PAC Caregiving Interim Project Documentation

**Last update**: 05/17/2021

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# Goal

This document provides details on how the study sample and variables are defined in PAC Caregiving interim project.

### Analysis questions:

#who need help/everyone in a residential facility #who need help/everyone in a nursing home

#who get help from an informal care provider/# who need help in a residential facility #who get help from an informal care provider/# who need help in a nursing home

#who get help from informal care provider/ everyone in a residential facility #who get help from informal care provider/ everyone in a nursing home

# Sample Definition

NHATS 2015 completed SP cohort

In a care facility, or living in a community at the time of interview

# Data Sources

NHATS

/PATH/Round5

MBSF

/PATH/Denom100/

# Sample size

(Track N's for each criterion)

|  |  |
| --- | --- |
|  | **N\_obs (unweighted)** |
| NHATS 2015 completed SP cohort | 8,334 |
| In a care facility at the time of interview | 506 |
| Living in a community at the time of interview | 7,068 |

# Variable Definition

## Outcome variables

**Receiving of caregiving not provided by staff of the facility**: (update 5/14: remove three activities because of limited number of questions asked about those activities)

### Mobility

* MO6 - go outside
* MO18 - go inside
* MO25 - go out of bed

### Self-care

* SC3 - eat
* SC11 - shower/bath
* SC17 - toilet
* SC23 - get dressed

### Household Activities

* HA1 - do laundry
* HA23 - do shopping
* HA30 - make hot meals
* HA40 - handle bills and banking
* ~~HA42 - handle money matters~~

### Medical Care Activities

* MC2 - keep track of medicine
* ~~MC15 - get to doctor~~
* ~~MC21 - make decision about insurance~~

How to make aggregate measures by group of activities (MO/SC/HA/MC)

YES if SP is receiving help with **at least one** activity NA if SP has NA for **all** activities

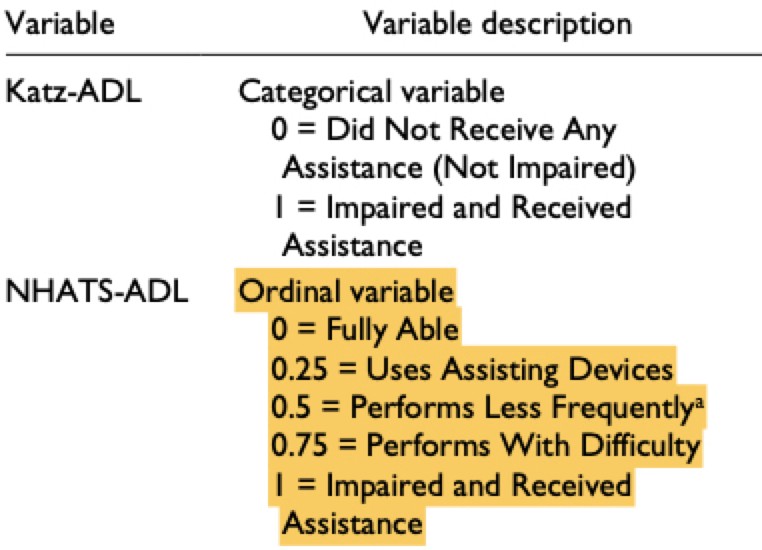
Otherwise, NO (combination of NO/DK/RF and NAs)

## Covariates

Demographics: age, sex, race, marital status Baseline health condition

### Needing caregiving

Reference: <https://journals-sagepub-com.proxy.library.upenn.edu/doi/10.1177/0898264317707299> which defines a multi-level measure of ADL functionality instead of dichotomous Katz-ADL (see below)



### definition of SP needing ADL/iADL help (last update: 05/14):

SPs who

~~use assistance devices~~

had difficulty doing by self (reported some/a lot difficulty) ~~report reduced frequency~~

~~receive help~~ did not do at all

ever went without doing such activity because of no help or difficulty

(for Household Activity and Medical Care only) had the activity done with/by someone else, because of health/functioning reason.

