



AGENCY FOR HEALTHCARE RESEARCH AND QUALITY



# Medical Expenditure Panel Survey (MEPS) OVERVIEW

Anita Soni, PhD, MBA  
March 2023

# MEPS OVERVIEW: Outline



## ☐ MEPS Basics

- ☐ Components
- ☐ Purpose
- ☐ Design and sample
- ☐ Data Collection Process

## ☐ MEPS Interview Content

- ☐ Core questionnaires
- ☐ Self-administered questionnaires

## ☐ Data Access

- ☐ Public Data
- ☐ Non-Public (Confidential Data)

# **MEPS BASICS**

**Components**

**Purpose**

**Design and sample**

**Data Collection Process**

# 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 data from a sample of families and individuals in selected communities across the United States
- ☐ Annual survey of about 15,000 households 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 solely 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-Household Component

## Purpose & Uses



- ☐ **MEPS-HC is an annual survey of about 15,000 households fielded since 1996**
- ☐ **Collects data from a sample of families and individuals in selected communities across the United States**
- ☐ **Provides data collected from individual households and their members, which is supplemented by data from their medical providers**
- ☐ **Provides nationally representative estimates of healthcare use, expenditures, sources of payment, access to care, and health insurance coverage for the U.S. civilian noninstitutionalized population**
- ☐ **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 Survey Design



- ☐ The sample is representative of the civilian noninstitutionalized population of the United States and is subsample of previous year's National Health Interview Survey (NHIS) sample.
- ☐ Since 1996, every year a new panel of sample households has been selected.
- ☐ Each Panel participates in MEPS for two years.
- ☐ There are five interview rounds to collect two years of healthcare usage data.
- ☐ Data is collected by in-person interviews using CAPI technology.
- ☐ All data is reported by a single household respondent.
- ☐ Interviews can last anywhere from 1 to 4 hours.


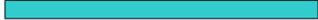


















# MEPS-HC Sample Sizes



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



# MEPS Panel Design: Data Reference Periods

|                    | 2018  |    |    |    | 2019  |    |    |    | 2020  |    |    |    |
|--------------------|---|----|----|----|---|----|----|----|---|----|----|----|
|                    | Q1  | Q2 | Q3 | Q4 | Q1  | Q2 | Q3 | Q4 | Q1  | Q2 | Q3 | Q4 |
| <b>Panel 22</b>    |   |    |    |    |   |    |    |    |   |    |    |    |
| Round 3            |  |    |    |    |   |    |    |    |   |    |    |    |
| Round 4            |  |    |    |    |   |    |    |    |   |    |    |    |
| Round 5            |  |    |    |    |   |    |    |    |   |    |    |    |
| <b>Panel 23</b>    |   |    |    |    |   |    |    |    |   |    |    |    |
| Round 1            |  |    |    |    |   |    |    |    |   |    |    |    |
| Round 2            |  |    |    |    |   |    |    |    |   |    |    |    |
| Round 3            |  |    |    |    |   |    |    |    |   |    |    |    |
| Round 4            |   |    |    |    |   |    |    |    |   |    |    |    |
| Round 5            |   |    |    |    |  |    |    |    |   |    |    |    |
| Round 6            |   |    |    |    |   |    |    |    |    |    |    |    |
| Round 7            |   |    |    |    |   |    |    |    |    |    |    |    |
| <b>Panel 24</b>    |   |    |    |    |   |    |    |    |   |    |    |    |
| Round 1            |   |    |    |    |   |    |    |    |   |    |    |    |
| Round 2            |   |    |    |    |  |    |    |    |   |    |    |    |
| Round 3            |   |    |    |    |  |    |    |    |    |    |    |    |
| Round 4            |   |    |    |    |   |    |    |    |    |    |    |    |
| Round 5            |   |    |    |    |   |    |    |    |    |    |    |    |
| <b>Panel 25</b>    |   |    |    |    |   |    |    |    |   |    |    |    |
| Round 1            |   |    |    |    |   |    |    |    |  |    |    |    |
| Round 2            |   |    |    |    |   |    |    |    |  |    |    |    |
| Round 3            |   |    |    |    |   |    |    |    |  |    |    |    |
| <b>Sample Size</b> | N = 29,415  |    |    |    | N = 27,648  |    |    |    | N = 26,847  |    |    |    |

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

# MEPS-HC Data Collection Process



- ☐ **MEPS has two cycles of data collection each year; the first in the Spring from January through June for odd numbered rounds and the second in the Fall, from July through December for even numbered rounds.**
- ☐ **In the first six months of each year, data collection is in progress for three panels: the panel beginning its first year, the panel beginning its second year, and the panel completing its final interview.**
- ☐ **With this design, MEPS produces a continuing series of annual data files on health care use and expenditures.**
- ☐ **Each annual data file contains data from two panels.**

