Medical Expenditure Panel Survey

SURVEY OVERVIEW

MEPS History

- 1977 National Medical Care Expenditure Survey
- 1987 National Medical Expenditure Survey
- 1996 Medical Expenditure Panel Survey

The Medical Expenditure Panel Survey, or MEPS as it is commonly called, is the third in a series of national probability surveys conducted by AHRQ on the financing and utilization of medical care in the United States.

The National Medical Care Expenditure Survey (NMCES) was conducted in 1977, and the National Medical Expenditure Survey (NMES) in 1987. The MEPS was initiated in 1996 and continues to be fielded annually.

Although the modes of data collection and instrument design have changed considerably over the last 20 years, every effort was made to maintain a core set of critical data elements to facilitate longitudinal analysis.

Medical Expenditure Panel Survey (MEPS-HC)

Annual Survey of 15,000 households:

provides national estimates of health care use, expenditures, insurance coverage, sources of payment, access to care and health care quality

Permits studies of:

- **Distribution of expenditures and sources of payment**
- **Role of demographics, family structure, insurance**
- **Expenditures for specific conditions**
- **Trends over time**

MEPS is primarily designed to provide nationally representative data on the types of health care Americans use, how frequently they use them, how much is paid for the services and the sources of payments.

MEPS supports distributional estimates of expenditures. For example, in 2004 the top 1% of the population accounted for 23% of total expenditures, while the bottom 50% of the population accounted for only 3% of total expenditures.

MEPS also provides information on the types and cost of private health insurance available to and held by the U.S. population, and can be used to examine the association of demographics and expenditures and can track trends over time.

MEPS Survey Components

- **MEPS-HC -- Household Component**
- **MEPS-MPC -- Medical Provider Component**
- **MEPS-IC -- Insurance Component**

The MEPS is a family of surveys that collect health care information about the U.S. heath care system. It consists of :

(1) **MEPS-HC** -- **a household survey** of the civilian non-institutionalized population.

(2) **MEPS-MPC -- a survey of medical providers**; doctors, hospitals and home health agencies; directly linked to respondents in the household survey. During the HC survey permission is obtained from respondents to contact medical providers, who are contacted by telephone to provide information that household respondents can't provide accurately. Information is collected on dates of visit, diagnosis and procedure codes, charges and payments. The MPC is not designed to yield national estimates. It is primarily used as an imputation source to supplement/replace household reported expenditure information.

(3) **MEPS-IC -- an independent survey of employers and unions** not linked to the household survey. The sample for the MEPS-IC includes about 45,000 establishments drawn from a Census Bureau frame. The data supports national and state-level estimates for all 50 states.

MEPS-Household Component (HC) Survey Design

- **Sub-sample of respondents from the previous year's National Health Interview Survey (NHIS), sponsored by NCHS**
- **Representative of the civilian non-institutionalized population of the US**
- **5 in-person interviews over 2 ½ year period using CAPI technology.**
- **Person and family level data collected**
- **Interviews average 90 minutes with a range of one to four hours**

The MEPS sample is a sub-sample of respondents from the previous year's NHIS, sponsored by NCHS. The National Health Interview Survey is based on a stratified multistage sample design. In the first stage primary sampling units are selected and consist of counties or groups of counties. In the second stage area segments are selected within the primary sampling units (PSU's), and finally, housing units are selected within the area segments. This design is representative of the civilian non-institutionalized population of the US.

The MEPS is administered through 5 in-person interviews over a 2.5 year period using Computer Assisted Personal Interviewing (CAPI) technology. Both person and family level data are collected. Interviews average 90 minutes and have a range of one to four hours, depending on the number of persons in the household and their health care utilization.

