Racial and Ethnic Disparities in Disability among Medicare Beneficiaries in Rural Communities: ACS PUMS 2012-2015

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Disclaimer

- The views expressed in this presentation are solely those of the presenter and not those of CMS, CMS OMH, or the federal government.
Overview

- CMS Office of Minority Health
  - Rural Health Activities
- Data Sources & Methods
  - 2012-2015 ACS PUMS
  - 2010 PUMA USDA ERS files
- Results
- Conclusions & Next Steps
Offices of Minority Health Within HHS
CMS OMH Mission and Vision

Mission
To ensure that the voices and the needs of the populations we represent (racial and ethnic minorities, sexual and gender minorities, rural populations, and people with disabilities) are present as the Agency is developing, implementing, and evaluating its programs and policies.

Vision
All CMS beneficiaries have achieved their highest level of health, and disparities in health care quality and access have been eliminated.
CMS Rural Health Activities

**Agency-wide**
- **Innovation**
  - PA Rural Health Model
  - FCHIP
  - CPC+
  - JCPI
- **Quality and Access**
  - QPP SURS
  - Expanded telehealth codes
- **Stakeholder engagement**
  - Solutions Summit
  - Regional listening sessions

**CMS OMH**
- **CMS Rural Health Council**
  - Co-lead by Dr. Cara James, Director of the CMS OMH
- **Rural Health Coordinators**
  - Health insurance exchange coordination
- **Chronic Care Management Campaign**
  - Public education and outreach
- **Rural health research**
  - Analysis of Medicare and other national data sources
Why Examine Racial and Ethnic Disparities in Disability among Rural Dwelling Medicare Beneficiaries?

• Health differences have been documented between rural and urban dwelling adults
  – Limited studies have examined the intersectionality of rurality, race and ethnicity, and disability

• Nearly a quarter (23.7%) of Medicare beneficiaries live in rural communities¹

• U.S. population is becoming more diverse
  – Using a nationally representative sample permits examination of vulnerable federally insured beneficiaries living in rural communities in the United States

1) 2016 Medicare Payment Advisory Commission Report
Data Sources & Methods
ACS PUMS & USDA Economic Research Services (ERS) 2010 PUMA Codes

• **U.S. Census Bureau ACS PUMS files**
  – Census defines PUMAs as geographical areas with population of ≥100,000
  – May pose challenges for conducting analysis for smaller geographical areas

• **USDA Economic Research Services (ERS) 2010 PUMA Codes**
  – Classification based on 2013 guidance from the Office of Management & Budget (OMB)²
    • Metropolitan (metro) contains urban core area of ≥50,000 population
    • Micropolitan (micro) area contains urban core of at least 10,000 & <50,000 population
    • Micro counties are considered non-Metro

Methods

• Concatenated 4 years (2012-2015) of ACS PUMS Person-level files

• Linked USDA ERS 2010 PUMA Codes with 2012-2015 ACS PUMS data by PUMA and State FIPs code
  – Excluded Puerto Rico
  – Averaged 4 years of replicate pweights
  – Created ‘eligible’ subpop variable for domain analysis
  – Performed Chi-square analysis
    • Statistical significance difference (p-value <0.05)
• Rural
  – non-metro PUMAs ($\text{metropuma13}=0$)

• Adults, age 18y and over

• Health insurance status
  – Medicare insurance coverage (1 of 7)
    • Does not distinguish between Medicare FFS or MA

• Race and ethnicity
  – White
  – Black
  – Hispanic
  – Asian/Native Hawaiian or Other Pacific Islander (ANHOPI)
  – American Indian/Alaska Native (AIAN)
Respondents who report ≥1 disability type are considered disabled

<table>
<thead>
<tr>
<th>Disability type (Difficulty)</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hearing</td>
<td>Deaf or having serious difficulty hearing</td>
</tr>
<tr>
<td>Vision</td>
<td>Blind or having serious difficulty seeing, even when wearing glasses</td>
</tr>
<tr>
<td>Cognitive</td>
<td>Because of a physical, mental, or emotional problem, having difficulty remembering, concentrating, or making decisions</td>
</tr>
<tr>
<td>Ambulatory</td>
<td>Having serious difficulty walking or climbing stairs</td>
</tr>
<tr>
<td>Self-care</td>
<td>Having difficulty bathing or dressing</td>
</tr>
<tr>
<td>Independent living</td>
<td>Because of a physical, mental, or emotional problem, having difficulty doing errands alone such as visiting a doctor’s office or shopping</td>
</tr>
</tbody>
</table>
Results
**Table 1. Demographic Characteristics of Rural Dwelling Medicare Beneficiaries**

