

# Exploring Rural and Urban Mortality Differences by HHS Region

A Consortium of







## 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



#### **Contact Information:**

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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

2013 NCHS Urban-Rural Classification	Definition
Large central (inner cities)	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
Large Fringe (suburban)	Counties in MSAs with a population of at least 1 million residents
Small Metro	Counties in MSAs with a population of less than 1 million residents
Micropolitan (large rural)	Counties with populations of 10,000 to 49,999
Non-core (small rural)	Remaining nonmetropolitan counties that are not in a micropolitan statistical area



- 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.



- 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: (local mortality rate / national mortality rate)\*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



- 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:**

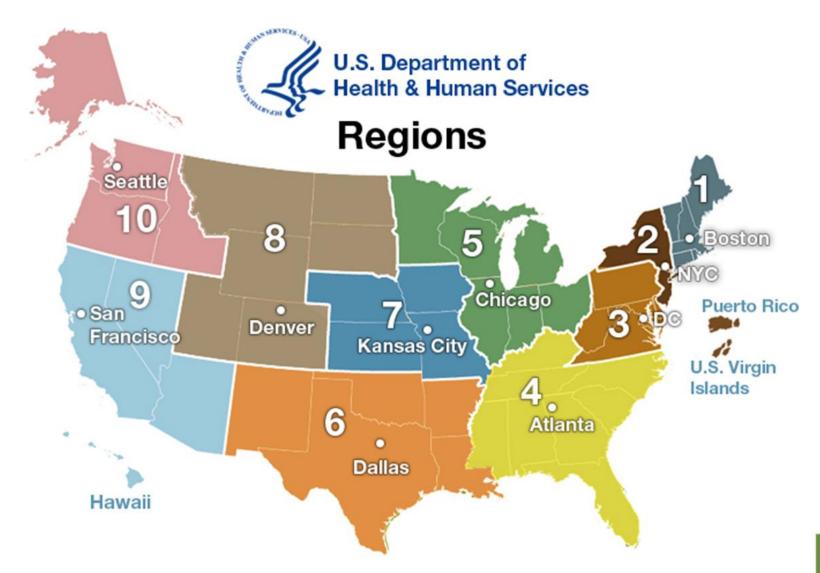
Exploring Rural and Urban Mortality Differences by HHS Region may be accessed from the Rural Health Research Gateway website at:

http://www.ruralhealthresearch.org/.

The graphs from this presentation may be accessed at: <a href="https://viz.norc.org/views/On-LineToolIndexforMortalityRates/Introduction?:embed=y&:display\_count=no">https://viz.norc.org/views/On-LineToolIndexforMortalityRates/Introduction?:embed=y&:display\_count=no</a>

## Geographic Definitions

## HHS Regions



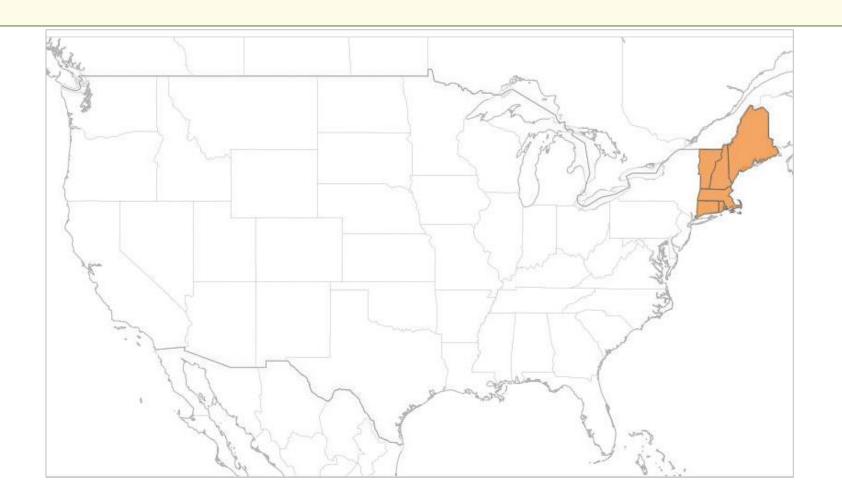


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- HHS Region 9
- HHS Region 10

## 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

#### **Persons:**

- Figure 2: Infants (<1 Years)</li>
- Figure 3: Children (Ages 1 to 14 Years)
- Figure 4: Adolescents and Young Adults (Ages 15 to 24 Years), Males
- Figure 5: Adolescents and Young Adults (Ages 15 to 24 Years), Female
- Figure 6: Working-Age Adults (Ages 25 to 64 Years), Male
- Figure 7: Working-Age Adults (Ages 25 to 64 Years), Female
- Figure 8: Seniors (Ages ≥65 Years), Male
- Figure 9: Seniors (Ages ≥65 Years), Female

Rural-Urban Status

Rural
Urban

Sex

Age

Please select:

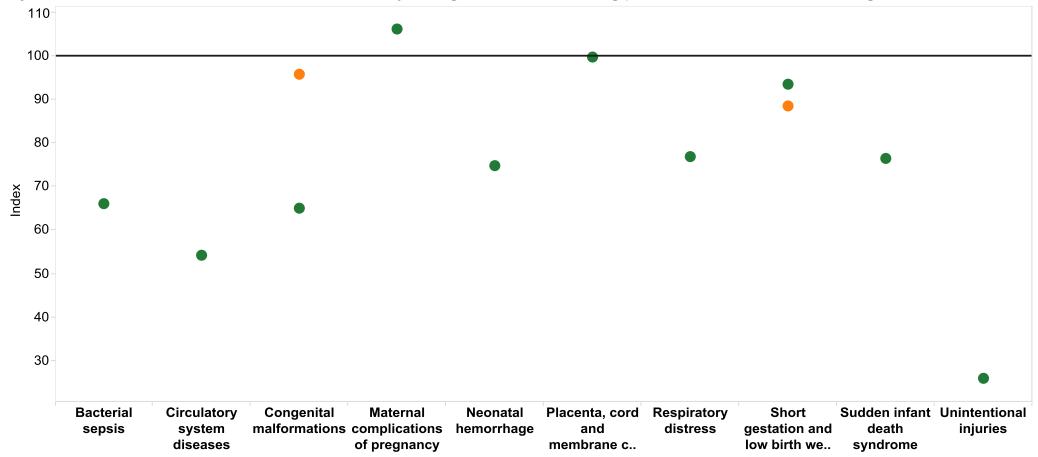
**Both Sexes** 

Under 1 Year

Region

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

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



#### Please select:

Figure 3

Age 1 to 14 Years

Sex Both Sexes

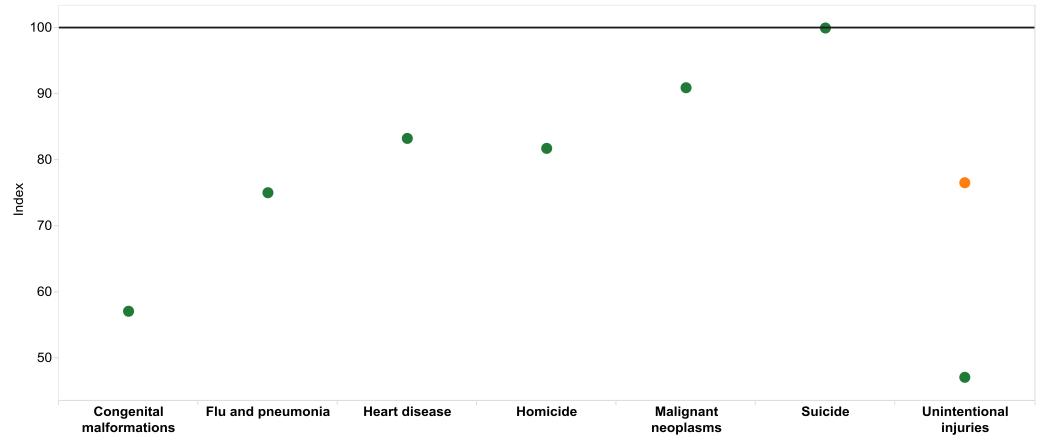
**Region** HHS Region 1 (CT, ME, MA, NH, RI, VT)

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

**Rural-Urban Status** 

Rural

Urban



Rural-Urban Status

Rural
Urban

Age Sex

Males

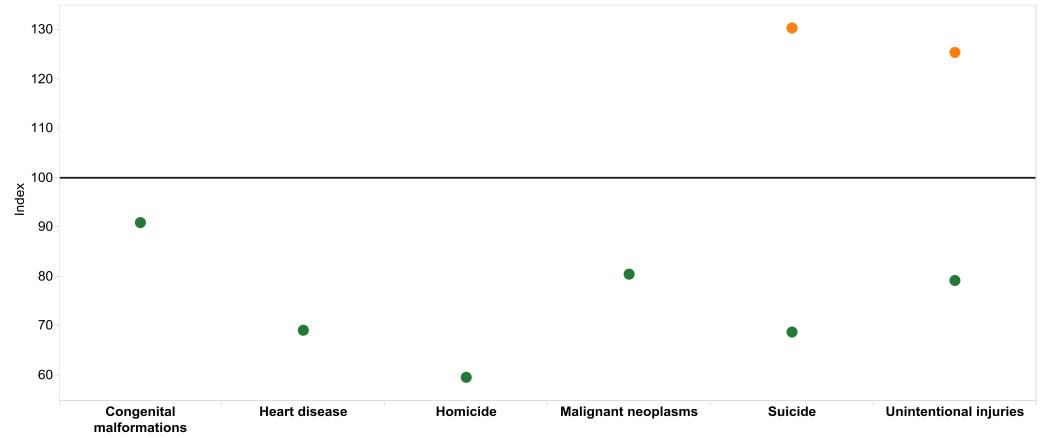
15 to 24 Years

Region

Please select:

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



Please select: **Rural-Urban Status** 

Rural Urban

Sex

Age

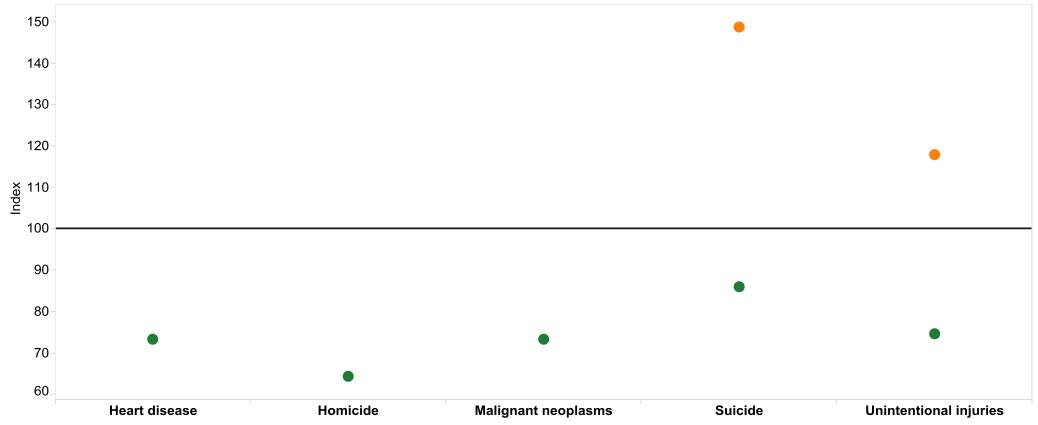
Females

15 to 24 Years

Region

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

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

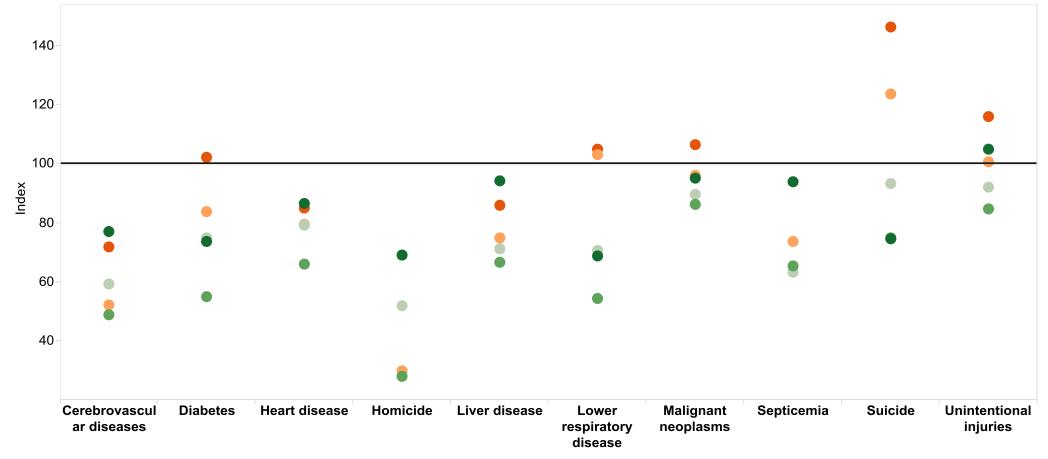


Region

Please select: **Rural-Urban Status** Large Central 25 to 64 Years Age Large Fringe Medium/Small Metro Males Sex Micropolitan Non-core 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 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. SUGGESTED CITATION: Rural Health Reform Policy Research Center. Exploring Rural and Urban Mortality Differences, August 2015 Bethesda, MD. 2015.

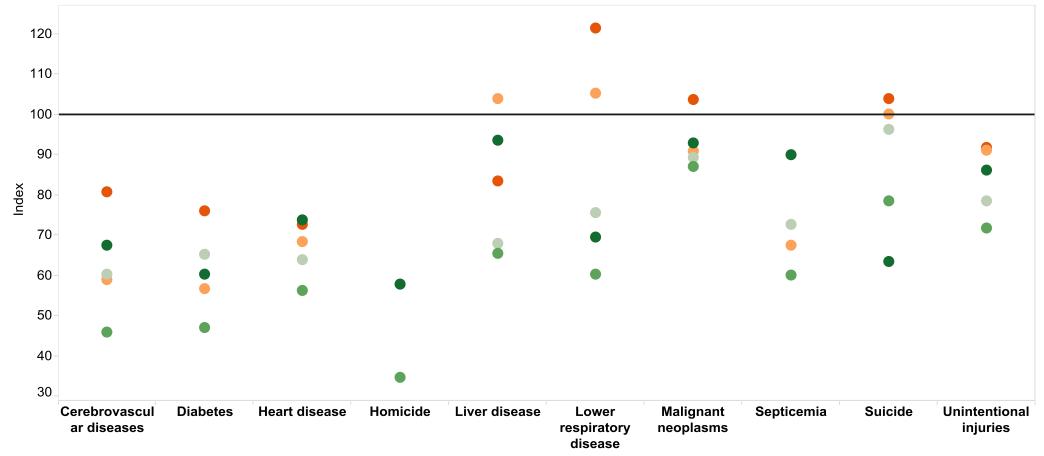
Region

Please select: **Rural-Urban Status** Large Central 25 to 64 Years Age Large Fringe Medium/Small Metro Females Sex Micropolitan Non-core

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

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.

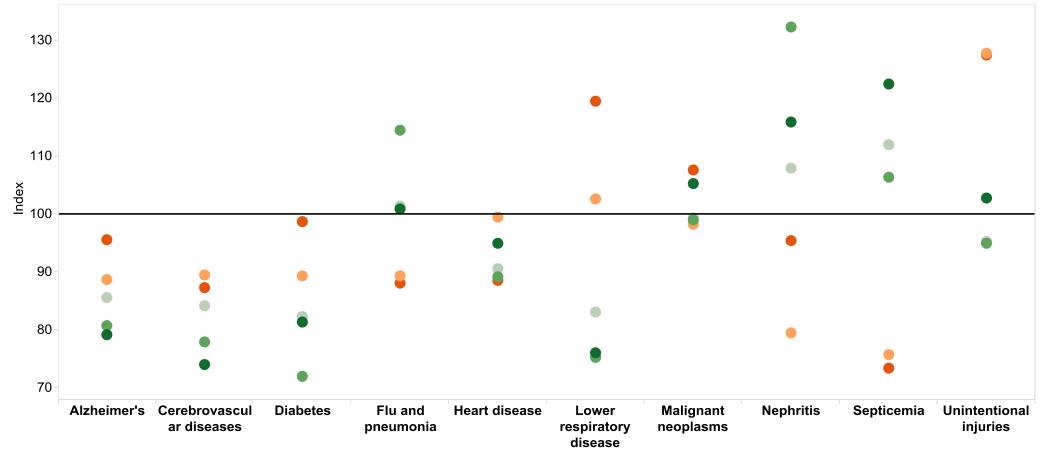


SOURCES: Centers for Disease Control and Prevention, National Center for Health Statistics, Multiple Cause of Death. SUGGESTED CITATION: Rural Health Reform Policy Research Center. Exploring Rural and Urban Mortality Differences, August 2015 Bethesda, MD. 2015.

Region

Please select: **Rural-Urban Status** Large Central 65 Years and Older Age Large Fringe Medium/Small Metro Males Sex Micropolitan Non-core 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 65 Years and Older, in HHS Region 1 (CT, ME, MA, NH, RI, VT), by Rural-Urban Status: United States, 2011-2013



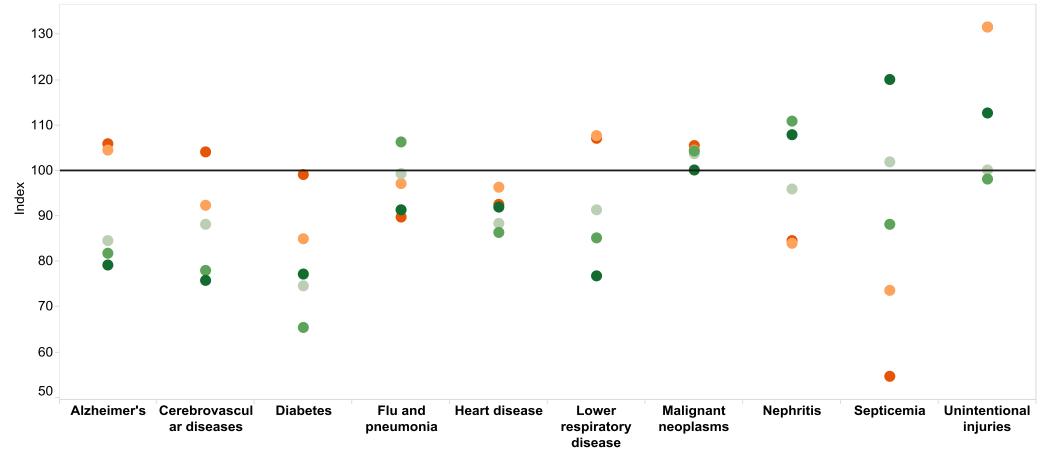
Region

Please select: **Rural-Urban Status** Large Central 65 Years and Older Age Large Fringe Medium/Small Metro **Females** Sex Micropolitan Non-core

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

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. SUGGESTED CITATION: Rural Health Reform Policy Research Center. Exploring Rural and Urban Mortality Differences, August 2015 Bethesda, MD. 2015.