Oversampling in MEPS

- **Blacks and Hispanics every year: carryover from NHIS**
  - **Additional over sampling of blacks in 2004**
- **1997: Selected subpopulations**
  - **Functionally impaired adults**
  - **Children with activity limitations**
  - **Adults 18-64 predicted to have high medical expenditures**
  - **Low income**
  - **Persons 65 and older**
- **Low income in 2002 and beyond**
- **Asians in 2002 and beyond**
  - **Carryover from NHIS from 2007 and beyond**

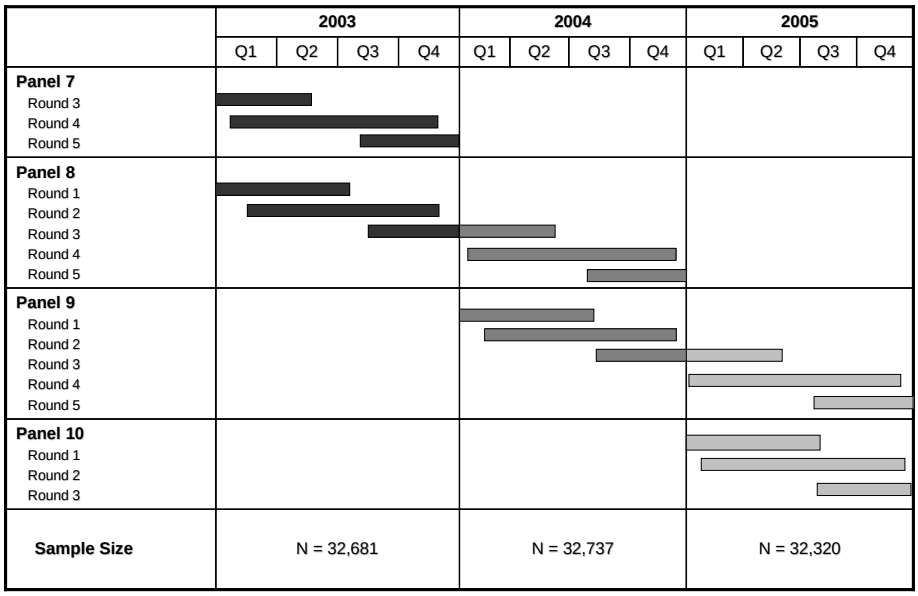
Over sampling is a feature of the MEPS sample design, helping to increase the precision of estimates for some population subgroups of policy interest. Sample weights ensure that population estimates are not distorted by a disproportionate contribution from over sampled subgroups.

The over sampling of Hispanic and Black households in the NHIS carries over to the MEPS. In the NHIS, Hispanic households were over-sampled at a rate of roughly 2 to 1. That is, the probability of selecting a Hispanic household for participation in the NHIS was roughly twice that for households in the general population that were not over-sampled. The over-sampling rate for black households was roughly 1.5 to 1.

The 1997 MEPS included an over sample for several subgroups.

For 2002 and beyond the MEPS includes an over sample for low income and Asian persons.

MEPS Panel Design: Data Reference Periods



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

Overlapping Panel Design

Each year a new panel is initiated and followed for 2 1/2 years through 5 in person interviews

•Since not all interviews can be conducted on the same day, reference periods can vary in length from 2-6 months. The Round 1 reference period goes from January 1st to the day of the first interview. Subsequent interviews cover the time frame since the previous interview. The Round 5 reference period ends on December 31st.

•Since response rates tend to decline over time, the yearly MEPS data files combine data from the second year of a panel with data from the first year of a new panel to maximize the response rate.

