Hand on the plow:

Unaddressed disparities among rural minority populations

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South Carolina Rural Health Research Center

May 8, 2018
Overview

- Modest progress in some areas
- Social determinants do not suggest improvement will continue
- Research and advocacy both needed
SOAP Notes

- Subjective
- Objective
- Assessment
- Plan
Despair in the Hills
Focus on Rural Health

Subjective: the world is ending!

Hillbilly Elegy
A Memoir of a Family and Culture in Crisis

J.D. Vance

something to do with the 2016 presidential election. At least with many of us trying to understand why the vote went the way that it did. How many of

EDITORIALS
“Epidemic of Despair...”


Rate Differences per 100,000
Objective

“Despair” may be the diagnosis *du jour*…

The data illustrate *consistent* disparities experienced by rural and minority populations

- Death rates
- Adverse health conditions
AI/AN suicide disparities are longstanding

Suicide rate per 100,000 population, by race/ethnicity and residence, age 15 and over, 1999-2015

Source: AHRQ Health Disparities Report, 2017
Rural mortality disparities date to the 1980’s

Age-adjusted mortality, by race and residence, 1968-2012

Source: James & Cossman JRH 2016
Current death rate disparities vary

- For American Indian/Alaska Native, African American, and White populations, death rates increase with rurality.

- For Asian/Pacific Islander and Hispanic populations, the patterns are not clear.
Death rates, AI/AN and White

Author's analysis; CDC 2016 WONDER data, both sexes
Death rates, African American and White

Author's analysis; CDC 2016 WONDER data, both sexes
Death rates, Asian/Pacific Is. and white

Age adjusted death rates, 2016, by race/ethnicity and residence

Author’s analysis; CDC 2016 WONDER data, both sexes
Death rates, Hispanic and White

Age adjusted death rates, 2016, by race/ethnicity and residence

Author's analysis; CDC 2016 WONDER data, both sexes
Which disorders/diseases contribute to higher rural death rates for white, black and American Indian/Alaska Native Native populations?
Infant mortality, 2013-2015

- Rural counties
- Small and medium urban counties
- Large urban counties

<table>
<thead>
<tr>
<th>Category</th>
<th>Rural counties</th>
<th>Small and medium urban counties</th>
<th>Large urban counties</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total infant</td>
<td>6.69</td>
<td>6.29</td>
<td>5.49</td>
</tr>
<tr>
<td>Neonatal (0–27 days)</td>
<td>4.21</td>
<td>4.15</td>
<td>3.83</td>
</tr>
<tr>
<td>Postneonatal (28 days–11 months)</td>
<td>2.48</td>
<td>2.14</td>
<td>1.66</td>
</tr>
</tbody>
</table>

Infant deaths per 1,000 live births

Source: NCHS Data Brief No. 300, February 2018
Cancer is part of the problem....
Cancer incidence lower in rural

Cancer incidence rates, 2009-2013, by race/ethnicity and residence

Source: SS6614
But death rates are higher in rural

Cancer Death Rates, 2011-2015, by race/ethnicity and residence

Source: SS6614
Assessment

- **Proximate** causes of excess mortality:
  - Poor health
  - Adverse behavior patterns
  - Lack of access to care

- **Underlying** causes of disparity:
  - Poverty of education and resources
Proximate causes

Selected health indices, non-core rural counties only, by race/ethnicity, 2012-2015

Source: James et al 2017
Proximate causes: compared to urban

Selected self-reported variables, black only, Metro counties compared to Noncore rural counties, BRFSS, selected years

- Fair-Poor self-reported Health: 24 (Urban) vs. 29 (Noncore rural)
- Delayed MD, cost: 16 (Urban) vs. 25 (Noncore rural)
- Insured (any): 87 (Urban) vs. 73 (Noncore rural)
- Age-appropriate mammogram (2012 only): 80 (Urban) vs. 77 (Noncore rural)
- Obese: 40 (Urban) vs. 46 (Noncore rural)

Source: James et al 2017 & author’s analysis
Not Mayberry: teen births

Birth rates among women ages 15-19, by race/ethnicity and residence, 2015

- White: Urban - 10.5, Small urban - 17.6, Rural - 26.8
- Afr Amer: Urban - 29.1, Small urban - 35.6, Rural - 39.6
- Hispanic: Urban - 31.4, Small urban - 40.0, Rural - 47.0

https://www.cdc.gov/nchs/products/databriefs/db264.htm
Poorer access to consistent care

