Rural Mortality and Health Disparities in the U.S. and Appalachia

National Advisory Committee on Rural Health and Human Services
May 2015
Alana Knudson, PhD

Examination of Trends in Rural and Urban Health:
Establishing a Baseline for Health Reform

• CDC published *Health United States, 2001 With Urban and Rural Health Chartbook*
  • No urban/rural data update since 2001

• Purpose of this study:
  • Update of rural health status ten years later to understand trends
  • Provide baseline of rural/urban differences in health status and access to care prior to ACA implementation
Methods

- Replicated analyses conducted in 2001 using most recent data available (2006-2011)
- Used same data source, when possible:
  - National Vital Statistics System
  - Area Resource File (HRSA)
  - U.S. Census Bureau
  - National Health Interview Survey (NCHS)
  - National Hospital Discharge Survey (NCHS)
  - National Survey on Drug Use and Health (SAMHSA)
  - Treatment Episode Data Set (SAMHSA)
- Applied same geographic definitions, although classifications may have changed since 2001:
  - Metropolitan Counties: Large central, Large fringe, Small metro
  - Nonmetropolitan Counties: Micropolitan, Non-core
Population: Age

Population 65 years of age and over by rurality

- Non-Hispanic white persons represent over half of the population in fringe counties of large metro areas, small metro counties, and nonmetro counties, but only 45% in central counties.
- In the Midwest, white persons represented 81% of its population. The Northeast had a larger proportion of residents of Hispanic and Asian or Pacific Island origin compared with the Midwest.
- In the South, non-Hispanic black persons constituted a larger proportion of the population than in any other region.
- The West had a disproportionately high concentration of persons of Hispanic origin.
Population: Poverty

Population in poverty by rurality

Population in poverty by region and rurality, 2011
Mortality: Infants

Infant mortality by rurality

Deaths per 1,000 live births

- 1996-1998
- 2008-2010

Mortality: Working-Age Adults

Death rates for all causes among persons 25-64 years of age by rurality

Deaths per 100,000 population

- 1996-1998
- 2008-2010
Mortality: Chronic Obstructive Pulmonary Diseases

Death rates for chronic obstructive pulmonary diseases among persons 20 years of age and over by sex and rurality

Risk Factors: Adolescent Smoking

Cigarette smoking in the past month among adolescents 12-17 years of age by rurality
Risk Factors: Adult Smoking

Cigarette smoking among persons 18 years of age and older by rurality

Risk Factors: Obesity

Obesity among persons 18 years of age and older by rurality
Health Care Access and Use: Substance Abuse Treatment

Substance abuse treatment admission rates for opiates by rurality

Substance abuse treatment admission rates by primary substance and rurality, 2010
Regional Mortality Study

Purpose: To examine the impact of rurality on mortality and to explore the regional differences in the primary and underlying causes of death.

Methods: Mortality data from National Vital Statistics System (NVSS) from 2011-2013

Data are grouped by:
- 2013 NCHS Urban-Rural Classification Scheme for Counties (Large Central, Large Fringe, Small/Medium Metro, Micropolitan, Non-core)
- 10 HHS Regions
- Age and Gender
- Cause of Death
  - Top 10 nation-wide causes of death for each age group
Mortality: Short Gestation/Low birth weight – Infants (<1yr)

Mortality: Suicide – Males, 15-24 years
Mortality: Suicide – Females, 15-24 years

Mortality: Unintentional Injuries – Males, 25-64 years
Mortality: Unintentional Injuries – Females, 25-64 years

Mortality: Diabetes – Males, 25 – 64 years
Mortality: Diabetes – Females, 25 – 64 years

Mortality Rates by Age, Sex, HHS Region, Rural-Urban Status, and Cause

NOTE: Rates are age-adjusted. Areas of the U.S. map without a color indicate that the data for that region are either unreliable or suppressed.