How to make aggregate measures by group of activities (MO/SC/HA/MC)

YES if SP is needing help with **at least one** activity NO if SP is not needing help with any activity

# Coding Details

## Outcome variables

**Receiving of caregiving not provided by staff of the facility**: **Mobility**

|  |  |
| --- | --- |
| **Mobility** | **variable name** |
| MO6 - go outside | mo5outhlp |
| MO18 - go inside | mo5insdhlp |
| MO25 - go out of bed | mo5bedhlp |

**Self-care**

|  |  |
| --- | --- |
| **Self-care** | **variable name** |
| SC3 - eat | sc5eathlp |
| SC11 - shower/bath | sc5bathhlp |
| SC17 - toilet | sc5toilhlp |
| SC23 - get dressed | sc5dreshlp |

**Household Activities**

|  |  |
| --- | --- |
| **Household Activities** | **variable name** |
| HA1 - do laundry | ha5laun |
| HA23 - do shopping | ha5shop |
| HA30 - make hot meals | ha5meal |
| HA40 - handle bills and banking | ha5bank |
| ~~HA42 - handle money matters~~ | ~~ha5moneyhlp~~ |

**Medical Care Activities**

|  |  |
| --- | --- |
| **Medical Care Activities** | **variable name** |
| MC2 - keep track of medicine | mc5medstrk |
| ~~MC15 - get to doctor~~ | ~~mc5ansitindr~~ |
| ~~MC21 - make decision about insurance~~ | ~~mc5anhlpwdec~~ |

## Covariates

Demographics:

age (from MBSF)

sex, race, marital status (from NHATS) Baseline health condition -

hc5health

### Needing help

UPDATE: we will remove all criteria where we count using assistance/device devices as needing help.

UPDATE (05/12/2021): try different ways of defining needing help because we were identifying rates of needing help that seem implausible, compared to HRS results

UPDATE (05/14/2021): after reviewing all candidate question items (see below table), our definition of needing help is:

did not do at all (when available)

had difficulty doing by self (reported some/a lot difficulty)

