Exploring Rural and Urban Mortality Differences by HHS Region
Rural Health Reform Policy Research Center (RHRPRC)

RHRPRC is a consortium that combines the resources of two premier institutions:

• The University of North Dakota Center for Rural Health
• NORC Walsh Center for Rural Health Analysis

Research conducted by the RHRPRC informs policy makers and rural providers to:

• Increase access to health care services
• Improve overall health status of rural residents
• Assist rural communities in securing adequate, affordable, high-quality health care services
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Where you live should not determine whether you live, or whether you die

— Bono
Introduction

• Cause-specific mortality is often higher in rural counties than urban counties
• Risk factors contribute to high mortality rates in rural areas
  • Smoking
  • Obesity
  • Physical inactivity
• High mortality rates and risk factors are a reflection of the physical and social environment in which people live and work
Study Purpose

- To examine the impact of rurality on mortality and to explore the regional differences in causes of death
Research Question

• What are the geographical differences in rural and urban mortality rates?
Methods

Source of Mortality data:
National Vital Statistics System (NVSS)
  – Years 2011-2013

Data are grouped by:
  – 2013 NCHS Urban-Rural Classification Scheme for Counties
    • (Large Central, Large Fringe, Small/Medium Metro, Micropolitan, Non-core)
  – HHS Regions
  – Age
  – Gender
  – Cause of Death
    • Top 10 Nation-wide causes of death for each age group
### 2013 NCHS Urban-Rural Classification Scheme for Counties

<table>
<thead>
<tr>
<th>2013 NCHS Urban-Rural Classification</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Large central (inner cities)</td>
<td>Counties in MSA of 1 million or more population that: Contain the entire population of the largest principal city of the MSA; Are completely contained in the largest principal city of the MSA; or Contain at least 250,000 residents of any principal city of the MSA</td>
</tr>
<tr>
<td>Large Fringe (suburban)</td>
<td>Counties in MSAs with a population of at least 1 million residents</td>
</tr>
<tr>
<td>Small Metro</td>
<td>Counties in MSAs with a population of less than 1 million residents</td>
</tr>
<tr>
<td>Micropolitan (large rural)</td>
<td>Counties with populations of 10,000 to 49,999</td>
</tr>
<tr>
<td>Non-core (small rural)</td>
<td>Remaining nonmetropolitan counties that are not in a micropolitan statistical area</td>
</tr>
</tbody>
</table>
Additional Notes on the Charts

- Estimates for the top ten causes of death are shown.
- A missing dot indicates either 1) a suppressed rate or 2) identical values between an urban and rural estimate (where more urban cases cover the more rural cases). See Appendix A for list of such cases.
- Suppressed data points occur when there are fewer than 10 deaths within that population sub-group (age, sex, rural-urban status, region). Since mortality rates for individuals under the age of 25 years are lower, more suppressed and unreliable rates exist thus limiting the visuals for almost all but the top causes of death for a specific region.
- If a cause is not listed on the graph, then all data points for that cause are suppressed. A graph with fewer than 10 causes of death indicates that all points are suppressed for the missing cause(s).
- Light to dark colors represent urban to rural areas.
Additional Notes on the Charts

- Data Tables and Technical Notes are available via electronic access with explicit details including mortality rates, explanation of mortality index, age-adjustment, cause of death, etc.
- Rates are age-adjusted for ages 1-14 Years, 25-64 Years, and 65 Years and Over, and represent deaths per 100,000 population.
- Index is calculated as: \( \frac{\text{local mortality rate}}{\text{national mortality rate}} \times 100 \) where the national mortality rate is calculated using age-specific and sex-specific (over 15 years) death rates.
- Although large differences may be present between the national mortality rate (index = 100) and the subpopulation mortality rate (if index is not equal to 100), presentation of the index does not imply that the rates are statistically significant. Please see Excel Workbook Tables: Mortality Rates among Persons by Cause of Death, Age, Region, and Rural-Urban Status: United States, 2011-2013 for complete details on statistical comparisons provided through data tables.
Deaths of nonresidents are excluded, as are residents of:

- American Samoa
- Commonwealth of the Northern Mariana Islands
- Federated States of Micronesia
- Guam
- Marshall Islands
- Puerto Rico
- Republic of Palau
- U.S. Virgin Islands
Additional Notes on the Charts

• The graphs and accompanying text are part of a group of available information including Technical Notes and data tables corresponding to the graphed data. The Technical Notes provide information about data sources and methods.

• All data tables include the mortality rates underlying the graphics. The tables also include related data not included in the chart, as well as standard errors of estimates and results of statistical comparisons.

Electronic access:
Exploring Rural and Urban Mortality Differences by HHS Region may be accessed from the Rural Health Research Gateway website at:
http://www.ruralhealthresearch.org/.

The graphs from this presentation may be accessed at: https://viz.norc.org/views/On-LineToolIndexforMortalityRates/Introduction?:embed=y&:display_count=no
Geographic Definitions
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HHS Region 1
Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, and Vermont
Index for Regional Mortality Rates of Region 1, by Rural-Urban Status: United States, 2011-2013

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Figure 2

Index for Mortality Rates for Cause Related to the National Mortality Rate among Persons (Both Sexes) Age Under 1 Year, in HHS Region 1 (CT, ME, MA, NH, RI, VT), by Rural-Urban Status: United States, 2011-2013

Objects above the horizontal line where index=100 indicates mortality rates higher than the national average, below the line are values below the average.

Sources: Centers for Disease Control and Prevention, National Center for Health Statistics, Multiple Cause of Death. Suggested Citation: Rural Health Reform Policy Research Center. Exploring Rural and Urban Mortality Differences, August 2015 Bethesda, MD. 2015.
Figure 3

Index for Mortality Rates for Cause Related to the National Mortality Rate among Persons (Both Sexes) Age 1 to 14 Years, in HHS Region 1 (CT, ME, MA, NH, RI, VT), by Rural-Urban Status: United States, 2011-2013

Objects above the horizontal line where index=100 indicates mortality rates higher than the national average, below the line are values below the average.

SOURCES: Centers for Disease Control and Prevention, National Center for Health Statistics, Multiple Cause of Death.
**Figure 4**

**Please select:**

**Age**  
15 to 24 Years

**Sex**  
Males

**Region**  
HHS Region 1 (CT, ME, MA, NH, RI, VT)

**Index for Mortality Rates for Cause Related to the National Mortality Rate among Persons (Males) Age 15 to 24 Years, in HHS Region 1 (CT, ME, MA, NH, RI, VT), by Rural-Urban Status: United States, 2011-2013**

Objects above the horizontal line where index=100 indicates mortality rates higher than the national average, below the line are values below the average.

**Sources:** Centers for Disease Control and Prevention, National Center for Health Statistics, Multiple Cause of Death.

**Suggested Citation:** Rural Health Reform Policy Research Center. Exploring Rural and Urban Mortality Differences, August 2015 Bethesda, MD. 2015.
Figure 5

**Index for Mortality Rates for Cause Related to the National Mortality Rate among Persons (Females) Age 15 to 24 Years, in HHS Region 1 (CT, ME, MA, NH, RI, VT), by Rural-Urban Status: United States, 2011-2013**

Objects above the horizontal line where index=100 indicates mortality rates higher than the national average, below the line are values below the average.

**Sources:** Centers for Disease Control and Prevention, National Center for Health Statistics, Multiple Cause of Death. Suggested Citation: Rural Health Reform Policy Research Center. Exploring Rural and Urban Mortality Differences, August 2015 Bethesda, MD. 2015.
Figure 6

Index for Mortality Rates for Cause Related to the National Mortality Rate among Persons (Males) Age 25 to 64 Years, in HHS Region 1 (CT, ME, MA, NH, RI, VT), by Rural-Urban Status: United States, 2011-2013

Objects above the horizontal line where index=100 indicates mortality rates higher than the national average, below the line are values below the average.

