



AGENCY FOR HEALTHCARE RESEARCH AND QUALITY



# Overview of Household Component of the Medical Expenditure Panel Survey MEPS-HC

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# MEPS-HC OVERVIEW: Outline

## MEPS-HC Basics

- MEPS Components
- Purpose and Use
- Commonly Used Terms
- MEPS Design and Sample
- Data Collection Process
- Questionnaires
- Survey Changes

## MEPS-HC Dissemination

- Data Files
- Data Tools
- Publications

## MEPS-HC Other Information

- Confidential Data Access
- Contact Information

# MEPS Components

## Medical Expenditure Panel Survey (MEPS)

Household  
Component  
(HC)

Medical Provider  
Component  
(MPC)

Insurance  
Component  
(IC)

# MEPS Components

- ☐ **MEPS-HC: Household Component**
  - ☐ Collects healthcare use and expenditure data from a sample of families and individuals in selected communities across the United States
  - ☐ Annual survey since 1996
  
- ☐ **MEPS-MPC: Medical Provider Component**
  - ☐ Survey of medical providers linked to respondents to the HC
  - ☐ Collects data from a sample of providers who provided medical care to HC respondents
  - ☐ Data not designed to yield national estimates; used primarily for editing and imputation purposes related to the Household Component data
  
- ☐ **MEPS-IC: Insurance Component**
  - ☐ Collects data from a sample of private- and public-sector employers on the health insurance plans they offer their employees
  - ☐ An independent survey of employers and unions NOT linked to HC

# MEPS-HC: Purpose & Use

- ❑ **MEPS-HC is a household survey fielded annually since 1996**
- ❑ **Collects data from a sample of families and individuals across the United States**
- ❑ **Provides nationally representative estimates of healthcare use, expenditures, sources of payment, access to care, and health insurance coverage**
- ❑ **Allows estimates to be produced for individuals, families, and selected population subgroups and socioeconomic characteristics**
- ❑ **Is used for policy-related and behavioral research on the determinants of healthcare use, spending, and insurance coverage**

# MEPS-HC: Commonly Used Terms





















- ☐ **Panel** – A group of people that participates in the survey.
- ☐ **Round** – An interview interval is called a round. There are five interview rounds in two years.
- ☐ **CAPI** – Computer-assisted personal interviewing.
- ☐ **CAVI** – Computer-assisted video interviewing.
- ☐ **Respondent** – The person who responds to questions for all household members.

# MEPS Sample

- ❑ **MEPS-HC sample is representative of the civilian noninstitutionalized population of the United States**
- ❑ **MEPS-HC sample is drawn from households who responded to previous year's National Health Interview Survey (NHIS)**
- ❑ **Every year a new panel of sample is selected**
- ❑ **Each Panel is followed for two years using five interview rounds (exception COVID years)**
- ❑ **MEPS full sample for a year is an overlap of two panels (exception COVID years)**
- ❑ **Subpopulations of interest are oversampled to increase variation in selection probabilities and sampling weights**

# MEPS Panel Design: Data Reference Periods

	2021				2022				2023			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
<b>Panel 25</b> Round 3 Round 4 Round 5												
												
												
<b>Panel 26</b> Round 1 Round 2 Round 3 Round 4 Round 5												
												
												
												
												
<b>Panel 27</b> Round 1 Round 2 Round 3 Round 4 Round 5												
												
												
												
												
<b>Panel 28</b> Round 1 Round 2 Round 3												
												
												
<b>Sample Size</b>	N = 27,332				N = 21,747				N = 18,463			

N is equal to the number of people with a positive person weight on the file.



