM	s3riscaredpmm: w3 S # spouse missing days of help for IADLs	Cont
4	S4RISCAREDPMM	s4riscaredpmm: w4 S # spouse missing days of help for IADLs	Cont
5	S5RISCAREDPMM	s5riscaredpmm: w5 S # spouse missing days of help for IADLs	Cont
2	R2RISCAREHR	r2riscarehr: w2 hours/day spouse helps R with IADLs	Cont
3	R3RISCAREHR	r3riscarehr: w3 hours/day spouse helps R with IADLs	Cont
4	R4RISCAREHR	r4riscarehr: w4 hours/day spouse helps R with IADLs	Cont
5	R5RISCAREHR	r5riscarehr: w5 hours/day spouse helps R with IADLs	Cont
2	S2RISCAREHR	s2riscarehr: w2 hours/day spouse helps S with IADLs	Cont
3	S3RISCAREHR	s3riscarehr: w3 hours/day spouse helps S with IADLs	Cont
4	S4RISCAREHR	s4riscarehr: w4 hours/day spouse helps S with IADLs	Cont
5	S5RISCAREHR	s5riscarehr: w5 hours/day spouse helps S with IADLs	Cont
2	R2RISCAREHRM	r2riscarehrm: w2 R # spouse missing hours of help for IADLs	Cont
3	R3RISCAREHRM	r3riscarehrm: w3 R # spouse missing hours of help for IADLs	Cont
4	R4RISCAREHRM	r4riscarehrm: w4 R # spouse missing hours of help for IADLs	Cont
5	R5RISCAREHRM	r5riscarehrm: w5 R # spouse missing hours of help for IADLs	Cont
2	S2RISCAREHRM	s2riscarehrm: w2 S # spouse missing hours of help for IADLs	Cont
3	S3RISCAREHRM	s3riscarehrm: w3 S # spouse missing hours of help for IADLs	Cont
4	S4RISCAREHRM	s4riscarehrm: w4 S # spouse missing hours of help for IADLs	Cont
5	S5RISCAREHRM	s5riscarehrm: w5 S # spouse missing hours of help for IADLs	Cont

### Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R1RISCARE	1417	0.57	0.50	0.00	1.00
R2RISCARE	1309	0.42	0.49	0.00	1.00

R3RISCARE	1663	0.36	0.48	0.00	1.00
R4RISCARE	1887	0.32	0.47	0.00	1.00
R5RISCARE	1491	0.21	0.41	0.00	1.00
S1RISCARE	950	0.84	0.37	0.00	1.00
S2RISCARE	803	0.68	0.47	0.00	1.00
S3RISCARE	931	0.63	0.48	0.00	1.00
S4RISCARE	969	0.61	0.49	0.00	1.00
S5RISCARE	638	0.39	0.49	0.00	1.00
R2RISCAREDPM	1308	11.00	14.19	0.00	30.00
R3RISCAREDPM	1658	8.78	13.25	0.00	30.00
R4RISCAREDPM	1884	6.95	12.11	0.00	30.00
R5RISCAREDPM	1474	5.27	11.25	0.00	30.00
S2RISCAREDPM	802	17.82	14.30	0.00	30.00
S3RISCAREDPM	927	15.38	14.36	0.00	30.00
S4RISCAREDPM	966	13.24	14.02	0.00	30.00
S5RISCAREDPM	622	9.92	13.92	0.00	30.00
R2RISCAREDPMM	1309	0.00	0.03	0.00	1.00
R3RISCAREDPMM	1663	0.00	0.05	0.00	1.00
R4RISCAREDPMM	1887	0.00	0.04	0.00	1.00
R5RISCAREDPMM	1491	0.01	0.11	0.00	1.00
S2RISCAREDPMM	803	0.00	0.04	0.00	1.00
S3RISCAREDPMM	931	0.00	0.07	0.00	1.00
S4RISCAREDPMM	969	0.00	0.06	0.00	1.00
S5RISCAREDPMM	638	0.03	0.16	0.00	1.00
R2RISCAREHR	1307	1.94	4.00	0.00	24.00
R3RISCAREHR	1648	2.94	6.35	0.00	24.00
R4RISCAREHR	1880	1.44	3.51	0.00	24.00
R5RISCAREHR	1468	1.18	3.81	0.00	24.00
S2RISCAREHR	801	3.13	4.65	0.00	24.00
S3RISCAREHR	917	5.19	7.75	0.00	24.00
S4RISCAREHR	962	2.75	4.45	0.00	24.00
S5RISCAREHR	617	2.39	5.39	0.00	24.00
R2RISCAREHRM	1309	0.00	0.04	0.00	1.00
R3RISCAREHRM	1663	0.01	0.09	0.00	1.00
R4RISCAREHRM	1887	0.00	0.06	0.00	1.00
R5RISCAREHRM	1491	0.02	0.12	0.00	1.00
S2RISCAREHRM	803	0.00	0.05	0.00	1.00
S3RISCAREHRM	931	0.02	0.12	0.00	1.00
S4RISCAREHRM	969	0.01	0.08	0.00	1.00
S5RISCAREHRM	638	0.03	0.18	0.00	1.00

Categorical Variable Codes

Value-----	R1RISCARE	R2RISCARE	R3RISCARE	R4RISCARE	R5RISCARE
.d:DK			1	5	
.h:no help received	267	204	658	605	406
.m:Missing	38	30		40	17
.p:Proxy interview, not asked	1032	1161	1275	929	1328
.r:Refuse	13	1	1	1	12
.x:no difficulty	12419	10999	12125	11312	13860
0.No	607	762	1067	1279	1176
1.Yes	810	547	596	608	315
Value-----	S1RISCARE	S2RISCARE	S3RISCARE	S4RISCARE	S5RISCARE
.d:DK			1	5	
.h:no help received	154	202	487	406	205



.m:Missing		13	6		10	2
.p:Proxy interview, not asked		660	814	726	470	560
.r:Refuse		8	1			6
.u:Unmar		4205	4009	4782	4847	5227
.v:SP NR		333	131	349	280	501
.x:no difficulty		8863	7738	8447	7792	6050
0.No		152	259	349	378	391
1.Yes		798	544	582	591	247

## How Constructed

The following variables indicate whether the respondent's spouse helps the respondent with any IADL needs. The instrumental activities of daily living include preparing meals, grocery shopping, taking medications, and managing money. If the respondent reports having difficulty with an IADL, then they are asked whether someone helps them with that activity. If someone helps with the activity, they are asked for the relationships of up to 12 people in Waves 1 and 2, up to 8 people in Waves 3 and 4, and up to 3 people in Wave 5 who help them with IADLs. The information used to derive these variables is taken from the help files in Waves 1 and 2 and from the individual files in Waves 3 and forward. For each caregiver, the respondent is asked to report their relationship to the caregiver and the caregiver's roster number, if any. In cases where the reported relationship disagrees with the roster number, the roster number takes precedence in defining the relationship for spouses and children, for which the roster numbers follow clear rules. In cases where the reported relationship is "spouse" but the roster number indicates a non-spouse household member or an individual with no roster number, meaning they are not a child or within the household, the relationship type is changed to "other person". In cases of multiple records with the same caregiver relationship and roster number, we only consider the caregiver with the highest level of care provided to the respondent. In cases of multiple records with the same caregiver relationship and no roster number, we assume all mentions are separate individuals.

The following variables are coded as special missing value .x if the respondent reports no difficulty with any IADL, and are coded as special missing value .h if the respondent reports difficulty with an IADL but does not receive any help. Don't know, refused, and other missing responses are assigned special missing values .d, .r, and .m, respectively. These variables are set to plain missing (.) for respondents who did not participate in the current wave.

RwRISCARE, RwRISCAREDPM, RwRISCAREDPMM, RwRISCAREHR, and RwRISCAREHRM include help from the respondent's spouse.

RwRISCARE indicates whether the respondent's spouse helps the respondent with any IADL needs. RwRISCARE is coded as 0 if the respondent receives no assistance from their spouse; and is coded as 1 if the respondent does receive help from their spouse.

RwRISCAREDPM indicates the number of days per month the respondent's spouse helps the respondent with IADL needs. If the respondent reports receiving help every day from their spouse, then a value of 30 is assumed. RwRISCAREDPM is assigned a value of 0 if the respondent did not receive help from their spouse. RwRISCAREDPMM indicates whether no value of days was reported for their spouse helper and so was not accounted for in RwRISCAREDPM. RwRISCAREDPMM is assigned special missing value .m if the respondent was not helped by their spouse. RwRISCAREDPM and RwRISCAREDPMM are not available in wave 1.

RwRISCAREHR indicates the number of hours per day the respondent's spouse helps the respondent with any IADL needs. Respondents are asked, on days their spouse helps with a particular IADL need, how many hours per day their spouse helps. If the respondent reports less than an hour for their spouse, then a 1 is assumed. RwRISCAREHR is assigned a value of 0 if the respondent did not receive help from their spouse. RwRISCAREHRM indicates whether no value of hours was reported for their spouse helper and so was not accounted for in RwRISCAREHR. RwRISCAREHRM is assigned special missing value .m if the respondent was not helped by their spouse. RwRISCAREHR and RwRISCAREHRM are not available in wave 1.

SwRISCARE, SwRISCAREDPM, and SwRISCAREHR indicate whether and the frequency with which the respondent's current wave's spouse receives help from the respondent, and their values are taken from RwRISCARE, RwRISCAREDPM, and RwRISCAREHR. SwRISCAREDPMM and SwRISCAREHRM indicate whether or not a value was reported for the number of days and hours the respondent's current spouse was helped by the respondent and are taken from RwRISCAREDPMM and RwRISCAREHRM. In addition to the special missing codes employed by the respondent variables, the spouse variables employ two additional special missing codes. A special missing value .u is used when the respondent does not report being coupled in the current wave. A special missing value .v is used when the respondent reports being coupled in the current wave but their spouse is not interviewed.

## Cross Wave Differences in MHAS

The respondent is asked the number of days per month and hours per day the respondent receives help from their spouse starting in Wave 2.

Respondents are allowed to mention up to 12 caregivers in Waves 1 and 2, up to 8 caregivers in Waves 3 and 4, and up to 3 caregivers in Wave 5.

## Differences with the RAND HRS/Harmonized HRS

The HRS has different categories of relationships between the respondent and their caregiver, but these variables have been created to be as comparable as possible. These variables in the Harmonized HRS include help provided by the respondent's spouse or former spouse, whereas these variables only include help provided by the respondent's spouse in the Harmonized MHAS.

The HRS IADL list includes using the telephone, which is absent in the MHAS. As such, these variables in the Harmonized HRS also include help using the telephone, whereas in the Harmonized MHAS they do not include help using the telephone.

The HRS asks for up to 6 relationships of people who help with IADLs (preparing meals, grocery shopping, making phone calls, and taking medications), and up to 2 people who help with managing money. The MHAS, in contrast, asks for the relationships of a varying number of people who help with preparing meals, grocery shopping, taking medications, and managing money together.

## MHAS Variables Used

### Wave 1:

H26_3	spouse helps with hot meal
H26_4	someone helps with hot meal
H27_3	spouse helps with shopping
H27_4	someone helps with shopping
H28_3	spouse helps with taking medication
H28_4	someone helps with taking medication
H29_3	spouse helps with managing money
H29_4	someone helps with managing money

### Wave 2:

H26D	spouse helps
H26E	additional person helps
H27D	spouse helps
H27E	additional person helps
H28D	spouse helps
H28E	additional person helps
H29D	spouse helps
H29E	additional person helps

### Wave 3:

H26C_12	Does anyone help you prepare a hot meal
H27C_12	Does anyone help you shop for groceries
H28C_12	Does anyone help you take medications
H29C_12	Does anyone one help you manage your money
H32_1_12	Relationship with helper for IADLs
H32_2_12	Relationship with helper for IADLs
H32_3_12	Relationship with helper for IADLs
H32_4_12	Relationship with helper for IADLs
H32_5_12	Relationship with helper for IADLs
H32_6_12	Relationship with helper for IADLs
H32_7_12	Relationship with helper for IADLs
H32_8_12	Relationship with helper for IADLs
H33_1_12	Registration number of helper for IADLs
H33_2_12	Registration number of helper for ADLs
H33_3_12	Registration number of helper for IADLs
H33_4_12	Registration number of helper for IADLs
H33_5_12	Registration number of helper for IADLs

H33_6_12	Registration number of helper for IADLs
H33_7_12	Registration number of helper for IADLs
H33_8_12	Registration number of helper for IADLs
H34_1_12	Number of days (name) helped last month
H34_2_12	Number of days (name) helped last month
H34_3_12	Number of days (name) helped last month
H34_4_12	Number of days (name) helped last month
H34_5_12	Number of days (name) helped last month
H34_6_12	Number of days (name) helped last month
H34_7_12	Number of days (name) helped last month
H34_8_12	Number of days (name) helped last month
H35_1_12	Number of hours during those days (NAME) helped
H35_2_12	Number of hours during those days (NAME) helped
H35_3_12	Number of hours during those days (NAME) helped
H35_4_12	Number of hours during those days (NAME) helped
H35_5_12	Number of hours during those days (NAME) helped
H35_6_12	Number of hours during those days (NAME) helped
H35_7_12	Number of hours during those days (NAME) helped
H35_8_12	Number of hours during those days (NAME) helped

## Wave 4:

H26C_15	Does someone help respondent to prepare a hot meal
H27C_15	Does someone help respondent to shop for groceries
H28C_15	Does someone help respondent to take medications
H29C_15	Does someone help respondent to manage his/her money
H32_1_15	Respondent's relationship with person helping with IADL
H32_2_15	Respondent's relationship with person helping with IADL
H32_3_15	Respondent's relationship with person helping with IADL
H32_4_15	Respondent's relationship with person helping with IADL
H32_5_15	Respondent's relationship with person helping with IADL
H32_6_15	Respondent's relationship with person helping with IADL
H32_7_15	Respondent's relationship with person helping with IADL
H32_8_15	Respondent's relationship with person helping with IADL
H33_1_15	Registration number of person helping with IADLs
H33_2_15	Registration number of person helping with IADLs
H33_3_15	Registration number of person helping with IADLs
H33_4_15	Registration number of person helping with IADLs
H33_5_15	Registration number of person helping with IADLs
H33_6_15	Registration number of person helping with IADLs
H33_7_15	Registration number of person helping with IADLs
H33_8_15	Registration number of person helping with IADLs
H34_1_15	Number of days the person helped during last month
H34_2_15	Number of days the person helped during last month
H34_3_15	Number of days the person helped during last month
H34_4_15	Number of days the person helped during last month
H34_5_15	Number of days the person helped during last month
H34_6_15	Number of days the person helped during last month
H34_7_15	Number of days the person helped during last month
H34_8_15	Number of days the person helped during last month
H35_1_15	Number of hours during those days that the person helps
H35_2_15	Number of hours during those days that the person helps
H35_3_15	Number of hours during those days that the person helps
H35_4_15	Number of hours during those days that the person helps
H35_5_15	Number of hours during those days that the person helps
H35_6_15	Number of hours during those days that the person helps
H35_7_15	Number of hours during those days that the person helps
H35_8_15	Number of hours during those days that the person helps

## Wave 5:

H26C_18	Does someone help R to prepare a hot meal
H27C_18	Does someone help R to shop for groceries
H28C_18	Does someone help R to take medications
H29C_18	Does someone help R to manage his/her money
H32_1_18	R's relationship with person helping with IADLs
H32_2_18	R's relationship with person helping with IADLs
H32_3_18	R's relationship with person helping with IADLs

H33_1_18	Registration number of person helping with IADLs
H33_2_18	Registration number of person helping with IADLs
H33_3_18	Registration number of person helping with IADLs
H34_1_18	Number of days the person helped during last month
H34_2_18	Number of days the person helped during last month
H34_3_18	Number of days the person helped during last month
H35_1_18	Number of hours during those days that the person helps
H35_2_18	Number of hours during those days that the person helps
H35_3_18	Number of hours during those days that the person helps

<b>Instrumental Activities of Daily Living: Receives Informal Care from Children or Grandchildren</b>
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Wave	Variable	Label	Type
1	R1RICCARE	r1riccare: w1 R receives informal care from kids/grandkids f	Categ
2	R2RICCARE	r2riccare: w2 R receives informal care from kids/grandkids f	Categ
3	R3RICCARE	r3riccare: w3 R receives informal care from kids/grandkids f	Categ
4	R4RICCARE	r4riccare: w4 R receives informal care from kids/grandkids f	Categ
5	R5RICCARE	r5riccare: w5 R receives informal care from kids/grandkids f	Categ
1	S1RICCARE	s1riccare: w1 S receives informal care from kids/grandkids f	Categ
2	S2RICCARE	s2riccare: w2 S receives informal care from kids/grandkids f	Categ
3	S3RICCARE	s3riccare: w3 S receives informal care from kids/grandkids f	Categ
4	S4RICCARE	s4riccare: w4 S receives informal care from kids/grandkids f	Categ
5	S5RICCARE	s5riccare: w5 S receives informal care from kids/grandkids f	Categ
1	R1RICCAREN	r1riccaren: w1 # kids/grandkids who help R with IADLs	Cont
2	R2RICCAREN	r2riccaren: w2 # kids/grandkids who help R with IADLs	Cont
3	R3RICCAREN	r3riccaren: w3 # kids/grandkids who help R with IADLs	Cont
4	R4RICCAREN	r4riccaren: w4 # kids/grandkids who help R with IADLs	Cont
5	R5RICCAREN	r5riccaren: w5 # kids/grandkids who help R with IADLs	Cont
1	S1RICCAREN	s1riccaren: w1 # kids/grandkids who help S with IADLs	Cont
2	S2RICCAREN	s2riccaren: w2 # kids/grandkids who help S with IADLs	Cont
3	S3RICCAREN	s3riccaren: w3 # kids/grandkids who help S with IADLs	Cont
4	S4RICCAREN	s4riccaren: w4 # kids/grandkids who help S with IADLs	Cont
5	S5RICCAREN	s5riccaren: w5 # kids/grandkids who help S with IADLs	Cont
1	R1RICCAREDPM	r1riccaredpm: w1 days/month kids/grandkids help R with IADLs	Cont
2	R2RICCAREDPM	r2riccaredpm: w2 days/month kids/grandkids help R with IADLs	Cont
3	R3RICCAREDPM	r3riccaredpm: w3 days/month kids/grandkids help R with IADLs	Cont
4	R4RICCAREDPM	r4riccaredpm: w4 days/month kids/grandkids help R with IADLs	Cont
5	R5RICCAREDPM	r5riccaredpm: w5 days/month kids/grandkids help R with IADLs	Cont
1	S1RICCAREDPM	s1riccaredpm: w1 days/month kids/grandkids help S with IADLs	Cont
2	S2RICCAREDPM	s2riccaredpm: w2 days/month kids/grandkids help S with IADLs	Cont
3	S3RICCAREDPM	s3riccaredpm: w3 days/month kids/grandkids help S with IADLs	Cont
4	S4RICCAREDPM	s4riccaredpm: w4 days/month kids/grandkids help S with IADLs	Cont
5	S5RICCAREDPM	s5riccaredpm: w5 days/month kids/grandkids help S with IADLs	Cont
1	R1RICCAREDPMM	r1riccaredpmm: w1 R # kids/grandkids missing days of help fo	Cont
2	R2RICCAREDPMM	r2riccaredpmm: w2 R # kids/grandkids missing days of help fo	Cont
3	R3RICCAREDPMM	r3riccaredpmm: w3 R # kids/grandkids missing days of help fo	Cont
4	R4RICCAREDPMM	r4riccaredpmm: w4 R # kids/grandkids missing days of help fo	Cont
1	S1RICCAREDPMM	s1riccaredpmm: w1 S # kids/grandkids missing days of help fo	Cont
2	S2RICCAREDPMM	s2riccaredpmm: w2 S # kids/grandkids missing days of help fo	Cont
3	S3RICCAREDPMM	s3riccaredpmm: w3 S # kids/grandkids missing days of help fo	Cont
4	S4RICCAREDPMM	s4riccaredpmm: w4 S # kids/grandkids missing days of help fo	Cont
5	S5RICCAREDPMM	s5riccaredpmm: w5 S # kids/grandkids missing days of help fo	Cont
1	R1RICCAREHR	r1riccarehr: w1 hours/day kids/grandkids help R with IADLs	Cont
2	R2RICCAREHR	r2riccarehr: w2 hours/day kids/grandkids help R with IADLs	Cont
3	R3RICCAREHR	r3riccarehr: w3 hours/day kids/grandkids help R with IADLs	Cont
4	R4RICCAREHR	r4riccarehr: w4 hours/day kids/grandkids help R with IADLs	Cont
5	R5RICCAREHR	r5riccarehr: w5 hours/day kids/grandkids help R with IADLs	Cont
1	S1RICCAREHR	s1riccarehr: w1 hours/day kids/grandkids help S with IADLs	Cont
2	S2RICCAREHR	s2riccarehr: w2 hours/day kids/grandkids help S with IADLs	Cont
3	S3RICCAREHR	s3riccarehr: w3 hours/day kids/grandkids help S with IADLs	Cont
4	S4RICCAREHR	s4riccarehr: w4 hours/day kids/grandkids help S with IADLs	Cont
5	S5RICCAREHR	s5riccarehr: w5 hours/day kids/grandkids help S with IADLs	Cont

1	R1RICCAREHRM	r1riccarehrm: w1	R # kids/grandkids	missing hours of help fo	Cont
2	R2RICCAREHRM	r2riccarehrm: w2	R # kids/grandkids	missing hours of help fo	Cont
3	R3RICCAREHRM	r3riccarehrm: w3	R # kids/grandkids	missing hours of help fo	Cont
4	R4RICCAREHRM	r4riccarehrm: w4	R # kids/grandkids	missing hours of help fo	Cont
5	R5RICCAREHRM	r5riccarehrm: w5	R # kids/grandkids	missing hours of help fo	Cont
1	S1RICCAREHRM	s1riccarehrm: w1	S # kids/grandkids	missing hours of help fo	Cont
2	S2RICCAREHRM	s2riccarehrm: w2	S # kids/grandkids	missing hours of help fo	Cont
3	S3RICCAREHRM	s3riccarehrm: w3	S # kids/grandkids	missing hours of help fo	Cont
4	S4RICCAREHRM	s4riccarehrm: w4	S # kids/grandkids	missing hours of help fo	Cont
5	S5RICCAREHRM	s5riccarehrm: w5	S # kids/grandkids	missing hours of help fo	Cont

## Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R1RICCARE	1417	0.48	0.50	0.00	1.00
R2RICCARE	1309	0.56	0.50	0.00	1.00
R3RICCARE	1663	0.60	0.49	0.00	1.00
R4RICCARE	1887	0.65	0.48	0.00	1.00
R5RICCARE	1491	0.67	0.47	0.00	1.00
S1RICCARE	950	0.32	0.47	0.00	1.00
S2RICCARE	803	0.39	0.49	0.00	1.00
S3RICCARE	931	0.41	0.49	0.00	1.00
S4RICCARE	969	0.45	0.50	0.00	1.00
S5RICCARE	638	0.55	0.50	0.00	1.00
R1RICCAREN	1417	0.66	0.86	0.00	6.00
R2RICCAREN	1309	0.76	0.90	0.00	9.00
R3RICCAREN	1663	0.73	0.74	0.00	6.00
R4RICCAREN	1887	0.82	0.77	0.00	7.00
R5RICCAREN	1491	0.85	0.77	0.00	3.00
S1RICCAREN	950	0.47	0.84	0.00	6.00
S2RICCAREN	803	0.55	0.84	0.00	7.00
S3RICCAREN	931	0.53	0.77	0.00	5.00
S4RICCAREN	969	0.58	0.77	0.00	7.00
S5RICCAREN	638	0.67	0.73	0.00	3.00
R1RICCAREDPM	1417	14.78	22.01	0.00	180.00
R2RICCAREDPM	1308	17.42	22.56	0.00	180.00
R3RICCAREDPM	1652	14.20	17.92	0.00	135.00
R4RICCAREDPM	1883	14.36	18.47	0.00	210.00
R5RICCAREDPM	1464	18.27	20.09	0.00	90.00
S1RICCAREDPM	950	10.18	21.07	0.00	180.00
S2RICCAREDPM	803	12.20	20.71	0.00	158.00
S3RICCAREDPM	926	9.12	16.01	0.00	135.00
S4RICCAREDPM	966	9.35	15.32	0.00	120.00
S5RICCAREDPM	629	13.99	18.42	0.00	90.00
R1RICCAREDPMM	1417	0.00	0.00	0.00	0.00
R2RICCAREDPMM	1309	0.00	0.03	0.00	1.00
R3RICCAREDPMM	1663	0.01	0.10	0.00	2.00
R4RICCAREDPMM	1887	0.00	0.07	0.00	2.00
S1RICCAREDPMM	950	0.00	0.00	0.00	0.00
S2RICCAREDPMM	803	0.00	0.00	0.00	0.00
S3RICCAREDPMM	931	0.01	0.09	0.00	1.00
S4RICCAREDPMM	969	0.00	0.06	0.00	1.00
S5RICCAREDPMM	638	0.02	0.18	0.00	3.00
R1RICCAREHR	1417	2.62	4.91	0.00	48.00

R2RICCAREHR	1308	3.34	8.45	0.00	216.00
R3RICCAREHR	1651	4.66	7.65	0.00	75.00
R4RICCAREHR	1881	3.43	6.20	0.00	168.00
R5RICCAREHR	1453	4.06	6.41	0.00	48.00
S1RICCAREHR	950	1.56	3.73	0.00	36.00
S2RICCAREHR	803	1.90	4.39	0.00	44.00
S3RICCAREHR	924	2.79	6.31	0.00	75.00
S4RICCAREHR	968	2.16	4.01	0.00	28.00
S5RICCAREHR	629	3.02	5.58	0.00	36.00
R1RICCAREHRM	1417	0.00	0.00	0.00	0.00
R2RICCAREHRM	1309	0.00	0.03	0.00	1.00
R3RICCAREHRM	1663	0.01	0.10	0.00	2.00
R4RICCAREHRM	1887	0.01	0.11	0.00	4.00
R5RICCAREHRM	1491	0.04	0.22	0.00	3.00
S1RICCAREHRM	950	0.00	0.00	0.00	0.00
S2RICCAREHRM	803	0.00	0.00	0.00	0.00
S3RICCAREHRM	931	0.01	0.09	0.00	1.00
S4RICCAREHRM	969	0.00	0.05	0.00	1.00
S5RICCAREHRM	638	0.02	0.17	0.00	3.00

## Categorical Variable Codes

Value-----	R1RICCARE	R2RICCARE	R3RICCARE	R4RICCARE	R5RICCARE
.d:DK			1	5	
.h:no help received	267	204	658	605	406
.m:Missing	38	30		40	17
.p:Proxy interview, not asked	1032	1161	1275	929	1328
.r:Refuse	13	1	1	1	12
.x:no difficulty	12419	10999	12125	11312	13860
0.No	736	582	670	661	494
1.Yes	681	727	993	1226	997

Value-----	S1RICCARE	S2RICCARE	S3RICCARE	S4RICCARE	S5RICCARE
.d:DK			1	5	
.h:no help received	154	202	487	406	205
.m:Missing	13	6		10	2
.p:Proxy interview, not asked	660	814	726	470	560
.r:Refuse	8	1			6
.u:Unmar	4205	4009	4782	4847	5227
.v:SP NR	333	131	349	280	501
.x:no difficulty	8863	7738	8447	7792	6050
0.No	646	488	548	532	289
1.Yes	304	315	383	437	349

## How Constructed

The following variables indicate whether the respondent's children or grandchildren help the respondent with any IADL needs. The instrumental activities of daily living include preparing meals, grocery shopping, taking medications, and managing money. If the respondent reports having difficulty with an IADL, then they are asked whether someone helps them with that activity. If someone helps with the activity, they are asked for the relationships of up to 12 people in Waves 1 and 2, up to 8 people in Waves 3 and 4, and up to 3 people in Wave 5 who help them with IADLs. The information used to derive these variables is taken from the help files in Waves 1 and 2 and from the individual files in Waves 3 and forward. For each caregiver, the respondent is asked to report their relationship to the caregiver and the caregiver's roster number, if any. In cases where the reported relationship disagrees with the roster number, the roster number takes precedence in defining the relationship for spouses and children, for which the roster numbers follow clear rules. In cases where the reported relationship is "spouse" but the roster number indicates a non-spouse household member or an individual with no roster number, meaning they are not a child or within the household, the relationship type is changed to "other person". In cases of multiple records with the same caregiver relationship and roster number, we only consider the caregiver with the highest level of care provided to the respondent. In cases of multiple records with the same caregiver relationship and no roster number, we assume all mentions are separate individuals.

The following variables are coded as special missing value .x if the respondent reports no difficulty with any IADL, and are coded as special missing value .h if the respondent reports difficulty with an IADL but does not receive any help. Don't know, refused, or other missing responses are assigned special missing values .d, .r, and .m, respectively. These variables are set to plain missing (.) for respondents who did not participate in the current wave.

RwRICCARE, RwRICCAREN, RwRICCAREDPM, RwRICCAREDPMM, RwRICCAREHR, and RwRICCAREHRM include help from a child, child-in-law, or grandchild.

RwRICCARE indicates whether any of the respondent's children or grandchildren help the respondent with IADL needs. RwRICCAREN indicates the number of the respondent's children or grandchildren who help the respondent with IADL needs. RwRICCARE is coded as 0 if none of the respondent's children or grandchildren help the respondent with IADLs; and is coded as 1 if at least one of the respondent's children or grandchildren help the respondent with IADLs.

RwRICCAREDPM indicates the number of total days per month the respondent's children or grandchildren help the respondent with IADL needs. If the respondent reports receiving help every day from that child or grandchild, then a value of 30 is assumed. RwRICCAREDPM is the sum of days per month for all children or grandchildren helpers, and so values can be over 30 days. RwRICCAREDPM is calculated as long as there is one non-missing value. RwRICCAREDPM is assigned a value of 0 if the respondent did not receive help from any children or grandchildren. RwRICCAREDPMM indicates the number of children or grandchildren who helped the respondent for whom no value of days was reported and was not accounted for in RwRICCAREDPM. RwRICCAREDPMM is assigned special missing value .m if the respondent was not helped by any children or grandchildren.

RwRICCAREHR indicates the number of hours per day the respondent's children or grandchildren help the respondent with IADL needs. Respondents are asked, on days their children or grandchildren help, how many hours per day that is. If the respondent reports less than an hour for that child or grandchild, then a 1 is assumed. RwRICCAREHR is the sum of hours per day for all children or grandchildren helpers, and so values can be over 24 hours. RwRICCAREHR is calculated as long as there is one non-missing value. RwRICCAREHR is assigned a value of 0 if the respondent did not receive help from any children or grandchildren. RwRICCAREHRM indicates the number of children or grandchildren who helped the respondent for whom no value of hours was reported and was not accounted for in RwRICCAREHR. RwRICCAREHRM is assigned special missing value .m if the respondent was not helped by any children or grandchildren.

SwRICCARE, SwRICCAREN, SwRICCAREDPM, and SwRICCAREHR indicate whether the respondent's current wave's spouse receives help from children or grandchildren, the number, and the frequency with which, and their values are taken from RwRICCARE, RwRICCAREN, RwRICCAREDPM, and RwRICCAREHR. SwRICCAREDPMM and SwRICCAREHRM indicate the number of children who helped the respondent's current spouse for whom a value was not reported for the number of days and hours and are taken from RwRICCAREDPMM and RwRICCAREHRM. In addition to the special missing codes employed by the respondent variables, the spouse variables employ two additional special missing codes. A special missing value .u is used when the respondent does not report being coupled in the current wave. A special missing value .v is used when the respondent reports being coupled in the current wave but their spouse is not interviewed.

## Cross Wave Differences in MHAS

Respondents are allowed to mention up to 12 caregivers in Waves 1 and 2, up to 8 caregivers in Waves 3 and 4, and up to 3 caregivers in Wave 5.

## Differences with the RAND HRS/Harmonized HRS

The HRS has different categories of relationships between the respondent and their caregiver, but these variables have been created to be as comparable as possible.

The HRS IADL list includes using the telephone, which is absent in the MHAS. As such, these variables in the Harmonized HRS also include help using the telephone, whereas in the Harmonized MHAS they do not include help using the telephone.

The HRS asks for up to 6 relationships of people who help with IADLs (preparing meals, grocery shopping, making phone calls, and taking medications), and up to 2 people who help with managing money. The MHAS, in contrast, asks for the relationships of a varying number of people who help with preparing meals, grocery shopping, taking medications, and managing money together.



**MHAS Variables Used****Wave 1:**

H26_3	spouse helps with hot meal
H26_4	someone helps with hot meal
H27_3	spouse helps with shopping
H27_4	someone helps with shopping
H28_3	spouse helps with taking medication
H28_4	someone helps with taking medication
H29_3	spouse helps with managing money
H29_4	someone helps with managing money

**Wave 2:**

H26D	spouse helps
H26E	additional person helps
H27D	spouse helps
H27E	additional person helps
H28D	spouse helps
H28E	additional person helps
H29D	spouse helps
H29E	additional person helps

**Wave 3:**

H26C_12	Does anyone help you prepare a hot meal
H27C_12	Does anyone help you shop for groceries
H28C_12	Does anyone help you take medications
H29C_12	Does anyone one help you manage your money
H32_1_12	Relationship with helper for IADLs
H32_2_12	Relationship with helper for IADLs
H32_3_12	Relationship with helper for IADLs
H32_4_12	Relationship with helper for IADLs
H32_5_12	Relationship with helper for IADLs
H32_6_12	Relationship with helper for IADLs
H32_7_12	Relationship with helper for IADLs
H32_8_12	Relationship with helper for IADLs
H33_1_12	Registration number of helper for IADLs
H33_2_12	Registration number of helper for ADLs
H33_3_12	Registration number of helper for IADLs
H33_4_12	Registration number of helper for IADLs
H33_5_12	Registration number of helper for IADLs
H33_6_12	Registration number of helper for IADLs
H33_7_12	Registration number of helper for IADLs
H33_8_12	Registration number of helper for IADLs
H34_1_12	Number of days (name) helped last month
H34_2_12	Number of days (name) helped last month
H34_3_12	Number of days (name) helped last month
H34_4_12	Number of days (name) helped last month
H34_5_12	Number of days (name) helped last month
H34_6_12	Number of days (name) helped last month
H34_7_12	Number of days (name) helped last month
H34_8_12	Number of days (name) helped last month
H35_1_12	Number of hours during those days (NAME) helped
H35_2_12	Number of hours during those days (NAME) helped
H35_3_12	Number of hours during those days (NAME) helped
H35_4_12	Number of hours during those days (NAME) helped
H35_5_12	Number of hours during those days (NAME) helped
H35_6_12	Number of hours during those days (NAME) helped
H35_7_12	Number of hours during those days (NAME) helped
H35_8_12	Number of hours during those days (NAME) helped

**Wave 4:**

H26C_15	Does someone help respondent to prepare a hot meal
H27C_15	Does someone help respondent to shop for groceries
H28C_15	Does someone help respondent to take medications
H29C_15	Does someone help respondent to manage his/her money
H32_1_15	Respondent's relationship with person helping with IADL

H32_2_15	Respondent's relationship with person helping with IADL
H32_3_15	Respondent's relationship with person helping with IADL
H32_4_15	Respondent's relationship with person helping with IADL
H32_5_15	Respondent's relationship with person helping with IADL
H32_6_15	Respondent's relationship with person helping with IADL
H32_7_15	Respondent's relationship with person helping with IADL
H32_8_15	Respondent's relationship with person helping with IADL
H33_1_15	Registration number of person helping with IADLs
H33_2_15	Registration number of person helping with IADLs
H33_3_15	Registration number of person helping with IADLs
H33_4_15	Registration number of person helping with IADLs
H33_5_15	Registration number of person helping with IADLs
H33_6_15	Registration number of person helping with IADLs
H33_7_15	Registration number of person helping with IADLs
H33_8_15	Registration number of person helping with IADLs
H34_1_15	Number of days the person helped during last month
H34_2_15	Number of days the person helped during last month
H34_3_15	Number of days the person helped during last month
H34_4_15	Number of days the person helped during last month
H34_5_15	Number of days the person helped during last month
H34_6_15	Number of days the person helped during last month
H34_7_15	Number of days the person helped during last month
H34_8_15	Number of days the person helped during last month
H35_1_15	Number of hours during those days that the person helps
H35_2_15	Number of hours during those days that the person helps
H35_3_15	Number of hours during those days that the person helps
H35_4_15	Number of hours during those days that the person helps
H35_5_15	Number of hours during those days that the person helps
H35_6_15	Number of hours during those days that the person helps
H35_7_15	Number of hours during those days that the person helps
H35_8_15	Number of hours during those days that the person helps

## Wave 5:

H26C_18	Does someone help R to prepare a hot meal
H27C_18	Does someone help R to shop for groceries
H28C_18	Does someone help R to take medications
H29C_18	Does someone help R to manage his/her money
H32_1_18	R's relationship with person helping with IADLs
H32_2_18	R's relationship with person helping with IADLs
H32_3_18	R's relationship with person helping with IADLs
H33_1_18	Registration number of person helping with IADLs
H33_2_18	Registration number of person helping with IADLs
H33_3_18	Registration number of person helping with IADLs
H34_1_18	Number of days the person helped during last month
H34_2_18	Number of days the person helped during last month
H34_3_18	Number of days the person helped during last month
H35_1_18	Number of hours during those days that the person helps
H35_2_18	Number of hours during those days that the person helps
H35_3_18	Number of hours during those days that the person helps

<b>Instrumental Activities of Daily Living: Receives Informal Care from Relatives</b>
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Wave	Variable	Label	Type
1	R1RIRCARE	r1rircare: w1 R receives informal care from relatives for IA	Categ
2	R2RIRCARE	r2rircare: w2 R receives informal care from relatives for IA	Categ
3	R3RIRCARE	r3rircare: w3 R receives informal care from relatives for IA	Categ
4	R4RIRCARE	r4rircare: w4 R receives informal care from relatives for IA	Categ
5	R5RIRCARE	r5rircare: w5 R receives informal care from relatives for IA	Categ
1	S1RIRCARE	s1rircare: w1 S receives informal care from relatives for IA	Categ
2	S2RIRCARE	s2rircare: w2 S receives informal care from relatives for IA	Categ
3	S3RIRCARE	s3rircare: w3 S receives informal care from relatives for IA	Categ
4	S4RIRCARE	s4rircare: w4 S receives informal care from relatives for IA	Categ
5	S5RIRCARE	s5rircare: w5 S receives informal care from relatives for IA	Categ
1	R1RIRCAREN	r1rircaren: w1 # relatives who help R with IADLs	Cont
2	R2RIRCAREN	r2rircaren: w2 # relatives who help R with IADLs	Cont
3	R3RIRCAREN	r3rircaren: w3 # relatives who help R with IADLs	Cont
4	R4RIRCAREN	r4rircaren: w4 # relatives who help R with IADLs	Cont
5	R5RIRCAREN	r5rircaren: w5 # relatives who help R with IADLs	Cont
1	S1RIRCAREN	s1rircaren: w1 # relatives who help S with IADLs	Cont
2	S2RIRCAREN	s2rircaren: w2 # relatives who help S with IADLs	Cont
3	S3RIRCAREN	s3rircaren: w3 # relatives who help S with IADLs	Cont
4	S4RIRCAREN	s4rircaren: w4 # relatives who help S with IADLs	Cont
5	S5RIRCAREN	s5rircaren: w5 # relatives who help S with IADLs	Cont
1	R1RIRCAREDPM	r1rircaredpm: w1 days/month relatives help R with IADLs	Cont
2	R2RIRCAREDPM	r2rircaredpm: w2 days/month relatives help R with IADLs	Cont
3	R3RIRCAREDPM	r3rircaredpm: w3 days/month relatives help R with IADLs	Cont
4	R4RIRCAREDPM	r4rircaredpm: w4 days/month relatives help R with IADLs	Cont
5	R5RIRCAREDPM	r5rircaredpm: w5 days/month relatives help R with IADLs	Cont
1	S1RIRCAREDPM	s1rircaredpm: w1 days/month relatives help S with IADLs	Cont
2	S2RIRCAREDPM	s2rircaredpm: w2 days/month relatives help S with IADLs	Cont
3	S3RIRCAREDPM	s3rircaredpm: w3 days/month relatives help S with IADLs	Cont
4	S4RIRCAREDPM	s4rircaredpm: w4 days/month relatives help S with IADLs	Cont
5	S5RIRCAREDPM	s5rircaredpm: w5 days/month relatives help S with IADLs	Cont
1	R1RIRCAREDPMM	r1rircaredpmm: w1 R # relatives missing days of help for IAD	Cont
2	R2RIRCAREDPMM	r2rircaredpmm: w2 R # relatives missing days of help for IAD	Cont
3	R3RIRCAREDPMM	r3rircaredpmm: w3 R # relatives missing days of help for IAD	Cont
4	R4RIRCAREDPMM	r4rircaredpmm: w4 R # relatives missing days of help for IAD	Cont
5	R5RIRCAREDPMM	r5rircaredpmm: w5 R # relatives missing days of help for IAD	Cont
1	S1RIRCAREDPMM	s1rircaredpmm: w1 S # relatives missing days of help for IAD	Cont
2	S2RIRCAREDPMM	s2rircaredpmm: w2 S # relatives missing days of help for IAD	Cont
3	S3RIRCAREDPMM	s3rircaredpmm: w3 S # relatives missing days of help for IAD	Cont
4	S4RIRCAREDPMM	s4rircaredpmm: w4 S # relatives missing days of help for IAD	Cont
5	S5RIRCAREDPMM	s5rircaredpmm: w5 S # relatives missing days of help for IAD	Cont
1	R1RIRCAREHR	r1rircarehr: w1 hours/day relatives help R with IADLs	Cont
2	R2RIRCAREHR	r2rircarehr: w2 hours/day relatives help R with IADLs	Cont
3	R3RIRCAREHR	r3rircarehr: w3 hours/day relatives help R with IADLs	Cont
4	R4RIRCAREHR	r4rircarehr: w4 hours/day relatives help R with IADLs	Cont
5	R5RIRCAREHR	r5rircarehr: w5 hours/day relatives help R with IADLs	Cont
1	S1RIRCAREHR	s1rircarehr: w1 hours/day relatives help S with IADLs	Cont
2	S2RIRCAREHR	s2rircarehr: w2 hours/day relatives help S with IADLs	Cont
3	S3RIRCAREHR	s3rircarehr: w3 hours/day relatives help S with IADLs	Cont
4	S4RIRCAREHR	s4rircarehr: w4 hours/day relatives help S with IADLs	Cont
5	S5RIRCAREHR	s5rircarehr: w5 hours/day relatives help S with IADLs	Cont

1	R1RIRCAREHRM	r1rircarehrm: w1	R #	relatives missing hours of help for IAD	Cont
2	R2RIRCAREHRM	r2rircarehrm: w2	R #	relatives missing hours of help for IAD	Cont
3	R3RIRCAREHRM	r3rircarehrm: w3	R #	relatives missing hours of help for IAD	Cont
4	R4RIRCAREHRM	r4rircarehrm: w4	R #	relatives missing hours of help for IAD	Cont
5	R5RIRCAREHRM	r5rircarehrm: w5	R #	relatives missing hours of help for IAD	Cont
1	S1RIRCAREHRM	s1rircarehrm: w1	S #	relatives missing hours of help for IAD	Cont
2	S2RIRCAREHRM	s2rircarehrm: w2	S #	relatives missing hours of help for IAD	Cont
3	S3RIRCAREHRM	s3rircarehrm: w3	S #	relatives missing hours of help for IAD	Cont
4	S4RIRCAREHRM	s4rircarehrm: w4	S #	relatives missing hours of help for IAD	Cont
5	S5RIRCAREHRM	s5rircarehrm: w5	S #	relatives missing hours of help for IAD	Cont

## Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R1RIRCARE	1417	0.04	0.19	0.00	1.00
R2RIRCARE	1309	0.05	0.21	0.00	1.00
R3RIRCARE	1663	0.04	0.20	0.00	1.00
R4RIRCARE	1887	0.04	0.19	0.00	1.00
R5RIRCARE	1491	0.05	0.21	0.00	1.00
S1RIRCARE	950	0.01	0.12	0.00	1.00
S2RIRCARE	803	0.01	0.09	0.00	1.00
S3RIRCARE	931	0.01	0.11	0.00	1.00
S4RIRCARE	969	0.01	0.08	0.00	1.00
S5RIRCARE	638	0.01	0.10	0.00	1.00
R1RIRCAREN	1417	0.04	0.24	0.00	3.00
R2RIRCAREN	1309	0.06	0.27	0.00	3.00
R3RIRCAREN	1663	0.05	0.25	0.00	4.00
R4RIRCAREN	1887	0.04	0.24	0.00	3.00
R5RIRCAREN	1491	0.05	0.26	0.00	3.00
S1RIRCAREN	950	0.02	0.14	0.00	2.00
S2RIRCAREN	803	0.01	0.09	0.00	1.00
S3RIRCAREN	931	0.01	0.13	0.00	2.00
S4RIRCAREN	969	0.01	0.10	0.00	2.00
S5RIRCAREN	638	0.01	0.15	0.00	3.00
R1RIRCAREDPM	1417	0.95	5.99	0.00	90.00
R2RIRCAREDPM	1309	1.42	7.44	0.00	90.00
R3RIRCAREDPM	1663	0.90	5.67	0.00	90.00
R4RIRCAREDPM	1886	0.84	5.53	0.00	90.00
R5RIRCAREDPM	1491	1.04	5.72	0.00	72.00
S1RIRCAREDPM	950	0.36	3.57	0.00	60.00
S2RIRCAREDPM	803	0.16	1.95	0.00	30.00
S3RIRCAREDPM	931	0.28	3.05	0.00	60.00
S4RIRCAREDPM	969	0.17	2.56	0.00	60.00
S5RIRCAREDPM	638	0.08	1.23	0.00	30.00
R1RIRCAREDPMM	1417	0.00	0.00	0.00	0.00
R2RIRCAREDPMM	1309	0.00	0.00	0.00	0.00
R3RIRCAREDPMM	1663	0.00	0.00	0.00	0.00
R4RIRCAREDPMM	1887	0.00	0.02	0.00	1.00
R5RIRCAREDPMM	1491	0.00	0.00	0.00	0.00
S1RIRCAREDPMM	950	0.00	0.00	0.00	0.00
S2RIRCAREDPMM	803	0.00	0.00	0.00	0.00
S3RIRCAREDPMM	931	0.00	0.00	0.00	0.00
S4RIRCAREDPMM	969	0.00	0.00	0.00	0.00
S5RIRCAREDPMM	638	0.00	0.00	0.00	0.00

R1RIRCAREHR	1417	0.25	1.89	0.00	25.00
R2RIRCAREHR	1309	0.25	1.74	0.00	36.00
R3RIRCAREHR	1660	0.29	2.12	0.00	39.00
R4RIRCAREHR	1886	0.18	1.32	0.00	23.00
R5RIRCAREHR	1490	0.23	1.76	0.00	30.00
S1RIRCAREHR	950	0.17	1.75	0.00	25.00
S2RIRCAREHR	803	0.05	0.55	0.00	10.00
S3RIRCAREHR	931	0.12	1.46	0.00	24.00
S4RIRCAREHR	969	0.05	0.82	0.00	21.00
S5RIRCAREHR	638	0.07	1.24	0.00	30.00
R1RIRCAREHRM	1417	0.00	0.00	0.00	0.00
R2RIRCAREHRM	1309	0.00	0.00	0.00	0.00
R3RIRCAREHRM	1663	0.00	0.04	0.00	1.00
R4RIRCAREHRM	1887	0.00	0.02	0.00	1.00
R5RIRCAREHRM	1491	0.00	0.05	0.00	2.00
S1RIRCAREHRM	950	0.00	0.00	0.00	0.00
S2RIRCAREHRM	803	0.00	0.00	0.00	0.00
S3RIRCAREHRM	931	0.00	0.00	0.00	0.00
S4RIRCAREHRM	969	0.00	0.00	0.00	0.00
S5RIRCAREHRM	638	0.00	0.00	0.00	0.00

## Categorical Variable Codes

Value-----	R1RIRCARE	R2RIRCARE	R3RIRCARE	R4RIRCARE	R5RIRCARE
.d:DK			1	5	
.h:no help received	267	204	658	605	406
.m:Missing	38	30		40	17
.p:Proxy interview, not asked	1032	1161	1275	929	1328
.r:Refuse	13	1	1	1	12
.x:no difficulty	12419	10999	12125	11312	13860
0.No	1364	1246	1596	1820	1421
1.Yes	53	63	67	67	70
Value-----	S1RIRCARE	S2RIRCARE	S3RIRCARE	S4RIRCARE	S5RIRCARE
.d:DK			1	5	
.h:no help received	154	202	487	406	205
.m:Missing	13	6		10	2
.p:Proxy interview, not asked	660	814	726	470	560
.r:Refuse	8	1			6
.u:Unmar	4205	4009	4782	4847	5227
.v:SP NR	333	131	349	280	501
.x:no difficulty	8863	7738	8447	7792	6050
0.No	937	796	919	962	632
1.Yes	13	7	12	7	6

## How Constructed

The following variables indicate whether any of the respondent's relatives help the respondent with any IADL needs. The instrumental activities of daily living include preparing meals, grocery shopping, taking medications, and managing money. If the respondent reports having difficulty with an IADL, then they are asked whether someone helps them with that activity. If someone helps with the activity, they are asked for the relationships of up to 12 people in Waves 1 and 2, up to 8 people in Waves 3 and 4, and up to 3 people in Wave 5 who help them with IADLs. The information used to derive these variables is taken from the help files in Waves 1 and 2 and from the individual files in Waves 3 and forward. For each caregiver, the respondent is asked to report their relationship to the caregiver and the caregiver's roster number, if any. In cases where the reported relationship disagrees with the roster number, the roster number takes precedence in defining the relationship for spouses and children, for which the roster numbers follow clear rules. In cases where the reported relationship is "spouse" but the roster number indicates a non-spouse household member or an individual with no roster number, meaning they are not a child or within the household, the relationship type is changed to "other person". In cases of multiple records with the same caregiver relationship and roster number, we only consider the caregiver with the highest

level of care provided to the respondent. In cases of multiple records with the same caregiver relationship and no roster number, we assume all mentions are separate individuals.

The following variables are coded as special missing value .x if the respondent reports no difficulty with any IADL, and are coded as special missing value .h if the respondent reports difficulty with an IADL but does not receive any help. Don't know, refused, or other missing responses are assigned special missing values .d, .r, and .m, respectively. These variables are set to plain missing (.) for respondents who did not participate in the current wave.

RwRIRCARE, RwRIRCAREN, RwRIRCAREDPM, RwRIRCAREDPMM, RwRIRCAREHR, and RwRIRCAREHRM include help from the respondent's parent or other relative.

RwRIRCARE indicates whether any of the respondent's relatives help the respondent with IADL needs. RwRIRCAREN indicates the number of the respondent's relatives who help the respondent with IADL needs. RwRIRCARE is coded as 0 if none of the respondent's relatives help the respondent with IADLS; and is coded as 1 if at least one of the respondent's relatives help the respondent with IADLS.

RwRIRCAREDPM indicates the number of total days per month the respondent's relatives help the respondent with IADL needs. If the respondent reports receiving help every day from that relative, then a value of 30 is assumed. RwRIRCAREDPM is the sum of days per month for all relative helpers, and so values can be over 30 days. RwRIRCAREDPM is calculated as long as there is one non-missing value. RwRIRCAREDPM is assigned a value of 0 if the respondent did not receive help from any relatives. RwRIRCAREDPMM indicates the number of relatives who helped the respondent for whom no value of days was reported and was not accounted for in RwRIRCAREDPM. RwRIRCAREDPMM is assigned special missing value .m if the respondent was not helped by any relatives.

RwRIRCAREHR indicates the number of hours per day the respondent's relatives help the respondent with IADL needs. Respondents are asked, on days their relatives help, how many hours per day that is. If the respondent reports less than an hour for that relative, then a 1 is assumed. RwRIRCAREHR is the sum of hours per day for all relative helpers, and so values can be over 24 hours. RwRIRCAREHR is calculated as long as there is one non-missing value. RwRIRCAREHR is assigned a value of 0 if the respondent did not receive help from any relatives. RwRIRCAREHRM indicates the number of relatives who helped the respondent for whom no value of hours was reported and was not accounted for in RwRIRCAREHR. RwRIRCAREHRM is assigned special missing value .m if the respondent was not helped by any relatives.

SwRIRCARE, SwRIRCAREN, SwRIRCAREDPM, and SwRIRCAREHR indicate whether the respondent's current wave's spouse receives help from relatives, the number, and the frequency with which, and their values are taken from RwRIRCARE, RwRIRCAREN, RwRIRCAREDPM, and RwRIRCAREHR. SwRIRCAREDPMM and SwRIRCAREHRM indicate the number of relatives who helped the respondent's current spouse for whom a value was not reported for the number of days and hours and are taken from RwRIRCAREDPMM and RwRIRCAREHRM. In addition to the special missing codes employed by the respondent variables, the spouse variables employ two additional special missing codes. A special missing value .u is used when the respondent does not report being coupled in the current wave. A special missing value .v is used when the respondent reports being coupled in the current wave but their spouse is not interviewed.