SOURCES: Centers for Disease Control and Prevention, National Center for Health Statistics, Multiple Cause of Death.
Figure 7

Index for Mortality Rates for Cause Related to the National Mortality Rate among Persons (Females) Age 25 to 64 Years, in HHS Region 1 (CT, ME, MA, NH, RI, VT), by Rural-Urban Status: United States, 2011-2013

Objects above the horizontal line where index=100 indicates mortality rates higher than the national average, below the line are values below the average.

SOURCES: Centers for Disease Control and Prevention, National Center for Health Statistics, Multiple Cause of Death.
Figure 8

Index for Mortality Rates for Cause Related to the National Mortality Rate among Persons (Males) Age 65 Years and Older, in HHS Region 1 (CT, ME, MA, NH, RI, VT), by Rural-Urban Status: United States, 2011-2013

Objects above the horizontal line where index=100 indicates mortality rates higher than the national average, below the line are values below the average.

Sources: Centers for Disease Control and Prevention, National Center for Health Statistics, Multiple Cause of Death.
Figure 9

Index for Mortality Rates for Cause Related to the National Mortality Rate among Persons (Females) Age 65 Years and Older, in HHS Region 1 (CT, ME, MA, NH, RI, VT), by Rural-Urban Status: United States, 2011-2013

Objects above the horizontal line where index=100 indicates mortality rates higher than the national average, below the line are values below the average.

Sources: Centers for Disease Control and Prevention, National Center for Health Statistics, Multiple Cause of Death.
HHS Region 2\(^1\)
New York and New Jersey

\(^1\)Note: Deaths of nonresidents including those in Puerto Rico and the U.S. Virgin Islands are excluded
Index for Regional Mortality Rates of Region 2, by Rural-Urban Status: United States, 2011-2013

Persons:

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• Figure 12: Adolescents and Young Adults (Ages 15 to 24 Years), Males
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• Figure 16: Seniors (Ages ≥65 Years), Male
• Figure 17: Seniors (Ages ≥65 Years), Female
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Objects above the horizontal line where index=100 indicates mortality rates higher than the national average, below the line are values below the average.

Sources: Centers for Disease Control and Prevention, National Center for Health Statistics, Multiple Cause of Death.
Suggested Citation: Rural Health Reform Policy Research Center. Exploring Rural and Urban Mortality Differences, August 2015 Bethesda, MD. 2015.
Figure 11

Index for Mortality Rates for Cause Related to the National Mortality Rate among Persons (Both Sexes) Age 1 to 14 Years, in HHS Region 2 (NJ, NY), by Rural-Urban Status: United States, 2011-2013

Objects above the horizontal line where index=100 indicates mortality rates higher than the national average, below the line are values below the average.

Sources: Centers for Disease Control and Prevention, National Center for Health Statistics, Multiple Cause of Death.
Suggested Citation: Rural Health Reform Policy Research Center. Exploring Rural and Urban Mortality Differences, August 2015 Bethesda, MD. 2015.
Index for Mortality Rates for Cause Related to the National Mortality Rate among Persons (Males) Age 15 to 24 Years, in HHS Region 2 (NJ, NY), by Rural-Urban Status: United States, 2011-2013

Objects above the horizontal line where index=100 indicates mortality rates higher than the national average, below the line are values below the average.
Figure 13

Please select:

**Age**  15 to 24 Years

**Sex**  Females

**Region**  HHS Region 2 (NJ, NY)

Index for Mortality Rates for Cause Related to the National Mortality Rate among Persons (Females) Age 15 to 24 Years, in HHS Region 2 (NJ, NY), by Rural-Urban Status: United States, 2011-2013

*Objects above the horizontal line where index=100 indicates mortality rates higher than the national average, below the line are values below the average.*

**Sources:** Centers for Disease Control and Prevention, National Center for Health Statistics, Multiple Cause of Death.

**Suggested Citation:** Rural Health Reform Policy Research Center. Exploring Rural and Urban Mortality Differences, August 2015 Bethesda, MD. 2015.
Figure 14

Index for Mortality Rates for Cause Related to the National Mortality Rate among Persons (Males) Age 25 to 64 Years, in HHS Region 2 (NJ, NY), by Rural-Urban Status: United States, 2011-2013

Objects above the horizontal line where index=100 indicates mortality rates higher than the national average, below the line are values below the average.

SOURCES: Centers for Disease Control and Prevention, National Center for Health Statistics, Multiple Cause of Death.
Figure 15

Index for Mortality Rates for Cause Related to the National Mortality Rate among Persons (Females) Age 25 to 64 Years, in HHS Region 2 (NJ, NY), by Rural-Urban Status: United States, 2011-2013

Objects above the horizontal line where index=100 indicates mortality rates higher than the national average, below the line are values below the average.

Sources: Centers for Disease Control and Prevention, National Center for Health Statistics, Multiple Cause of Death.

Suggested Citation: Rural Health Reform Policy Research Center. Exploring Rural and Urban Mortality Differences, August 2015 Bethesda, MD. 2015.
Figure 16

**Index for Mortality Rates for Cause Related to the National Mortality Rate among Persons (Males) Age 65 Years and Older, in HHS Region 2 (NJ, NY), by Rural-Urban Status: United States, 2011-2013**

Objects above the horizontal line where index=100 indicates mortality rates higher than the national average, below the line are values below the average.

**Sources:** Centers for Disease Control and Prevention, National Center for Health Statistics, Multiple Cause of Death.

**Suggested Citation:** Rural Health Reform Policy Research Center. Exploring Rural and Urban Mortality Differences, August 2015 Bethesda, MD, 2015.
Figure 17

Index for Mortality Rates for Cause Related to the National Mortality Rate among Persons (Females) Age 65 Years and Older, in HHS Region 2 (NJ, NY), by Rural-Urban Status: United States, 2011-2013

Objects above the horizontal line where index=100 indicates mortality rates higher than the national average, below the line are values below the average.

Sources: Centers for Disease Control and Prevention, National Center for Health Statistics, Multiple Cause of Death.
Suggested Citation: Rural Health Reform Policy Research Center. Exploring Rural and Urban Mortality Differences, August 2015 Bethesda, MD. 2015.
Index for Regional Mortality Rates of Region 3, by Rural-Urban Status: United States, 2011-2013

Persons:

- **Figure 18:** Infants (<1 Years)
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Objects above the horizontal line where index=100 indicates mortality rates higher than the national average, below the line are values below the average.

Figure 18

Please select:

- **Age**: Under 1 Year
- **Sex**: Both Sexes
- **Region**: HHS Region 3 (DE, DC, MD, PA, VA, WV)

**Sources**: Centers for Disease Control and Prevention, National Center for Health Statistics, Multiple Cause of Death.

**Suggested Citation**: Rural Health Reform Policy Research Center. Exploring Rural and Urban Mortality Differences, August 2015 Bethesda, MD. 2015.
Figure 19

Index for Mortality Rates for Cause Related to the National Mortality Rate among Persons (Both Sexes) Age 1 to 14 Years, in HHS Region 3 (DE, DC, MD, PA, VA, WV), by Rural-Urban Status: United States, 2011-2013

Objects above the horizontal line where index=100 indicates mortality rates higher than the national average, below the line are values below the average.

Sources: Centers for Disease Control and Prevention, National Center for Health Statistics, Multiple Cause of Death.
Suggested Citation: Rural Health Reform Policy Research Center. Exploring Rural and Urban Mortality Differences, August 2015 Bethesda, MD. 2015.
Index for Mortality Rates for Cause Related to the National Mortality Rate among Persons (Males) Age 15 to 24 Years, in HHS Region 3 (DE, DC, MD, PA, VA, WV), by Rural-Urban Status: United States, 2011-2013

Objects above the horizontal line where index=100 indicates mortality rates higher than the national average, below the line are values below the average.