# MEPS-HC Sample Sizes

Year	Number of families	Number of persons
<u>2023</u>	8,133	18,463
<u>2022</u>	10,034	21,747
<u>2021</u>	13,014	27,332
<u>2020</u>	12,290	26,847
<u>2019</u>	11,924	27,648
<u>2018</u>	12,475	29,415
<u>2017</u>	12,756	30,716
<u>2016</u>	13,587	33,259
<u>2015</u>	13,800	33,893
<u>2014</u>	13,421	33,162
<u>2013</u>	13,936	35,068
<u>2012</u>	14,763	37,182
<u>2011</u>	13,449	33,622
<u>2010</u>	12,445	31,228
<u>2009</u>	13,875	34,920
<u>2008</u>	12,316	31,262
<u>2007</u>	11,615	29,370
<u>2006</u>	12,811	32,577
<u>2005</u>	12,810	32,320
<u>2004</u>	13,018	32,737
<u>2003</u>	12,860	32,681
<u>2002</u>	14,828	37,418
<u>2001</u>	12,852	32,122
<u>2000</u>	9,515	23,839
<u>1999</u>	9,345	23,565
<u>1998</u>	9,023	22,953
<u>1997</u>	13,087	32,636
<u>1996</u>	8,655	21,571

# Data Collection Process

- ☐ Data collected for two years of healthcare usage from each panel.
- ☐ Five interviews are conducted to collect two years of healthcare usage data.
- ☐ All data for a sampled household are reported by a single household respondent.
- ☐ Each interview can last anywhere from one to four hours.

# MEPS-HC: Data Collection

- ❑ **MEPS data collection consists of many questionnaires**
- ❑ **Collection schedule:**
  - **Once a year**
  - **Every round**
  - **Every round except last**
  - **Only in the last round**
- ❑ **Modes of collection:**
  - **Interviewer Asked**
  - **Self-Administered Questionnaires**

# MEPS-HC: Questionnaire

## □ Questionnaire sections asked by the Interviewer:

- Access to Care
- Additional Health Questions
- Assets
- Demographics
- Dental Care
- Charge Payment
- Child Preventive Health
- Employment
- Health Insurance
- Health Status
- Income
- Priority Conditions Enumeration
- Other Medical Expenditures

# MEPS-HC: Questionnaire

## ☐ Questionnaire sections for events asked by the Interviewer:

- Emergency Room
- Home Health
- Hospital Stay
- Medical Provider Visits
- Outpatient Department
- Prescription medicines

# MEPS-HC: Questionnaires

## ❑ Access to Care (AC)

- Identifies whether each household member has a medical provider who serves as the usual source of care (USC), reasons why members without a USC do not have a USC, questions about satisfaction with USC provider, and any problems experienced in obtaining needed healthcare.

## ❑ Additional Health Questions

- Assesses the impact of physical illness, injury, or mental/emotional health on household members' attendance at work. The section also asks about smoking and engaging in vigorous exercise.

# MEPS-HC: Questionnaires

## ☐ **Assets**

- **Asks about household members' real estate, businesses, vehicles, investments, other assets, and debts to supplement the financial data collected in the Income section.**

## ☐ **Charge Payments**

- **Tracks total charges and sources of payment for medical events reported in earlier sections.**

## ☐ **Child Preventive Health**

- **Collects information on general health status, special healthcare needs, potential behavioral problems, access to healthcare, preventive care, and height and weight of any child in the family.**

# MEPS-HC: Questionnaires



## ☐ Demographics

- Collects age, sex, race and ethnicity, language and English proficiency, marital status, foreign-born status, student status and educational attainment, and military service.

## ☐ Dental Care

- Obtains details on the nature of any dental care visit, type of dental care provider, treatments and services performed, and prescribed medicines.

## ☐ Employment

- Covers questions about each person's employment or self-employment status. For jobs identified, this section asks questions to obtain contact information for each employer.



# MEPS-HC: Questionnaires

## ☐ Health Insurance

- Collects information about private health insurance obtained through an employer, direct purchase private insurance plans, and public health insurance programs.

## ☐ Health Status

- Asks questions about IADL (Instrumental Activities of Daily Living) and ADL (Activities of Daily Living) limitations, hearing, vision problems and disability status etc.