## Cross Wave Differences in MHAS

Respondents are allowed to mention up to 12 caregivers in Waves 1 and 2, up to 8 caregivers in Waves 3 and 4, and up to 3 caregivers in Wave 5.

## Differences with the RAND HRS/Harmonized HRS

The HRS has different categories of relationships between the respondent and their caregiver, but these variables have been created to be as comparable as possible.

The HRS IADL list includes using the telephone, which is absent in the MHAS. As such, these variables in the Harmonized HRS also include help using the telephone, whereas in the Harmonized MHAS they do not include help using the telephone.

The HRS asks for up to 6 relationships of people who help with IADLS (preparing meals, grocery shopping, making phone calls, and taking medications), and up to 2 people who help with managing money. The MHAS, in contrast, asks for the relationships of a varying number of people who help with preparing meals, grocery shopping, taking medications, and managing money together.

**MHAS Variables Used****Wave 1:**

H26_3	spouse helps with hot meal
H26_4	someone helps with hot meal
H27_3	spouse helps with shopping
H27_4	someone helps with shopping
H28_3	spouse helps with taking medication
H28_4	someone helps with taking medication
H29_3	spouse helps with managing money
H29_4	someone helps with managing money

**Wave 2:**

H26D	spouse helps
H26E	additional person helps
H27D	spouse helps
H27E	additional person helps
H28D	spouse helps
H28E	additional person helps
H29D	spouse helps
H29E	additional person helps

**Wave 3:**

H26C_12	Does anyone help you prepare a hot meal
H27C_12	Does anyone help you shop for groceries
H28C_12	Does anyone help you take medications
H29C_12	Does anyone one help you manage your money
H32_1_12	Relationship with helper for IADLs
H32_2_12	Relationship with helper for IADLs
H32_3_12	Relationship with helper for IADLs
H32_4_12	Relationship with helper for IADLs
H32_5_12	Relationship with helper for IADLs
H32_6_12	Relationship with helper for IADLs
H32_7_12	Relationship with helper for IADLs
H32_8_12	Relationship with helper for IADLs
H33_1_12	Registration number of helper for IADLs
H33_2_12	Registration number of helper for ADLs
H33_3_12	Registration number of helper for IADLs
H33_4_12	Registration number of helper for IADLs
H33_5_12	Registration number of helper for IADLs
H33_6_12	Registration number of helper for IADLs
H33_7_12	Registration number of helper for IADLs
H33_8_12	Registration number of helper for IADLs
H34_1_12	Number of days (name) helped last month
H34_2_12	Number of days (name) helped last month
H34_3_12	Number of days (name) helped last month
H34_4_12	Number of days (name) helped last month
H34_5_12	Number of days (name) helped last month
H34_6_12	Number of days (name) helped last month
H34_7_12	Number of days (name) helped last month
H34_8_12	Number of days (name) helped last month
H35_1_12	Number of hours during those days (NAME) helped
H35_2_12	Number of hours during those days (NAME) helped
H35_3_12	Number of hours during those days (NAME) helped
H35_4_12	Number of hours during those days (NAME) helped
H35_5_12	Number of hours during those days (NAME) helped
H35_6_12	Number of hours during those days (NAME) helped
H35_7_12	Number of hours during those days (NAME) helped
H35_8_12	Number of hours during those days (NAME) helped

**Wave 4:**

H26C_15	Does someone help respondent to prepare a hot meal
H27C_15	Does someone help respondent to shop for groceries
H28C_15	Does someone help respondent to take medications
H29C_15	Does someone help respondent to manage his/her money
H32_1_15	Respondent's relationship with person helping with IADL
H32_2_15	Respondent's relationship with person helping with IADL

H32_3_15	Respondent's relationship with person helping with IADL
H32_4_15	Respondent's relationship with person helping with IADL
H32_5_15	Respondent's relationship with person helping with IADL
H32_6_15	Respondent's relationship with person helping with IADL
H32_7_15	Respondent's relationship with person helping with IADL
H32_8_15	Respondent's relationship with person helping with IADL
H33_1_15	Registration number of person helping with IADLs
H33_2_15	Registration number of person helping with IADLs
H33_3_15	Registration number of person helping with IADLs
H33_4_15	Registration number of person helping with IADLs
H33_5_15	Registration number of person helping with IADLs
H33_6_15	Registration number of person helping with IADLs
H33_7_15	Registration number of person helping with IADLs
H33_8_15	Registration number of person helping with IADLs
H34_1_15	Number of days the person helped during last month
H34_2_15	Number of days the person helped during last month
H34_3_15	Number of days the person helped during last month
H34_4_15	Number of days the person helped during last month
H34_5_15	Number of days the person helped during last month
H34_6_15	Number of days the person helped during last month
H34_7_15	Number of days the person helped during last month
H34_8_15	Number of days the person helped during last month
H35_1_15	Number of hours during those days that the person helps
H35_2_15	Number of hours during those days that the person helps
H35_3_15	Number of hours during those days that the person helps
H35_4_15	Number of hours during those days that the person helps
H35_5_15	Number of hours during those days that the person helps
H35_6_15	Number of hours during those days that the person helps
H35_7_15	Number of hours during those days that the person helps
H35_8_15	Number of hours during those days that the person helps

## Wave 5:

H26C_18	Does someone help R to prepare a hot meal
H27C_18	Does someone help R to shop for groceries
H28C_18	Does someone help R to take medications
H29C_18	Does someone help R to manage his/her money
H32_1_18	R's relationship with person helping with IADLs
H32_2_18	R's relationship with person helping with IADLs
H32_3_18	R's relationship with person helping with IADLs
H33_1_18	Registration number of person helping with IADLs
H33_2_18	Registration number of person helping with IADLs
H33_3_18	Registration number of person helping with IADLs
H34_1_18	Number of days the person helped during last month
H34_2_18	Number of days the person helped during last month
H34_3_18	Number of days the person helped during last month
H35_1_18	Number of hours during those days that the person helps
H35_2_18	Number of hours during those days that the person helps
H35_3_18	Number of hours during those days that the person helps



<b>Instrumental Activities of Daily Living: Receives Informal Care from Other Individuals</b>
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Wave	Variable	Label	Type
1	R1RIFCARE	r1rifcare: w1 R receives informal care from non-relatives fo	Categ
2	R2RIFCARE	r2rifcare: w2 R receives informal care from non-relatives fo	Categ
3	R3RIFCARE	r3rifcare: w3 R receives informal care from non-relatives fo	Categ
4	R4RIFCARE	r4rifcare: w4 R receives informal care from non-relatives fo	Categ
5	R5RIFCARE	r5rifcare: w5 R receives informal care from non-relatives fo	Categ
1	S1RIFCARE	s1rifcare: w1 S receives informal care from non-relatives fo	Categ
2	S2RIFCARE	s2rifcare: w2 S receives informal care from non-relatives fo	Categ
3	S3RIFCARE	s3rifcare: w3 S receives informal care from non-relatives fo	Categ
4	S4RIFCARE	s4rifcare: w4 S receives informal care from non-relatives fo	Categ
5	S5RIFCARE	s5rifcare: w5 S receives informal care from non-relatives fo	Categ
1	R1RIFCAREN	r1rifcaren: w1 # non-relatives who help R with IADLs	Cont
2	R2RIFCAREN	r2rifcaren: w2 # non-relatives who help R with IADLs	Cont
3	R3RIFCAREN	r3rifcaren: w3 # non-relatives who help R with IADLs	Cont
4	R4RIFCAREN	r4rifcaren: w4 # non-relatives who help R with IADLs	Cont
5	R5RIFCAREN	r5rifcaren: w5 # non-relatives who help R with IADLs	Cont
1	S1RIFCAREN	s1rifcaren: w1 # non-relatives who help S with IADLs	Cont
2	S2RIFCAREN	s2rifcaren: w2 # non-relatives who help S with IADLs	Cont
3	S3RIFCAREN	s3rifcaren: w3 # non-relatives who help S with IADLs	Cont
4	S4RIFCAREN	s4rifcaren: w4 # non-relatives who help S with IADLs	Cont
5	S5RIFCAREN	s5rifcaren: w5 # non-relatives who help S with IADLs	Cont
1	R1RIFCAREDPM	r1rifcaredpm: w1 days/month non-relatives help R with IADLs	Cont
2	R2RIFCAREDPM	r2rifcaredpm: w2 days/month non-relatives help R with IADLs	Cont
3	R3RIFCAREDPM	r3rifcaredpm: w3 days/month non-relatives help R with IADLs	Cont
4	R4RIFCAREDPM	r4rifcaredpm: w4 days/month non-relatives help R with IADLs	Cont
5	R5RIFCAREDPM	r5rifcaredpm: w5 days/month non-relatives help R with IADLs	Cont
1	S1RIFCAREDPM	s1rifcaredpm: w1 days/month non-relatives help S with IADLs	Cont
2	S2RIFCAREDPM	s2rifcaredpm: w2 days/month non-relatives help S with IADLs	Cont
3	S3RIFCAREDPM	s3rifcaredpm: w3 days/month non-relatives help S with IADLs	Cont
4	S4RIFCAREDPM	s4rifcaredpm: w4 days/month non-relatives help S with IADLs	Cont
5	S5RIFCAREDPM	s5rifcaredpm: w5 days/month non-relatives help S with IADLs	Cont
1	R1RIFCAREDPMM	r1rifcaredpmm: w1 R # non-relatives missing days of help for	Cont
2	R2RIFCAREDPMM	r2rifcaredpmm: w2 R # non-relatives missing days of help for	Cont
3	R3RIFCAREDPMM	r3rifcaredpmm: w3 R # non-relatives missing days of help for	Cont
4	R4RIFCAREDPMM	r4rifcaredpmm: w4 R # non-relatives missing days of help for	Cont
5	R5RIFCAREDPMM	r5rifcaredpmm: w5 R # non-relatives missing days of help for	Cont
1	S1RIFCAREDPMM	s1rifcaredpmm: w1 S # non-relatives missing days of help for	Cont
2	S2RIFCAREDPMM	s2rifcaredpmm: w2 S # non-relatives missing days of help for	Cont
3	S3RIFCAREDPMM	s3rifcaredpmm: w3 S # non-relatives missing days of help for	Cont
4	S4RIFCAREDPMM	s4rifcaredpmm: w4 S # non-relatives missing days of help for	Cont
5	S5RIFCAREDPMM	s5rifcaredpmm: w5 S # non-relatives missing days of help for	Cont
1	R1RIFCAREHR	r1rifcarehr: w1 hours/day non-relatives help R with IADLs	Cont
2	R2RIFCAREHR	r2rifcarehr: w2 hours/day non-relatives help R with IADLs	Cont
3	R3RIFCAREHR	r3rifcarehr: w3 hours/day non-relatives help R with IADLs	Cont
4	R4RIFCAREHR	r4rifcarehr: w4 hours/day non-relatives help R with IADLs	Cont
5	R5RIFCAREHR	r5rifcarehr: w5 hours/day non-relatives help R with IADLs	Cont
1	S1RIFCAREHR	s1rifcarehr: w1 hours/day non-relatives help S with IADLs	Cont
2	S2RIFCAREHR	s2rifcarehr: w2 hours/day non-relatives help S with IADLs	Cont
3	S3RIFCAREHR	s3rifcarehr: w3 hours/day non-relatives help S with IADLs	Cont
4	S4RIFCAREHR	s4rifcarehr: w4 hours/day non-relatives help S with IADLs	Cont
5	S5RIFCAREHR	s5rifcarehr: w5 hours/day non-relatives help S with IADLs	Cont

1	R1RIFCAREHRM	r1rifcarehrm: w1	R #	non-relatives	missing hours of help for	Cont
2	R2RIFCAREHRM	r2rifcarehrm: w2	R #	non-relatives	missing hours of help for	Cont
3	R3RIFCAREHRM	r3rifcarehrm: w3	R #	non-relatives	missing hours of help for	Cont
4	R4RIFCAREHRM	r4rifcarehrm: w4	R #	non-relatives	missing hours of help for	Cont
5	R5RIFCAREHRM	r5rifcarehrm: w5	R #	non-relatives	missing hours of help for	Cont
1	S1RIFCAREHRM	s1rifcarehrm: w1	S #	non-relatives	missing hours of help for	Cont
2	S2RIFCAREHRM	s2rifcarehrm: w2	S #	non-relatives	missing hours of help for	Cont
3	S3RIFCAREHRM	s3rifcarehrm: w3	S #	non-relatives	missing hours of help for	Cont
4	S4RIFCAREHRM	s4rifcarehrm: w4	S #	non-relatives	missing hours of help for	Cont
5	S5RIFCAREHRM	s5rifcarehrm: w5	S #	non-relatives	missing hours of help for	Cont

## Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R1RIFCARE	1417	0.03	0.16	0.00	1.00
R2RIFCARE	1309	0.03	0.18	0.00	1.00
R3RIFCARE	1663	0.03	0.18	0.00	1.00
R4RIFCARE	1887	0.03	0.16	0.00	1.00
R5RIFCARE	1491	0.05	0.23	0.00	1.00
S1RIFCARE	950	0.01	0.09	0.00	1.00
S2RIFCARE	803	0.02	0.14	0.00	1.00
S3RIFCARE	931	0.01	0.11	0.00	1.00
S4RIFCARE	969	0.01	0.09	0.00	1.00
S5RIFCARE	638	0.05	0.21	0.00	1.00
R1RIFCAREN	1417	0.03	0.22	0.00	4.00
R2RIFCAREN	1309	0.03	0.18	0.00	1.00
R3RIFCAREN	1663	0.04	0.21	0.00	4.00
R4RIFCAREN	1887	0.03	0.17	0.00	2.00
R5RIFCAREN	1491	0.06	0.26	0.00	3.00
S1RIFCAREN	950	0.01	0.11	0.00	2.00
S2RIFCAREN	803	0.02	0.14	0.00	1.00
S3RIFCAREN	931	0.01	0.11	0.00	1.00
S4RIFCAREN	969	0.01	0.09	0.00	1.00
S5RIFCAREN	638	0.05	0.24	0.00	3.00
R1RIFCAREDPM	1417	0.76	5.83	0.00	120.00
R2RIFCAREDPM	1309	0.76	4.58	0.00	30.00
R3RIFCAREDPM	1663	0.69	4.36	0.00	42.00
R4RIFCAREDPM	1886	0.38	3.05	0.00	34.00
R5RIFCAREDPM	1485	1.20	6.04	0.00	60.00
S1RIFCAREDPM	950	0.17	2.29	0.00	46.00
S2RIFCAREDPM	803	0.42	3.41	0.00	30.00
S3RIFCAREDPM	931	0.15	1.82	0.00	30.00
S4RIFCAREDPM	969	0.14	1.95	0.00	30.00
S5RIFCAREDPM	636	1.07	5.44	0.00	30.00
R1RIFCAREDPMM	1417	0.00	0.00	0.00	0.00
R2RIFCAREDPMM	1309	0.00	0.00	0.00	0.00
R3RIFCAREDPMM	1663	0.00	0.00	0.00	0.00
R4RIFCAREDPMM	1887	0.00	0.02	0.00	1.00
R5RIFCAREDPMM	1491	0.00	0.06	0.00	1.00
S1RIFCAREDPMM	950	0.00	0.00	0.00	0.00
S2RIFCAREDPMM	803	0.00	0.00	0.00	0.00
S3RIFCAREDPMM	931	0.00	0.00	0.00	0.00
S4RIFCAREDPMM	969	0.00	0.00	0.00	0.00
S5RIFCAREDPMM	638	0.00	0.06	0.00	1.00

R1RIFCAREHR	1417	0.10	0.93	0.00	24.00
R2RIFCAREHR	1309	0.11	0.83	0.00	12.00
R3RIFCAREHR	1662	0.14	1.25	0.00	24.00
R4RIFCAREHR	1886	0.11	0.98	0.00	24.00
R5RIFCAREHR	1485	0.18	1.20	0.00	24.00
S1RIFCAREHR	950	0.03	0.39	0.00	10.00
S2RIFCAREHR	803	0.07	0.66	0.00	12.00
S3RIFCAREHR	930	0.04	0.49	0.00	10.00
S4RIFCAREHR	969	0.03	0.43	0.00	12.00
S5RIFCAREHR	636	0.19	1.40	0.00	24.00
R1RIFCAREHRM	1417	0.00	0.00	0.00	0.00
R2RIFCAREHRM	1309	0.00	0.00	0.00	0.00
R3RIFCAREHRM	1663	0.00	0.02	0.00	1.00
R4RIFCAREHRM	1887	0.00	0.02	0.00	1.00
R5RIFCAREHRM	1491	0.00	0.06	0.00	1.00
S1RIFCAREHRM	950	0.00	0.00	0.00	0.00
S2RIFCAREHRM	803	0.00	0.00	0.00	0.00
S3RIFCAREHRM	931	0.00	0.03	0.00	1.00
S4RIFCAREHRM	969	0.00	0.00	0.00	0.00
S5RIFCAREHRM	638	0.00	0.06	0.00	1.00

## Categorical Variable Codes

Value-----	R1RIFCARE	R2RIFCARE	R3RIFCARE	R4RIFCARE	R5RIFCARE
.d:DK			1	5	
.h:no help received	267	204	658	605	406
.m:Missing	38	30		40	17
.p:Proxy interview, not asked	1032	1161	1275	929	1328
.r:Refuse	13	1	1	1	12
.x:no difficulty	12419	10999	12125	11312	13860
0.No	1378	1264	1605	1837	1409
1.Yes	39	45	58	50	82
Value-----	S1RIFCARE	S2RIFCARE	S3RIFCARE	S4RIFCARE	S5RIFCARE
.d:DK			1	5	
.h:no help received	154	202	487	406	205
.m:Missing	13	6		10	2
.p:Proxy interview, not asked	660	814	726	470	560
.r:Refuse	8	1			6
.u:Unmar	4205	4009	4782	4847	5227
.v:SP NR	333	131	349	280	501
.x:no difficulty	8863	7738	8447	7792	6050
0.No	942	787	919	961	608
1.Yes	8	16	12	8	30

## How Constructed

The following variables indicate whether any non-relative helps the respondent with any IADL needs. The instrumental activities of daily living include preparing meals, grocery shopping, taking medications, and managing money. If the respondent reports having difficulty with an IADL, then they are asked whether someone helps them with that activity. If someone helps with the activity, they are asked for the relationships of up to 12 people in Waves 1 and 2, up to 8 people in Waves 3 and 4, and up to 3 people in Wave 5 who help them with IADLs. The information used to derive these variables is taken from the help files in Waves 1 and 2 and from the individual files in Waves 3 and forward. For each caregiver, the respondent is asked to report their relationship to the caregiver and the caregiver's roster number, if any. In cases where the reported relationship disagrees with the roster number, the roster number takes precedence in defining the relationship for spouses and children, for which the roster numbers follow clear rules. In cases where the reported relationship is "spouse" but the roster number indicates a non-spouse household member or an individual with no roster number, meaning they are not a child or within the household, the relationship type is changed to "other person". In cases of multiple records with the same caregiver relationship and roster number, we only consider the caregiver with the highest level of

care provided to the respondent. In cases of multiple records with the same caregiver relationship and no roster number, we assume all mentions are separate individuals.

The following variables are coded as special missing value .x if the respondent reports no difficulty with any IADL, and are coded as special missing value .h if the respondent reports difficulty with an IADL but does not receive any help. Don't know, refused, or other missing responses are assigned special missing values .d, .r, and .m, respectively. These variables are set to plain missing (.) for respondents who did not participate in the current wave.

RwRIFCARE, RwRIFCAREN, RwRIFCAREDPM, RwRIFCAREDPMM, RwRIFCAREHR, and RwRIFCAREHRM include help from another person (not their spouse, child, child-in-law, grandchild, parent, other relative, or paid person).

RwRIFCARE indicates whether any of the respondent's non-relatives help the respondent with IADL needs. RwRIFCAREN indicates the number of the respondent's non-relatives who help the respondent with IADL needs. RwRIFCARE is coded as 0 if none of the respondent's non-relatives help the respondent with IADLs; and is coded as 1 if at least one of the respondent's non-relatives help the respondent with IADLs.

RwRIFCAREDPM indicates the number of total days per month the respondent's non-relatives help the respondent with IADL needs. If the respondent reports receiving help every day from that non-relative, then a value of 30 is assumed. RwRIFCAREDPM is the sum of days per month for all non-relative helpers, and so values can be over 30 days. RwRIFCAREDPM is calculated as long as there is one non-missing value. RwRIFCAREDPM is assigned a value of 0 if the respondent did not receive help from any non-relatives. RwRIFCAREDPMM indicates the number of non-relatives who helped the respondent for whom no value of days was reported and was not accounted for in RwRIFCAREDPM. RwRIFCAREDPMM is assigned special missing value .m if the respondent was not helped by any non-relatives.

RwRIFCAREHR indicates the number of hours per day the respondent's non-relatives help the respondent with IADL needs. Respondents are asked, on days their non-relatives help, how many hours per day that is. If the respondent reports less than an hour for that non-relative, then a 1 is assumed. RwRIFCAREHR is the sum of hours per day for all non-relative helpers, and so values can be over 24 hours. RwRIFCAREHR is calculated as long as there is one non-missing value. RwRIFCAREHR is assigned a value of 0 if the respondent did not receive help from any non-relatives. RwRIFCAREHRM indicates the number of non-relatives who helped the respondent for whom no value of hours was reported and was not accounted for in RwRIFCAREHR. RwRIFCAREHRM is assigned special missing value .m if the respondent was not helped by any non-relatives.

SwRIFCARE, SwRIFCAREN, SwRIFCAREDPM, and SwRIFCAREHR indicate whether the respondent's current wave's spouse receives help from non-relatives, the number, and the frequency with which, and their values are taken from RwRIFCARE, RwRIFCAREN, RwRIFCAREDPM, and RwRIFCAREHR. SwRIFCAREDPMM and SwRIFCAREHRM indicate the number of non-relatives who helped the respondent's current spouse for whom a value was not reported for the number of days and hours and are taken from RwRIFCAREDPMM and RwRIFCAREHRM. In addition to the special missing codes employed by the respondent variables, the spouse variables employ two additional special missing codes. A special missing value .u is used when the respondent does not report being coupled in the current wave. A special missing value .v is used when the respondent reports being coupled in the current wave but their spouse is not interviewed.

## Cross Wave Differences in MHAS

Respondents are allowed to mention up to 12 caregivers in Waves 1 and 2, up to 8 caregivers in Waves 3 and 4, and up to 3 caregivers in Wave 5.

## Differences with the RAND HRS/Harmonized HRS

The HRS has different categories of relationships between the respondent and their caregiver, but these variables have been created to be as comparable as possible.

The HRS IADL list includes using the telephone, which is absent in the MHAS. As such, these variables in the Harmonized HRS also include help using the telephone, whereas in the Harmonized MHAS they do not include help using the telephone.

The HRS asks for up to 6 relationships of people who help with IADLs (preparing meals, grocery shopping, making phone calls, and taking medications), and up to 2 people who help with managing money. The MHAS,

in contrast, asks for the relationships of a varying number of people who help with preparing meals, grocery shopping, taking medications, and managing money together.

## MHAS Variables Used

### Wave 1:

H26_3	spouse helps with hot meal
H26_4	someone helps with hot meal
H27_3	spouse helps with shopping
H27_4	someone helps with shopping
H28_3	spouse helps with taking medication
H28_4	someone helps with taking medication
H29_3	spouse helps with managing money
H29_4	someone helps with managing money

### Wave 2:

H26D	spouse helps
H26E	additional person helps
H27D	spouse helps
H27E	additional person helps
H28D	spouse helps
H28E	additional person helps
H29D	spouse helps
H29E	additional person helps

### Wave 3:

H26C_12	Does anyone help you prepare a hot meal
H27C_12	Does anyone help you shop for groceries
H28C_12	Does anyone help you take medications
H29C_12	Does anyone one help you manage your money
H32_1_12	Relationship with helper for IADLs
H32_2_12	Relationship with helper for IADLs
H32_3_12	Relationship with helper for IADLs
H32_4_12	Relationship with helper for IADLs
H32_5_12	Relationship with helper for IADLs
H32_6_12	Relationship with helper for IADLs
H32_7_12	Relationship with helper for IADLs
H32_8_12	Relationship with helper for IADLs
H33_1_12	Registration number of helper for IADLs
H33_2_12	Registration number of helper for ADLs
H33_3_12	Registration number of helper for IADLs
H33_4_12	Registration number of helper for IADLs
H33_5_12	Registration number of helper for IADLs
H33_6_12	Registration number of helper for IADLs
H33_7_12	Registration number of helper for IADLs
H33_8_12	Registration number of helper for IADLs
H34_1_12	Number of days (name) helped last month
H34_2_12	Number of days (name) helped last month
H34_3_12	Number of days (name) helped last month
H34_4_12	Number of days (name) helped last month
H34_5_12	Number of days (name) helped last month
H34_6_12	Number of days (name) helped last month
H34_7_12	Number of days (name) helped last month
H34_8_12	Number of days (name) helped last month
H35_1_12	Number of hours during those days (NAME) helped
H35_2_12	Number of hours during those days (NAME) helped
H35_3_12	Number of hours during those days (NAME) helped
H35_4_12	Number of hours during those days (NAME) helped
H35_5_12	Number of hours during those days (NAME) helped
H35_6_12	Number of hours during those days (NAME) helped
H35_7_12	Number of hours during those days (NAME) helped
H35_8_12	Number of hours during those days (NAME) helped

### Wave 4:

H26C_15	Does someone help respondent to prepare a hot meal
H27C_15	Does someone help respondent to shop for groceries
H28C_15	Does someone help respondent to take medications

H29C_15	Does someone help respondent to manage his/her money
H32_1_15	Respondent's relationship with person helping with IADL
H32_2_15	Respondent's relationship with person helping with IADL
H32_3_15	Respondent's relationship with person helping with IADL
H32_4_15	Respondent's relationship with person helping with IADL
H32_5_15	Respondent's relationship with person helping with IADL
H32_6_15	Respondent's relationship with person helping with IADL
H32_7_15	Respondent's relationship with person helping with IADL
H32_8_15	Respondent's relationship with person helping with IADL
H33_1_15	Registration number of person helping with IADLs
H33_2_15	Registration number of person helping with IADLs
H33_3_15	Registration number of person helping with IADLs
H33_4_15	Registration number of person helping with IADLs
H33_5_15	Registration number of person helping with IADLs
H33_6_15	Registration number of person helping with IADLs
H33_7_15	Registration number of person helping with IADLs
H33_8_15	Registration number of person helping with IADLs
H34_1_15	Number of days the person helped during last month
H34_2_15	Number of days the person helped during last month
H34_3_15	Number of days the person helped during last month
H34_4_15	Number of days the person helped during last month
H34_5_15	Number of days the person helped during last month
H34_6_15	Number of days the person helped during last month
H34_7_15	Number of days the person helped during last month
H34_8_15	Number of days the person helped during last month
H35_1_15	Number of hours during those days that the person helps
H35_2_15	Number of hours during those days that the person helps
H35_3_15	Number of hours during those days that the person helps
H35_4_15	Number of hours during those days that the person helps
H35_5_15	Number of hours during those days that the person helps
H35_6_15	Number of hours during those days that the person helps
H35_7_15	Number of hours during those days that the person helps
H35_8_15	Number of hours during those days that the person helps

## Wave 5:

H26C_18	Does someone help R to prepare a hot meal
H27C_18	Does someone help R to shop for groceries
H28C_18	Does someone help R to take medications
H29C_18	Does someone help R to manage his/her money
H32_1_18	R's relationship with person helping with IADLs
H32_2_18	R's relationship with person helping with IADLs
H32_3_18	R's relationship with person helping with IADLs
H33_1_18	Registration number of person helping with IADLs
H33_2_18	Registration number of person helping with IADLs
H33_3_18	Registration number of person helping with IADLs
H34_1_18	Number of days the person helped during last month
H34_2_18	Number of days the person helped during last month
H34_3_18	Number of days the person helped during last month
H35_1_18	Number of hours during those days that the person helps
H35_2_18	Number of hours during those days that the person helps
H35_3_18	Number of hours during those days that the person helps

Instrumental Activities of Daily Living: Whether Receives Any Formal Care

Wave	Variable	Label	Type
1	R1RIFAANY	r1rifaany: w1 R receives any formal care for IADLs	Categ
2	R2RIFAANY	r2rifaany: w2 R receives any formal care for IADLs	Categ
3	R3RIFAANY	r3rifaany: w3 R receives any formal care for IADLs	Categ
4	R4RIFAANY	r4rifaany: w4 R receives any formal care for IADLs	Categ
5	R5RIFAANY	r5rifaany: w5 R receives any formal care for IADLs	Categ
1	S1RIFAANY	s1rifaany: w1 S receives any formal care for IADLs	Categ
2	S2RIFAANY	s2rifaany: w2 S receives any formal care for IADLs	Categ
3	S3RIFAANY	s3rifaany: w3 S receives any formal care for IADLs	Categ
4	S4RIFAANY	s4rifaany: w4 S receives any formal care for IADLs	Categ
5	S5RIFAANY	s5rifaany: w5 S receives any formal care for IADLs	Categ

Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R1RIFAANY	1684	0.02	0.14	0.00	1.00
R2RIFAANY	1513	0.03	0.16	0.00	1.00
R3RIFAANY	2321	0.02	0.13	0.00	1.00
R4RIFAANY	2492	0.02	0.13	0.00	1.00
R5RIFAANY	1897	0.03	0.17	0.00	1.00
S1RIFAANY	1104	0.01	0.09	0.00	1.00
S2RIFAANY	1005	0.01	0.11	0.00	1.00
S3RIFAANY	1418	0.01	0.10	0.00	1.00
S4RIFAANY	1375	0.00	0.07	0.00	1.00
S5RIFAANY	843	0.02	0.16	0.00	1.00

Categorical Variable Codes

Value-----	R1RIFAANY	R2RIFAANY	R3RIFAANY	R4RIFAANY	R5RIFAANY
.d:DK			1	5	
.m:Missing	38	30		40	17
.p:Proxy interview, not asked	1032	1161	1275	929	1328
.r:Refuse	13	1	1	1	12
.x:no difficulty	12419	10999	12125	11312	13860
0.No	1649	1471	2281	2449	1840
1.Yes	35	42	40	43	57
Value-----	S1RIFAANY	S2RIFAANY	S3RIFAANY	S4RIFAANY	S5RIFAANY
.d:DK			1	5	
.m:Missing	13	6		10	2
.p:Proxy interview, not asked	660	814	726	470	560
.r:Refuse	8	1			6
.u:Unmar	4205	4009	4782	4847	5227
.v:SP NR	333	131	349	280	501
.x:no difficulty	8863	7738	8447	7792	6050
0.No	1094	992	1403	1369	822
1.Yes	10	13	15	6	21

How Constructed

RwRIFAANY indicates whether the respondent receives any informal care for difficulties with instrumental activities of daily living (IADL). The instrumental activities of daily living include preparing meals, grocery shopping, taking medications, and managing money. If the respondent reports having difficulty with an IADL, then they are asked whether someone helps them with that activity. If someone helps with the activity, they are asked for the relationships of up to 12 people in Waves 1 and 2, up to 8 people in Waves 3 and 4, and up to 3 people in Wave 5 who help them with IADLs. The following relationship is considered to provide formal care: paid person.

Please note that for each caregiver, the respondent is asked to report their relationship to the caregiver and the caregiver's roster number, if any. In cases where the reported relationship disagrees with the roster number, the roster number takes precedence in defining the relationship for spouses and children, for which the roster numbers follow clear rules. In cases where the reported relationship is "spouse" but the roster number indicates a non-spouse household member or an individual with no roster number, meaning they are not a child or within the household, the relationship type is changed to "other person". In cases of multiple records with the same caregiver relationship and roster number, we only consider the caregiver with the highest level of care provided to the respondent. In cases of multiple records with the same caregiver relationship and no roster number, we assume all mentions are separate individuals.

RwRIFAANY is assigned a value of 0 if the respondent has difficulty with at least one IADL but receives no help with the activity from a formal caregiver, or does not receive any help at all. RwRIFAANY is assigned a value of 1 if the respondent has difficulty with at least one IADL and a formal caregiver helps with at least one of the activities. RwRIFAANY is assigned special missing value .x if the respondent has no difficulty with any IADLs. Don't know, refused, and other missing responses are assigned special missing values .d, .r, and .m, respectively. RwRIFAANY is assigned a blank missing (.) if the respondent did not participate in the current wave.

SwRIFAANY indicates whether the respondent's current wave's spouse receives any formal care for difficulties with IADLs, and its values are taken from RwRIFAANY. In addition to the special missing codes employed by RwRIFAANY, SwRIFAANY employs two additional special missing codes. A special missing value .u is used when the respondent does not report being coupled in the current wave. A special missing value .v is used when the respondent reports being coupled in the current wave but their spouse is not interviewed.

Cross Wave Differences in MHAS

Respondents are allowed to mention up to 12 caregivers in Waves 1 and 2, up to 8 caregivers in Waves 3 and 4, and up to 3 caregivers in Wave 5.

Differences with the RAND HRS/Harmonized HRS

The HRS has different categories of relationships between the respondent and their caregiver, but these variables have been created to be as comparable as possible. Please note that the Harmonized HRS includes categories for paid formal helpers and unpaid formal helpers, while the Harmonized MHAS only includes categories for paid formal helpers.

The HRS IADL list includes using the telephone, which is absent in the MHAS. As such, RwRIFAANY in the Harmonized HRS also includes help using the telephone, whereas RwRIFAANY in the Harmonized MHAS does not include help using the telephone.

MHAS Variables Used

- Wave 1:
- H26\_3

H26\_4

H27\_3

H27\_4

H28\_3

H28\_4

H29\_3

H29\_4
- spouse helps with hot meal

someone helps with hot meal

spouse helps with shopping

someone helps with shopping

spouse helps with taking medication

someone helps with taking medication

spouse helps with managing money

someone helps with managing money
- Wave 1 Helper:
- H32

H33
- kinship of helper

roster number of helper
- Wave 2:
- H26D

H26E

H27D

H27E

H28D
- spouse helps

additional person helps

spouse helps

additional person helps

spouse helps



H28E	additional person helps
H29D	spouse helps
H29E	additional person helps
Wave 2 Helper:	
H32	relationship
H33	registration number
Wave 3:	
H26C_12	Does anyone help you prepare a hot meal
H27C_12	Does anyone help you shop for groceries
H28C_12	Does anyone help you take medications
H29C_12	Does anyone one help you manage your money
H32_1_12	Relationship with helper for IADLs
H32_2_12	Relationship with helper for IADLs
H32_3_12	Relationship with helper for IADLs
H32_4_12	Relationship with helper for IADLs
H32_5_12	Relationship with helper for IADLs
H32_6_12	Relationship with helper for IADLs
H32_7_12	Relationship with helper for IADLs
H32_8_12	Relationship with helper for IADLs
H33_1_12	Registration number of helper for IADLs
H33_2_12	Registration number of helper for ADLs
H33_3_12	Registration number of helper for IADLs
H33_4_12	Registration number of helper for IADLs
H33_5_12	Registration number of helper for IADLs
H33_6_12	Registration number of helper for IADLs
H33_7_12	Registration number of helper for IADLs
H33_8_12	Registration number of helper for IADLs
Wave 4:	
H26C_15	Does someone help respondent to prepare a hot meal
H27C_15	Does someone help respondent to shop for groceries
H28C_15	Does someone help respondent to take medications
H29C_15	Does someone help respondent to manage his/her money
H32_1_15	Respondent's relationship with person helping with IADL
H32_2_15	Respondent's relationship with person helping with IADL
H32_3_15	Respondent's relationship with person helping with IADL
H32_4_15	Respondent's relationship with person helping with IADL
H32_5_15	Respondent's relationship with person helping with IADL
H32_6_15	Respondent's relationship with person helping with IADL
H32_7_15	Respondent's relationship with person helping with IADL
H32_8_15	Respondent's relationship with person helping with IADL
H33_1_15	Registration number of person helping with IADLs
H33_2_15	Registration number of person helping with IADLs
H33_3_15	Registration number of person helping with IADLs
H33_4_15	Registration number of person helping with IADLs
H33_5_15	Registration number of person helping with IADLs
H33_6_15	Registration number of person helping with IADLs
H33_7_15	Registration number of person helping with IADLs
H33_8_15	Registration number of person helping with IADLs
Wave 5:	
H26C_18	Does someone help R to prepare a hot meal
H27C_18	Does someone help R to shop for groceries
H28C_18	Does someone help R to take medications
H29C_18	Does someone help R to manage his/her money
H32_1_18	R's relationship with person helping with IADLs
H32_2_18	R's relationship with person helping with IADLs
H32_3_18	R's relationship with person helping with IADLs
H33_1_18	Registration number of person helping with IADLs
H33_2_18	Registration number of person helping with IADLs
H33_3_18	Registration number of person helping with IADLs

<b>Instrumental Activities of Daily Living: Receives Formal Care from Paid Professional</b>
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Wave	Variable	Label	Type
1	R1RIPFCARE	r1ripfcare: w1 R receives formal care from paid professional	Categ
2	R2RIPFCARE	r2ripfcare: w2 R receives formal care from paid professional	Categ
3	R3RIPFCARE	r3ripfcare: w3 R receives formal care from paid professional	Categ
4	R4RIPFCARE	r4ripfcare: w4 R receives formal care from paid professional	Categ
5	R5RIPFCARE	r5ripfcare: w5 R receives formal care from paid professional	Categ
1	S1RIPFCARE	s1ripfcare: w1 S receives formal care from paid professional	Categ
2	S2RIPFCARE	s2ripfcare: w2 S receives formal care from paid professional	Categ
3	S3RIPFCARE	s3ripfcare: w3 S receives formal care from paid professional	Categ
4	S4RIPFCARE	s4ripfcare: w4 S receives formal care from paid professional	Categ
5	S5RIPFCARE	s5ripfcare: w5 S receives formal care from paid professional	Categ
1	R1RIPFCAREN	r1ripfcaren: w1 # paid professionals who help R with IADLs	Cont
2	R2RIPFCAREN	r2ripfcaren: w2 # paid professionals who help R with IADLs	Cont
3	R3RIPFCAREN	r3ripfcaren: w3 # paid professionals who help R with IADLs	Cont
4	R4RIPFCAREN	r4ripfcaren: w4 # paid professionals who help R with IADLs	Cont
5	R5RIPFCAREN	r5ripfcaren: w5 # paid professionals who help R with IADLs	Cont
1	S1RIPFCAREN	s1ripfcaren: w1 # paid professionals who help S with IADLs	Cont
2	S2RIPFCAREN	s2ripfcaren: w2 # paid professionals who help S with IADLs	Cont
3	S3RIPFCAREN	s3ripfcaren: w3 # paid professionals who help S with IADLs	Cont
4	S4RIPFCAREN	s4ripfcaren: w4 # paid professionals who help S with IADLs	Cont
5	S5RIPFCAREN	s5ripfcaren: w5 # paid professionals who help S with IADLs	Cont
1	R1RIPFCAREDPM	r1ripfcaredpm: w1 days/month paid professionals help R with	Cont
2	R2RIPFCAREDPM	r2ripfcaredpm: w2 days/month paid professionals help R with	Cont
3	R3RIPFCAREDPM	r3ripfcaredpm: w3 days/month paid professionals help R with	Cont
4	R4RIPFCAREDPM	r4ripfcaredpm: w4 days/month paid professionals help R with	Cont
5	R5RIPFCAREDPM	r5ripfcaredpm: w5 days/month paid professionals help R with	Cont
1	S1RIPFCAREDPM	s1ripfcaredpm: w1 days/month paid professionals help S with	Cont
2	S2RIPFCAREDPM	s2ripfcaredpm: w2 days/month paid professionals help S with	Cont
3	S3RIPFCAREDPM	s3ripfcaredpm: w3 days/month paid professionals help S with	Cont
4	S4RIPFCAREDPM	s4ripfcaredpm: w4 days/month paid professionals help S with	Cont
5	S5RIPFCAREDPM	s5ripfcaredpm: w5 days/month paid professionals help S with	Cont
1	R1RIPFCAREDPMM	r1ripfcaredpmm: w1 R # paid professionals missing days of he	Cont
2	R2RIPFCAREDPMM	r2ripfcaredpmm: w2 R # paid professionals missing days of he	Cont
3	R3RIPFCAREDPMM	r3ripfcaredpmm: w3 R # paid professionals missing days of he	Cont
4	R4RIPFCAREDPMM	r4ripfcaredpmm: w4 R # paid professionals missing days of he	Cont
5	R5RIPFCAREDPMM	r5ripfcaredpmm: w5 R # paid professionals missing days of he	Cont
1	S1RIPFCAREDPMM	s1ripfcaredpmm: w1 S # paid professionals missing days of he	Cont
2	S2RIPFCAREDPMM	s2ripfcaredpmm: w2 S # paid professionals missing days of he	Cont
3	S3RIPFCAREDPMM	s3ripfcaredpmm: w3 S # paid professionals missing days of he	Cont
4	S4RIPFCAREDPMM	s4ripfcaredpmm: w4 S # paid professionals missing days of he	Cont
5	S5RIPFCAREDPMM	s5ripfcaredpmm: w5 S # paid professionals missing days of he	Cont
1	R1RIPFCAREHR	r1ripfcarehr: w1 hours/day paid professionals help R with IA	Cont
2	R2RIPFCAREHR	r2ripfcarehr: w2 hours/day paid professionals help R with IA	Cont
3	R3RIPFCAREHR	r3ripfcarehr: w3 hours/day paid professionals help R with IA	Cont
4	R4RIPFCAREHR	r4ripfcarehr: w4 hours/day paid professionals help R with IA	Cont
5	R5RIPFCAREHR	r5ripfcarehr: w5 hours/day paid professionals help R with IA	Cont
1	S1RIPFCAREHR	s1ripfcarehr: w1 hours/day paid professionals help S with IA	Cont
2	S2RIPFCAREHR	s2ripfcarehr: w2 hours/day paid professionals help S with IA	Cont
3	S3RIPFCAREHR	s3ripfcarehr: w3 hours/day paid professionals help S with IA	Cont
4	S4RIPFCAREHR	s4ripfcarehr: w4 hours/day paid professionals help S with IA	Cont
5	S5RIPFCAREHR	s5ripfcarehr: w5 hours/day paid professionals help S with IA	Cont

1	R1RIPFCAREHRM	r1ripfcarehrm: w1 R #	paid professionals missing hours of he	Cont
2	R2RIPFCAREHRM	r2ripfcarehrm: w2 R #	paid professionals missing hours of he	Cont
3	R3RIPFCAREHRM	r3ripfcarehrm: w3 R #	paid professionals missing hours of he	Cont
4	R4RIPFCAREHRM	r4ripfcarehrm: w4 R #	paid professionals missing hours of he	Cont
5	R5RIPFCAREHRM	r5ripfcarehrm: w5 R #	paid professionals missing hours of he	Cont
1	S1RIPFCAREHRM	s1ripfcarehrm: w1 S #	paid professionals missing hours of he	Cont
2	S2RIPFCAREHRM	s2ripfcarehrm: w2 S #	paid professionals missing hours of he	Cont
3	S3RIPFCAREHRM	s3ripfcarehrm: w3 S #	paid professionals missing hours of he	Cont
4	S4RIPFCAREHRM	s4ripfcarehrm: w4 S #	paid professionals missing hours of he	Cont
5	S5RIPFCAREHRM	s5ripfcarehrm: w5 S #	paid professionals missing hours of he	Cont

## Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R1RIPFCARE	1417	0.02	0.16	0.00	1.00
R2RIPFCARE	1309	0.03	0.18	0.00	1.00
R3RIPFCARE	1663	0.02	0.15	0.00	1.00
R4RIPFCARE	1887	0.02	0.15	0.00	1.00
R5RIPFCARE	1491	0.04	0.19	0.00	1.00
S1RIPFCARE	950	0.01	0.10	0.00	1.00
S2RIPFCARE	803	0.02	0.13	0.00	1.00
S3RIPFCARE	931	0.02	0.13	0.00	1.00
S4RIPFCARE	969	0.01	0.08	0.00	1.00
S5RIPFCARE	638	0.03	0.18	0.00	1.00
R1RIPFCAREN	1417	0.02	0.16	0.00	1.00
R2RIPFCAREN	1309	0.03	0.18	0.00	1.00
R3RIPFCAREN	1663	0.03	0.16	0.00	2.00
R4RIPFCAREN	1887	0.02	0.15	0.00	2.00
R5RIPFCAREN	1491	0.04	0.21	0.00	3.00
S1RIPFCAREN	950	0.01	0.10	0.00	1.00
S2RIPFCAREN	803	0.02	0.13	0.00	1.00
S3RIPFCAREN	931	0.02	0.13	0.00	1.00
S4RIPFCAREN	969	0.01	0.08	0.00	1.00
S5RIPFCAREN	638	0.03	0.18	0.00	1.00
R1RIPFCAREDPM	1417	0.65	4.22	0.00	30.00
R2RIPFCAREDPM	1309	0.85	4.84	0.00	30.00
R3RIPFCAREDPM	1662	0.47	3.63	0.00	60.00
R4RIPFCAREDPM	1887	0.47	3.59	0.00	60.00
R5RIPFCAREDPM	1490	0.94	5.46	0.00	90.00
S1RIPFCAREDPM	950	0.29	2.81	0.00	30.00
S2RIPFCAREDPM	803	0.46	3.60	0.00	30.00
S3RIPFCAREDPM	931	0.29	2.63	0.00	30.00
S4RIPFCAREDPM	969	0.15	1.99	0.00	30.00
S5RIPFCAREDPM	638	0.77	4.55	0.00	30.00
R1RIPFCAREDPMM	1417	0.00	0.00	0.00	0.00
R2RIPFCAREDPMM	1309	0.00	0.00	0.00	0.00
R3RIPFCAREDPMM	1663	0.00	0.02	0.00	1.00
R4RIPFCAREDPMM	1887	0.00	0.00	0.00	0.00
R5RIPFCAREDPMM	1491	0.00	0.03	0.00	1.00
S1RIPFCAREDPMM	950	0.00	0.00	0.00	0.00
S2RIPFCAREDPMM	803	0.00	0.00	0.00	0.00
S3RIPFCAREDPMM	931	0.00	0.00	0.00	0.00
S4RIPFCAREDPMM	969	0.00	0.00	0.00	0.00
S5RIPFCAREDPMM	638	0.00	0.00	0.00	0.00

R1RIPFCAREHR	1417	0.21	1.63	0.00	24.00
R2RIPFCAREHR	1309	0.20	1.52	0.00	24.00
R3RIPFCAREHR	1663	0.20	1.53	0.00	24.00
R4RIPFCAREHR	1887	0.16	1.24	0.00	24.00
R5RIPFCAREHR	1489	0.31	2.16	0.00	48.00
S1RIPFCAREHR	950	0.07	0.73	0.00	12.00
S2RIPFCAREHR	803	0.11	0.96	0.00	12.00
S3RIPFCAREHR	931	0.14	1.24	0.00	24.00
S4RIPFCAREHR	969	0.02	0.29	0.00	5.00
S5RIPFCAREHR	637	0.18	1.11	0.00	10.00
R1RIPFCAREHRM	1417	0.00	0.00	0.00	0.00
R2RIPFCAREHRM	1309	0.00	0.00	0.00	0.00
R3RIPFCAREHRM	1663	0.00	0.00	0.00	0.00
R4RIPFCAREHRM	1887	0.00	0.00	0.00	0.00
R5RIPFCAREHRM	1491	0.00	0.04	0.00	1.00
S1RIPFCAREHRM	950	0.00	0.00	0.00	0.00
S2RIPFCAREHRM	803	0.00	0.00	0.00	0.00
S3RIPFCAREHRM	931	0.00	0.00	0.00	0.00
S4RIPFCAREHRM	969	0.00	0.00	0.00	0.00
S5RIPFCAREHRM	638	0.00	0.04	0.00	1.00

## Categorical Variable Codes

Value-----	R1RIPFCARE	R2RIPFCARE	R3RIPFCARE	R4RIPFCARE	R5RIPFCARE
.d:DK			1	5	
.h:no help received	267	204	658	605	406
.m:Missing	38	30		40	17
.p:Proxy interview, not asked	1032	1161	1275	929	1328
.r:Refuse	13	1	1	1	12
.x:no difficulty	12419	10999	12125	11312	13860
0.No	1382	1267	1623	1844	1434
1.Yes	35	42	40	43	57
Value-----	S1RIPFCARE	S2RIPFCARE	S3RIPFCARE	S4RIPFCARE	S5RIPFCARE
.d:DK			1	5	
.h:no help received	154	202	487	406	205
.m:Missing	13	6		10	2
.p:Proxy interview, not asked	660	814	726	470	560
.r:Refuse	8	1			6
.u:Unmar	4205	4009	4782	4847	5227
.v:SP NR	333	131	349	280	501
.x:no difficulty	8863	7738	8447	7792	6050
0.No	940	790	916	963	617
1.Yes	10	13	15	6	21

## How Constructed

The following variables indicate whether paid formal caregivers help the respondent with any IADL needs. The instrumental activities of daily living include preparing meals, grocery shopping, taking medications, and managing money. If the respondent reports having difficulty with an IADL, then they are asked whether someone helps them with that activity. If someone helps with the activity, they are asked for the relationships of up to 12 people in Waves 1 and 2, up to 8 people in Waves 3 and 4, and up to 3 people in Wave 5 who help them with IADLs. The information used to derive these variables is taken from the help files in Waves 1 and 2 and from the individual files in Waves 3 and forward. For each caregiver, the respondent is asked to report their relationship to the caregiver and the caregiver's roster number, if any. In cases where the reported relationship disagrees with the roster number, the roster number takes precedence in defining the relationship for spouses and children, for which the roster numbers follow clear rules. In cases where the reported relationship is "spouse" but the roster number indicates a non-spouse household member or an individual with no roster number, meaning they are not a child or within the household, the relationship type is changed to "other person". In cases of multiple records with the same caregiver relationship and roster number, we only consider the caregiver with the highest

level of care provided to the respondent. In cases of multiple records with the same caregiver relationship and no roster number, we assume all mentions are separate individuals.

The following variables are coded as special missing value .x if the respondent reports no difficulty with any IADL, and are coded as special missing value .h if the respondent reports difficulty with an IADL but does not receive any help. Don't know, refused, or other missing responses are assigned special missing values .d, .r, and .m, respectively. These variables are set to plain missing (.) for respondents who did not participate in the current wave.

RwRIPFCARE, RwRIPFCAREN, RwRIPFCAREDPM, RwRIPFCAREDPMM, RwRIPFCAREHR, and RwRIPFCAREHRM include help from a paid person.

RwRIPFCARE indicates whether any paid professionals help the respondent with IADL needs. RwRIPFCAREN indicates the number of paid professionals who help the respondent with IADL needs. RwRIPFCARE is coded as 0 if no paid professionals help the respondent with IADLs; and is coded as 1 if at least one paid professional helps the respondent with IADLs.

RwRIPFCAREDPM indicates the number of total days per month paid professionals help the respondent with IADL needs. If the respondent reports receiving help every day from that paid professional, then a value of 30 is assumed. RwRIPFCAREDPM is the sum of days per month for all paid professional helpers, and so values can be over 30 days. RwRIPFCAREDPM is calculated as long as there is one non-missing value. RwRIPFCAREDPM is assigned a value of 0 if the respondent did not receive help from any paid professionals. RwRIPFCAREDPMM indicates the number of paid professionals who helped the respondent for whom no value of days was reported and was not accounted for in RwRIPFCAREDPM. RwRIPFCAREDPMM is assigned special missing value .m if the respondent was not helped by any paid professionals.

RwRIPFCAREHR indicates the number of hours per day paid professionals help the respondent with IADL needs. Respondents are asked, on days paid professionals help, how many hours per day that is. If the respondent reports less than an hour for that paid professional, then a 1 is assumed. RwRIPFCAREHR is the sum of hours per day for all paid professional helpers, and so values can be over 24 hours. RwRIPFCAREHR is calculated as long as there is one non-missing value. RwRIPFCAREHR is assigned a value of 0 if the respondent did not receive help from any paid professionals. RwRIPFCAREHRM indicates the number of paid professionals who helped the respondent for whom no value of hours was reported and was not accounted for in RwRIPFCAREHR. RwRIPFCAREHRM is assigned special missing value .m if the respondent was not helped by any paid professionals.

SwRIPFCARE, SwRIPFCAREN, SwRIPFCAREDPM, and SwRIPFCAREHR indicate whether the respondent's current wave's spouse receives help from paid professionals, the number, and the frequency with which, and their values are taken from RwRIPFCARE, RwRIPFCAREN, RwRIPFCAREDPM, and RwRIPFCAREHR. SwRIPFCAREDPMM and SwRIPFCAREHRM indicate the number of paid professionals who helped the respondent's current spouse for whom a value was not reported for the number of days and hours and are taken from RwRIPFCAREDPMM and RwRIPFCAREHRM. In addition to the special missing codes employed by the respondent variables, the spouse variables employ two additional special missing codes. A special missing value .u is used when the respondent does not report being coupled in the current wave. A special missing value .v is used when the respondent reports being coupled in the current wave but their spouse is not interviewed.