SOURCES: Centers for Disease Control and Prevention, National Center for Health Statistics, Multiple Cause of Death.
Index for Mortality Rates for Cause Related to the National Mortality Rate among Persons (Females) Age 15 to 24 Years, in HHS Region 3 (DE, DC, MD, PA, VA, WV), by Rural-Urban Status: United States, 2011-2013

Objects above the horizontal line where index=100 indicates mortality rates higher than the national average, below the line are values below the average.
Figure 22

Index for Mortality Rates for Cause Related to the National Mortality Rate among Persons (Males) Age 25 to 64 Years, in HHS Region 3 (DE, DC, MD, PA, VA, WV), by Rural-Urban Status: United States, 2011-2013

Objects above the horizontal line where index=100 indicates mortality rates higher than the national average, below the line are values below the average.
Index for Mortality Rates for Cause Related to the National Mortality Rate among Persons (Females) Age 25 to 64 Years, in HHS Region 3 (DE, DC, MD, PA, VA, WV), by Rural-Urban Status: United States, 2011-2013

Objects above the horizontal line where index=100 indicates mortality rates higher than the national average, below the line are values below the average.

Sources: Centers for Disease Control and Prevention, National Center for Health Statistics, Multiple Cause of Death.
Figure 24

Index for Mortality Rates for Cause Related to the National Mortality Rate among Persons (Males) Age 65 Years and Older, in HHS Region 3 (DE, DC, MD, PA, VA, WV), by Rural-Urban Status: United States, 2011-2013

Objects above the horizontal line where index=100 indicates mortality rates higher than the national average, below the line are values below the average.

Sources:
Centers for Disease Control and Prevention, National Center for Health Statistics, Multiple Cause of Death.
Suggested Citation: Rural Health Reform Policy Research Center. Exploring Rural and Urban Mortality Differences, August 2015 Bethesda, MD. 2015.
Index for Mortality Rates for Cause Related to the National Mortality Rate among Persons (Females) Age 65 Years and Older, in HHS Region 3 (DE, DC, MD, PA, VA, WV), by Rural-Urban Status: United States, 2011-2013

Objects above the horizontal line where index>100 indicates mortality rates higher than the national average, below the line are values below the average.

SOURCES: Centers for Disease Control and Prevention, National Center for Health Statistics, Multiple Cause of Death.
HHS Region 4
Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, and Tennessee
Index for Regional Mortality Rates of Region 4, by Rural-Urban Status: United States, 2011-2013

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- Figure 33: Seniors (Ages ≥65 Years), Female
Figure 26

Please select:

Age
Under 1 Year

Sex
Both Sexes

Region
HHS Region 4 (AL, FL, GA, KY, MS, NC, SC, TN)

Index for Mortality Rates for Cause Related to the National Mortality Rate among Persons (Both Sexes) Age Under 1 Year, in HHS Region 4 (AL, FL, GA, KY, MS, NC, SC, TN), by Rural-Urban Status: United States, 2011-2013

Objects above the horizontal line where index=100 indicates mortality rates higher than the national average, below the line are values below the average.

SOURCES: Centers for Disease Control and Prevention, National Center for Health Statistics, Multiple Cause of Death.
Index for Mortality Rates for Cause Related to the National Mortality Rate among Persons (Both Sexes) Age 1 to 14 Years, in HHS Region 4 (AL, FL, GA, KY, MS, NC, SC, TN), by Rural-Urban Status: United States, 2011-2013

Objects above the horizontal line where Index=100 indicates mortality rates higher than the national average, below the line are values below the average.

Sources: Centers for Disease Control and Prevention, National Center for Health Statistics, Multiple Cause of Death.
Figure 28

**Age**
15 to 24 Years

**Sex**
Males

**Region**
HHS Region 4 (AL, FL, GA, KY, MS, NC, SC, TN)

Index for Mortality Rates for Cause Related to the National Mortality Rate among Persons (Males) Age 15 to 24 Years, in HHS Region 4 (AL, FL, GA, KY, MS, NC, SC, TN), by Rural-Urban Status: United States, 2011-2013

*Objects above the horizontal line where index=100 indicates mortality rates higher than the national average, below the line are values below the average.*

**Sources:** Centers for Disease Control and Prevention, National Center for Health Statistics, Multiple Cause of Death.

**Suggested Citation:** Rural Health Reform Policy Research Center. Exploring Rural and Urban Mortality Differences, August 2015 Bethesda, MD. 2015.
Figure 29

Index for Mortality Rates for Cause Related to the National Mortality Rate among Persons (Females) Age 15 to 24 Years, in HHS Region 4 (AL, FL, GA, KY, MS, NC, SC, TN), by Rural-Urban Status: United States, 2011-2013

Objects above the horizontal line where index=100 indicates mortality rates higher than the national average, below the line are values below the average.
Index for Mortality Rates for Cause Related to the National Mortality Rate among Persons (Males) Age 25 to 64 Years, in HHS Region 4 (AL, FL, GA, KY, MS, NC, SC, TN), by Rural-Urban Status: United States, 2011-2013

Objects above the horizontal line where index=100 indicates mortality rates higher than the national average, below the line are values below the average.

SOURCES: Centers for Disease Control and Prevention, National Center for Health Statistics, Multiple Cause of Death.
Figure 31

Age: 25 to 64 Years
Sex: Females
Region: HHS Region 4 (AL, FL, GA, KY, MS, NC, SC, TN)

Index for Mortality Rates for Cause Related to the National Mortality Rate among Persons (Females) Age 25 to 64 Years, in HHS Region 4 (AL, FL, GA, KY, MS, NC, SC, TN), by Rural-Urban Status: United States, 2011-2013

Objects above the horizontal line where index=100 indicates mortality rates higher than the national average, below the line are values below the average.

Sources: Centers for Disease Control and Prevention, National Center for Health Statistics, Multiple Cause of Death.
Suggested Citation: Rural Health Reform Policy Research Center. Exploring Rural and Urban Mortality Differences, August 2015 Bethesda, MD. 2015.
Figure 32

Please select:

Age: 65 Years and Older
Sex: Males
Region: HHS Region 4 (AL, FL, GA, KY, MS, NC, SC, TN)

Rural-Urban Status:
- Large Central
- Large Fringe
- Medium/Small Metro
- Micropolitan
- Non-core

Index for Mortality Rates for Cause Related to the National Mortality Rate among Persons (Males) Age 65 Years and Older, in HHS Region 4 (AL, FL, GA, KY, MS, NC, SC, TN), by Rural-Urban Status: United States, 2011-2013

Objects above the horizontal line where index=100 indicates mortality rates higher than the national average, below the line are values below the average.

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Index for Mortality Rates for Cause Related to the National Mortality Rate among Persons (Females) Age 65 Years and Older, in HHS Region 4 (AL, FL, GA, KY, MS, NC, SC, TN), by Rural-Urban Status: United States, 2011-2013

Objects above the horizontal line where index=100 indicates mortality rates higher than the national average, below the line are values below the average.
HHS Region 5
Illinois, Indiana, Michigan, Minnesota, Ohio, and Wisconsin
Index for Regional Mortality Rates of Region 5, by Rural-Urban Status: United States, 2011-2013

Persons:

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- Figure 37: Adolescents and Young Adults (Ages 15 to 24 Years), Female
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Index for Mortality Rates for Cause Related to the National Mortality Rate among Persons (Both Sexes) Age Under 1 Year, in HHS Region 5 (IL, IN, MI, MN, OH, WI), by Rural-Urban Status: United States, 2011-2013

Objects above the horizontal line where index=100 indicates mortality rates higher than the national average, below the line are values below the average.