# MEPS-HC: Questionnaires

## ☐ Income

- Collects information about income and tax returns, itemized deductions for health insurance premiums, tax credits, wages, other private income sources, and public assistance income.

## ☐ Priority Conditions Enumeration

- Assessment of each person's perceived physical and mental health and collects information about a select group of highly prevalent conditions, called priority conditions.

## ☐ Other Medical Expenditures

- Collects expenditure data for other medical expenditures such as glasses, ambulance, medical equipment and supplies.

# MEPS-HC: Questionnaires



## ☐ Emergency Room

- Collects information on the health conditions requiring emergency room care, e.g., medical services, surgical procedures, prescribed medicines etc.

## ☐ Home Health

- Obtains information on the types of health care workers providing home health services, reasons for home health care, the nature of home health services provided, frequency of visits, length per visits, and duration of visits.

## ☐ Hospital Stay

- Obtains information on the dates and duration of stay, types of conditions that brought person to the hospital, other conditions that were discovered and if any surgical procedures that took place during the stay.

# MEPS-HC: Questionnaires



## ☐ Medical Provider Visits

- Details on the nature of any contacts or visits, health conditions, treatments, surgical procedures, and prescribed medicines discovered or performed during the visit.

## ☐ Outpatient Department

- Details on type of care received, health conditions, treatments, surgical procedures, prescribed medicines, and the physicians and surgeons providing outpatient services.

## ☐ Prescribed Medicines

- Details on reported prescribed medicines. Information on any free samples received, condition that required this medicine, number of refills obtained, first date of use of each medicine, and name and address of the pharmacy filling the prescription.

# MEPS-HC: Self-Administered Questionnaires



- ☐ **Cancer Self-Administered Questionnaire (CSAQ) – Data in 2011/2016/2017, and 2026**
- ☐ **Diabetes Care Survey (DCS) – Once a year – Discontinued starting 2023**
- ☐ **Preventive Care Self-Administered Questionnaire (PSAQ) – Every other year (even years), R2/4**
- ☐ **Self-Administered Questionnaire (SAQ) – Every other year (odd years), R2/4**
- ☐ **Social Determinants of Health Survey (SDOH) – Data in FY2021**
- ☐ **Veteran Self-Administered Questionnaire (VSAQ) – Data in 2018/2019**

# MEPS-HC: Survey Changes



- ☐ **Periodic changes**
- ☐ **Major survey changes in 2018**
  - ☐ **Omitted sections**
  - ☐ **Added sections**
  - ☐ **Modified sections**
  - ☐ **SAQ Changes**
- ☐ **Changes due to COVID, 2020 and after**

# MEPS-HC: Survey Changes 2018

☐ Omitted sections 

☐ Condition Enumeration (CE)

☐ Disability Days (DD)

☐ Preventive Care (AP)

☐ Added sections

☐ Modified sections

☐ SAQs

☐ Changes to use and  
expenditure collection

☐ Research implications

# MEPS-HC: Survey Changes 2018

☐ Omitted sections

☐ Added sections 

☐ Additional Healthcare Questions (AH)

☐ Event Follow-up (EF)

☐ Modified sections

☐ SAQs

☐ Changes to use and expenditure collection

☐ Research implications



# MEPS-HC: Survey Changes 2018

☐ Omitted sections

☐ Added sections

☐ Modified sections 

☐ SAQs

☐ Changes to use and  
expenditure collection

☐ Research implications

☐ Health Status (HE)

☐ Priority Conditions  
Enumeration (PE)

☐ Access to Care (AC)

☐ Quality Supplement (QS)

☐ Child Health Supplement (CS)

☐ Health Insurance

☐ Income (IN)/Assets (AS)

☐ Calendar (CA)

☐ Provider Probes (PP)

# MEPS-HC: Survey Changes 2018

- ☐ Omitted sections

- ☐ Added sections

- ☐ Modified sections

- ☐ SAQs 

- ☐ SAQ

- ☐ Preventive Care  
SAQ (PSAQ)

