Rural Disparities in Health and Health Care by Race and Ethnicity

Carrie Henning-Smith, PhD, MPH, MSW
Ashley M. Hernandez, MSPH

Webinar Presentation:
Rural Health Research Gateway
January 23, 2020

Acknowledgements

- Our colleagues and collaborators at RHRC and the School of Public Health:
  - Katy Kozhimannil, PhD, MPA
  - Megan Lahr, MPH
  - Mariana Tuttle, MPH
  - Rachel Hardeman, PhD, MPH
  - Marizen Ramierz, PhD, MPH

- This research was supported by the Federal Office of Rural Health Policy (FORHP), Health Resources and Services Administration (HRSA), U.S. Department of Health and Human Services (HHS) under PHS Grant #5U1CRH03717. The information, conclusions and opinions expressed are those of the authors and no endorsement by FORHP, HRSA, or HHS is intended or should be inferred.
Agenda

- Background
- County-level differences in mortality
- Individual differences in self-rated health
- Disparities in access to care
- Implications

Background

- Rural-urban disparities in health and access to care are well-documented, with rural residents tending to fare worse
- Disparities in health and health care access by race and ethnicity are also well-documented, with many groups faring worse than non-Hispanic White individuals
Background, continued

- Rural areas have always been racially and ethnically diverse, and are increasingly so in recent years
- Today, one in five rural residents identifies as a person of color or as Indigenous
- Still, most research on health disparities focuses either on rural-urban differences or on racial and ethnic differences, without a specific focus on within-rural differences by race and ethnicity
Research Question and Methods

• Among rural counties, how does mortality vary by racial and ethnic composition?

• Methods:
  – Data come from 2017 County Health Rankings
  – Compared rural counties by their majority racial or ethnic group

Rural Counties by Majority Racial or Ethnic Group
Variation in County-Level Characteristics

<table>
<thead>
<tr>
<th>Majority Racial or Ethnic Group</th>
<th>Non-Hispanic White</th>
<th>Non-Hispanic Black</th>
<th>Hispanic</th>
<th>American Indian/Alaska Native</th>
<th>No majority Group</th>
</tr>
</thead>
<tbody>
<tr>
<td>Median household income</td>
<td>$45,605</td>
<td>$30,281</td>
<td>$43,166</td>
<td>$39,001</td>
<td>$41,080</td>
</tr>
<tr>
<td>Unemployment rate</td>
<td>5.4%</td>
<td>9.3%</td>
<td>6.4%</td>
<td>9.0%</td>
<td>6.6%</td>
</tr>
<tr>
<td>Limited food access</td>
<td>9.0%</td>
<td>11.1%</td>
<td>12.8%</td>
<td>29.8%</td>
<td>11.7%</td>
</tr>
</tbody>
</table>

Differences in Premature Death

[Bar chart showing differences in years of potential life lost by race/ethnicity and majority group, with unadjusted vs. adjusted data.]
Individual Differences in Self-Rated Health

National Health Interview Survey
Since 1957
2011-2017

18 years+
46,833 rural respondents

UNIVERSITY OF MINNESOTA RURAL HEALTH RESEARCH CENTER
Research Question and Methods

• Are there differences in self-rated health among rural residents by race and ethnicity?

• Among rural residents, compared differences in self-rated health measures by race and ethnicity

• Used survey weighted analysis

Rural Residents Reporting Fair or Poor Self-Rated Health

Differences significant at p<0.001
Adjusted Odds of Self-Rated Fair/Poor Health

Adjusted for year, sex, US born, marital status, education, employment status, poverty status, age, and insurance coverage; Reference group=non-Hispanic White

Adjusted Odds of Self-Rated Fair/Poor Health

Adjusted for year, sex, US born, marital status, education, employment status, poverty status, age, and insurance coverage; Reference group=non-Hispanic White
Disparities in Access: Preventive Care Services

Disparities in Preventive Care: Vaccinations

- Flu shot in past 12 months***
  - Non-Hispanic White
  - Hispanic
  - Asian

- Pneumonia shot ever***
  - Non-Hispanic Black
  - American Indian/Alaskan Native
  - Other

***p<0.001
Disparities in Preventive Care: Vaccinations

- Flu shot in past 12 months***
- Pneumonia shot ever***

Disparities in Preventive Care: Screenings

- Breast exam ever**
- Colorectal exam ever***
- Mammogram ever***
- Pap smear ever***
- PSA test ever**