Age: 25 to 64
Sex: Female
Cause of Death: Diabetes

Mortality Rate (per 100,000 pop)

LARGE CENTRAL
LARGE FRINGE
SMALL/MEDIUM METROPOLITAN
MICROPOLITAN
NON-CORE

Mortality: Heart Disease – Males, 65+ years

Mortality Rates (per 100,000 pop) by Age, Sex, HHS Region, Rural-Urban Status, and Cause

NOTE: Rates are age-adjusted. Areas of the U.S. map without a color indicate that the data for that region are either unreliable or suppressed.

Age: 65+ years
Gender: Male
Cause of Death: Heart Disease

Mortality Rate

LARGE CENTRAL
LARGE FRINGE
SMALL/MEDIUM METROPOLITAN
MICROPOLITAN
NON-CORE
Mortality: Heart Disease – Females, 65+ years

Appalachian Region: Counties by Urban-Rural Status
Mortality Rates (per 100,000 pop) Among People Ages 25 to 64 Years in the Appalachia Region Compared to the National Rates by Gender, Rural-Urban Status, and Cause

Gender
Male

Urban-Rural Status
- Large Central
- Large Fringe
- Small/Medium Metro
- Micropolitan
- NonCore

Mortality Index
*The line where Index=100 indicates the point at which the Appalachia and National rates are equal.

- Cancer
- Heart Disease
- Accidents
- Suicide
- Liver Disease
- Diabetes
- Chronic Lower Resp. Disease
- Congenital/At Disease
- Home Health
- Septicemia

Rural Health Reform Policy
RESEARCH CENTER
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Mortality Rates (per 100,000 pop) Among People Ages 25 to 64 Years in the Appalachia Region Compared to the National Rates by Gender, Rural-Urban Status, and Cause

Mortality Index
*The line where Index=100 indicates the point at which the Appalachia and National rates are equal.

Appalachia and National* Mortality Rates by Urban-Rural Status

- National Rate
- Large Central
- Large Fringe
- Small/Medium Metro
- Micropolitan
- NonCore

* National rates are the mortality rates for the entire U.S. for the age-range, gender, and cause specified, regardless of urban-rural status.
Rural Community Health Gateway

Build What Works
The Rural Community Health Gateway can help you build effective community health programs and improve services you offer. Resources and examples in this Gateway are chosen for effectiveness and adaptability and drawn from programs with a strong history of service and community success. By starting from approaches that are known to be effective, you can make the best use of limited funding and resources.

Evidence-Based Toolkits
- Care Coordination Toolkit
  Resources and best practices to help you identify and implement a care coordination program.
- Community Health Workers Toolkit
  Resources to help you develop a community health worker (CHW) program to reach underserved populations, using evidence-based approaches from other rural communities.
- Health Promotion and Disease Prevention Toolkit
  Resources and best practices to help you identify and implement a health promotion program in your community.
- Mental Health and Substance Abuse Toolkit
  Resources to develop and implement programs to improve community mental health using proven approaches and strategies.
- Obesity Prevention Toolkit
  Resources to help you develop an obesity prevention program, building on best practices of successful obesity prevention programs.
- Oral Health Toolkit
  Resources and best practices to help you develop and implement a program to address oral health disparities in your community.

About the Rural Community Health Gateway
The Rural Community Health Gateway showcases program approaches that you can adapt to fit your community and the people you serve, allowing you to:
- Research approaches to featured community health programs
- Discover what works and why
- Learn about common obstacles
- Connect with program experts
- Evaluate your programs' short-term impact

Gateway resources are available through the NORC Walsh Center for Rural Health Analysis and the University of Minnesota Rural Health Research Center in collaboration with the Rural Assistance Center. Funding is provided by the Federal Office of Rural Health Policy (FORHP), Health Resources and Services Administration.

More Useful Tools
- Economic Impact Analysis
  Show how your program's grant funding affects your community's economy, well-being and share this information with sponsors, funders and your community.