## HHS Region 2<sup>1</sup>

New York and New Jersey



<sup>1</sup>Note: Deaths of nonresidents including those in Puerto Rico and the U.S. Virgin Islands are excluded <a href="http://www.hhs.gov/iea/regional/">http://www.hhs.gov/iea/regional/</a> <a href="http://www.hhs.gov/iea/regional/">http://wonder.cdc.gov/wonder/help/mcd.html</a>



## Index for Regional Mortality Rates of Region 2, by Rural-Urban Status: United States, 2011-2013

#### **Persons:**

- Figure 10: Infants (<1 Years)</li>
- Figure 11: Children (Ages 1 to 14 Years)
- Figure 12: Adolescents and Young Adults (Ages 15 to 24 Years), Males
- Figure 13: Adolescents and Young Adults (Ages 15 to 24 Years), Female
- Figure 14: Working-Age Adults (Ages 25 to 64 Years), Male
- Figure 15: Working-Age Adults (Ages 25 to 64 Years), Female
- Figure 16: Seniors (Ages ≥65 Years), Male
- Figure 17: Seniors (Ages ≥65 Years), Female

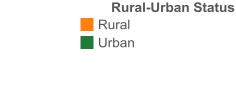
#### <u>Please select:</u>

Figure 10

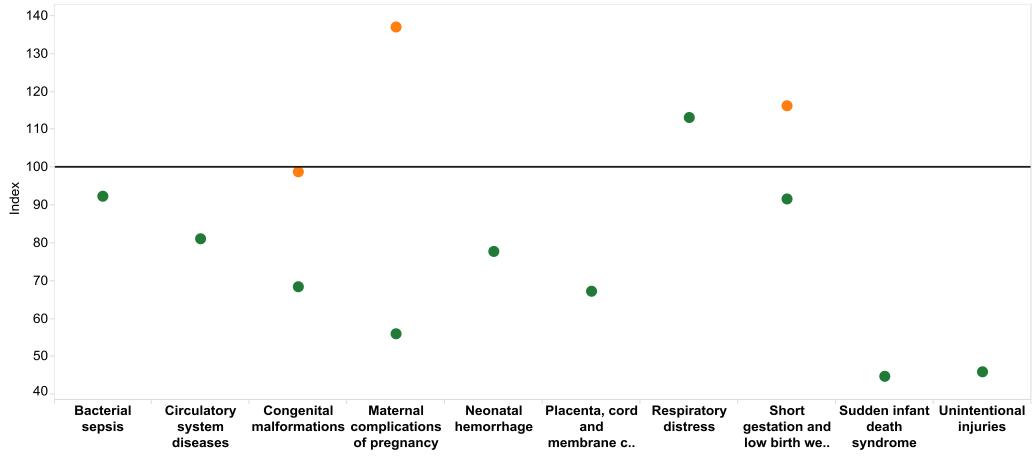
Age Under 1 Year

Sex Both Sexes

Region HHS Region 2 (NJ, NY)



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



#### <u>Please select:</u>

#### Figure 11

Age 1 to 14 Years

Sex Both Sexes

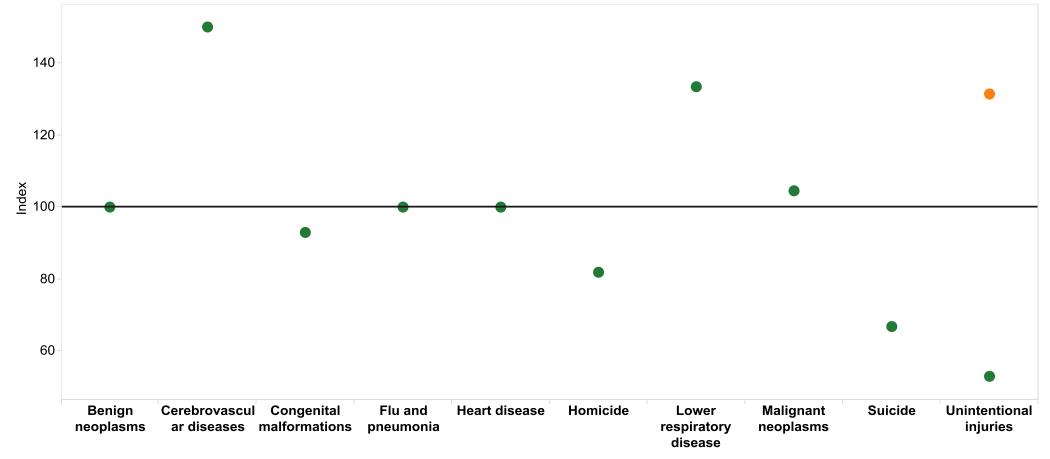
Region HHS Region 2 (NJ, NY)

