



## Health Care Cost Measurement: Enhancing analytic capacity with micro-level data

---

Steven B. Cohen PhD



# Significance of the Issue

---

Health care expenditures:

- Nearly one-sixth of the U. S. GDP
- Rate of growth exceeds other sectors of the economy
- Rate of growth increasing after recent moderation
- Expenditure distribution is highly concentrated
- Among the largest components of the Federal and states' budgets
- Cost containment of continuing concern to private and public payers



# NHEA Capacity

---

**National estimates on:**

- Health expenditures by type of service/good consumed**
- Who funds and sponsors this care**
- Which age group receives this care**

**NHEA data supports measures of average spending per person, or on a per enrollee (relevant to Medicare, Medicaid, and Private Health Insurance) basis**

**Comparable statistics across every year in the time series**



# Need for Micro-level data to inform trends in medical care costs

Impact of economic and behavioral factors, payment and individual demand on health care service utilization and expenditures

- Distribution of expenditures, concentration and persistence of high levels
- Expenditures for chronic conditions: **focus on patients with multiple chronic conditions**
- Trends in prescription medication expenditures by drug class



# Need for Micro-level data to inform trends in medical care costs

- Primary drivers of increase in costs
  - Technological innovations (e.g. new drugs)
  - Variations by market
  - Variation in expenditures for comparable health services or medical conditions
  - Trade-offs among types of services (e.g. drugs vs. hospitalizations)
- Trends in out-of-pocket spending and impact on family financial burden
- Impact on expenditures of extended durations of uninsurance



# MEPS Medical Expenditure Panel Survey

[Home](#) | 
 [FAQs](#) | 
 [Search](#) | 
 [Site Map](#)

## About MEPS

- [Survey Background](#)
- [Workshops & Events](#)
- [Data Release Schedule](#)
- [Información en español](#)

## Survey Components

- [Household](#)
- [Insurance/Employer](#)

## Data and Statistics

- [Data Overview](#)
- [MEPS Topics](#)
- [Publications](#)
- [Summary Data Tables](#)
- [MEPSnet Query Tool](#)
- [Download Data Files](#)
- [Data Center at AHRQ](#)

## Communication

- [What's New](#)
- [Mailing List](#)
- [Discussion Forum](#)
- [Survey Participants](#)
- [Contact MEPS](#)

## Welcome to MEPS

The Medical Expenditure Panel Survey (MEPS) is a set of large-scale surveys of families and individuals, their medical providers, and employers across the United States. This Web site lets you access the results of these surveys. Here you will find detailed information on health care utilization and expenditures, health insurance, and health status, as well as a variety of demographic, social, and economic characteristics of a representative sample of Americans. You can review and download public use microdata files, access MEPS data presented in a tabular format, analyze MEPS data using online tools, and read and download a variety of analytic publications.

## What's New highlights

### New publications

Hospital emergency room visit expenses: The average expense for an emergency room visit in 2003 was highest for persons age 45?64 and lowest for children under 18 years of age. [more...](#)

Top five therapeutic classes of prescription drugs: In 2003, the top five therapeutic classes for adults when ranked by total expenses for prescription drugs were cardiovascular agents, hormones, central nervous system agents, antihyperlipidemic agents, and psychotherapeutic agents. [more...](#)

### New data files

The MEPS Panel 7 Longitudinal Weight File has been released. [more...](#)

To see a list of all the latest items posted on our Web site, [click here](#).

## MEPS topics

- [Access to Health Care](#)
- [Child Health](#)
- [Children's Insurance Coverage](#)
- [Chronic Condition](#)
- [Health Care Costs](#)
- [Health Care Disparities](#)
- [Health Insurance](#)
- [Long-Term Care for the Elderly](#)
- [Medicaid/Public Insurance](#)
- [Medicare](#)
- [Mental Health](#)
- [Minority Health](#)
- [Obesity](#)
- [Prescription Drugs](#)
- [Projected Data](#)
- [Quality of Health Care](#)
- [The Uninsured](#)
- [Women's Health](#)

## New to MEPS?

Select a profile to find information about using the MEPS Web site that best suits your needs:

- [General user](#)
- [Researcher](#)
- [Policymaker](#)
- [Survey participant](#)
- [Media representative](#)

[Contact MEPS](#) | 
 [Accessibility](#) | 
 [Privacy Policy](#) | 
 [FirstGov](#)