People who identified a hospital, emergency room, or clinic as a source of ongoing care, by residence and race/ethnicity, 2014

- Large Central Metro
- Large Fringe Metro
- Medium Metro
- Small Metro
- Micropolitan
- Noncore

Percent

White  Black  Hispanic

Drawn from AHRQ Rural Health Disparities Chartbook, 2017
Source: Centers for Disease Control and Prevention, National Center for Health Statistics, National Health Interview Survey, 2014.
Note: For this measure, lower rates are better. White and Black are non-Hispanic. Hispanic includes all races.
Distance as barrier to care & prevention

Ryan White providers, 50 states, 2008

[Map showing the distribution of Ryan White providers across the 50 states in 2008. The map uses different colors to indicate the presence and lack of Ryan White medical providers in rural and urban areas.]
HIV incidence: failure of prevention

Source: AIDSVu.org
Shortages of health professionals

Health Professional Shortage Areas
Primary Care

Note: Alaska and Hawaii not to scale. HRSA scores HPSAs on a scale of a whole number (0-23 for primary care), with higher scores indicating greater need.

Source(s): HRSA Data Warehouse, U.S. Department of Health and Human Services, November 2016.
Only 38% of rural counties have a DSME Program
Rural counties with DSME

- Are **larger** (35K versus 16K population)
- Have **lower** diabetes prevalence (11.1% v 11.8%)
- Are **whiter**: DSME versus other rural:
  - 5.6% black, versus 8.8%
  - 5.6% Hispanic, versus 9.3%
  - Asian Americans: 0.7% versus 0.5%
  - No difference for American Indian/Alaska Native
- In general, high need areas lack programs

Source: Rutledge, et al 2017 Tables 1 & 2
Rural residents see these gaps

Percent answering “no” to the question “do you think your community has enough…

- Enough doctors?
- Enough hospitals

Source: Author's reanalysis of KFF/WaPo Survey June 2017
Assessment: Underlying causes

- South Carolina Rural Health Action Plan: Year long effort, listening sessions around the state followed by response sessions

- Rural view of the key issues for health:
  - Can we bring **jobs** to rural areas?
  - Can we address **broken school systems**?
  - Can we address **gaps in low-income housing**?
Refresher:

- Rural minority populations tend to be concentrated:
  - AI/AN in the West, Northwest
  - Hispanic in the South, West
  - African American in the historic South
  - Asian more highly dispersed

- Quick look at social determinants of health will use maps
Recalling geography

American Indian and Alaskan Native Population for Nonmetropolitan Counties

Note: Alaska and Hawaii not to scale.

Source(s): U.S. Census Bureau, 2010 Decennial Census, Summary File 1
Recalling geography

Asian Population - Nonmetropolitan 2016

Note: Racial groups may include people of Hispanic origin. Source: US Census ACS, 2010 and 2016 5-year estimates.
Recalling geography

Hispanic/Latino Population for Nonmetropolitan Counties

Note: Alaska and Hawaii not to scale.
Source(s): U.S. Census Bureau, 2010 Decennial Census, Summary File 1
Recalling geography

Black or African American Population for Nonmetropolitan Counties

Note: Alaska and Hawaii not to scale.
Source(s): U.S. Census Bureau, 2010 Decennial Census, Summary File 1
Recalling geography

White Population - Nonmetropolitan 2016

Note: Racial groups may include people of Hispanic origin. Source: US Census ACS, 2010 and 2016 5-year estimates.
Ultimate causes

- Education
- Poverty
- Culture
Segregated public schools

Share of black kids attending majority-nonwhite schools (2011-12)

Notes: Race shares do not add to 100%.

https://www.urban.org/urban-wire/americas-public-schools-remain-highly-segregated
Segregated public schools

Share of Latino kids attending majority-nonwhite schools (2011-12)


https://www.urban.org/urban-wire/americas-public-schools-remain-highly-segregated
Educational disparities affect health literacy