SOURCES: Centers for Disease Control and Prevention, National Center for Health Statistics, Multiple Cause of Death.
Figure 35

**Please select:**

**Age** 1 to 14 Years

**Sex** Both Sexes

**Region** HHS Region 5 (IL, IN, MI, MN, OH, WI)

Index for Mortality Rates for Cause Related to the National Mortality Rate among Persons (Both Sexes) Age 1 to 14 Years, in HHS Region 5 (IL, IN, MI, MN, OH, WI), by Rural-Urban Status: United States, 2011-2013

Objects above the horizontal line where index=100 indicates mortality rates higher than the national average, below the line are values below the average.

**Sources:** Centers for Disease Control and Prevention, National Center for Health Statistics, Multiple Cause of Death.

**Suggested Citation:** Rural Health Reform Policy Research Center. Exploring Rural and Urban Mortality Differences, August 2015 Bethesda, MD. 2015.
Index for Mortality Rates for Cause Related to the National Mortality Rate among Persons (Males) Age 15 to 24 Years, in HHS Region 5 (IL, IN, MI, MN, OH, WI), by Rural-Urban Status: United States, 2011-2013

Objects above the horizontal line where index = 100 indicates mortality rates higher than the national average, below the line are values below the average.

Figure 36

<table>
<thead>
<tr>
<th>Age</th>
<th>15 to 24 Years</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sex</td>
<td>Males</td>
</tr>
<tr>
<td>Region</td>
<td>HHS Region 5</td>
</tr>
</tbody>
</table>

SOURCES: Centers for Disease Control and Prevention, National Center for Health Statistics, Multiple Cause of Death.
Figure 37

Please select:

Age  
15 to 24 Years

Sex  
Females

Region  
HHS Region 5 (IL, IN, MI, MN, OH, WI)

Index for Mortality Rates for Cause Related to the National Mortality Rate among Persons (Females) Age 15 to 24 Years, in HHS Region 5 (IL, IN, MI, MN, OH, WI), by Rural-Urban Status: United States, 2011-2013

Objects above the horizontal line where index=100 indicates mortality rates higher than the national average, below the line are values below the average.

Index

Cerebrovascular diseases
Congenital malformations
Diabetes
Flu and pneumonia
Heart disease
Homicide
Malignant neoplasms
Pregnancy or childbirth
Suicide
Unintentional injuries

Sources: Centers for Disease Control and Prevention, National Center for Health Statistics, Multiple Cause of Death.

Suggested Citation: Rural Health Reform Policy Research Center. Exploring Rural and Urban Mortality Differences, August 2015 Bethesda, MD. 2015.
Figure 38

Index for Mortality Rates for Cause Related to the National Mortality Rate among Persons (Males) Age 25 to 64 Years, in HHS Region 5 (IL, IN, MI, MN, OH, WI), by Rural-Urban Status: United States, 2011-2013

Objects above the horizontal line where index=100 indicates mortality rates higher than the national average, below the line are values below the average.

SOURCES: Centers for Disease Control and Prevention, National Center for Health Statistics, Multiple Cause of Death.
Figure 39

Index for Mortality Rates for Cause Related to the National Mortality Rate among Persons (Females) Age 25 to 64 Years, in HHS Region 5 (IL, IN, MI, MN, OH, WI), by Rural-Urban Status: United States, 2011-2013

Objects above the horizontal line where index=100 indicates mortality rates higher than the national average, below the line are values below the average.

Sources: Centers for Disease Control and Prevention, National Center for Health Statistics, Multiple Cause of Death.
Index for Mortality Rates for Cause Related to the National Mortality Rate among Persons (Males) Age 65 Years and Older, in HHS Region 5 (IL, IN, MI, MN, OH, WI), by Rural-Urban Status: United States, 2011-2013

Objects above the horizontal line where index=100 indicates mortality rates higher than the national average, below the line are values below the average.

SOURCES: Centers for Disease Control and Prevention, National Center for Health Statistics, Multiple Cause of Death.
Figure 41

Index for Mortality Rates for Cause Related to the National Mortality Rate among Persons (Females) Age 65 Years and Older, in HHS Region 5 (IL, IN, MI, MN, OH, WI), by Rural-Urban Status: United States, 2011-2013

Objects above the horizontal line where index=100 indicates mortality rates higher than the national average, below the line are values below the average.
HHS Region 6
Arkansas, Louisiana, New Mexico, Oklahoma, and Texas
Index for Regional Mortality Rates of Region 6, by Rural-Urban Status: United States, 2011-2013

Persons:

- **Figure 42**: Infants (<1 Years)
- **Figure 43**: Children (Ages 1 to 14 Years)
- **Figure 44**: Adolescents and Young Adults (Ages 15 to 24 Years), Males
- **Figure 45**: Adolescents and Young Adults (Ages 15 to 24 Years), Female
- **Figure 46**: Working-Age Adults (Ages 25 to 64 Years), Male
- **Figure 47**: Working-Age Adults (Ages 25 to 64 Years), Female
- **Figure 48**: Seniors (Ages ≥65 Years), Male
- **Figure 49**: Seniors (Ages ≥65 Years), Female
Figure 42

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<tbody>
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Index for Mortality Rates for Cause Related to the National Mortality Rate among Persons (Both Sexes) Age Under 1 Year, in HHS Region 6 (AR, LA, NM, OK, TX), by Rural-Urban Status: United States, 2011-2013

Objects above the horizontal line where index=100 indicates mortality rates higher than the national average, below the line are values below the average.

SOURCES: Centers for Disease Control and Prevention, National Center for Health Statistics, Multiple Cause of Death.
Figure 43

Index for Mortality Rates for Cause Related to the National Mortality Rate among Persons (Both Sexes) Age 1 to 14 Years, in HHS Region 6 (AR, LA, NM, OK, TX), by Rural-Urban Status: United States, 2011-2013

Objects above the horizontal line where index=100 indicates mortality rates higher than the national average, below the line are values below the average.

SOURCES: Centers for Disease Control and Prevention, National Center for Health Statistics, Multiple Cause of Death.
Figure 44

Please select:

Age 15 to 24 Years
Sex Males
Region HHS Region 6 (AR, LA, NM, OK, TX)

Index for Mortality Rates for Cause Related to the National Mortality Rate among Persons (Males) Age 15 to 24 Years, in HHS Region 6 (AR, LA, NM, OK, TX), by Rural-Urban Status: United States, 2011-2013

Objects above the horizontal line where index=100 indicates mortality rates higher than the national average, below the line are values below the average.

SOURCES: Centers for Disease Control and Prevention, National Center for Health Statistics, Multiple Cause of Death.
Figure 45

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<td><strong>Sex</strong></td>
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<td><strong>Region</strong></td>
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Index for Mortality Rates for Cause Related to the National Mortality Rate among Persons (Females) Age 15 to 24 Years, in HHS Region 6 (AR, LA, NM, OK, TX), by Rural-Urban Status: United States, 2011-2013

*Objects above the horizontal line where index=100 indicates mortality rates higher than the national average, below the line are values below the average.*

**SOURCES:** Centers for Disease Control and Prevention, National Center for Health Statistics, Multiple Cause of Death.
Figure 46

Index for Mortality Rates for Cause Related to the National Mortality Rate among Persons (Males) Age 25 to 64 Years, in HHS Region 6 (AR, LA, NM, OK, TX), by Rural-Urban Status: United States, 2011-2013

Objects above the horizontal line where index=100 indicates mortality rates higher than the national average, below the line are values below the average.

SOURCES: Centers for Disease Control and Prevention, National Center for Health Statistics, Multiple Cause of Death.
Index for Mortality Rates for Cause Related to the National Mortality Rate among Persons (Females) Age 25 to 64 Years, in HHS Region 6 (AR, LA, NM, OK, TX), by Rural-Urban Status: United States, 2011-2013

Objects above the horizontal line where index=100 indicates mortality rates higher than the national average, below the line are values below the average.