## Cross Wave Differences in MHAS

Respondents are allowed to mention up to 12 caregivers in Waves 1 and 2, up to 8 caregivers in Waves 3 and 4, and up to 3 caregivers in Wave 5.

## Differences with the RAND HRS/Harmonized HRS

The HRS has different categories of relationships between the respondent and their caregiver, but these variables have been created to be as comparable as possible.

The HRS IADL list includes using the telephone, which is absent in the MHAS. As such, these variables in the Harmonized HRS also include help using the telephone, whereas in the Harmonized MHAS they do not include help using the telephone.

The HRS asks for up to 6 relationships of people who help with IADLs (preparing meals, grocery shopping, making phone calls, and taking medications), and up to 2 people who help with managing money. The MHAS, in contrast, asks for the relationships of a varying number of people who help with preparing meals, grocery shopping, taking medications, and managing money together.

**MHAS Variables Used****Wave 1:**

H26_3	spouse helps with hot meal
H26_4	someone helps with hot meal
H27_3	spouse helps with shopping
H27_4	someone helps with shopping
H28_3	spouse helps with taking medication
H28_4	someone helps with taking medication
H29_3	spouse helps with managing money
H29_4	someone helps with managing money

**Wave 1 Helper:**

H32	kinship of helper
H33	roster number of helper
H34	days of help
H35	hours of help

**Wave 2:**

H26D	spouse helps
H26E	additional person helps
H27D	spouse helps
H27E	additional person helps
H28D	spouse helps
H28E	additional person helps
H29D	spouse helps
H29E	additional person helps

**Wave 2 Helper:**

H32	relationship
H33	registration number
H34	number of days (name) helped last month
H35	how many hours during those days

**Wave 3:**

H26C_12	Does anyone help you prepare a hot meal
H27C_12	Does anyone help you shop for groceries
H28C_12	Does anyone help you take medications
H29C_12	Does anyone one help you manage your money
H32_1_12	Relationship with helper for IADLs
H32_2_12	Relationship with helper for IADLs
H32_3_12	Relationship with helper for IADLs
H32_4_12	Relationship with helper for IADLs
H32_5_12	Relationship with helper for IADLs
H32_6_12	Relationship with helper for IADLs
H32_7_12	Relationship with helper for IADLs
H32_8_12	Relationship with helper for IADLs
H33_1_12	Registration number of helper for IADLs
H33_2_12	Registration number of helper for ADLs
H33_3_12	Registration number of helper for IADLs
H33_4_12	Registration number of helper for IADLs
H33_5_12	Registration number of helper for IADLs
H33_6_12	Registration number of helper for IADLs
H33_7_12	Registration number of helper for IADLs
H33_8_12	Registration number of helper for IADLs
H34_1_12	Number of days (name) helped last month
H34_2_12	Number of days (name) helped last month
H34_3_12	Number of days (name) helped last month
H34_4_12	Number of days (name) helped last month
H34_5_12	Number of days (name) helped last month
H34_6_12	Number of days (name) helped last month
H34_7_12	Number of days (name) helped last month
H34_8_12	Number of days (name) helped last month
H35_1_12	Number of hours during those days (NAME) helped
H35_2_12	Number of hours during those days (NAME) helped
H35_3_12	Number of hours during those days (NAME) helped
H35_4_12	Number of hours during those days (NAME) helped

H35_5_12	Number of hours during those days (NAME) helped
H35_6_12	Number of hours during those days (NAME) helped
H35_7_12	Number of hours during those days (NAME) helped
H35_8_12	Number of hours during those days (NAME) helped

## Wave 4:

H26C_15	Does someone help respondent to prepare a hot meal
H27C_15	Does someone help respondent to shop for groceries
H28C_15	Does someone help respondent to take medications
H29C_15	Does someone help respondent to manage his/her money
H32_1_15	Respondent's relationship with person helping with IADL
H32_2_15	Respondent's relationship with person helping with IADL
H32_3_15	Respondent's relationship with person helping with IADL
H32_4_15	Respondent's relationship with person helping with IADL
H32_5_15	Respondent's relationship with person helping with IADL
H32_6_15	Respondent's relationship with person helping with IADL
H32_7_15	Respondent's relationship with person helping with IADL
H32_8_15	Respondent's relationship with person helping with IADL
H33_1_15	Registration number of person helping with IADLs
H33_2_15	Registration number of person helping with IADLs
H33_3_15	Registration number of person helping with IADLs
H33_4_15	Registration number of person helping with IADLs
H33_5_15	Registration number of person helping with IADLs
H33_6_15	Registration number of person helping with IADLs
H33_7_15	Registration number of person helping with IADLs
H33_8_15	Registration number of person helping with IADLs
H34_1_15	Number of days the person helped during last month
H34_2_15	Number of days the person helped during last month
H34_3_15	Number of days the person helped during last month
H34_4_15	Number of days the person helped during last month
H34_5_15	Number of days the person helped during last month
H34_6_15	Number of days the person helped during last month
H34_7_15	Number of days the person helped during last month
H34_8_15	Number of days the person helped during last month
H35_1_15	Number of hours during those days that the person helped
H35_2_15	Number of hours during those days that the person helped
H35_3_15	Number of hours during those days that the person helped
H35_4_15	Number of hours during those days that the person helped
H35_5_15	Number of hours during those days that the person helped
H35_6_15	Number of hours during those days that the person helped
H35_7_15	Number of hours during those days that the person helped
H35_8_15	Number of hours during those days that the person helped

## Wave 5:

H26C_18	Does someone help R to prepare a hot meal
H27C_18	Does someone help R to shop for groceries
H28C_18	Does someone help R to take medications
H29C_18	Does someone help R to manage his/her money
H32_1_18	R's relationship with person helping with IADLs
H32_2_18	R's relationship with person helping with IADLs
H32_3_18	R's relationship with person helping with IADLs
H33_1_18	Registration number of person helping with IADLs
H33_2_18	Registration number of person helping with IADLs
H33_3_18	Registration number of person helping with IADLs
H34_1_18	Number of days the person helped during last month
H34_2_18	Number of days the person helped during last month
H34_3_18	Number of days the person helped during last month
H35_1_18	Number of hours during those days that the person helped
H35_2_18	Number of hours during those days that the person helped
H35_3_18	Number of hours during those days that the person helped

### Activities of Daily Living and Instrumental Activities of Daily Living: Whether Receives Any Care

Wave	Variable	Label	Type
1	R1RCANY	r1rcany: w1 R receives any care for ADLs/IADLs	Categ
2	R2RCANY	r2rcany: w2 R receives any care for ADLs/IADLs	Categ
3	R3RCANY	r3rcany: w3 R receives any care for ADLs/IADLs	Categ
4	R4RCANY	r4rcany: w4 R receives any care for ADLs/IADLs	Categ
5	R5RCANY	r5rcany: w5 R receives any care for ADLs/IADLs	Categ
1	S1RCANY	s1rcany: w1 S receives any care for ADLs/IADLs	Categ
2	S2RCANY	s2rcany: w2 S receives any care for ADLs/IADLs	Categ
3	S3RCANY	s3rcany: w3 S receives any care for ADLs/IADLs	Categ
4	S4RCANY	s4rcany: w4 S receives any care for ADLs/IADLs	Categ
5	S5RCANY	s5rcany: w5 S receives any care for ADLs/IADLs	Categ

### Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R1RCANY	2586	0.69	0.46	0.00	1.00
R2RCANY	2392	0.70	0.46	0.00	1.00
R3RCANY	4089	0.57	0.50	0.00	1.00
R4RCANY	4182	0.60	0.49	0.00	1.00
R5RCANY	3756	0.59	0.49	0.00	1.00
S1RCANY	1649	0.70	0.46	0.00	1.00
S2RCANY	1506	0.68	0.47	0.00	1.00
S3RCANY	2464	0.51	0.50	0.00	1.00
S4RCANY	2349	0.54	0.50	0.00	1.00
S5RCANY	1650	0.57	0.50	0.00	1.00

### Categorical Variable Codes

Value-----	R1RCANY	R2RCANY	R3RCANY	R4RCANY	R5RCANY
.d:DK	1		1	6	2
.m:Missing	40	41		40	18
.r:Refuse	2		1	1	82
.x:no difficulty	12557	11271	11632	10550	13256
0.No	812	729	1771	1666	1545
1.Yes	1774	1663	2318	2516	2211
Value-----	S1RCANY	S2RCANY	S3RCANY	S4RCANY	S5RCANY
.d:DK			1	5	
.m:Missing	14	18		10	3
.r:Refuse	1				55
.u:Unmar	4205	4009	4782	4847	5227
.v:SP NR	333	131	349	280	501
.x:no difficulty	8984	8040	8127	7288	5753
0.No	501	487	1213	1072	716
1.Yes	1148	1019	1251	1277	934

### How Constructed

RwRCANY indicates whether the respondent receives any care for difficulties with activities of daily living (ADL) and/or instrumental activities of daily living (IADL). If the respondent reports having difficulty with an ADL or IADL, then they are asked whether someone helps them with that activity. The activities of daily living include dressing, walking across a room, bathing, eating, getting in and out of bed, and using the toilet. The instrumental activities of daily living include preparing meals, grocery shopping, taking medications, and managing money. RwRCANY is assigned a value of 0 if the respondent has difficulty with at least one ADL or IADL but receives no help with the activity. RwRCANY is assigned a value of 1 if the respondent has difficulty with at least one ADL or IADL and someone helps with at least one of the activities. RwRCANY is assigned special missing value .x if the respondent has



no difficulty with any ADLs or IADLs. Don't know, refused, and other missing responses are assigned special missing values .d, .r, and .m, respectively. RwRCANY is assigned a blank missing (.) if the respondent did not participate in the current wave.

SwRCANY indicates whether the respondent's current wave's spouse receives any care for difficulties with ADLs or IADLs, and its values are taken from RwRCANY. In addition to the special missing codes employed by RwRCANY, SwRCANY employs two additional special missing codes. A special missing value .u is used when the respondent does not report being coupled in the current wave. A special missing value .v is used when the respondent reports being coupled in the current wave but their spouse is not interviewed.

## Cross Wave Differences in MHAS

No differences known.

## Differences with the RAND HRS/Harmonized HRS

In the HRS, if the respondent reports that they "can't do" or "don't do" the activity or if they have difficulty that is not the result of a health or memory problem, then they are not asked whether they receive help with that activity. Respondents in the MHAS, however, are asked whether they receive help with the activity if they report that they "can't do", "don't do", or have difficulty with the activity, regardless of whether it is the result of a health or memory problem.

The HRS IADL list includes using the telephone, which is absent in the MHAS. As such, RwRCANY in the Harmonized HRS also includes help using the telephone, whereas RwRCANY in the Harmonized HRS does not include help using the telephone.

## MHAS Variables Used

### Wave 1:

H14	help dressing
H15_3	spouse helps walking
H15_4	other helps walking
H16_3	spouse helps bathing
H16_4	other helps bathing
H17_3	spouse helps eating
H17_4	other helps eating
H18_3	spouse helps getting in and out of bed
H18_4	other helps getting in and out of bed
H19_3	spouse helps using toilet
H19_4	other helps using toilet
H26_3	spouse helps with hot meal
H26_4	someone helps with hot meal
H27_3	spouse helps with shopping
H27_4	someone helps with shopping
H28_3	spouse helps with taking medication
H28_4	someone helps with taking medication
H29_3	spouse helps with managing money
H29_4	someone helps with managing money

### Wave 2:

H14	someone help you to get dressed
H15E	spouse helps
H15F	additional person helps
H16E	spouse helps
H16F	additional person helps
H17E	spouse helps
H17F	additional person helps
H18E	spouse helps
H18F	additional person helps
H19E	spouse helps
H19F	additional person helps
H26D	spouse helps
H26E	additional person helps
H27D	spouse helps

H27E	additional person helps
H28D	spouse helps
H28E	additional person helps
H29D	spouse helps
H29E	additional person helps
Wave 3:	
H14_12	Someone help you to get dressed
H15D_12	Someone help you walk across room
H16D_12	Someone help you to bathe or shower
H17D_12	Does someone help you eat your food
H18D_12	Does someone help you get into or out of bed
H19D_12	Does someone help you use toilet, get on off
H22_1_12	Relationship with helper for ADLs
H22_2_12	Relationship with helper for ADLs
H22_3_12	Relationship with helper for ADLs
H22_4_12	Relationship with helper for ADLs
H22_5_12	Relationship with helper for ADLs
H22_6_12	Relationship with helper for ADLs
H22_7_12	Relationship with helper for ADLs
H22_8_12	Relationship with helper for ADLs
H23_1_12	Registration number of helper for ADLs
H23_2_12	Registration number of helper for ADLs
H23_3_12	Registration number of helper for ADLs
H23_4_12	Registration number of helper for ADLs
H23_5_12	Registration number of helper for ADLs
H23_6_12	Registration number of helper for ADLs
H23_7_12	Registration number of helper for ADLs
H23_8_12	Registration number of helper for ADLs
H26C_12	Does anyone help you prepare a hot meal
H27C_12	Does anyone help you shop for groceries
H28C_12	Does anyone help you take medications
H29C_12	Does anyone one help you manage your money
H32_1_12	Relationship with helper for IADLs
H32_2_12	Relationship with helper for IADLs
H32_3_12	Relationship with helper for IADLs
H32_4_12	Relationship with helper for IADLs
H32_5_12	Relationship with helper for IADLs
H32_6_12	Relationship with helper for IADLs
H32_7_12	Relationship with helper for IADLs
H32_8_12	Relationship with helper for IADLs
H33_1_12	Registration number of helper for IADLs
H33_2_12	Registration number of helper for ADLs
H33_3_12	Registration number of helper for IADLs
H33_4_12	Registration number of helper for IADLs
H33_5_12	Registration number of helper for IADLs
H33_6_12	Registration number of helper for IADLs
H33_7_12	Registration number of helper for IADLs
H33_8_12	Registration number of helper for IADLs
Wave 4:	
H14_15	Does someone help respondent to get dressed
H15D_15	Does someone help respondent walking across a room
H16D_15	Does someone help respondent bathing or showering
H17D_15	Does someone help respondent eating
H18D_15	Does someone help respondent getting in or out of bed
H19D_15	Does someone help respondent using the toilet
H22_1_15	Respondent's relationship with person helping with ADLs
H22_2_15	Respondent's relationship with person helping with ADLs
H22_3_15	Respondent's relationship with person helping with ADLs
H22_4_15	Respondent's relationship with person helping with ADLs
H22_5_15	Respondent's relationship with person helping with ADLs
H22_6_15	Respondent's relationship with person helping with ADLs
H22_7_15	Respondent's relationship with person helping with ADLs
H22_8_15	Respondent's relationship with person helping with ADLs
H23_1_15	Registration number of person helping with ADLs

H23_2_15	Registration number of person helping with ADLs
H23_3_15	Registration number of person helping with ADLs
H23_4_15	Registration number of person helping with ADLs
H23_5_15	Registration number of person helping with ADLs
H23_6_15	Registration number of person helping with ADLs
H23_7_15	Registration number of person helping with ADLs
H23_8_15	Registration number of person helping with ADLs
H26C_15	Does someone help respondent to prepare a hot meal
H27C_15	Does someone help respondent to shop for groceries
H28C_15	Does someone help respondent to take medications
H29C_15	Does someone help respondent to manage his/her money
H32_1_15	Respondent's relationship with person helping with IADL
H32_2_15	Respondent's relationship with person helping with IADL
H32_3_15	Respondent's relationship with person helping with IADL
H32_4_15	Respondent's relationship with person helping with IADL
H32_5_15	Respondent's relationship with person helping with IADL
H32_6_15	Respondent's relationship with person helping with IADL
H32_7_15	Respondent's relationship with person helping with IADL
H32_8_15	Respondent's relationship with person helping with IADL
H33_1_15	Registration number of person helping with IADLs
H33_2_15	Registration number of person helping with IADLs
H33_3_15	Registration number of person helping with IADLs
H33_4_15	Registration number of person helping with IADLs
H33_5_15	Registration number of person helping with IADLs
H33_6_15	Registration number of person helping with IADLs
H33_7_15	Registration number of person helping with IADLs
H33_8_15	Registration number of person helping with IADLs

## Wave 5:

H14_18	Does someone help R to get dressed
H15D_18	Does someone help R walking across a room
H16D_18	Does someone help R bathing or showering
H17D_18	Does someone help R eating
H18D_18	Does someone help R getting in or out of bed
H19D_18	Does someone help R using the toilet
H22_1_18	R's relationship with person helping with ADLs
H22_2_18	R's relationship with person helping with ADLs
H22_3_18	R's relationship with person helping with ADLs
H23_1_18	Registration number of person helping with ADLs
H23_2_18	Registration number of person helping with ADLs
H23_3_18	Registration number of person helping with ADLs
H26C_18	Does someone help R to prepare a hot meal
H27C_18	Does someone help R to shop for groceries
H28C_18	Does someone help R to take medications
H29C_18	Does someone help R to manage his/her money
H32_1_18	R's relationship with person helping with IADLs
H32_2_18	R's relationship with person helping with IADLs
H32_3_18	R's relationship with person helping with IADLs
H33_1_18	Registration number of person helping with IADLs
H33_2_18	Registration number of person helping with IADLs
H33_3_18	Registration number of person helping with IADLs

## Activities of Daily Living and Instrumental Activities of Daily Living: Whether Receives Any Informal Care

Wave	Variable	Label	Type
1	R1RCAANY	r1rcaany: w1 R receives any informal care for ADLs/IADLs	Categ
2	R2RCAANY	r2rcaany: w2 R receives any informal care for ADLs/IADLs	Categ
3	R3RCAANY	r3rcaany: w3 R receives any informal care for ADLs/IADLs	Categ
4	R4RCAANY	r4rcaany: w4 R receives any informal care for ADLs/IADLs	Categ
5	R5RCAANY	r5rcaany: w5 R receives any informal care for ADLs/IADLs	Categ
1	S1RCAANY	s1rcaany: w1 S receives any informal care for ADLs/IADLs	Categ
2	S2RCAANY	s2rcaany: w2 S receives any informal care for ADLs/IADLs	Categ
3	S3RCAANY	s3rcaany: w3 S receives any informal care for ADLs/IADLs	Categ
4	S4RCAANY	s4rcaany: w4 S receives any informal care for ADLs/IADLs	Categ
5	S5RCAANY	s5rcaany: w5 S receives any informal care for ADLs/IADLs	Categ

### Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R1RCAANY	2586	0.66	0.47	0.00	1.00
R2RCAANY	2403	0.64	0.48	0.00	1.00
R3RCAANY	4089	0.55	0.50	0.00	1.00
R4RCAANY	4182	0.58	0.49	0.00	1.00
R5RCAANY	3756	0.56	0.50	0.00	1.00
S1RCAANY	1649	0.67	0.47	0.00	1.00
S2RCAANY	1516	0.62	0.49	0.00	1.00
S3RCAANY	2464	0.48	0.50	0.00	1.00
S4RCAANY	2349	0.51	0.50	0.00	1.00
S5RCAANY	1650	0.53	0.50	0.00	1.00

### Categorical Variable Codes

Value-----	R1RCAANY	R2RCAANY	R3RCAANY	R4RCAANY	R5RCAANY
.d:DK	1		1	6	2
.m:Missing	40	30		40	18
.r:Refuse	2		1	1	82
.x:no difficulty	12557	11271	11632	10550	13256
0.No	884	854	1849	1768	1670
1.Yes	1702	1549	2240	2414	2086
Value-----	S1RCAANY	S2RCAANY	S3RCAANY	S4RCAANY	S5RCAANY
.d:DK			1	5	
.m:Missing	14	8		10	3
.r:Refuse	1				55
.u:Unmar	4205	4009	4782	4847	5227
.v:SP NR	333	131	349	280	501
.x:no difficulty	8984	8040	8127	7288	5753
0.No	542	576	1275	1142	781
1.Yes	1107	940	1189	1207	869

### How Constructed

RwRCAANY indicates whether the respondent receives any informal care for difficulties with activities of daily living (ADL) and/or instrumental activities of daily living (IADL). The activities of daily living include dressing, walking across a room, bathing, eating, getting in and out of bed, and using the toilet. The instrumental activities of daily living include preparing meals, grocery shopping, taking medications, and managing money. If the respondent reports having difficulty with an ADL or IADL, then they are asked whether someone helps them with that activity. If someone helps with the activity, they are asked for the relationships of up to 12 people in Waves 1 and 2, up to 8 people in Waves 3 and 4, and up to 3 people in Wave 5 who help them with ADLs, and up to 12 people in Waves 1 and 2, up to 8 people in Waves 3 and 4, and up to 3 people in Wave 5 who help them with IADLs. The following relationships are

considered to provide informal care: spouse, child, child-in-law, grandchild, parent, other relative, other person.

Please note that for each caregiver, the respondent is asked to report their relationship to the caregiver and the caregiver's roster number, if any. In cases where the reported relationship disagrees with the roster number, the roster number takes precedence in defining the relationship for spouses and children, for which the roster numbers follow clear rules. In cases where the reported relationship is "spouse" but the roster number indicates a non-spouse household member or an individual with no roster number, meaning they are not a child or within the household, the relationship type is changed to "other person". In cases of multiple records with the same caregiver relationship and roster number, we only consider the caregiver with the highest level of care provided to the respondent. In cases of multiple records with the same caregiver relationship and no roster number, we assume all mentions are separate individuals.

RwRCAANY is assigned a value of 0 if the respondent has difficulty with at least one ADL or IADL but receives no help with the activity from an informal caregiver, or does not receive any help at all. RwRCAANY is assigned a value of 1 if the respondent has difficulty with at least one ADL or IADL and an informal caregiver helps with at least one of the activities. RwRCAANY is assigned special missing value .x if the respondent has no difficulty with any ADLs or IADLs. Don't know, refused, and other missing responses are assigned special missing values .d, .r, and .m, respectively. RwRCAANY is assigned a blank missing (.) if the respondent did not participate in the current wave.

SwRCAANY indicates whether the respondent's current wave's spouse receives any informal care for difficulties with ADLs or IADLs, and its values are taken from RwRCAANY. In addition to the special missing codes employed by RwRCAANY, SwRCAANY employs two additional special missing codes. A special missing value .u is used when the respondent does not report being coupled in the current wave. A special missing value .v is used when the respondent reports being coupled in the current wave but their spouse is not interviewed.

## Cross Wave Differences in MHAS

Respondents are allowed to mention up to 12 caregivers each for ADLs and IADLs in Waves 1 and 2, up to 8 caregivers each for ADLs and IADLs in Waves 3 and 4, and up to 3 caregivers each for ADLs and IADLs in Wave 5.

## Differences with the RAND HRS/Harmonized HRS

The HRS has different categories of relationships between the respondent and their caregiver, but these variables have been created to be as comparable as possible.

The HRS IADL list includes using the telephone, which is absent in the MHAS. As such, RwRCAANY in the Harmonized HRS also includes help using the telephone, whereas RwRCAANY in the Harmonized MHAS does not include help using the telephone.

## MHAS Variables Used

Wave 1:

H14	help dressing
H15_3	spouse helps walking
H15_4	other helps walking
H16_3	spouse helps bathing
H16_4	other helps bathing
H17_3	spouse helps eating
H17_4	other helps eating
H18_3	spouse helps getting in an out of bed
H18_4	other helps getting in an out of bed
H19_3	spouse helps using toilet
H19_4	other helps using toilet
H26_3	spouse helps with hot meal
H26_4	someone helps with hot meal
H27_3	spouse helps with shopping
H27_4	someone helps with shopping
H28_3	spouse helps with taking medication

H28_4	someone helps with taking medication
H29_3	spouse helps with managing money
H29_4	someone helps with managing money
Wave 1 Helper:	
H22	kinship of helper
H23	roster number of helper
H32	kinship of helper
H33	roster number of helper
Wave 2:	
H14	someone help you to get dressed
H15E	spouse helps
H15F	additional person helps
H16E	spouse helps
H16F	additional person helps
H17E	spouse helps
H17F	additional person helps
H18E	spouse helps
H18F	additional person helps
H19E	spouse helps
H19F	additional person helps
H26D	spouse helps
H26E	additional person helps
H27D	spouse helps
H27E	additional person helps
H28D	spouse helps
H28E	additional person helps
H29D	spouse helps
H29E	additional person helps
Wave 2 Helper:	
H22	relationship
H23	registration number
H32	relationship
H33	registration number
Wave 3:	
H14_12	Someone help you to get dressed
H15D_12	Someone help you walk across room
H16D_12	Someone help you to bathe or shower
H17D_12	Does someone help you eat your food
H18D_12	Does someone help you get into or out of bed
H19D_12	Does someone help you use toilet, get on off
H22_1_12	Relationship with helper for ADLs
H22_2_12	Relationship with helper for ADLs
H22_3_12	Relationship with helper for ADLs
H22_4_12	Relationship with helper for ADLs
H22_5_12	Relationship with helper for ADLs
H22_6_12	Relationship with helper for ADLs
H22_7_12	Relationship with helper for ADLs
H22_8_12	Relationship with helper for ADLs
H23_1_12	Registration number of helper for ADLs
H23_2_12	Registration number of helper for ADLs
H23_3_12	Registration number of helper for ADLs
H23_4_12	Registration number of helper for ADLs
H23_5_12	Registration number of helper for ADLs
H23_6_12	Registration number of helper for ADLs
H23_7_12	Registration number of helper for ADLs
H23_8_12	Registration number of helper for ADLs
H26C_12	Does anyone help you prepare a hot meal
H27C_12	Does anyone help you shop for groceries
H28C_12	Does anyone help you take medications
H29C_12	Does anyone one help you manage your money
H32_1_12	Relationship with helper for IADLs
H32_2_12	Relationship with helper for IADLs
H32_3_12	Relationship with helper for IADLs
H32_4_12	Relationship with helper for IADLs

H32_5_12	Relationship with helper for IADLs
H32_6_12	Relationship with helper for IADLs
H32_7_12	Relationship with helper for IADLs
H32_8_12	Relationship with helper for IADLs
H33_1_12	Registration number of helper for IADLs
H33_2_12	Registration number of helper for ADLs
H33_3_12	Registration number of helper for IADLs
H33_4_12	Registration number of helper for IADLs
H33_5_12	Registration number of helper for IADLs
H33_6_12	Registration number of helper for IADLs
H33_7_12	Registration number of helper for IADLs
H33_8_12	Registration number of helper for IADLs
Wave 4:	
H14_15	Does someone help respondent to get dressed
H15D_15	Does someone help respondent walking across a room
H16D_15	Does someone help respondent bathing or showering
H17D_15	Does someone help respondent eating
H18D_15	Does someone help respondent getting in or out of bed
H19D_15	Does someone help respondent using the toilet
H22_1_15	Respondent's relationship with person helping with ADLs
H22_2_15	Respondent's relationship with person helping with ADLs
H22_3_15	Respondent's relationship with person helping with ADLs
H22_4_15	Respondent's relationship with person helping with ADLs
H22_5_15	Respondent's relationship with person helping with ADLs
H22_6_15	Respondent's relationship with person helping with ADLs
H22_7_15	Respondent's relationship with person helping with ADLs
H22_8_15	Respondent's relationship with person helping with ADLs
H23_1_15	Registration number of person helping with ADLs
H23_2_15	Registration number of person helping with ADLs
H23_3_15	Registration number of person helping with ADLs
H23_4_15	Registration number of person helping with ADLs
H23_5_15	Registration number of person helping with ADLs
H23_6_15	Registration number of person helping with ADLs
H23_7_15	Registration number of person helping with ADLs
H23_8_15	Registration number of person helping with ADLs
H26C_15	Does someone help respondent to prepare a hot meal
H27C_15	Does someone help respondent to shop for groceries
H28C_15	Does someone help respondent to take medications
H29C_15	Does someone help respondent to manage his/her money
H32_1_15	Respondent's relationship with person helping with IADL
H32_2_15	Respondent's relationship with person helping with IADL
H32_3_15	Respondent's relationship with person helping with IADL
H32_4_15	Respondent's relationship with person helping with IADL
H32_5_15	Respondent's relationship with person helping with IADL
H32_6_15	Respondent's relationship with person helping with IADL
H32_7_15	Respondent's relationship with person helping with IADL
H32_8_15	Respondent's relationship with person helping with IADL
H33_1_15	Registration number of person helping with IADLs
H33_2_15	Registration number of person helping with IADLs
H33_3_15	Registration number of person helping with IADLs
H33_4_15	Registration number of person helping with IADLs
H33_5_15	Registration number of person helping with IADLs
H33_6_15	Registration number of person helping with IADLs
H33_7_15	Registration number of person helping with IADLs
H33_8_15	Registration number of person helping with IADLs
Wave 5:	
H14_18	Does someone help R to get dressed
H15D_18	Does someone help R walking across a room
H16D_18	Does someone help R bathing or showering
H17D_18	Does someone help R eating
H18D_18	Does someone help R getting in or out of bed
H19D_18	Does someone help R using the toilet
H22_1_18	R's relationship with person helping with ADLs
H22_2_18	R's relationship with person helping with ADLs

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H22_3_18	R's relationship with person helping with ADLs
H23_1_18	Registration number of person helping with ADLs
H23_2_18	Registration number of person helping with ADLs
H23_3_18	Registration number of person helping with ADLs
H26C_18	Does someone help R to prepare a hot meal
H27C_18	Does someone help R to shop for groceries
H28C_18	Does someone help R to take medications
H29C_18	Does someone help R to manage his/her money
H32_1_18	R's relationship with person helping with IADLs
H32_2_18	R's relationship with person helping with IADLs
H32_3_18	R's relationship with person helping with IADLs
H33_1_18	Registration number of person helping with IADLs
H33_2_18	Registration number of person helping with IADLs
H33_3_18	Registration number of person helping with IADLs



### Activities of Daily Living and Instrumental Activities of Daily Living: Receives Informal Care from Spouse

Wave	Variable	Label	Type
1	R1RSCARE	r1rscare: w1 R receives informal care from spouse for ADLs/I	Categ
2	R2RSCARE	r2rscare: w2 R receives informal care from spouse for ADLs/I	Categ
3	R3RSCARE	r3rscare: w3 R receives informal care from spouse for ADLs/I	Categ
4	R4RSCARE	r4rscare: w4 R receives informal care from spouse for ADLs/I	Categ
5	R5RSCARE	r5rscare: w5 R receives informal care from spouse for ADLs/I	Categ
1	S1RSCARE	s1rscare: w1 S receives informal care from spouse for ADLs/I	Categ
2	S2RSCARE	s2rscare: w2 S receives informal care from spouse for ADLs/I	Categ
3	S3RSCARE	s3rscare: w3 S receives informal care from spouse for ADLs/I	Categ
4	S4RSCARE	s4rscare: w4 S receives informal care from spouse for ADLs/I	Categ
5	S5RSCARE	s5rscare: w5 S receives informal care from spouse for ADLs/I	Categ
2	R2RSCAREDPM	r2rscaredpm: w2 days/month spouse helps R with ADLs/IADLs	Cont
3	R3RSCAREDPM	r3rscaredpm: w3 days/month spouse helps R with ADLs/IADLs	Cont
4	R4RSCAREDPM	r4rscaredpm: w4 days/month spouse helps R with ADLs/IADLs	Cont
5	R5RSCAREDPM	r5rscaredpm: w5 days/month spouse helps R with ADLs/IADLs	Cont
2	S2RSCAREDPM	s2rscaredpm: w2 days/month spouse helps S with ADLs/IADLs	Cont
3	S3RSCAREDPM	s3rscaredpm: w3 days/month spouse helps S with ADLs/IADLs	Cont
4	S4RSCAREDPM	s4rscaredpm: w4 days/month spouse helps S with ADLs/IADLs	Cont
5	S5RSCAREDPM	s5rscaredpm: w5 days/month spouse helps S with ADLs/IADLs	Cont
2	R2RSCAREDPMM	r2rscaredpmm: w2 R # spouse missing days of help for ADLs/IA	Cont
3	R3RSCAREDPMM	r3rscaredpmm: w3 R # spouse missing days of help for ADLs/IA	Cont
4	R4RSCAREDPMM	r4rscaredpmm: w4 R # spouse missing days of help for ADLs/IA	Cont
5	R5RSCAREDPMM	r5rscaredpmm: w5 R # spouse missing days of help for ADLs/IA	Cont
2	S2RSCAREDPMM	s2rscaredpmm: w2 S # spouse missing days of help for ADLs/IA	Cont
3	S3RSCAREDPMM	s3rscaredpmm: w3 S # spouse missing days of help for ADLs/IA	Cont
4	S4RSCAREDPMM	s4rscaredpmm: w4 S # spouse missing days of help for ADLs/IA	Cont
5	S5RSCAREDPMM	s5rscaredpmm: w5 S # spouse missing days of help for ADLs/IA	Cont
2	R2RSCAREHR	r2rscarehr: w2 hours/day spouse helps R with ADLs/IADLs	Cont
3	R3RSCAREHR	r3rscarehr: w3 hours/day spouse helps R with ADLs/IADLs	Cont
4	R4RSCAREHR	r4rscarehr: w4 hours/day spouse helps R with ADLs/IADLs	Cont
5	R5RSCAREHR	r5rscarehr: w5 hours/day spouse helps R with ADLs/IADLs	Cont
2	S2RSCAREHR	s2rscarehr: w2 hours/day spouse helps S with ADLs/IADLs	Cont
3	S3RSCAREHR	s3rscarehr: w3 hours/day spouse helps S with ADLs/IADLs	Cont
4	S4RSCAREHR	s4rscarehr: w4 hours/day spouse helps S with ADLs/IADLs	Cont
5	S5RSCAREHR	s5rscarehr: w5 hours/day spouse helps S with ADLs/IADLs	Cont
2	R2RSCAREHRM	r2rscarehrm: w2 R # spouse missing hours of help for ADLs/IA	Cont
3	R3RSCAREHRM	r3rscarehrm: w3 R # spouse missing hours of help for ADLs/IA	Cont
4	R4RSCAREHRM	r4rscarehrm: w4 R # spouse missing hours of help for ADLs/IA	Cont
5	R5RSCAREHRM	r5rscarehrm: w5 R # spouse missing hours of help for ADLs/IA	Cont
2	S2RSCAREHRM	s2rscarehrm: w2 S # spouse missing hours of help for ADLs/IA	Cont
3	S3RSCAREHRM	s3rscarehrm: w3 S # spouse missing hours of help for ADLs/IA	Cont
4	S4RSCAREHRM	s4rscarehrm: w4 S # spouse missing hours of help for ADLs/IA	Cont
5	S5RSCAREHRM	s5rscarehrm: w5 S # spouse missing hours of help for ADLs/IA	Cont

### Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R1RSCARE	1774	0.55	0.50	0.00	1.00
R2RSCARE	1674	0.41	0.49	0.00	1.00

R3RSCARE	2318	0.33	0.47	0.00	1.00
R4RSCARE	2516	0.31	0.46	0.00	1.00
R5RSCARE	2211	0.20	0.40	0.00	1.00
S1RSCARE	1148	0.83	0.37	0.00	1.00
S2RSCARE	1029	0.66	0.47	0.00	1.00
S3RSCARE	1251	0.60	0.49	0.00	1.00
S4RSCARE	1277	0.59	0.49	0.00	1.00
S5RSCARE	934	0.37	0.48	0.00	1.00
R2RSCAREDPM	1673	10.75	14.08	0.00	30.00
R3RSCAREDPM	2313	8.03	12.85	0.00	30.00
R4RSCAREDPM	2511	6.55	11.83	0.00	30.00
R5RSCAREDPM	2182	4.93	11.06	0.00	60.00
S2RSCAREDPM	1028	17.37	14.33	0.00	30.00
S3RSCAREDPM	1247	14.57	14.31	0.00	30.00
S4RSCAREDPM	1272	12.56	13.91	0.00	30.00
S5RSCAREDPM	907	9.32	13.90	0.00	60.00
R2RSCAREDPMM	1674	0.00	0.02	0.00	1.00
R3RSCAREDPMM	2318	0.00	0.05	0.00	1.00
R4RSCAREDPMM	2516	0.00	0.04	0.00	1.00
R5RSCAREDPMM	2211	0.01	0.12	0.00	1.00
S2RSCAREDPMM	1029	0.00	0.03	0.00	1.00
S3RSCAREDPMM	1251	0.00	0.06	0.00	1.00
S4RSCAREDPMM	1277	0.00	0.06	0.00	1.00
S5RSCAREDPMM	934	0.03	0.18	0.00	1.00
R2RSCAREHR	1671	2.08	4.37	0.00	24.00
R3RSCAREHR	2303	2.91	6.52	0.00	24.00
R4RSCAREHR	2508	1.52	3.73	0.00	24.00
R5RSCAREHR	2173	1.19	4.00	0.00	29.00
S2RSCAREHR	1026	3.35	5.13	0.00	24.00
S3RSCAREHR	1237	5.31	8.08	0.00	24.00
S4RSCAREHR	1269	2.90	4.72	0.00	24.00
S5RSCAREHR	899	2.47	5.72	0.00	29.00
R2RSCAREHRM	1674	0.00	0.04	0.00	1.00
R3RSCAREHRM	2318	0.01	0.09	0.00	1.00
R4RSCAREHRM	2516	0.00	0.06	0.00	1.00
R5RSCAREHRM	2211	0.02	0.14	0.00	1.00
S2RSCAREHRM	1029	0.00	0.05	0.00	1.00
S3RSCAREHRM	1251	0.01	0.11	0.00	1.00
S4RSCAREHRM	1277	0.01	0.08	0.00	1.00
S5RSCAREHRM	934	0.04	0.20	0.00	1.00

Categorical Variable Codes

Value-----	R1RSCARE	R2RSCARE	R3RSCARE	R4RSCARE	R5RSCARE
.d:DK	1		1	6	2
.h:no help received	812	729	1771	1666	1545
.m:Missing	40	30		40	18
.r:Refuse	2		1	1	82
.x:no difficulty	12557	11271	11632	10550	13256
0.No	804	989	1548	1742	1768
1.Yes	970	685	770	774	443
Value-----	S1RSCARE	S2RSCARE	S3RSCARE	S4RSCARE	S5RSCARE
.d:DK			1	5	
.h:no help received	501	487	1213	1072	716
.m:Missing	14	8		10	3

.r:Refuse		1				55
.u:Unmar		4205	4009	4782	4847	5227
.v:SP NR		333	131	349	280	501
.x:no difficulty		8984	8040	8127	7288	5753
0.No		191	348	501	528	591
1.Yes		957	681	750	749	343

## How Constructed

The following variables indicate whether the respondent's spouse helps the respondent with any ADL or IADL needs. The activities of daily living include dressing, walking across a room, bathing, eating, getting in and out of bed, and using the toilet. The instrumental activities of daily living include preparing meals, grocery shopping, taking medications, and managing money. If the respondent reports having difficulty with an ADL or IADL, then they are asked whether someone helps them with that activity. If someone helps with the activity, they are asked for the relationships of up to 12 people in Waves 1 and 2, up to 8 people in Waves 3 and 4, and up to 3 people in Wave 5 who help them with ADLs and IADLs each. The information used to derive these variables is taken from the help files in Waves 1 and 2 and from the individual files in Waves 3 and forward. For each caregiver, the respondent is asked to report their relationship to the caregiver and the caregiver's roster number, if any. In cases where the reported relationship disagrees with the roster number, the roster number takes precedence in defining the relationship for spouses and children, for which the roster numbers follow clear rules. In cases where the reported relationship is "spouse" but the roster number indicates a non-spouse household member or an individual with no roster number, meaning they are not a child or within the household, the relationship type is changed to "other person". In cases of multiple records with the same caregiver relationship and roster number, we only consider the caregiver with the highest level of care provided to the respondent. In cases of multiple records with the same caregiver relationship and no roster number, we assume all mentions are separate individuals.

The following variables are coded as special missing value .x if the respondent reports no difficulty with any ADL or IADL, and are coded as special missing value .h if the respondent reports difficulty with an ADL or IADL but does not receive any help. Don't know, refused, and other missing responses are assigned special missing values .d, .r, and .m, respectively. These variables are set to plain missing (.) for respondents who did not participate in the current wave.

RwRSCARE, RwRSCAREDPM, RwRSCAREDPMM, RwRSCAREHR, and RwRSCAREHRM include help from the respondent's spouse.

RwRSCARE indicates whether the respondent's spouse helps the respondent with any ADL or IADL needs. RwRSCARE is coded as 0 if the respondent receives no assistance from their spouse; and is coded as 1 if the respondent does receive help from their spouse.

RwRSCAREDPM indicates the number of days per month the respondent's spouse helps the respondent with ADL or IADL needs. If the respondent reports receiving help every day from their spouse, then a value of 30 is assumed. RwRSCAREDPM is assigned a value of 0 if the respondent did not receive help from their spouse. RwRSCAREDPMM indicates whether no value of days was reported for their spouse helper and so was not accounted for in RwRSCAREDPM. RwRSCAREDPMM is assigned special missing value .m if the respondent was not helped by their spouse. RwRSCAREDPM and RwRSCAREDPMM are not available in wave 1.

RwRSCAREHR indicates the number of hours per day the respondent's spouse helps the respondent with any ADL or IADL needs. Respondents are asked, on days their spouse helps with a particular ADL or IADL need, how many hours per day their spouse helps. If the respondent reports less than an hour for their spouse, then a 1 is assumed. RwRSCAREHR is assigned a value of 0 if the respondent did not receive help from their spouse. RwRSCAREHRM indicates whether no value of hours was reported for their spouse helper and so was not accounted for in RwRSCAREHR. RwRSCAREHRM is assigned special missing value .m if the respondent was not helped by their spouse. RwRSCAREHR and RwRSCAREHRM are not available in wave 1.

SwRSCARE, SwRSCAREDPM, and SwRSCAREHR indicate whether and the frequency with which the respondent's current wave's spouse receives help from the respondent, and their values are taken from RwRSCARE, RwRSCAREDPM, and RwRSCAREHR. SwRSCAREDPMM and SwRSCAREHRM indicate whether or not a value was reported for the number of days and hours the respondent's current spouse was helped by the respondent and are taken from RwRSCAREDPMM and RwRSCAREHRM. In addition to the special missing codes employed by the respondent variables, the spouse variables employ two additional special missing codes. A special missing value .u is used when the respondent does not report being coupled in the current wave. A special missing value .v is used when the respondent reports being coupled in the current wave but their spouse is not interviewed.

## Cross Wave Differences in MHAS

The respondent is asked the number of days per month and hours per day the respondent receives help from their spouse starting in Wave 2.

Respondents are allowed to mention up to 12 caregivers each in Waves 1 and 2 for ADLs and IADLs, up to 8 caregivers each in Waves 3 and 4 for ADLs and IADLs, and up to 3 caregivers each in Wave 5 for ADLs and IADLs.

## Differences with the RAND HRS/Harmonized HRS

The HRS has different categories of relationships between the respondent and their caregiver, but these variables have been created to be as comparable as possible. These variables in the Harmonized HRS include help provided by the respondent's spouse or former spouse, whereas these variables only include help provided by the respondent's spouse in the Harmonized MHAS.

The HRS IADL list includes using the telephone, which is absent in the MHAS. As such, these variables in the Harmonized HRS also include help using the telephone, whereas in the Harmonized MHAS they do not include help using the telephone.

The HRS asks for up to 7 relationships of people who help with ADLs (dressing, walking across a room, bathing, eating, getting in and out of bed, and using the toilet). The MHAS, in contrast, asks for the relationships of a varying number of people across waves who help with ADLs. The HRS asks for up to 6 relationships of people who help with IADLs (preparing meals, grocery shopping, making phone calls, and taking medications), and up to 2 people who help with managing money. The MHAS, in contrast, asks for the relationships of a varying number of people who help with preparing meals, grocery shopping, taking medications, and managing money together.

## MHAS Variables Used

### Wave 1:

H14	help dressing
H15_3	spouse helps walking
H15_4	other helps walking
H16_3	spouse helps bathing
H16_4	other helps bathing
H17_3	spouse helps eating
H17_4	other helps eating
H18_3	spouse helps getting in an out of bed
H18_4	other helps getting in an out of bed
H19_3	spouse helps using toilet
H19_4	other helps using toilet
H26_3	spouse helps with hot meal
H26_4	someone helps with hot meal
H27_3	spouse helps with shopping
H27_4	someone helps with shopping
H28_3	spouse helps with taking medication
H28_4	someone helps with taking medication
H29_3	spouse helps with managing money
H29_4	someone helps with managing money

### Wave 1 Helper:

H22	kinship of helper
H23	roster number of helper
H24	days of help
H25	hours of help
H32	kinship of helper
H33	roster number of helper
H34	days of help
H35	hours of help

### Wave 2:

H14	someone help you to get dressed
H15E	spouse helps

H15F	additional person helps
H16E	spouse helps
H16F	additional person helps
H17E	spouse helps
H17F	additional person helps
H18E	spouse helps
H18F	additional person helps
H19E	spouse helps
H19F	additional person helps
H26D	spouse helps
H26E	additional person helps
H27D	spouse helps
H27E	additional person helps
H28D	spouse helps
H28E	additional person helps
H29D	spouse helps
H29E	additional person helps

## Wave 2 Helper:

H22	relationship
H23	registration number
H24	number of days (name) helped last month
H25	number of hours during those days
H32	relationship
H33	registration number
H34	number of days (name) helped last month
H35	how many hours during those days

## Wave 3:

H14_12	Someone help you to get dressed
H15D_12	Someone help you walk across room
H16D_12	Someone help you to bathe or shower
H17D_12	Does someone help you eat your food
H18D_12	Does someone help you get into or out of bed
H19D_12	Does someone help you use toilet, get on off
H22_1_12	Relationship with helper for ADLs
H22_2_12	Relationship with helper for ADLs
H22_3_12	Relationship with helper for ADLs
H22_4_12	Relationship with helper for ADLs
H22_5_12	Relationship with helper for ADLs
H22_6_12	Relationship with helper for ADLs
H22_7_12	Relationship with helper for ADLs
H22_8_12	Relationship with helper for ADLs
H23_1_12	Registration number of helper for ADLs
H23_2_12	Registration number of helper for ADLs
H23_3_12	Registration number of helper for ADLs
H23_4_12	Registration number of helper for ADLs
H23_5_12	Registration number of helper for ADLs
H23_6_12	Registration number of helper for ADLs
H23_7_12	Registration number of helper for ADLs
H23_8_12	Registration number of helper for ADLs
H24_1_12	Number of days (name) helped last month
H24_2_12	Number of days (name) helped last month
H24_3_12	Number of days (name) helped last month
H24_4_12	Number of days (name) helped last month
H24_5_12	Number of days (name) helped last month
H24_6_12	Number of days (name) helped last month
H24_7_12	Number of days (name) helped last month
H24_8_12	Number of days (name) helped last month
H25_1_12	Number of hours during those days (NAME) helped
H25_2_12	Number of hours during those days (NAME) helped
H25_3_12	Number of hours during those days (NAME) helped
H25_4_12	Number of hours during those days (NAME) helped
H25_5_12	Number of hours during those days (NAME) helped
H25_6_12	Number of hours during those days (NAME) helped
H25_7_12	Number of hours during those days (NAME) helped

H25_8_12	Number of hours during those days (NAME) helped
H26C_12	Does anyone help you prepare a hot meal
H27C_12	Does anyone help you shop for groceries
H28C_12	Does anyone help you take medications
H29C_12	Does anyone one help you manage your money
H32_1_12	Relationship with helper for IADLs
H32_2_12	Relationship with helper for IADLs
H32_3_12	Relationship with helper for IADLs
H32_4_12	Relationship with helper for IADLs
H32_5_12	Relationship with helper for IADLs
H32_6_12	Relationship with helper for IADLs
H32_7_12	Relationship with helper for IADLs
H32_8_12	Relationship with helper for IADLs
H33_1_12	Registration number of helper for IADLs
H33_2_12	Registration number of helper for ADLs
H33_3_12	Registration number of helper for IADLs
H33_4_12	Registration number of helper for IADLs
H33_5_12	Registration number of helper for IADLs
H33_6_12	Registration number of helper for IADLs
H33_7_12	Registration number of helper for IADLs
H33_8_12	Registration number of helper for IADLs
H34_1_12	Number of days (name) helped last month
H34_2_12	Number of days (name) helped last month
H34_3_12	Number of days (name) helped last month
H34_4_12	Number of days (name) helped last month
H34_5_12	Number of days (name) helped last month
H34_6_12	Number of days (name) helped last month
H34_7_12	Number of days (name) helped last month
H34_8_12	Number of days (name) helped last month
H35_1_12	Number of hours during those days (NAME) helped
H35_2_12	Number of hours during those days (NAME) helped
H35_3_12	Number of hours during those days (NAME) helped
H35_4_12	Number of hours during those days (NAME) helped
H35_5_12	Number of hours during those days (NAME) helped
H35_6_12	Number of hours during those days (NAME) helped
H35_7_12	Number of hours during those days (NAME) helped
H35_8_12	Number of hours during those days (NAME) helped

## Wave 4:

H14_15	Does someone help respondent to get dressed
H15D_15	Does someone help respondent walking across a room
H16D_15	Does someone help respondent bathing or showering
H17D_15	Does someone help respondent eating
H18D_15	Does someone help respondent getting in or out of bed
H19D_15	Does someone help respondent using the toilet
H22_1_15	Respondent's relationship with person helping with ADLs
H22_2_15	Respondent's relationship with person helping with ADLs
H22_3_15	Respondent's relationship with person helping with ADLs
H22_4_15	Respondent's relationship with person helping with ADLs
H22_5_15	Respondent's relationship with person helping with ADLs
H22_6_15	Respondent's relationship with person helping with ADLs
H22_7_15	Respondent's relationship with person helping with ADLs
H22_8_15	Respondent's relationship with person helping with ADLs
H23_1_15	Registration number of person helping with ADLs
H23_2_15	Registration number of person helping with ADLs
H23_3_15	Registration number of person helping with ADLs
H23_4_15	Registration number of person helping with ADLs
H23_5_15	Registration number of person helping with ADLs
H23_6_15	Registration number of person helping with ADLs
H23_7_15	Registration number of person helping with ADLs
H23_8_15	Registration number of person helping with ADLs
H24_1_15	Number of days the person helped during last month
H24_2_15	Number of days the person helped during last month
H24_3_15	Number of days the person helped during last month
H24_4_15	Number of days the person helped during last month

H24_5_15	Number of days the person helped during last month
H24_6_15	Number of days the person helped during last month
H24_7_15	Number of days the person helped during last month
H24_8_15	Number of days the person helped during last month
H25_1_15	Number of hours during those days that the person helps
H25_2_15	Number of hours during those days that the person helps
H25_3_15	Number of hours during those days that the person helps
H25_4_15	Number of hours during those days that the person helps
H25_5_15	Number of hours during those days that the person helps
H25_6_15	Number of hours during those days that the person helps
H25_7_15	Number of hours during those days that the person helps
H25_8_15	Number of hours during those days that the person helps
H26C_15	Does someone help respondent to prepare a hot meal
H27C_15	Does someone help respondent to shop for groceries
H28C_15	Does someone help respondent to take medications
H29C_15	Does someone help respondent to manage his/her money
H32_1_15	Respondent's relationship with person helping with IADL
H32_2_15	Respondent's relationship with person helping with IADL
H32_3_15	Respondent's relationship with person helping with IADL
H32_4_15	Respondent's relationship with person helping with IADL
H32_5_15	Respondent's relationship with person helping with IADL
H32_6_15	Respondent's relationship with person helping with IADL
H32_7_15	Respondent's relationship with person helping with IADL
H32_8_15	Respondent's relationship with person helping with IADL
H33_1_15	Registration number of person helping with IADLs
H33_2_15	Registration number of person helping with IADLs
H33_3_15	Registration number of person helping with IADLs
H33_4_15	Registration number of person helping with IADLs
H33_5_15	Registration number of person helping with IADLs
H33_6_15	Registration number of person helping with IADLs
H33_7_15	Registration number of person helping with IADLs
H33_8_15	Registration number of person helping with IADLs
H34_1_15	Number of days the person helped during last month
H34_2_15	Number of days the person helped during last month
H34_3_15	Number of days the person helped during last month
H34_4_15	Number of days the person helped during last month
H34_5_15	Number of days the person helped during last month
H34_6_15	Number of days the person helped during last month
H34_7_15	Number of days the person helped during last month
H34_8_15	Number of days the person helped during last month
H35_1_15	Number of hours during those days that the person helps
H35_2_15	Number of hours during those days that the person helps
H35_3_15	Number of hours during those days that the person helps
H35_4_15	Number of hours during those days that the person helps
H35_5_15	Number of hours during those days that the person helps
H35_6_15	Number of hours during those days that the person helps
H35_7_15	Number of hours during those days that the person helps
H35_8_15	Number of hours during those days that the person helps