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

**Rural-Urban Status** 

Rural

Urban



#### <u>Please select:</u>

Figure 12

Age 15 to 24 Years

Sex Males

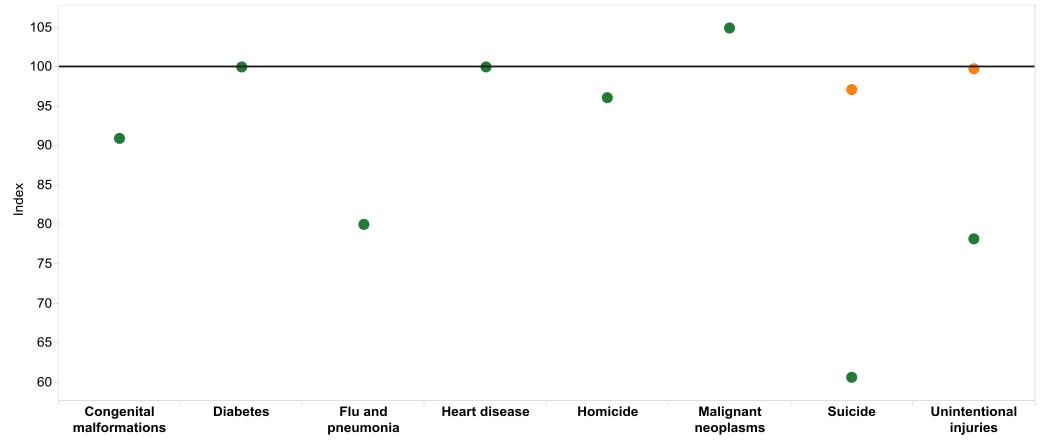
Region HHS Region 2 (NJ, NY)

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

**Rural-Urban Status** 

Rural

Urban



Age

15 to 24 Years

Sex Females

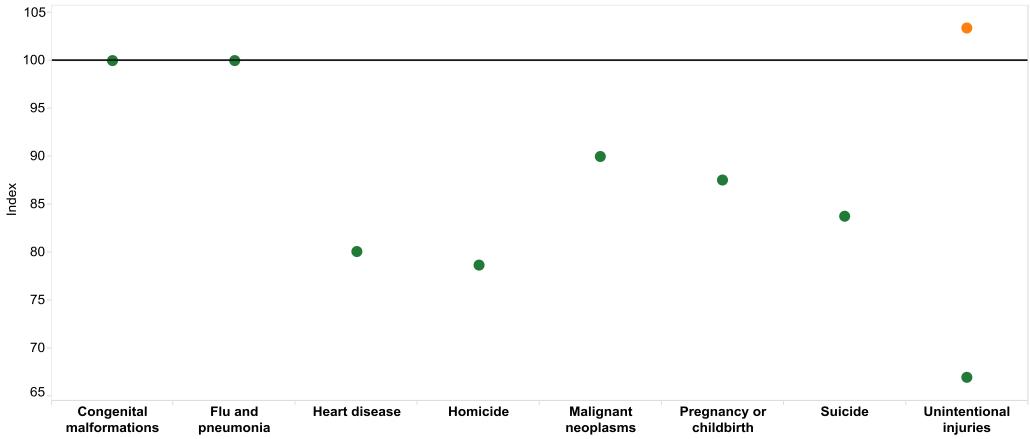
Region HHS Region 2 (NJ, NY)

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

**Rural-Urban Status** 

Rural

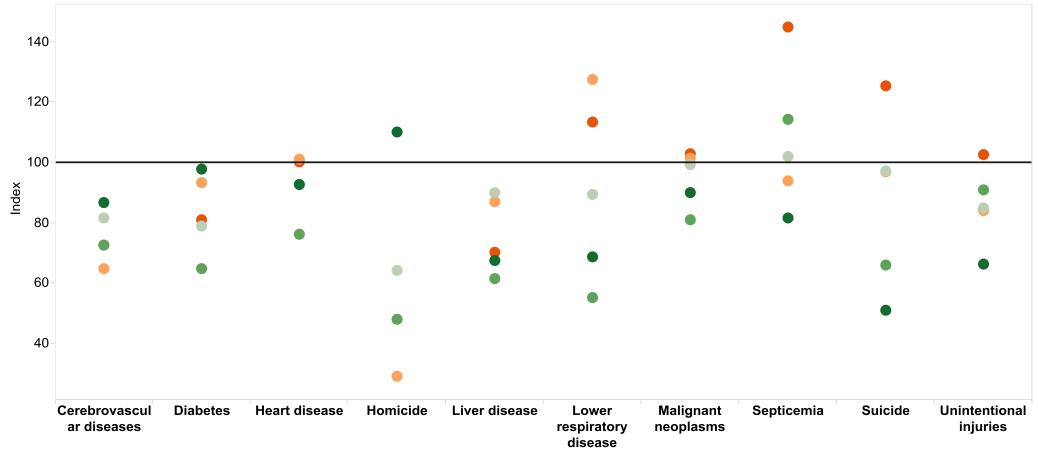
Urban





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

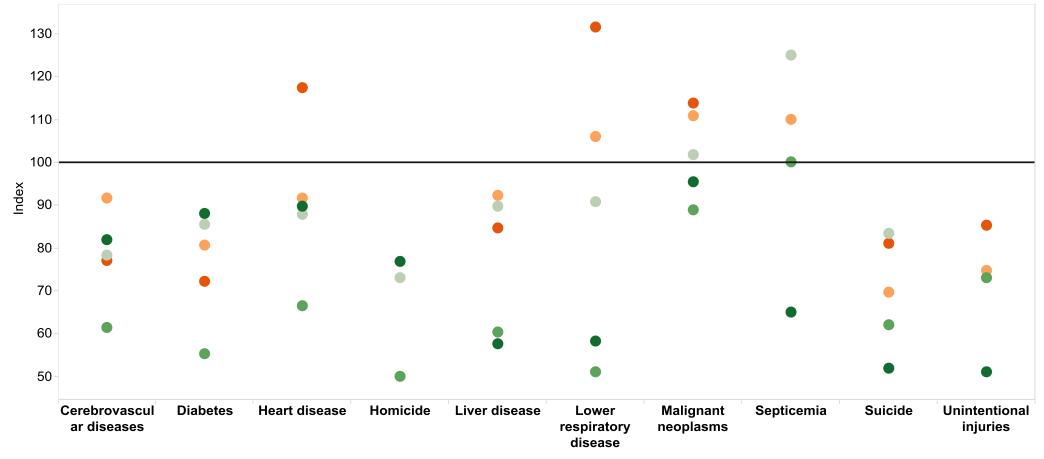
Objects above the horizontal line where index=100 indicates mortality rates higher than the national average, below the line are values below the average.