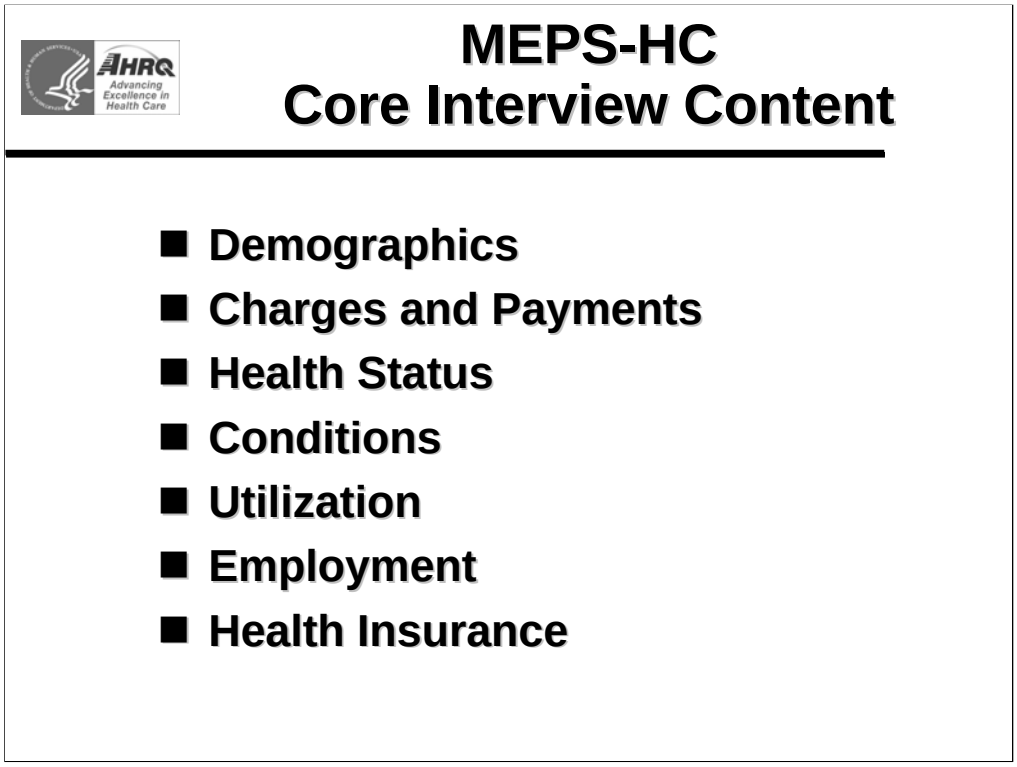
•For each panel Rounds 1, 2, and part of 3 comprise year 1; and part of Round 3, Round 4, and Round 5 comprise year 2

•This cycle is repeated each year. Subsequent panels can be combined to produce more precise estimates, or compared to monitor changes in health care utilization and expenditures over time.

MEPS-HC Sample Sizes

Year	Families	Persons
1996	8,655	21,571
1997	13,087	32,636
1998	9,023	22,953
1999	9,354	23,565
2000	9,515	23,839
2001	12,852	32,122
2002	14,828	37,418
2003	12,860	32,681
2004	13,018	32,737
2005	12,810	32,320

The MEPS sample sizes range from 8,655 in 1996 to 14,828 in 2002. Since 2001 the number of households for each sample year has consistently been above 12,000.



At each interview MEPS-HC collects detailed data on :

Demographic Characteristics--including age, race/ethnicity, sex, marital status and family relationships.

Charges and Payments—by payer source.

Health Status-- including overall physical and mental health status, and activity and functional limitations

Conditions – including a list of priority conditions

Utilization data for all hospital visits, including ER, inpatient and outpatient visits, physician services, home health care, and prescribed medicines.

Employment data for all persons 16+ including employment status and information about each job held such as hours worked, job tenure, wages, types of business and whether HI was offered.

Health Insurance --both private and public health insurance status throughout the reference period and for each month, who the policy holder is, and the source of coverage (employer sponsored or privately purchased). We also collect information about who is covered, whether or not the policy is through an HMO, self or family coverage, and if health insurance was available from the employer, whether or not the person elected coverage.

MEPS- HC Supplemental CAPI Sections

Sections asked in rounds 2 and 4:

- **Access to care**
- **Child preventive health**
- **Satisfaction with health plans & providers**

Sections asked in rounds 3 and 5:

- **Assets** (round 5 only)
- **Income**
- **Preventive Care**
- **Priority conditions**

Supplemental sections are asked once a year and tend to focus on areas of policy interest.

Sections asked in rounds 2 and 4 are:

Access to care-- whether persons have a usual source of care, reasons for not having a usual source of care and difficulties in obtaining care, including language barriers.

Child preventive health includes a series of questions about the amounts and types of preventive care a child may receive when going to see a health care provider. Questions vary depending on the age of the child. Other measures include Consumer Assessment of Health Plans (CAHPS) measures on health care received in the last year, the Columbia Impairment Scale for measuring behavior and relationships, the Living with Illness Measure to quantify resistance to illness and health needs due to a condition, and questions to identify children with special health care needs.

Satisfaction--with usual source of care, health plans, and choice of providers.

Sections asked in rounds 3 and 5 are:

Assets – asked in round 5 only

Income--amounts and types of income

Preventive Care questions are asked for each person primarily about the receipt of preventive care or screening examinations. Questions vary by age and gender subgroups.