## Wave 5:

H14_18	Does someone help R to get dressed
H15D_18	Does someone help R walking across a room
H16D_18	Does someone help R bathing or showering
H17D_18	Does someone help R eating
H18D_18	Does someone help R getting in or out of bed
H19D_18	Does someone help R using the toilet
H22_1_18	R's relationship with person helping with ADLs
H22_2_18	R's relationship with person helping with ADLs
H22_3_18	R's relationship with person helping with ADLs
H23_1_18	Registration number of person helping with ADLs
H23_2_18	Registration number of person helping with ADLs
H23_3_18	Registration number of person helping with ADLs
H24_1_18	Number of days the person helped during last month
H24_2_18	Number of days the person helped during last month
H24_3_18	Number of days the person helped during last month

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H25_1_18	Number of hours during those days that the person helps
H25_2_18	Number of hours during those days that the person helps
H25_3_18	Number of hours during those days that the person helps
H26C_18	Does someone help R to prepare a hot meal
H27C_18	Does someone help R to shop for groceries
H28C_18	Does someone help R to take medications
H29C_18	Does someone help R to manage his/her money
H32_1_18	R's relationship with person helping with IADLs
H32_2_18	R's relationship with person helping with IADLs
H32_3_18	R's relationship with person helping with IADLs
H33_1_18	Registration number of person helping with IADLs
H33_2_18	Registration number of person helping with IADLs
H33_3_18	Registration number of person helping with IADLs
H34_1_18	Number of days the person helped during last month
H34_2_18	Number of days the person helped during last month
H34_3_18	Number of days the person helped during last month
H35_1_18	Number of hours during those days that the person helps
H35_2_18	Number of hours during those days that the person helps
H35_3_18	Number of hours during those days that the person helps



**Activities of Daily Living and Instrumental Activities of Daily Living: Receives Informal Care from Children or Grandchildren**

Wave	Variable	Label	Type
1	R1RCCARE	r1rccare: w1 R receives informal care from kids/grandkids fo	Categ
2	R2RCCARE	r2rccare: w2 R receives informal care from kids/grandkids fo	Categ
3	R3RCCARE	r3rccare: w3 R receives informal care from kids/grandkids fo	Categ
4	R4RCCARE	r4rccare: w4 R receives informal care from kids/grandkids fo	Categ
5	R5RCCARE	r5rccare: w5 R receives informal care from kids/grandkids fo	Categ
1	S1RCCARE	s1rccare: w1 S receives informal care from kids/grandkids fo	Categ
2	S2RCCARE	s2rccare: w2 S receives informal care from kids/grandkids fo	Categ
3	S3RCCARE	s3rccare: w3 S receives informal care from kids/grandkids fo	Categ
4	S4RCCARE	s4rccare: w4 S receives informal care from kids/grandkids fo	Categ
5	S5RCCARE	s5rccare: w5 S receives informal care from kids/grandkids fo	Categ
1	R1RCCAREN	r1rccaren: w1 # kids/grandkids who help R with ADLs/IADLs	Cont
2	R2RCCAREN	r2rccaren: w2 # kids/grandkids who help R with ADLs/IADLs	Cont
3	R3RCCAREN	r3rccaren: w3 # kids/grandkids who help R with ADLs/IADLs	Cont
4	R4RCCAREN	r4rccaren: w4 # kids/grandkids who help R with ADLs/IADLs	Cont
5	R5RCCAREN	r5rccaren: w5 # kids/grandkids who help R with ADLs/IADLs	Cont
1	S1RCCAREN	s1rccaren: w1 # kids/grandkids who help S with ADLs/IADLs	Cont
2	S2RCCAREN	s2rccaren: w2 # kids/grandkids who help S with ADLs/IADLs	Cont
3	S3RCCAREN	s3rccaren: w3 # kids/grandkids who help S with ADLs/IADLs	Cont
4	S4RCCAREN	s4rccaren: w4 # kids/grandkids who help S with ADLs/IADLs	Cont
5	S5RCCAREN	s5rccaren: w5 # kids/grandkids who help S with ADLs/IADLs	Cont
1	R1RCCAREDPM	r1rccaredpm: w1 days/month kids/grandkids help R with ADLs/I	Cont
2	R2RCCAREDPM	r2rccaredpm: w2 days/month kids/grandkids help R with ADLs/I	Cont
3	R3RCCAREDPM	r3rccaredpm: w3 days/month kids/grandkids help R with ADLs/I	Cont
4	R4RCCAREDPM	r4rccaredpm: w4 days/month kids/grandkids help R with ADLs/I	Cont
5	R5RCCAREDPM	r5rccaredpm: w5 days/month kids/grandkids help R with ADLs/I	Cont
1	S1RCCAREDPM	s1rccaredpm: w1 days/month kids/grandkids help S with ADLs/I	Cont
2	S2RCCAREDPM	s2rccaredpm: w2 days/month kids/grandkids help S with ADLs/I	Cont
3	S3RCCAREDPM	s3rccaredpm: w3 days/month kids/grandkids help S with ADLs/I	Cont
4	S4RCCAREDPM	s4rccaredpm: w4 days/month kids/grandkids help S with ADLs/I	Cont
5	S5RCCAREDPM	s5rccaredpm: w5 days/month kids/grandkids help S with ADLs/I	Cont
1	R1RCCAREDPMM	r1rccaredpmm: w1 R # kids/grandkids missing days of help for	Cont
2	R2RCCAREDPMM	r2rccaredpmm: w2 R # kids/grandkids missing days of help for	Cont
3	R3RCCAREDPMM	r3rccaredpmm: w3 R # kids/grandkids missing days of help for	Cont
4	R4RCCAREDPMM	r4rccaredpmm: w4 R # kids/grandkids missing days of help for	Cont
5	R5RCCAREDPMM	r5rccaredpmm: w5 R # kids/grandkids missing days of help for	Cont
1	S1RCCAREDPMM	s1rccaredpmm: w1 S # kids/grandkids missing days of help for	Cont
2	S2RCCAREDPMM	s2rccaredpmm: w2 S # kids/grandkids missing days of help for	Cont
3	S3RCCAREDPMM	s3rccaredpmm: w3 S # kids/grandkids missing days of help for	Cont
4	S4RCCAREDPMM	s4rccaredpmm: w4 S # kids/grandkids missing days of help for	Cont
5	S5RCCAREDPMM	s5rccaredpmm: w5 S # kids/grandkids missing days of help for	Cont
1	R1RCCAREHR	r1rccarehr: w1 hours/day kids/grandkids help R with ADLs/IAD	Cont
2	R2RCCAREHR	r2rccarehr: w2 hours/day kids/grandkids help R with ADLs/IAD	Cont
3	R3RCCAREHR	r3rccarehr: w3 hours/day kids/grandkids help R with ADLs/IAD	Cont
4	R4RCCAREHR	r4rccarehr: w4 hours/day kids/grandkids help R with ADLs/IAD	Cont
5	R5RCCAREHR	r5rccarehr: w5 hours/day kids/grandkids help R with ADLs/IAD	Cont
1	S1RCCAREHR	s1rccarehr: w1 hours/day kids/grandkids help S with ADLs/IAD	Cont
2	S2RCCAREHR	s2rccarehr: w2 hours/day kids/grandkids help S with ADLs/IAD	Cont
3	S3RCCAREHR	s3rccarehr: w3 hours/day kids/grandkids help S with ADLs/IAD	Cont

4	S4RCCAREHR	s4rcccarehr: w4 hours/day kids/grandkids help S with ADLs/IAD	Cont
5	S5RCCAREHR	s5rcccarehr: w5 hours/day kids/grandkids help S with ADLs/IAD	Cont
1	R1RCCAREHRM	r1rcccarehrm: w1 R # kids/grandkids missing hours of help for	Cont
2	R2RCCAREHRM	r2rcccarehrm: w2 R # kids/grandkids missing hours of help for	Cont
3	R3RCCAREHRM	r3rcccarehrm: w3 R # kids/grandkids missing hours of help for	Cont
4	R4RCCAREHRM	r4rcccarehrm: w4 R # kids/grandkids missing hours of help for	Cont
5	R5RCCAREHRM	r5rcccarehrm: w5 R # kids/grandkids missing hours of help for	Cont
1	S1RCCAREHRM	s1rcccarehrm: w1 S # kids/grandkids missing hours of help for	Cont
2	S2RCCAREHRM	s2rcccarehrm: w2 S # kids/grandkids missing hours of help for	Cont
3	S3RCCAREHRM	s3rcccarehrm: w3 S # kids/grandkids missing hours of help for	Cont
4	S4RCCAREHRM	s4rcccarehrm: w4 S # kids/grandkids missing hours of help for	Cont
5	S5RCCAREHRM	s5rcccarehrm: w5 S # kids/grandkids missing hours of help for	Cont

## Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R1RCCARE	1774	0.50	0.50	0.00	1.00
R2RCCARE	1674	0.55	0.50	0.00	1.00
R3RCCARE	2318	0.60	0.49	0.00	1.00
R4RCCARE	2516	0.64	0.48	0.00	1.00
R5RCCARE	2211	0.66	0.47	0.00	1.00
S1RCCARE	1148	0.35	0.48	0.00	1.00
S2RCCARE	1029	0.41	0.49	0.00	1.00
S3RCCARE	1251	0.42	0.49	0.00	1.00
S4RCCARE	1277	0.45	0.50	0.00	1.00
S5RCCARE	934	0.54	0.50	0.00	1.00
R1RCCAREN	1774	0.76	1.06	0.00	13.00
R2RCCAREN	1674	0.84	1.04	0.00	9.00
R3RCCAREN	2318	0.81	0.86	0.00	8.00
R4RCCAREN	2516	0.87	0.89	0.00	8.00
R5RCCAREN	2211	1.02	0.97	0.00	4.00
S1RCCAREN	1148	0.56	0.98	0.00	9.00
S2RCCAREN	1029	0.62	0.98	0.00	8.00
S3RCCAREN	1251	0.57	0.84	0.00	6.00
S4RCCAREN	1277	0.61	0.87	0.00	8.00
S5RCCAREN	934	0.80	0.91	0.00	4.00
R1RCCAREDPM	1774	17.74	28.04	0.00	363.00
R2RCCAREDPM	1673	19.09	25.75	0.00	195.00
R3RCCAREDPM	2304	16.42	21.04	0.00	180.00
R4RCCAREDPM	2512	16.10	20.12	0.00	210.00
R5RCCAREDPM	2175	23.09	25.79	0.00	120.00
S1RCCAREDPM	1148	12.53	25.13	0.00	270.00
S2RCCAREDPM	1029	13.64	23.76	0.00	195.00
S3RCCAREDPM	1243	10.36	18.33	0.00	180.00
S4RCCAREDPM	1275	10.35	16.86	0.00	120.00
S5RCCAREDPM	921	17.40	23.50	0.00	94.00
R1RCCAREDPMM	1774	0.00	0.00	0.00	0.00
R2RCCAREDPMM	1674	0.00	0.02	0.00	1.00
R3RCCAREDPMM	2318	0.01	0.10	0.00	2.00
R4RCCAREDPMM	2516	0.01	0.08	0.00	2.00
R5RCCAREDPMM	2211	0.03	0.22	0.00	3.00
S1RCCAREDPMM	1148	0.00	0.00	0.00	0.00
S2RCCAREDPMM	1029	0.00	0.00	0.00	0.00
S3RCCAREDPMM	1251	0.01	0.09	0.00	1.00

S4RCCAREDPMM	1277	0.00	0.06	0.00	1.00
S5RCCAREDPMM	934	0.03	0.21	0.00	3.00
R1RCCAREHR	1774	3.46	6.74	0.00	80.00
R2RCCAREHR	1673	4.06	9.07	0.00	216.00
R3RCCAREHR	2302	6.04	9.71	0.00	90.00
R4RCCAREHR	2508	4.32	7.47	0.00	168.00
R5RCCAREHR	2166	6.12	10.31	0.00	72.00
S1RCCAREHR	1148	2.19	5.72	0.00	80.00
S2RCCAREHR	1029	2.36	5.23	0.00	48.00
S3RCCAREHR	1241	3.51	7.92	0.00	90.00
S4RCCAREHR	1275	2.55	4.90	0.00	55.00
S5RCCAREHR	921	4.21	8.00	0.00	72.00
R1RCCAREHRM	1774	0.00	0.00	0.00	0.00
R2RCCAREHRM	1674	0.00	0.02	0.00	1.00
R3RCCAREHRM	2318	0.01	0.13	0.00	3.00
R4RCCAREHRM	2516	0.01	0.11	0.00	4.00
R5RCCAREHRM	2211	0.04	0.24	0.00	3.00
S1RCCAREHRM	1148	0.00	0.00	0.00	0.00
S2RCCAREHRM	1029	0.00	0.00	0.00	0.00
S3RCCAREHRM	1251	0.01	0.13	0.00	3.00
S4RCCAREHRM	1277	0.00	0.06	0.00	1.00
S5RCCAREHRM	934	0.03	0.21	0.00	3.00

## Categorical Variable Codes

Value-----	R1RCCARE	R2RCCARE	R3RCCARE	R4RCCARE	R5RCCARE
.d:DK	1		1	6	2
.h:no help received	812	729	1771	1666	1545
.m:Missing	40	30		40	18
.r:Refuse	2		1	1	82
.x:no difficulty	12557	11271	11632	10550	13256
0.No	890	750	925	918	752
1.Yes	884	924	1393	1598	1459
Value-----	S1RCCARE	S2RCCARE	S3RCCARE	S4RCCARE	S5RCCARE
.d:DK			1	5	
.h:no help received	501	487	1213	1072	716
.m:Missing	14	8		10	3
.r:Refuse	1				55
.u:Unmar	4205	4009	4782	4847	5227
.v:SP NR	333	131	349	280	501
.x:no difficulty	8984	8040	8127	7288	5753
0.No	746	611	731	702	427
1.Yes	402	418	520	575	507

## How Constructed

The following variables indicate whether the respondent's children or grandchildren help the respondent with any ADL or IADL needs. The activities of daily living include dressing, walking across a room, bathing, eating, getting in and out of bed, and using the toilet. The instrumental activities of daily living include preparing meals, grocery shopping, taking medications, and managing money. If the respondent reports having difficulty with an ADL or IADL, then they are asked whether someone helps them with that activity. If someone helps with the activity, they are asked for the relationships of up to 12 people in Waves 1 and 2, up to 8 people in Waves 3 and 4, and up to 3 people in Wave 5 who help them with ADLs and IADLs each. The information used to derive these variables is taken from the help files in Waves 1 and 2 and from the individual files in Waves 3 and forward. For each caregiver, the respondent is asked to report their relationship to the caregiver and the caregiver's roster number, if any. In cases where the reported relationship disagrees with the roster number, the roster number takes precedence in defining the relationship for spouses and children, for which the roster numbers follow clear rules. In cases where the reported relationship is "spouse" but the roster number indicates a non-spouse household member or an individual with no roster number, meaning they are not a child or within the household, the

relationship type is changed to "other person". In cases of multiple records with the same caregiver relationship and roster number, we only consider the caregiver with the highest level of care provided to the respondent. In cases of multiple records with the same caregiver relationship and no roster number, we assume all mentions are separate individuals.

The following variables are coded as special missing value .x if the respondent reports no difficulty with any ADL or IADL, and are coded as special missing value .h if the respondent reports difficulty with an ADL or IADL but does not receive any help. Don't know, refused, or other missing responses are assigned special missing values .d, .r, and .m, respectively. These variables are set to plain missing (.) for respondents who did not participate in the current wave.

RwRCCARE, RwRCCAREN, RwRCCAREDPM, RwRCCAREDPMM, RwRCCAREHR, and RwRCCAREHRM include help from a child, child-in-law, or grandchild.

RwRCCARE indicates whether any of the respondent's children or grandchildren help the respondent with ADL or IADL needs. RwRCCAREN indicates the number of the respondent's children or grandchildren who help the respondent with ADL or IADL needs. RwRCCARE is coded as 0 if none of the respondent's children or grandchildren help the respondent with ADLs or IADLs; and is coded as 1 if at least one of the respondent's children or grandchildren help the respondent with ADLs or IADLs.

RwRCCAREDPM indicates the number of total days per month the respondent's children or grandchildren help the respondent with ADL or IADL needs. If the respondent reports receiving help every day from that child or grandchild, then a value of 30 is assumed. RwRCCAREDPMM is the sum of days per month for all children or grandchildren helpers, and so values can be over 30 days. RwRCCAREDPM is calculated as long as there is one non-missing value. RwRCCAREDPMM is assigned a value of 0 if the respondent did not receive help from any children or grandchildren. RwRCCAREDPMM indicates the number of children or grandchildren who helped the respondent for whom no value of days was reported and was not accounted for in RwRCCAREDPM. RwRCCAREDPMM is assigned special missing value .m if the respondent was not helped by any children or grandchildren.

RwRCCAREHR indicates the number of hours per day the respondent's children or grandchildren help the respondent with ADL or IADL needs. Respondents are asked, on days their children or grandchildren help, how many hours per day that is. If the respondent reports less than an hour for that child or grandchild, then a 1 is assumed. RwRCCAREHR is the sum of hours per day for all children or grandchildren helpers, and so values can be over 24 hours. RwRCCAREHR is calculated as long as there is one non-missing value. RwRCCAREHR is assigned a value of 0 if the respondent did not receive help from any children or grandchildren. RwRCCAREHRM indicates the number of children or grandchildren who helped the respondent for whom no value of hours was reported and was not accounted for in RwRCCAREHR. RwRCCAREHRM is assigned special missing value .m if the respondent was not helped by any children or grandchildren.

SwRCCARE, SwRCCAREN, SwRCCAREDPM, and SwRCCAREHR indicate whether the respondent's current wave's spouse receives help from children or grandchildren, the number, and the frequency with which, and whether any are paid, and their values are taken from RwRCCARE, RwRCCAREN, RwRCCAREDPM, and RwRCCAREHR. SwRCCAREDPMM and SwRCCAREHRM indicate the number of children who helped the respondent's current spouse for whom a value was not reported for the number of days and hours and are taken from RwRCCAREDPMM and RwRCCAREHRM. In addition to the special missing codes employed by the respondent variables, the spouse variables employ two additional special missing codes. A special missing value .u is used when the respondent does not report being coupled in the current wave. A special missing value .v is used when the respondent reports being coupled in the current wave but their spouse is not interviewed.

## Cross Wave Differences in MHAS

Respondents are allowed to mention up to 12 caregivers each in Waves 1 and 2 for ADLs and IADLs, up to 8 caregivers each in Waves 3 and 4 for ADLs and IADLs, and up to 3 caregivers each in Wave 5 for ADLs and IADLs.

## Differences with the RAND HRS/Harmonized HRS

The HRS has different categories of relationships between the respondent and their caregiver, but these variables have been created to be as comparable as possible.

The HRS IADL list includes using the telephone, which is absent in the MHAS. As such, these variables in the Harmonized HRS also include help using the telephone, whereas in the Harmonized MHAS they do not include help using the telephone.

The HRS asks for up to 7 relationships of people who help with ADLs (dressing, walking across a room, bathing, eating, getting in and out of bed, and using the toilet). The MHAS, in contrast, asks for the relationships of a varying number of people across waves who help with ADLs. The HRS asks for up to 6 relationships of people who help with IADLs (preparing meals, grocery shopping, making phone calls, and taking medications), and up to 2 people who help with managing money. The MHAS, in contrast, asks for the relationships of a varying number of people who help with preparing meals, grocery shopping, taking medications, and managing money together.

## MHAS Variables Used

### Wave 1:

H14	help dressing
H15_3	spouse helps walking
H15_4	other helps walking
H16_3	spouse helps bathing
H16_4	other helps bathing
H17_3	spouse helps eating
H17_4	other helps eating
H18_3	spouse helps getting in an out of bed
H18_4	other helps getting in an out of bed
H19_3	spouse helps using toilet
H19_4	other helps using toilet
H26_3	spouse helps with hot meal
H26_4	someone helps with hot meal
H27_3	spouse helps with shopping
H27_4	someone helps with shopping
H28_3	spouse helps with taking medication
H28_4	someone helps with taking medication
H29_3	spouse helps with managing money
H29_4	someone helps with managing money

### Wave 1 Helper:

H22	kinship of helper
H23	roster number of helper
H24	days of help
H25	hours of help
H32	kinship of helper
H33	roster number of helper
H34	days of help
H35	hours of help

### Wave 2:

H14	someone help you to get dressed
H15E	spouse helps
H15F	additional person helps
H16E	spouse helps
H16F	additional person helps
H17E	spouse helps
H17F	additional person helps
H18E	spouse helps
H18F	additional person helps
H19E	spouse helps
H19F	additional person helps
H26D	spouse helps
H26E	additional person helps
H27D	spouse helps
H27E	additional person helps
H28D	spouse helps
H28E	additional person helps
H29D	spouse helps
H29E	additional person helps

### Wave 2 Helper:

H22	relationship
H23	registration number
H24	number of days (name) helped last month

H25	number of hours during those days
H32	relationship
H33	registration number
H34	number of days (name) helped last month
H35	how many hours during those days
Wave 3:	
H14_12	Someone help you to get dressed
H15D_12	Someone help you walk across room
H16D_12	Someone help you to bathe or shower
H17D_12	Does someone help you eat your food
H18D_12	Does someone help you get into or out of bed
H19D_12	Does someone help you use toilet, get on off
H22_1_12	Relationship with helper for ADLs
H22_2_12	Relationship with helper for ADLs
H22_3_12	Relationship with helper for ADLs
H22_4_12	Relationship with helper for ADLs
H22_5_12	Relationship with helper for ADLs
H22_6_12	Relationship with helper for ADLs
H22_7_12	Relationship with helper for ADLs
H22_8_12	Relationship with helper for ADLs
H23_1_12	Registration number of helper for ADLs
H23_2_12	Registration number of helper for ADLs
H23_3_12	Registration number of helper for ADLs
H23_4_12	Registration number of helper for ADLs
H23_5_12	Registration number of helper for ADLs
H23_6_12	Registration number of helper for ADLs
H23_7_12	Registration number of helper for ADLs
H23_8_12	Registration number of helper for ADLs
H24_1_12	Number of days (name) helped last month
H24_2_12	Number of days (name) helped last month
H24_3_12	Number of days (name) helped last month
H24_4_12	Number of days (name) helped last month
H24_5_12	Number of days (name) helped last month
H24_6_12	Number of days (name) helped last month
H24_7_12	Number of days (name) helped last month
H24_8_12	Number of days (name) helped last month
H25_1_12	Number of hours during those days (NAME) helped
H25_2_12	Number of hours during those days (NAME) helped
H25_3_12	Number of hours during those days (NAME) helped
H25_4_12	Number of hours during those days (NAME) helped
H25_5_12	Number of hours during those days (NAME) helped
H25_6_12	Number of hours during those days (NAME) helped
H25_7_12	Number of hours during those days (NAME) helped
H25_8_12	Number of hours during those days (NAME) helped
H26C_12	Does anyone help you prepare a hot meal
H27C_12	Does anyone help you shop for groceries
H28C_12	Does anyone help you take medications
H29C_12	Does anyone one help you manage your money
H32_1_12	Relationship with helper for IADLs
H32_2_12	Relationship with helper for IADLs
H32_3_12	Relationship with helper for IADLs
H32_4_12	Relationship with helper for IADLs
H32_5_12	Relationship with helper for IADLs
H32_6_12	Relationship with helper for IADLs
H32_7_12	Relationship with helper for IADLs
H32_8_12	Relationship with helper for IADLs
H33_1_12	Registration number of helper for IADLs
H33_2_12	Registration number of helper for ADLs
H33_3_12	Registration number of helper for IADLs
H33_4_12	Registration number of helper for IADLs
H33_5_12	Registration number of helper for IADLs
H33_6_12	Registration number of helper for IADLs
H33_7_12	Registration number of helper for IADLs
H33_8_12	Registration number of helper for IADLs

H34_1_12	Number of days (name) helped last month
H34_2_12	Number of days (name) helped last month
H34_3_12	Number of days (name) helped last month
H34_4_12	Number of days (name) helped last month
H34_5_12	Number of days (name) helped last month
H34_6_12	Number of days (name) helped last month
H34_7_12	Number of days (name) helped last month
H34_8_12	Number of days (name) helped last month
H35_1_12	Number of hours during those days (NAME) helped
H35_2_12	Number of hours during those days (NAME) helped
H35_3_12	Number of hours during those days (NAME) helped
H35_4_12	Number of hours during those days (NAME) helped
H35_5_12	Number of hours during those days (NAME) helped
H35_6_12	Number of hours during those days (NAME) helped
H35_7_12	Number of hours during those days (NAME) helped
H35_8_12	Number of hours during those days (NAME) helped

## Wave 4:

H14_15	Does someone help respondent to get dressed
H15D_15	Does someone help respondent walking across a room
H16D_15	Does someone help respondent bathing or showering
H17D_15	Does someone help respondent eating
H18D_15	Does someone help respondent getting in or out of bed
H19D_15	Does someone help respondent using the toilet
H22_1_15	Respondent's relationship with person helping with ADLs
H22_2_15	Respondent's relationship with person helping with ADLs
H22_3_15	Respondent's relationship with person helping with ADLs
H22_4_15	Respondent's relationship with person helping with ADLs
H22_5_15	Respondent's relationship with person helping with ADLs
H22_6_15	Respondent's relationship with person helping with ADLs
H22_7_15	Respondent's relationship with person helping with ADLs
H22_8_15	Respondent's relationship with person helping with ADLs
H23_1_15	Registration number of person helping with ADLs
H23_2_15	Registration number of person helping with ADLs
H23_3_15	Registration number of person helping with ADLs
H23_4_15	Registration number of person helping with ADLs
H23_5_15	Registration number of person helping with ADLs
H23_6_15	Registration number of person helping with ADLs
H23_7_15	Registration number of person helping with ADLs
H23_8_15	Registration number of person helping with ADLs
H24_1_15	Number of days the person helped during last month
H24_2_15	Number of days the person helped during last month
H24_3_15	Number of days the person helped during last month
H24_4_15	Number of days the person helped during last month
H24_5_15	Number of days the person helped during last month
H24_6_15	Number of days the person helped during last month
H24_7_15	Number of days the person helped during last month
H24_8_15	Number of days the person helped during last month
H25_1_15	Number of hours during those days that the person helps
H25_2_15	Number of hours during those days that the person helps
H25_3_15	Number of hours during those days that the person helps
H25_4_15	Number of hours during those days that the person helps
H25_5_15	Number of hours during those days that the person helps
H25_6_15	Number of hours during those days that the person helps
H25_7_15	Number of hours during those days that the person helps
H25_8_15	Number of hours during those days that the person helps
H26C_15	Does someone help respondent to prepare a hot meal
H27C_15	Does someone help respondent to shop for groceries
H28C_15	Does someone help respondent to take medications
H29C_15	Does someone help respondent to manage his/her money
H32_1_15	Respondent's relationship with person helping with IADL
H32_2_15	Respondent's relationship with person helping with IADL
H32_3_15	Respondent's relationship with person helping with IADL
H32_4_15	Respondent's relationship with person helping with IADL
H32_5_15	Respondent's relationship with person helping with IADL

H32_6_15	Respondent's relationship with person helping with IADL
H32_7_15	Respondent's relationship with person helping with IADL
H32_8_15	Respondent's relationship with person helping with IADL
H33_1_15	Registration number of person helping with IADLs
H33_2_15	Registration number of person helping with IADLs
H33_3_15	Registration number of person helping with IADLs
H33_4_15	Registration number of person helping with IADLs
H33_5_15	Registration number of person helping with IADLs
H33_6_15	Registration number of person helping with IADLs
H33_7_15	Registration number of person helping with IADLs
H33_8_15	Registration number of person helping with IADLs
H34_1_15	Number of days the person helped during last month
H34_2_15	Number of days the person helped during last month
H34_3_15	Number of days the person helped during last month
H34_4_15	Number of days the person helped during last month
H34_5_15	Number of days the person helped during last month
H34_6_15	Number of days the person helped during last month
H34_7_15	Number of days the person helped during last month
H34_8_15	Number of days the person helped during last month
H35_1_15	Number of hours during those days that the person helped
H35_2_15	Number of hours during those days that the person helped
H35_3_15	Number of hours during those days that the person helped
H35_4_15	Number of hours during those days that the person helped
H35_5_15	Number of hours during those days that the person helped
H35_6_15	Number of hours during those days that the person helped
H35_7_15	Number of hours during those days that the person helped
H35_8_15	Number of hours during those days that the person helped

## Wave 5:

H14_18	Does someone help R to get dressed
H15D_18	Does someone help R walking across a room
H16D_18	Does someone help R bathing or showering
H17D_18	Does someone help R eating
H18D_18	Does someone help R getting in or out of bed
H19D_18	Does someone help R using the toilet
H22_1_18	R's relationship with person helping with ADLs
H22_2_18	R's relationship with person helping with ADLs
H22_3_18	R's relationship with person helping with ADLs
H23_1_18	Registration number of person helping with ADLs
H23_2_18	Registration number of person helping with ADLs
H23_3_18	Registration number of person helping with ADLs
H24_1_18	Number of days the person helped during last month
H24_2_18	Number of days the person helped during last month
H24_3_18	Number of days the person helped during last month
H25_1_18	Number of hours during those days that the person helped
H25_2_18	Number of hours during those days that the person helped
H25_3_18	Number of hours during those days that the person helped
H26C_18	Does someone help R to prepare a hot meal
H27C_18	Does someone help R to shop for groceries
H28C_18	Does someone help R to take medications
H29C_18	Does someone help R to manage his/her money
H32_1_18	R's relationship with person helping with IADLs
H32_2_18	R's relationship with person helping with IADLs
H32_3_18	R's relationship with person helping with IADLs
H33_1_18	Registration number of person helping with IADLs
H33_2_18	Registration number of person helping with IADLs
H33_3_18	Registration number of person helping with IADLs
H34_1_18	Number of days the person helped during last month
H34_2_18	Number of days the person helped during last month
H34_3_18	Number of days the person helped during last month
H35_1_18	Number of hours during those days that the person helped
H35_2_18	Number of hours during those days that the person helped
H35_3_18	Number of hours during those days that the person helped



## Activities of Daily Living and Instrumental Activities of Daily Living: Receives Informal Care from Relatives

Wave	Variable	Label	Type
1	R1RRCARE	r1rrrcare: w1 R receives informal care from relatives for ADL	Categ
2	R2RRCARE	r2rrrcare: w2 R receives informal care from relatives for ADL	Categ
3	R3RRCARE	r3rrrcare: w3 R receives informal care from relatives for ADL	Categ
4	R4RRCARE	r4rrrcare: w4 R receives informal care from relatives for ADL	Categ
5	R5RRCARE	r5rrrcare: w5 R receives informal care from relatives for ADL	Categ
1	S1RRCARE	s1rrrcare: w1 S receives informal care from relatives for ADL	Categ
2	S2RRCARE	s2rrrcare: w2 S receives informal care from relatives for ADL	Categ
3	S3RRCARE	s3rrrcare: w3 S receives informal care from relatives for ADL	Categ
4	S4RRCARE	s4rrrcare: w4 S receives informal care from relatives for ADL	Categ
5	S5RRCARE	s5rrrcare: w5 S receives informal care from relatives for ADL	Categ
1	R1RRCAREN	r1rrrcaren: w1 # relatives who help R with ADLs/IADLs	Cont
2	R2RRCAREN	r2rrrcaren: w2 # relatives who help R with ADLs/IADLs	Cont
3	R3RRCAREN	r3rrrcaren: w3 # relatives who help R with ADLs/IADLs	Cont
4	R4RRCAREN	r4rrrcaren: w4 # relatives who help R with ADLs/IADLs	Cont
5	R5RRCAREN	r5rrrcaren: w5 # relatives who help R with ADLs/IADLs	Cont
1	S1RRCAREN	s1rrrcaren: w1 # relatives who help S with ADLs/IADLs	Cont
2	S2RRCAREN	s2rrrcaren: w2 # relatives who help S with ADLs/IADLs	Cont
3	S3RRCAREN	s3rrrcaren: w3 # relatives who help S with ADLs/IADLs	Cont
4	S4RRCAREN	s4rrrcaren: w4 # relatives who help S with ADLs/IADLs	Cont
5	S5RRCAREN	s5rrrcaren: w5 # relatives who help S with ADLs/IADLs	Cont
1	R1RRCAREDPM	r1rrrcaredpm: w1 days/month relatives help R with ADLs/IADLs	Cont
2	R2RRCAREDPM	r2rrrcaredpm: w2 days/month relatives help R with ADLs/IADLs	Cont
3	R3RRCAREDPM	r3rrrcaredpm: w3 days/month relatives help R with ADLs/IADLs	Cont
4	R4RRCAREDPM	r4rrrcaredpm: w4 days/month relatives help R with ADLs/IADLs	Cont
5	R5RRCAREDPM	r5rrrcaredpm: w5 days/month relatives help R with ADLs/IADLs	Cont
1	S1RRCAREDPM	s1rrrcaredpm: w1 days/month relatives help S with ADLs/IADLs	Cont
2	S2RRCAREDPM	s2rrrcaredpm: w2 days/month relatives help S with ADLs/IADLs	Cont
3	S3RRCAREDPM	s3rrrcaredpm: w3 days/month relatives help S with ADLs/IADLs	Cont
4	S4RRCAREDPM	s4rrrcaredpm: w4 days/month relatives help S with ADLs/IADLs	Cont
5	S5RRCAREDPM	s5rrrcaredpm: w5 days/month relatives help S with ADLs/IADLs	Cont
1	R1RRCAREDPMM	r1rrrcaredpmm: w1 R # relatives missing days of help for ADLs	Cont
2	R2RRCAREDPMM	r2rrrcaredpmm: w2 R # relatives missing days of help for ADLs	Cont
3	R3RRCAREDPMM	r3rrrcaredpmm: w3 R # relatives missing days of help for ADLs	Cont
4	R4RRCAREDPMM	r4rrrcaredpmm: w4 R # relatives missing days of help for ADLs	Cont
5	R5RRCAREDPMM	r5rrrcaredpmm: w5 R # relatives missing days of help for ADLs	Cont
1	S1RRCAREDPMM	s1rrrcaredpmm: w1 S # relatives missing days of help for ADLs	Cont
2	S2RRCAREDPMM	s2rrrcaredpmm: w2 S # relatives missing days of help for ADLs	Cont
3	S3RRCAREDPMM	s3rrrcaredpmm: w3 S # relatives missing days of help for ADLs	Cont
4	S4RRCAREDPMM	s4rrrcaredpmm: w4 S # relatives missing days of help for ADLs	Cont
5	S5RRCAREDPMM	s5rrrcaredpmm: w5 S # relatives missing days of help for ADLs	Cont
1	R1RRCAREHR	r1rrrcarehr: w1 hours/day relatives help R with ADLs/IADLs	Cont
2	R2RRCAREHR	r2rrrcarehr: w2 hours/day relatives help R with ADLs/IADLs	Cont
3	R3RRCAREHR	r3rrrcarehr: w3 hours/day relatives help R with ADLs/IADLs	Cont
4	R4RRCAREHR	r4rrrcarehr: w4 hours/day relatives help R with ADLs/IADLs	Cont
5	R5RRCAREHR	r5rrrcarehr: w5 hours/day relatives help R with ADLs/IADLs	Cont
1	S1RRCAREHR	s1rrrcarehr: w1 hours/day relatives help S with ADLs/IADLs	Cont
2	S2RRCAREHR	s2rrrcarehr: w2 hours/day relatives help S with ADLs/IADLs	Cont
3	S3RRCAREHR	s3rrrcarehr: w3 hours/day relatives help S with ADLs/IADLs	Cont
4	S4RRCAREHR	s4rrrcarehr: w4 hours/day relatives help S with ADLs/IADLs	Cont
5	S5RRCAREHR	s5rrrcarehr: w5 hours/day relatives help S with ADLs/IADLs	Cont

1	R1RRCAREHRM	r1rrcarehrm: w1	R #	relatives missing hours of help for ADLs	Cont
2	R2RRCAREHRM	r2rrcarehrm: w2	R #	relatives missing hours of help for ADLs	Cont
3	R3RRCAREHRM	r3rrcarehrm: w3	R #	relatives missing hours of help for ADLs	Cont
4	R4RRCAREHRM	r4rrcarehrm: w4	R #	relatives missing hours of help for ADLs	Cont
5	R5RRCAREHRM	r5rrcarehrm: w5	R #	relatives missing hours of help for ADLs	Cont
1	S1RRCAREHRM	s1rrcarehrm: w1	S #	relatives missing hours of help for ADLs	Cont
2	S2RRCAREHRM	s2rrcarehrm: w2	S #	relatives missing hours of help for ADLs	Cont
3	S3RRCAREHRM	s3rrcarehrm: w3	S #	relatives missing hours of help for ADLs	Cont
4	S4RRCAREHRM	s4rrcarehrm: w4	S #	relatives missing hours of help for ADLs	Cont
5	S5RRCAREHRM	s5rrcarehrm: w5	S #	relatives missing hours of help for ADLs	Cont

## Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R1RRCARE	1774	0.04	0.20	0.00	1.00
R2RRCARE	1674	0.05	0.22	0.00	1.00
R3RRCARE	2318	0.05	0.21	0.00	1.00
R4RRCARE	2516	0.04	0.21	0.00	1.00
R5RRCARE	2211	0.05	0.22	0.00	1.00
S1RRCARE	1148	0.01	0.12	0.00	1.00
S2RRCARE	1029	0.01	0.10	0.00	1.00
S3RRCARE	1251	0.02	0.12	0.00	1.00
S4RRCARE	1277	0.01	0.10	0.00	1.00
S5RRCARE	934	0.01	0.10	0.00	1.00
R1RRCAREN	1774	0.05	0.27	0.00	3.00
R2RRCAREN	1674	0.06	0.34	0.00	8.00
R3RRCAREN	2318	0.06	0.31	0.00	4.00
R4RRCAREN	2516	0.06	0.32	0.00	8.00
R5RRCAREN	2211	0.07	0.33	0.00	3.00
S1RRCAREN	1148	0.02	0.16	0.00	3.00
S2RRCAREN	1029	0.01	0.10	0.00	1.00
S3RRCAREN	1251	0.02	0.13	0.00	2.00
S4RRCAREN	1277	0.01	0.11	0.00	2.00
S5RRCAREN	934	0.01	0.16	0.00	3.00
R1RRCAREDPM	1774	1.10	6.44	0.00	90.00
R2RRCAREDPM	1674	1.64	9.88	0.00	240.00
R3RRCAREDPM	2317	1.27	6.97	0.00	90.00
R4RRCAREDPM	2514	1.25	8.32	0.00	240.00
R5RRCAREDPM	2208	1.44	8.06	0.00	90.00
S1RRCAREDPM	1148	0.39	3.92	0.00	75.00
S2RRCAREDPM	1029	0.21	2.36	0.00	30.00
S3RRCAREDPM	1251	0.36	3.37	0.00	60.00
S4RRCAREDPM	1277	0.21	2.61	0.00	60.00
S5RRCAREDPM	934	0.17	3.15	0.00	90.00
R1RRCAREDPMM	1774	0.00	0.00	0.00	0.00
R2RRCAREDPMM	1674	0.00	0.00	0.00	0.00
R3RRCAREDPMM	2318	0.00	0.04	0.00	2.00
R4RRCAREDPMM	2516	0.00	0.03	0.00	1.00
R5RRCAREDPMM	2211	0.00	0.06	0.00	2.00
S1RRCAREDPMM	1148	0.00	0.00	0.00	0.00
S2RRCAREDPMM	1029	0.00	0.00	0.00	0.00
S3RRCAREDPMM	1251	0.00	0.00	0.00	0.00
S4RRCAREDPMM	1277	0.00	0.00	0.00	0.00
S5RRCAREDPMM	934	0.00	0.00	0.00	0.00

R1RRCAREHR	1774	0.30	2.20	0.00	49.00
R2RRCAREHR	1674	0.33	2.08	0.00	36.00
R3RRCAREHR	2315	0.47	3.36	0.00	72.00
R4RRCAREHR	2515	0.27	1.82	0.00	32.00
R5RRCAREHR	2207	0.43	3.79	0.00	72.00
S1RRCAREHR	1148	0.18	2.07	0.00	49.00
S2RRCAREHR	1029	0.08	0.94	0.00	16.00
S3RRCAREHR	1251	0.13	1.49	0.00	24.00
S4RRCAREHR	1277	0.05	0.75	0.00	21.00
S5RRCAREHR	934	0.13	2.57	0.00	72.00
R1RRCAREHRM	1774	0.00	0.00	0.00	0.00
R2RRCAREHRM	1674	0.00	0.00	0.00	0.00
R3RRCAREHRM	2318	0.00	0.04	0.00	1.00
R4RRCAREHRM	2516	0.00	0.02	0.00	1.00
R5RRCAREHRM	2211	0.00	0.07	0.00	2.00
S1RRCAREHRM	1148	0.00	0.00	0.00	0.00
S2RRCAREHRM	1029	0.00	0.00	0.00	0.00
S3RRCAREHRM	1251	0.00	0.00	0.00	0.00
S4RRCAREHRM	1277	0.00	0.00	0.00	0.00
S5RRCAREHRM	934	0.00	0.00	0.00	0.00

## Categorical Variable Codes

Value-----	R1RRCARE	R2RRCARE	R3RRCARE	R4RRCARE	R5RRCARE
.d:DK	1		1	6	2
.h:no help received	812	729	1771	1666	1545
.m:Missing	40	30		40	18
.r:Refuse	2		1	1	82
.x:no difficulty	12557	11271	11632	10550	13256
0.No	1700	1591	2206	2403	2096
1.Yes	74	83	112	113	115

Value-----	S1RRCARE	S2RRCARE	S3RRCARE	S4RRCARE	S5RRCARE
.d:DK			1	5	
.h:no help received	501	487	1213	1072	716
.m:Missing	14	8		10	3
.r:Refuse	1				55
.u:Unmar	4205	4009	4782	4847	5227
.v:SP NR	333	131	349	280	501
.x:no difficulty	8984	8040	8127	7288	5753
0.No	1131	1019	1232	1265	925
1.Yes	17	10	19	12	9

## How Constructed

The following variables indicate whether any of the respondent's relatives help the respondent with any ADL or IADL needs. The activities of daily living include dressing, walking across a room, bathing, eating, getting in and out of bed, and using the toilet. The instrumental activities of daily living include preparing meals, grocery shopping, taking medications, and managing money. If the respondent reports having difficulty with an ADL or IADL, then they are asked whether someone helps them with that activity. If someone helps with the activity, they are asked for the relationships of up to 12 people in Waves 1 and 2, up to 8 people in Waves 3 and 4, and up to 3 people in Wave 5 who help them with ADLs and IADLs each. The information used to derive these variables is taken from the help files in Waves 1 and 2 and from the individual files in Waves 3 and forward. For each caregiver, the respondent is asked to report their relationship to the caregiver and the caregiver's roster number, if any. In cases where the reported relationship disagrees with the roster number, the roster number takes precedence in defining the relationship for spouses and children, for which the roster numbers follow clear rules. In cases where the reported relationship is "spouse" but the roster number indicates a non-spouse household member or an individual with no roster number, meaning they are not a child or within the household, the relationship type is changed to "other person". In cases of multiple records with the same caregiver relationship and roster number, we only consider the caregiver with the highest level of care provided to

the respondent. In cases of multiple records with the same caregiver relationship and no roster number, we assume all mentions are separate individuals.

The following variables are coded as special missing value .x if the respondent reports no difficulty with any ADL or IADL, and are coded as special missing value .h if the respondent reports difficulty with an ADL or IADL but does not receive any help. Don't know, refused, or other missing responses are assigned special missing values .d, .r, and .m, respectively. These variables are set to plain missing (.) for respondents who did not participate in the current wave.

RwRRCARE, RwRRCAREN, RwRRCAREDPM, RwRRCAREDPMM, RwRRCAREHR, and RwRRCAREHRM include help from the respondent's parent or other relative.

RwRRCARE indicates whether any of the respondent's relatives help the respondent with ADL or IADL needs. RwRRCAREN indicates the number of the respondent's relatives who help the respondent with ADL or IADL needs. RwRRCARE is coded as 0 if none of the respondent's relatives help the respondent with ADLs or IADLs; and is coded as 1 if at least one of the respondent's relatives help the respondent with ADLs or IADLs.

RwRRCAREDPM indicates the number of total days per month the respondent's relatives help the respondent with ADL or IADL needs. If the respondent reports receiving help every day from that relative, then a value of 30 is assumed. RwRRCAREDPM is the sum of days per month for all relative helpers, and so values can be over 30 days. RwRRCAREDPM is calculated as long as there is one non-missing value. RwRRCAREDPM is assigned a value of 0 if the respondent did not receive help from any relatives. RwRRCAREDPMM indicates the number of relatives who helped the respondent for whom no value of days was reported and was not accounted for in RwRRCAREDPM. RwRRCAREDPMM is assigned special missing value .m if the respondent was not helped by any relatives.

RwRRCAREHR indicates the number of hours per day the respondent's relatives help the respondent with ADL or IADL needs. Respondents are asked, on days their relatives help, how many hours per day that is. If the respondent reports less than an hour for that relative, then a 1 is assumed. RwRRCAREHR is the sum of hours per day for all relative helpers, and so values can be over 24 hours. RwRRCAREHR is calculated as long as there is one non-missing value. RwRRCAREHR is assigned a value of 0 if the respondent did not receive help from any relatives. RwRRCAREHRM indicates the number of relatives who helped the respondent for whom no value of hours was reported and was not accounted for in RwRRCAREHR. RwRRCAREHRM is assigned special missing value .m if the respondent was not helped by any relatives.

SwRRCARE, SwRRCAREN, SwRRCAREDPM, and SwRRCAREHR indicate whether the respondent's current wave's spouse receives help from relatives, the number, and the frequency with which, and their values are taken from RwRRCARE, RwRRCAREN, RwRRCAREDPM, and RwRRCAREHR. SwRRCAREDPMM and SwRRCAREHRM indicate the number of relatives who helped the respondent's current spouse for whom a value was not reported for the number of days and hours and are taken from RwRRCAREDPMM and RwRRCAREHRM. In addition to the special missing codes employed by the respondent variables, the spouse variables employ two additional special missing codes. A special missing value .u is used when the respondent does not report being coupled in the current wave. A special missing value .v is used when the respondent reports being coupled in the current wave but their spouse is not interviewed.

## Cross Wave Differences in MHAS

Respondents are allowed to mention up to 12 caregivers each in Waves 1 and 2 for ADLs and IADLs, up to 8 caregivers each in Waves 3 and 4 for ADLs and IADLs, and up to 3 caregivers each in Wave 5 for ADLs and IADLs.

## Differences with the RAND HRS/Harmonized HRS

The HRS has different categories of relationships between the respondent and their caregiver, but these variables have been created to be as comparable as possible.

The HRS IADL list includes using the telephone, which is absent in the MHAS. As such, these variables in the Harmonized HRS also include help using the telephone, whereas in the Harmonized MHAS they do not include help using the telephone.

The HRS asks for up to 7 relationships of people who help with ADLs (dressing, walking across a room, bathing, eating, getting in and out of bed, and using the toilet). The MHAS, in contrast, asks for the relationships of a varying number of people across waves who help with ADLs. The HRS asks for up to 6

relationships of people who help with IADLs (preparing meals, grocery shopping, making phone calls, and taking medications), and up to 2 people who help with managing money. The MHAS, in contrast, asks for the relationships of a varying number of people who help with preparing meals, grocery shopping, taking medications, and managing money together.