**SOURCES:** Centers for Disease Control and Prevention, National Center for Health Statistics, Multiple Cause of Death. **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 2 (NJ, NY), by Rural-Urban Status: United States, 2011-2013

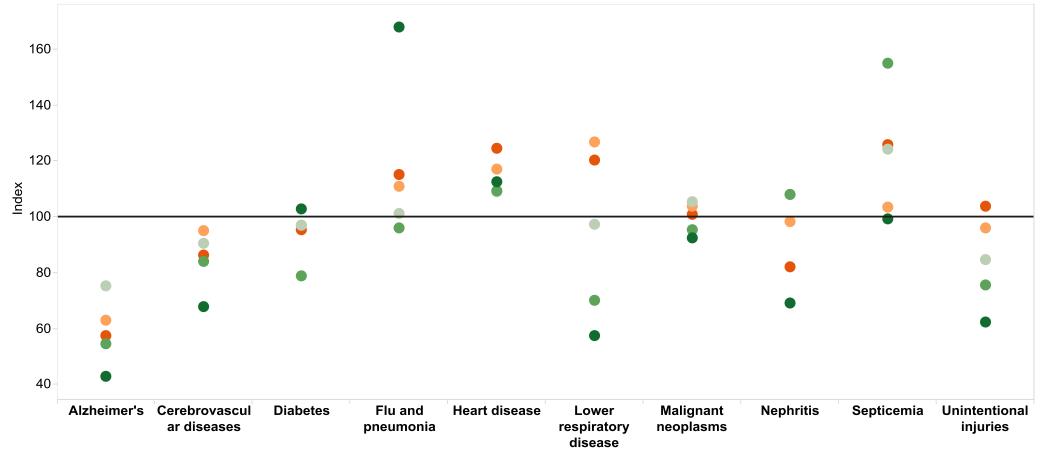


Region

Please select: **Rural-Urban Status** Large Central 65 Years and Older Age Large Fringe Medium/Small Metro Males Sex Micropolitan Non-core HHS Region 2 (NJ, NY)

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.



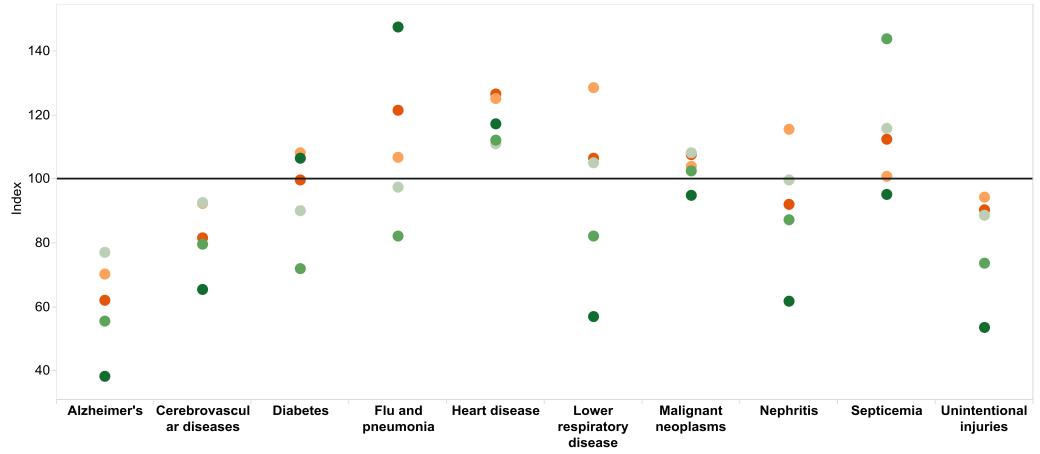
SOURCES: Centers for Disease Control and Prevention, National Center for Health Statistics, Multiple Cause of Death. SUGGESTED CITATION: Rural Health Reform Policy Research Center. Exploring Rural and Urban Mortality Differences, August 2015 Bethesda, MD. 2015.

Region

Please select: **Rural-Urban Status** Large Central 65 Years and Older Age Large Fringe Medium/Small Metro Females Sex Micropolitan Non-core HHS Region 2 (NJ, NY)

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.

## HHS Region 3

Delaware, District of Columbia, Maryland, Pennsylvania, Virginia, and West Virginia





# Index for Regional Mortality Rates of Region 3, by Rural-Urban Status: United States, 2011-2013

#### **Persons:**

- Figure 18: Infants (<1 Years)</li>
- Figure 19: Children (Ages 1 to 14 Years)
- Figure 20: Adolescents and Young Adults (Ages 15 to 24 Years), Males
- Figure 21: Adolescents and Young Adults (Ages 15 to 24 Years), Female
- Figure 22: Working-Age Adults (Ages 25 to 64 Years), Male
- Figure 23: Working-Age Adults (Ages 25 to 64 Years), Female
- Figure 24: Seniors (Ages ≥65 Years), Male
- Figure 25: Seniors (Ages ≥65 Years), Female

Please select:

Age Under 1 Year

Sex Both Sexes

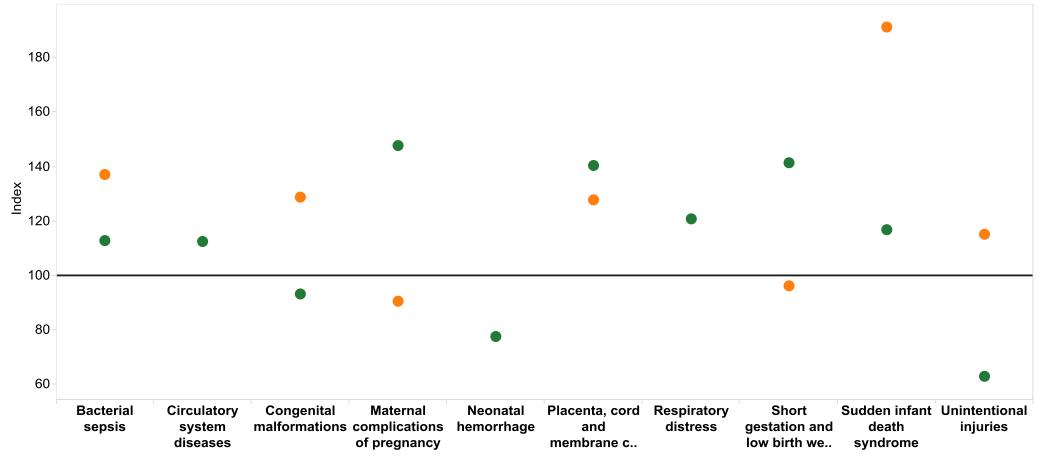
Region HHS Region 3 (DE, DC, MD, PA, VA, WV)