Priority conditions -- Unlike other MEPS condition data that is conditioned on the reference year, this information is asked in the framework of "Did a doctor or health professional ever tell you that you had (condition)?" The conditions enumerated in this section are not added to the condition roster. Conditions include Sore throat, Diabetes, Asthma, Hypertension, Heart Disease, Arthritis, Joint pain, Stroke, and Emphysema. These conditions were selected because (1) they are relatively prevalent and (2) generally accepted standards for appropriate clinical care have been developed.

Priority Conditions

- **Diabetes**
- **Asthma**
- **Hypertension**
- **Ischemic Heart Disease**
- **Arthritis**
- **Stroke**
- **COPD**

To help inform the Congressionally mandated National Healthcare Quality Report a battery of questions was added to identify persons with certain priority conditions. Unlike other MEPS condition data that is conditioned on the reference year, this information is asked in the framework of "Did a doctor or health professional ever tell you that you had…..?" The conditions enumerated in this section are not added to the condition roster.

The criteria used to select the conditions to include were:

Sufficient prevalence to support reliable estimates

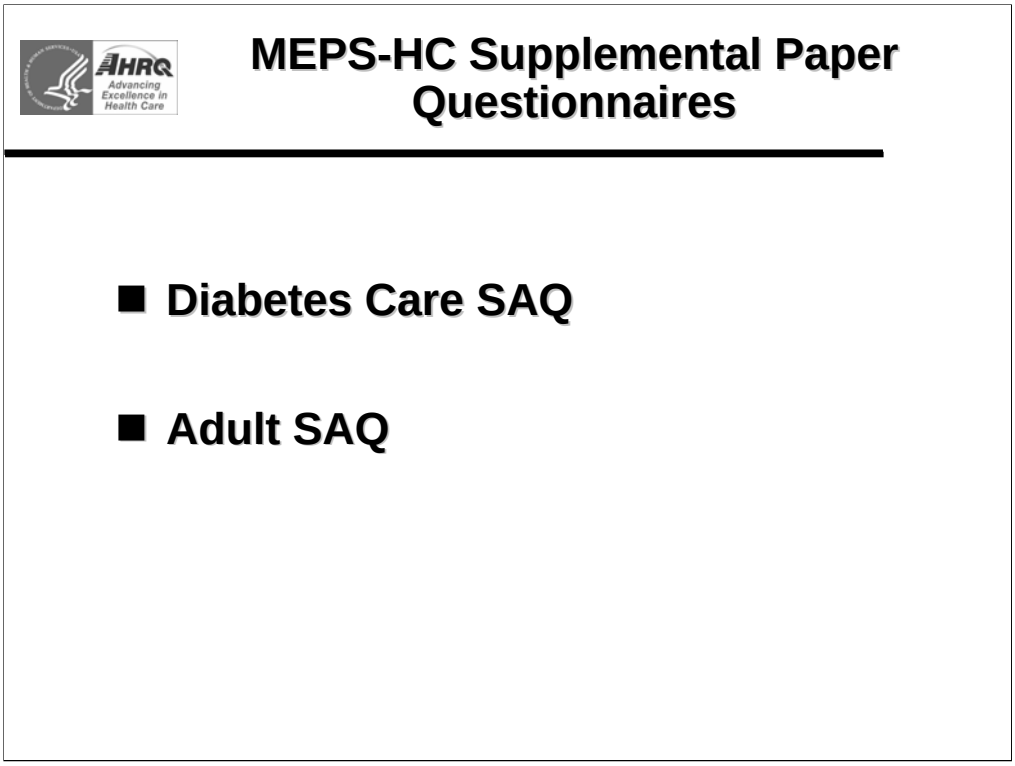
•The ability of a household respondent to accurately report

•Availability of evidence based quality measures

•Level of medical expenditures for treatment of condition

•Availability of diagnostic questions used in other national surveys

•These conditions are reviewed periodically and will be subject to future enhancement and/or rotation.



For persons identified as having Diabetes, a follow-up Diabetes specific SAQ is administered once a year. Questions are asked about whether or not they received recommended treatment to monitor their condition, for example a dilated eye exam, foot exam, and A1c test.