## MHAS Variables Used

### Wave 1:

H14	help dressing
H15_3	spouse helps walking
H15_4	other helps walking
H16_3	spouse helps bathing
H16_4	other helps bathing
H17_3	spouse helps eating
H17_4	other helps eating
H18_3	spouse helps getting in an out of bed
H18_4	other helps getting in an out of bed
H19_3	spouse helps using toilet
H19_4	other helps using toilet
H26_3	spouse helps with hot meal
H26_4	someone helps with hot meal
H27_3	spouse helps with shopping
H27_4	someone helps with shopping
H28_3	spouse helps with taking medication
H28_4	someone helps with taking medication
H29_3	spouse helps with managing money
H29_4	someone helps with managing money

### Wave 1 Helper:

H22	kinship of helper
H23	roster number of helper
H24	days of help
H25	hours of help
H32	kinship of helper
H33	roster number of helper
H34	days of help
H35	hours of help

### Wave 2:

H14	someone help you to get dressed
H15E	spouse helps
H15F	additional person helps
H16E	spouse helps
H16F	additional person helps
H17E	spouse helps
H17F	additional person helps
H18E	spouse helps
H18F	additional person helps
H19E	spouse helps
H19F	additional person helps
H26D	spouse helps
H26E	additional person helps
H27D	spouse helps
H27E	additional person helps
H28D	spouse helps
H28E	additional person helps
H29D	spouse helps
H29E	additional person helps

### Wave 2 Helper:

H22	relationship
H23	registration number
H24	number of days (name) helped last month
H25	number of hours during those days
H32	relationship
H33	registration number
H34	number of days (name) helped last month

H35	how many hours during those days
Wave 3:	
H14_12	Someone help you to get dressed
H15D_12	Someone help you walk across room
H16D_12	Someone help you to bathe or shower
H17D_12	Does someone help you eat your food
H18D_12	Does someone help you get into or out of bed
H19D_12	Does someone help you use toilet, get on off
H22_1_12	Relationship with helper for ADLs
H22_2_12	Relationship with helper for ADLs
H22_3_12	Relationship with helper for ADLs
H22_4_12	Relationship with helper for ADLs
H22_5_12	Relationship with helper for ADLs
H22_6_12	Relationship with helper for ADLs
H22_7_12	Relationship with helper for ADLs
H22_8_12	Relationship with helper for ADLs
H23_1_12	Registration number of helper for ADLs
H23_2_12	Registration number of helper for ADLs
H23_3_12	Registration number of helper for ADLs
H23_4_12	Registration number of helper for ADLs
H23_5_12	Registration number of helper for ADLs
H23_6_12	Registration number of helper for ADLs
H23_7_12	Registration number of helper for ADLs
H23_8_12	Registration number of helper for ADLs
H24_1_12	Number of days (name) helped last month
H24_2_12	Number of days (name) helped last month
H24_3_12	Number of days (name) helped last month
H24_4_12	Number of days (name) helped last month
H24_5_12	Number of days (name) helped last month
H24_6_12	Number of days (name) helped last month
H24_7_12	Number of days (name) helped last month
H24_8_12	Number of days (name) helped last month
H25_1_12	Number of hours during those days (NAME) helped
H25_2_12	Number of hours during those days (NAME) helped
H25_3_12	Number of hours during those days (NAME) helped
H25_4_12	Number of hours during those days (NAME) helped
H25_5_12	Number of hours during those days (NAME) helped
H25_6_12	Number of hours during those days (NAME) helped
H25_7_12	Number of hours during those days (NAME) helped
H25_8_12	Number of hours during those days (NAME) helped
H26C_12	Does anyone help you prepare a hot meal
H27C_12	Does anyone help you shop for groceries
H28C_12	Does anyone help you take medications
H29C_12	Does anyone one help you manage your money
H32_1_12	Relationship with helper for IADLs
H32_2_12	Relationship with helper for IADLs
H32_3_12	Relationship with helper for IADLs
H32_4_12	Relationship with helper for IADLs
H32_5_12	Relationship with helper for IADLs
H32_6_12	Relationship with helper for IADLs
H32_7_12	Relationship with helper for IADLs
H32_8_12	Relationship with helper for IADLs
H33_1_12	Registration number of helper for IADLs
H33_2_12	Registration number of helper for ADLs
H33_3_12	Registration number of helper for IADLs
H33_4_12	Registration number of helper for IADLs
H33_5_12	Registration number of helper for IADLs
H33_6_12	Registration number of helper for IADLs
H33_7_12	Registration number of helper for IADLs
H33_8_12	Registration number of helper for IADLs
H34_1_12	Number of days (name) helped last month
H34_2_12	Number of days (name) helped last month
H34_3_12	Number of days (name) helped last month
H34_4_12	Number of days (name) helped last month

H34_5_12	Number of days (name) helped last month
H34_6_12	Number of days (name) helped last month
H34_7_12	Number of days (name) helped last month
H34_8_12	Number of days (name) helped last month
H35_1_12	Number of hours during those days (NAME) helped
H35_2_12	Number of hours during those days (NAME) helped
H35_3_12	Number of hours during those days (NAME) helped
H35_4_12	Number of hours during those days (NAME) helped
H35_5_12	Number of hours during those days (NAME) helped
H35_6_12	Number of hours during those days (NAME) helped
H35_7_12	Number of hours during those days (NAME) helped
H35_8_12	Number of hours during those days (NAME) helped
Wave 4:	
H14_15	Does someone help respondent to get dressed
H15D_15	Does someone help respondent walking across a room
H16D_15	Does someone help respondent bathing or showering
H17D_15	Does someone help respondent eating
H18D_15	Does someone help respondent getting in or out of bed
H19D_15	Does someone help respondent using the toilet
H22_1_15	Respondent's relationship with person helping with ADLs
H22_2_15	Respondent's relationship with person helping with ADLs
H22_3_15	Respondent's relationship with person helping with ADLs
H22_4_15	Respondent's relationship with person helping with ADLs
H22_5_15	Respondent's relationship with person helping with ADLs
H22_6_15	Respondent's relationship with person helping with ADLs
H22_7_15	Respondent's relationship with person helping with ADLs
H22_8_15	Respondent's relationship with person helping with ADLs
H23_1_15	Registration number of person helping with ADLs
H23_2_15	Registration number of person helping with ADLs
H23_3_15	Registration number of person helping with ADLs
H23_4_15	Registration number of person helping with ADLs
H23_5_15	Registration number of person helping with ADLs
H23_6_15	Registration number of person helping with ADLs
H23_7_15	Registration number of person helping with ADLs
H23_8_15	Registration number of person helping with ADLs
H24_1_15	Number of days the person helped during last month
H24_2_15	Number of days the person helped during last month
H24_3_15	Number of days the person helped during last month
H24_4_15	Number of days the person helped during last month
H24_5_15	Number of days the person helped during last month
H24_6_15	Number of days the person helped during last month
H24_7_15	Number of days the person helped during last month
H24_8_15	Number of days the person helped during last month
H25_1_15	Number of hours during those days that the person helps
H25_2_15	Number of hours during those days that the person helps
H25_3_15	Number of hours during those days that the person helps
H25_4_15	Number of hours during those days that the person helps
H25_5_15	Number of hours during those days that the person helps
H25_6_15	Number of hours during those days that the person helps
H25_7_15	Number of hours during those days that the person helps
H25_8_15	Number of hours during those days that the person helps
H26C_15	Does someone help respondent to prepare a hot meal
H27C_15	Does someone help respondent to shop for groceries
H28C_15	Does someone help respondent to take medications
H29C_15	Does someone help respondent to manage his/her money
H32_1_15	Respondent's relationship with person helping with IADL
H32_2_15	Respondent's relationship with person helping with IADL
H32_3_15	Respondent's relationship with person helping with IADL
H32_4_15	Respondent's relationship with person helping with IADL
H32_5_15	Respondent's relationship with person helping with IADL
H32_6_15	Respondent's relationship with person helping with IADL
H32_7_15	Respondent's relationship with person helping with IADL
H32_8_15	Respondent's relationship with person helping with IADL
H33_1_15	Registration number of person helping with IADLs

H33_2_15	Registration number of person helping with IADLs
H33_3_15	Registration number of person helping with IADLs
H33_4_15	Registration number of person helping with IADLs
H33_5_15	Registration number of person helping with IADLs
H33_6_15	Registration number of person helping with IADLs
H33_7_15	Registration number of person helping with IADLs
H33_8_15	Registration number of person helping with IADLs
H34_1_15	Number of days the person helped during last month
H34_2_15	Number of days the person helped during last month
H34_3_15	Number of days the person helped during last month
H34_4_15	Number of days the person helped during last month
H34_5_15	Number of days the person helped during last month
H34_6_15	Number of days the person helped during last month
H34_7_15	Number of days the person helped during last month
H34_8_15	Number of days the person helped during last month
H35_1_15	Number of hours during those days that the person helpe
H35_2_15	Number of hours during those days that the person helpe
H35_3_15	Number of hours during those days that the person helpe
H35_4_15	Number of hours during those days that the person helpe
H35_5_15	Number of hours during those days that the person helpe
H35_6_15	Number of hours during those days that the person helpe
H35_7_15	Number of hours during those days that the person helpe
H35_8_15	Number of hours during those days that the person helpe

## Wave 5:

H14_18	Does someone help R to get dressed
H15D_18	Does someone help R walking across a room
H16D_18	Does someone help R bathing or showering
H17D_18	Does someone help R eating
H18D_18	Does someone help R getting in or out of bed
H19D_18	Does someone help R using the toilet
H22_1_18	R's relationship with person helping with ADLs
H22_2_18	R's relationship with person helping with ADLs
H22_3_18	R's relationship with person helping with ADLs
H23_1_18	Registration number of person helping with ADLs
H23_2_18	Registration number of person helping with ADLs
H23_3_18	Registration number of person helping with ADLs
H24_1_18	Number of days the person helped during last month
H24_2_18	Number of days the person helped during last month
H24_3_18	Number of days the person helped during last month
H25_1_18	Number of hours during those days that the person helpe
H25_2_18	Number of hours during those days that the person helpe
H25_3_18	Number of hours during those days that the person helpe
H26C_18	Does someone help R to prepare a hot meal
H27C_18	Does someone help R to shop for groceries
H28C_18	Does someone help R to take medications
H29C_18	Does someone help R to manage his/her money
H32_1_18	R's relationship with person helping with IADLs
H32_2_18	R's relationship with person helping with IADLs
H32_3_18	R's relationship with person helping with IADLs
H33_1_18	Registration number of person helping with IADLs
H33_2_18	Registration number of person helping with IADLs
H33_3_18	Registration number of person helping with IADLs
H34_1_18	Number of days the person helped during last month
H34_2_18	Number of days the person helped during last month
H34_3_18	Number of days the person helped during last month
H35_1_18	Number of hours during those days that the person helpe
H35_2_18	Number of hours during those days that the person helpe
H35_3_18	Number of hours during those days that the person helpe



### Activities of Daily Living and Instrumental Activities of Daily Living: Receives Informal Care from Other Individuals

Wave	Variable	Label	Type
1	R1RFCARE	r1rfcare: w1 R receives informal care from non-relatives for	Categ
2	R2RFCARE	r2rfcare: w2 R receives informal care from non-relatives for	Categ
3	R3RFCARE	r3rfcare: w3 R receives informal care from non-relatives for	Categ
4	R4RFCARE	r4rfcare: w4 R receives informal care from non-relatives for	Categ
5	R5RFCARE	r5rfcare: w5 R receives informal care from non-relatives for	Categ
1	S1RFCARE	s1rfcare: w1 S receives informal care from non-relatives for	Categ
2	S2RFCARE	s2rfcare: w2 S receives informal care from non-relatives for	Categ
3	S3RFCARE	s3rfcare: w3 S receives informal care from non-relatives for	Categ
4	S4RFCARE	s4rfcare: w4 S receives informal care from non-relatives for	Categ
5	S5RFCARE	s5rfcare: w5 S receives informal care from non-relatives for	Categ
1	R1RFCAREN	r1rfcaren: w1 # non-relatives who help R with ADLs/IADLs	Cont
2	R2RFCAREN	r2rfcaren: w2 # non-relatives who help R with ADLs/IADLs	Cont
3	R3RFCAREN	r3rfcaren: w3 # non-relatives who help R with ADLs/IADLs	Cont
4	R4RFCAREN	r4rfcaren: w4 # non-relatives who help R with ADLs/IADLs	Cont
5	R5RFCAREN	r5rfcaren: w5 # non-relatives who help R with ADLs/IADLs	Cont
1	S1RFCAREN	s1rfcaren: w1 # non-relatives who help S with ADLs/IADLs	Cont
2	S2RFCAREN	s2rfcaren: w2 # non-relatives who help S with ADLs/IADLs	Cont
3	S3RFCAREN	s3rfcaren: w3 # non-relatives who help S with ADLs/IADLs	Cont
4	S4RFCAREN	s4rfcaren: w4 # non-relatives who help S with ADLs/IADLs	Cont
5	S5RFCAREN	s5rfcaren: w5 # non-relatives who help S with ADLs/IADLs	Cont
1	R1RFCAREDPM	r1rfcaredpm: w1 days/month non-relatives help R with ADLs/IA	Cont
2	R2RFCAREDPM	r2rfcaredpm: w2 days/month non-relatives help R with ADLs/IA	Cont
3	R3RFCAREDPM	r3rfcaredpm: w3 days/month non-relatives help R with ADLs/IA	Cont
4	R4RFCAREDPM	r4rfcaredpm: w4 days/month non-relatives help R with ADLs/IA	Cont
5	R5RFCAREDPM	r5rfcaredpm: w5 days/month non-relatives help R with ADLs/IA	Cont
1	S1RFCAREDPM	s1rfcaredpm: w1 days/month non-relatives help S with ADLs/IA	Cont
2	S2RFCAREDPM	s2rfcaredpm: w2 days/month non-relatives help S with ADLs/IA	Cont
3	S3RFCAREDPM	s3rfcaredpm: w3 days/month non-relatives help S with ADLs/IA	Cont
4	S4RFCAREDPM	s4rfcaredpm: w4 days/month non-relatives help S with ADLs/IA	Cont
5	S5RFCAREDPM	s5rfcaredpm: w5 days/month non-relatives help S with ADLs/IA	Cont
1	R1RFCAREDPMM	r1rfcaredpmm: w1 R # non-relatives missing days of help for	Cont
2	R2RFCAREDPMM	r2rfcaredpmm: w2 R # non-relatives missing days of help for	Cont
3	R3RFCAREDPMM	r3rfcaredpmm: w3 R # non-relatives missing days of help for	Cont
4	R4RFCAREDPMM	r4rfcaredpmm: w4 R # non-relatives missing days of help for	Cont
5	R5RFCAREDPMM	r5rfcaredpmm: w5 R # non-relatives missing days of help for	Cont
1	S1RFCAREDPMM	s1rfcaredpmm: w1 S # non-relatives missing days of help for	Cont
2	S2RFCAREDPMM	s2rfcaredpmm: w2 S # non-relatives missing days of help for	Cont
3	S3RFCAREDPMM	s3rfcaredpmm: w3 S # non-relatives missing days of help for	Cont
4	S4RFCAREDPMM	s4rfcaredpmm: w4 S # non-relatives missing days of help for	Cont
5	S5RFCAREDPMM	s5rfcaredpmm: w5 S # non-relatives missing days of help for	Cont
1	R1RFCAREHR	r1rfcarehr: w1 hours/day non-relatives help R with ADLs/IADL	Cont
2	R2RFCAREHR	r2rfcarehr: w2 hours/day non-relatives help R with ADLs/IADL	Cont
3	R3RFCAREHR	r3rfcarehr: w3 hours/day non-relatives help R with ADLs/IADL	Cont
4	R4RFCAREHR	r4rfcarehr: w4 hours/day non-relatives help R with ADLs/IADL	Cont
5	R5RFCAREHR	r5rfcarehr: w5 hours/day non-relatives help R with ADLs/IADL	Cont
1	S1RFCAREHR	s1rfcarehr: w1 hours/day non-relatives help S with ADLs/IADL	Cont
2	S2RFCAREHR	s2rfcarehr: w2 hours/day non-relatives help S with ADLs/IADL	Cont
3	S3RFCAREHR	s3rfcarehr: w3 hours/day non-relatives help S with ADLs/IADL	Cont

4	S4RFCAREHR	s4rfcarehr: w4 hours/day non-relatives help S with ADLs/IADL	Cont
5	S5RFCAREHR	s5rfcarehr: w5 hours/day non-relatives help S with ADLs/IADL	Cont
1	R1RFCAREHRM	r1rfcarehrm: w1 R # non-relatives missing hours of help for	Cont
2	R2RFCAREHRM	r2rfcarehrm: w2 R # non-relatives missing hours of help for	Cont
3	R3RFCAREHRM	r3rfcarehrm: w3 R # non-relatives missing hours of help for	Cont
4	R4RFCAREHRM	r4rfcarehrm: w4 R # non-relatives missing hours of help for	Cont
5	R5RFCAREHRM	r5rfcarehrm: w5 R # non-relatives missing hours of help for	Cont
1	S1RFCAREHRM	s1rfcarehrm: w1 S # non-relatives missing hours of help for	Cont
2	S2RFCAREHRM	s2rfcarehrm: w2 S # non-relatives missing hours of help for	Cont
3	S3RFCAREHRM	s3rfcarehrm: w3 S # non-relatives missing hours of help for	Cont
4	S4RFCAREHRM	s4rfcarehrm: w4 S # non-relatives missing hours of help for	Cont
5	S5RFCAREHRM	s5rfcarehrm: w5 S # non-relatives missing hours of help for	Cont

## Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R1RFCARE	1774	0.03	0.17	0.00	1.00
R2RFCARE	1674	0.03	0.18	0.00	1.00
R3RFCARE	2318	0.04	0.19	0.00	1.00
R4RFCARE	2516	0.03	0.17	0.00	1.00
R5RFCARE	2211	0.07	0.25	0.00	1.00
S1RFCARE	1148	0.01	0.10	0.00	1.00
S2RFCARE	1029	0.02	0.13	0.00	1.00
S3RFCARE	1251	0.01	0.12	0.00	1.00
S4RFCARE	1277	0.01	0.10	0.00	1.00
S5RFCARE	934	0.06	0.24	0.00	1.00
R1RFCAREN	1774	0.04	0.26	0.00	6.00
R2RFCAREN	1674	0.03	0.19	0.00	2.00
R3RFCAREN	2318	0.04	0.21	0.00	4.00
R4RFCAREN	2516	0.03	0.18	0.00	3.00
R5RFCAREN	2211	0.07	0.30	0.00	3.00
S1RFCAREN	1148	0.01	0.11	0.00	2.00
S2RFCAREN	1029	0.02	0.13	0.00	1.00
S3RFCAREN	1251	0.01	0.12	0.00	1.00
S4RFCAREN	1277	0.01	0.10	0.00	1.00
S5RFCAREN	934	0.06	0.25	0.00	3.00
R1RFCAREDPM	1774	0.76	5.61	0.00	120.00
R2RFCAREDPM	1674	0.73	4.67	0.00	60.00
R3RFCAREDPM	2317	0.74	4.49	0.00	42.00
R4RFCAREDPM	2515	0.49	3.59	0.00	46.00
R5RFCAREDPM	2197	1.46	6.78	0.00	90.00
S1RFCAREDPM	1148	0.15	2.09	0.00	46.00
S2RFCAREDPM	1029	0.42	3.42	0.00	30.00
S3RFCAREDPM	1251	0.22	2.32	0.00	30.00
S4RFCAREDPM	1277	0.17	2.10	0.00	30.00
S5RFCAREDPM	929	1.33	6.00	0.00	30.00
R1RFCAREDPMM	1774	0.00	0.00	0.00	0.00
R2RFCAREDPMM	1674	0.00	0.00	0.00	0.00
R3RFCAREDPMM	2318	0.00	0.02	0.00	1.00
R4RFCAREDPMM	2516	0.00	0.02	0.00	1.00
R5RFCAREDPMM	2211	0.01	0.11	0.00	2.00
S1RFCAREDPMM	1148	0.00	0.00	0.00	0.00
S2RFCAREDPMM	1029	0.00	0.00	0.00	0.00
S3RFCAREDPMM	1251	0.00	0.00	0.00	0.00

S4RFCAREDPMM	1277	0.00	0.00	0.00	0.00
S5RFCAREDPMM	934	0.01	0.09	0.00	1.00
R1RFCAREHR	1774	0.12	1.14	0.00	24.00
R2RFCAREHR	1674	0.12	0.92	0.00	14.00
R3RFCAREHR	2317	0.23	1.84	0.00	24.00
R4RFCAREHR	2515	0.15	1.26	0.00	24.00
R5RFCAREHR	2199	0.34	2.10	0.00	36.00
S1RFCAREHR	1148	0.02	0.36	0.00	10.00
S2RFCAREHR	1029	0.08	0.83	0.00	12.00
S3RFCAREHR	1250	0.13	1.57	0.00	24.00
S4RFCAREHR	1277	0.05	0.60	0.00	12.00
S5RFCAREHR	929	0.32	1.88	0.00	24.00
R1RFCAREHRM	1774	0.00	0.00	0.00	0.00
R2RFCAREHRM	1674	0.00	0.00	0.00	0.00
R3RFCAREHRM	2318	0.00	0.02	0.00	1.00
R4RFCAREHRM	2516	0.00	0.02	0.00	1.00
R5RFCAREHRM	2211	0.01	0.11	0.00	2.00
S1RFCAREHRM	1148	0.00	0.00	0.00	0.00
S2RFCAREHRM	1029	0.00	0.00	0.00	0.00
S3RFCAREHRM	1251	0.00	0.03	0.00	1.00
S4RFCAREHRM	1277	0.00	0.00	0.00	0.00
S5RFCAREHRM	934	0.01	0.09	0.00	1.00

## Categorical Variable Codes

Value-----	R1RFCARE	R2RFCARE	R3RFCARE	R4RFCARE	R5RFCARE
.d:DK	1		1	6	2
.h:no help received	812	729	1771	1666	1545
.m:Missing	40	30		40	18
.r:Refuse	2		1	1	82
.x:no difficulty	12557	11271	11632	10550	13256
0.No	1723	1621	2231	2443	2067
1.Yes	51	53	87	73	144
Value-----	S1RFCARE	S2RFCARE	S3RFCARE	S4RFCARE	S5RFCARE
.d:DK			1	5	
.h:no help received	501	487	1213	1072	716
.m:Missing	14	8		10	3
.r:Refuse	1				55
.u:Unmar	4205	4009	4782	4847	5227
.v:SP NR	333	131	349	280	501
.x:no difficulty	8984	8040	8127	7288	5753
0.No	1137	1010	1233	1264	878
1.Yes	11	19	18	13	56

## How Constructed

The following variables indicate whether any non-relative helps the respondent with any ADL or IADL needs. The activities of daily living include dressing, walking across a room, bathing, eating, getting in and out of bed, and using the toilet. The instrumental activities of daily living include preparing meals, grocery shopping, taking medications, and managing money. If the respondent reports having difficulty with an ADL or IADL, then they are asked whether someone helps them with that activity. If someone helps with the activity, they are asked for the relationships of up to 12 people in Waves 1 and 2, up to 8 people in Waves 3 and 4, and up to 3 people in Wave 5 who help them with ADLs and IADLs each. The information used to derive these variables is taken from the help files in Waves 1 and 2 and from the individual files in Waves 3 and forward. For each caregiver, the respondent is asked to report their relationship to the caregiver and the caregiver's roster number, if any. In cases where the reported relationship disagrees with the roster number, the roster number takes precedence in defining the relationship for spouses and children, for which the roster numbers follow clear rules. In cases where the reported relationship is "spouse" but the roster number indicates a non-spouse household member or an individual with no roster number, meaning they are not a child or within the household, the relationship

type is changed to "other person". In cases of multiple records with the same caregiver relationship and roster number, we only consider the caregiver with the highest level of care provided to the respondent. In cases of multiple records with the same caregiver relationship and no roster number, we assume all mentions are separate individuals.

The following variables are coded as special missing value .x if the respondent reports no difficulty with any ADL or IADL, and are coded as special missing value .h if the respondent reports difficulty with an ADL or IADL but does not receive any help. Don't know, refused, or other missing responses are assigned special missing values .d, .r, and .m, respectively. These variables are set to plain missing (.) for respondents who did not participate in the current wave.

RwRFCARE, RwRFCAREN, RwRFCAREDP, RwRFCAREDPMM, RwRFCAREHR, and RwRFCAREHRM include help from another person (not their spouse, child, child-in-law, grandchild, parent, other relative, or paid person).

RwRFCARE indicates whether any of the respondent's non-relatives help the respondent with ADL or IADL needs. RwRFCAREN indicates the number of the respondent's non-relatives who help the respondent with ADL or IADL needs. RwRRCARE is coded as 0 if none of the respondent's non-relatives help the respondent with ADLs or IADLs; and is coded as 1 if at least one of the respondent's non-relatives help the respondent with ADLs or IADLs.

RwRFCAREDP indicates the number of total days per month the respondent's non-relatives help the respondent with ADL or IADL needs. If the respondent reports receiving help every day from that non-relative, then a value of 30 is assumed. RwRFCAREDP is the sum of days per month for all non-relative helpers, and so values can be over 30 days. RwRFCAREDP is calculated as long as there is one non-missing value. RwRFCAREDP is assigned a value of 0 if the respondent did not receive help from any non-relatives. RwRFCAREDPMM indicates the number of non-relatives who helped the respondent for whom no value of days was reported and was not accounted for in RwRFCAREDP. RwRFCAREDPMM is assigned special missing value .m if the respondent was not helped by any non-relatives.

RwRFCAREHR indicates the number of hours per day the respondent's non-relatives help the respondent with ADL or IADL needs. Respondents are asked, on days their non-relatives help, how many hours per day that is. If the respondent reports less than an hour for that non-relative, then a 1 is assumed. RwRFCAREHR is the sum of hours per day for all non-relative helpers, and so values can be over 24 hours. RwRFCAREHR is calculated as long as there is one non-missing value. RwRFCAREHR is assigned a value of 0 if the respondent did not receive help from any non-relatives. RwRFCAREHRM indicates the number of non-relatives who helped the respondent for whom no value of hours was reported and was not accounted for in RwRFCAREHR. RwRFCAREHRM is assigned special missing value .m if the respondent was not helped by any non-relatives.

SwRFCARE, SwRFCAREN, SwRFCAREDP, and SwRFCAREHR indicate whether the respondent's current wave's spouse receives help from non-relatives, the number, and the frequency with which, and their values are taken from RwRFCARE, RwRFCAREN, RwRFCAREDP, and RwRFCAREHR. SwRFCAREDPMM and SwRFCAREHRM indicate the number of non-relatives who helped the respondent's current spouse for whom a value was not reported for the number of days and hours and are taken from RwRFCAREDPMM and RwRFCAREHRM. In addition to the special missing codes employed by the respondent variables, the spouse variables employ two additional special missing codes. A special missing value .u is used when the respondent does not report being coupled in the current wave. A special missing value .v is used when the respondent reports being coupled in the current wave but their spouse is not interviewed.

## Cross Wave Differences in MHAS

Respondents are allowed to mention up to 12 caregivers each in Waves 1 and 2 for ADLs and IADLs, up to 8 caregivers each in Waves 3 and 4 for ADLs and IADLs, and up to 3 caregivers each in Wave 5 for ADLs and IADLs.

## Differences with the RAND HRS/Harmonized HRS

The HRS has different categories of relationships between the respondent and their caregiver, but these variables have been created to be as comparable as possible.

The HRS IADL list includes using the telephone, which is absent in the MHAS. As such, these variables in the Harmonized HRS also include help using the telephone, whereas in the Harmonized MHAS they do not include help using the telephone.

The HRS asks for up to 7 relationships of people who help with ADLs (dressing, walking across a room, bathing, eating, getting in and out of bed, and using the toilet). The MHAS, in contrast, asks for the relationships of a varying number of people across waves who help with ADLs. The HRS asks for up to 6 relationships of people who help with IADLs (preparing meals, grocery shopping, making phone calls, and taking medications), and up to 2 people who help with managing money. The MHAS, in contrast, asks for the relationships of a varying number of people who help with preparing meals, grocery shopping, taking medications, and managing money together.

## MHAS Variables Used

### Wave 1:

H14	help dressing
H15_3	spouse helps walking
H15_4	other helps walking
H16_3	spouse helps bathing
H16_4	other helps bathing
H17_3	spouse helps eating
H17_4	other helps eating
H18_3	spouse helps getting in an out of bed
H18_4	other helps getting in an out of bed
H19_3	spouse helps using toilet
H19_4	other helps using toilet
H26_3	spouse helps with hot meal
H26_4	someone helps with hot meal
H27_3	spouse helps with shopping
H27_4	someone helps with shopping
H28_3	spouse helps with taking medication
H28_4	someone helps with taking medication
H29_3	spouse helps with managing money
H29_4	someone helps with managing money

### Wave 1 Helper:

H22	kinship of helper
H23	roster number of helper
H24	days of help
H25	hours of help
H32	kinship of helper
H33	roster number of helper
H34	days of help
H35	hours of help

### Wave 2:

H14	someone help you to get dressed
H15E	spouse helps
H15F	additional person helps
H16E	spouse helps
H16F	additional person helps
H17E	spouse helps
H17F	additional person helps
H18E	spouse helps
H18F	additional person helps
H19E	spouse helps
H19F	additional person helps
H26D	spouse helps
H26E	additional person helps
H27D	spouse helps
H27E	additional person helps
H28D	spouse helps
H28E	additional person helps
H29D	spouse helps
H29E	additional person helps

### Wave 2 Helper:

H22	relationship
H23	registration number
H24	number of days (name) helped last month
H25	number of hours during those days

H32	relationship
H33	registration number
H34	number of days (name) helped last month
H35	how many hours during those days
Wave 3:	
H14_12	Someone help you to get dressed
H15D_12	Someone help you walk across room
H16D_12	Someone help you to bathe or shower
H17D_12	Does someone help you eat your food
H18D_12	Does someone help you get into or out of bed
H19D_12	Does someone help you use toilet, get on off
H22_1_12	Relationship with helper for ADLs
H22_2_12	Relationship with helper for ADLs
H22_3_12	Relationship with helper for ADLs
H22_4_12	Relationship with helper for ADLs
H22_5_12	Relationship with helper for ADLs
H22_6_12	Relationship with helper for ADLs
H22_7_12	Relationship with helper for ADLs
H22_8_12	Relationship with helper for ADLs
H23_1_12	Registration number of helper for ADLs
H23_2_12	Registration number of helper for ADLs
H23_3_12	Registration number of helper for ADLs
H23_4_12	Registration number of helper for ADLs
H23_5_12	Registration number of helper for ADLs
H23_6_12	Registration number of helper for ADLs
H23_7_12	Registration number of helper for ADLs
H23_8_12	Registration number of helper for ADLs
H24_1_12	Number of days (name) helped last month
H24_2_12	Number of days (name) helped last month
H24_3_12	Number of days (name) helped last month
H24_4_12	Number of days (name) helped last month
H24_5_12	Number of days (name) helped last month
H24_6_12	Number of days (name) helped last month
H24_7_12	Number of days (name) helped last month
H24_8_12	Number of days (name) helped last month
H25_1_12	Number of hours during those days (NAME) helped
H25_2_12	Number of hours during those days (NAME) helped
H25_3_12	Number of hours during those days (NAME) helped
H25_4_12	Number of hours during those days (NAME) helped
H25_5_12	Number of hours during those days (NAME) helped
H25_6_12	Number of hours during those days (NAME) helped
H25_7_12	Number of hours during those days (NAME) helped
H25_8_12	Number of hours during those days (NAME) helped
H26C_12	Does anyone help you prepare a hot meal
H27C_12	Does anyone help you shop for groceries
H28C_12	Does anyone help you take medications
H29C_12	Does anyone one help you manage your money
H32_1_12	Relationship with helper for IADLs
H32_2_12	Relationship with helper for IADLs
H32_3_12	Relationship with helper for IADLs
H32_4_12	Relationship with helper for IADLs
H32_5_12	Relationship with helper for IADLs
H32_6_12	Relationship with helper for IADLs
H32_7_12	Relationship with helper for IADLs
H32_8_12	Relationship with helper for IADLs
H33_1_12	Registration number of helper for IADLs
H33_2_12	Registration number of helper for ADLs
H33_3_12	Registration number of helper for IADLs
H33_4_12	Registration number of helper for IADLs
H33_5_12	Registration number of helper for IADLs
H33_6_12	Registration number of helper for IADLs
H33_7_12	Registration number of helper for IADLs
H33_8_12	Registration number of helper for IADLs
H34_1_12	Number of days (name) helped last month

H34_2_12	Number of days (name) helped last month
H34_3_12	Number of days (name) helped last month
H34_4_12	Number of days (name) helped last month
H34_5_12	Number of days (name) helped last month
H34_6_12	Number of days (name) helped last month
H34_7_12	Number of days (name) helped last month
H34_8_12	Number of days (name) helped last month
H35_1_12	Number of hours during those days (NAME) helped
H35_2_12	Number of hours during those days (NAME) helped
H35_3_12	Number of hours during those days (NAME) helped
H35_4_12	Number of hours during those days (NAME) helped
H35_5_12	Number of hours during those days (NAME) helped
H35_6_12	Number of hours during those days (NAME) helped
H35_7_12	Number of hours during those days (NAME) helped
H35_8_12	Number of hours during those days (NAME) helped

## Wave 4:

H14_15	Does someone help respondent to get dressed
H15D_15	Does someone help respondent walking across a room
H16D_15	Does someone help respondent bathing or showering
H17D_15	Does someone help respondent eating
H18D_15	Does someone help respondent getting in or out of bed
H19D_15	Does someone help respondent using the toilet
H22_1_15	Respondent's relationship with person helping with ADLs
H22_2_15	Respondent's relationship with person helping with ADLs
H22_3_15	Respondent's relationship with person helping with ADLs
H22_4_15	Respondent's relationship with person helping with ADLs
H22_5_15	Respondent's relationship with person helping with ADLs
H22_6_15	Respondent's relationship with person helping with ADLs
H22_7_15	Respondent's relationship with person helping with ADLs
H22_8_15	Respondent's relationship with person helping with ADLs
H23_1_15	Registration number of person helping with ADLs
H23_2_15	Registration number of person helping with ADLs
H23_3_15	Registration number of person helping with ADLs
H23_4_15	Registration number of person helping with ADLs
H23_5_15	Registration number of person helping with ADLs
H23_6_15	Registration number of person helping with ADLs
H23_7_15	Registration number of person helping with ADLs
H23_8_15	Registration number of person helping with ADLs
H24_1_15	Number of days the person helped during last month
H24_2_15	Number of days the person helped during last month
H24_3_15	Number of days the person helped during last month
H24_4_15	Number of days the person helped during last month
H24_5_15	Number of days the person helped during last month
H24_6_15	Number of days the person helped during last month
H24_7_15	Number of days the person helped during last month
H24_8_15	Number of days the person helped during last month
H25_1_15	Number of hours during those days that the person helps
H25_2_15	Number of hours during those days that the person helps
H25_3_15	Number of hours during those days that the person helps
H25_4_15	Number of hours during those days that the person helps
H25_5_15	Number of hours during those days that the person helps
H25_6_15	Number of hours during those days that the person helps
H25_7_15	Number of hours during those days that the person helps
H25_8_15	Number of hours during those days that the person helps
H26C_15	Does someone help respondent to prepare a hot meal
H27C_15	Does someone help respondent to shop for groceries
H28C_15	Does someone help respondent to take medications
H29C_15	Does someone help respondent to manage his/her money
H32_1_15	Respondent's relationship with person helping with IADL
H32_2_15	Respondent's relationship with person helping with IADL
H32_3_15	Respondent's relationship with person helping with IADL
H32_4_15	Respondent's relationship with person helping with IADL
H32_5_15	Respondent's relationship with person helping with IADL
H32_6_15	Respondent's relationship with person helping with IADL

H32_7_15	Respondent's relationship with person helping with IADL
H32_8_15	Respondent's relationship with person helping with IADL
H33_1_15	Registration number of person helping with IADLs
H33_2_15	Registration number of person helping with IADLs
H33_3_15	Registration number of person helping with IADLs
H33_4_15	Registration number of person helping with IADLs
H33_5_15	Registration number of person helping with IADLs
H33_6_15	Registration number of person helping with IADLs
H33_7_15	Registration number of person helping with IADLs
H33_8_15	Registration number of person helping with IADLs
H34_1_15	Number of days the person helped during last month
H34_2_15	Number of days the person helped during last month
H34_3_15	Number of days the person helped during last month
H34_4_15	Number of days the person helped during last month
H34_5_15	Number of days the person helped during last month
H34_6_15	Number of days the person helped during last month
H34_7_15	Number of days the person helped during last month
H34_8_15	Number of days the person helped during last month
H35_1_15	Number of hours during those days that the person helps
H35_2_15	Number of hours during those days that the person helps
H35_3_15	Number of hours during those days that the person helps
H35_4_15	Number of hours during those days that the person helps
H35_5_15	Number of hours during those days that the person helps
H35_6_15	Number of hours during those days that the person helps
H35_7_15	Number of hours during those days that the person helps
H35_8_15	Number of hours during those days that the person helps

## Wave 5:

H14_18	Does someone help R to get dressed
H15D_18	Does someone help R walking across a room
H16D_18	Does someone help R bathing or showering
H17D_18	Does someone help R eating
H18D_18	Does someone help R getting in or out of bed
H19D_18	Does someone help R using the toilet
H22_1_18	R's relationship with person helping with ADLs
H22_2_18	R's relationship with person helping with ADLs
H22_3_18	R's relationship with person helping with ADLs
H23_1_18	Registration number of person helping with ADLs
H23_2_18	Registration number of person helping with ADLs
H23_3_18	Registration number of person helping with ADLs
H24_1_18	Number of days the person helped during last month
H24_2_18	Number of days the person helped during last month
H24_3_18	Number of days the person helped during last month
H25_1_18	Number of hours during those days that the person helps
H25_2_18	Number of hours during those days that the person helps
H25_3_18	Number of hours during those days that the person helps
H26C_18	Does someone help R to prepare a hot meal
H27C_18	Does someone help R to shop for groceries
H28C_18	Does someone help R to take medications
H29C_18	Does someone help R to manage his/her money
H32_1_18	R's relationship with person helping with IADLs
H32_2_18	R's relationship with person helping with IADLs
H32_3_18	R's relationship with person helping with IADLs
H33_1_18	Registration number of person helping with IADLs
H33_2_18	Registration number of person helping with IADLs
H33_3_18	Registration number of person helping with IADLs
H34_1_18	Number of days the person helped during last month
H34_2_18	Number of days the person helped during last month
H34_3_18	Number of days the person helped during last month
H35_1_18	Number of hours during those days that the person helps
H35_2_18	Number of hours during those days that the person helps
H35_3_18	Number of hours during those days that the person helps



## Activities of Daily Living and Instrumental Activities of Daily Living: Whether Receives Any Formal Care

Wave	Variable	Label	Type
1	R1RFAANY	r1rfaany: w1 R receives any formal care for ADLs/IADLs	Categ
2	R2RFAANY	r2rfaany: w2 R receives any formal care for ADLs/IADLs	Categ
3	R3RFAANY	r3rfaany: w3 R receives any formal care for ADLs/IADLs	Categ
4	R4RFAANY	r4rfaany: w4 R receives any formal care for ADLs/IADLs	Categ
5	R5RFAANY	r5rfaany: w5 R receives any formal care for ADLs/IADLs	Categ
1	S1RFAANY	s1rfaany: w1 S receives any formal care for ADLs/IADLs	Categ
2	S2RFAANY	s2rfaany: w2 S receives any formal care for ADLs/IADLs	Categ
3	S3RFAANY	s3rfaany: w3 S receives any formal care for ADLs/IADLs	Categ
4	S4RFAANY	s4rfaany: w4 S receives any formal care for ADLs/IADLs	Categ
5	S5RFAANY	s5rfaany: w5 S receives any formal care for ADLs/IADLs	Categ

### Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R1RFAANY	2586	0.02	0.15	0.00	1.00
R2RFAANY	2403	0.02	0.15	0.00	1.00
R3RFAANY	4089	0.02	0.13	0.00	1.00
R4RFAANY	4182	0.02	0.14	0.00	1.00
R5RFAANY	3756	0.02	0.15	0.00	1.00
S1RFAANY	1649	0.01	0.09	0.00	1.00
S2RFAANY	1516	0.01	0.10	0.00	1.00
S3RFAANY	2464	0.01	0.09	0.00	1.00
S4RFAANY	2349	0.01	0.08	0.00	1.00
S5RFAANY	1650	0.02	0.13	0.00	1.00

### Categorical Variable Codes

Value-----	R1RFAANY	R2RFAANY	R3RFAANY	R4RFAANY	R5RFAANY
.d:DK	1		1	6	2
.m:Missing	40	30		40	18
.r:Refuse	2		1	1	82
.x:no difficulty	12557	11271	11632	10550	13256
0.No	2530	2347	4021	4099	3671
1.Yes	56	56	68	83	85

Value-----	S1RFAANY	S2RFAANY	S3RFAANY	S4RFAANY	S5RFAANY
.d:DK			1	5	
.m:Missing	14	8		10	3
.r:Refuse	1				55
.u:Unmar	4205	4009	4782	4847	5227
.v:SP NR	333	131	349	280	501
.x:no difficulty	8984	8040	8127	7288	5753
0.No	1635	1500	2442	2334	1620
1.Yes	14	16	22	15	30

### How Constructed

RwRFAANY indicates whether the respondent receives any formal care for difficulties with activities of daily living (ADL) and/or instrumental activities of daily living (IADL). The activities of daily living include dressing, walking across a room, bathing, eating, getting in and out of bed, and using the toilet. The instrumental activities of daily living include preparing meals, grocery shopping, taking medications, and managing money. If the respondent reports having difficulty with an ADL or IADL, then they are asked whether someone helps them with that activity. If someone helps with the activity, they are asked for the relationships of up to 12 people in Waves 1 and 2, up to 8 people in Waves 3 and 4, and up to 3 people in Wave 5 who help them with ADLs, and up to 12 people in Waves 1 and 2, up to 8 people in

Waves 3 and 4, and up to 3 people in Wave 5 who help them with IADLs. The following relationship is considered to provide formal care: paid person.

Please note that for each caregiver, the respondent is asked to report their relationship to the caregiver and the caregiver's roster number, if any. In cases where the reported relationship disagrees with the roster number, the roster number takes precedence in defining the relationship for spouses and children, for which the roster numbers follow clear rules. In cases where the reported relationship is "spouse" but the roster number indicates a non-spouse household member or an individual with no roster number, meaning they are not a child or within the household, the relationship type is changed to "other person". In cases of multiple records with the same caregiver relationship and roster number, we only consider the caregiver with the highest level of care provided to the respondent. In cases of multiple records with the same caregiver relationship and no roster number, we assume all mentions are separate individuals.

RwRFAANY is assigned a value of 0 if the respondent has difficulty with at least one ADL or IADL but receives no help with the activity from a formal caregiver, or does not receive any help at all. RwRFAANY is assigned a value of 1 if the respondent has difficulty with at least one ADL or IADL and a formal caregiver helps with at least one of the activities. RwRFAANY is assigned special missing value .x if the respondent has no difficulty with any ADLs or IADLs. Don't know, refused, and other missing responses are assigned special missing values .d, .r, and .m, respectively. RwRFAANY is assigned a blank missing (.) if the respondent did not participate in the current wave.

SwRFAANY indicates whether the respondent's current wave's spouse receives any formal care for difficulties with ADLs or IADLs, and its values are taken from RwRFAANY. In addition to the special missing codes employed by RwRFAANY, SwRFAANY employs two additional special missing codes. A special missing value .u is used when the respondent does not report being coupled in the current wave. A special missing value .v is used when the respondent reports being coupled in the current wave but their spouse is not interviewed.

## Cross Wave Differences in MHAS

Respondents are allowed to mention up to 12 caregivers each for ADLs and IADLs in Waves 1 and 2, up to 8 caregivers each for ADLs and IADLs in Waves 3 and 4, and up to 3 caregivers each for ADLs and IADLs in Wave 5.

## Differences with the RAND HRS/Harmonized HRS

The HRS has different categories of relationships between the respondent and their caregiver, but these variables have been created to be as comparable as possible. Please note that the Harmonized HRS includes categories for paid formal helpers and unpaid formal helpers, while the Harmonized MHAS only includes categories for paid formal helpers.

The HRS IADL list includes using the telephone, which is absent in the MHAS. As such, RwRFAANY in the Harmonized HRS also includes help using the telephone, whereas RwRFAANY in the Harmonized MHAS does not include help using the telephone.

## MHAS Variables Used

Wave 1:

H14	help dressing
H15_3	spouse helps walking
H15_4	other helps walking
H16_3	spouse helps bathing
H16_4	other helps bathing
H17_3	spouse helps eating
H17_4	other helps eating
H18_3	spouse helps getting in and out of bed
H18_4	other helps getting in and out of bed
H19_3	spouse helps using toilet
H19_4	other helps using toilet
H26_3	spouse helps with hot meal
H26_4	someone helps with hot meal
H27_3	spouse helps with shopping

H27_4	someone helps with shopping
H28_3	spouse helps with taking medication
H28_4	someone helps with taking medication
H29_3	spouse helps with managing money
H29_4	someone helps with managing money
Wave 1 Helper:	
H22	kinship of helper
H23	roster number of helper
H32	kinship of helper
H33	roster number of helper
Wave 2:	
H14	someone help you to get dressed
H15E	spouse helps
H15F	additional person helps
H16E	spouse helps
H16F	additional person helps
H17E	spouse helps
H17F	additional person helps
H18E	spouse helps
H18F	additional person helps
H19E	spouse helps
H19F	additional person helps
H26D	spouse helps
H26E	additional person helps
H27D	spouse helps
H27E	additional person helps
H28D	spouse helps
H28E	additional person helps
H29D	spouse helps
H29E	additional person helps
Wave 2 Helper:	
H22	relationship
H23	registration number
H32	relationship
H33	registration number
Wave 3:	
H14_12	Someone help you to get dressed
H15D_12	Someone help you walk across room
H16D_12	Someone help you to bathe or shower
H17D_12	Does someone help you eat your food
H18D_12	Does someone help you get into or out of bed
H19D_12	Does someone help you use toilet, get on off
H22_1_12	Relationship with helper for ADLs
H22_2_12	Relationship with helper for ADLs
H22_3_12	Relationship with helper for ADLs
H22_4_12	Relationship with helper for ADLs
H22_5_12	Relationship with helper for ADLs
H22_6_12	Relationship with helper for ADLs
H22_7_12	Relationship with helper for ADLs
H22_8_12	Relationship with helper for ADLs
H23_1_12	Registration number of helper for ADLs
H23_2_12	Registration number of helper for ADLs
H23_3_12	Registration number of helper for ADLs
H23_4_12	Registration number of helper for ADLs
H23_5_12	Registration number of helper for ADLs
H23_6_12	Registration number of helper for ADLs
H23_7_12	Registration number of helper for ADLs
H23_8_12	Registration number of helper for ADLs
H26C_12	Does anyone help you prepare a hot meal
H27C_12	Does anyone help you shop for groceries
H28C_12	Does anyone help you take medications
H29C_12	Does anyone one help you manage your money
H32_1_12	Relationship with helper for IADLs
H32_2_12	Relationship with helper for IADLs

H32_3_12	Relationship with helper for IADLs
H32_4_12	Relationship with helper for IADLs
H32_5_12	Relationship with helper for IADLs
H32_6_12	Relationship with helper for IADLs
H32_7_12	Relationship with helper for IADLs
H32_8_12	Relationship with helper for IADLs
H33_1_12	Registration number of helper for IADLs
H33_2_12	Registration number of helper for ADLs
H33_3_12	Registration number of helper for IADLs
H33_4_12	Registration number of helper for IADLs
H33_5_12	Registration number of helper for IADLs
H33_6_12	Registration number of helper for IADLs
H33_7_12	Registration number of helper for IADLs
H33_8_12	Registration number of helper for IADLs

## Wave 4:

H14_15	Does someone help respondent to get dressed
H15D_15	Does someone help respondent walking across a room
H16D_15	Does someone help respondent bathing or showering
H17D_15	Does someone help respondent eating
H18D_15	Does someone help respondent getting in or out of bed
H19D_15	Does someone help respondent using the toilet
H22_1_15	Respondent's relationship with person helping with ADLs
H22_2_15	Respondent's relationship with person helping with ADLs
H22_3_15	Respondent's relationship with person helping with ADLs
H22_4_15	Respondent's relationship with person helping with ADLs
H22_5_15	Respondent's relationship with person helping with ADLs
H22_6_15	Respondent's relationship with person helping with ADLs
H22_7_15	Respondent's relationship with person helping with ADLs
H22_8_15	Respondent's relationship with person helping with ADLs
H23_1_15	Registration number of person helping with ADLs
H23_2_15	Registration number of person helping with ADLs
H23_3_15	Registration number of person helping with ADLs
H23_4_15	Registration number of person helping with ADLs
H23_5_15	Registration number of person helping with ADLs
H23_6_15	Registration number of person helping with ADLs
H23_7_15	Registration number of person helping with ADLs
H23_8_15	Registration number of person helping with ADLs
H26C_15	Does someone help respondent to prepare a hot meal
H27C_15	Does someone help respondent to shop for groceries
H28C_15	Does someone help respondent to take medications
H29C_15	Does someone help respondent to manage his/her money
H32_1_15	Respondent's relationship with person helping with IADL
H32_2_15	Respondent's relationship with person helping with IADL
H32_3_15	Respondent's relationship with person helping with IADL
H32_4_15	Respondent's relationship with person helping with IADL
H32_5_15	Respondent's relationship with person helping with IADL
H32_6_15	Respondent's relationship with person helping with IADL
H32_7_15	Respondent's relationship with person helping with IADL
H32_8_15	Respondent's relationship with person helping with IADL
H33_1_15	Registration number of person helping with IADLs
H33_2_15	Registration number of person helping with IADLs
H33_3_15	Registration number of person helping with IADLs
H33_4_15	Registration number of person helping with IADLs
H33_5_15	Registration number of person helping with IADLs
H33_6_15	Registration number of person helping with IADLs
H33_7_15	Registration number of person helping with IADLs
H33_8_15	Registration number of person helping with IADLs

## Wave 5:

H14_18	Does someone help R to get dressed
H15D_18	Does someone help R walking across a room
H16D_18	Does someone help R bathing or showering
H17D_18	Does someone help R eating
H18D_18	Does someone help R getting in or out of bed
H19D_18	Does someone help R using the toilet

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H22_1_18	R's relationship with person helping with ADLs
H22_2_18	R's relationship with person helping with ADLs
H22_3_18	R's relationship with person helping with ADLs
H23_1_18	Registration number of person helping with ADLs
H23_2_18	Registration number of person helping with ADLs
H23_3_18	Registration number of person helping with ADLs
H26C_18	Does someone help R to prepare a hot meal
H27C_18	Does someone help R to shop for groceries
H28C_18	Does someone help R to take medications
H29C_18	Does someone help R to manage his/her money
H32_1_18	R's relationship with person helping with IADLs
H32_2_18	R's relationship with person helping with IADLs
H32_3_18	R's relationship with person helping with IADLs
H33_1_18	Registration number of person helping with IADLs
H33_2_18	Registration number of person helping with IADLs
H33_3_18	Registration number of person helping with IADLs

**Activities of Daily Living and Instrumental Activities of Daily Living: Receives Formal Care from Paid Professional**

Wave	Variable	Label	Type
1	R1RPFCARE	r1rpfcare: w1 R receives formal care from paid professional	Categ
2	R2RPFCARE	r2rpfcare: w2 R receives formal care from paid professional	Categ
3	R3RPFCARE	r3rpfcare: w3 R receives formal care from paid professional	Categ
4	R4RPFCARE	r4rpfcare: w4 R receives formal care from paid professional	Categ
5	R5RPFCARE	r5rpfcare: w5 R receives formal care from paid professional	Categ
1	S1RPFCARE	s1rpfcare: w1 S receives formal care from paid professional	Categ
2	S2RPFCARE	s2rpfcare: w2 S receives formal care from paid professional	Categ
3	S3RPFCARE	s3rpfcare: w3 S receives formal care from paid professional	Categ
4	S4RPFCARE	s4rpfcare: w4 S receives formal care from paid professional	Categ
5	S5RPFCARE	s5rpfcare: w5 S receives formal care from paid professional	Categ
1	R1RPFCAREN	r1rpfcaren: w1 # paid professionals who help R with ADLs/IAD	Cont
2	R2RPFCAREN	r2rpfcaren: w2 # paid professionals who help R with ADLs/IAD	Cont
3	R3RPFCAREN	r3rpfcaren: w3 # paid professionals who help R with ADLs/IAD	Cont
4	R4RPFCAREN	r4rpfcaren: w4 # paid professionals who help R with ADLs/IAD	Cont
5	R5RPFCAREN	r5rpfcaren: w5 # paid professionals who help R with ADLs/IAD	Cont
1	S1RPFCAREN	s1rpfcaren: w1 # paid professionals who help S with ADLs/IAD	Cont
2	S2RPFCAREN	s2rpfcaren: w2 # paid professionals who help S with ADLs/IAD	Cont
3	S3RPFCAREN	s3rpfcaren: w3 # paid professionals who help S with ADLs/IAD	Cont
4	S4RPFCAREN	s4rpfcaren: w4 # paid professionals who help S with ADLs/IAD	Cont
5	S5RPFCAREN	s5rpfcaren: w5 # paid professionals who help S with ADLs/IAD	Cont
1	R1RPFCAREDPM	r1rpfcaredpm: w1 days/month paid professionals help R with A	Cont
2	R2RPFCAREDPM	r2rpfcaredpm: w2 days/month paid professionals help R with A	Cont
3	R3RPFCAREDPM	r3rpfcaredpm: w3 days/month paid professionals help R with A	Cont
4	R4RPFCAREDPM	r4rpfcaredpm: w4 days/month paid professionals help R with A	Cont
5	R5RPFCAREDPM	r5rpfcaredpm: w5 days/month paid professionals help R with A	Cont
2	S2RPFCAREDPM	s2rpfcaredpm: w2 days/month paid professionals help S with A	Cont
3	S3RPFCAREDPM	s3rpfcaredpm: w3 days/month paid professionals help S with A	Cont
4	S4RPFCAREDPM	s4rpfcaredpm: w4 days/month paid professionals help S with A	Cont
5	S5RPFCAREDPM	s5rpfcaredpm: w5 days/month paid professionals help S with A	Cont
1	R1RPFCAREDPMM	r1rpfcaredpmm: w1 R # paid professionals missing days of hel	Cont
2	R2RPFCAREDPMM	r2rpfcaredpmm: w2 R # paid professionals missing days of hel	Cont
3	R3RPFCAREDPMM	r3rpfcaredpmm: w3 R # paid professionals missing days of hel	Cont
4	R4RPFCAREDPMM	r4rpfcaredpmm: w4 R # paid professionals missing days of hel	Cont
5	R5RPFCAREDPMM	r5rpfcaredpmm: w5 R # paid professionals missing days of hel	Cont
1	S1RPFCAREDPMM	s1rpfcaredpmm: w1 S # paid professionals missing days of hel	Cont
2	S2RPFCAREDPMM	s2rpfcaredpmm: w2 S # paid professionals missing days of hel	Cont
3	S3RPFCAREDPMM	s3rpfcaredpmm: w3 S # paid professionals missing days of hel	Cont
4	S4RPFCAREDPMM	s4rpfcaredpmm: w4 S # paid professionals missing days of hel	Cont
5	S5RPFCAREDPMM	s5rpfcaredpmm: w5 S # paid professionals missing days of hel	Cont
1	R1RPFCAREHR	r1rpfcarehr: w1 hours/day paid professionals help R with ADL	Cont
2	R2RPFCAREHR	r2rpfcarehr: w2 hours/day paid professionals help R with ADL	Cont
3	R3RPFCAREHR	r3rpfcarehr: w3 hours/day paid professionals help R with ADL	Cont
4	R4RPFCAREHR	r4rpfcarehr: w4 hours/day paid professionals help R with ADL	Cont
5	R5RPFCAREHR	r5rpfcarehr: w5 hours/day paid professionals help R with ADL	Cont
1	S1RPFCAREHR	s1rpfcarehr: w1 hours/day paid professionals help S with ADL	Cont
2	S2RPFCAREHR	s2rpfcarehr: w2 hours/day paid professionals help S with ADL	Cont
3	S3RPFCAREHR	s3rpfcarehr: w3 hours/day paid professionals help S with ADL	Cont
4	S4RPFCAREHR	s4rpfcarehr: w4 hours/day paid professionals help S with ADL	Cont

5	S5RPFCAREHR	s5rpfcarehr: w5 hours/day paid professionals help S with ADL	Cont
1	R1RPFCAREHRM	r1rpfcarehrm: w1 R # paid professionals missing hours of hel	Cont
2	R2RPFCAREHRM	r2rpfcarehrm: w2 R # paid professionals missing hours of hel	Cont
3	R3RPFCAREHRM	r3rpfcarehrm: w3 R # paid professionals missing hours of hel	Cont
4	R4RPFCAREHRM	r4rpfcarehrm: w4 R # paid professionals missing hours of hel	Cont
5	R5RPFCAREHRM	r5rpfcarehrm: w5 R # paid professionals missing hours of hel	Cont
1	S1RPFCAREHRM	s1rpfcarehrm: w1 S # paid professionals missing hours of hel	Cont
2	S2RPFCAREHRM	s2rpfcarehrm: w2 S # paid professionals missing hours of hel	Cont
3	S3RPFCAREHRM	s3rpfcarehrm: w3 S # paid professionals missing hours of hel	Cont
4	S4RPFCAREHRM	s4rpfcarehrm: w4 S # paid professionals missing hours of hel	Cont
5	S5RPFCAREHRM	s5rpfcarehrm: w5 S # paid professionals missing hours of hel	Cont

## Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R1RPFCARE	1774	0.03	0.17	0.00	1.00
R2RPFCARE	1674	0.03	0.18	0.00	1.00
R3RPFCARE	2318	0.03	0.17	0.00	1.00
R4RPFCARE	2516	0.03	0.18	0.00	1.00
R5RPFCARE	2211	0.04	0.19	0.00	1.00
S1RPFCARE	1148	0.01	0.11	0.00	1.00
S2RPFCARE	1029	0.02	0.12	0.00	1.00
S3RPFCARE	1251	0.02	0.13	0.00	1.00
S4RPFCARE	1277	0.01	0.11	0.00	1.00
S5RPFCARE	934	0.03	0.18	0.00	1.00
R1RPFCAREN	1774	0.03	0.20	0.00	3.00
R2RPFCAREN	1674	0.03	0.19	0.00	2.00
R3RPFCAREN	2318	0.03	0.18	0.00	2.00
R4RPFCAREN	2516	0.04	0.21	0.00	3.00
R5RPFCAREN	2211	0.05	0.25	0.00	3.00
S1RPFCAREN	1148	0.01	0.11	0.00	1.00
S2RPFCAREN	1029	0.02	0.12	0.00	1.00
S3RPFCAREN	1251	0.02	0.13	0.00	1.00
S4RPFCAREN	1277	0.01	0.13	0.00	3.00
S5RPFCAREN	934	0.04	0.21	0.00	3.00
R1RPFCAREDPM	1774	0.91	5.50	0.00	90.00
R2RPFCAREDPM	1674	0.93	5.26	0.00	60.00
R3RPFCAREDPM	2317	0.65	4.26	0.00	60.00
R4RPFCAREDPM	2516	0.78	5.11	0.00	90.00
R5RPFCAREDPM	2210	1.06	6.31	0.00	90.00
S2RPFCAREDPM	1029	0.44	3.56	0.00	30.00
S3RPFCAREDPM	1251	0.33	2.91	0.00	30.00
S4RPFCAREDPM	1277	0.33	3.65	0.00	90.00
S5RPFCAREDPM	934	0.82	4.88	0.00	60.00
R1RPFCAREDPMM	1774	0.00	0.00	0.00	0.00
R2RPFCAREDPMM	1674	0.00	0.00	0.00	0.00
R3RPFCAREDPMM	2318	0.00	0.02	0.00	1.00
R4RPFCAREDPMM	2516	0.00	0.00	0.00	0.00
R5RPFCAREDPMM	2211	0.00	0.02	0.00	1.00
S1RPFCAREDPMM	1148	0.00	0.00	0.00	0.00
S2RPFCAREDPMM	1029	0.00	0.00	0.00	0.00
S3RPFCAREDPMM	1251	0.00	0.00	0.00	0.00
S4RPFCAREDPMM	1277	0.00	0.00	0.00	0.00
S5RPFCAREDPMM	934	0.00	0.00	0.00	0.00

R1RPFCAREHR	1774	0.33	2.37	0.00	48.00
R2RPFCAREHR	1674	0.27	1.88	0.00	24.00
R3RPFCAREHR	2318	0.32	2.26	0.00	30.00
R4RPFCAREHR	2516	0.33	2.34	0.00	36.00
R5RPFCAREHR	2208	0.37	2.66	0.00	48.00
S1RPFCAREHR	1148	0.10	1.05	0.00	24.00
S2RPFCAREHR	1029	0.09	0.85	0.00	12.00
S3RPFCAREHR	1251	0.20	1.86	0.00	24.00
S4RPFCAREHR	1277	0.10	1.26	0.00	24.00
S5RPFCAREHR	933	0.27	2.15	0.00	48.00
R1RPFCAREHRM	1774	0.00	0.00	0.00	0.00
R2RPFCAREHRM	1674	0.00	0.00	0.00	0.00
R3RPFCAREHRM	2318	0.00	0.00	0.00	0.00
R4RPFCAREHRM	2516	0.00	0.00	0.00	0.00
R5RPFCAREHRM	2211	0.00	0.04	0.00	1.00
S1RPFCAREHRM	1148	0.00	0.00	0.00	0.00
S2RPFCAREHRM	1029	0.00	0.00	0.00	0.00
S3RPFCAREHRM	1251	0.00	0.00	0.00	0.00
S4RPFCAREHRM	1277	0.00	0.00	0.00	0.00
S5RPFCAREHRM	934	0.00	0.03	0.00	1.00

## Categorical Variable Codes

Value-----	R1RPFCARE	R2RPFCARE	R3RPFCARE	R4RPFCARE	R5RPFCARE
.d:DK	1		1	6	2
.h:no help received	812	729	1771	1666	1545
.m:Missing	40	30		40	18
.r:Refuse	2		1	1	82
.x:no difficulty	12557	11271	11632	10550	13256
0.No	1718	1618	2250	2433	2126
1.Yes	56	56	68	83	85

Value-----	S1RPFCARE	S2RPFCARE	S3RPFCARE	S4RPFCARE	S5RPFCARE
.d:DK			1	5	
.h:no help received	501	487	1213	1072	716
.m:Missing	14	8		10	3
.r:Refuse	1				55
.u:Unmar	4205	4009	4782	4847	5227
.v:SP NR	333	131	349	280	501
.x:no difficulty	8984	8040	8127	7288	5753
0.No	1134	1013	1229	1262	904
1.Yes	14	16	22	15	30

## How Constructed

The following variables indicate whether paid formal caregivers help the respondent with any ADL or IADL needs. The activities of daily living include dressing, walking across a room, bathing, eating, getting in and out of bed, and using the toilet. The instrumental activities of daily living include preparing meals, grocery shopping, taking medications, and managing money. If the respondent reports having difficulty with an ADL or IADL, then they are asked whether someone helps them with that activity. If someone helps with the activity, they are asked for the relationships of up to 12 people in Waves 1 and 2, up to 8 people in Waves 3 and 4, and up to 3 people in Wave 5 who help them with ADLs and IADLs each. The information used to derive these variables is taken from the help files in Waves 1 and 2 and from the individual files in Waves 3 and forward. For each caregiver, the respondent is asked to report their relationship to the caregiver and the caregiver's roster number, if any. In cases where the reported relationship disagrees with the roster number, the roster number takes precedence in defining the relationship for spouses and children, for which the roster numbers follow clear rules. In cases where the reported relationship is "spouse" but the roster number indicates a non-spouse household member or an individual with no roster number, meaning they are not a child or within the household, the relationship type is changed to "other person". In cases of multiple records with the same caregiver relationship and roster number, we only consider the caregiver with the highest level of care provided to the respondent.