SOURCES: Centers for Disease Control and Prevention, National Center for Health Statistics, Multiple Cause of Death.
Figure 48

Index for Mortality Rates for Cause Related to the National Mortality Rate among Persons (Males) Age 65 Years and Older, in HHS Region 6 (AR, LA, NM, OK, TX), by Rural-Urban Status: United States, 2011-2013

Objects above the horizontal line where index=100 indicates mortality rates higher than the national average, below the line are values below the average.

Sources: Centers for Disease Control and Prevention, National Center for Health Statistics, Multiple Cause of Death.
Index for Mortality Rates for Cause Related to the National Mortality Rate among Persons (Females) Age 65 Years and Older, in HHS Region 6 (AR, LA, NM, OK, TX), by Rural-Urban Status: United States, 2011-2013

Objects above the horizontal line where index=100 indicates mortality rates higher than the national average, below the line are values below the average.

Sources: Centers for Disease Control and Prevention, National Center for Health Statistics, Multiple Cause of Death.
Suggested Citation: Rural Health Reform Policy Research Center. Exploring Rural and Urban Mortality Differences, August 2015 Bethesda, MD: 2015.
HHS Region 7
Iowa, Kansas, Missouri, and Nebraska
Index for Regional Mortality Rates of Region 7, by Rural-Urban Status: United States, 2011-2013

Persons:

- Figure 50: Infants (<1 Years)
- Figure 51: Children (Ages 1 to 14 Years)
- Figure 52: Adolescents and Young Adults (Ages 15 to 24 Years), Males
- Figure 53: Adolescents and Young Adults (Ages 15 to 24 Years), Female
- Figure 54: Working-Age Adults (Ages 25 to 64 Years), Male
- Figure 55: Working-Age Adults (Ages 25 to 64 Years), Female
- Figure 56: Seniors (Ages ≥65 Years), Male
- Figure 57: Seniors (Ages ≥65 Years), Female
Figure 50

**Please select:**

**Age**
- Under 1 Year

**Sex**
- Both Sexes

**Region**
- HHS Region 7 (IA, KS, MO, NE)

**Index for Mortality Rates for Cause Related to the National Mortality Rate among Persons (Both Sexes) Age Under 1 Year, in HHS Region 7 (IA, KS, MO, NE), by Rural-Urban Status: United States, 2011-2013**

*Objects above the horizontal line where index>100 indicates mortality rates higher than the national average, below the line are values below the average.*

**Sources:** Centers for Disease Control and Prevention, National Center for Health Statistics, Multiple Cause of Death.  
**Suggested Citation:** Rural Health Reform Policy Research Center. Exploring Rural and Urban Mortality Differences, August 2015 Bethesda, MD. 2015.
Figure 51

Age: 1 to 14 Years
Sex: Both Sexes
Region: HHS Region 7 (IA, KS, MO, NE)

Index for Mortality Rates for Cause Related to the National Mortality Rate among Persons (Both Sexes) Age 1 to 14 Years, in HHS Region 7 (IA, KS, MO, NE), by Rural-Urban Status: United States, 2011-2013

Objects above the horizontal line where index=100 indicates mortality rates higher than the national average, below the line are values below the average.

SOURCES: Centers for Disease Control and Prevention, National Center for Health Statistics, Multiple Cause of Death.
Figure 52

Please select:

Age 15 to 24 Years
Sex Males
Region HHS Region 7 (IA, KS, MO, NE)

Index for Mortality Rates for Cause Related to the National Mortality Rate among Persons (Males) Age 15 to 24 Years, in HHS Region 7 (IA, KS, MO, NE), by Rural-Urban Status: United States, 2011-2013

Objects above the horizontal line where index=100 indicates mortality rates higher than the national average, below the line are values below the average.

SOURCES: Centers for Disease Control and Prevention, National Center for Health Statistics, Multiple Cause of Death.
Figure 53

Index for Mortality Rates for Cause Related to the National Mortality Rate among Persons (Females) Age 15 to 24 Years, in HHS Region 7 (IA, KS, MO, NE), by Rural-Urban Status: United States, 2011-2013

Index values above the horizontal line where index=100 indicate mortality rates higher than the national average, below the line are values below the average.

SOURCES: Centers for Disease Control and Prevention, National Center for Health Statistics, Multiple Cause of Death.
Index for Mortality Rates for Cause Related to the National Mortality Rate among Persons (Males) Age 25 to 64 Years, in HHS Region 7 (IA, KS, MO, NE), by Rural-Urban Status: United States, 2011-2013

Objects above the horizontal line where index=100 indicates mortality rates higher than the national average, below the line are values below the average.

SOURCES: Centers for Disease Control and Prevention, National Center for Health Statistics, Multiple Cause of Death.
Index for Mortality Rates for Cause Related to the National Mortality Rate among Persons (Females) Age 25 to 64 Years, in HHS Region 7 (IA, KS, MO, NE), by Rural-Urban Status: United States, 2011-2013

Objects above the horizontal line where index=100 indicates mortality rates higher than the national average, below the line are values below the average.

Sources: Centers for Disease Control and Prevention, National Center for Health Statistics, Multiple Cause of Death.
Suggested Citation: Rural Health Reform Policy Research Center. Exploring Rural and Urban Mortality Differences, August 2015 Bethesda, MD. 2015.
Figure 56

**Please select:**

**Age**
- 65 Years and Older

**Sex**
- Males

**Region**
- HHS Region 7 (IA, KS, MO, NE)

**Index for Mortality Rates for Cause Related to the National Mortality Rate among Persons (Males) Age 65 Years and Older, in HHS Region 7 (IA, KS, MO, NE), by Rural-Urban Status: United States, 2011-2013**

Objects above the horizontal line where index=100 indicates mortality rates higher than the national average, below the line are values below the average.

**Sources:** Centers for Disease Control and Prevention, National Center for Health Statistics, Multiple Cause of Death.

**Suggested Citation:** Rural Health Reform Policy Research Center. Exploring Rural and Urban Mortality Differences, August 2015 Bethesda, MD. 2015.
Figure 57

**Age**: 65 Years and Older  

**Sex**: Females  

**Region**: HHS Region 7 (IA, KS, MO, NE)

**Index for Mortality Rates for Cause Related to the National Mortality Rate among Persons (Females) Age 65 Years and Older, in HHS Region 7 (IA, KS, MO, NE), by Rural-Urban Status: United States, 2011-2013**

*Objects above the horizontal line where index=100 indicates mortality rates higher than the national average, below the line are values below the average.*

*Sources: Centers for Disease Control and Prevention, National Center for Health Statistics, Multiple Cause of Death.*  
*Suggested Citation: Rural Health Reform Policy Research Center. Exploring Rural and Urban Mortality Differences, August 2015 Bethesda, MD. 2015.*
HHS Region 8
Colorado, Montana, North Dakota, South Dakota, Utah, and Wyoming
Index for Regional Mortality Rates of Region 8, by Rural-Urban Status: United States, 2011-2013

Persons:

• Figure 58: Infants (<1 Years)
• Figure 59: Children (Ages 1 to 14 Years)
• Figure 60: Adolescents and Young Adults (Ages 15 to 24 Years), Males
• Figure 61: Adolescents and Young Adults (Ages 15 to 24 Years), Female
• Figure 62: Working-Age Adults (Ages 25 to 64 Years), Male
• Figure 63: Working-Age Adults (Ages 25 to 64 Years), Female
• Figure 64: Seniors (Ages ≥65 Years), Male
• Figure 65: Seniors (Ages ≥65 Years), Female
Figure 58

Age: Under 1 Year
Sex: Both Sexes
Region: HHS Region 8 (CO, MT, ND, SD, UT, WY)

Index for Mortality Rates for Cause Related to the National Mortality Rate among Persons (Both Sexes) Age Under 1 Year, in HHS Region 8 (CO, MT, ND, SD, UT, WY), by Rural-Urban Status: United States, 2011-2013

Objects above the horizontal line where index=100 indicates mortality rates higher than the national average, below the line are values below the average.

