AHRQ’s Data Resources: Understanding Underserved Populations

Council of Professional Associations on Federal Statistics

Joel W. Cohen, PhD
Director
Center for Financing, Access, and Cost Trends
Agency for Healthcare Research and Quality

September 16, 2016
• AHRQ *invests in research and evidence* to understand how to make health care safer and improve quality

• AHRQ creates materials to *teach and train* health care systems and professionals to catalyze improvements in care

• AHRQ generates *data and measures* used to track and improve performance and evaluate progress of the U.S. health system
Topics for Discussion

• Medical Expenditure Panel Survey (MEPS)

• Healthcare Cost and Utilization Project (HCUP)

• National Healthcare Quality and Disparities Report (QDR)
Medical Expenditure Panel Survey (MEPS)

- Nationally representative data source on how Americans use and pay for medical care, health insurance and out-of-pocket spending
- Large-scale survey of 14,000 American households
- Includes individuals and families, medical providers and employers
- Conducted annually since 1996

http://meps.ahrq.gov/mepsweb/
MEPS History

- 1977 National Medical Care Expenditure Survey (NMCES)
- 1987 National Medical Expenditure Survey (NMES)
- 1996 Medical Expenditure Panel Survey (MEPS)
MEPS Survey Components

- **MEPS-HC: Household Component**
- **MEPS-MPC: Medical Provider Component**
  - Follow-back survey of medical providers linked to respondents of the MEPS-HC
  - 2016 MEPS Medical Organization Survey (MOS)
- **MEPS-IC: Insurance Component**
  - Independent survey of employers and unions not linked to the MEPS-HC
MEPS-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
- Collects 2 years of healthcare use in each panel
- 5 in-person interviews over 2 ½ year period using CAPI
- One respondent per household
- Person and family level data collected
- Interviews average 90 minutes with a range of one to four hours
Oversampling in MEPS-HC Panels 7-21 (2002-2016)

- Carryover from NHIS
  - Blacks
  - Hispanics
  - Asians (panels 12-21 after 2006 NHIS redesign)

- Additional MEPS Oversampling
  - Asians
  - Low income (panels 7-13)
  - Blacks (panels 9-11, 13-21)
  - Hispanics (panels 13-21)
  - Cancer (panel 16)
• Family composition and characteristics
• Health status
• Health care use and expenditures
• Employment for all persons 16+
• Insurance status and changes
• Income and assets
MEPS Research Areas

- Health insurance
- Use and expenditures
- Access, quality and satisfaction
- Health status and health behaviors
- Survey methods
Figure 2: Percentage of non-elderly adults, ages 18-64, who were uninsured for the entire calendar year, by age and state Medicaid expansion status, 2013 and 2014

Figure 3: Percentage of uninsured (insured) non-elderly adults\textsuperscript{1} in year one that gained (lost) coverage in year two: comparison of 2012-13 and 2013-14, by health status

Uninsured gaining insurance, by type

<table>
<thead>
<tr>
<th>Year</th>
<th>Excellent/Very Good/Good Health</th>
<th>Fair/Poor Health</th>
</tr>
</thead>
<tbody>
<tr>
<td>2012-13</td>
<td>17.3</td>
<td>13.8</td>
</tr>
<tr>
<td>2013-14</td>
<td>32.2*</td>
<td>18.7*</td>
</tr>
<tr>
<td></td>
<td>7.5*</td>
<td>7.9</td>
</tr>
</tbody>
</table>

Insured losing insurance

<table>
<thead>
<tr>
<th>Year</th>
<th>Excellent/Very Good/Good Health</th>
<th>Fair/Poor Health</th>
</tr>
</thead>
<tbody>
<tr>
<td>2012-13</td>
<td>2.9</td>
<td>17.3</td>
</tr>
<tr>
<td>2013-14</td>
<td>3.0</td>
<td>33.3*</td>
</tr>
<tr>
<td></td>
<td>17.8*</td>
<td>10.8</td>
</tr>
</tbody>
</table>

* indicates that the estimate is different from the previous two-year period at $p < 0.05$.