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

**Rural-Urban Status** 

Rural

Urban



<u>Please select:</u> Rural-Urban Status

Age 1 to 14 Years

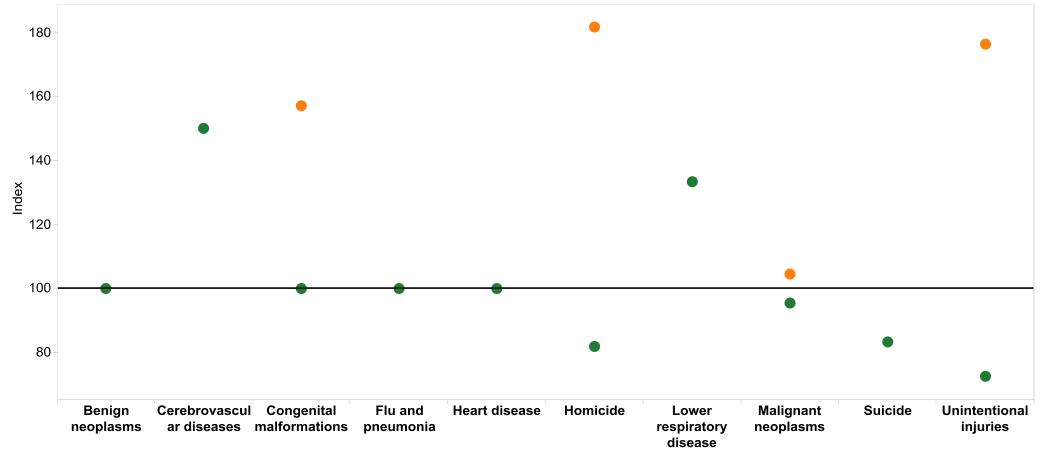
Sex Both Sexes

Region HHS Region 3 (DE, DC, MD, PA, VA, WV)

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

Rural

Urban



Please select:

Age 15 to 24 Years

Sex Males

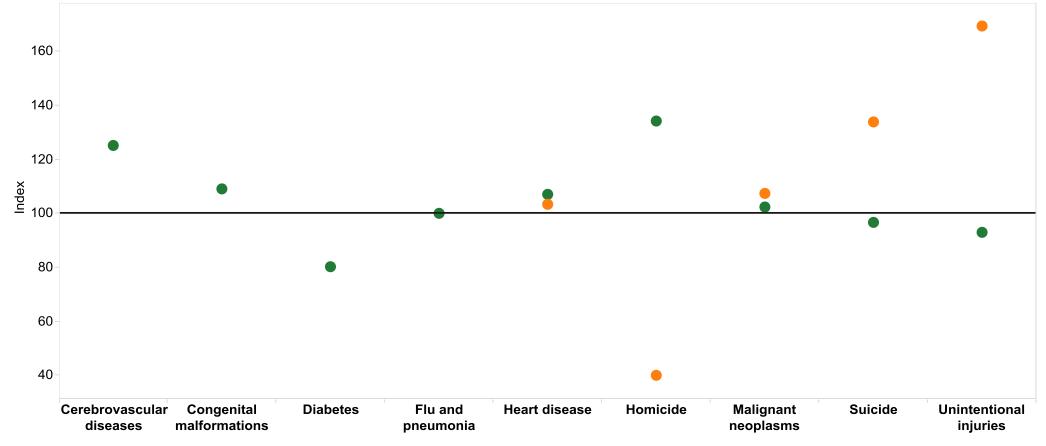
Region HHS Region 3 (DE, DC, MD, PA, VA, WV)

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

**Rural-Urban Status** 

Rural

Urban



Please select:

Age 15 to 24 Years

Sex Females

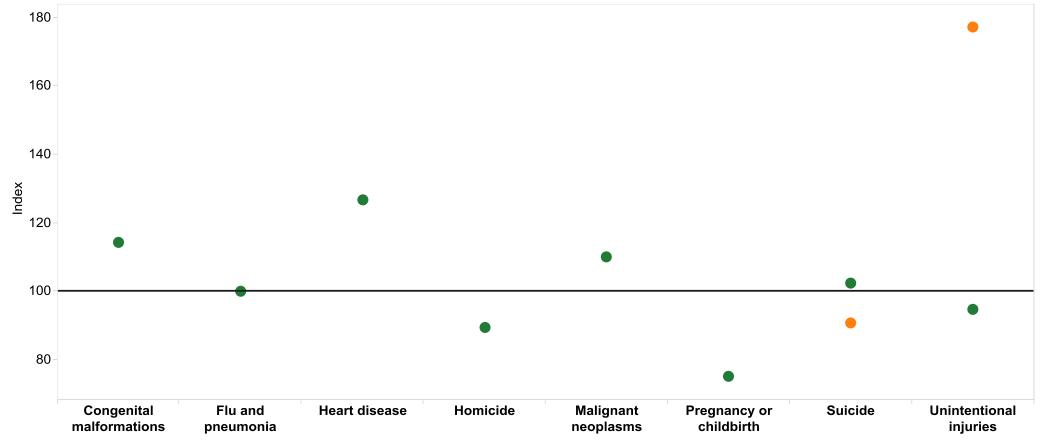
Region HHS Region 3 (DE, DC, MD, PA, VA, WV)

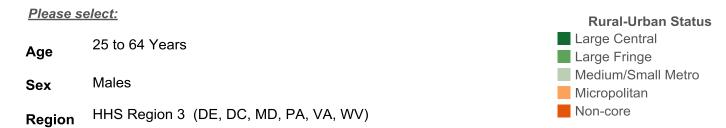
Index for Mortality Rates for Cause Related to the National Mortality Rate among Persons (Females) Age 15 to 24 Years, in HHS Region 3 (DE, DC, MD, PA, VA, WV), by Rural-Urban Status: United States, 2011-2013