***p<0.001
Disparities in Preventive Care: Screenings

- Breast exam ever**
- Colorectal exam ever***
- Mammogram ever***
- Pap smear ever***
- PSA test ever**

Non-Hispanic White □ Non-Hispanic Black □ Hispanic □ American Indian/Alaskan Native □ Asian □ Other

***p<0.001

Disparities in Access to Care: Reasons for Foregoing or Delaying Care
Disparities in Access to Care: Odds of Delayed Care Due to Cost

Adjusted for year, sex, US born, marital status, education, employment status, poverty status, age, and insurance coverage; Reference group=non-Hispanic White

Disparities in Access to Care: Odds of Delayed Care Due to Cost

Adjusted for year, sex, US born, marital status, education, employment status, poverty status, age, and insurance coverage; Reference group=non-Hispanic White and 400%+ FPL
### Disparities in Access to Care: Needed Medical Care, but Didn’t Get it Due to Cost

<table>
<thead>
<tr>
<th>Group</th>
<th>AOR</th>
<th>95% CI</th>
</tr>
</thead>
<tbody>
<tr>
<td>African American</td>
<td>1.38</td>
<td>(1.02, 1.88)</td>
</tr>
<tr>
<td>Hispanic</td>
<td>1.07</td>
<td>(0.60, 1.91)</td>
</tr>
<tr>
<td>American Indian</td>
<td>1.98</td>
<td>(1.33, 2.95)</td>
</tr>
<tr>
<td>Asian</td>
<td>0.42</td>
<td>(0.12, 1.39)</td>
</tr>
<tr>
<td>Other</td>
<td>1.44</td>
<td>(0.62, 3.35)</td>
</tr>
</tbody>
</table>

Adjusted for year, sex, US born, marital status, education, employment status, poverty status, age, and insurance coverage; Reference group=non-Hispanic White and 400%+ FPL

### Disparities in Access to Care: Needed Medication, but Didn’t Get it Due to Cost

<table>
<thead>
<tr>
<th>Group</th>
<th>AOR</th>
<th>95% CI</th>
</tr>
</thead>
<tbody>
<tr>
<td>African American</td>
<td>1.14</td>
<td>(0.96, 1.36)</td>
</tr>
<tr>
<td>Hispanic</td>
<td>0.98</td>
<td>(0.70, 1.38)</td>
</tr>
<tr>
<td>American Indian</td>
<td>0.58</td>
<td>(0.39, 0.88)</td>
</tr>
<tr>
<td>Asian</td>
<td>0.69</td>
<td>(0.36, 1.34)</td>
</tr>
<tr>
<td>Other</td>
<td>0.99</td>
<td>(0.30, 3.27)</td>
</tr>
</tbody>
</table>

Adjusted for year, sex, US born, marital status, education, employment status, poverty status, age, and insurance coverage; Reference group=non-Hispanic White and 400%+ FPL
Key Takeaway Points

- There are disparities among rural counties and rural residents by race and ethnicity, with non-Hispanic Black, Hispanic, and Indigenous rural residents tending to fare the worst
- Some disparities are mediated by differences in socioeconomic status

Implications

- Investing in rural communities financially and via employment opportunities may improve access
- Additional work is needed, however, to address lasting impacts of structural racism in order to improve the health of all rural residents and communities
Conclusion

• Research should look beyond just disparities in health and health care by rural/urban location and by race and ethnicity
• The intersection of rurality and race and ethnicity is especially important to address
• With rural populations becoming increasingly diverse, this will only become more urgent

Thank You!

Carrie Henning-Smith | henn0329@umn.edu | @Carrie_H_S
Ashley Hernandez | herna806@umn.edu | @amherndz

rhrc.umn.edu | @UMNRHRC
Gateway provides easy and timely access to research conducted by the Rural Health Research Centers

ruralhealthresearch.org

This free online resource connects you to:
- Research and Policy Center
- Products & Journals Publications
- Factsheets
- Policy Briefs
- Research Projects
- Email Alerts
- Experts
- Dissemination Toolkit

Connect with us
- info@ruralhealthresearch.org
- facebook.com/RHRGateway
- twitter.com/rhrgateway

Funded by the Federal Office of Rural Health Policy, Health Resources and Services Administration.