\textsuperscript{1} Non-elderly adults includes individuals that were ages 18 to 64 throughout the two-year period.

Source: Agency for Healthcare Research and Quality, Medical Expenditure Panel Survey - Household Component, 2012 to 2014
Life Expectancy in Four Insurance Categories by Race/Ethnicity, 2008

Less Healthy Life Expectancy in Four Insurance States, 2008

MACPAC Impact: Effect of $10/month CHIP Premium Increase on Children Coverage

Children’s Eligibility for Marketplace Subsidies if CHIP Funding or Maintenance of Effort Expires

Non-disabled children ages 0-18 in families up to 400% FPL, without ESI

**S-CHIP Eligible**

- **45%** (2.0 m) without ESI
- **35%** (1.5 m) with ESI offer but Not Enrolled
- **21%** (0.9 m) Parent with ESI offer and Enrolled

**Medicaid Eligible above statutory minimum (MOE)**

- **43%** (1.7 m) without ESI
- **32%** (1.2 m) with ESI offer but Not Enrolled
- **24%** (0.9 m) Parent with ESI offer and Enrolled

• Because CHIP premiums associated with uninsurance among lowest-income group…
  ► *Eliminate premiums for CHIP coverage under 150% FPL*

• Because so many CHIP children would be ineligible for Marketplace coverage (due to parent ESI offers)…
  ► *Reauthorize CHIP in 2015*
Racial and Ethnic Disparities in Services and the Patient Protection and Affordable Care Act

Salam Abudus, PhD, Kamila B. Mistry, PhD, MPH, and Thomas M. Selden, PhD

The existence of persistent racial/ethnic disparities in insurance coverage, access to medical care, and adherence to preventive services recommendations has been well documented. Reducing disparities such as these is a core objective of the Patient Protection and Affordable Care Act (ACA; Pub L No. III-1448). In this study, we used the Medical Expenditure Panel Survey (MEPS) to take a detailed look at disparities in coverage, access to care, and preventive services use among adults aged 19 to 64 years, and we examined these disparities against the backdrop of the coverage provisions of the ACA.

The ACA contains numerous provisions that directly or indirectly seek to reduce disparities in health care. As a result, ACA coverage provisions, more than half of all states and the District of Columbia (DC) now provide Medicaid up to 133% of poverty, and Medicaid and subsidized Marketplace coverage is available in all states and DC, between 100% and 400% of poverty, to those who are ineligible for public coverage and who are not offered affordable employer-sponsored insurance (ESI). The ACA includes preventive services mandates for non-grandfathered, non-self-insured private plans. The ACA also aims to improve access to care for patients with certain chronic conditions and to reduce racial/ethnic disparities in care.

Objectives. We examined pre-reform patterns in insurance coverage, access to care, and preventive services use by race/ethnicity in adults targeted by the coverage expansions of the Patient Protection and Affordable Care Act (ACA).

Methods. We used pre-ACA household data from the Medical Expenditure Panel Survey to identify groups targeted by the coverage provisions of the Act (Medicaid expansions and subsidized Marketplace coverage). We examined racial/ethnic differences in coverage, access to care, and preventive service use, across and within ACA relevant subgroups from 2005 to 2010. The study took place at the Agency for Healthcare Research and Quality in Rockville, Maryland.

Results. Minorities were disproportionately represented among those targeted by the coverage provisions of the ACA. Targeted groups had lower rates of coverage, access to care, and preventive services use, and racial/ethnic disparities were, in some cases, widest within these targeted groups.