•Starting in 2000 an adult SAQ is fielded once a year for each adult in the household. This questionnaire collects information on quality of care, health status, and outcomes. The focus is on information that needs to be self reported such as self assessments, height /weight , opinions about health care issues , and items that may be of a sensitive nature. The Adult SAQ contains patient satisfaction and accountability measures from the Consumer Assessment of Health Plans (CAHPS), the SF-12 physical and mental health assessment tool, and attitude items. In 2000-2003 the EuroQol 5 (EQ-5D) dimensions with visual scale was included in the SAQ. Starting in 2004 the K-6 Kessler mental health distress scale and Patient Health Questionnaire two item depression scale (PHQ-2) were added.

MEPS-HC Caveats and Limitations

- **Sample size limitations preclude some analyses**
- **Household respondents may not be able to report accurately certain types of information**
  - **type of health plan**
  - **detailed event information**
  - **diagnoses**
  - **limited capacity to produce state level estimates**

Even after pooling several years of MEPS data, sample size limitations and confidentiality restrictions make MEPS data unsuitable for certain types of analysis. For example, the MEPS data do not support research on rare conditions.

All MEPS data is reported by 1 designated household respondent. Reporting detailed information on other household members can sometimes be problematic.

The MEPS was not designed to produce state level estimates. While aggregate estimates for a selected number of large states may be possible, confidentiality restrictions preclude putting state identifiers on public use files.

Sub-national Analysis

- **Supports state estimates: Direct state level estimates of cost, coverage and use for the largest states. Tables for 2003 and 2004 can be found on the web site.**
- **Supports metro area estimates: Direct MSA level estimates of cost, coverage and use for the largest metropolitan areas.**

Types of MEPS-HC Files

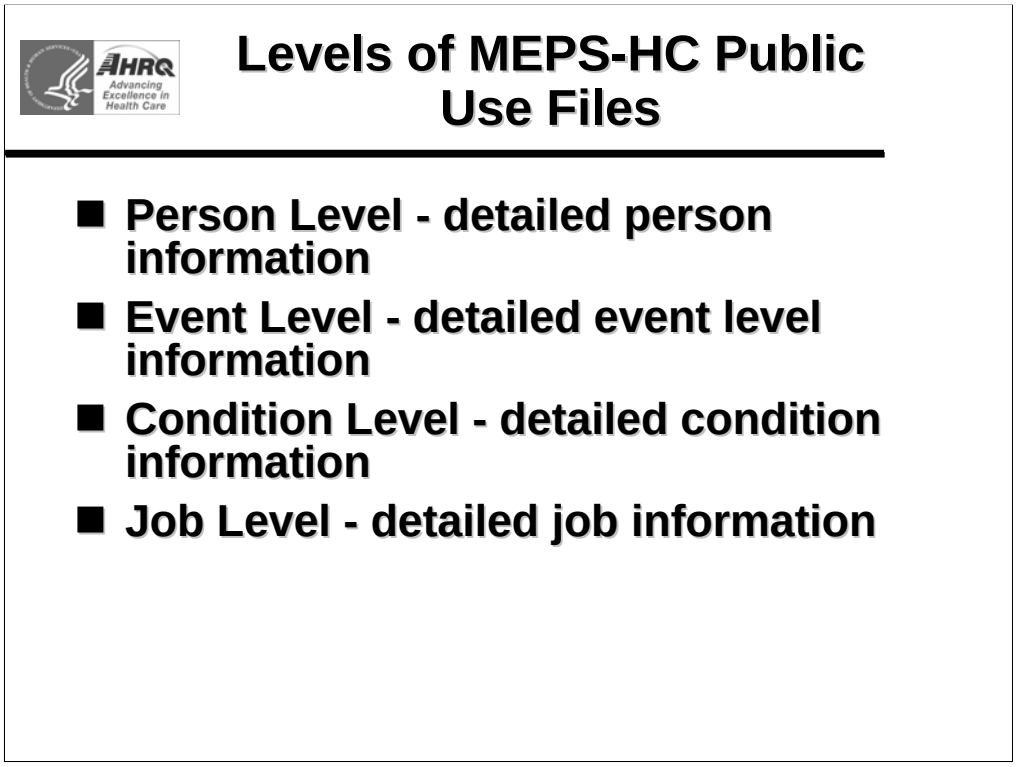
- **Full-year Files - calendar year data**
- **Point-in-time Files - snap shot first part of year**

A series of calendar year specific MEPS public use data files (PUF's) are produced annually. Each of these files include full-year information from several rounds of data collection which together comprise a complete calendar year's worth of information. Full-year data files vary in structure depending on the nature of file content. Files are produced at the person level, event level, condition level, and job level. These files all contain data from the second year of a continuing panel with the first year of a new panel. The person identifier (DUPERSID) remains the same for a person for their entire duration in the survey. All data for a particular person across all files can be linked using this variable.