ever went without doing such activity because of no help or difficulty

(for Household Activity and Medical Care only) had the activity done with/by someone else, because of health/functioning reason.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **ACTIVITIES** | **DIDN'T DO** | **RECEIVED HELP** | **EVER GO WITHOUT** | **CAN'T DO** | **DIFFICULTY** | **REASON BY/WITH** |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  |  |  |  |  |  | **SOMEONE**  **ELSE** |
| MO - go outside | MO1: In the last month, how often did you leave your building to go outside - **NEVER** | MO6: In the last month, did anyone ever help you leave your building to go outside? - **YES** | MO10: In the last month, did you ever have to stay in your building because no one help or had difficulty doing by self - **YES** | MO7: In the last month, when you left your building to go outside, how often did you do this by yourself? - **NEVER** | MO8: In the last month, {when used  {cane / walker / wheelchair / scooter}}, how much difficulty to go outside by self?  Would you say none, a little, some, or a lot? |  |
| MO - go inside | MO 11: In the last month, how often did you leave your home to go into other areas of the building? **NEVER** MO12: In the last month, how often did you leave your bedroom - **NEVER** | MO18: In the last month, did anyone ever help you get around inside your home or building - **YES** | MO23: In the last month, were there any places in your home {or building} that you did not go because {no one was there to help /it was too difficult to go there by yourself? - **YES** | MO20: In the last month, when you went around inside,how often did you do this by yourself? - **NEVER** | MO21: difficulty getting around with device |  |
| MO - get out of bed | n/a | MO25: Got help out of bed - **YES** | MO23: In the last month, did you ever have to stay in bed because {no one was there to help /it was too difficult to go there by yourself? - **YES** | MO26: got out of bed by self - **NEVER** | MO27: difficulty getting out of bed with device |  |
| SC - eat | n/a | SC3: did anyone help you eat **YES** | SC6: In the last month, did you ever go without eating because {no one was there to help /it was too difficult to go there by yourself? - **YES** | SC4: how often eat by self - **NEVER** | SC5 : difficulty eating by self with device |  |
| SC - bath | n/a | SC11: did anyone help you clean **YES** | SC15: In the last month, did you ever go without washing because {no one was there to help /it was too difficult to go there by yourself? - **YES** | SC12: how often bath by self - **NEVER** | SC13 : difficulty bathing by self with assistive device |  |
| SC - toilet | n/a | SC17: did anyone help you use toilet **YES** | SC20: In the last month, did you ever accidentaly wet or soil yourself because {no one was there to help /it was too difficult to go there by yourself? - **YES** | SC18: how often toilet by self - **NEVER** | SC19 : difficulty using toilet by self with assistive device |  |
| SC - dress | SC21: In the last month, how often get dressed - **NEVER** | SC23: did anyone help you use dress **YES** | SC27: In the last month, did you ever go without dressing because {no one was there to help /it was too difficult to go there by yourself? - **YES** | SC24: how often get dressed by self  - **NEVER** | SC25 : difficulty dressing by self with assistive device |  |
| HA -  laundry | n/a | HA1: how laundry got done - **ALWAYS DID WITH SOMEONE ELSE/SOMEONE ELSE ALWAYS DID**  **IT/MORE THAN** | HA7: In the last month, did you ever go without clean laundry because  {no one was there to help  /it was too difficult to go  there by yourself? - **YES** | n/a | HA5: difficulty doing laundry by self | HA4: reason someone else did this with/for/with  or for you. |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  |  | **ONE WAY** |  |  |  |  |
| HA -  shopping | n/a | HA20: how shopping got done  - **ALWAYS DID**  **WITH SOMEONE ELSE/SOMEONE ELSE ALWAYS DID IT/MORE THAN**  **ONE WAY** | HA29: In the last month, did you ever go without groceries because {no one was there to help /it was too difficult to go there by yourself? - **YES** | n/a | HA27: difficulty doing shopping by self | HA26:  reason someone else did this with/for/with or for you. |
| HA - hot meal | n/a | HA30: how hot meal got done - **ALWAYS DID WITH SOMEONE ELSE/SOMEONE ELSE ALWAYS DID IT/MORE THAN ONE WAY** | HA36: In the last month, did you ever go without hot meals because {no one was there to help /it was too difficult to go there by yourself? - **YES** | n/a | HA34: difficulty making meals by self | HA33:  reason someone else did this with/for/with or for you. |
| HA -  bill/banking | n/a | HA40: how bills/banking got handled - **ALWAYS DID WITH SOMEONE ELSE/SOMEONE ELSE ALWAYS DID IT/MORE THAN ONE WAY** | HA46: In the last month, did you ever go without paying bills because {no one was there to help /it was too difficult to go there by yourself? - **YES** | n/a | HA44: difficulty handling bills/banking by self | HA43:  reason someone else did this with/for/with or for you. |
| HA - money matters | n/a | HA51: did anyone help you handle money matters **YES** | n/a | n/a | n/a |  |
| MC - keep track of med | n/a | MC2: how you keep track of meds  - **ALWAYS DID**  **WITH SOMEONE ELSE/SOMEONE ELSE ALWAYS DID IT/MORE THAN ONE WAY** | MC9: In the last month, did you ever make a mistake taking meds because {no one was there to help /it was too difficult to go there by yourself? - **YES** | n/a | MC7: difficulty keeping track of meds by self | MC6: reason someone else did this with/for/with or for you. |
| MC - go to doc | n/a | MC16: In the last year, did anyone sit in with you and your doctor during your visits? - **YES** | n/a | n/a | n/a |  |
| MC - make decision | n/a | MC21: Did anyone help you with that decision or make that decision for you? - **YES** | n/a | n/a | n/a |  |

**NOTE:** below "receive help" is not restricted to informal caregivers (if an SP receives help from staff members, he/she is still considered as needing help).