Sources: Centers for Disease Control and Prevention, National Center for Health Statistics, Multiple Cause of Death.
Suggested Citation: Rural Health Reform Policy Research Center. Exploring Rural and Urban Mortality Differences, August 2015 Bethesda, MD. 2015.
Figure 59

Index for Mortality Rates for Cause Related to the National Mortality Rate among Persons (Both Sexes) Age 1 to 14 Years, in HHS Region 8 (CO, MT, ND, SD, UT, WY), by Rural-Urban Status: United States, 2011-2013

Objects above the horizontal line where index=100 indicates mortality rates higher than the national average, below the line are values below the average.

Sources: Centers for Disease Control and Prevention, National Center for Health Statistics, Multiple Cause of Death.
Suggested Citation: Rural Health Reform Policy Research Center. Exploring Rural and Urban Mortality Differences, August 2015 Bethesda, MD. 2015.
Index for Mortality Rates for Cause Related to the National Mortality Rate among Persons (Males) Age 15 to 24 Years, in HHS Region 8 (CO, MT, ND, SD, UT, WY), by Rural-Urban Status: United States, 2011-2013

Objects above the horizontal line where index = 100 indicates mortality rates higher than the national average, below the line are values below the average.

Sources: Centers for Disease Control and Prevention, National Center for Health Statistics, Multiple Cause of Death.
Index for Mortality Rates for Cause Related to the National Mortality Rate among Persons (Females) Age 15 to 24 Years, in HHS Region 8 (CO, MT, ND, SD, UT, WY), by Rural-Urban Status: United States, 2011-2013

Objects above the horizontal line where index=100 indicates mortality rates higher than the national average, below the line are values below the average.

Sources: Centers for Disease Control and Prevention, National Center for Health Statistics, Multiple Cause of Death.
Suggested Citation: Rural Health Reform Policy Research Center. Exploring Rural and Urban Mortality Differences, August 2015 Bethesda, MD. 2015.
Figure 62

Index for Mortality Rates for Cause Related to the National Mortality Rate among Persons (Males) Age 25 to 64 Years, in HHS Region 8 (CO, MT, ND, SD, UT, WY), by Rural-Urban Status: United States, 2011-2013

Objects above the horizontal line where index=100 indicates mortality rates higher than the national average, below the line are values below the average.

Sources: Centers for Disease Control and Prevention, National Center for Health Statistics, Multiple Cause of Death.
Suggested Citation: Rural Health Reform Policy Research Center. Exploring Rural and Urban Mortality Differences, August 2015 Bethesda, MD. 2015.
Index for Mortality Rates for Cause Related to the National Mortality Rate among Persons (Females) Age 25 to 64 Years, in HHS Region 8 (CO, MT, ND, SD, UT, WY), by Rural-Urban Status: United States, 2011-2013

Objects above the horizontal line where index=100 indicates mortality rates higher than the national average, below the line are values below the average.

Sources: Centers for Disease Control and Prevention, National Center for Health Statistics, Multiple Cause of Death.
Suggested Citation: Rural Health Reform Policy Research Center. Exploring Rural and Urban Mortality Differences, August 2015 Bethesda, MD. 2015.
Figure 64

**Please select:**

**Age**
- 65 Years and Older

**Sex**
- Males

**Region**
- HHS Region 8 (CO, MT, ND, SD, UT, WY)

**Rural-Urban Status**
- Large Central
- Large Fringe
- Medium/Small Metro
- Micropolitan
- Non-core

**Index for Mortality Rates for Cause Related to the National Mortality Rate among Persons (Males) Age 65 Years and Older, in HHS Region 8 (CO, MT, ND, SD, UT, WY), by Rural-Urban Status: United States, 2011-2013**

*Objects above the horizontal line where index=100 indicates mortality rates higher than the national average, below the line are values below the average.*

**Sources:** Centers for Disease Control and Prevention, National Center for Health Statistics, Multiple Cause of Death.
Figure 65

**Index for Mortality Rates for Cause Related to the National Mortality Rate among Persons (Females) Age 65 Years and Older, in HHS Region 8 (CO, MT, ND, SD, UT, WY), by Rural-Urban Status: United States, 2011-2013**

Objects above the horizontal line where index=100 indicates mortality rates higher than the national average, below the line are values below the average.

**Sources:** Centers for Disease Control and Prevention, National Center for Health Statistics, Multiple Cause of Death.

**Suggested Citation:** Rural Health Reform Policy Research Center. Exploring Rural and Urban Mortality Differences, August 2015 Bethesda, MD. 2015.
HHS Region 9
Arizona, California, Hawaii, and Nevada

Note: Deaths of nonresidents including those in American Samoa, Commonwealth of the Northern Mariana Islands, Federated States of Micronesia, Guam, Marshall Islands, and Republic of Palau are excluded.
Index for Regional Mortality Rates of Region 9, by Rural-Urban Status: United States, 2011-2013

Persons:

- Figure 66: Infants (<1 Years)
- Figure 67: Children (Ages 1 to 14 Years)
- Figure 68: Adolescents and Young Adults (Ages 15 to 24 Years), Males
- Figure 69: Adolescents and Young Adults (Ages 15 to 24 Years), Female
- Figure 70: Working-Age Adults (Ages 25 to 64 Years), Male
- Figure 71: Working-Age Adults (Ages 25 to 64 Years), Female
- Figure 72: Seniors (Ages ≥65 Years), Male
- Figure 73: Seniors (Ages ≥65 Years), Female
Figure 66

Index for Mortality Rates for Cause Related to the National Mortality Rate among Persons (Both Sexes) Age Under 1 Year, in HHS Region 9 (AZ, CA, HI, NV), by Rural-Urban Status: United States, 2011-2013

Objects above the horizontal line where index=100 indicates mortality rates higher than the national average, below the line are values below the average.

Sources: Centers for Disease Control and Prevention, National Center for Health Statistics, Multiple Cause of Death.
Suggested Citation: Rural Health Reform Policy Research Center. Exploring Rural and Urban Mortality Differences, August 2015 Bethesda, MD. 2015.
Figure 67

**Please select:***

**Age**
1 to 14 Years

**Sex**
Both Sexes

**Region**
HHS Region 9 (AZ, CA, HI, NV)

Index for Mortality Rates for Cause Related to the National Mortality Rate among Persons (Both Sexes) Age 1 to 14 Years, in HHS Region 9 (AZ, CA, HI, NV), by Rural-Urban Status: United States, 2011-2013

*Objects above the horizontal line where index=100 indicates mortality rates higher than the national average, below the line are values below the average.*

**Sources:** Centers for Disease Control and Prevention, National Center for Health Statistics, Multiple Cause of Death.

**Suggested Citation:** Rural Health Reform Policy Research Center. Exploring Rural and Urban Mortality Differences, August 2015 Bethesda, MD. 2015.
Index for Mortality Rates for Cause Related to the National Mortality Rate among Persons (Males) Age 15 to 24 Years, in HHS Region 9 (AZ, CA, HI, NV), by Rural-Urban Status: United States, 2011-2013

Objects above the horizontal line where index=100 indicates mortality rates higher than the national average, below the line are values below the average.
Figure 69

**Index for Mortality Rates for Cause Related to the National Mortality Rate among Persons (Females) Age 15 to 24 Years, in HHS Region 9 (AZ, CA, HI, NV), by Rural-Urban Status: United States, 2011-2013**

Objects above the horizontal line where index=100 indicates mortality rates higher than the national average, below the line are values below the average.

**Sources:** Centers for Disease Control and Prevention, National Center for Health Statistics, Multiple Cause of Death.

**Suggested Citation:** Rural Health Reform Policy Research Center. Exploring Rural and Urban Mortality Differences, August 2015 Bethesda, MD. 2015.
Index for Mortality Rates for Cause Related to the National Mortality Rate among Persons (Males) Age 25 to 64 Years, in HHS Region 9 (AZ, CA, HI, NV), by Rural-Urban Status: United States, 2011-2013

Objects above the horizontal line where index=100 indicates mortality rates higher than the national average, below the line are values below the average.