# **MEPS Interview Content**

**Core Questionnaires**

**Self-administered Questionnaires**

# MEPS-HC Interview Content



- ❑ **MEPS Interview Content has two types of collections:**
  - ❑ **Questionnaires using CAPI**
    - ❑ **Every Round**
    - ❑ **Every Round except last**
    - ❑ **Once a year**
    - ❑ **Only in the Last round**
  - ❑ **Self-Administered Questionnaires**

# MEPS-HC: Questionnaires using CAPI



- ☐ **Following is the list of sections that are asked using CAPI in all rounds:**
  - ☐ **Demographics**
  - ☐ **Utilization and Expenditures**
  - ☐ **Charges and Payments**
  - ☐ **Employment**
  - ☐ **Health Insurance**

# MEPS-HC: Core Questionnaires



## ☐ Demographics

- ☐ Collects demographic characteristics of each person: age, sex, race and ethnicity, Language and English proficiency, marital status, foreign-born status, student status and educational attainment, military service and honorable discharge and poverty status.

## ☐ Utilization and Expenditures

- ☐ Collects data in each round on use and expenditures for office- and hospital-based care, home healthcare, dental services, vision aids, and prescribed medicines. Data are collected for each sample person at the event level (e.g., doctor visit, hospital stay).

# MEPS-HC: Core Questionnaires



- ☐ **Charges and Payments (CP)**
  - ☐ Tracks total charges and sources of payment for medical events reported in earlier sections.
- ☐ **Employment (EM)**
  - ☐ Covers questions about each person's employment or self-employment status.
- ☐ **Health Insurance (HX)**
  - ☐ Collects information about health insurance including private and public health insurance programs.

# MEPS-HC: Core Questionnaires



- ☐ **Following are asked in rounds 1-4 only**
- ☐ **Health Status (HE)**
  - ☐ **Assesses physical and mental health status for both children and adults.**
- ☐ **Priority Conditions Enumeration (PE)**
  - ☐ **Obtains a summary assessment of each person's physical and mental health and collects information about a select group of highly prevalent conditions, called priority conditions.**



# MEPS-HC: Core Questionnaires



- ☐ **Some sections are only asked once a year:**
  - ☐ **Access to Care (Rounds 2 and 4)**
  - ☐ **Child Health and Preventive Care (Rounds 2 and 4)**
  - ☐ **Income (Rounds 3 and 5)**
  - ☐ **Additional Health Questions (Rounds 3 and 5)**
  - ☐ **Assets (Round 5 ONLY)**

# MEPS-HC: Core Questionnaires

## Rounds 2 and 4



### ☐ 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 provide, and any problems experienced in obtaining needed healthcare.

### ☐ Child Preventive Health (CS)

- ☐ 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: Supplemental Sections Rounds 3 and 5



## ☐ **Income (IN)**

- ☐ Collects information about income and tax returns.

## ☐ **Additional Health Questions (AH)**

- ☐ Questions assess 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.

## ☐ **Assets (AS)**

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

# MEPS-HC: Self-Administered Questionnaires



- ☐ **Diabetes Care Survey (DCS)**
- ☐ **Adult Self-Administered Questionnaire (SAQ)**
- ☐ **The Preventive Care Self-Administered Questionnaire (PSAQ)**
- ☐ **Veteran Self-Administered Questionnaire (VSAQ)**
- ☐ **Cancer Self-Administered Questionnaire (CSAQ)**

# Diabetes Care Survey (DCS)



- ☐ The DCS is given once a year in rounds 3 and 5 to each person identified as having diabetes.
- ☐ Short survey with 14 questions.
- ☐ Question include the following:
  - ☐ Diabetes caused problems with your kidneys?
  - ☐ Diabetes caused problems with your eyes?
  - ☐ When did you have an eye exam in which your pupils were dilated?
  - ☐ When did you have a health professional check your feet for any sores or irritations?
  - ☐ How is your diabetes being treated?