# Medical Expenditure Panel Survey (MEPS)

## 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 Components

---

- Household Component (HC)
- Medical Provider Component (MPC)
- Insurance Component (IC)





# Importance of High Expenditure Sample in the MEPS

---

Special attention to sample with high expenditures: Top 1% account for ~25% of total

- Decedents, admissions to LTC, lengthy hospitalizations
- Mortality estimates adjusted to national counts; nursing home admissions adjusted to more precise survey estimates
- Significant impact on precision of overall survey estimates



# Medical Provider Component

---

## Purpose

- Compensate for event level expenditure item nonresponse
- Gold standard for expenditure estimates
- Greater accuracy and detail
- Imputation source
- Supports methodological studies



# Medical Provider Component

---

## Targeted Sample

- All associated hospitals and associated physicians
- All associated office-based physicians
- All associated home health agencies
- All associated pharmacies

## Data Collected

- Dates of visit
- Diagnosis and procedure codes
- Charges and payments



# MPC: Correction Source for Item Nonresponse

## Source for event level expenditures

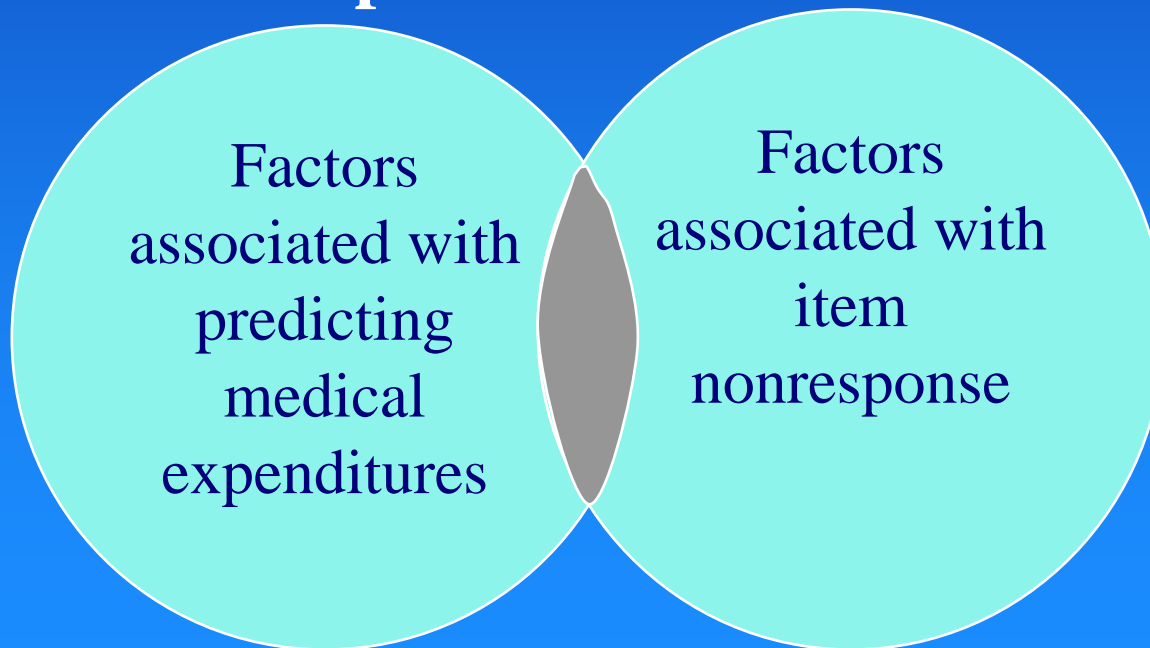
<i>Household</i>	<i>Provider</i>	<i>MEPS value - <math>Y_{ij}</math></i>
<i>Reported</i>	<i>reported</i>	$Y_{ij} = \text{Provider } \$_{ij}$
<i>Nonresponse</i>	<i>reported</i>	$Y_{ij} = \text{Provider } \$_{ij}$
<i>reported</i>	<i>nonresponse</i>	$Y_{ij} = \text{Household } \$_{ij}$
<i>nonresponse</i>	<i>nonresponse</i>	$Y_{ij} = \text{Imputed } \$_{ij}$

<sup>1</sup>Recalibrated as necessary based on analyses of concordance between sources