<table>
<thead>
<tr>
<th></th>
<th>White % (95% CI)</th>
<th>Black % (95% CI)</th>
<th>Hispanic % (95% CI)</th>
<th>AIAN % (95% CI)</th>
<th>Asian/NHOPI % (95% CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td><em><em>Age</em>, y</em>*</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>18-44</td>
<td>3.2</td>
<td>7.1</td>
<td>9.3</td>
<td>5.4</td>
<td>3.0</td>
</tr>
<tr>
<td>45-64</td>
<td>12.2</td>
<td>24.3</td>
<td>20.4</td>
<td>20.8</td>
<td>9.6</td>
</tr>
<tr>
<td>65 and over</td>
<td>84.6</td>
<td>68.6</td>
<td>70.3</td>
<td>73.7</td>
<td>87.4</td>
</tr>
<tr>
<td><strong>Male</strong></td>
<td>46.3</td>
<td>42.7</td>
<td>49.1</td>
<td>44.9</td>
<td>36.1</td>
</tr>
<tr>
<td><strong>Educational Attainment</strong>*</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Less than HS</td>
<td>19.6</td>
<td>39.9</td>
<td>51.0</td>
<td>34.1</td>
<td>23.3</td>
</tr>
<tr>
<td>HS diploma/GED</td>
<td>40.1</td>
<td>34.0</td>
<td>24.8</td>
<td>32.3</td>
<td>29.6</td>
</tr>
<tr>
<td>Some college</td>
<td>19.3</td>
<td>14.5</td>
<td>15.3</td>
<td>18.5</td>
<td>14.8</td>
</tr>
<tr>
<td>College graduate</td>
<td>20.9</td>
<td>11.6</td>
<td>8.8</td>
<td>15.1</td>
<td>32.3</td>
</tr>
<tr>
<td><strong>Married</strong></td>
<td>56.5</td>
<td>33.6</td>
<td>47.6</td>
<td>42.6</td>
<td>55.5</td>
</tr>
</tbody>
</table>

*Statistically significant difference across race and ethnicity (p<0.05)
Table 1. Demographic Characteristics of Rural Dwelling Medicare Beneficiaries

<table>
<thead>
<tr>
<th></th>
<th>White % (95% CI)</th>
<th>Black % (95% CI)</th>
<th>Hispanic % (95% CI)</th>
<th>AIAN % (95% CI)</th>
<th>Asian/NHOPI % (95% CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Income</strong>*</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt;25000</td>
<td>66.1</td>
<td>83.5</td>
<td>80.7</td>
<td>79.2</td>
<td>67.9</td>
</tr>
<tr>
<td>25K-49999</td>
<td>22.3</td>
<td>12.0</td>
<td>14.3</td>
<td>14.2</td>
<td>19.7</td>
</tr>
<tr>
<td>50K-74999</td>
<td>6.6</td>
<td>2.9</td>
<td>3.0</td>
<td>4.1</td>
<td>5.7</td>
</tr>
<tr>
<td>&gt;=75K</td>
<td>5.0</td>
<td>1.6</td>
<td>2.0</td>
<td>2.5</td>
<td>6.7</td>
</tr>
<tr>
<td><strong>Limited English Proficient</strong>*</td>
<td>34.5</td>
<td>32.1</td>
<td>46.9</td>
<td>38.0</td>
<td>56.3</td>
</tr>
<tr>
<td><strong>Non-English Spoken in Household</strong>*</td>
<td>3.7</td>
<td>1.2</td>
<td>71.2</td>
<td>32.6</td>
<td>54.4</td>
</tr>
<tr>
<td><strong>Employed</strong>*</td>
<td>13.6</td>
<td>10.1</td>
<td>14.7</td>
<td>10.8</td>
<td>16.4</td>
</tr>
</tbody>
</table>

*Statistically significant difference across race and ethnicity (p<0.05)
More than half of AIAN, Hispanic and Black rural dwelling Medicare beneficiaries reporting have at least 1 disability.

Figure 1. Prevalence of Disability among Rural Dwelling Medicare Beneficiaries, by Race and Ethnicity: 2012-2015 ACS PUMS

<table>
<thead>
<tr>
<th>Race/Ethnicity</th>
<th>Not Disabled</th>
<th>Disabled</th>
</tr>
</thead>
<tbody>
<tr>
<td>AIAN</td>
<td>41.9</td>
<td>58.1</td>
</tr>
<tr>
<td>ANHOPI</td>
<td>66.2</td>
<td>33.8</td>
</tr>
<tr>
<td>Black</td>
<td>45.4</td>
<td>54.6</td>
</tr>
<tr>
<td>Hispanic</td>
<td>43.9</td>
<td>56.1</td>
</tr>
<tr>
<td>White</td>
<td>54.9</td>
<td>45.1</td>
</tr>
</tbody>
</table>
Among rural dwelling Medicare beneficiaries:

- Nearly 20% of Hispanics, Blacks and Whites reported having a hearing difficulty.
- 15% of AIAN and Hispanics reported having a vision difficulty.
Figure 3. Prevalence of Self-care & Independent Living Difficulty among Rural Dwelling Medicare Beneficiaries, by Race and Ethnicity: 2012-2015 ACS PUMS

- Nearly 20% of Hispanics and Blacks reported having a self-care difficulty.
- Nearly 30% of Hispanics and Blacks reported having a independent living difficulty.
Figure 4. Prevalence of Ambulatory & Cognitive Difficulty among Rural Dwelling Medicare Beneficiaries, by Race and Ethnicity: 2012-2015 ACS PUMS

Among rural dwelling Medicare beneficiaries:
- More than 40% of Blacks and nearly 2 out of 5 AIAN and Hispanics had an ambulatory difficulty.
- More than 1 out of 5 Hispanics, AIAN, and Blacks had a cognitive difficulty.
Conclusions & Next Steps

• Among rural dwelling Medicare beneficiaries:
  – Across all racial and ethnic groups, differences were detected for various demographic characteristics
  – Racial and ethnic disparities in each of the six disability measures were observed

• Next Steps:
  – To analyze Medicare claims data and examine additional health information
  – Examine the association between geography and disability among rural Medicare beneficiaries by race and ethnicity
Contact Information

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CMS OMH website:
go.cms.gov/cms-omh