In cases of multiple records with the same caregiver relationship and no roster number, we assume all mentions are separate individuals.

The following variables are coded as special missing value .x if the respondent reports no difficulty with any ADL or IADL, and are coded as special missing value .h if the respondent reports difficulty with an ADL or IADL but does not receive any help. Don't know, refused, or other missing responses are assigned special missing values .d, .r, and .m, respectively. These variables are set to plain missing (.) for respondents who did not participate in the current wave.

RwRPFCARE, RwRPFCAREN, RwRPFCAREDPM, RwRPFCAREDPMM, RwRPFCAREHR, and RwRPFCAREHRM include help from a paid person.

RwRPFCARE indicates whether any paid professionals help the respondent with ADL or IADL needs. RwRPFCAREN indicates the number of paid professionals who help the respondent with ADL or IADL needs. RwRPFCARE is coded as 0 if no paid professionals help the respondent with ADLs or IADLs; and is coded as 1 if at least one paid professional helps the respondent with ADLs or IADLs.

RwRPFCAREDPM indicates the number of total days per month paid professionals help the respondent with ADL or IADL needs. If the respondent reports receiving help every day from that paid professional, then a value of 30 is assumed. RwRPFCAREDPM is the sum of days per month for all paid professional helpers, and so values can be over 30 days. RwRPFCAREDPM is calculated as long as there is one non-missing value. RwRPFCAREDPM is assigned a value of 0 if the respondent did not receive help from any paid professionals. RwRPFCAREDPMM indicates the number of paid professionals who helped the respondent for whom no value of days was reported and was not accounted for in RwRPFCAREDPM. RwRPFCAREDPMM is assigned special missing value .m if the respondent was not helped by any paid professionals.

RwRPFCAREHR indicates the number of hours per day paid professionals help the respondent with ADL or IADL needs. Respondents are asked, on days paid professionals help, how many hours per day that is. If the respondent reports less than an hour for that paid professional, then a 1 is assumed. RwRPFCAREHR is the sum of hours per day for all paid professional helpers, and so values can be over 24 hours. RwRPFCAREHR is calculated as long as there is one non-missing value. RwRPFCAREHR is assigned a value of 0 if the respondent does not receive help from any paid professionals. RwRPFCAREHRM indicates the number of paid professionals who helped the respondent for whom no value of hours was reported and was not accounted for in RwRPFCAREHR. RwRPFCAREHRM is assigned special missing value .m if the respondent was not helped by any paid professionals.

SwRPFCARE, SwRPFCAREN, SwRPFCAREDPM, and SwRPFCAREHR indicate whether the respondent's current wave's spouse receives help from paid professionals, the number, and the frequency with which, and their values are taken from RwRPFCARE, RwRPFCAREN, RwRPFCAREDPM, and RwRPFCAREHR. SwRPFCAREDPMM and SwRPFCAREHRM indicate the number of paid professionals who helped the respondent's current spouse for whom a value was not reported for the number of days and hours and are taken from RwRPFCAREDPMM and RwRPFCAREHRM. In addition to the special missing codes employed by the respondent variables, the spouse variables employ two additional special missing codes. A special missing value .u is used when the respondent does not report being coupled in the current wave. A special missing value .v is used when the respondent reports being coupled in the current wave but their spouse is not interviewed.

## Cross Wave Differences in MHAS

Respondents are allowed to mention up to 12 caregivers each in Waves 1 and 2 for ADLs and IADLs, up to 8 caregivers each in Waves 3 and 4 for ADLs and IADLs, and up to 3 caregivers each in Wave 5 for ADLs and IADLs.

## Differences with the RAND HRS/Harmonized HRS

The HRS has different categories of relationships between the respondent and their caregiver, but these variables have been created to be as comparable as possible.

RwRPFCARE in the Harmonized MHAS is also comparable to RwRFAANY in the Harmonized HRS, indicating any formal care for ADLs and IADLs, because the MHAS does not have a category for unpaid formal caregivers.

The HRS IADL list includes using the telephone, which is absent in the MHAS. As such, these variables in the Harmonized HRS also include help using the telephone, whereas in the Harmonized MHAS they do not include help using the telephone.

The HRS asks for up to 7 relationships of people who help with ADLs (dressing, walking across a room, bathing, eating, getting in and out of bed, and using the toilet). The MHAS, in contrast, asks for the relationships of a varying number of people across waves who help with ADLs. The HRS asks for up to 6 relationships of people who help with IADLs (preparing meals, grocery shopping, making phone calls, and taking medications), and up to 2 people who help with managing money. The MHAS, in contrast, asks for the relationships of a varying number of people who help with preparing meals, grocery shopping, taking medications, and managing money together.

## MHAS Variables Used

### Wave 1:

H14	help dressing
H15_3	spouse helps walking
H15_4	other helps walking
H16_3	spouse helps bathing
H16_4	other helps bathing
H17_3	spouse helps eating
H17_4	other helps eating
H18_3	spouse helps getting in an out of bed
H18_4	other helps getting in an out of bed
H19_3	spouse helps using toilet
H19_4	other helps using toilet
H26_3	spouse helps with hot meal
H26_4	someone helps with hot meal
H27_3	spouse helps with shopping
H27_4	someone helps with shopping
H28_3	spouse helps with taking medication
H28_4	someone helps with taking medication
H29_3	spouse helps with managing money
H29_4	someone helps with managing money

### Wave 1 Helper:

H22	kinship of helper
H23	roster number of helper
H24	days of help
H25	hours of help
H32	kinship of helper
H33	roster number of helper
H34	days of help
H35	hours of help

### Wave 2:

H14	someone help you to get dressed
H15E	spouse helps
H15F	additional person helps
H16E	spouse helps
H16F	additional person helps
H17E	spouse helps
H17F	additional person helps
H18E	spouse helps
H18F	additional person helps
H19E	spouse helps
H19F	additional person helps
H26D	spouse helps
H26E	additional person helps
H27D	spouse helps
H27E	additional person helps
H28D	spouse helps
H28E	additional person helps
H29D	spouse helps
H29E	additional person helps

### Wave 2 Helper:

H22	relationship
H23	registration number
H24	number of days (name) helped last month
H25	number of hours during those days

H32	relationship
H33	registration number
H34	number of days (name) helped last month
H35	how many hours during those days
Wave 3:	
H14_12	Someone help you to get dressed
H15D_12	Someone help you walk across room
H16D_12	Someone help you to bathe or shower
H17D_12	Does someone help you eat your food
H18D_12	Does someone help you get into or out of bed
H19D_12	Does someone help you use toilet, get on off
H22_1_12	Relationship with helper for ADLs
H22_2_12	Relationship with helper for ADLs
H22_3_12	Relationship with helper for ADLs
H22_4_12	Relationship with helper for ADLs
H22_5_12	Relationship with helper for ADLs
H22_6_12	Relationship with helper for ADLs
H22_7_12	Relationship with helper for ADLs
H22_8_12	Relationship with helper for ADLs
H23_1_12	Registration number of helper for ADLs
H23_2_12	Registration number of helper for ADLs
H23_3_12	Registration number of helper for ADLs
H23_4_12	Registration number of helper for ADLs
H23_5_12	Registration number of helper for ADLs
H23_6_12	Registration number of helper for ADLs
H23_7_12	Registration number of helper for ADLs
H23_8_12	Registration number of helper for ADLs
H24_1_12	Number of days (name) helped last month
H24_2_12	Number of days (name) helped last month
H24_3_12	Number of days (name) helped last month
H24_4_12	Number of days (name) helped last month
H24_5_12	Number of days (name) helped last month
H24_6_12	Number of days (name) helped last month
H24_7_12	Number of days (name) helped last month
H24_8_12	Number of days (name) helped last month
H25_1_12	Number of hours during those days (NAME) helped
H25_2_12	Number of hours during those days (NAME) helped
H25_3_12	Number of hours during those days (NAME) helped
H25_4_12	Number of hours during those days (NAME) helped
H25_5_12	Number of hours during those days (NAME) helped
H25_6_12	Number of hours during those days (NAME) helped
H25_7_12	Number of hours during those days (NAME) helped
H25_8_12	Number of hours during those days (NAME) helped
H26C_12	Does anyone help you prepare a hot meal
H27C_12	Does anyone help you shop for groceries
H28C_12	Does anyone help you take medications
H29C_12	Does anyone one help you manage your money
H32_1_12	Relationship with helper for IADLs
H32_2_12	Relationship with helper for IADLs
H32_3_12	Relationship with helper for IADLs
H32_4_12	Relationship with helper for IADLs
H32_5_12	Relationship with helper for IADLs
H32_6_12	Relationship with helper for IADLs
H32_7_12	Relationship with helper for IADLs
H32_8_12	Relationship with helper for IADLs
H33_1_12	Registration number of helper for IADLs
H33_2_12	Registration number of helper for ADLs
H33_3_12	Registration number of helper for IADLs
H33_4_12	Registration number of helper for IADLs
H33_5_12	Registration number of helper for IADLs
H33_6_12	Registration number of helper for IADLs
H33_7_12	Registration number of helper for IADLs
H33_8_12	Registration number of helper for IADLs
H34_1_12	Number of days (name) helped last month

H34_2_12	Number of days (name) helped last month
H34_3_12	Number of days (name) helped last month
H34_4_12	Number of days (name) helped last month
H34_5_12	Number of days (name) helped last month
H34_6_12	Number of days (name) helped last month
H34_7_12	Number of days (name) helped last month
H34_8_12	Number of days (name) helped last month
H35_1_12	Number of hours during those days (NAME) helped
H35_2_12	Number of hours during those days (NAME) helped
H35_3_12	Number of hours during those days (NAME) helped
H35_4_12	Number of hours during those days (NAME) helped
H35_5_12	Number of hours during those days (NAME) helped
H35_6_12	Number of hours during those days (NAME) helped
H35_7_12	Number of hours during those days (NAME) helped
H35_8_12	Number of hours during those days (NAME) helped

## Wave 4:

H14_15	Does someone help respondent to get dressed
H15D_15	Does someone help respondent walking across a room
H16D_15	Does someone help respondent bathing or showering
H17D_15	Does someone help respondent eating
H18D_15	Does someone help respondent getting in or out of bed
H19D_15	Does someone help respondent using the toilet
H22_1_15	Respondent's relationship with person helping with ADLs
H22_2_15	Respondent's relationship with person helping with ADLs
H22_3_15	Respondent's relationship with person helping with ADLs
H22_4_15	Respondent's relationship with person helping with ADLs
H22_5_15	Respondent's relationship with person helping with ADLs
H22_6_15	Respondent's relationship with person helping with ADLs
H22_7_15	Respondent's relationship with person helping with ADLs
H22_8_15	Respondent's relationship with person helping with ADLs
H23_1_15	Registration number of person helping with ADLs
H23_2_15	Registration number of person helping with ADLs
H23_3_15	Registration number of person helping with ADLs
H23_4_15	Registration number of person helping with ADLs
H23_5_15	Registration number of person helping with ADLs
H23_6_15	Registration number of person helping with ADLs
H23_7_15	Registration number of person helping with ADLs
H23_8_15	Registration number of person helping with ADLs
H24_1_15	Number of days the person helped during last month
H24_2_15	Number of days the person helped during last month
H24_3_15	Number of days the person helped during last month
H24_4_15	Number of days the person helped during last month
H24_5_15	Number of days the person helped during last month
H24_6_15	Number of days the person helped during last month
H24_7_15	Number of days the person helped during last month
H24_8_15	Number of days the person helped during last month
H25_1_15	Number of hours during those days that the person helps
H25_2_15	Number of hours during those days that the person helps
H25_3_15	Number of hours during those days that the person helps
H25_4_15	Number of hours during those days that the person helps
H25_5_15	Number of hours during those days that the person helps
H25_6_15	Number of hours during those days that the person helps
H25_7_15	Number of hours during those days that the person helps
H25_8_15	Number of hours during those days that the person helps
H26C_15	Does someone help respondent to prepare a hot meal
H27C_15	Does someone help respondent to shop for groceries
H28C_15	Does someone help respondent to take medications
H29C_15	Does someone help respondent to manage his/her money
H32_1_15	Respondent's relationship with person helping with IADL
H32_2_15	Respondent's relationship with person helping with IADL
H32_3_15	Respondent's relationship with person helping with IADL
H32_4_15	Respondent's relationship with person helping with IADL
H32_5_15	Respondent's relationship with person helping with IADL
H32_6_15	Respondent's relationship with person helping with IADL

H32_7_15	Respondent's relationship with person helping with IADL
H32_8_15	Respondent's relationship with person helping with IADL
H33_1_15	Registration number of person helping with IADLs
H33_2_15	Registration number of person helping with IADLs
H33_3_15	Registration number of person helping with IADLs
H33_4_15	Registration number of person helping with IADLs
H33_5_15	Registration number of person helping with IADLs
H33_6_15	Registration number of person helping with IADLs
H33_7_15	Registration number of person helping with IADLs
H33_8_15	Registration number of person helping with IADLs
H34_1_15	Number of days the person helped during last month
H34_2_15	Number of days the person helped during last month
H34_3_15	Number of days the person helped during last month
H34_4_15	Number of days the person helped during last month
H34_5_15	Number of days the person helped during last month
H34_6_15	Number of days the person helped during last month
H34_7_15	Number of days the person helped during last month
H34_8_15	Number of days the person helped during last month
H35_1_15	Number of hours during those days that the person helps
H35_2_15	Number of hours during those days that the person helps
H35_3_15	Number of hours during those days that the person helps
H35_4_15	Number of hours during those days that the person helps
H35_5_15	Number of hours during those days that the person helps
H35_6_15	Number of hours during those days that the person helps
H35_7_15	Number of hours during those days that the person helps
H35_8_15	Number of hours during those days that the person helps

## Wave 5:

H14_18	Does someone help R to get dressed
H15D_18	Does someone help R walking across a room
H16D_18	Does someone help R bathing or showering
H17D_18	Does someone help R eating
H18D_18	Does someone help R getting in or out of bed
H19D_18	Does someone help R using the toilet
H22_1_18	R's relationship with person helping with ADLs
H22_2_18	R's relationship with person helping with ADLs
H22_3_18	R's relationship with person helping with ADLs
H23_1_18	Registration number of person helping with ADLs
H23_2_18	Registration number of person helping with ADLs
H23_3_18	Registration number of person helping with ADLs
H24_1_18	Number of days the person helped during last month
H24_2_18	Number of days the person helped during last month
H24_3_18	Number of days the person helped during last month
H25_1_18	Number of hours during those days that the person helps
H25_2_18	Number of hours during those days that the person helps
H25_3_18	Number of hours during those days that the person helps
H26C_18	Does someone help R to prepare a hot meal
H27C_18	Does someone help R to shop for groceries
H28C_18	Does someone help R to take medications
H29C_18	Does someone help R to manage his/her money
H32_1_18	R's relationship with person helping with IADLs
H32_2_18	R's relationship with person helping with IADLs
H32_3_18	R's relationship with person helping with IADLs
H33_1_18	Registration number of person helping with IADLs
H33_2_18	Registration number of person helping with IADLs
H33_3_18	Registration number of person helping with IADLs
H34_1_18	Number of days the person helped during last month
H34_2_18	Number of days the person helped during last month
H34_3_18	Number of days the person helped during last month
H35_1_18	Number of hours during those days that the person helps
H35_2_18	Number of hours during those days that the person helps
H35_3_18	Number of hours during those days that the person helps

<b>Receives Help with Chores from Children or Grandchildren</b>
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Wave	Variable	Label	Type
1	H1RCCHORE	h1rcchore: w1 R+S receives help with chores from children/gr	Categ
2	H2RCCHORE	h2rcchore: w2 R+S receives help with chores from children/gr	Categ
3	H3RCCHORE	h3rcchore: w3 R+S receives help with chores from children/gr	Categ
4	H4RCCHORE	h4rcchore: w4 R+S receives help with chores from children/gr	Categ
5	H5RCCHORE	h5rcchore: w5 R+S receives help with chores from children/gr	Categ
2	H2RCCHORENF	h2rcchorenf: w2 R+S receive enough help with chores from chi	Categ
3	H3RCCHORENF	h3rcchorenf: w3 R+S receive enough help with chores from chi	Categ
4	H4RCCHORENF	h4rcchorenf: w4 R+S receive enough help with chores from chi	Categ
5	H5RCCHORENF	h5rcchorenf: w5 R+S receive enough help with chores from chi	Categ
3	H3RCCHOREHR	h3rcchorehr: w3 hours/year children/grandchildren help with	Cont
4	H4RCCHOREHR	h4rcchorehr: w4 hours/year children/grandchildren help with	Cont
5	H5RCCHOREHR	h5rcchorehr: w5 hours/year children/grandchildren help with	Cont

### Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
H1RCCHORE	14887	0.48	0.50	0.00	1.00
H2RCCHORE	13442	0.45	0.50	0.00	1.00
H3RCCHORE	14938	0.47	0.50	0.00	1.00
H4RCCHORE	14263	0.52	0.50	0.00	1.00
H5RCCHORE	15584	0.52	0.50	0.00	1.00
H2RCCHORENF	11557	2.33	0.57	1.00	3.00
H3RCCHORENF	13441	2.22	0.61	1.00	3.00
H4RCCHORENF	13477	2.16	0.60	1.00	3.00
H5RCCHORENF	14207	2.20	0.63	1.00	3.00
H3RCCHOREHR	14853	530.64	1276.71	0.00	8760.00
H4RCCHOREHR	14209	453.48	983.52	0.00	8760.00
H5RCCHOREHR	15418	572.80	1233.74	0.00	8760.00

### Categorical Variable Codes

Value-----	H1RCCHORE	H2RCCHORE	H3RCCHORE	H4RCCHORE	H5RCCHORE
.c:no living children	743	589	744	629	1473
.d:DK	20	6	6	7	17
.m:Missing	32	25	16	34	20
.r:Refuse	24	2	19	12	20
0.No	7815	7458	7886	6903	7447
1.Yes	7072	5984	7052	7360	8137

Value-----	H2RCCHORENF	H3RCCHORENF	H4RCCHORENF	H5RCCHORENF
.c:no living children	383	744	629	1473
.d:DK	458	335	108	409
.m:Missing	121	16	34	20
.p:Proxy interview, not asked	422	847	533	721
.r:Refuse	1098	340	164	284
1.more than enough	617	1299	1483	1687
2.enough	6499	7847	8335	8025
3.not enough	4441	4295	3659	4495

### How Constructed

HwRCCHORE indicates whether the respondent's and spouse's children, children-in-law, and/or grandchildren spent at least one hour a week helping the respondent and their spouse with household chores, errands, transportation, and similar activities in the last two years. HwRCCHORE is assigned a value of 0 if the

respondent and their spouse did not receive at least one hour a week of help from their children, and is assigned a 1 if the respondent and their spouse did receive at least one hour a week of help from their children. HwRCCHORE is assigned special missing value .c if the respondent and their spouse do not have any living children. Don't know, refused, and other missing responses are assigned special missing values .d, .r, .m, respectively. HwRCCHORE is assigned plain missing (.) if the respondent did not participate in the current wave.

HwRCCHORENF indicates how the respondent and their spouse would describe the amount of help with household chores received from their children, children-in-law, and/or grandchildren. This question is asked regardless of whether the respondent and their spouse received at least one hour a week of help with household chores from their children in the past two years. HwRCCHORENF is coded as follows: 1.more than enough, 2.enough, 3.not enough. HwRCCHORENF is assigned special missing value .c if the respondent and their spouse do not have any living children. HwRCCHORENF is assigned special missing value .p if this question is skipped because the section is answered by proxy respondent. Don't know, refused, and other missing responses are assigned special missing values .d, .r, .m, respectively. HwRCCHORENF is assigned plain missing (.) if the respondent did not participate in the current wave.

HwRCCHOREHR indicates how many hours per year the respondent and their spouse received help with household chores from their children, children-in-law, or grandchildren in the last two years. Respondents are able to report the total number of hours in days, weeks, months, or years, the responses to which have been converted to the number of hours in a year. HwRCCHOREHR is assigned a value of 0 if the respondent and their spouse did not receive at least one hour a week of help. HwRCCHOREHR is assigned special missing value .c if the respondent and their spouse do not have any living children. HwRCCHOREHR is assigned special missing value .i if the respondent reports receiving more than 24 hours of help per day. Don't know, refused, and other missing responses are assigned special missing values .d, .r, .m, respectively. HwRCCHOREHR is assigned plain missing (.) if the respondent did not participate in the current wave.

## Cross Wave Differences in MHAS

The respondent is asked whether the respondent and their spouse receive help with household chores from their children at least one hour a week, and how they would describe that amount of help starting in Wave 2.

Starting in Wave 3, the respondent is asked how many hours the respondent and their spouse received help with household chores from their children.

## Differences with the RAND HRS/Harmonized HRS

There is no comparable question in the HRS.

## MHAS Variables Used

Wave 1:	
G2	alive children
G25	assistance from children
Wave 2:	
G1B	status of children
G24	(grand)children spent at least one hour helping you
G31	physical help from others was sufficient
TIPENT_03	Type of interview 2003
Wave 3:	
G24_12	Last 2 years:Respondent received >1 hour per week..from
G25B1_12	Last 2 years:Number of hours respondent... from childre
G25B2_12	Last 2 years:Respondent's period to report receiving ho
G27_12	Opinion of non-financial assistance received from child
G2_12	Does respondent/spouse have living children
TIPENTG_12	Type of interview section G 2012
Wave 4:	
G24_15	Last 2 years:Respondent received >1 hour per week..from
G25B1_15	Last 2 years:Number of hours respondent... from childre
G25B2_15	Last 2 years:Respondent's period to report receiving ho
G27_15	Opinion of non-financial assistance received from child

G2_15	Does respondent/spouse have living children
TIPENTG_15	Type of interview Section G 2015
Wave 5:	
G24_18	Last 2 years:Respondent received 1+ hour per week...fro
G25B1_18	Last 2 years:Number of hours respondent... from childre
G25B2_18	Last 2 years:Respondent's period to report receiving ho
G27_18	Opinion of non-financial assistance received from child
G2_18	Does respondent/spouse have living children
TIPENT_HH_18	Type of interview Household Sections 2018



<b>Provides Informal Care to Children or Grandchildren</b>
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Wave	Variable	Label	Type
1	H1GCCARE_M	h1gccare_m: w1 R+S provide informal care to children/grandch	Categ
2	H2GCCARE_M	h2gccare_m: w2 R+S provide informal care to children/grandch	Categ
3	H3GCCARE_M	h3gccare_m: w3 R+S provide informal care to children/grandch	Categ
4	H4GCCARE_M	h4gccare_m: w4 R+S provide informal care to children/grandch	Categ
5	H5GCCARE_M	h5gccare_m: w5 R+S provide informal care to children/grandch	Categ
1	H1GCCAREHR_M	h1gccarehr_m: w1 hours/year R+S provide informal care to chi	Cont
2	H2GCCAREHR_M	h2gccarehr_m: w2 hours/year R+S provide informal care to chi	Cont
3	H3GCCAREHR_M	h3gccarehr_m: w3 hours/year R+S provide informal care to chi	Cont
4	H4GCCAREHR_M	h4gccarehr_m: w4 hours/year R+S provide informal care to chi	Cont
5	H5GCCAREHR_M	h5gccarehr_m: w5 hours/year R+S provide informal care to chi	Cont

### Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
H1GCCARE_M	14892	0.44	0.50	0.00	1.00
H2GCCARE_M	13445	0.38	0.49	0.00	1.00
H3GCCARE_M	14932	0.41	0.49	0.00	1.00
H4GCCARE_M	14261	0.44	0.50	0.00	1.00
H5GCCARE_M	15572	0.46	0.50	0.00	1.00
H1GCCAREHR_M	14400	738.87	1454.81	0.00	8760.00
H2GCCAREHR_M	13000	537.09	1166.73	0.00	8760.00
H3GCCAREHR_M	14703	569.62	1355.70	0.00	8760.00
H4GCCAREHR_M	14132	497.51	1104.17	0.00	8760.00
H5GCCAREHR_M	15329	596.36	1228.70	0.00	8760.00

### Categorical Variable Codes

Value-----	H1GCCARE_M	H2GCCARE_M	H3GCCARE_M	H4GCCARE_M	H5GCCARE_M
.c:no living children	743	589	744	629	1473
.d:DK	19	2	6	9	39
.m:Missing	32	25	16	34	20
.r:Refuse	20	3	25	12	10
0.No	8338	8317	8799	8012	8373
1.Yes	6554	5128	6133	6249	7199

### How Constructed

HwGCCARE\_M indicates whether the respondent and their spouse spent at least one hour a week helping their children, children-in-law, or grandchildren in the last two years. HwGCCARE\_M is coded as 0 if they did not spend at least one hour a week helping their children or grandchildren, and is coded as 1 if they did spend at least one hour a week helping their children or grandchildren. HwGCCARE\_M is assigned special missing value .c if the respondent and their spouse have no living children. Don't know, refused, or other missing responses are assigned special missing values .d, .r, .m, respectively. HwGCCARE\_M is assigned plain missing (.) if the respondent and their spouse did not participate in the current wave.

HwGCCAREHR\_M indicates the number of hours per year the respondent and their spouse spent helping their children, children-in-law, or grandchildren in the last two years. Respondents are able to report the total number of hours in days, weeks, months, or years, the responses to which have been converted to the number of hours in a year. HwGCCAREHR\_M is assigned a value of 0 if the respondent and their spouse did not spend at least one hour a week providing help. HwGCCAREHR\_M is assigned special missing value .i if the respondent reports providing more than 24 hours per day of help. HwGCCAREHR\_M is assigned special missing value .c if the respondent and their spouse have no living children. Don't know, refused, or other missing responses are assigned special missing values .d, .r, .m, respectively. HwGCCAREHR\_M is assigned plain missing (.) if the respondent and their spouse did not participate in the current wave.

Cross Wave Differences in MHAS

No differences known.

Differences with the RAND HRS/Harmonized HRS

The HRS asks whether the respondent helps take care of their grandchildren, which is available as HwGKSIT in the Harmonized HRS and through several additional variables in the RAND HRS Family. The MHAS asks whether the respondent cares for their children or grandchildren, which is available in HwGCCARE\_M in the Harmonized MHAS.

MHAS Variables Used

Wave 1:	
G11	assistance to children
G13_1	hours assisting children
G13_2	period assisting children
G2	alive children
Wave 2:	
G10	spent 1 hr a week helping (grand)children
G12_1	how many hours spent helping per period - number of hou
G12_2	how many hours spent helping per period - per period
G1B	status of children
Wave 3:	
G10_12	Last 2 years:Respondent/spouse spent at least 1 hour...
G12_1_12	Respondent's total hours spent...children/grandchildren
G12_2_12	Period respondent reported assisting children/grandchil
G2_12	Does respondent/spouse have living children
Wave 4:	
G10_15	Last 2 years:Respondent/spouse spent at least 1 hour...
G12_1_15	Respondent's total hours spent...children/grandchildren
G12_2_15	Period respondent reported assisting children/grandchil
G2_15	Does respondent/spouse have living children
Wave 5:	
G10_18	Last 2 years:Respondent/spouse spent at least 1 hour...
G12_1_18	Respondent's total hours spent...children/grandchildren
G12_2_18	Period respondent reported assisting children/grandchil
G2_18	Does respondent/spouse have living children

**Provides Personal Care to Parents**

Wave	Variable	Label	Type
1	H1GAPCARE	h1gapcare: w1 R+S provided personal care to parents 1hr+/wk	Categ
2	H2GAPCARE	h2gapcare: w2 R+S provided personal care to parents 1hr+/wk	Categ
3	H3GAPCARE	h3gapcare: w3 R+S provided personal care to parents 1hr+/wk	Categ
4	H4GAPCARE	h4gapcare: w4 R+S provided personal care to parents 1hr+/wk	Categ
5	H5GAPCARE	h5gapcare: w5 R+S provided personal care to parents 1hr+/wk	Categ
1	H1GAPCAREHR	h1gapcarehr: w1 hours/year R+S provided personal care to par	Cont
2	H2GAPCAREHR	h2gapcarehr: w2 hours/year R+S provided personal care to par	Cont
3	H3GAPCAREHR	h3gapcarehr: w3 hours/year R+S provided personal care to par	Cont
4	H4GAPCAREHR	h4gapcarehr: w4 hours/year R+S provided personal care to par	Cont

**Descriptive Statistics**

Variable	N	Mean	Std Dev	Minimum	Maximum
H1GAPCARE	6705	0.15	0.36	0.00	1.00
H2GAPCARE	5521	0.17	0.37	0.00	1.00
H3GAPCARE	6544	0.23	0.42	0.00	1.00
H4GAPCARE	5382	0.25	0.43	0.00	1.00
H5GAPCARE	6286	0.29	0.45	0.00	1.00
H1GAPCAREHR	6691	212.64	917.71	0.00	11680.00
H2GAPCAREHR	5470	229.87	979.45	0.00	10950.00
H3GAPCAREHR	6526	393.61	1369.12	0.00	9490.00
H4GAPCAREHR	5384	347.26	1086.70	0.00	10585.00

**Categorical Variable Codes**

Value-----	H1GAPCARE	H2GAPCARE	H3GAPCARE	H4GAPCARE	H5GAPCARE
.d:DK	14	7	3	140	163
.f:no living parents	7928	7598	9025	9175	10443
.m:Missing	23	20	63	32	13
.p:Proxy interview, not asked	504	557	87	43	188
.r:Refuse	12	1	1	7	21
0.No	5700	4593	5071	4059	4478
1.Yes	1005	928	1473	1323	1808

**How Constructed**

HwGAPCARE indicates whether the respondent or their spouse spent at least one hour a week helping the respondent's or their spouse's parents with basic personal activities, excluding help with household chores, errands, and transportation, in the last two years. HwGAPCARE is coded as 0 if they did not help their parents at all or did so less than one hour a week, and is coded as 1 if they did help their parents at least one hour a week or about 100 hours in the last two years. HwGAPCARE is assigned special missing value .f if the respondent and their spouse have no living parents. HwGAPCARE is assigned special missing value .p if this question was skipped because the interview was completed by proxy. Don't know, refused, or other missing responses are assigned special missing values .d, .r, .m, respectively. HwGAPCARE is assigned plain missing (.) if the respondent did not participate in the current wave.

HwGAPCAREHR indicates the number of hours the respondent or their spouse spent helping the respondent's parents with basic personal activities because of a health problem in the last two years. Respondents are able to report the total number of hours in days, weeks, months, or years, the responses to which have been converted to the number of hours in a year. If the respondent and spouse both provided values, then HwGAPCAREHR takes the sum of the values reported. HwGAPCAREHR is assigned a value of 0 if the respondent or their spouse did not spend at least one hour a week providing help. HwGAPCAREHR is assigned special missing value .i if the respondent or spouse reports providing more than 24 hours per day of help. HwGAPCAREHR is assigned special missing value .f if the respondent and their spouse have no living parents. HwGAPCAREHR is assigned special missing value .p if this question was skipped because the

interview was completed by proxy. Don't know, refused, or other missing responses are assigned special missing values .d, .r, .m, respectively. HwGAPCAREHR is assigned plain missing (.) if the respondent did not participate in the current wave.

## Cross Wave Differences in MHAS

Respondents in Wave 5 are not asked how many hours of help they provided to their parents.

## Differences with the RAND HRS/Harmonized HRS

In the HRS, family respondents are asked about personal help and help with chores provided to the respondent's and/or their spouse's parents, whereas in the MHAS, individual respondents are asked about personal help provided by the respondent or their spouse to their parents. As such, HwGAPCARE, which indicates whether the respondent and/or their spouse provide personal care to their parents, is comparable between the Harmonized HRS and Harmonized MHAS. The Harmonized HRS also includes HwGPCARE indicating personal help and chore help given to parents from the respondent and/or their spouse, and HwGPCHORE indicating chore help given to parents from the respondent and/or their spouse.

## MHAS Variables Used

### Wave 1:

F33	parents alive
F37	assisted parents
F38	assisted parents 100 hours
F40_1	times assistance to parents
F40_2	period assistance to parents

### Wave 2:

F39	interviewer: how many parents are alive
F43	help to parents with to perform basics
F44	help was at least an hour a week
F46_1	hours spent helping them - number of hours
F46_2	hours spent helping them - period

### Wave 3:

F10A_12	Last interview:Was respondent's father living
F12_12	Currently:Is respondent's father living
F1A_12	Last interview:Was respondent's mother living
F3_12	Currently:Is respondent's mother living
F43_12	Last 2 years:Did respondent/spouse provide...assistance
F44_12	Last 2 years:Did respondent assist parent(s) for >1 hou
F46_1_12	Number of hours respondent spent helping his/her parent
F46_2_12	Period to report spending time helping his/her parent(s)

### Wave 4:

F12_15	Is respondent's father alive
F3_15	Is respondent's mother alive
F43_15	In the last 2 years:Did respondent/spouse provide...ass
F44_15	Last 2 years:Did respondent assist parent(s) for >1 hou
F46_1_15	Number of hours respondent spent helping his/her parent
F46_2_15	Period to report spending time helping his/her parent(s)

### Wave 5:

F12_18	Is R's father alive
F3_18	Is R's mother alive
F43_18	In the last 2 years:Did R/spouse provide...assistance f
F44_18	Last 2 years:Did R assist parent(s) for 1+ hours/week o

Provides Informal Care for Sick or Disabled Adults

Wave	Variable	Label	Type
3	R3GCARESCK	r3gcaresck: w3 R cares for sick or disabled adult	Categ
4	R4GCARESCK	r4gcaresck: w4 R cares for sick or disabled adult	Categ
5	R5GCARESCK	r5gcaresck: w5 R cares for sick or disabled adult	Categ
3	S3GCARESCK	s3gcaresck: w3 S cares for sick of disabled adult	Categ
4	S4GCARESCK	s4gcaresck: w4 S cares for sick of disabled adult	Categ
5	S5GCARESCK	s5gcaresck: w5 S cares for sick of disabled adult	Categ
3	R3GCARESKD_M	r3gcaresckd_m: w3 R frequency cares for sick or disabled adu	Categ
4	R4GCARESKD_M	r4gcaresckd_m: w4 R frequency cares for sick or disabled adu	Categ
5	R5GCARESKD_M	r5gcaresckd_m: w5 R frequency cares for sick or disabled adu	Categ
3	S3GCARESKD_M	s3gcaresckd_m: w3 S frequency cares for sick or disabled adu	Categ
4	S4GCARESKD_M	s4gcaresckd_m: w4 S frequency cares for sick or disabled adu	Categ
5	S5GCARESKD_M	s5gcaresckd_m: w5 S frequency cares for sick or disabled adu	Categ

Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R3GCARESCK	14439	0.18	0.38	0.00	1.00
R4GCARESCK	13825	0.19	0.39	0.00	1.00
R5GCARESCK	15777	0.18	0.39	0.00	1.00
S3GCARESCK	9858	0.18	0.39	0.00	1.00
S4GCARESCK	9175	0.20	0.40	0.00	1.00
S5GCARESCK	6898	0.18	0.38	0.00	1.00
R3GCARESKD_M	14413	7.88	2.60	1.00	9.00
R4GCARESKD_M	13813	7.73	2.73	1.00	9.00
R5GCARESKD_M	15764	7.77	2.72	1.00	9.00
S3GCARESKD_M	9841	7.87	2.61	1.00	9.00
S4GCARESKD_M	9167	7.72	2.73	1.00	9.00
S5GCARESKD_M	6893	7.78	2.72	1.00	9.00

Categorical Variable Codes

Value-----	R3GCARESCK	R4GCARESCK	R5GCARESCK
.d:DK	2	1	2
.m:Missing		23	
.p:Proxy interview, not asked	1275	929	1328
.r:Refuse	7	1	7
0.No	11832	11166	12881
1.Yes	2607	2659	2896
Value-----	S3GCARESCK	S4GCARESCK	S5GCARESCK
.d:DK	2	1	1
.m:Missing		5	
.p:Proxy interview, not asked	726	470	560
.r:Refuse	6	1	2
.u:Unmar	4782	4847	5227
.v:SP NR	349	280	501
0.No	8050	7367	5651
1.Yes	1808	1808	1247
Value-----	R3GCARESKD_M	R4GCARESKD_M	R5GCARESKD_M
.d:DK	3	1	2
.i:Invalid	25	12	13
.m:Missing		23	

.p:Proxy interview, not asked	1275	929	1328
.r:Refuse	7	1	7
1.Almost every day	1435	1504	1702
2.4 or more times a week	98	135	170
3.2 or 3 times a week	302	354	375
4.Once a week	166	202	229
5.4 or more times a month	141	182	130
6.2 or 3 times a month	96	131	125
7.Once a month	78	139	152
8.Almost Never, sporadic	265		
9.Never	11832	11166	12881
Value-----	S3GCARESKD_M	S4GCARESKD_M	S5GCARESKD_M
.d:DK	2	1	1
.i:Invalid	17	8	5
.m:Missing		5	
.p:Proxy interview, not asked	726	470	560
.r:Refuse	6	1	2
.u:Unmar	4782	4847	5227
.v:SP NR	349	280	501
1.Almost every day	986	984	764
2.4 or more times a week	62	86	69
3.2 or 3 times a week	227	259	142
4.Once a week	115	150	91
5.4 or more times a month	100	124	59
6.2 or 3 times a month	68	99	56
7.Once a month	55	98	61
8.Almost Never, sporadic	178		
9.Never	8050	7367	5651

## How Constructed

RwGCARESK indicates whether the respondent has cared for a sick or disabled adult in the past year. RwGCARESK is coded as 1 if the respondent did provide care for a sick or disabled adult in the past year, while a 0 indicates they did not. RwGCARESK is assigned special missing value .p if this question is not asked because this section was answered by proxy. Don't know, refused, or other missing responses are assigned special missing values .d, .r, and .m, respectively. RwGCARESK is set to plain missing (.) for respondents who did not participate in the current wave.

RwGCARESKD\_M indicates the frequency with which the respondent cared for a sick or disabled adult in the past year. If the respondent reports caring for a sick or disabled adult, then they are asked to provide the number of times they did so either per week or per month. RwGCARESK is coded as follows: 1.Almost every day, 2.4 or more times a week, 3.2 or 3 times a week, 4.Once a week, 5.4 or more times a month, 6.2 or 3 times a month, 7.Once a month, 8.Almost Never, sporadic, 9.Never. RwGCARESKD\_M is assigned special missing value .p if this question is not asked because this section was answered by proxy. RwGCARESKD\_M is assigned special missing value .i to indicate inconsistent frequency, if the respondent reports caring for a sick or disabled adult more than 21 times per week or more than 81 times per month (that is more than 3 times per day). Don't know, refused, or other missing responses are assigned special missing values .d, .r, and .m, respectively. RwGCARESKD\_M is set to plain missing (.) for respondents who did not participate in the current wave.

SwGCARESK and SwGCARESKD\_M indicate whether and how frequently the respondent's current wave's spouse cared for a sick or disabled adult, and their values are taken from RwGCARESK and RwGCARESKD\_M. In addition to the special missing codes employed by RwGCARESK and RwGCARESKD\_M, SwGCARESK and SwGCARESKD\_M employ two additional special missing codes. A special missing value .u is used when the respondent does not report being coupled in the current wave. A special missing value .v is used when the respondent reports being coupled in the current wave but their spouse is not interviewed.

## Cross Wave Differences in MHAS

This question is asked starting in Wave 3. In Wave 3, there is a code to indicate that the respondent cared for a sick or disabled adult sporadically in the past year. Starting in Wave 4, this code is no longer present.

## Differences with the RAND HRS/Harmonized HRS

In the HRS, this question is asked in the self-completion questionnaire and references the past month, so

RwGCARESK in the Harmonized HRS uses a special missing code to indicate whether the respondent did not return their self-completion questionnaire. In the MHAS, this question is asked in the core interview but not to proxy respondents and references the past year, so RwGCARESK in the Harmonized MHAS uses a special missing code to indicate whether the interview was by proxy. Please keep in mind the differences in time frame when comparing these variables.

The frequency of care provided to sick or disabled adults is different between the two surveys. As such, the Harmonized HRS uses the variable name RwGCARESKD\_H to indicate the frequency of: 1.daily, 2.several times a week, 3.once a week, 4.several times a month, 5.at least once a month, 6.not in the last month/never. The Harmonized MHAS, on the other hand, uses the variable name RwGCARESKD\_M to indicate the frequency of: 1.Almost every day, 2.4 or more times a week, 3.2 or 3 times a week, 4.Once a week, 5.4 or more times a month, 6.2 or 3 times a month, 7.Once a month, 8.Almost Never, sporadic, 9.Never.

## MHAS Variables Used

### Wave 3:

D34A1_12	Does respondent care for a sick/disabled adult
D34A2_12	Respondent's frequency caring for a sick/disabled adult
D34A3_12	Respondent's time period caring for a sick/disabled adult

### Wave 4:

D34A1_15	Does respondent care for a sick or disabled adult
D34A2_15	Respondent's frequency caring for a sick or disabled adult
D34A3_15	Respondent's time period caring for a sick or disabled adult

### Wave 5:

D34A1_18	Does R care for a sick or disabled adult
D34A2_18	R's frequency caring for a sick or disabled adult
D34A3_18	R's time period caring for a sick or disabled adult

**Section M: Stress**



<b>Social Support: Spouse</b>
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Wave	Variable	Label	Type
2	R2SUSTDFE_M	r2sustdfe_m: w2 R Thinks spouse understands the way they fee	Categ
3	R3SUSTDFE_M	r3sustdfe_m: w3 R Thinks spouse understands the way they fee	Categ
2	S2SUSTDFE_M	s2sustdfe_m: w2 S Thinks spouse understands the way they fee	Categ
3	S3SUSTDFE_M	s3sustdfe_m: w3 S Thinks spouse understands the way they fee	Categ
2	R2SRELY_M	r2srely_m: w2 R Can rely on spouse for a serious problem	Categ
3	R3SRELY_M	r3srely_m: w3 R Can rely on spouse for a serious problem	Categ
2	S2SRELY_M	s2srely_m: w2 S can rely on spouse for a serious problem	Categ
3	S3SRELY_M	s3srely_m: w3 S Can rely on spouse for a serious problem	Categ
2	R2SOPENUP_M	r2sopenup_m: w2 R can open up their worries to spouse	Categ
3	R3SOPENUP_M	r3sopenup_m: w3 R Can open up their worries to spouse	Categ
2	S2SOPENUP_M	s2sopenup_m: w2 S can open up their worries to spouse	Categ
3	S3SOPENUP_M	s3sopenup_m: w3 S Can open up their worries to spouse	Categ
2	R2SLETDOW_M	r2sletdow_m: w2 Spouse let R down when counting on them	Categ
3	R3SLETDOW_M	r3sletdow_m: w3 Spouse let R down when counting on them	Categ
2	S2SLETDOW_M	s2sletdow_m: w2 Spouse let S down when counting on them	Categ
3	S3SLETDOW_M	s3sletdow_m: w3 Spouse let S down when counting on them	Categ
2	R2SSUPPORT4_M	r2ssupport4_m: w2 R's spouse support summary mean score	Cont
3	R3SSUPPORT4_M	r3ssupport4_m: w3 R's spouse support summary mean score	Cont
2	S2SSUPPORT4_M	s2ssupport4_m: w2 S's spouse support summary mean score	Cont
3	S3SSUPPORT4_M	s3ssupport4_m: w3 S's spouse support summary mean score	Cont
2	R2SSUPPORT4M_M	r2ssupport4m_m: w2 Missings in R's spouse support summary me	Cont
3	R3SSUPPORT4M_M	r3ssupport4m_m: w3 Missings in R's spouse support summary me	Cont
2	S2SSUPPORT4M_M	s2ssupport4m_m: w2 Missings in S's spouse support summary me	Cont
3	S3SSUPPORT4M_M	s3ssupport4m_m: w3 Missings in S's spouse support summary me	Cont

### Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R2SUSTDFE_M	8813	1.35	0.58	1.00	3.00
R3SUSTDFE_M	10150	1.35	0.58	1.00	3.00
S2SUSTDFE_M	8691	1.35	0.58	1.00	3.00
S3SUSTDFE_M	9813	1.34	0.58	1.00	3.00
R2SRELY_M	8820	1.25	0.54	1.00	3.00
R3SRELY_M	10162	1.24	0.52	1.00	3.00
S2SRELY_M	8698	1.25	0.54	1.00	3.00
S3SRELY_M	9824	1.23	0.52	1.00	3.00
R2SOPENUP_M	8823	1.32	0.59	1.00	3.00
R3SOPENUP_M	10158	1.32	0.58	1.00	3.00
S2SOPENUP_M	8700	1.31	0.59	1.00	3.00
S3SOPENUP_M	9821	1.31	0.58	1.00	3.00

R2SLETDOW_M	8731	2.49	0.72	1.00	3.00
R3SLETDOW_M	10095	2.31	0.81	1.00	3.00
S2SLETDOW_M	8609	2.49	0.72	1.00	3.00
S3SLETDOW_M	9761	2.31	0.81	1.00	3.00
R2SSUPPORT4_M	8839	1.36	0.50	1.00	3.00
R3SSUPPORT4_M	10168	1.40	0.47	1.00	3.00
S2SSUPPORT4_M	8715	1.36	0.50	1.00	3.00
S3SSUPPORT4_M	9830	1.39	0.47	1.00	3.00
R2SSUPPORT4M_M	13704	1.43	1.91	0.00	4.00
R3SSUPPORT4M_M	15723	1.42	1.91	0.00	4.00
S2SSUPPORT4M_M	9564	0.37	1.14	0.00	4.00
S3SSUPPORT4M_M	10592	0.30	1.04	0.00	4.00

### Categorical Variable Codes

Value-----	R2SUSTDFE_M	R3SUSTDFE_M
.d:DK	30	22
.m:Missing	3	
.n:Not married/coupled	3659	4813
.p:Proxy interview, not asked	1178	727
.r:Refuse	21	11
1.A lot	6208	7146
2.Little	2110	2452
3.Not at all	495	552

Value-----	S2SUSTDFE_M	S3SUSTDFE_M
.d:DK	29	21
.m:Missing	2	
.n:Not married/coupled	2	31
.p:Proxy interview, not asked	821	721
.r:Refuse	19	6
.u:Unmar	4009	4782
.v:SP NR	131	349
1.A lot	6138	6947
2.Little	2067	2347
3.Not at all	486	519

Value-----	R2SRELY_M	R3SRELY_M
.d:DK	26	9
.m:Missing	3	
.n:Not married/coupled	3659	4813
.p:Proxy interview, not asked	1178	727
.r:Refuse	18	12
1.A lot	7041	8206
2.Little	1312	1483
3.Not at all	467	473

Value-----	S2SRELY_M	S3SRELY_M
.d:DK	26	8
.m:Missing	2	
.n:Not married/coupled	2	31
.p:Proxy interview, not asked	821	721
.r:Refuse	15	8
.u:Unmar	4009	4782
.v:SP NR	131	349
1.A lot	6951	7962
2.Little	1291	1420
3.Not at all	456	442

Value-----	R2SOPENUP_M	R3SOPENUP_M
.d:DK	23	11
.m:Missing	3	
.n:Not married/coupled	3659	4813
.p:Proxy interview, not asked	1178	727

.r:Refuse		18	14
1.A lot		6600	7541
2.Little		1655	2001
3.Not at all		568	616
Value-----		S2SOPENUP_M	S3SOPENUP_M
.d:DK		23	10
.m:Missing		2	
.n:Not married/coupled		2	31
.p:Proxy interview, not asked		821	721
.r:Refuse		16	9
.u:Unmar		4009	4782
.v:SP NR		131	349
1.A lot		6523	7325
2.Little		1621	1918
3.Not at all		556	578
Value-----		R2SLETDOW_M	R3SLETDOW_M
.d:DK		92	63
.m:Missing		3	
.n:Not married/coupled		3659	4813
.p:Proxy interview, not asked		1178	727
.r:Refuse		41	25
1.A lot		1200	2232
2.Little		2051	2457
3.Not at all		5480	5406
Value-----		S2SLETDOW_M	S3SLETDOW_M
.d:DK		91	60
.m:Missing		2	
.n:Not married/coupled		2	31
.p:Proxy interview, not asked		821	721
.r:Refuse		39	19
.u:Unmar		4009	4782
.v:SP NR		131	349
1.A lot		1178	2163
2.Little		2015	2375
3.Not at all		5416	5223

## How Constructed

MHAS Waves 2 and 3 include four questions about spouse social support which are only asked if the respondent was presently married or in a consensual union and the interview was not by proxy.