SOURCES: Centers for Disease Control and Prevention, National Center for Health Statistics, Multiple Cause of Death.
Index for Mortality Rates for Cause Related to the National Mortality Rate among Persons (Females) Age 25 to 64 Years, in HHS Region 9 (AZ, CA, HI, NV), by Rural-Urban Status: United States, 2011-2013

Objects above the horizontal line where index=100 indicates mortality rates higher than the national average, below the line are values below the average.
Figure 72

Age: 65 Years and Older
Sex: Males
Region: HHS Region 9 (AZ, CA, HI, NV)

Index for Mortality Rates for Cause Related to the National Mortality Rate among Persons (Males) Age 65 Years and Older, in HHS Region 9 (AZ, CA, HI, NV), by Rural-Urban Status: United States, 2011-2013

Objects above the horizontal line where index=100 indicates mortality rates higher than the national average, below the line are values below the average.

Sources: Centers for Disease Control and Prevention, National Center for Health Statistics, Multiple Cause of Death.
Suggested Citation: Rural Health Reform Policy Research Center. Exploring Rural and Urban Mortality Differences, August 2015 Bethesda, MD. 2015.
Figure 73

Index for Mortality Rates for Cause Related to the National Mortality Rate among Persons (Females) Age 65 Years and Older, in HHS Region 9 (AZ, CA, HI, NV), by Rural-Urban Status: United States, 2011-2013

Objects above the horizontal line where index=100 indicates mortality rates higher than the national average, below the line are values below the average.

SOURCES: Centers for Disease Control and Prevention, National Center for Health Statistics, Multiple Cause of Death.
HHS Region 10
Alaska, Idaho, Oregon, and Washington
Index for Regional Mortality Rates of Region 10, by Rural-Urban Status:
United States, 2011-2013

Persons:

- Figure 74: Infants (<1 Years)
- Figure 75: Children (Ages 1 to 14 Years)
- Figure 76: Adolescents and Young Adults (Ages 15 to 24 Years), Males
- Figure 77: Adolescents and Young Adults (Ages 15 to 24 Years), Female
- Figure 78: Working-Age Adults (Ages 25 to 64 Years), Male
- Figure 79: Working-Age Adults (Ages 25 to 64 Years), Female
- Figure 80: Seniors (Ages ≥65 Years), Male
- Figure 81: Seniors (Ages ≥65 Years), Female
Index for Mortality Rates for Cause Related to the National Mortality Rate among Persons (Both Sexes) Age Under 1 Year, in HHS Region 10 (AK, ID, OR, WA), by Rural-Urban Status: United States, 2011-2013

Objects above the horizontal line where index=100 indicates mortality rates higher than the national average, below the line are values below the average.

Sources: Centers for Disease Control and Prevention, National Center for Health Statistics, Multiple Cause of Death.
Figure 75

Please select:

Age 1 to 14 Years
Sex Both Sexes
Region HHS Region 10 (AK, ID, OR, WA)

Index for Mortality Rates for Cause Related to the National Mortality Rate among Persons (Both Sexes) Age 1 to 14 Years, in HHS Region 10 (AK, ID, OR, WA), by Rural-Urban Status: United States, 2011-2013

Objects above the horizontal line where index=100 indicates mortality rates higher than the national average, below the line are values below the average.

Sources: Centers for Disease Control and Prevention, National Center for Health Statistics, Multiple Cause of Death.
Figure 76

**Age**: 15 to 24 Years  
**Sex**: Males  
**Region**: HHS Region 10 (AK, ID, OR, WA)

**Index for Mortality Rates for Cause Related to the National Mortality Rate among Persons (Males) Age 15 to 24 Years, in HHS Region 10 (AK, ID, OR, WA), by Rural-Urban Status: United States, 2011-2013**

*Objects above the horizontal line where index=100 indicates mortality rates higher than the national average, below the line are values below the average.*

**Sources**: Centers for Disease Control and Prevention, National Center for Health Statistics, Multiple Cause of Death.  
**Suggested Citation**: Rural Health Reform Policy Research Center. Exploring Rural and Urban Mortality Differences, August 2015 Bethesda, MD. 2015.
Index for Mortality Rates for Cause Related to the National Mortality Rate among Persons (Females) Age 15 to 24 Years, in HHS Region 10 (AK, ID, OR, WA), by Rural-Urban Status: United States, 2011-2013

Objects above the horizontal line where index=100 indicates mortality rates higher than the national average, below the line are values below the average.

SOURCES: Centers for Disease Control and Prevention, National Center for Health Statistics, Multiple Cause of Death.
Figure 78

Index for Mortality Rates for Cause Related to the National Mortality Rate among Persons (Males) Age 25 to 64 Years, in HHS Region 10 (AK, ID, OR, WA), by Rural-Urban Status: United States, 2011-2013

Objects above the horizontal line where index=100 indicates mortality rates higher than the national average, below the line are values below the average.

SOURCES: Centers for Disease Control and Prevention, National Center for Health Statistics, Multiple Cause of Death.
Figure 79

Index for Mortality Rates for Cause Related to the National Mortality Rate among Persons (Females) Age 25 to 64 Years, in HHS Region 10 (AK, ID, OR, WA), by Rural-Urban Status: United States, 2011-2013

Objects above the horizontal line where index=100 indicates mortality rates higher than the national average, below the line are values below the average.

SOURCES: Centers for Disease Control and Prevention, National Center for Health Statistics, Multiple Cause of Death.
Index for Mortality Rates for Cause Related to the National Mortality Rate among Persons (Males) Age 65 Years and Older, in HHS Region 10 (AK, ID, OR, WA), by Rural-Urban Status: United States, 2011-2013

Index above the horizontal line where index=100 indicates mortality rates higher than the national average, below the line are values below the average.

SOURCES: Centers for Disease Control and Prevention, National Center for Health Statistics, Multiple Cause of Death.
Figure 81

**Index for Mortality Rates for Cause Related to the National Mortality Rate among Persons (Females) Age 65 Years and Older, in HHS Region 10 (AK, ID, OR, WA), by Rural-Urban Status: United States, 2011-2013**

*Objects above the horizontal line where index=100 indicates mortality rates higher than the national average, below the line are values below the average.*

**Sources:** Centers for Disease Control and Prevention, National Center for Health Statistics, Multiple Cause of Death.

**Suggested Citation:** Rural Health Reform Policy Research Center. Exploring Rural and Urban Mortality Differences, August 2015 Bethesda, MD. 2015.
Summary: New England and the Mid-Atlantic States

• Cause-specific, rural mortality rates worse than the nation in:
  – Region 1, CT, ME, MA, NH, RI, VT
    • Unintentional injuries (males), suicide (males), 15-64 years.
  – Region 2, NY, NJ
    • Unintentional Injuries, 1 to 14 years.
    • Malignant neoplasms (females), 25 to 64 years.
    • Suicide (males), 25 to 64 years.
  – Region 3, DE, DC, MD, PA, VA, WV
    • Congenital malformations, homicide, 1 to 14 years.
    • Unintentional injuries, 1 to 14 and 15 to 24 years.
    • Suicide(males), 15 to 24 years
    • Malignant neoplasms, heart disease, unintentional injuries, suicide, diabetes, lower respiratory, homicide (females), septicemia(males), 25 to 64 years.
• Cause-specific, rural mortality rates worse than the nation in:
  – Region 4, AL, FL, GA, KY, MS, NC, SC, TN
    • Bacterial sepsis, sudden infant death syndrome, and respiratory distress <1 year.
    • Unintentional injuries, heart disease, 1 to 14 years and 15 to 24 years.
    • All top-ten causes of death, 25 to 64 years and 65 or more years, except liver disease (females), 25 to 64 years; diabetes (males), unintentional injuries (females) 65 or more years
  – Region 6, AR, LA, NM, OK, TX
    • Unintentional injuries, homicide, lower respiratory, 1 to 14 years.
    • Heart disease (males), unintentional injuries, suicide, 15 to 24 years.
    • All top-ten causes of death, 25 to 64 years and 65 or more years, except malignant neoplasms, unintentional injuries, Alzheimer's (males) 65 years and older
Summary: The Midwest