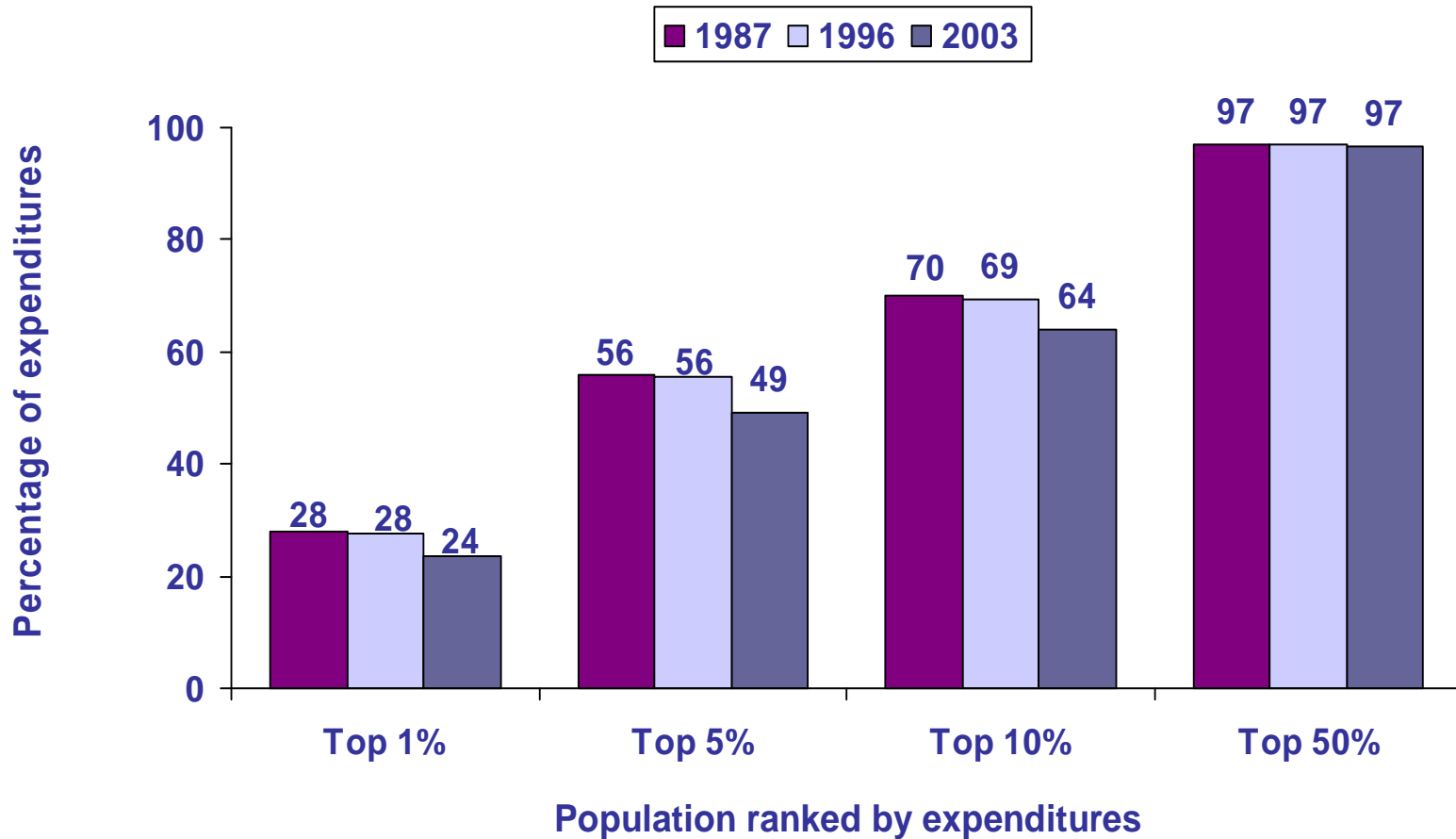
# Determination of Factors for Expenditure Imputation