- ☐ Changes to use and  
expenditure collection

- ☐ Research implications

# MEPS-HC: Survey Changes 2018

☐ Omitted sections


☐ Added sections

☐ Modified sections


☐ SAQs

☐ Changes to use and expenditure collection

☐ Research implications

- 
- ☐ Date Picker
  - ☐ Provider Search Tool
  - ☐ Switch Feature
  - ☐ Off-Path Feature
  - ☐ Event Driver (ED)
  - ☐ Event Detail

# MEPS-HC: Survey Changes 2018

- ☐ Omitted sections
  - ☐ Added sections
  - ☐ Modified sections
  - ☐ SAQs
  - ☐ Changes to use and expenditure collection
  - ☐ Research implications 
- ☐ Variable changes
  - ☐ Variables renamed
  - ☐ Other implications

# MEPS-HC: Survey Changes 2020 and After



## ❑ Spring 2020

- Shift to telephone interview
- Inclusion of telehealth: informal prompting of telemedicine events

## ❑ Fall 2020

- Generalized CAPI instrument to accommodate nine data collection rounds

## ❑ Spring 2021

- Telehealth questions added to provider probes
- Inclusion of Telehealth event type
- Added items related to 'Delays in care'

# MEPS-HC: Survey Changes 2020 and After



## ❑ Fall 2021

- Gradual shift back to in person interviewing

## ❑ Spring 2022

- In-person interviewing – varied geographically
- Roll out of Computerized-Assisted Video Interview (CAVI)
- MEPS data collection is now multi-mode (in-person, CAVI, and phone)

# MEPS-HC: Survey Changes

## Temporary Changes in Sample Design and Data collection

- **Panel 23 and 24**
  - extended to nine rounds
  - respondent participating in MEPS for four years
- **Panel 25 onwards**
  - back to five rounds
  - respondent participating in MEPS for two years

# MEPS-HC Changes: Research Implications



- ❑ Many variables have been eliminated, added, or modified
- ❑ Some variable labels have been changed, even though variable names are the same. Some answer categories changed or collapsed
- ❑ The value -9 NOT ASCERTAINED was removed as an allowable value and replaced with -15 CANNOT BE COMPUTED
- ❑ Temporary changes in the sample design and data collection were made
- ❑ All design changes will impact trend analysis and longitudinal research projects!
- ❑ Read the documentation carefully before starting your analysis!



# MEPS-HC: Dissemination



**<https://meps.ahrq.gov/mepsweb>**

- **Data Files**
- **Data Tools**
- **Questionnaire sections**
- **Publications**
- **Workshops and events – jworkshops, webinars, and seminars**
- **Mailing list**
- **List Serve/Discussion Forum**

# MEPS-HC: Public Use Files (PUFs)



## ☐ Full-Year Files

- Consolidated data file – contains full information for the calendar year, including expenditure and utilization data from several rounds of data collection

## ☐ Types of Files

- Person Level – Detailed person information
  - ☐ Each record represents a person and has all the person's demographics, health, income, expenses, etc.
- Event Level – Detailed event information
  - ☐ Each record represents an event, such as a hospital visit, and has all details for that visit
- Condition Level – Detailed condition information
  - ☐ Each record represents a condition; all details on that condition are on the record
- Job Level – Detailed job information
  - ☐ Each record represents a job, and all details associated with the job

# MEPS-HC Data Files: Supporting Documents

## ☐ Documentation files

- Contain general information about MEPS
- List and discuss file variables including variable-source crosswalk to link back to questionnaire items
- Include instructions on how to link files

## ☐ File codebooks

- Contain names and location of all variables
- Provide formatted frequencies for all variables

## ☐ Programming statements

- SAS, SPSS, STATA, R (2017 onwards)

## ☐ Data File in following formats

- ASCII, SAS transport, Stata, SAS V9 and XLXS (2018 onwards)