Conclusions. Our findings highlighted the opportunity of the ACA to not only improve coverage, access, and use for all racial/ethnic groups, but also to narrow racial/ethnic disparities in these outcomes. Our results might have particular importance for states that are deciding whether to implement the ACA Medicaid expansions. (Am J Public Health. 2015;105:e668-e675. doi:10.2105/AJPH.2015.302902)

METHODS

MEPS is a nationally representative survey of the civilian noninstitutionalized population of the United States that is sponsored by the AHRQ. We restricted our sample to adult citizens and legal immigrants aged 19 to 64 who were members of a civilian family unit and lived in a household in which no adult was associated with an institution.
Insurance Coverage

Healthcare Cost and Utilization Project (HCUP)
HCUP is a comprehensive set of publicly available all-payer health care data.

Includes multi-year inpatient and outpatient data, based on the hospital billing record.
The HCUP Partnership

States  Industry  Federal
From Patient Hospital Visit to HCUP Record

ED Visit
Scheduled Admission
Transfer

Reception
Admit
Provide Care
Discharge

Patient Perspective
Data Perspective

Patient Record
Patient Record
Discharge Summary
Medical Coder
Billing Dept

Bill Generated
The Making of HCUP Data

AHRQ standardizes data to create uniform HCUP databases

Patient enters hospital

Billing record created

States store data in varying formats

Hospital sends billing data and any additional data elements to data organizations.
HCUP has Six Types of Databases

- Three State-level databases
  - State Inpatient Databases (SID)
  - State Emergency Department Databases (SEDD)
  - State Ambulatory Surgery & Services Databases (SASD)

- Three nationwide databases
  - National Inpatient Sample (NIS)
  - Nationwide Emergency Department Sample (NEDS)
  - Kids’ Inpatient Database (KID)
Partnership: HCUP Participation By State, 2012

- **Partners Providing Inpatient Data Only**: AK, AL, CA, CO, HI, ID, IN, IL, KS, LA, ME, MD, MA, MN, MO, MS, NE, NJ, NM, NY, NC, ND, OH, OK, OR, PA, RI, SC, SD, TN, TX, UT, VA, WA, WI, WY
- **Partners Providing Inpatient & Ambulatory Surgery Data**: AZ, FL, GA, IA, KY, MI, MT, NV, OR, PA, SC, VT
- **Partners Providing Inpatient & Emergency Department Data**: AZ, CA, CO, CT, DE, FL, GA, IL, IN, KS, KY, LA, MI, MO, MS, MT, NC, NE, NH, NM, NV, NY, OH, OK, OR, PA, SC, SD, TN, TX, UT, VA, WA, WI
- **Non-participating**: AR, AK, HI, IA, IN, KS, LA, ME, MD, MA, MI, MN, MO, MS, MT, NH, NJ, NY, OH, OK, OR, PA, SC, SD, TN, TX, UT, VA, WA, WI, WV

The map visually represents the states participating in different data categories for the HCUP partnership in 2012.
Adult admissions for congestive heart failure per 100,000 population by race, 2001-2013

**Source:** Agency for Healthcare Research and Quality, Healthcare Cost and Utilization Project, State Inpatient Databases, 2001-2013 quality and disparities analysis files and AHRQ Quality Indicators, modified version 4.4.

**Denominator:** U.S. resident population age 18 and over.

**Note:** For this measure, lower rates are better. White and Black are non-Hispanic. Hispanic includes all races.
Adult admissions for congestive heart failure per 100,000 population by area income for Blacks, 2013

Key: Q1 represents the lowest income quartile and Q4 represents the highest income quartile based on the median income of a patient’s ZIP Code of residence.