**Hot Deck Imputation:**

**Classification Variables for Donors and Recipients**



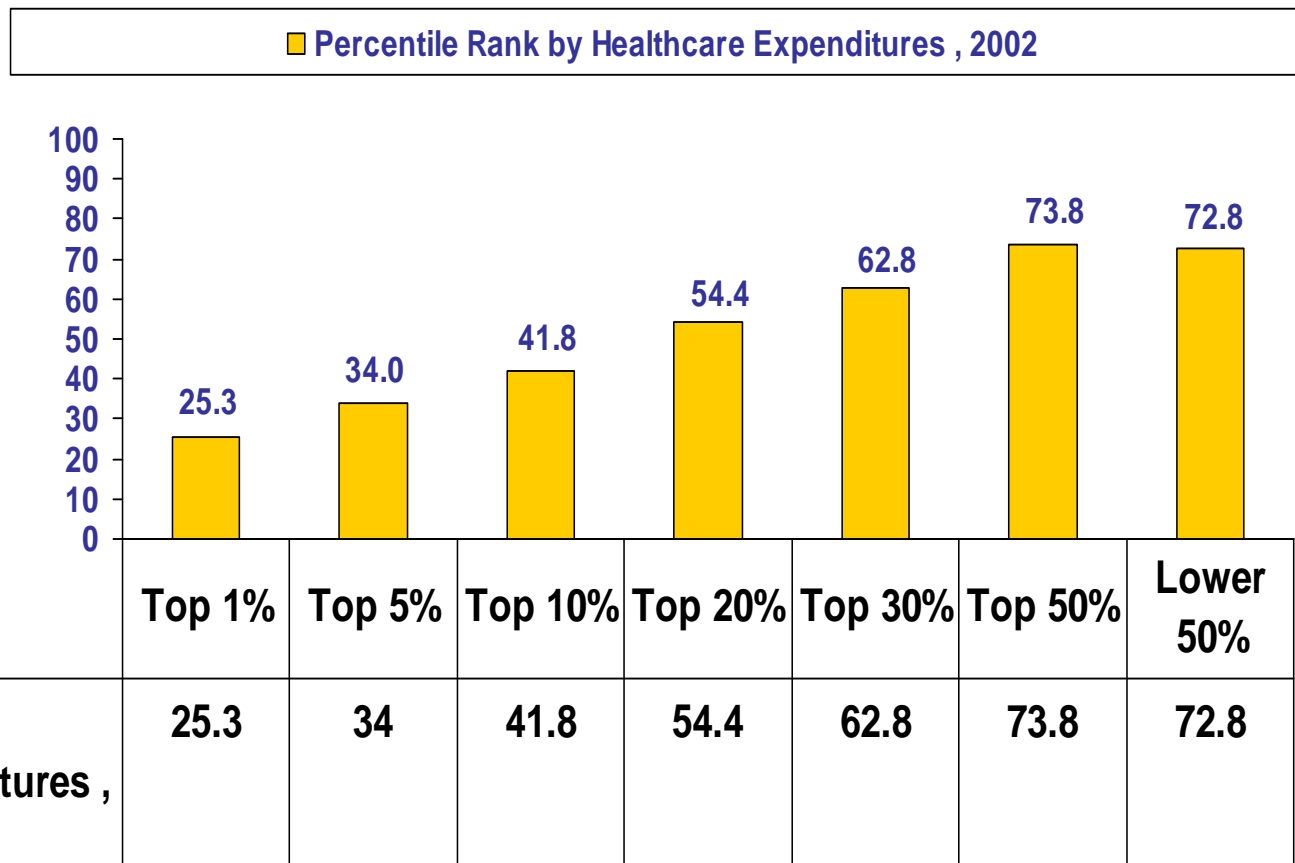
# Figure 1. Concentration of health care expenditures in the U.S. civilian noninstitutionalized population



Source: Center for Financing, Access, and Cost Trends, AHRQ, National Medical Expenditure Survey, 1987, and Household Component of the Medical Expenditure Panel Survey, 1996 and 2003



# Persistence in Level of Health Care Expenditures, U.S. civilian non-institutionalized population, 2002 to 2003



Source: Center for Financing, Access, and Cost Trends, AHRQ, Household Component of the Medical Expenditure Panel Survey, HC-079 (2003), HC-082 (2004), and HC-086 (Panel 8)



# Recent Collaborations

## CDC, Medicaid Chronic Disease Directors and National Pharmaceutical Council



- Effort focused on the burden and costs of chronic disease.
- MEPS to quantify medical costs for high prevalence chronic diseases.
- Toolkit: **Development of Medicaid Chronic Disease Cost Calculator-State specific estimates based on MEPS data**