The Concentration of Health Care Expenditures in the U.S. and the Impact of Attitudes on Future Spending Levels

Steven B. Cohen PhD
Purpose of Discussion

- Need for essential data on health care expenditures to inform health care policy and practice
- Discussion of the concentrated and dynamic nature of medical expenditure distributions over time
- Utility of the Medical Expenditure Panel Survey (MEPS) to inform these analyses
Purpose of Discussion

• Demand for predictive models to identify future high medical cost individuals for disease management protocols and to facilitate oversampling in surveys
• Importance of consideration of healthcare preference measures
Health care expenditures:
• Over one-sixth of the U. S. GDP
• Rate of growth exceeds other sectors of the economy
• Recent moderation in rate of growth
• Expenditure distribution is highly concentrated and subject to visible transitions over time
• Among the largest components of the Federal and states’ budgets
• Cost containment of continuing concern to private and public payers
Most Recent Cost Statistics

- In 2013 total expenditures = $2.9 trillion
  - 17.4% of GDP
  - 3.6% increase over 2012
  - growth remained slow
  - $9,255 per capita
- Projected to be ~20% of GDP in next decade

Source: Health Expenditure Accounts Team, Health Affairs, January 2014
Data resources:

**Annual Survey of 14,000 households:**
provides national and state estimates (most populous) 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
HC - Purpose

- Estimates annual health care use and expenditures
- Provides distributional estimates
- Supports person and family level analysis
- Tracks changes in insurance coverage and employment
- Longitudinal design; linkage to National Health Interview Survey (NHIS)
Key Features of MEPS-HC

• Survey of U.S. civilian noninstitutionalized population
• Sub-sample of respondents to the National Health Interview Survey (NHIS)
• Oversample of minorities and other target groups
• Panel Survey – new panel introduced each year
  ► Continuous data collection over 2 ½ year period
  ► 5 in-person interviews (CAPI)
  ► Data from 1st year of new panel combined with data from 2nd year of previous panel
Analytic focus on 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 medications by drug class
Distribution of health expenditures for the U.S. population by magnitude of expenditure and mean expenditures, 2012

Total = 1.351 Trillion

<table>
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<tr>
<th>Percentage</th>
<th>U.S. Population</th>
<th>Health expenditures</th>
<th>Mean expenditures</th>
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<td>$14,944</td>
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<td>25%</td>
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<td>$7,124</td>
<td>$1,781</td>
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Source: Center for Financing, Access, and Cost Trends, AHRQ, Household Component of the Medical Expenditure Panel Survey, 2012
Characteristics that Influence High Levels of Expenditures

- Chronic condition(s): heart disease, cancer, mental disorders, COPD, diabetes
- End of life care
- In-patient care, unnecessary re-admissions
- Medical errors
- Overuse of healthcare services
- Obesity
Distribution of health care expenditures and mean expenditures for U.S. population by age, 2012

Figure 2a. Distribution of health care expenditures by age

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Top 5%</th>
<th>Top 10%</th>
<th>Top 25%</th>
<th>Top 50%</th>
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<td>$63,798</td>
<td>$57,798</td>
<td>$50,000</td>
<td>$46,431</td>
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Source: Center for Financing, Access, and Cost Trends, AHRQ, Household Component of the Medical Expenditure Panel Survey, 2012
Figure 5a. Distribution of health care expenditures by insurance coverage status for those <65 years of age

Figure 5b. Annual mean expenditures by insurance coverage status for those <65 years of age

Source: Center for Financing, Access, and Cost Trends, AHRQ, Household Component of the Medical Expenditure Panel Survey, 2012
Distribution of health care expenditures and mean expenditures for the U.S. population by number of chronic conditions, 2012

Figure 6a. Distribution of health care expenditures by number of chronic conditions

Figure 6b. Annual mean expenditures by number of chronic conditions

Source: Center for Financing, Access, and Cost Trends, AHRQ, Household Component of the Medical Expenditure Panel Survey, 2012
Persistence in the level of health care expenditures, U.S. civilian noninstitutionalized population, 2011 to 2012

Percentile rank by health care expenditures, 2011

- Top 1%: 19.6%
- Top 5%: 35.2%
- Top 10%: 41.5%
- Top 20%: 55.0%
- Top 30%: 63.2%
- Top 50%: 75.0%
- Lower 50%: 74.3%
Distribution of population by persistence of health care expenditures and age, in the U.S. civilian noninstitutionalized population, 2011 to 2012

- **Total population, 2012**:
  - 0-17: 14.4%
  - 18-29: 26.3%
  - 30-44: 19.2%
  - 45-64: 16.6%
  - 65 and older: 23.7%

- **Top decile in health care expenditures both years**: 2011 and 2012:
  - 0-17: 45.2%
  - 18-29: 11.7%
  - 30-44: 21.3%
  - 45-64: 37.0%
  - 65 and older: 3.8%