## ☐ Industry and Occupation Codes

# MEPS-HC: Data Tools



**<https://datatools.ahrq.gov/meps-hc>**

- ❑ Explore trends and cross-sectional bar charts for nationally representative estimates of household medical utilization and expenditures**
- ❑ Customize by demographic characteristics, health insurance coverage, accessibility and quality of care, treated medical conditions, and prescribed medicine purchases**
- ❑ Customize by number of people, total expenditures, prescription medicines or dental visits, source of payment (e.g., Medicare, Medicaid, Out of Pocket)**
- ❑ MEPS-HC Variable Explorer Tool: Quick and easy way to find variables and files for research purposes.**

**<https://datatools.ahrq.gov/meps-hc#varExp>**

# MEPS-HC: Data Tools



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Search Across Data Tools

Search

## Information on the health status of Americans, health insurance coverage, and access, use, and cost of health services.

### Medical Expenditure Panel Survey (MEPS) Household Component (HC)

For more information about MEPS, visit [meps.ahrq.gov](https://meps.ahrq.gov)

AHRQ Data Tools	+
Data Files	+
Educational Links	+
MEPS GitHub Repository	<a href="#">↗</a>
Publications	
Workshops	

### Explore the MEPS-HC Data Tools

The MEPS Household Component collects data on all members of sample households from selected communities across the United States. These data can be used to produce nationally representative estimates of medical conditions, health status, use of medical care services, charges and payments, access to care, experience with care, health insurance coverage, income, and employment.

The summary tables provide frequently used summary estimates for the U.S. civilian non-institutionalized population.

This tool is provided as a convenience. It is the responsibility of the user to review the results for statistical significance and overall reasonableness.

#### Use, Expenditures, and Population

Utilization, spending, and population totals by demographic attributes, event type, or source of payment.

#### Health Insurance

Number and percentage of people by insurance coverage and demographic attributes.

#### Accessibility and Quality of Care

Information on access to care, preventive care, diabetes care, and patient-reported quality of doctor's visits.

#### Medical Conditions

Utilization, spending, and number of people with care for medical conditions by demographic attributes.

#### Prescribed Drugs

Purchases and spending by prescribed drug or therapeutic class.

# MEPS-HC: Data Tools



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Search Across Data Tools

Search

**Information on the health status of Americans, health insurance coverage, and access, use, and cost of health services.**

## MEPS-HC Variable Explorer Tool

The MEPS-HC Variable Explorer Tool by AHRQ offers consumers of the Public Use Files a quick and easy way to find what they are looking for in terms of variables and files for research purposes. To begin, select a public use file subject area from below. Once the table loads, select the **Download Data** button for an accessible MS Excel version of the table. The file size will depend on parameters selected.

Direct link to variable explorer tool: <https://datatools.ahrq.gov/meps-hc#varExp>

- ☐ **Annual/Main Public Use Files (PUFS)** - Full-Year Consolidated files (FYC), FYC supplemental variables, Conditions, Jobs files, Person Round Plan, Point-in-Time files, and Event type files including the Multum Lexicon addendum files, RX-event linkage, and condition-event linkage files
- ☐ **Balanced Repeated Replicates (BRR)** - Contains 128 half-sample indicators needed to calculate standard errors using the balanced repeated replication (BRR) method
- ☐ **Employment Variables (2000-2013)** - Supplemental release of fully-imputed versions of selected employment variables
- ☐ **Food Security Files (2016-2017, 2020-2021)** - Data pertaining to food security
- ☐ **Longitudinal Data Files** - A two-year longitudinal file representing each Panel in the MEPS survey
- ☐ **Medical Organization Survey (2015-2016)** - Characteristics for usual source of care providers
- ☐ **Pooled Linkage Variance Structure** - Standardized variance strata and PSU variables for a pooled analysis.
- ☐ **Preventive Care SAQ (2014)** - Contains various person-level preventive health care data for adults