SAS code for needing help

/\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*/

/\* MO: get around outside

/\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*/ if mo5outoft = 5 /\* MO1: never go outside \*/

or mo5outwout = 1 /\* MO10: ever not go outside b/c no help/diff \*/ or mo5outdif in (3, 4) /\* MO8: have difficulty doing by self \*/

then needhelp\_mo\_out = 1; else needhelp\_mo\_out = 0;

/\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*/

/\* MO: get around inside

/\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*/

if (mo5oftgoarea = 5 or mo5oflvslepr = 5) /\* MO11/MO12: never go inside \*/ or mo5insdwout = 1 /\* MO23: ever not go inside b/c no help/diff \*/

or mo5insddif in (3, 4) /\* MO21: have difficulty doing by self \*/ then needhelp\_mo\_ins = 1;

else needhelp\_mo\_ins = 0;

/\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*/

/\* MO: get out of bed

/\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*/ if mo5bedwout = 1 /\* MO23: ever stay in bed b/c no help or diff \*/

or mo5beddif in (3, 4) /\* MO21: have difficulty doing by self \*/ then needhelp\_mo\_bed = 1;

else needhelp\_mo\_bed = 0;

/\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*/

/\* SC: eating

/\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*/ if sc5eatwout = 1 /\* no eat b/c no help or diff \*/

or sc5eatslfdif in (3, 4) /\* have difficulty doing by self \*/ then needhelp\_sc\_eat = 1;

else needhelp\_sc\_eat = 0;

/\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*/

/\* SC: cleaning

/\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*/ if sc5bathwout = 1 /\* no washing b/c no help or diff \*/

or sc5bathdif in (3, 4) /\* have difficulty doing by self \*/ then needhelp\_sc\_clean = 1;

else needhelp\_sc\_clean = 0;

/\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*/

/\* SC: toileting

/\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*/

if sc5toilwout = 1 /\* wet/soil b/c no help or diff \*/

or sc5toildif in (3, 4) /\* have difficulty doing by self \*/ then needhelp\_sc\_toilet = 1;

else needhelp\_sc\_toilet = 0;

/\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*/

/\* SC: dressing

/\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*/ if sc5dresoft = 5

or sc5dreswout = 1 /\* ever no dress b/c no help/diff \*/

or sc5dresdif in (3, 4) /\* have difficulty doing by self \*/ then needhelp\_sc\_dress = 1;

else needhelp\_sc\_dress = 0;

/\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*/

/\* HA: laundry

/\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*/ if ha5launwout = 1 /\* go without laundry b/c no help/diff \*/

or ha5laundif in (3, 4) /\* have difficulty doing by self \*/

or (ha5laun in (2, 3, 4) and HA5DLAUNREAS in (1, 3)) /\* receive help b/c health/functioning reason \*/

then needhelp\_ha\_laun = 1; else needhelp\_ha\_laun = 0;

/\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*/

/\* HA: shopping

/\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*/ if ha5shopwout = 1 /\* go without shopping b/c no help/diff \*/

or ha5shopdif in (3, 4) /\* have difficulty doing by self \*/

or (ha5shop in (2, 3, 4) and HA5DSHOPREAS in (1, 3)) /\* receive help b/c health/functioning reason \*/

then needhelp\_ha\_shop = 1; else needhelp\_ha\_shop = 0;

/\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*/

/\* HA: make hot meals

/\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*/ if ha5mealwout = 1 /\* go without hot meal b/c no help/diff \*/

or ha5mealdif in (3, 4) /\* have difficulty doing by self \*/

or (ha5meal in (2, 3, 4) and HA5DMEALREAS in (1, 3)) /\* receive help b/c health/functioning reason \*/

then needhelp\_ha\_meal = 1; else needhelp\_ha\_meal = 0;