RwSUSTDFE\_M indicates how much the respondent feels their spouse really understands the way they feel about things.

RwSRELY\_M indicates how much the respondent feels they can confide in their spouse if they have a serious problem.

RwSOPENUP\_M indicates how much the respondent feels their spouse would listen if they need to talk about their worries.

RwSLETDOW\_M indicates how much the respondent feels they would be disappointed when they are counting on their spouse.

RwSUSTDFE\_M, RwsRELY\_M, RwsOPENUP\_M and RwsLETDOW\_M are coded as follow: 1. a lot, 2. little and 3. not at all. Special missing .n is assigned if the respondent indicates they were not presently married or in a consensual union and are hence not asked these questions. Special missing .p is assigned if the interview is by proxy in which case these questions are not asked. Don't know, refused, or missing responses are assigned special missing values .d, .r, .m, respectively. Plain missing (.) is assigned for respondents who did not respond to the current wave.

SwsSUSTDFE\_M, SwsRELY\_M, SwsOPENUP\_M and SwsLETDOW\_M indicate how much the current wave's spouse agrees with statements about their spouse and are taken from the spouse's values to RwsSUSTDFE\_M, RwsRELY\_M, RwsOPENUP\_M and RwsLETDOW\_M. In addition to the special missing codes used in RwsSUSTDFE\_M, RwsRELY\_M, RwsOPENUP\_M and RwsLETDOW\_M, SwsSUSTDFE\_M, SwsRELY\_M, SwsOPENUP\_M and SwsLETDOW\_M employ two other missing codes, .u and .v. A special missing value .u is used when the respondent does not report being coupled in

the current wave. A special missing value .v is used when the respondent reports being coupled in the current wave but their spouse is not interviewed.

RwSSUPPORT4\_M indicates the mean of the answers to four different spouse questions (RwSUSTDFE\_M, RwsRELY\_M, RwsOPENUP\_M and RwsLETDOW\_M) and can be used as a summary score. RwSSUPPORT4\_M is calculated for any respondent with at least one non-missing value for its four components. Since RwSSUPPORT4\_M indicates how much the respondents feel lack of support by their spouse, we reverse coded the values of RwsLETDOW\_M to make sure that higher scores indicate less support the respondent feels by their spouse. The coding of RwsSUSTDFE\_M, RwsRELY\_M and RwsOPENUP\_M did not change. RwSSUPPORT4M\_M counts the number of components with missing values in RwSSUPPORT4\_M, which could be between no missing components (0) and four missing components (4). Special missing .n is assigned if the respondent indicates they were not presently married or in a consensual union and are hence not asked these questions. Special missing .p is assigned if the interview is by proxy in which case these questions are not asked. Special missing value .d, .r, or .m is assigned if all four components of the summary score are don't know, refused or otherwise missing, respectively. Plain missing (.) is assigned for respondents who did not respond to the current wave.

SwSSUPPORT4 and SwSSUPPORT4M\_M indicate the mean summary score of the answer to four different spouse support questions and the count of any missing components for the current wave's spouse and are taken from the spouse's values to RwSSUPPORT4 and RwSSUPPORT4M\_M. In addition to the special missing codes used in RwSSUPPORT4\_M and RwSSUPPORT4M\_M, SwSSUPPORT4\_M and SwSSUPPORT4M\_M employs two other missing codes, .u and .v. A special missing value .u is used when the respondent does not report being coupled in the current wave. A special missing value .v is used when the respondent reports being coupled in the current wave but their spouse is not interviewed.

## Cross Wave Differences in MHAS

Questions about spouse's social support are only asked in MHAS Waves 2 and 3.

## Differences with the RAND HRS/Harmonized HRS

Unlike HRS, MHAS did not ask the following of the respondent:

1. how often they feel their spouse makes too many demands on them;
2. how much the respondent feels their spouse criticizes them;
3. how much the respondent feels their spouse gets on their nerves.

HRS uses a four-point response scale from "a lot" to "not at all", while MHAS uses a three-point response scale from "a lot" to "not at all."

Also, the following questions wording is slightly different between HRS and MHAS:

1. HRS asks "How much can you rely on them if you have a serious problem?" whereas MHAS asks "How much can you confide in him/her if you have a serious problem?"
2. HRS asks "How much can you open up to them if you need to talk about your worries?" whereas MHAS asks "How much does your spouse listen if you need to talk about your worries?"
3. HRS asks "How much do they let you down when you are counting on them?" whereas MHAS asks "How much does he/she disappoint you when you are you are counting on him/her?"

## MHAS Variables Used

Wave 2:	
D2	marital status
D3A	spouse understands your feelings
D3B	confide in spouse
D3C	spouse listens
D3D	spouse disappoints
Wave 3:	
A3_12	Current marital status

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AA10_12	Respondent's current marital status
D20A_12	Rate your spouse's understanding about your feelings
D20B_12	Rate your confidence level in your spouse regarding a s
D20C_12	Rate your spouse's attention level when speaking to him
D20D_12	Rate your level of disappointment in your spouse

<b>Social Support: Children</b>
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Wave	Variable	Label	Type
2	R2KUSTDFE_M	r2kustdfe_m: w2 R Thinks children understand the way they fe	Categ
3	R3KUSTDFE_M	r3kustdfe_m: w3 R Thinks children understand the way they fe	Categ
2	S2KUSTDFE_M	s2kustdfe_m: w2 S Thinks children understand the way they fe	Categ
3	S3KUSTDFE_M	s3kustdfe_m: w3 S Thinks children understand the way they fe	Categ
2	R2KRELY_M	r2krely_m: w2 R Can rely on children for a serious problem	Categ
3	R3KRELY_M	r3krely_m: w3 R Can rely on children for a serious problem	Categ
2	S2KRELY_M	s2krely_m: w2 S Can rely on children for a serious problem	Categ
3	S3KRELY_M	s3krely_m: w3 S Can rely on children for a serious problem	Categ
2	R2KOPENUP_M	r2kopenup_m: w2 R Can open up their worries to children	Categ
3	R3KOPENUP_M	r3kopenup_m: w3 R Can open up their worries to children	Categ
2	S2KOPENUP_M	s2kopenup_m: w2 S Can open up their worries to children	Categ
3	S3KOPENUP_M	s3kopenup_m: w3 S Can open up their worries to children	Categ
2	R2KLETDOWN_M	r2kletdow_m: w2 Children let R down when counting on them	Categ
3	R3KLETDOWN_M	r3kletdow_m: w3 Children let R down when counting on them	Categ
2	S2KLETDOWN_M	s2kletdow_m: w2 Children let S down when counting on them	Categ
3	S3KLETDOWN_M	s3kletdow_m: w3 Children let S down when counting on them	Categ
2	R2KSUPPORT4_M	r2ksupport4_m: w2 R's Children support summary mean score	Cont
3	R3KSUPPORT4_M	r3ksupport4_m: w3 R's children support summary mean score	Cont
2	S2KSUPPORT4_M	s2ksupport4_m: w2 S's Children support summary mean score	Cont
3	S3KSUPPORT4_M	s3ksupport4_m: w3 S's children support summary mean score	Cont
2	R2KSUPPORT4M_M	r2ksupport4m_m: w2 Missings in R's children support summary	Cont
3	R3KSUPPORT4M_M	r3ksupport4m_m: w3 Missings in R's children support summary	Cont
2	S2KSUPPORT4M_M	s2ksupport4m_m: w2 Missings in S's children support summary	Cont
3	S3KSUPPORT4M_M	s3ksupport4m_m: w3 Missings in S's children support summary	Cont

### Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R2KUSTDFE_M	11865	1.31	0.54	1.00	3.00
R3KUSTDFE_M	13543	1.31	0.54	1.00	3.00
S2KUSTDFE_M	8507	1.27	0.51	1.00	3.00
S3KUSTDFE_M	9470	1.28	0.52	1.00	3.00
R2KRELY_M	11867	1.24	0.51	1.00	3.00
R3KRELY_M	13561	1.23	0.50	1.00	3.00
S2KRELY_M	8510	1.21	0.48	1.00	3.00
S3KRELY_M	9480	1.21	0.47	1.00	3.00
R2KOPENUP_M	11871	1.29	0.55	1.00	3.00
R3KOPENUP_M	13556	1.28	0.54	1.00	3.00
S2KOPENUP_M	8513	1.26	0.52	1.00	3.00
S3KOPENUP_M	9473	1.25	0.51	1.00	3.00

R2KLETDOW_M	11747	2.51	0.70	1.00	3.00
R3KLETDOW_M	13489	2.33	0.80	1.00	3.00
S2KLETDOW_M	8424	2.54	0.69	1.00	3.00
S3KLETDOW_M	9433	2.35	0.80	1.00	3.00
R2KSUPPORT4_M	11894	1.33	0.46	1.00	3.00
R3KSUPPORT4_M	13580	1.37	0.45	1.00	3.00
S2KSUPPORT4_M	8524	1.30	0.43	1.00	3.00
S3KSUPPORT4_M	9489	1.35	0.42	1.00	3.00
R2KSUPPORT4M_M	13704	0.54	1.36	0.00	4.00
R3KSUPPORT4M_M	15723	0.56	1.37	0.00	4.00
S2KSUPPORT4M_M	9564	0.45	1.25	0.00	4.00
S3KSUPPORT4M_M	10592	0.43	1.22	0.00	4.00

### Categorical Variable Codes

Value-----	R2KUSTDFE_M	R3KUSTDFE_M
.d:DK	58	57
.m:Missing	3	
.n:No children	584	920
.p:Proxy interview, not asked	1178	1169
.r:Refuse	16	34
1.A lot	8688	9954
2.Little	2721	3026
3.Not at all	456	563

Value-----	S2KUSTDFE_M	S3KUSTDFE_M
.d:DK	28	32
.m:Missing	2	
.n:No children	195	389
.p:Proxy interview, not asked	821	689
.r:Refuse	11	12
.u:Unmar	4009	4782
.v:SP NR	131	349
1.A lot	6422	7159
2.Little	1831	1992
3.Not at all	254	319

Value-----	R2KRELY_M	R3KRELY_M
.d:DK	55	41
.m:Missing	3	
.n:No children	584	920
.p:Proxy interview, not asked	1178	1169
.r:Refuse	17	32
1.A lot	9471	10900
2.Little	1925	2162
3.Not at all	471	499

Value-----	S2KRELY_M	S3KRELY_M
.d:DK	23	22
.m:Missing	2	
.n:No children	195	389
.p:Proxy interview, not asked	821	689
.r:Refuse	13	12
.u:Unmar	4009	4782
.v:SP NR	131	349
1.A lot	6969	7760
2.Little	1280	1441
3.Not at all	261	279

Value-----	R2KOPENUP_M	R3KOPENUP_M
.d:DK	52	40
.m:Missing	3	
.n:No children	584	920
.p:Proxy interview, not asked	1178	1169

.r:Refuse		16	38
1.A lot		9010	10354
2.Little		2286	2581
3.Not at all		575	621
Value-----		S2KOPENUP_M	S3KOPENUP_M
.d:DK		21	22
.m:Missing		2	
.n:No children		195	389
.p:Proxy interview, not asked		821	689
.r:Refuse		12	19
.u:Unmar		4009	4782
.v:SP NR		131	349
1.A lot		6621	7426
2.Little		1579	1690
3.Not at all		313	357
Value-----		R2KLETDOW_M	R3KLETDOW_M
.d:DK		94	103
.m:Missing		199	
.n:No children		458	920
.p:Proxy interview, not asked		1178	1169
.r:Refuse		28	42
1.A lot		1449	2876
2.Little		2900	3308
3.Not at all		7398	7305
Value-----		S2KLETDOW_M	S3KLETDOW_M
.d:DK		94	60
.m:Missing		197	
.n:No children			389
.p:Proxy interview, not asked		821	689
.r:Refuse		28	21
.u:Unmar		4009	4782
.v:SP NR		131	349
1.A lot		934	1941
2.Little		2011	2261
3.Not at all		5479	5231

## How Constructed

MHAS Waves 2 and 3 include four questions about children's social support which are only asked if the respondent has living children and the interview was not by proxy.

RwKUSTDFE\_M indicates how much the respondent feels their children really understand the way they feel about things.

RwKRELY\_M indicates how much the respondent feels they can confide in their children if they have a serious problem.

RwKOPENUP\_M indicates how much the respondent feels their children would listen if they need to talk about their worries.

RwKLETDOW\_M indicates how much the respondent feels they would be disappointed when they are counting on their children.

RwKUSTDFE\_M, RwKRELY\_M, RwKOPENUP\_M and RwKLETDOW\_M are coded as follow: 1. a lot, 2. little and 3. not at all. Special missing .n is assigned if the respondent indicates they did not have any children, hence the questions are not asked. Special missing .p is assigned if the interview is by proxy in which case these questions are not asked. Don't know, refused, or missing responses are assigned special missing values .d, .r, .m, respectively. Plain missing (.) is assigned for respondents who did not respond to the current wave.

SwKUSTDFE\_M, SwKRELY\_M, SwKOPENUP\_M and SwKLETDOW\_M indicate how much the current wave's spouse agrees with statements about their children and are taken from the spouse's values to RwKUSTDFE\_M, RwKRELY\_M, RwKOPENUP\_M and RwKLETDOW\_M. In addition to the special missing codes used in RwKUSTDFE\_M, RwKRELY\_M, RwKOPENUP\_M and RwKLETDOW\_M, SwKUSTDFE\_M, SwKRELY\_M, SwKOPENUP\_M and SwKLETDOW\_M employ two other missing codes, .u and .v. A special missing value .u is used when the respondent does not report being coupled in



the current wave. A special missing value .v is used when the respondent reports being coupled in the current wave but their spouse is not interviewed.

RwKSUPPORT4\_M indicates the mean of the answers to four different children questions (RwKUSTDFE\_M, RwKRELY\_M, RwKOPENUP\_M and RwKLETDOW\_M) and can be used as a summary score. RwKSUPPORT4\_M is calculated for any respondent with at least one non-missing value for its four components. Since RwKSUPPORT4\_M indicates how much the respondents feel lack of support by their children, we reverse coded the values of RwKLETDOW\_M to make sure that higher scores indicate less support the respondent feels by their children. The coding of RwKUSTDFE\_M, RwKRELY\_M and RwKOPENUP\_M did not change. RwKSUPPORT4M\_M counts the number of components with missing values in RwKSUPPORT4\_M, which could be between no missing components (0) and four missing components (4). Special missing .n is assigned if the respondent indicates they do not have living children, hence the questions are not asked. Special missing .p is assigned if the interview is by proxy in which case these questions are not asked. Special missing value .d, .r, or .m is assigned if all four components of the summary score are don't know, refused, or otherwise missing, respectively. Plain missing (.) is assigned for respondents who did not respond to the current wave.

SwKSUPPORT4\_M and SwKSUPPORT4M\_M indicate the mean summary score of the answers to four different children support questions and the count of any missing components for the current wave's spouse and are taken from the spouse's values to RwKSUPPORT4\_M and RwKSUPPORT4M\_M. In addition to the special missing codes used in RwKSUPPORT4\_M and RwKSUPPORT4M\_M, SwKSUPPORT4\_M and SwKSUPPORT4M\_M employs two other missing codes, .u and .v. A special missing value .u is used when the respondent does not report being coupled in the current wave. A special missing value .v is used when the respondent reports being coupled in the current wave but their spouse is not interviewed.

## Cross Wave Differences in MHAS

Questions about children's social support are only asked in MHAS Waves 2 and 3.

## Differences with the RAND HRS/Harmonized HRS

Unlike HRS, MHAS did not ask the following of the respondent:

1. how often they feel their children make too many demands on them;
2. how much the respondent feels their children criticize them;
3. how much the respondent feels their children get on their nerves.

HRS uses a four-point response scale from "a lot" to "not at all", MHAS uses a 3 point response scale from "a lot" to "not at all."

Also, the following questions wording is slightly different between HRS and MHAS:

1. HRS asks "How much can you rely on them if you have a serious problem?" whereas MHAS asks "How much can you confide in them if you have a serious problem?"
2. HRS asks "How much can you open up to them if you need to talk about your worries?" whereas MHAS asks "How much do they listen if you need to talk about your worries?"
3. HRS asks "How much do they let you down when you are counting on them?" whereas MHAS asks "How much do they disappoint you when you are talking to them?"

## MHAS Variables Used

Wave 2:

D4	person has living children
D5A	children understand your feelings
D5B	confide in children
D5C	children listen
D5D	children disappoint

Wave 3:

A7_2_12	Correct number of children born alive
A8_12	Number of children currently living

AA19_12	Respondent's number of children born alive
AA20_12	Of children born alive how many children currently livi
D22A_12	Rate your children's understanding about your feelings
D22B_12	Rate your confidence level in your children regarding a
D22C_12	Rate your children's attention level when speaking to t
D22D_12	Rate your level of disappointment in your children

<b>Social Support: Friends</b>
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Wave	Variable	Label	Type
2	R2FUSTDFE_M	r2fustdfe_m: w2 R Thinks friends understand the way they fee	Categ
3	R3FUSTDFE_M	r3fustdfe_m: w3 R Thinks friends understand the way they fee	Categ
2	S2FUSTDFE_M	s2fustdfe_m: w2 S Thinks friends understand the way they fee	Categ
3	S3FUSTDFE_M	s3fustdfe_m: w3 S Thinks friends understand the way they fee	Categ
2	R2FRELY_M	r2frely_m: w2 R Can rely on friends for a serious problem	Categ
3	R3FRELY_M	r3frely_m: w3 R Can rely on friends for a serious problem	Categ
2	S2FRELY_M	s2frely_m: w2 S Can rely on friends for a serious problem	Categ
3	S3FRELY_M	s3frely_m: w3 S Can rely on friends for a serious problem	Categ
2	R2FOPENUP_M	r2fopenup_m: w2 R Can open up their worries to friends	Categ
3	R3FOPENUP_M	r3fopenup_m: w3 R Can open up their worries to friends	Categ
2	S2FOPENUP_M	s2fopenup_m: w2 S Can open up their worries to friends	Categ
3	S3FOPENUP_M	s3fopenup_m: w3 S Can open up their worries to friends	Categ
2	R2FLETDOWN_M	r2fletdow_m: w2 Friends let R down when counting on them	Categ
3	R3FLETDOWN_M	r3fletdow_m: w3 Friends let R down when counting on them	Categ
2	S2FLETDOWN_M	s2fletdow_m: w2 Friends let S down when counting on them	Categ
3	S3FLETDOWN_M	s3fletdow_m: w3 Friends let S down when counting on them	Categ
2	R2FSUPPORT4_M	r2fsupport4_m: w2 R's Friends support summary mean score	Cont
3	R3FSUPPORT4_M	r3fsupport4_m: w3 R's Friends support summary mean score	Cont
2	S2FSUPPORT4_M	s2fsupport4_m: w2 S's Friends support summary mean score	Cont
3	S3FSUPPORT4_M	s3fsupport4_m: w3 S's Friends support summary mean score	Cont
2	R2FSUPPORT4M_M	r2fsupport4m_m: w2 Missings in R's friends support summary m	Cont
3	R3FSUPPORT4M_M	r3fsupport4m_m: w3 Missings in R's friends support summary m	Cont
2	S2FSUPPORT4M_M	s2fsupport4m_m: w2 Missings in S's friends support summary m	Cont
3	S3FSUPPORT4M_M	s3fsupport4m_m: w3 Missings in S's friends support summary m	Cont

### Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R2FUSTDFE_M	8869	1.56	0.65	1.00	3.00
R3FUSTDFE_M	8769	1.54	0.66	1.00	3.00
S2FUSTDFE_M	6241	1.59	0.65	1.00	3.00
S3FUSTDFE_M	6106	1.56	0.66	1.00	3.00
R2FRELY_M	8887	1.64	0.70	1.00	3.00
R3FRELY_M	8805	1.62	0.69	1.00	3.00
S2FRELY_M	6257	1.66	0.70	1.00	3.00
S3FRELY_M	6131	1.63	0.69	1.00	3.00
R2FOPENUP_M	8887	1.58	0.68	1.00	3.00
R3FOPENUP_M	8813	1.57	0.68	1.00	3.00
S2FOPENUP_M	6259	1.60	0.68	1.00	3.00
S3FOPENUP_M	6136	1.59	0.68	1.00	3.00

R2FLETDOW_M	8689	2.43	0.68	1.00	3.00
R3FLETDOW_M	8760	2.36	0.72	1.00	3.00
S2FLETDOW_M	6108	2.42	0.68	1.00	3.00
S3FLETDOW_M	6103	2.36	0.72	1.00	3.00
R2FSUPPORT4_M	8932	1.59	0.54	1.00	3.00
R3FSUPPORT4_M	8836	1.59	0.50	1.00	3.00
S2FSUPPORT4_M	6285	1.61	0.54	1.00	3.00
S3FSUPPORT4_M	6151	1.61	0.50	1.00	3.00
R2FSUPPORT4M_M	13704	1.42	1.90	0.00	4.00
R3FSUPPORT4M_M	15723	1.76	1.98	0.00	4.00
S2FSUPPORT4M_M	9564	1.40	1.89	0.00	4.00
S3FSUPPORT4M_M	10592	1.69	1.97	0.00	4.00

### Categorical Variable Codes

Value-----	R2FUSTDFE_M	R3FUSTDFE_M
.d:DK	119	106
.m:Missing	3	
.n:No friends	3519	5554
.p:Proxy interview, not asked	1178	1275
.r:Refuse	16	19
1.A lot	4700	4795
2.Little	3366	3176
3.Not at all	803	798

Value-----	S2FUSTDFE_M	S3FUSTDFE_M
.d:DK	80	69
.m:Missing	2	
.n:No friends	2408	3679
.p:Proxy interview, not asked	821	726
.r:Refuse	12	12
.u:Unmar	4009	4782
.v:SP NR	131	349
1.A lot	3158	3251
2.Little	2511	2291
3.Not at all	572	564

Value-----	R2FRELY_M	R3FRELY_M
.d:DK	100	71
.m:Missing	3	
.n:No friends	3519	5554
.p:Proxy interview, not asked	1178	1275
.r:Refuse	17	18
1.A lot	4374	4420
2.Little	3360	3307
3.Not at all	1153	1078

Value-----	S2FRELY_M	S3FRELY_M
.d:DK	64	45
.m:Missing	2	
.n:No friends	2408	3679
.p:Proxy interview, not asked	821	726
.r:Refuse	12	11
.u:Unmar	4009	4782
.v:SP NR	131	349
1.A lot	2951	3002
2.Little	2491	2379
3.Not at all	815	750

Value-----	R2FOPENUP_M	R3FOPENUP_M
.d:DK	101	65
.m:Missing	3	
.n:No friends	3519	5554
.p:Proxy interview, not asked	1178	1275

.r:Refuse		16	16
1.A lot		4714	4756
2.Little		3207	3091
3.Not at all		966	966
Value-----		S2FOPENUP_M	S3FOPENUP_M
.d:DK		62	41
.m:Missing		2	
.n:No friends		2408	3679
.p:Proxy interview, not asked		821	726
.r:Refuse		12	10
.u:Unmar		4009	4782
.v:SP NR		131	349
1.A lot		3190	3219
2.Little		2381	2236
3.Not at all		688	681
Value-----		R2FLETDOW_M	R3FLETDOW_M
.d:DK		283	105
.m:Missing		3	
.n:No friends		3519	5554
.p:Proxy interview, not asked		1178	1275
.r:Refuse		32	29
1.A lot		947	1271
2.Little		3033	3029
3.Not at all		4709	4460
Value-----		S2FLETDOW_M	S3FLETDOW_M
.d:DK		201	65
.m:Missing		2	
.n:No friends		2408	3679
.p:Proxy interview, not asked		821	726
.r:Refuse		24	19
.u:Unmar		4009	4782
.v:SP NR		131	349
1.A lot		675	885
2.Little		2222	2128
3.Not at all		3211	3090

## How Constructed

MHAS Waves 2 and 3 include four questions about friend's, acquaintance's, or work colleague's social support which are only asked if the respondent reports that they have friends, acquaintances, or work colleagues and the interview was not by proxy.

RwFUSTDFE\_M indicates how much the respondent feels their friends/acquaintances/work colleagues really understand the way they feel about things.

RwFRELY\_M indicates how much the respondent feels they can confide in their friends/acquaintances/work colleagues if they have a serious problem.

RwFOPENUP\_M indicates how much the respondent feels friends/acquaintances/work colleagues would listen if they need to talk about their worries.

RwFLETDOW\_M indicates how much the respondent feels they would be disappointed when they are counting on their friends/acquaintances/work colleagues.

RwFUSTDFE\_M, RwFRELY\_M, RwFOPENUP\_M and RwFLETDOW\_M are coded as follow: 1. a lot, 2. little and 3. not at all. Special missing .n is assigned if the respondent indicates they did not have any friends, hence the questions are not asked. Special missing .p is assigned if the interview is by proxy in which case these questions are not asked. Don't know, refused, or missing responses are assigned special missing values .d, .r, .m, respectively. Plain missing (.) is assigned for respondents who did not respond to the current wave.

SwFUSTDFE\_M, SwFRELY\_M, SwFOPENUP\_M and SwFLETDOW\_M indicate how much the current wave's spouse agrees with statements about their friends and are taken from the spouse's values to RwFUSTDFE\_M, RwFRELY\_M, RwFOPENUP\_M and RwFLETDOW\_M. In addition to the special missing codes used in RwFUSTDFE\_M, RwFRELY\_M, RwFOPENUP\_M and RwFLETDOW\_M, SwFUSTDFE\_M, SwFRELY\_M, SwFOPENUP\_M and SwFLETDOW\_M employ two other missing

codes, .u and .v. A special missing value .u is used when the respondent does not report being coupled in the current wave. A special missing value .v is used when the respondent reports being coupled in the current wave but their spouse is not interviewed.

RwFSUPPORT4\_M indicates the mean of the answers to four different friend support questions (RwFUSTDFE\_M, RwFRELY\_M, RwFOPENUP\_M and RwFLETDOWN\_M) and can be used as a summary score. RwFSUPPORT4\_M is calculated for any respondent with at least one non-missing value for its four components. Since RwFSUPPORT4\_M is the variable that indicates how much the respondents feel lack of support from their friends/acquaintances/work colleagues, we reverse coded the values of RwFLETDOWN\_M to make sure that higher scores indicate less support the respondent feels by their friends. The coding of RwFUSTDFE\_M, RwFRELY\_M and RwFOPENUP\_M did not change. RwFSUPPORT4M\_M counts the number of components with missing values in RwFSUPPORT4\_M, which could be between no missing components (0) and four missing components (4). RwFSUPPORT4\_M is assigned special missing values .d, .r, or .m if the answers to all components are don't know, refused, or otherwise missing. RwFSUPPORT4\_M is assigned special missing value .p or .n if the interview was completed by proxy or if the respondent reported having no friends, respectively. RwFSUPPORT4\_M and RwFSUPPORT4M\_M are assigned plain missing (.) if the respondent did not respond to the current wave.

SwFSUPPORT4\_M and SwFSUPPORT4M\_M indicate the mean summary score of the answers to four different friends support questions and the count of any missing components for the current wave's spouse and are taken from the spouse's values to RwFSUPPORT4\_M and RwFSUPPORT4M\_M. In addition to the special missing codes used in RwFSUPPORT4\_M and RwFSUPPORT4M\_M, SwFSUPPORT4\_M and SwFSUPPORT4M\_M employs two other missing codes, .u and .v. A special missing value .u is used when the respondent does not report being coupled in the current wave. A special missing value .v is used when the respondent reports being coupled in the current wave but their spouse is not interviewed.

## Cross Wave Differences in MHAS

Questions about friend's, acquaintance's, or work colleague's social support are only asked in MHAS Waves 2 and 3.

## Differences with the RAND HRS/Harmonized HRS

Unlike HRS, MHAS did not ask the following of the respondent:

1. how often they feel their friends make too many demands on them;
2. how much the respondent feels their friends criticize them;
3. how much the respondent feels their friends get on their nerves.

HRS uses a four-point response scale from "a lot" to "not at all", MHAS uses a three-point response scale from "a lot" to "not at all."

Also, the following questions wording is slightly different between HRS and MHAS:

1. HRS asks "How much can you rely on them if you have a serious problem?" whereas MHAS asks "How much can you confide in them if you have a serious problem?"
2. HRS asks "How much can you open up to them if you need to talk about your worries?" whereas MHAS asks "How much do they listen if you need to talk about your worries?"
3. HRS asks "How much do they let you down when you are counting on them?" whereas MHAS asks "How much do they disappoint you when you are talking to them?"

HRS also just asks about "friends", whereas MHAS extends the questions to "friends/acquaintances/work colleagues."

## MHAS Variables Used

Wave 2:

D6	have friends and companions
D7A	friends understand

D7B	confide in friends
D7C	friends listen
D7D	friends disappoint
Wave 3:	
D23_12	Does respondent have friends,acquaintances or work coll
D24A_12	Rate your friends understanding about your feelings
D24B_12	Rate your confidence level in your friends regarding a
D24C_12	Rate your friends attention level when speaking to them
D24D_12	Rate your level of disappointment in your friends

## Experienced Death of a Child

Wave	Variable	Label	Type
1	H1CHDEATHE	h1chdeathe: w1 R+S Ever experienced death of own child	Categ
2	H2CHDEATHE	h2chdeathe: w2 R+S Ever experienced death of own child	Categ
3	H3CHDEATHE	h3chdeathe: w3 R+S Ever experienced death of own child	Categ
4	H4CHDEATHE	h4chdeathe: w4 R+S Ever experienced death of own child	Categ
5	H5CHDEATHE	h5chdeathe: w5 R+S Ever experienced death of own child	Categ

### Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
H1CHDEATHE	15186	0.37	0.48	0.00	1.00
H2CHDEATHE	13704	0.38	0.49	0.00	1.00
H3CHDEATHE	15723	0.32	0.46	0.00	1.00
H4CHDEATHE	14779	0.32	0.47	0.00	1.00
H5CHDEATHE	17114	0.27	0.44	0.00	1.00

### Categorical Variable Codes

Value-----	H1CHDEATHE	H2CHDEATHE	H3CHDEATHE	H4CHDEATHE	H5CHDEATHE
0.No	9513	8510	10764	10057	12548
1.Yes	5673	5194	4959	4722	4566

### How Constructed

HwCHDEATHE indicates whether the respondent and/or their spouse has ever experienced the death of their own child. This variable is based on the count of deceased children that the respondent and their spouse provide during their interviews (HwDCHILD), including children who died prior to the respondent joining MHAS, children who were household residents and passed away, and children who lived separately and passed away. HwCHDEATHE is given a code of 0 if the respondent reported no deceased children. HwCHDEATHE is given a code of 1 if the respondent reported at least one deceased child. Don't know, refused, or missing responses are assigned special missing values .d, .r, .m, respectively. HwCHDEATHE is assigned plaining missing (.) for respondents who did not participate in the current wave.

### Cross Wave Differences in MHAS

Please see Section G: Number of Deceased Children for any differences across waves.

### Differences with the RAND HRS/Harmonized HRS

Unlike HRS, most of the childhood and lifetime stressful events questions were not asked in the MHAS. In addition, the HRS asks whether the respondent has experienced the death of their own child while in the MHAS the variable is created using the count of deceased children that the respondent and their spouse have ever had. It is a respondent-level variable in the Harmonized HRS and a couple-level variable in the Harmonized MHAS.

### MHAS Variables Used

Wave 1:	
B25	registration number of deceased children
Wave 2:	
B1	code of respondent
TRH10	relationship with spouse
TRH3	registration number
TRH5	current situation
TRH9	relationship
Wave 3:	



B21B_12	Deceased CHILD: registration number
B3_12	Follow-up respondent's registration number
B7_12	Residency status of non-resident child
NB25_12	New respondent's registration number
TRH10_12	Resident's relationship to respondent's spouse
TRH3_12	Household Resident registration number
TRH5_12	Former Resident's current residential status
TRH9_12	Resident's relationship to respondent

## Wave 4:

B21B_15	Deceased Child: Registration number
B3_15	Non-resident Child: Registration number
B7_15	Non-resident Child: Residency status of non-resident ch
NB25_15	Deceased Child: Registration number
TRH10_15	Resident's relationship to respondent's spouse
TRH3_15	Household resident registration number
TRH5_15	Former resident's current residential status
TRH9_15	Resident's relationship to respondent

## Wave 5:

B21B_18	
B3_18	Non-resident Child: Registration number
B7_18	Non-resident Child: Residency status of non-resident ch
NB25_18	Deceased Child: Registration number
TRH10_18	Resident's relationship to respondent's spouse
TRH3_18	Household resident registration number
TRH5_18	Former resident's current residential status
TRH9_18	Resident's relationship to respondent

**Section O: End of Life Planning**

<b>Will: Whether Has a Will</b>
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Wave	Variable	Label	Type
1	H1WITWILL_M	h1witwill_m: w1 R+S have made arrangements	Categ
2	H2WITWILL_M	h2witwill_m: w2 R+S have made arrangements	Categ
3	H3WITWILL_M	h3witwill_m: w3 R+S have made arrangements	Categ
4	H4WITWILL_M	h4witwill_m: w4 R+S have made arrangements	Categ
5	H5WITWILL_M	h5witwill_m: w5 R+S have made arrangements	Categ
3	H3WITWILL	h3witwill: w3 R+S have witnessed will	Categ
4	H4WITWILL	h4witwill: w4 R+S have witnessed will	Categ
5	H5WITWILL	h5witwill: w5 R+S have witnessed will	Categ

### Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
H1WITWILL_M	13648	0.14	0.34	0.00	1.00
H2WITWILL_M	12307	0.12	0.33	0.00	1.00
H3WITWILL_M	13363	0.17	0.37	0.00	1.00
H4WITWILL_M	12963	0.19	0.39	0.00	1.00
H5WITWILL_M	14437	0.16	0.37	0.00	1.00
H3WITWILL	13357	0.13	0.33	0.00	1.00
H4WITWILL	12954	0.14	0.35	0.00	1.00
H5WITWILL	14431	0.12	0.33	0.00	1.00

### Categorical Variable Codes

Value-----	H1WITWILL_M	H2WITWILL_M	H3WITWILL_M	H4WITWILL_M	H5WITWILL_M
.a:owns no assets	1331	1127	1368	1296	1783
.d:DK	62	7	33	12	42
.m:Missing	59	31		50	20
.p:Proxy interview, not asked	502	554	911	588	803
.r:Refuse	69	13	48	23	29
0.no	11803	10774	11152	10488	12055
1.yes	1845	1533	2211	2475	2382

Value-----	H3WITWILL	H4WITWILL	H5WITWILL
.a:owns no assets	1368	1296	1783
.d:DK	36	18	45
.m:Missing		50	20
.p:Proxy interview, not asked	911	588	803
.r:Refuse	51	26	32
0.no	11668	11120	12643
1.yes	1689	1834	1788

### How Constructed

HwWITWILL\_M is an MHAS specific variable that indicates whether the respondent and their spouse have made arrangements to transfer their assets in case of death. HwWITWILL\_M is assigned a 0 if no arrangements have been made, and is assigned a 1 if arrangements have been made to transfer their assets in case of death. HwWITWILL\_M is assigned special missing .p if this question was skipped because the interview was by proxy. HwWITWILL\_M is assigned special missing .a if the respondent voluntarily reports that they do not own assets. Don't know, refused or otherwise missing responses are assigned special missing .d, .r, and .m, respectively. HwWITWILL\_M is set to plain missing (.) for respondents who did not participate in the current wave.

HwWITWILL indicates whether the respondent and their spouse have made arrangements to transfer their assets in case of death which have been written in a formal will by a notary. Starting in Wave 3, the respondent is first asked whether they have made any arrangements to transfer their assets in case of death, and if so, is then asked if these arrangements are written in a formal will by a notary. HwWITWILL

is assigned a 0 if no arrangements have been made or if arrangements have been made but they have not been written in a formal will by a notary. HwWITWILL is assigned a 1 if arrangements have been made and they have been written in a formal will by a notary. HwWITWILL is assigned special missing .p if these questions were skipped because the interview was by proxy. HwWITWILL is assigned special missing .a if the respondent voluntarily reports that they do not own assets. Don't know, refused or otherwise missing responses are assigned special missing .d, .r, and .m, respectively. HwWITWILL is set to plain missing (.) for respondents who did not participate in the current wave.

Cross Wave Differences in MHAS

In all waves, the respondent is asked "Have you made any arrangements to transfer your assets in case of death?" Starting in Wave 3, if the answer is yes, then the respondent is asked "Are these arrangements written in a formal will by a notary?"

Differences with the RAND HRS/Harmonized HRS

The HRS asks both the respondent and the spouse whether they have a will that is written and witnessed, the answers to which are presented in RwWITWILL and SwWITWILL in the Harmonized HRS. The MHAS asks at the couple-level whether arrangements have been made to transfer their assets in case of death, which could indicate a formal or informal arrangement, which is presented in HwWITWILL\_M in the Harmonized MHAS. Starting in Wave 3 of the MHAS, the respondent is asked whether the arrangements have been written in a formal will by a notary, making the question more comparable to the one asked in the HRS, and the answers to which are presented in HwWITWILL in the Harmonized MHAS.

MHAS Variables Used

Wave 1:	
ENT_TIP	type of individual interview
K88	transfers plans
Wave 2:	
K93	transfers plans
TIPENT	type of individual interview
Wave 3:	
K93A_12	Arrangements to transfer asset(s) at time of death
K93B_12	Formal arrangements written by a notary
TIPENTK_12	Type of interview section K 2012
Wave 4:	
K93A_15	Arrangements to transfer asset(s) at time of death
K93B_15	Formal arrangements written by a notary
TIPENTK_15	Type of interview section K 2015
Wave 5:	
K93A_18	Arrangements to transfer asset(s) at time of death
K93B_18	Formal arrangements written by a notary
TIPENT_HH_18	Type of interview Household Sections 2018

<b>Will: Beneficiaries of Will</b>
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Wave	Variable	Label	Type
1	H1WILLSP	h1willsp: w1 R+S will has provisions for spouse	Categ
2	H2WILLSP	h2willsp: w2 R+S will has provisions for spouse	Categ
3	H3WILLSP	h3willsp: w3 R+S will has provisions for spouse	Categ
4	H4WILLSP	h4willsp: w4 R+S will has provisions for spouse	Categ
5	H5WILLSP	h5willsp: w5 R+S will has provisions for spouse	Categ
1	H1WILLCG	h1willcg: w1 R+S will has provisions for child/grandchild	Categ
2	H2WILLCG	h2willcg: w2 R+S will has provisions for child/grandchild	Categ
3	H3WILLCG	h3willcg: w3 R+S will has provisions for child/grandchild	Categ
4	H4WILLCG	h4willcg: w4 R+S will has provisions for child/grandchild	Categ
5	H5WILLCG	h5willcg: w5 R+S will has provisions for child/grandchild	Categ
1	H1WILLOT	h1willot: w1 R+S will has provisions for other	Categ
2	H2WILLOT	h2willot: w2 R+S will has provisions for other	Categ
3	H3WILLOT	h3willot: w3 R+S will has provisions for other	Categ
4	H4WILLOT	h4willot: w4 R+S will has provisions for other	Categ
5	H5WILLOT	h5willot: w5 R+S will has provisions for other	Categ

### Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
H1WILLSP	1742	0.66	0.47	0.00	1.00
H2WILLSP	1489	0.63	0.48	0.00	1.00
H3WILLSP	2211	0.62	0.48	0.00	1.00
H4WILLSP	2452	0.61	0.49	0.00	1.00
H5WILLSP	2382	0.61	0.49	0.00	1.00
H1WILLCG	1822	0.92	0.27	0.00	1.00
H2WILLCG	1502	0.90	0.29	0.00	1.00
H3WILLCG	1653	0.94	0.23	0.00	1.00
H4WILLCG	1796	0.94	0.23	0.00	1.00
H5WILLCG	1763	0.94	0.23	0.00	1.00
H1WILLOT	1822	0.06	0.24	0.00	1.00
H2WILLOT	1502	0.08	0.28	0.00	1.00
H3WILLOT	1653	0.05	0.22	0.00	1.00
H4WILLOT	1796	0.04	0.20	0.00	1.00
H5WILLOT	1763	0.06	0.24	0.00	1.00

### Categorical Variable Codes

Value-----	H1WILLSP	H2WILLSP	H3WILLSP	H4WILLSP	H5WILLSP
.a:owns no assets	1331	1127	1368	1296	1783
.d:DK	62	7	33	12	42
.m:Missing	107	31		50	20
.p:Proxy interview, not asked	502	554	911	588	803
.r:Refuse	69	13	48	23	29
.w:no will	11803	10774	11152	10488	12055
0.no	592	545	831	968	934
1.yes	1150	944	1380	1484	1448
Value-----	H1WILLCG	H2WILLCG	H3WILLCG	H4WILLCG	H5WILLCG
.a:owns no assets	1331	1127	1368	1296	1783
.d:DK	73	9	36	27	62
.m:Missing	59	31		50	20
.p:Proxy interview, not asked	502	554	911	588	803
.r:Refuse	81	42	87	55	40
.w:no will	11803	10774	11668	11120	12643

0.no		146	144	91	99	98
1.yes		1676	1358	1562	1697	1665
Value-----		H1WILLOT	H2WILLOT	H3WILLOT	H4WILLOT	H5WILLOT
.a:owns no assets		1331	1127	1368	1296	1783
.d:DK		73	9	36	27	62
.m:Missing		59	31	516	50	20
.p:Proxy interview, not asked		502	554	911	588	803
.r:Refuse		81	42	87	55	40
.w:no will		11803	10774	11152	11120	12643
0.no		1707	1377	1568	1722	1654
1.yes		115	125	85	74	109

## How Constructed

HwWILLSP indicates whether the respondent's spouse would be a beneficiary of their assets in case of death. HwWILLCG indicates whether the respondent's children and/or grandchildren would be a beneficiary of their assets in case of death. HwWILLOT indicates whether someone other than the respondent's spouse, children and/or grandchildren would be a beneficiary of their assets in case of death. In Waves 1 and 2 if the respondent reports having made arrangements to transfer assets in case of death, and starting in Wave 3 if the respondent reports having a written will, then the respondent is asked "Excluding your spouse, who would be the beneficiary of your assets in case of death?" HwWILLSP is assigned a value of 0 if the respondent reports having a will and being partnered, separated, divorced, widowed, or never married, and is assigned a value of 1 if the respondent reports having a will and being married. Even though the question explicitly excludes the spouse, due to institutional arrangements in Mexico, a spouse will automatically be a beneficiary of their spouse's will. HwWILLCG is assigned a value of 0 if the respondent reports that another person or no one else would be the beneficiary, and is assigned a value of 1 if the respondent reports that children and/or grandchildren would be a beneficiary of their assets. HwWILLOT is assigned a value of 0 if the respondent reports that the children and/or grandchildren or no one else would be the beneficiary, and is assigned a value of 1 if the respondent reports that another person would be a beneficiary of their assets. HwWILLSP, HwWILLCG, and HwWILLOT are assigned special missing .p if these questions were skipped because the interview was by proxy. HwWILLSP, HwWILLCG, HwWILLOT are assigned special missing .a if the respondent voluntarily reports that they do not own assets. HwWILLSP, HwWILLCG, and HwWILLOT are assigned special missing .w if the respondent has not made arrangements to transfer assets in case of death in Waves 1 and 2, and if the respondent does not have a written will starting in Wave 3. Don't know, refused or otherwise missing responses are assigned special missing .d, .r, and .m, respectively. HwWILLSP, HwWILLCG, and HwWILLOT are set to plain missing (.) for respondents who did not participate in the current wave.

## Cross Wave Differences in MHAS

In Waves 1 and 2, respondents are asked who, excluding their spouse, would be a beneficiary of their assets if they report having made arrangements to transfer their assets in case of death. Starting in Wave 3, respondents are asked this question only if they report having a formal will written by a notary.

## Differences with the RAND HRS/Harmonized HRS

The HRS asks both the respondent and their spouse whether they have a will that is written and witnessed. The MHAS asks at the couple-level whether arrangements have been made to transfer their assets in case of death, which could indicate a formal or informal arrangement. Starting in Wave 3 of the MHAS, the respondent is asked whether the arrangements have been written in a formal will by a notary, making the question more comparable to the one asked in the HRS.

In the HRS, if the respondent reports having a will, the respondent is asked separately whether the will has provisions for family other than their spouse, children, grandchildren, and charity. In the MHAS, if the respondent reports having made arrangements in Waves 1 and 2, or if the respondent reports having a formal will starting in Wave 3, then the respondent is asked who would be the beneficiary of their assets in case of death, excluding their spouse, and are given the following options: 1.children and/or grandchildren, 2.other, 3.child and/or grandchild and other, 4.no one else. Due to institutional arrangements in Mexico, a spouse will automatically be a beneficiary of their spouse's will and so is not explicitly asked in the MHAS. Because of these differences in categories, the variables RwWILLSP, RwWILLFM, RwWILLCH, RwWILLGK, and RwWILLAR are primarily used in the Harmonized HRS, and HwWILLSP, HwWILLCG, and HwWILLOT are used in the Harmonized MHAS.

**MHAS Variables Used**

## Wave 1:

ENT_TIP	type of individual interview
K88	transfers plans
K89	beneficiary of will

## Wave 2:

K93	transfers plans
K94	beneficiary of will
TIPENT	type of individual interview

## Wave 3:

K93A_12	Arrangements to transfer asset(s) at time of death
K93B_12	Formal arrangements written by a notary
K94_12	At death, excluding spouse, who would receive assets
TIPENTK_12	Type of interview section K 2012

## Wave 4:

K93A_15	Arrangements to transfer asset(s) at time of death
K93B_15	Formal arrangements written by a notary
K94_15	At death, excluding spouse, who would be beneficiary of
TIPENTK_15	Type of interview section K 2015

## Wave 5:

K93A_18	Arrangements to transfer asset(s) at time of death
K93B_18	Formal arrangements written by a notary
K94_18	At death, excluding spouse, who would be beneficiary of
TIPENT_HH_18	Type of interview Household Sections 2018

Covered by Life Insurance

Wave	Variable	Label	Type
1	R1LIFEIN_M	r1lifein_m: w1 R Covered by life insurance	Categ
2	R2LIFEIN_M	r2lifein_m: w2 R Covered by life insurance	Categ
3	R3LIFEIN_M	r3lifein_m: w3 R Covered by life insurance	Categ
4	R4LIFEIN_M	r4lifein_m: w4 R Covered by life insurance	Categ
5	R5LIFEIN_M	r5lifein_m: w5 R Covered by life insurance	Categ
1	S1LIFEIN_M	s1lifein_m: w1 S Covered by life insurance	Categ
2	S2LIFEIN_M	s2lifein_m: w2 S Covered by life insurance	Categ
3	S3LIFEIN_M	s3lifein_m: w3 S Covered by life insurance	Categ
4	S4LIFEIN_M	s4lifein_m: w4 S Covered by life insurance	Categ
5	S5LIFEIN_M	s5lifein_m: w5 S Covered by life insurance	Categ

Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R1LIFEIN_M	6579	0.16	0.37	0.00	1.00
R2LIFEIN_M	5749	0.12	0.33	0.00	1.00
R3LIFEIN_M	5680	0.18	0.39	0.00	1.00
R4LIFEIN_M	5561	0.11	0.31	0.00	1.00
R5LIFEIN_M	7040	0.15	0.36	0.00	1.00
S1LIFEIN_M	4976	0.17	0.37	0.00	1.00
S2LIFEIN_M	4380	0.13	0.34	0.00	1.00
S3LIFEIN_M	4204	0.19	0.39	0.00	1.00
S4LIFEIN_M	4031	0.11	0.31	0.00	1.00
S5LIFEIN_M	2664	0.09	0.28	0.00	1.00

Categorical Variable Codes

Value-----	R1LIFEIN_M	R2LIFEIN_M	R3LIFEIN_M	R4LIFEIN_M	R5LIFEIN_M
.d:DK	83	30	9	63	17
.m:Missing	42	42		40	18
.q:not asked		10			
.r:Refuse	55	3	7	7	23
.w:not working	8427	7870	10027	9108	10016
0.no	5526	5031	4640	4955	5990
1.yes	1053	718	1040	606	1050

Value-----	S1LIFEIN_M	S2LIFEIN_M	S3LIFEIN_M	S4LIFEIN_M	S5LIFEIN_M
.d:DK	63	24	6	50	4
.m:Missing	14	19		10	3
.q:not asked		8			
.r:Refuse	45	1	3	6	12
.u:Unmar	4205	4009	4782	4847	5227
.v:SP NR	333	131	349	280	501
.w:not working	5550	5132	6379	5555	4778
0.no	4149	3809	3401	3584	2432
1.yes	827	571	803	447	232

How Constructed

RwLIFEIN\_M is an MHAS specific variable that indicates whether the respondent has life insurance.

The number of questions and wording changed between waves depending on the type of interview: follow-up or new subject interviews. In Wave 1, respondents are asked "In your main job which of the following benefits do you receive (did you receive)... Life Insurance?". In Wave 2, follow-up respondents were asked "In your primary job which of the following benefits do you receive (did you receive)... Life Insurance?" and new respondents were asked "In your current primary job, which of the following benefits



do you receive?". In Wave 3, both follow-up and new respondents were asked the two questions. Starting in Wave 4, only new respondents were asked "In your primary job throughout your life, which of the following benefits do you receive (did you receive)... Life Insurance?" and both follow-up and new respondents were asked "In your current primary job, which of the following benefits do you receive?".

RwLIFEIN\_M is assigned a value of 0 if the respondent did not report having life insurance, and is assigned a value of 1 if the respondent did report having life insurance. RwLIFEIN\_M is set to .w, if the respondent reports they are currently not working. RwLIFEIN\_M is assigned special missing values .d or .r for don't know or refused responses, respectively. In Wave 2, RwLIFEIN\_M is set to .q to indicate that the life insurance question was not asked for follow-up respondents that are currently working. The variables are set to plain missing (.) for respondents who did not respond to the current wave.

SwLIFEIN\_M are taken from the Wave 'w' spouse's value for RwLIFEIN\_M. In addition to the special missing codes used in RwLIFEIN, if the respondent is not designated as coupled in the current wave and assumed to be single, a special missing value of .u is used. Also, if the respondent is not designated as coupled in the current wave but reports being married, a special missing value of .v is used.

## Cross Wave Differences in MHAS

The number of questions and wording changed between waves depending on the type of interview: follow-up or new subject interviews. In Wave 1, respondents are asked "In your main job which of the following benefits do you receive (did you receive)... Life Insurance?". In Wave 2, follow-up respondents were asked "In your primary job which of the following benefits do you receive (did you receive)... Life Insurance?" and new respondents were asked "In your current primary job, which of the following benefits do you receive?". In Wave 3, both follow-up and new respondents were asked the two questions. Starting in Wave 4, only new respondents were asked "In your primary job throughout your life, which of the following benefits do you receive (did you receive)... Life Insurance?" and both follow-up and new respondents were asked "In your current primary job, which of the following benefits do you receive?". Also different to Wave 2, is the dynamics of the Employment Section (determined by the skip patterns) which was modified depending on the type of interview: follow-up or new subject interviews, in particular for the 'Work History' and 'Principal Occupation' questions. The difference in the skip patterns affects the Life Insurance variable.

## Differences with the RAND HRS/Harmonized HRS

Different from the HRS, the MHAS asks respondents whether they have life insurance as a benefit from their main or current job.