Go

Reset

# MEPS-HC: Publications



➤ **Sadeq R. Chowdhury, PhD, Steven R. Machlin, MS, Kilem L. Gwet, PhD**

**Sample Designs of the Medical Expenditure Panel Survey Household Component, 1996-2006 and 2007-2016**

[https://meps.ahrq.gov/data\\_files/publications/mr33/mr33.pdf](https://meps.ahrq.gov/data_files/publications/mr33/mr33.pdf)

➤ **Henry Olaisen, PhD, MBH, PMP, and Richard Manski, DDS, MBA, PhD**

**Dental Utilization and Expenditures, U.S. Civilian Noninstitutionalized Population Aged 2 and Older, 2019-2021**

[https://meps.ahrq.gov/data\\_files/publications/st555/stat555.pdf](https://meps.ahrq.gov/data_files/publications/st555/stat555.pdf)

➤ **Anita Soni, PhD, MBA, and Sandra Decker, PhD**

**Characteristics of Young Adults Aged 18-24 Who Had Ever Used an Electronic Nicotine Product, 2021**

[https://meps.ahrq.gov/data\\_files/publications/st554/stat554.pdf](https://meps.ahrq.gov/data_files/publications/st554/stat554.pdf)

# MEPS-HC: Confidential Data



- ❑ **Non-Public MEPS-HC Data**
  - **Has confidential information**
  - **Only available from Data Centers**
- ❑ **Non-public MEPS-HC data can be accessed through many data centers around the country**
  - **AHRQ Data Center (ADC)**
  - **Federal Statistical Research Data Centers (FSRDC)**
  - **University Data Centers**
- ❑ **Type of data that can be accessed**
  - ***Fully Specified ICD-9/10 Codes***
  - ***Date of cancer diagnosis, etc.***



# AHRQ Data Center (ADC)



## ☐ Location

- Located in Rockville, MD
- Secure room with no internet connectivity; terminal connected to secure LAN
- Users escorted while in the building

## ☐ Statistical Software

- SAS, Stata, SUDAAN, R

## ☐ Programming Support

# ADC: Procedures

- ☐ **Proposal and review – two weeks for feasibility and data availability**
- ☐ **Institutional review board (IRB) review from users' institute**
- ☐ **Sign the data use agreement**
- ☐ **Fee – \$300 one-time to cover technical assistance**
- ☐ **Researcher may bring data in, but not out**
- ☐ **Given access only to data needed for approved project**
- ☐ **Analysis must be run onsite (offsite – rarely)**
- ☐ **Tabular data reviewed for confidentiality before release**
- ☐ **ADC will store data files and outputs needed for future replication**
- ☐ **If using other data centers, users need to follow rules and pay fees as required by that data center in addition to ADC**

# MEPS Communication



## ☐ Two ways to stay in touch with MEPS

### ☐ MEPS Mailing List

- ☐ Receive emails when MEPS event/products are updated on the website:

<https://meps.ahrq.gov/mepsweb/communication/maillinglist.jsp>

### ☐ MEPS List Serve/Discussion Forum

- ☐ Provides a platform to ask questions and communicate with other MEPS users:

<https://meps.ahrq.gov/mepsweb/communication/listserv.jsp>

# MEPS-HC: Contact Information



**For MEPS questions:**

**[mepsprojectdirector@ahrq.hhs.gov](mailto:mepsprojectdirector@ahrq.hhs.gov)**

**For AHRQ Data Center questions:**

**[CFACTDC@AHRQ.HHS.GOV](mailto:CFACTDC@AHRQ.HHS.GOV)**

**For MEPS workshop or webinar questions:**

**[WorkshopInfo@ahrq.hhs.gov](mailto:WorkshopInfo@ahrq.hhs.gov)**

# Thank you!



[Anita.Soni@ahrq.hhs.gov](mailto:Anita.Soni@ahrq.hhs.gov)