• Cause-specific, rural mortality rates worse than the nation in:
  – Region 5, IL, IN, MI, MN, OH, WI
    • Unintentional injuries, suicide and congenital malformations, 1 to 14.
    • Unintentional injuries, suicide (males) 15 to 24 years.
    • Malignant neoplasm, unintentional injuries, lower respiratory, 25 to 64 years.
Summary: The Plains, and Rockies

- Cause-specific, rural mortality rates worse than the nation in:
  - Unintentional injuries, 1 to 64 years (region 7 & 8) and 65 or more years (region 8).
  - Suicide, 15 to 64 years, (region 8), males (region 7).
  - Region 7, IA, KS, MO, NE
    - Malignant neoplasms, heart disease, suicide, lower respiratory, 25 to 64 years.
  - Region 8, CO, MT, ND, SD, UT, WY
    - Liver disease, septicemia (females), 25 to 64 years.
    - Alzheimer's, 65 years or more.
Summary: The West Coast

• Cause-specific, rural mortality rates worse than the nation in:
  – Suicide, 15 to 64 years of age (region 9 & 10).
  – Region 9, AZ, CA, HI, NV
    • Unintentional injuries, 1 to 64 years.
    • Liver disease, 25 to 64 years.
  – Region 10, AK, ID, OR, WA
    • Unintentional injuries, age 15 years or older, except males 65 years and older.
    • Liver disease (females), 25 to 64 years.
    • Alzheimer's, 65 years or more.
Summary

• Place matters
  • Cause-specific mortality varies by region
  • Regional differences that may impact mortality include:
    • Culture
    • Demographics
    • Health behaviors
    • Morbidity
• Sparsely populated areas have high mortality rates
Appendix A: Overlapping Point

- Graphs with less than two (0 to 24 years of age) or five points (25+ years of age) indicate either 1) overlapping data or 2) suppressed or unreliable data.

- Appendix A lists all overlapping points allowing users to ascertain the suppressed and unreliable estimates.

- Overlapping points do not imply equality between two mortality rates. Please see the data tables for exact rates.

- Numbers are used to indicate overlap as more than one overlap may be present within an Age, Sex, Region, Disease combination.
### Appendix A: Overlapping Points by Region and Disease, Under 1 Year of Age

<table>
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<tr>
<th>Region</th>
<th>Disease</th>
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Bacterial Septicemia, Age <1, Region 6 values are relatively close and almost appear to overlap. As such, we indicate the overlap with a value of 1 across the row.
## Appendix A: Overlapping Points by Region and Disease, 1 to 14 Years of Age

<table>
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<tr>
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<tr>
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</tr>
<tr>
<td>HHS 5</td>
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</tr>
<tr>
<td>HHS 5</td>
<td>Flu and Pneumonia</td>
<td>1</td>
</tr>
<tr>
<td>HHS 6</td>
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<td>1</td>
</tr>
<tr>
<td>HHS 7</td>
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</tr>
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</table>

Overlapping points are represented across the rows, not the columns. For example, Region 4 has an overlapping point at Benign Neoplasms.
# Appendix A: Overlapping Points by Region, Sex, Disease, 15 to 24 Years of Age

<table>
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<td>Females</td>
<td>Heart Disease</td>
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<tr>
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</table>

Overlapping points are represented across the rows, not the columns. For example, Region 5, Males has an overlapping point at Heart Disease.
Appendix A: Overlapping Points by Region, Sex, Disease, 25 to 64 years of age, Region 1 to 5

<table>
<thead>
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</tr>
<tr>
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</table>

Overlapping points are represented across the rows, not the columns. For example, Region 1, Males has an overlapping point at Heart Disease.
## Appendix A: Overlapping Points by Region, Sex, Disease, 25 to 64 years of age, Region 6 to 7

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Overlapping points are represented across the rows, not the columns. For example, Region 6, Males has an overlapping point at Cerebrovascular diseases. Numbers are used to indicate overlap as more than one overlap may be present within an Age, Sex, Region, Disease combination.
## Appendix A: Overlapping Points by Region, Sex, Disease, 25 to 64 years of age, Region 8 to 10

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## Appendix A: Overlapping Points by Region, Sex, Disease, 65+ years of age, Region 1 to 3

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### Appendix A: Overlapping Points by Region, Sex, Disease, 65+ years of age, Region 4 to 6

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</table>

Overlapping points are represented across the rows, not the columns. For example, Region 4, Males has an overlapping point at Heart Disease. Numbers are used to indicate overlap as more than one overlap may be present within an Age, Sex, Region, Disease combination.
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<th>Region</th>
<th>Sex</th>
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<th>Large Fringe</th>
<th>Medium/Small Metro</th>
<th>Micropolitan</th>
<th>Non-core</th>
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<td>Males</td>
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</tr>
<tr>
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<td>Malignant Neoplasms</td>
<td>1</td>
<td>1</td>
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<td></td>
</tr>
<tr>
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<td>Females</td>
<td>Diabetes</td>
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<td></td>
</tr>
<tr>
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<td>Malignant Neoplasms</td>
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<td>Septicemia</td>
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</table>

Overlapping points are represented across the rows, not the columns. For example, Region 7, Males has an overlapping point at Cerebrovascular diseases (Large Fringe and Medium/Small Metro). Numbers are used to indicate overlap as more than one overlap may be present within an Age, Sex, Region, Disease combination.
## Appendix A: Overlapping Points by Region, Sex, Disease, 65+ years of age, Region 9 to 10

<table>
<thead>
<tr>
<th>Region</th>
<th>Sex</th>
<th>Disease</th>
<th>Rural-Urban Status</th>
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<tr>
<td></td>
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<td></td>
<td>Large Central</td>
</tr>
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<td>Males</td>
<td>Diabetes</td>
<td>2</td>
</tr>
<tr>
<td>HHS 9</td>
<td>Males</td>
<td>Flu and Pneumonia</td>
<td></td>
</tr>
<tr>
<td>HHS 9</td>
<td>Males</td>
<td>Heart Disease</td>
<td></td>
</tr>
<tr>
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<td>Males</td>
<td>Lower respiratory disease</td>
<td>1</td>
</tr>
<tr>
<td>HHS 9</td>
<td>Males</td>
<td>Malignant Neoplasms</td>
<td>1</td>
</tr>
<tr>
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<td>Males</td>
<td>Unintentional injuries</td>
<td>1</td>
</tr>
<tr>
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<td>Females</td>
<td>Cerebrovascular diseases</td>
<td>1</td>
</tr>
<tr>
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<td>Females</td>
<td>Diabetes</td>
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<td>Heart Disease</td>
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<tr>
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<tr>
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<td>Females</td>
<td>Flu and Pneumonia</td>
<td></td>
</tr>
<tr>
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<td>Females</td>
<td>Heart Disease</td>
<td></td>
</tr>
<tr>
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<td>Females</td>
<td>Malignant Neoplasms</td>
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<tr>
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<td>Females</td>
<td>Unintentional injuries</td>
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</tr>
</tbody>
</table>

Overlapping points are represented across the rows, not the columns. For example, Region 9, Males has an overlapping point at Diabetes (Large Fringe and Medium/Small Metro). Numbers are used to indicate overlap as more than one overlap may be present within an Age, Sex, Region, Disease combination.
For More Information

For state specific mortality rates, contact the state health department’s vital records department.