/\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*/

/\* HA: handle bills and banking

/\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*/ if ha5bankwout = 1 /\* go without paying bills b/c no help/diff \*/

or ha5bankdif in (3, 4) /\* have difficulty doing by self \*/

or (ha5bank in (2, 3, 4) and HA5DBANKREAS in (1, 3)) /\* receive help b/c health/functioning reason \*/

then needhelp\_ha\_bank = 1; else needhelp\_ha\_bank = 0;

/\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*/

/\* MC: keep track of medicine

/\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*/ if mc5medsmis = 1 /\* make mistakes b/c no help/diff \*/

or mc5medsdif in (3, 4) /\* have difficulty doing by self \*/

or (mc5medstrk in (2, 3, 4) and MC5DMEDSREAS in (1, 3)) /\* receive help b/c health/functioning reason \*/

then needhelp\_mc\_meds = 1; else needhelp\_mc\_meds = 0;

### ARCHIVED CODING

/\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*/

/\* MO: get around outside

/\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*/

if (mo&num.outoft = 5 and mo&num.outwout = 1) /\* never go outside b/c no help/diff

\*/

or mo&num.outcane in (1, 2, 3, 4) /\* use cane \*/

or mo&num.outwalkr in (1, 2, 3, 4) /\* use walker \*/

or mo&num.outwlchr in (1, 2, 3, 4) /\* use wheelchair \*/

or mo&num.outsctr in (1, 2, 3, 4) /\* use scooter \*/ or mo&num.outhlp = 1 /\* receive help \*/

or mo&num.outdif in (2, 3, 4) /\* have difficulty doing by self \*/ or mo&num.outyrgo = 2 /\* reduced frequency \*/

then needhelp\_mo\_out = 1;

/\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*/

/\* MO: get around inside

/\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*/

if (mo&num.oflvslepr = 5 and mo&num.insdwout = 1) /\* never go inside b/c no help/diff \*/

or mo&num.insdcane in (1, 2, 3, 4) /\* use cane \*/

or mo&num.insdwalkr in (1, 2, 3, 4) /\* use walker \*/

or mo&num.insdwlchr in (1, 2, 3, 4) /\* use wheelchair \*/

or mo&num.insdsctr in (1, 2, 3, 4) /\* use scooter \*/

or mo&num.oftholdwl in (1, 2, 3, 4) /\* use walls \*/ or mo&num.insdhlp = 1 /\* receive help \*/

or mo&num.insddif in (2, 3, 4) /\* have difficulty doing by self \*/ or mo&num.insdyrgo = 2 /\* reduced frequency \*/

then needhelp\_mo\_ins = 1;

/\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*/

/\* MO: get out of bed

/\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*/

if mo&num.beddev in (1, 2, 3, 4) /\* use device getting out of bed \*/ or mo&num.bedhlp = 1 /\* receive help \*/

or mo&num.beddif in (2, 3, 4) /\* have difficulty doing by self \*/ or mo&num.bedwout = 1 /\* stay in bed b/c no help or diff \*/

then needhelp\_mo\_bed = 1;

/\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*/

/\* SC: eating

/\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*/ if sc&num.eatdev in (1, 7) /\* use adapted utensils \*/

or sc&num.eathlp = 1 /\* receive help \*/

or sc&num.eatslfdif in (2, 3, 4) /\* have difficulty doing by self \*/ or sc&num.eatwout = 1 /\* no eat b/c no help or diff \*/

then needhelp\_sc\_eat = 1;

/\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*/

/\* SC: cleaning

/\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*/ if sc&num.scusgrbrs in (1, 2, 3, 4) /\* use grab bars \*/

or sc&num.shtubseat in (1, 2, 3, 4) /\* use shower seat \*/ or sc&num.bathhlp = 1 /\* receive help \*/

or sc&num.bathdif in (2, 3, 4) /\* have difficulty doing by self \*/ or sc&num.bathyrgo = 2 /\* reduced frequency \*/

or sc&num.bathwout = 1 /\* no washing b/c no help or diff \*/ then needhelp\_sc\_clean = 1;