Denominator: U.S. resident population age 18 and over.
Figure 1. Clinical profile of discharges for homeless patients with mental disorders across race/ethnicity groups at inpatient hospitals

Note: Data include all discharges from inpatient hospitals during 2008 in Arizona, California, Colorado, Florida, Georgia, Massachusetts, Missouri, New York, Pennsylvania, and Wisconsin. Disease categories are based on the Clinical Classification Software, a diagnosis and procedure categorization scheme based on the International Classification of Diseases, 9th Revision, Clinical Modification (ICD-9-CM). The percentages are based on principal diagnosis codes.
Figure 2. Clinical profile of discharges for homeless patients with mental disorders across race/ethnicity groups at hospital-affiliated emergency departments

Note: Data include all treat-and-release discharges from hospital-affiliated emergency departments during 2008 in Arizona, Florida, Georgia, Massachusetts, Missouri, New York, and Wisconsin. Disease categories are based on the Clinical Classification Software, a diagnosis and procedure categorization scheme based on the International Classification of Diseases, 9th Revision, Clinical Modification (ICD-9-CM). The HCUP SEDD do not differentiate between the principal diagnosis codes and other diagnosis codes. Therefore, we used all diagnosis codes reported for each visit when creating broader CCS disease categories.
Differences in Readmissions: Low- and High-Income Communities

Figure 2. Percentage difference in readmission rate between patients from low and high income communities

- Hip replacement: 28.8%
- Knee replacement: 19.1%
- Laminectomy: 15.9%
- Spinal fusion: 11.9%
- Treatment of hip fracture: 4.1%
- Appendectomy: 13.0%
- C-section: 60.0%
- CABG: 3.2%
- Hysterectomy: 15.9%
- PTCA: 15.6%
- CHF: 4.9%
- COPD: 2.4%
- Pneumonia: 0.7%
The National Healthcare Quality and Disparities Report

- The National Healthcare Quality and Disparities Report describes the nation’s progress in improving health care access, quality, and disparities.
- Users include national and state level policy makers, researchers, and providers.
Annual report to Congress mandated in the Healthcare Research and Quality Act of 1999 (P.L. 106-129)

Provides a comprehensive overview of:
- Quality of health care received by the general U.S. population
- Disparities in care experienced by different racial, ethnic, and socioeconomic groups

Based on more than 250 measures of quality and disparities covering a broad array of health care services and settings
Some Key Findings

- Access to health care has improved dramatically, led by sustained reductions in the number of Americans without health insurance and increases in the number of Americans with a usual source of medical care.
- Effective Treatment measures indicate success at both improving overall performance and reducing disparities.
- Patient Safety, Person-Centered Care, and Healthy Living measures have improved overall but few disparities have been reduced.
- Care Affordability measures are limited for summarizing performance and disparities.
- Disparities related to race and socioeconomic status persist among measures of access and all National Quality Strategy priorities, but progress is being made in some areas. Disparities in quality of care and disparities in access to care typically follow the same pattern, although disparities in access tend to be more common than disparities in quality.
Disparities in access to care by income and race/ethnicity

**Key:** AI/AN = American Indian or Alaska Native; n = number of measures.

**Note:** Numbers of measures differ across groups because of sample size limitations. The relative difference between a selected group and its reference group is used to assess disparities. For income, the reference group is High Income. For race and ethnicity, the reference group is White.

- **Better** = Population had better access to care than reference group. Differences are statistically significant, are equal to or larger than 10%, and favor the selected group.
- **Same** = Population and reference group had about the same access to care. Differences are not statistically significant or are smaller than 10%.
- **Worse** = Population had worse access to care than reference group. Differences are statistically significant, are equal to or larger than 10%, and favor the reference group.
Disparities in quality of care by income and race/ethnicity

Key: AI/AN = American Indian or Alaska Native; n = number of measures.

Note: Numbers of measures differ across groups because of sample size limitations. The relative difference between a selected group and its reference group is used to assess disparities. For income, the reference group is High Income. For race and ethnicity, the reference group is White.

• **Better** = Population received better quality of care than reference group. Differences are statistically significant, are equal to or larger than 10%, and favor the selected group.

• **Same** = Population and reference group received about the same quality of care. Differences are not statistically significant or are smaller than 10%.

• **Worse** = Population received worse quality of care than reference group. Differences are statistically significant, equal to or larger than 10%, and favor the reference group.
Your Questions

AHRQ Data Resources: http://www.ahrq.gov/research/data/index.html