## MHAS Variables Used

Wave 1:	
I17G	benefits for life insurance
Wave 2:	
I12_7	received benefits - life insurance
I25_6	benefits from current job - life insurance
Wave 3:	
I12_7_12	Received(s) benefits from primary job - life insurance
I25_7_12	Benefits from current job - life insurance
Wave 4:	
I12_7_15	Did respondent received(receives) benefits from his/her
I25A7_15	Does respondent receive benefits from his/her current p
Wave 5:	
I12_7_18	Did R receive(receives) benefits from his/her primary j
I25A7_18	Does R receive benefits from his/her current primary jo

**Section Q: Psychosocial**

<b>Depressive Symptoms: CESD</b>
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Wave	Variable	Label	Type
1	R1DEPRES	r1depres: w1 R CESD-Felt depressed	Categ
2	R2DEPRES	r2depres: w2 R CESD-Felt depressed	Categ
3	R3DEPRES	r3depres: w3 R CESD-Felt depressed	Categ
4	R4DEPRES	r4depres: w4 R CESD-Felt depressed	Categ
5	R5DEPRES	r5depres: w5 R CESD-Felt depressed	Categ
1	S1DEPRES	s1depres: w1 S CESD-Felt depressed	Categ
2	S2DEPRES	s2depres: w2 S CESD-Felt depressed	Categ
3	S3DEPRES	s3depres: w3 S CESD-Felt depressed	Categ
4	S4DEPRES	s4depres: w4 S CESD-Felt depressed	Categ
5	S5DEPRES	s5depres: w5 S CESD-Felt depressed	Categ
1	R1EFFORT	r1effort: w1 R CESD-Everything an effort	Categ
2	R2EFFORT	r2effort: w2 R CESD-Everything an effort	Categ
3	R3EFFORT	r3effort: w3 R CESD-Everything an effort	Categ
4	R4EFFORT	r4effort: w4 R CESD-Everything an effort	Categ
5	R5EFFORT	r5effort: w5 R CESD-Everything an effort	Categ
1	S1EFFORT	s1effort: w1 S CESD-Everything an effort	Categ
2	S2EFFORT	s2effort: w2 S CESD-Everything an effort	Categ
3	S3EFFORT	s3effort: w3 S CESD-Everything an effort	Categ
4	S4EFFORT	s4effort: w4 S CESD-Everything an effort	Categ
5	S5EFFORT	s5effort: w5 S CESD-Everything an effort	Categ
1	R1SLEEP	r1sleep: w1 R CESD-Sleep was restless	Categ
2	R2SLEEP	r2sleep: w2 R CESD-Sleep was restless	Categ
3	R3SLEEP	r3sleep: w3 R CESD-Sleep was restless	Categ
4	R4SLEEP	r4sleep: w4 R CESD-Sleep was restless	Categ
5	R5SLEEP	r5sleep: w5 R CESD-Sleep was restless	Categ
1	S1SLEEP	s1sleep: w1 S CESD-Sleep was restless	Categ
2	S2SLEEP	s2sleep: w2 S CESD-Sleep was restless	Categ
3	S3SLEEP	s3sleep: w3 S CESD-Sleep was restless	Categ
4	S4SLEEP	s4sleep: w4 S CESD-Sleep was restless	Categ
5	S5SLEEP	s5sleep: w5 S CESD-Sleep was restless	Categ
1	R1WHAPPY	r1happy: w1 R CESD-Felt happy	Categ
2	R2WHAPPY	r2happy: w2 R CESD-Felt happy	Categ
3	R3WHAPPY	r3happy: w3 R CESD-Felt happy	Categ
4	R4WHAPPY	r4happy: w4 R CESD-Felt happy	Categ
5	R5WHAPPY	r5happy: w5 R CESD-Felt happy	Categ
1	S1WHAPPY	s1happy: w1 S CESD-Felt happy	Categ
2	S2WHAPPY	s2happy: w2 S CESD-Felt happy	Categ
3	S3WHAPPY	s3happy: w3 S CESD-Felt happy	Categ
4	S4WHAPPY	s4happy: w4 S CESD-Felt happy	Categ
5	S5WHAPPY	s5happy: w5 S CESD-Felt happy	Categ
1	R1FLONE	r1flone: w1 R CESD-Felt lonely	Categ
2	R2FLONE	r2flone: w2 R CESD-Felt lonely	Categ
3	R3FLONE	r3flone: w3 R CESD-Felt lonely	Categ
4	R4FLONE	r4flone: w4 R CESD-Felt lonely	Categ
5	R5FLONE	r5flone: w5 R CESD-Felt lonely	Categ
1	S1FLONE	s1flone: w1 S CESD-Felt lonely	Categ
2	S2FLONE	s2flone: w2 S CESD-Felt lonely	Categ
3	S3FLONE	s3flone: w3 S CESD-Felt lonely	Categ
4	S4FLONE	s4flone: w4 S CESD-Felt lonely	Categ
5	S5FLONE	s5flone: w5 S CESD-Felt lonely	Categ

1	R1ENLIFE	r1enlife: w1 R CESD-Enjoyed life	Categ
2	R2ENLIFE	r2enlife: w2 R CESD-Enjoyed life	Categ
3	R3ENLIFE	r3enlife: w3 R CESD-Enjoyed life	Categ
4	R4ENLIFE	r4enlife: w4 R CESD-Enjoyed life	Categ
5	R5ENLIFE	r5enlife: w5 R CESD-Enjoyed life	Categ
1	S1ENLIFE	s1enlife: w1 S CESD-Enjoyed life	Categ
2	S2ENLIFE	s2enlife: w2 S CESD-Enjoyed life	Categ
3	S3ENLIFE	s3enlife: w3 S CESD-Enjoyed life	Categ
4	S4ENLIFE	s4enlife: w4 S CESD-Enjoyed life	Categ
5	S5ENLIFE	s5enlife: w5 S CESD-Enjoyed life	Categ
1	R1FSAD	r1fsad: w1 R CESD-Felt sad	Categ
2	R2FSAD	r2fsad: w2 R CESD-Felt sad	Categ
3	R3FSAD	r3fsad: w3 R CESD-Felt sad	Categ
4	R4FSAD	r4fsad: w4 R CESD-Felt sad	Categ
5	R5FSAD	r5fsad: w5 R CESD-Felt sad	Categ
1	S1FSAD	s1fsad: w1 S CESD-Felt sad	Categ
2	S2FSAD	s2fsad: w2 S CESD-Felt sad	Categ
3	S3FSAD	s3fsad: w3 S CESD-Felt sad	Categ
4	S4FSAD	s4fsad: w4 S CESD-Felt sad	Categ
5	S5FSAD	s5fsad: w5 S CESD-Felt sad	Categ
1	R1FTIRED	r1ftired: w1 R CESD-Felt tired	Categ
2	R2FTIRED	r2ftired: w2 R CESD-Felt tired	Categ
3	R3FTIRED	r3ftired: w3 R CESD-Felt tired	Categ
4	R4FTIRED	r4ftired: w4 R CESD-Felt tired	Categ
5	R5FTIRED	r5ftired: w5 R CESD-Felt tired	Categ
1	S1FTIRED	s1ftired: w1 S CESD-Felt tired	Categ
2	S2FTIRED	s2ftired: w2 S CESD-Felt tired	Categ
3	S3FTIRED	s3ftired: w3 S CESD-Felt tired	Categ
4	S4FTIRED	s4ftired: w4 S CESD-Felt tired	Categ
5	S5FTIRED	s5ftired: w5 S CESD-Felt tired	Categ
1	R1ENERG	r1energ: w1 R CESD-Had a lot of energy	Categ
2	R2ENERG	r2energ: w2 R CESD-Had a lot of energy	Categ
3	R3ENERG	r3energ: w3 R CESD-Had a lot of energy	Categ
4	R4ENERG	r4energ: w4 R CESD-Had a lot of energy	Categ
5	R5ENERG	r5energ: w5 R CESD-Had a lot of energy	Categ
1	S1ENERG	s1energ: w1 S CESD-Had a lot of energy	Categ
2	S2ENERG	s2energ: w2 S CESD-Had a lot of energy	Categ
3	S3ENERG	s3energ: w3 S CESD-Had a lot of energy	Categ
4	S4ENERG	s4energ: w4 S CESD-Had a lot of energy	Categ
5	S5ENERG	s5energ: w5 S CESD-Had a lot of energy	Categ
1	R1CESD_M	r1cesd_m: w1 R CESD Modified Score	Cont
2	R2CESD_M	r2cesd_m: w2 R CESD Modified Score	Cont
3	R3CESD_M	r3cesd_m: w3 R CESD Modified Score	Cont
4	R4CESD_M	r4cesd_m: w4 R CESD Modified Score	Cont
5	R5CESD_M	r5cesd_m: w5 R CESD Modified Score	Cont
1	S1CESD_M	s1cesd_m: w1 S CESD Modified Score	Cont
2	S2CESD_M	s2cesd_m: w2 S CESD Modified Score	Cont
3	S3CESD_M	s3cesd_m: w3 S CESD Modified Score	Cont
4	S4CESD_M	s4cesd_m: w4 S CESD Modified Score	Cont
5	S5CESD_M	s5cesd_m: w5 S CESD Modified Score	Cont
1	R1CESDM_M	r1cesdm_m: w1 R CESD-Missings in Modified Score	Cont
2	R2CESDM_M	r2cesdm_m: w2 R CESD-Missings in Modified Score	Cont
3	R3CESDM_M	r3cesdm_m: w3 R CESD-Missings in modified Score	Cont

4	R4CESDM_M	r4cesdm_m: w4 R	CESD-Missings in modified Score	Cont
5	R5CESDM_M	r5cesdm_m: w5 R	CESD-Missings in modified Score	Cont
1	S1CESDM_M	s1cesdm_m: w1 S	CESD-Missings in Modified Score	Cont
2	S2CESDM_M	s2cesdm_m: w2 S	CESD-Missings in Modified Score	Cont
3	S3CESDM_M	s3cesdm_m: w3 S	CESD-Missings in modified Score	Cont
4	S4CESDM_M	s4cesdm_m: w4 S	CESD-Missings in modified Score	Cont
5	S5CESDM_M	s5cesdm_m: w5 S	CESD-Missings in modified Score	Cont

## Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R1DEPRES	14007	0.38	0.48	0.00	1.00
R2DEPRES	12503	0.39	0.49	0.00	1.00
R3DEPRES	14427	0.35	0.48	0.00	1.00
R4DEPRES	13830	0.33	0.47	0.00	1.00
R5DEPRES	15770	0.32	0.47	0.00	1.00
S1DEPRES	9886	0.34	0.47	0.00	1.00
S2DEPRES	8727	0.36	0.48	0.00	1.00
S3DEPRES	9850	0.32	0.47	0.00	1.00
S4DEPRES	9174	0.30	0.46	0.00	1.00
S5DEPRES	7068	0.30	0.46	0.00	1.00
R1EFFORT	13984	0.36	0.48	0.00	1.00
R2EFFORT	12510	0.37	0.48	0.00	1.00
R3EFFORT	14426	0.36	0.48	0.00	1.00
R4EFFORT	13833	0.36	0.48	0.00	1.00
R5EFFORT	15761	0.33	0.47	0.00	1.00
S1EFFORT	9869	0.34	0.47	0.00	1.00
S2EFFORT	8731	0.35	0.48	0.00	1.00
S3EFFORT	9853	0.34	0.47	0.00	1.00
S4EFFORT	9173	0.34	0.47	0.00	1.00
S5EFFORT	7065	0.32	0.47	0.00	1.00
R1SLEEPER	14034	0.37	0.48	0.00	1.00
R2SLEEPER	12513	0.39	0.49	0.00	1.00
R3SLEEPER	14433	0.42	0.49	0.00	1.00
R4SLEEPER	13843	0.42	0.49	0.00	1.00
R5SLEEPER	15769	0.42	0.49	0.00	1.00
S1SLEEPER	9903	0.35	0.48	0.00	1.00
S2SLEEPER	8736	0.37	0.48	0.00	1.00
S3SLEEPER	9855	0.40	0.49	0.00	1.00
S4SLEEPER	9178	0.41	0.49	0.00	1.00
S5SLEEPER	7068	0.41	0.49	0.00	1.00
R1WHAPPY	13996	0.75	0.43	0.00	1.00
R2WHAPPY	12477	0.73	0.44	0.00	1.00
R3WHAPPY	14415	0.80	0.40	0.00	1.00
R4WHAPPY	13814	0.81	0.39	0.00	1.00
R5WHAPPY	15742	0.81	0.40	0.00	1.00
S1WHAPPY	9876	0.78	0.42	0.00	1.00
S2WHAPPY	8708	0.75	0.43	0.00	1.00
S3WHAPPY	9849	0.82	0.38	0.00	1.00
S4WHAPPY	9161	0.83	0.37	0.00	1.00
S5WHAPPY	7058	0.82	0.38	0.00	1.00
R1FLONE	14012	0.33	0.47	0.00	1.00
R2FLONE	12505	0.33	0.47	0.00	1.00
R3FLONE	14437	0.30	0.46	0.00	1.00

R4FLONE	13839	0.30	0.46	0.00	1.00
R5FLONE	15759	0.29	0.45	0.00	1.00
S1FLONE	9885	0.26	0.44	0.00	1.00
S2FLONE	8728	0.27	0.44	0.00	1.00
S3FLONE	9859	0.24	0.43	0.00	1.00
S4FLONE	9177	0.24	0.43	0.00	1.00
S5FLONE	7063	0.24	0.43	0.00	1.00
R1ENLIFE	13918	0.71	0.45	0.00	1.00
R2ENLIFE	12464	0.68	0.47	0.00	1.00
R3ENLIFE	14413	0.77	0.42	0.00	1.00
R4ENLIFE	13801	0.79	0.41	0.00	1.00
R5ENLIFE	15735	0.78	0.41	0.00	1.00
S1ENLIFE	9818	0.74	0.44	0.00	1.00
S2ENLIFE	8699	0.71	0.46	0.00	1.00
S3ENLIFE	9848	0.79	0.40	0.00	1.00
S4ENLIFE	9155	0.81	0.39	0.00	1.00
S5ENLIFE	7059	0.80	0.40	0.00	1.00
R1FSAD	14006	0.40	0.49	0.00	1.00
R2FSAD	12514	0.41	0.49	0.00	1.00
R3FSAD	14433	0.40	0.49	0.00	1.00
R4FSAD	13835	0.40	0.49	0.00	1.00
R5FSAD	15760	0.39	0.49	0.00	1.00
S1FSAD	9884	0.36	0.48	0.00	1.00
S2FSAD	8737	0.37	0.48	0.00	1.00
S3FSAD	9860	0.36	0.48	0.00	1.00
S4FSAD	9173	0.35	0.48	0.00	1.00
S5FSAD	7064	0.35	0.48	0.00	1.00
R1FTIRED	14012	0.60	0.49	0.00	1.00
R2FTIRED	12515	0.57	0.49	0.00	1.00
R3FTIRED	14440	0.59	0.49	0.00	1.00
R4FTIRED	13844	0.60	0.49	0.00	1.00
R5FTIRED	15767	0.58	0.49	0.00	1.00
S1FTIRED	9891	0.58	0.49	0.00	1.00
S2FTIRED	8737	0.56	0.50	0.00	1.00
S3FTIRED	9862	0.58	0.49	0.00	1.00
S4FTIRED	9179	0.59	0.49	0.00	1.00
S5FTIRED	7066	0.57	0.49	0.00	1.00
R1ENERG	13938	0.44	0.50	0.00	1.00
R2ENERG	12470	0.40	0.49	0.00	1.00
R3ENERG	14419	0.48	0.50	0.00	1.00
R4ENERG	13829	0.47	0.50	0.00	1.00
R5ENERG	15738	0.46	0.50	0.00	1.00
S1ENERG	9839	0.45	0.50	0.00	1.00
S2ENERG	8703	0.41	0.49	0.00	1.00
S3ENERG	9854	0.50	0.50	0.00	1.00
S4ENERG	9172	0.49	0.50	0.00	1.00
S5ENERG	7051	0.45	0.50	0.00	1.00
R1CESD_M	14055	3.50	2.66	0.00	9.00
R2CESD_M	12522	3.64	2.70	0.00	9.00
R3CESD_M	14446	3.36	2.64	0.00	9.00
R4CESD_M	13846	3.33	2.64	0.00	9.00
R5CESD_M	15775	3.27	2.60	0.00	9.00
S1CESD_M	9916	3.25	2.59	0.00	9.00

S2CESD_M	8740	3.41	2.63	0.00	9.00
S3CESD_M	9865	3.13	2.55	0.00	9.00
S4CESD_M	9181	3.10	2.56	0.00	9.00
S5CESD_M	7070	3.11	2.54	0.00	9.00
R1CESDM_M	15186	0.71	2.38	0.00	9.00
R2CESDM_M	13704	0.79	2.53	0.00	9.00
R3CESDM_M	15723	0.74	2.46	0.00	9.00
R4CESDM_M	14779	0.58	2.19	0.00	9.00
R5CESDM_M	17114	0.71	2.42	0.00	9.00
S1CESDM_M	10648	0.66	2.29	0.00	9.00
S2CESDM_M	9564	0.79	2.53	0.00	9.00
S3CESDM_M	10592	0.63	2.28	0.00	9.00
S4CESDM_M	9652	0.45	1.94	0.00	9.00
S5CESDM_M	7638	0.68	2.36	0.00	9.00

## Categorical Variable Codes

Value-----	R1DEPRES	R2DEPRES	R3DEPRES	R4DEPRES	R5DEPRES
.d:DK	87	17	13	10	8
.m:Missing	4			3	
.p:Proxy interview, not asked	1032	1178	1275	929	1328
.r:Refuse	56	6	8	7	8
0.No	8723	7596	9416	9302	10705
1.Yes	5284	4907	5011	4528	5065

Value-----	S1DEPRES	S2DEPRES	S3DEPRES	S4DEPRES	S5DEPRES
.d:DK	63	11	10	4	4
.m:Missing	3				
.p:Proxy interview, not asked	660	821	726	470	563
.r:Refuse	36	5	6	4	3
.u:Unmar	4205	4009	4782	4847	5227
.v:SP NR	333	131	349	280	501
0.No	6519	5586	6722	6466	4957
1.Yes	3367	3141	3128	2708	2111

Value-----	R1EFFORT	R2EFFORT	R3EFFORT	R4EFFORT	R5EFFORT
.d:DK	85	11	15	7	13
.m:Missing	4			3	
.p:Proxy interview, not asked	1032	1178	1275	929	1328
.r:Refuse	81	5	7	7	12
0.No	8896	7942	9304	8886	10580
1.Yes	5088	4568	5122	4947	5181

Value-----	S1EFFORT	S2EFFORT	S3EFFORT	S4EFFORT	S5EFFORT
.d:DK	60	8	7	4	5
.m:Missing	3				
.p:Proxy interview, not asked	660	821	726	470	563
.r:Refuse	56	4	6	5	5
.u:Unmar	4205	4009	4782	4847	5227
.v:SP NR	333	131	349	280	501
0.No	6499	5695	6525	6043	4828
1.Yes	3370	3036	3328	3130	2237

Value-----	R1SLEEP	R2SLEEP	R3SLEEP	R4SLEEP	R5SLEEP
.d:DK	60	7	7	3	5
.m:Missing	4			3	
.p:Proxy interview, not asked	1032	1178	1275	929	1328
.r:Refuse	56	6	8	1	12
0.No	8898	7620	8391	8002	9218
1.Yes	5136	4893	6042	5841	6551

Value-----	S1SLEEP	S2SLEEP	S3SLEEP	S4SLEEP	S5SLEEP
.d:DK	43	5	4	3	2
.m:Missing	3				
.p:Proxy interview, not asked	660	821	726	470	563
.r:Refuse	39	2	7	1	5
.u:Unmar	4205	4009	4782	4847	5227

.v:SP NR	333	131	349	280	501
0.No	6463	5465	5874	5407	4186
1.Yes	3440	3271	3981	3771	2882
Value-----	R1WHAPPY	R2WHAPPY	R3WHAPPY	R4WHAPPY	R5WHAPPY
.d:DK	80	35	19	18	18
.m:Missing	4			3	
.p:Proxy interview, not asked	1032	1178	1275	929	1328
.r:Refuse	74	14	14	15	26
0.No	3437	3382	2923	2606	3064
1.Yes	10559	9095	11492	11208	12678
Value-----	S1WHAPPY	S2WHAPPY	S3WHAPPY	S4WHAPPY	S5WHAPPY
.d:DK	58	26	12	12	8
.m:Missing	3				
.p:Proxy interview, not asked	660	821	726	470	563
.r:Refuse	51	9	5	9	9
.u:Unmar	4205	4009	4782	4847	5227
.v:SP NR	333	131	349	280	501
0.No	2192	2150	1770	1532	1272
1.Yes	7684	6558	8079	7629	5786
Value-----	R1FLONE	R2FLONE	R3FLONE	R4FLONE	R5FLONE
.d:DK	68	15	3	4	12
.m:Missing	4			3	
.p:Proxy interview, not asked	1032	1178	1275	929	1328
.r:Refuse	70	6	8	4	15
0.No	9407	8409	10086	9648	11153
1.Yes	4605	4096	4351	4191	4606
Value-----	S1FLONE	S2FLONE	S3FLONE	S4FLONE	S5FLONE
.d:DK	50	11	2	2	4
.m:Missing	3				
.p:Proxy interview, not asked	660	821	726	470	563
.r:Refuse	50	4	5	3	8
.u:Unmar	4205	4009	4782	4847	5227
.v:SP NR	333	131	349	280	501
0.No	7299	6368	7491	6938	5379
1.Yes	2586	2360	2368	2239	1684
Value-----	R1ENLIFE	R2ENLIFE	R3ENLIFE	R4ENLIFE	R5ENLIFE
.d:DK	128	44	15	31	31
.m:Missing	4			3	
.p:Proxy interview, not asked	1032	1178	1275	929	1328
.r:Refuse	104	18	20	15	20
0.No	3975	3954	3296	2888	3429
1.Yes	9943	8510	11117	10913	12306
Value-----	S1ENLIFE	S2ENLIFE	S3ENLIFE	S4ENLIFE	S5ENLIFE
.d:DK	95	31	9	16	9
.m:Missing	3				
.p:Proxy interview, not asked	660	821	726	470	563
.r:Refuse	72	13	9	11	7
.u:Unmar	4205	4009	4782	4847	5227
.v:SP NR	333	131	349	280	501
0.No	2587	2548	2034	1718	1437
1.Yes	7231	6151	7814	7437	5622
Value-----	R1FSAD	R2FSAD	R3FSAD	R4FSAD	R5FSAD
.d:DK	75	7	4	9	8
.m:Missing	4			4	
.p:Proxy interview, not asked	1032	1178	1275	929	1328
.r:Refuse	69	5	11	2	18
0.No	8423	7423	8594	8370	9691
1.Yes	5583	5091	5839	5465	6069
Value-----	S1FSAD	S2FSAD	S3FSAD	S4FSAD	S5FSAD
.d:DK	53	3	2	6	2
.m:Missing	3			1	
.p:Proxy interview, not asked	660	821	726	470	563
.r:Refuse	48	3	4	2	9
.u:Unmar	4205	4009	4782	4847	5227
.v:SP NR	333	131	349	280	501



0.No		6347	5534	6266	5923	4619
1.Yes		3537	3203	3594	3250	2445
Value-----		R1FTIRED	R2FTIRED	R3FTIRED	R4FTIRED	R5FTIRED
.d:DK		72	7	5	1	7
.m:Missing		4			4	
.p:Proxy interview, not asked		1032	1178	1275	929	1328
.r:Refuse		66	4	3	1	12
0.No		5665	5331	5906	5536	6602
1.Yes		8347	7184	8534	8308	9165
Value-----		S1FTIRED	S2FTIRED	S3FTIRED	S4FTIRED	S5FTIRED
.d:DK		51	4	3	1	4
.m:Missing		3			1	
.p:Proxy interview, not asked		660	821	726	470	563
.r:Refuse		43	2	1	1	5
.u:Unmar		4205	4009	4782	4847	5227
.v:SP NR		333	131	349	280	501
0.No		4127	3849	4124	3748	3032
1.Yes		5764	4888	5738	5431	4034
Value-----		R1ENERG	R2ENERG	R3ENERG	R4ENERG	R5ENERG
.d:DK		122	42	11	9	27
.m:Missing		4			4	
.p:Proxy interview, not asked		1032	1178	1275	929	1328
.r:Refuse		90	14	18	8	21
0.No		7770	7512	7479	7298	8433
1.Yes		6168	4958	6940	6531	7305
Value-----		S1ENERG	S2ENERG	S3ENERG	S4ENERG	S5ENERG
.d:DK		85	33	6	5	12
.m:Missing		3			1	
.p:Proxy interview, not asked		660	821	726	470	563
.r:Refuse		61	7	6	4	12
.u:Unmar		4205	4009	4782	4847	5227
.v:SP NR		333	131	349	280	501
0.No		5406	5175	4972	4718	3879
1.Yes		4433	3528	4882	4454	3172

## How Constructed

RwDEPRES, RweFFORT, RwsLEEPR, RwwHAPPY, RwFLONE, RwenLIFE, RwfSAD, RwfTIRED and RweNERG are yes/no indicators for whether the respondent experienced certain feelings the majority of the time during the week prior to the interview. A code of 0 indicates that the respondent did not experience a particular feeling. A code of 1 indicates that the respondent experienced a particular feeling.

RwDEPRES indicates whether the respondent felt depressed. RweFFORT indicates whether the respondent felt that everything was an effort. RwsLEEPR indicates whether their sleep was restless. RwwHAPPY indicates whether the respondent was happy. RwFLONE indicates whether the respondent felt lonely. RwenLIFE indicates whether the respondent enjoyed life. RwfSAD indicates whether the respondent felt sad. RwfTIRED indicates whether the respondent felt tired. RweNERG indicates whether the respondent had a lot energy.

When respondents "don't know" or refuse to answer, the variables are assigned special missing values .d or .r, respectively. Variables are set to special missing value .p for proxy interviews, to special missing value .m for other missing responses, and to plain missing (.) for respondents who did not respond to the current wave.

SwDEPRES, SwEFFORT, SwSLEEPR, SwWHAPPY, SwFLONE, SwENLIFE, SwFSAD, SwFTIRED and SwENERG indicate whether the respondent's spouse reported certain feelings and are taken directly from the spouse's RwDEPRES, RweFFORT, RwsLEEPR, RwwHAPPY, RwFLONE, RwenLIFE, RwfSAD, RwfTIRED and RweNERG variables, respectively. SwDEPRES, SwEFFORT, SwSLEEPR, SwWHAPPY, SwFLONE, SwENLIFE, SwFSAD, SwFTIRED and SwENERG employ the special missing value .u, when the respondent does not report being coupled in the current wave, and the special missing value .v, when the respondent reports being coupled in the current wave but their spouse is not interviewed.

RwCESD\_M is an MHAS specific variable that indicates the sum of RwDEPRES, RweFFORT, RwsLEEPR, (1-RwwHAPPY), RwFLONE, (1-RwenLIFE), RwfSAD, RwfTIRED and (1-RweNERG). Thus the higher the score, the more negative the respondent's feelings were during the past week. RwCESDM\_M is the number of CESD questions

with missing values, ranging from 0 to 9. `RwCESD_M` is calculated for all respondents who answered at least one of the CESD component questions, that is respondents with `RwCESDM_M` value of less than 9. `RwCESD_M` is assigned special missing `.d`, `.r`, or `.m`, for don't know, refused, or other missing answers. `RwCESD_M` and `RwCESDM_M` are set to plain missing (`.`) for respondents who did not respond to the current wave.

`SwCESD_M` and `SwCESDM_M` are taken directly from the spouse's values of `RwCESD_M` and `RwCESDM_M`, respectively. `SwCESD_M` and `SwCESDM_M` employ the special missing value `.u`, when the respondent does not report being coupled in the current wave, and the special missing value `.v`, when the respondent reports being coupled in the current wave but their spouse is not interviewed.

## Cross Wave Differences in MHAS

No differences known.

## Differences with the RAND HRS/Harmonized HRS

The MHAS includes a modified version of the CESD that includes the same `RwDEPRES`, `RwEFFORT`, `RwSLEEPR`, `RwWHAPPY`, `RwFLONE`, `RwENLIFE`, and `RwFSAD` items included in the version used in the HRS. Two more items, `RwFTIRED` (whether the respondent felt tired) and `RwENERG` (whether the respondent had a lot energy) were also included instead of `RwGOING`, used in the HRS. The difference between the two CESD versions impacts the summary indices. Thus, in the Harmonized MHAS two specific indices were created, `RwCESD_M` and `RwCESDM_M`, with values ranging from 0 to 9.

## MHAS Variables Used

### Wave 1:

<code>C52A</code>	depression
<code>C52B</code>	effort
<code>C52D</code>	happiness
<code>C52E</code>	loneliness
<code>C52F</code>	enjoy life
<code>C52G</code>	sadness
<code>C52H</code>	felt tired
<code>C52I</code>	energy

### Wave 2:

<code>C49_1</code>	last week's majority emotions - depressed
<code>C49_2</code>	last week's majority emotions - everything was an effort
<code>C49_3</code>	last week's majority emotions - disturbed sleep
<code>C49_4</code>	last week's majority emotions - happy
<code>C49_5</code>	last week's majority emotions - alone
<code>C49_6</code>	last week's majority emotions - enjoying life
<code>C49_7</code>	last week's majority emotions - sad
<code>C49_8</code>	last week's majority emotions - tired
<code>C49_9</code>	last week's majority emotions - had a lot of energy

### Wave 3:

<code>C49_1_12</code>	Within the past week: Respondent was depressed
<code>C49_2_12</code>	Within the past week: Respondent experienced difficulty
<code>C49_3_12</code>	Within the past week: Respondent experienced restless sleep
<code>C49_4_12</code>	Within the past week: Respondent was happy
<code>C49_5_12</code>	Within the past week: Respondent was lonely
<code>C49_6_12</code>	Within the past week: Respondent enjoyed life
<code>C49_7_12</code>	Within the past week: Respondent was sad
<code>C49_8_12</code>	Within the past week: Respondent felt tired
<code>C49_9_12</code>	Within the past week: Respondent was energetic

### Wave 4:

<code>C49_1_15</code>	Last week, the majority of the time: Respondent felt depressed
<code>C49_2_15</code>	Last week, the majority of the time: Respondent felt tired
<code>C49_3_15</code>	Last week, the majority of the time: Respondent had restless sleep
<code>C49_4_15</code>	Last week, the majority of the time: Respondent felt happy
<code>C49_5_15</code>	Last week, the majority of the time: Respondent felt lonely
<code>C49_6_15</code>	Last week, the majority of the time: Respondent felt he/she enjoyed life
<code>C49_7_15</code>	Last week, the majority of the time: Respondent felt sad

C49_8_15	Last week, the majority of the time: Respondent felt ti
C49_9_15	Last week, the majority of the time: Respondent felt ve
Wave 5:	
C49_1_18	Last week, the majority of the time: R felt depressed
C49_2_18	Last week, the majority of the time: R felt everything
C49_3_18	Last week, the majority of the time: R had restless sle
C49_4_18	Last week, the majority of the time: R felt happy
C49_5_18	Last week, the majority of the time: R felt lonely
C49_6_18	Last week, the majority of the time: R felt he/she enjo
C49_7_18	Last week, the majority of the time: R felt sad
C49_8_18	Last week, the majority of the time: R felt tired
C49_9_18	Last week, the majority of the time: R felt very energ

<b>Satisfaction with Life Scale</b>
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Wave	Variable	Label	Type
3	R3LIDEAL3	r3lideal3: w3 R Life is close to ideal	Categ
4	R4LIDEAL3	r4lideal3: w4 R Life is close to ideal	Categ
5	R5LIDEAL3	r5lideal3: w5 R Life is close to ideal	Categ
3	S3LIDEAL3	s3lideal3: w3 S Life is close to ideal	Categ
4	S4LIDEAL3	s4lideal3: w4 S Life is close to ideal	Categ
5	S5LIDEAL3	s5lideal3: w5 S Life is close to ideal	Categ
3	R3LEXCL3	r3lexcl3: w3 R Life conditions are excellent	Categ
4	R4LEXCL3	r4lexcl3: w4 R Life conditions are excellent	Categ
5	R5LEXCL3	r5lexcl3: w5 R Life conditions are excellent	Categ
3	S3LEXCL3	s3lexcl3: w3 S Life conditions are excellent	Categ
4	S4LEXCL3	s4lexcl3: w4 S Life conditions are excellent	Categ
5	S5LEXCL3	s5lexcl3: w5 S Life conditions are excellent	Categ
3	R3LSTSF3	r3lstsf3: w3 R Satisfied with life	Categ
4	R4LSTSF3	r4lstsf3: w4 R Satisfied with life	Categ
5	R5LSTSF3	r5lstsf3: w5 R Satisfied with life	Categ
3	S3LSTSF3	s3lstsf3: w3 S Satisfied with life	Categ
4	S4LSTSF3	s4lstsf3: w4 S Satisfied with life	Categ
5	S5LSTSF3	s5lstsf3: w5 S Satisfied with life	Categ
3	R3LIMPTT3	r3limptt3: w3 R Gotten important things in life	Categ
4	R4LIMPTT3	r4limptt3: w4 R Gotten important things in life	Categ
5	R5LIMPTT3	r5limptt3: w5 R Gotten important things in life	Categ
3	S3LIMPTT3	s3limptt3: w3 S Gotten important things in life	Categ
4	S4LIMPTT3	s4limptt3: w4 S Gotten important things in life	Categ
5	S5LIMPTT3	s5limptt3: w5 S Gotten important things in life	Categ
3	R3LCHNOT3	r3lchnot3: w3 R Change almost nothing if lived again	Categ
4	R4LCHNOT3	r4lchnot3: w4 R Change almost nothing if lived again	Categ
5	R5LCHNOT3	r5lchnot3: w5 R Change almost nothing if lived again	Categ
3	S3LCHNOT3	s3lchnot3: w3 S Change almost nothing if lived again	Categ
4	S4LCHNOT3	s4lchnot3: w4 S Change almost nothing if lived again	Categ
5	S5LCHNOT3	s5lchnot3: w5 S Change almost nothing if lived again	Categ
3	R3LSATSC3	r3lsatasc3: w3 R Satisfaction with life scale score	Cont
4	R4LSATSC3	r4lsatasc3: w4 R Satisfaction with life scale score	Cont
5	R5LSATSC3	r5lsatasc3: w5 R Satisfaction with life scale score	Cont
3	S3LSATSC3	s3lsatasc3: w3 S Satisfaction with life scale score	Cont
4	S4LSATSC3	s4lsatasc3: w4 S Satisfaction with life scale score	Cont
5	S5LSATSC3	s5lsatasc3: w5 S Satisfaction with life scale score	Cont
3	R3LSATSC3M	r3lsatasc3m: w3 R Satisfaction with life scale missing count	Cont
4	R4LSATSC3M	r4lsatasc3m: w4 R Satisfaction with life scale missing count	Cont
5	R5LSATSC3M	r5lsatasc3m: w5 R Satisfaction with life scale missing count	Cont
3	S3LSATSC3M	s3lsatasc3m: w3 S Satisfaction with life scale missing count	Cont
4	S4LSATSC3M	s4lsatasc3m: w4 S Satisfaction with life scale missing count	Cont
5	S5LSATSC3M	s5lsatasc3m: w5 S Satisfaction with life scale missing count	Cont

## Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R3LIDEAL3	14160	2.59	0.70	1.00	3.00
R4LIDEAL3	13634	2.58	0.70	1.00	3.00
R5LIDEAL3	15473	2.57	0.71	1.00	3.00
S3LIDEAL3	9719	2.62	0.68	1.00	3.00
S4LIDEAL3	9086	2.60	0.68	1.00	3.00
S5LIDEAL3	6945	2.60	0.69	1.00	3.00
R3LEXCL3	14325	2.48	0.71	1.00	3.00
R4LEXCL3	13754	2.46	0.73	1.00	3.00
R5LEXCL3	15588	2.48	0.72	1.00	3.00
S3LEXCL3	9808	2.51	0.70	1.00	3.00
S4LEXCL3	9139	2.48	0.71	1.00	3.00
S5LEXCL3	6983	2.51	0.70	1.00	3.00
R3LSTSF3	14370	2.79	0.52	1.00	3.00
R4LSTSF3	13788	2.79	0.53	1.00	3.00
R5LSTSF3	15620	2.79	0.53	1.00	3.00
S3LSTSF3	9833	2.81	0.51	1.00	3.00
S4LSTSF3	9155	2.81	0.51	1.00	3.00
S5LSTSF3	6996	2.82	0.50	1.00	3.00
R3LIMPTT3	14340	2.74	0.57	1.00	3.00
R4LIMPTT3	13749	2.74	0.58	1.00	3.00
R5LIMPTT3	15580	2.75	0.56	1.00	3.00
S3LIMPTT3	9817	2.76	0.55	1.00	3.00
S4LIMPTT3	9140	2.76	0.56	1.00	3.00
S5LIMPTT3	6980	2.77	0.54	1.00	3.00
R3LCHNOT3	14241	2.46	0.79	1.00	3.00
R4LCHNOT3	13669	2.46	0.80	1.00	3.00
R5LCHNOT3	15523	2.52	0.76	1.00	3.00
S3LCHNOT3	9769	2.48	0.78	1.00	3.00
S4LCHNOT3	9102	2.47	0.80	1.00	3.00
S5LCHNOT3	6960	2.55	0.75	1.00	3.00
R3LSATSC3	14356	2.61	0.46	1.00	3.00
R4LSATSC3	13774	2.61	0.46	1.00	3.00
R5LSATSC3	15607	2.62	0.46	1.00	3.00
S3LSATSC3	9828	2.63	0.45	1.00	3.00
S4LSATSC3	9152	2.62	0.45	1.00	3.00
S5LSATSC3	6992	2.65	0.45	1.00	3.00
R3LSATSC3M	26839	2.34	2.48	0.00	5.00
R4LSATSC3M	26839	2.44	2.49	0.00	5.00
R5LSATSC3M	26839	2.10	2.46	0.00	5.00
S3LSATSC3M	10592	0.38	1.29	0.00	5.00
S4LSATSC3M	9863	0.37	1.29	0.00	5.00
S5LSATSC3M	8687	0.99	1.98	0.00	5.00

### Categorical Variable Codes

Value-----	R3LIDEAL3	R4LIDEAL3	R5LIDEAL3
.d:DK	214	146	171
.m:Missing		23	
.p:Proxy interview, not asked	1275	929	1328

.r:Refuse		74	47	142
1.Disagree		1734	1724	1996
2.Neutral		2280	2316	2693
3.Agree		10146	9594	10784
Value-----		S3LIDEAL3	S4LIDEAL3	S5LIDEAL3
.d:DK		108	69	68
.m:Missing			5	
.p:Proxy interview, not asked		726	470	563
.r:Refuse		39	22	62
.u:Unmar		4782	4847	5227
.v:SP NR		349	280	501
1.Disagree		1116	1041	815
2.Neutral		1480	1516	1140
3.Agree		7123	6529	4990
Value-----		R3LEXCL3	R4LEXCL3	R5LEXCL3
.d:DK		76	50	77
.m:Missing			23	
.p:Proxy interview, not asked		1275	929	1328
.r:Refuse		47	23	121
1.Disagree		1873	1911	2081
2.Neutral		3747	3641	3992
3.Agree		8705	8202	9515
Value-----		S3LEXCL3	S4LEXCL3	S5LEXCL3
.d:DK		33	22	32
.m:Missing			5	
.p:Proxy interview, not asked		726	470	563
.r:Refuse		25	16	60
.u:Unmar		4782	4847	5227
.v:SP NR		349	280	501
1.Disagree		1156	1170	826
2.Neutral		2521	2436	1737
3.Agree		6131	5533	4420
Value-----		R3LSTSF3	R4LSTSF3	R5LSTSF3
.d:DK		51	27	59
.m:Missing			23	
.p:Proxy interview, not asked		1275	929	1328
.r:Refuse		27	12	107
1.Disagree		789	811	922
2.Neutral		1414	1205	1429
3.Agree		12167	11772	13269
Value-----		S3LSTSF3	S4LSTSF3	S5LSTSF3
.d:DK		18	14	28
.m:Missing			5	
.p:Proxy interview, not asked		726	470	563
.r:Refuse		15	8	51
.u:Unmar		4782	4847	5227
.v:SP NR		349	280	501
1.Disagree		508	500	351
2.Neutral		880	761	567
3.Agree		8445	7894	6078
Value-----		R3LIMPTT3	R4LIMPTT3	R5LIMPTT3
.d:DK		69	53	92
.m:Missing			23	
.p:Proxy interview, not asked		1275	929	1328
.r:Refuse		39	25	114
1.Disagree		959	983	1018
2.Neutral		1813	1623	1825
3.Agree		11568	11143	12737
Value-----		S3LIMPTT3	S4LIMPTT3	S5LIMPTT3
.d:DK		28	22	41
.m:Missing			5	
.p:Proxy interview, not asked		726	470	563
.r:Refuse		21	15	54
.u:Unmar		4782	4847	5227
.v:SP NR		349	280	501
1.Disagree		607	601	409

2.Neutral		1172	1037	768
3.Agree		8038	7502	5803
Value-----		R3LCHNOT3	R4LCHNOT3	R5LCHNOT3
.d:DK		151	128	129
.m:Missing			23	
.p:Proxy interview, not asked		1275	929	1328
.r:Refuse		56	30	134
1.Disagree		2714	2717	2602
2.Neutral		2253	1978	2313
3.Agree		9274	8974	10608
Value-----		S3LCHNOT3	S4LCHNOT3	S5LCHNOT3
.d:DK		65	57	55
.m:Missing			5	
.p:Proxy interview, not asked		726	470	563
.r:Refuse		32	18	60
.u:Unmar		4782	4847	5227
.v:SP NR		349	280	501
1.Disagree		1778	1777	1093
2.Neutral		1514	1253	977
3.Agree		6477	6072	4890

## How Constructed

RwLIDEAL3, RwLEXCL3, RwLSTSF3, RwLIMPTT3, and RwLCHNOT3 indicate how much the respondent agrees with specific statements about their satisfaction with life. RwLIDEAL3 indicates how much the respondent agrees with the statement, in most things my life is close to my ideal. RwLEXCL3 indicates how much the respondent agrees with the statement, the conditions of my life are excellent. RwLSTSF3 indicates how much the respondent agrees with the statement, I am satisfied with my life. RwLIMPTT3 indicates how much the respondent agrees with the statement, so far I have got the important things that are important to me in life. RwLCHNOT3 indicates how much the respondent agrees with the statement, if I were to be born again I would change almost nothing in my life. RwLIDEAL3, RwLEXCL3, RwLSTSF3, RwLIMPTT3, and RwLCHNOT3 are coded as follows: 1.disagree, 2.neutral, 3.agree. Please note that the answer scale in the original questions goes from 1.agree to 3.disagree, which have been reverse-coded for these variables to 1.disagree to 3.agree. These questions are not asked during interviews completed by a proxy on behalf of the respondent and special missing .p is assigned in these cases. Don't know, refused, or other missing values are assigned special missing codes .d, .r, .m, respectively. RwLIDEAL3, RwLEXCL3, RwLSTSF3, RwLIMPTT3, and RwLCHNOT3 are set to plain missing (.) for respondents who did not respond to the current wave.

SwLIDEAL3, SwLEXCL3, SwLSTSF3, SwLIMPTT3, and SwLCHNOT3 indicate how much the respondent's spouse agrees with specific statements about their satisfaction with life and are taken directly from the spouse's responses to RwLIDEAL3, RwLEXCL3, RwLSTSF3, RwLIMPTT3, and RwLCHNOT3, respectively. In addition to the special missing codes used in RwLIDEAL3, RwLEXCL3, RwLSTSF3, RwLIMPTT3, and RwLCHNOT3, SwLIDEAL3, SwLEXCL3, SwLSTSF3, SwLIMPTT3, and SwLCHNOT3 employ two other missing codes, .u and .v. A special missing value .u is used when the respondent does not report being coupled in the current wave. A special missing value .v is used when the respondent reports being coupled in the current wave but their spouse is not interviewed.

RwLSATSC3 is the mean of RwLIDEAL3, RwLEXCL3, RwLSTSF3, RwLIMPTT3, and RwLCHNOT3 using a 3-item scale ranging from 1.disagree to 3.agree. Thus the higher the score, the more the respondent is satisfied with their life. RwLSATSC3 is not computed for respondents with 3 or more missing values for RwLIDEAL3, RwLEXCL3, RwLSTSF3, RwLIMPTT3, and RwLCHNOT3. Respondents whose survey was completed by a proxy on their behalf who are not asked these questions are assigned special missing .p. Don't know, refused, or other missing responses to the components of RwLSATSC3 are assigned special missing .d, .r, .m, respectively. RwLSATSCM3 indicates how many individual measures used to derive RwLSATSC3 are missing. RwLSATSC3 and RwLSATSCM3 are assigned plain missing (.) if the respondent did not participate in the current wave.

SwLSATSC3 is the respondent's spouse's mean satisfaction with life using a 3-item scale, and its values are taken from RwLSATSC3. SwLSATSCM3 indicates the number of missing components for the respondent's spouse's mean satisfaction with life, and its values are taken from RwLSATSCM3. In addition to the special missing codes used in RwLSATSC3 and RwLSATSCM3, SwLSATSC3 and SwLSATSCM3 employ two other missing codes, .u and .v. Special missing value .u is used when the respondent does not report being coupled in the current wave. Special missing value .v is used when the respondent reports being coupled in the current wave but their spouse is not interviewed.

Cross Wave Differences in MHAS

Satisfaction with life scale questions were added to the MHAS starting in Wave 3.

Differences with the RAND HRS/Harmonized HRS

In the HRS, satisfaction with life scale questions are asked using finer response scales than the MHAS. In Wave 7, HRS uses a 6-point response scale as follows: 1.strongly agree, 2.agree, 3.slightly agree, 4.neither agree nor disagree, 5.slight disagree, 6.disagree, 7.strongly disagree. In Wave 8, HRS uses a 6-point response scale as follows: 1.strongly disagree, 2.somewhat disagree, 3.slightly disagree, 4.slightly agree, 5.somewhat agree, 6.strongly agree. Starting in Wave 9, the HRS uses a 7-point response scale as follows: 1.strongly disagree, 2.somewhat disagree, 3.slightly disagree, 4.neither agree nor disagree, 5.slightly agree, 6.somewhat agree, 7.strongly agree. Unlike the HRS, the MHAS uses a 3-point response scale of 1.agree, 2.neutral, 3.disagree. To provide variables which are comparable between the MHAS and the HRS at Wave 7 and the HRS at Wave 9 and later, the response scale has been reverse-coded in these Harmonized MHAS variables and in the Harmonized HRS a 3-point scale version of the satisfaction with life scale score is provided, which is also reverse-coded for HRS Wave 7.

MHAS Variables Used

Wave 3:	
D33A_12	Respondent believes his/her life is close to ideal
D33B_12	Respondent believes his/her life conditions are excelle
D33C_12	Respondent is satisfied with his/her life
D33D_12	Respondent has received the most important things in hi
D33E_12	If born again:respondent would not change anything abou
Wave 4:	
D33A_15	Respondent believes his/her life is close to ideal
D33B_15	Respondent believes his/her life conditions are excelle
D33C_15	Respondent is satisfied with his/her life
D33D_15	Respondent has gained the things that are important to
D33E_15	If born again, respondent would change almost nothing a
Wave 5:	
D33A_18	R believes his/her life is close to ideal
D33B_18	R believes his/her life conditions are excellent
D33C_18	R is satisfied with his/her life
D33D_18	R has gained the things that are important to him/her a
D33E_18	If born again, R would change almost nothing about his/



Single Life Satisfaction Question

Wave	Variable	Label	Type
3	R3SATLIFE_M	r3satlife_m: w3 R Satisfied with life	Categ
4	R4SATLIFE_M	r4satlife_m: w4 R Satisfied with life	Categ
5	R5SATLIFE_M	r5satlife_m: w5 R Satisfied with life	Categ
3	S3SATLIFE_M	s3satlife_m: w3 S Satisfied with life	Categ
4	S4SATLIFE_M	s4satlife_m: w4 S Satisfied with life	Categ
5	S5SATLIFE_M	s5satlife_m: w5 S Satisfied with life	Categ
3	R3SATLIFEZ	r3satlifez: w3 R Satisfied with life z-score	Cont
4	R4SATLIFEZ	r4satlifez: w4 R Satisfied with life z-score	Cont
5	R5SATLIFEZ	r5satlifez: w5 R Satisfied with life z-score	Cont
3	S3SATLIFEZ	s3satlifez: w3 S Satisfied with life z-score	Cont
4	S4SATLIFEZ	s4satlifez: w4 S Satisfied with life z-score	Cont
5	S5SATLIFEZ	s5satlifez: w5 S Satisfied with life z-score	Cont

Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R3SATLIFE_M	14370	1.21	0.52	1.00	3.00
R4SATLIFE_M	13788	1.21	0.53	1.00	3.00
R5SATLIFE_M	15620	1.21	0.53	1.00	3.00
S3SATLIFE_M	9833	1.19	0.51	1.00	3.00
S4SATLIFE_M	9155	1.19	0.51	1.00	3.00
S5SATLIFE_M	6996	1.18	0.50	1.00	3.00
R3SATLIFEZ	14370	0.00	1.00	-0.40	3.42
R4SATLIFEZ	13788	-0.00	1.00	-0.39	3.39
R5SATLIFEZ	15620	-0.00	1.00	-0.39	3.36
S3SATLIFEZ	9833	-0.03	0.97	-0.40	3.42
S4SATLIFEZ	9155	-0.02	0.97	-0.39	3.39
S5SATLIFEZ	6996	-0.05	0.94	-0.39	3.36

Categorical Variable Codes

Value-----	R3SATLIFE_M	R4SATLIFE_M	R5SATLIFE_M
.d:DK	51	27	59
.m:Missing		23	
.p:Proxy interview, not asked	1275	929	1328
.r:Refuse	27	12	107
1.Agree	12167	11772	13269
2.Neutral	1414	1205	1429
3.Disagree	789	811	922

Value-----	S3SATLIFE_M	S4SATLIFE_M	S5SATLIFE_M
.d:DK	18	14	28
.m:Missing		5	
.p:Proxy interview, not asked	726	470	563
.r:Refuse	15	8	51
.u:Unmar	4782	4847	5227
.v:SP NR	349	280	501
1.Agree	8445	7894	6078
2.Neutral	880	761	567
3.Disagree	508	500	351

How Constructed

RwSATLIFE\_M indicates the respondent's agreement with the statement, I am satisfied with my life. RwSATLIFE\_M is coded as follows: 1.agree, 2.neutral, 3.disagree. RwsATLIFEZ is a z-scored version of the respondent's agreement with the statement, I am satisfied with my life. RwsATLIFEZ z-scores the responses from RwSATLIFE\_M. This question is not asked during interviews completed by a proxy on behalf of the respondent and special missing .p is assigned in these cases. Don't know, refused, or other missing values are assigned special missing codes .d, .r, .m, respectively. RwSATLIFE\_M and RwsATLIFEZ are set to plain missing (.) for respondents who did not respond to the current wave.

SwSATLIFE\_M indicates the respondent's spouse's level of agreement with the statement, I am satisfied with my life, while SwSATLIFEZ is a z-scored version, and they are taken directly from the spouse's responses to RwSATLIFE\_M and RwsATLIFEZ. In addition to the special missing codes used in RwSATLIFE\_M and RwsATLIFEZ, SwSATLIFE\_M and SwSATLIFEZ employ two other missing codes, .u and .v. A special missing value .u is used when the respondent does not report being coupled in the current wave. A special missing value .v is used when the respondent reports being coupled in the current wave but their spouse is not interviewed.

Cross Wave Differences in MHAS

A question of satisfaction with life was added to the MHAS starting in Wave 3.

Differences with the RAND HRS/Harmonized HRS

In the HRS, satisfaction with life is asked using a 5-point response scale of 1.completely satisfied, 2.very satisfied, 3.somewhat satisfied, 4.not very satisfied, 5.not at all satisfied. Unlike the HRS, the MHAS uses a 3-point response scale of 1.agree, 2.neutral, 3.disagree. To provide variables which are comparable between the HRS and the MHAS, the response scale of RwsATLIFEZ has been z-scored in the Harmonized MHAS and in the Harmonized HRS a z-scored version of HRS respondent's answer to satisfaction with life is provided.

MHAS Variables Used

Wave 3:	
D33C_12	Respondent is satisfied with his/her life
Wave 4:	
D33C_15	Respondent is satisfied with his/her life
Wave 5:	
D33C_18	R is satisfied with his/her life

Cantril Ladder

Wave	Variable	Label	Type
2	R2CANTRIL	r2cantril: w2 R Cantril ladder rating	Cont
2	S2CANTRIL	s2cantril: w2 S Cantril ladder rating	Cont

Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
R2CANTRIL	10248	5.15	3.19	1.00	10.00
S2CANTRIL	7263	5.20	3.17	1.00	10.00

How Constructed

RwCANTRIL is the respondent's rating of their present situation in comparison to all other people in Mexico, and is shown an image of a ladder with 10 steps. It is scored with a range of 1 to 10, where a 1 indicates the lowest step on the ladder and a 10 indicates the highest step on the ladder. This question is not asked during interviews completed by a proxy on behalf of the respondent and special missing .p is assigned in these cases. Don't know, refused, or other missing values are assigned special missing codes .d, .r, .m, respectively. RwCANTRIL is set to plain missing (.) for respondents who did not respond to the current wave. This question is only asked in Wave 2.

SwCANTRIL is the respondent's spouse's rating of their present situation in comparison to all other people in Mexico, and is taken directly from the spouse's responses to RwCANTRIL. In addition to the special missing codes used in RwCANTRIL, SwCANTRIL employs two other missing codes, .u and .v. A special missing value .u is used when the respondent does not report being coupled in the current wave. A special missing value .v is used when the respondent reports being coupled in the current wave but their spouse is not interviewed.

Cross Wave Differences in MHAS

The respondent is only asked to rate their present situation in comparison to all other people in Mexico in Wave 2.

Differences with the RAND HRS/Harmonized HRS

A comparable measure is included in the Harmonized HRS.

MHAS Variables Used

Wave 2:	
D1C	mexican ladder

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