- **Lower 50% of spenders both years**: 2011 and 2012:
  - 0-17: 24.1%
  - 18-29: 31.2%
  - 30-44: 2.4%
  - 45-64: 20.2%
  - 65 and older: 3.3%

- **Individuals in top decile, 2011 and lower 75%, 2012**: 2011 and 2012:
  - 0-17: 17.0%
  - 18-29: 32.1%
  - 30-44: 23.6%
  - 45-64: 16.6%
  - 65 and older: 11.0%
Distribution of population by persistence of health care expenditures and health status, in the U.S. civilian noninstitutionalized population, 2011 to 2012

Percentage Distribution of population by persistence of health care expenditures and health status, in the U.S. civilian noninstitutionalized population, 2011 to 2012

- Total population, 2012: 8.1% Poor, 25.1% Fair, 31.8% Good, 32.0% Very good, 2.9% Excellent
- Top decile in health care expenditures both years: 2.9% Poor, 21.1% Fair, 18.6% Good, 30.8% Very good, 31.8% Excellent
- Lower 50% of spenders both years: 0.3% Poor, 3.9% Fair, 20.8% Good, 31.4% Very good, 43.7% Excellent
- Individuals in top decile, 2011 and lower 75%, 2012: 4.3% Poor, 12.3% Fair, 28.3% Good, 33.4% Very good, 21.7% Excellent
Distribution of population by persistence of health care expenditures and health insurance coverage, U.S. civilian noninstitutionalized population under age 65, 2011 to 2012

- **Total population, 2012**
  - Private coverage: 66.4%
  - Public only: 14.8%
  - Uninsured: 18.8%

- **Top decile in health care expenditures both years**
  - Private coverage: 67.9%
  - Public only: 29.4%
  - Uninsured: 2.7%

- **Lower 50% of spenders both years**
  - Private coverage: 54.9%
  - Public only: 23.9%
  - Uninsured: 21.2%

- **Individuals in top decile, 2011 and lower 75%, 2012**
  - Private coverage: 78.2%
  - Public only: 15.0%
  - Uninsured: 6.8%
Attitudinal Measures

Health care preferences:

- Attitudes regarding the need and value of health insurance coverage associated with coverage decisions
- Attitudes associated with health care use and expenditure behaviors
MEPS Self Administered Questionnaire (SAQ) Health Opinion Questions

- I’m healthy enough that I really don’t need health insurance
- Health insurance is not worth the money it costs
- I’m more likely to take risks than the average person
- I can overcome illness without help from a medically trained person

Response options:
1. Disagree strongly
2. Disagree somewhat
3. Uncertain
4. Agree somewhat
5. Agree strongly

Source: Center for Financing, Access, and Cost Trends, AHRQ, Household Component of the Medical Expenditure Panel Survey
Figure 1. Distribution of responses to health insurance attitude items, adults age 18 and over, 2001, 2006, 2011, and 2013

Figure 2. Distribution of responses to health insurance attitude items, adults ages 18–64, 2001, 2006, 2011 and 2013

Figure 3. Distribution of level of persistence in response to health insurance attitude items, adults age 18 and over, 2012 and 2013

Figure 4. Distribution of level of persistence in response to health insurance attitude items, adults ages 18-64 and over, 2012-2013

Healthy enough not to need health insurance

Disagree both years: 8.6%
Shift to disagree: 11.8%
Shift to agree: 63.3%
Agree both years: 9.7%
Other: 6.5%

Health insurance not worth the money it costs

Disagree both years: 38.4%
Shift to disagree: 18.2%
Shift to agree: 14.2%
Agree both years: 13.9%
Other: 15.3%

Factors for Cost Projection Models

- Demographic/economic characteristics: Age; sex; race/ethnicity; marital status; region; MSA classification, family size, poverty status
- Health status measures: health status; activity limitations
- Health insurance coverage: full year insured; part year insured; uninsured
- Health conditions: Diagnosis of arthritis; cancer; BMI; cerebrovascular disease; diabetes; heart disease; high blood pressure; high cholesterol; mental health; back pain; pregnancy
- Accidental events: trauma
- Utilization measures: inpatient events; ambulatory visits; number of prescribed medicine purchases
- Expenditure measures: prior yr. total health care spending
- Health Care Preference Measures
Variance Estimation Method: Taylor Series (WR)
SE Method: Robust (Binder, 1983)
Working Correlations: Independent
Link Function: Logit
Response variable TOP10: TOP10

by: Independent Variables and Effects.

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Presentation Summary

• Capacity of MEPS to provide essential data on health care expenditures to inform health care policy and practice
• Concentrated nature of health care expenditures
• Development of expenditure prediction models
• Importance of health care preferences
• Degree of concordance and direction of health care preferences are predictive of:
  --- likelihood of incurring persistently high levels of medical expenditures
Figure 1. Percentage of uninsured individuals gaining and losing health insurance coverage: 2012–2013, 2013–2014


Figure 7. Percentage of uninsured individuals gaining and losing health insurance coverage by state Medicaid expansion status: 2012–2013, 2013–2014.