# Adult Self-Administered Questionnaire (SAQ)



- ❑ **Administered once a year (rounds 2 and 4)**
- ❑ **Questions include the following:**
  - ❑ **Satisfaction with healthcare—Consumer Assessment of Healthcare Providers and Systems (CAHPS)**
  - ❑ **Health status—Veterans RAND 12-Item Health Survey (VR-12)**
  - ❑ **Nonspecific psychological distress—Kessler Psychological Distress Scale (K6)**
  - ❑ **Patient Health Questionnaire-2 (PHQ-2)**
- ❑ **The SAQ has been administered every other year since 2018.**

# The Preventive Care Self-Administered Questionnaire (PSAQ)



- ☐ The PSAQ was fielded for the first-time during Panel 18 Round 5 of the 2014 MEPS. The questionnaires were administered in early 2015.
- ☐ The PSAQ collects a variety of person-level preventive healthcare data for adults.
- ☐ There are separate versions of the survey for males and females.
- ☐ Since 2018, the PSAQ has been administered every other year in rounds 2 and 4.
- ☐ PSAQ for 2020 has additional Mental Health questions.

# Veteran Self-Administered Questionnaire (VSAQ)



- ☐ The VSAQ was administered to eligible veterans in rounds 3 and 5.
- ☐ VSAQ data is included in 2018 and 2019 consolidated data files.
- ☐ VSAQ has a total of 34 questions.
- ☐ Collected information related to the veteran's:
  - ☐ Health conditions
  - ☐ Any healthcare services used from the U.S. Department of Veterans Affairs (VA), outside of the VA, or neither
  - ☐ Veteran's choice of care, such as cost or location
  - ☐ Receipt of healthcare from specialists



# Cancer Self- Administered Questionnaire (CSAQ)



- ❑ The 2011 CSAQ was developed and administered to the respondents identified as having cancer with questions about the burden of cancer, long-lasting effects of the disease, financial impacts, and employment outcomes for cancer survivors and their families (93 questions).
- ❑ The CSAQ was updated and administered for data year 2016 (62 questions).
- ❑ The 2016 version of the CSAQ was administered in 2017.

# MEPS-HC: Caveats and Limitations



- ❑ **Sample size limitations preclude some analyses.**
- ❑ **Typically, one respondent provides data for the entire household.**
- ❑ **Household respondents may not be able to report certain types of information accurately, e.g., health plan, diagnoses etc.**

# **MEPS Data Access**

**Public Data**

**Non-Public Data**

# MEPS Website



## ☐ MEPS Website

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

## ☐ Materials on the MEPS website:

- Data Files
- Data Tools
- Questionnaires
- Publications
- Workshops and events—workshops, webinars, and seminars
- Mailing list

# Data Access

## ☐ Public Data

- ☐ Available on MEPS Website
- ☐ Data Files
- ☐ Data Tools

## ☐ Non-Public Data

- ☐ Has confidential information
- ☐ Only available from Data Centers

# MEPS-HC: Data Files for Public Use (PUFs)



- ☐ **Full-Year Files**—Contain expenditure and utilization data for the calendar year from several rounds of data collection
  
- ☐ **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 on conditions, expenditures, etc., for that visit.
- ☐ **Condition Level**—Detailed condition information
  - Each record represents a condition; all details on that condition are on that record.
- ☐ **Job Level**—Detailed job information
  - Each record represents a job and all details associated with it.

# MEPS-HC: Data Files for Public Use (PUFs): 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 in the file

## ☐ 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



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



# Data Centers

- ❑ **Purpose - provide researchers access to non-public use MEPS data (except directly identifiable information)**
  - *Examples: State and County FIPS Codes, Non-Public Use Data Elements: Fully Specified ICD-9/10 Codes; Date of cancer diagnosis, etc.*
- ❑ **Access: data can be accessed through many data centers around the country.**
  - AHRQ Data Center (ADC)
  - Federal Statistical Research Data Centers (FSRDC)
  - University Data Centers

# AHRQ Data Center



## ☐ Location

- ☐ Located in Rockville, MD at AHRQ building
- ☐ 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

# AHRQ Data Center: Procedures



- ❑ **Proposal and review—two weeks for feasibility and data availability.**
- ❑ **Requirements—institutional review board (IRB) review from users' institute; signing the data use agreement; and \$300 one-time fee to cover technical assistance.**
- ❑ **Other General Rules:**
  - ❑ **Researcher may bring data in, but not out; given access only to data needed for approved project; run analysis—onsite or offsite (rarely).**
  - ❑ **All tabular data is reviewed for confidentiality before release — only approved tables can leave the data center.**
  - ❑ **ADC will store data files, foreign merge files, and all outputs needed for replication—may be accessed remotely in special circumstances.**
  - ❑ **If MEPS data is accessed through any other data center, users are expected to follow rules and pay fees required by that data center in addition to ADC.**

# MEPS Contact Information



**For any MEPS questions:**

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

**For AHRQ Data Center:**

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

**For MEPS workshops or webinars:**

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

# Thank you!



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