/\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*/

/\* SC: toileting

/\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*/ if sc&num.usvartoi1 = 1 /\* use commode \*/

or sc&num.usvartoi2 = 1 /\* use pads \*/ or sc&num.usvartoi3 = 1 /\* use grabbar \*/

or sc&num.usvartoi24 = 1 /\* use raised seat \*/ or sc&num.toilhlp = 1 /\* receive help \*/

or sc&num.toildif in (2, 3, 4) /\* have difficulty doing by self \*/ or sc&num.toilwout = 1 /\* wet/soil b/c no help or diff \*/

then needhelp\_sc\_toilet = 1;

/\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*/

/\* SC: dressing

/\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*/

if (sc&num.dresoft = 5 and sc&num.dreswout = 1) /\* never dress b/c no help/diff \*/ or sc&num.dresdev = 1 /\* use spec items to dress \*/

or sc&num.dreshlp = 1 /\* receive help \*/

or sc&num.dresdif in (2, 3, 4) /\* have difficulty doing by self \*/ or sc&num.dresyrgo = 2 /\* reduced frequency \*/

then needhelp\_sc\_dress = 1;

/\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*/

/\* HA: laundry

/\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*/ if ha&num.launwout = 1 /\* go without laundry b/c no help/diff \*/

or ha&num.laun in (2, 3, 4) /\* receive help \*/

or ha&num.laundif in (2, 3, 4) /\* have difficulty doing by self \*/ or ha&num.launoft = 2 /\* reduced frequency \*/

then needhelp\_ha\_laun = 1;

/\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*/

/\* HA: shopping

/\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*/ if ha&num.shopwout = 1 /\* go without shopping b/c no help/diff \*/

or ha&num.shop in (2, 3, 4) /\* receive help \*/

or ha&num.shopdif in (2, 3, 4) /\* have difficulty doing by self \*/ or ha&num.shopoft = 2 /\* reduced frequency \*/

then needhelp\_ha\_shop = 1;

/\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*/

/\* HA: make hot meals

/\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*/ if ha&num.mealwout = 1 /\* go without hot meal b/c no help/diff \*/

or ha&num.meal in (2, 3, 4) /\* receive help \*/

or ha&num.mealdif in (2, 3, 4) /\* have difficulty doing by self \*/ or ha&num.mealoft = 2 /\* reduced frequency \*/

then needhelp\_ha\_meal = 1;

/\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*/

/\* HA: handle bills and banking

/\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*/

if ha&num.bankwout = 1 /\* go without paying bills b/c no help/diff \*/ or ha&num.bank in (2, 3, 4) /\* receive help \*/

or ha&num.bankdif in (2, 3, 4) /\* have difficulty doing by self \*/ or ha&num.bankoft = 2 /\* reduced frequency \*/

then needhelp\_ha\_bank = 1;

/\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*/

/\* HA: handle money matters

/\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*/ if ha&num.moneyhlp = 1 /\* receive help \*/

then needhelp\_ha\_money = 1;

/\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*/

/\* MC: keep track of medicine

/\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*/ if mc&num.medsmis = 1 /\* make mistakes b/c no help/diff \*/

or mc&num.medstrk in (2, 3, 4) /\* receive help \*/

or mc&num.medsdif in (2, 3, 4) /\* mcve difficulty doing by self \*/ or mc&num.medsyrgo = 2 /\* reduced frequency \*/

then needhelp\_mc\_meds = 1;

/\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*/

/\* MC: go to doctor

/\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*/ if mc&num.ansitindr = 1 /\* receive help \*/

then needhelp\_mc\_doc = 1;

/\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*/

/\* MC: make descision about medicine

/\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*/ if mc&num.anhlpwdec = 1 /\* receive help \*/

then needhelp\_mc\_dec = 1;

**Programs**

/PATH/norma\_cohort\_final.sas

**Analytical Datasets**

/PATH/norma\_cohort\_20210517.csv

**Results & Output**

NHATS\_2015\_facilitySP\_cohort\_051721.xlsx

**References**