In addition to full-year files, MEPS also releases point-in-time files

Point-in-time files are files which produce a snap-shot of what is going on at a fixed point-in-time (Round 3 of a finishing panel and Round 1 of a new panel) . In the case of MEPS files, the point-in-time represents the first part of the calendar year. These files contain minimal data elements and are primarily intended to give analysts an early glimpse of what the full-year insurance estimates will likely be.

A file that standardizes Strata and PSU's across years is available to facilitate the pooling of multiple years of data, and longitudinal weight files are available to facilitate the analysis of both years of a particular panel.



MEPS data are released at several different levels.

Person level files -- are files where each record on the file represents a person. On person level files a record includes characteristics associated with each person, for example age, race, or sex.

MEPS releases 8 types of event files -- hospital stays, emergency room, out-patient department, medical visits, home health, dental, prescribed medicines, and other medical expenditures; each record represents a unique provider event; includes only characteristics of the event. For example, on the prescribed medicine event file the drug name, quantity, and strength would be included on the record.

Condition file -- each record represents a unique condition reported for a particular person by the household respondent. Each record includes characteristics associated with the condition for example ICD-9 code, and whether the condition was caused by an accident or injury.

Job file -- each record represents a unique job held by a household respondent 16 years old and older and includes characteristics of the job such as wages, industry, and occupation .

For event, job and condition level files a person may be associated with one record, several records, or not at all. For example, if a person does not report any condition in a particular year, they will not have any records on the condition file. It should be noted that if a person reports multiple episodes of an acute condition over the course of a year, multiple records will exist for that condition on the condition file.

All of the MEPS files for a particular year are linkable to each other. Linking information is provided as part of the documentation for each public use data file.

MEPS Medical Provider Component (MPC) Sample

- All hospitals (and associated doctors), emergency rooms, and out-patient departments used by respondents
- All home health agencies
- All pharmacies
- A sample of office-based physicians

MEPS Medical Provider Component (MPC) - Purpose

- Compensate for household item non-response
- Accuracy and detail
- Imputation source
- Methodological studies

MEPS: Pharmacy Component

- **8000 pharmacies sampled**
  - **data on prescribed medicines purchased by households**
- **Data obtained:**
  - **Medication Name**
  - **National Drug Code (NDC)**
  - **Quantity Dispensed**
  - **Strength and Form**
  - **Sources of Payment**
  - **Amount Paid by Each Source**

AHRQ also has an agreement with Multum Lexicon to include their therapeutic class information on the prescribed medicine public use files.

MEPS Insurance Component (IC)

- **An independent survey of employers and unions not linked to the household survey**
- **The sample contains information from about 45,000 establishments drawn from a Census Bureau frame and supports national and state-level estimates for all 50 states.**
- **Data released in tabular form on the MEPS web site**

To complement the data collected in the MEPS-HC, an independent survey of employers and unions is conducted each year to collect information about employer sponsored health insurance.

The approximately 45,000 establishments participating in the MEPS-IC are selected through 2 sampling frames:

A Bureau of the Census list frame of private sector business establishments (Business Register) and The Census of Governments from the Bureau of the Census. Data from these two sampling frames are used to produce annual national and state estimates of the supply and cost of private health insurance available to American workers.

MEPS-IC Purpose

- **Employer-sponsored Health Insurance**
  - **Availability**
  - **Enrollment**
  - **Benefit and payment provisions**
  - **Cost**

The purpose of the MEPS-IC is to measure:

Availability – how many employees are offered health insurance

Enrollment – how many employees take-up any offered insurance

Benefit and payment provisions – services covered and copays or deductibles.

Cost – to both employer and employee

Since IC data is collected under Census Bureau Authority, public use data is limited to tables posted on the MEPS web site.