Counties where 20 percent or more of adults 25-64 do not have a high school diploma/equivalent, 2008-12

Note: Metro/nonmetro status determined by Office of Management and Budget's 2013 metropolitan area definitions.
Source: USDA, Economic Research Service using data from the U.S. Census Bureau's American Community Survey 5-year average, 2008-12.
Restricted upward mobility

The Geography of Upward Mobility in the United States
Chances of Reaching the Top Fifth Starting from the Bottom Fifth by Metro Area

Source: The Equality of Opportunity Project

Source:
Rural poverty

Nonmetro county poverty rates, 2011-2015 average

Rural child poverty

Nonmetro related child poverty rates by county, 2011-2015 average

Note: Related children are defined as any child under 18 years old who is related to the householder by birth, marriage, or adoption.
Lack of health insurance

Uninsured, 18 to 64 - 2015

Households with debt in collections

Any debt:
27% white
45% nonwhite

https://apps.urban.org/features/debt-interactive-map/
Households with medical debt

Nationally:
16% white
21% nonwhite

https://apps.urban.org/features/debt-interactive-map/
Reflecting on resources

- Poor education → poor health literacy
- Low income → reduced ability to seek care, afford medications
- Fewer practitioners →
  - Difficulty getting into services
  - Crowded visit schedules
  - Little time for assessment, counseling
Assessment: back to culture

- To be culturally sensitive, we must listen and explore beliefs. But...
- Listening can be alarming: deeply divided communities
  - In South Carolina, the division is race
  - In other regions, the division may be economic class
- Communities where some groups of persons are perceived to have inferior cultures
- And culture has a very long shelf life
WWII rejection rates parallel current health disparities

Figure 1. Percent of Selective Service registrants 18–37 years old rejected for physical or mental defects as of August 1, 1945, by State (3, p. 360).

Source: Goldstein 1951
Historical culture can be problematic

No lynchings on record
Any through 0.934/10,000 residents
> 0.934-2.508/10,000 residents
> 2.508/10,000 residents
Age-adjusted mortality, 2010 – 2014, by lynching rate category

Five-year age adjusted mortality rates for:

<table>
<thead>
<tr>
<th>Lynch rate category:</th>
<th>Overall (N=1,221)</th>
<th>White Males (N=1,217)</th>
<th>Black Males (N=888)</th>
<th>White Females (N=1,217)</th>
<th>Black Females (N=873)</th>
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</thead>
<tbody>
<tr>
<td>Category 1:</td>
<td>863</td>
<td>1,014</td>
<td>1,138</td>
<td>739</td>
<td>784</td>
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<tr>
<td>Category 2:</td>
<td>889**</td>
<td>1,032</td>
<td>1,202**</td>
<td>747*</td>
<td>817***</td>
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<tr>
<td>Category 3:</td>
<td>905***</td>
<td>1,041*</td>
<td>1,218***</td>
<td>761</td>
<td>835*</td>
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<tr>
<td>Category 4:</td>
<td>910***</td>
<td>1,042*</td>
<td>1,220***</td>
<td>756</td>
<td>827**</td>
</tr>
</tbody>
</table>

P values indicate differences between the starred value and the value for Category 1.

* p ≤ 0.05
** p ≤ 0.01
*** p ≤ 0.001

Category definitions:
1: No lynchings on record
2: Any lynchings through 0.934/10,000 residents
3: More than 0.934 to 2.508/10,000 residents
4: Greater than 2.508/10,000 residents

DRAFT not for public release
Adjusted for county characteristics

Change in mortality rates compared to Category 1:

Five-year age adjusted mortality rates among:

- White Males (N = 1,217)
- Black Males (N=888)
- White Females (N=1,217)
- Black Females (N=873)

Category 2:

<table>
<thead>
<tr>
<th>Category</th>
<th>White Males</th>
<th>Black Males</th>
<th>White Females</th>
<th>Black Females</th>
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</thead>
<tbody>
<tr>
<td>17.04</td>
<td>39.43</td>
<td>9.53</td>
<td>25.34</td>
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Category 3:

<table>
<thead>
<tr>
<th>Category</th>
<th>White Males</th>
<th>Black Males</th>
<th>White Females</th>
<th>Black Females</th>
</tr>
</thead>
<tbody>
<tr>
<td>26.55**</td>
<td>43.44</td>
<td>20.10**</td>
<td>41.01**</td>
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</table>

Category 4:

<table>
<thead>
<tr>
<th>Category</th>
<th>White Males</th>
<th>Black Males</th>
<th>White Females</th>
<th>Black Females</th>
</tr>
</thead>
<tbody>
<tr>
<td>34.94**</td>
<td>31.25</td>
<td>23.68**</td>
<td>30.97*</td>
<td></td>
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</tbody>
</table>

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Model adjusts for: Population (% African American, % African American squared, and Z-scores for: % unemployed, Median household income, % uninsured, % high school graduates); Community (primary care physician population ratio in quartiles, and dichotomous variables for county metro/non-metro status and USDA classifications as persistent poverty county, farming county, mining county, manufacturing county, or population loss county (2010)) and Social capital (Census response 2010, % of eligibles voting 2008, associations per population 2009, all as Z- scores, and income ratio.

DRAFT not for public release

Their Ancestors Were on Opposite Sides of a Lynching. Now, They’re Friends.

By JOHN ELIGON MAY 4, 2018

Their Ancestors Were on Opposite Sides of a Lynching. Now, They’re Friends.
Plan

- Can rural disparities be addressed?
- Resource disparities could be addressed with political will
- Cultural disparities are more subtle
Two views on culture

- Vance: those hillbillies have a horrible culture

- Duncan: divided societies do not equip lower class residents with the tools needed to navigate successfully in a world structured around upper class needs and tastes.
Duncan: “cultural toolkit”

- Duncan focuses on schools as vehicles for perpetuating either community or disparity
  - In a community where students of all social classes attended a single school system, individual social mobility occurred
  - In two communities with divided school systems, stagnation

- Schools also identified in South Carolina’s Rural Health Action Plan
Expand surveillance and set goals

- Rural minority “double disparities” will not be addressed if they are not seen.
- CDC’s 11-report rural series is a good beginning, but:
  - 2 reports examined racial disparities only within a subset of rural counties (no urban) and
  - 3 did not include race/residence tables.
Percent of working age adults delaying care, by race & residence

White
- Urban Large Central
- Urban Medium and small
- Rural Small

Black
- Urban Large Fringe
- Rural Micropolitan

Source: HUS 2013 Table 75; CDC SS6623-H
Set goals

- Include rural, rural minority, and rural LGBTQ populations in HP2030 goal-setting
- Include rural, rural minority, and rural LGBTQ populations in AHRQ’s Health Disparity series
Address disparities in health care resources

- At a minimum, protect existing infrastructure:
  - Critical access hospitals
  - Rural health clinics
  - Federally qualified health centers
  - Other CMS and state rural funding categories

- A newer, better Hill-Burton program?
  - Re-examining the concept of “minimum necessary facilities”
  - Changing the way care is funded
  - Changing the way care is delivered
More on funding

- Expand Medicaid?
  - Of course, it’s better than nothing

- Change the game?
  - Global budgeting for hospitals as a model for “health care services as a utility”
And most importantly….

- Keep your hand on the plough
- Think how much worse things *might* be…
- Hold on
Thanks!

- Our web site:
  - rhr.sph.sc.edu

- Core funding from:
  - Federal Office of Rural Health Policy, Health Resources & Services Administration, USDHHS

- Contact:
  - jprobst@sc.edu
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Grand Forks, ND 58202
Potentially avoidable hospitalizations for all conditions per 100,000 population, by residence location, stratified by race/ethnicity, 2014

Key: API = Asian or Pacific Islander.
Note: For this measure, lower rates are better. White, Black, and API are non-Hispanic. Hispanic includes all races. Data for medium metropolitan, micropolitan, and noncore areas for APIs are not included because these populations did not meet criteria for statistical reliability. Rates are adjusted by age and gender using the total U.S. resident population for 2010 as the standard population.
Children ages 2-17 for whom a health provider gave advice within the past 2 years about the amount and kind of exercise, sports, or physically active hobbies they should have, by residence location, stratified by race/ethnicity, 2014

Note: Data unavailable for Blacks in small metropolitan areas. White and Black are non-Hispanic. Hispanic includes all races.