**Rural-Urban Status** 

Rural

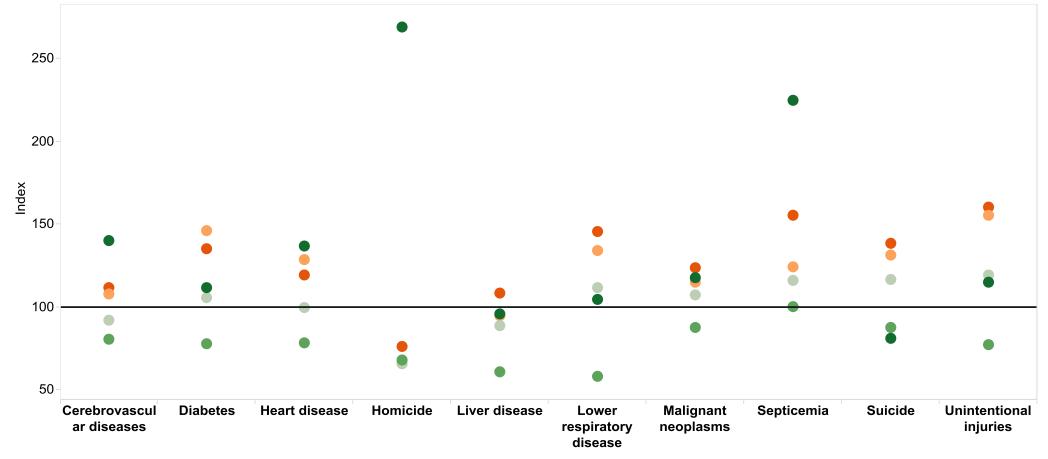
Urban

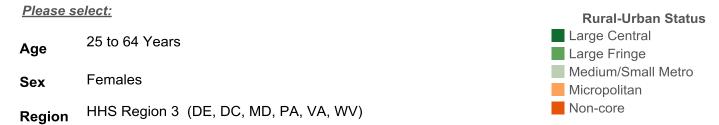




Index for Mortality Rates for Cause Related to the National Mortality Rate among Persons (Males) Age 25 to 64 Years, in HHS Region 3 (DE, DC, MD, PA, VA, WV), by Rural-Urban Status: United States, 2011-2013

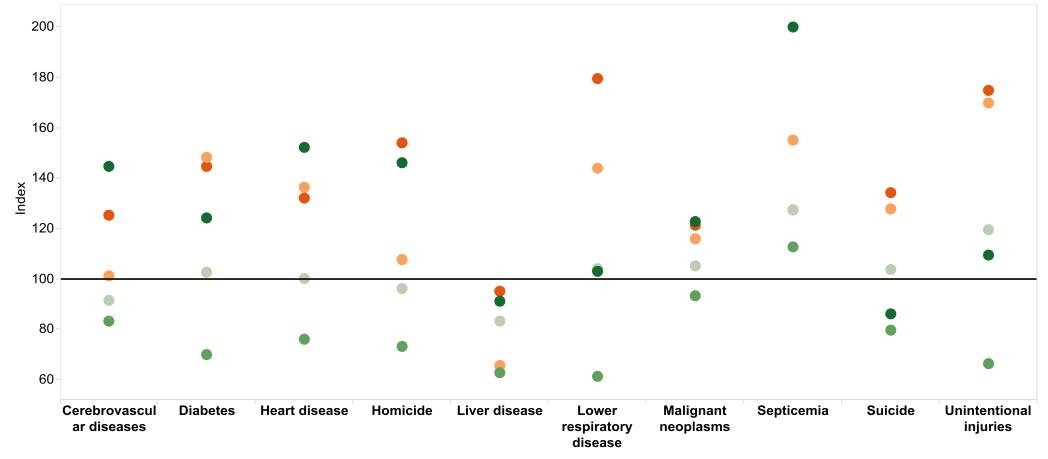
Objects above the horizontal line where index=100 indicates mortality rates higher than the national average, below the line are values below the average.

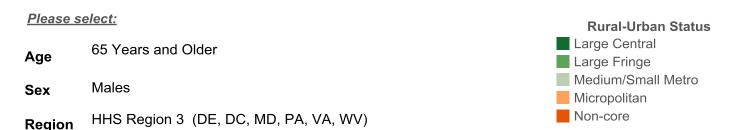




Index for Mortality Rates for Cause Related to the National Mortality Rate among Persons (Females) Age 25 to 64 Years, in HHS Region 3 (DE, DC, MD, PA, VA, WV), by Rural-Urban Status: United States, 2011-2013

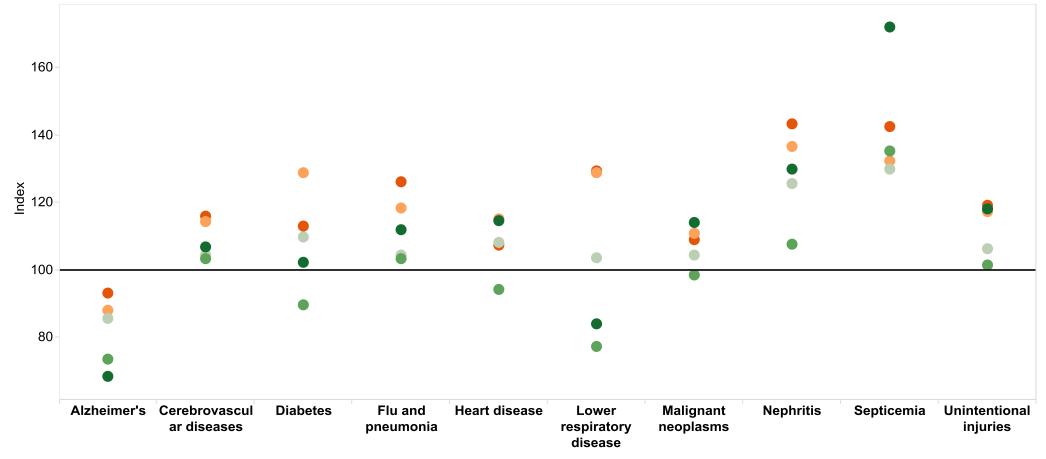
Objects above the horizontal line where index=100 indicates mortality rates higher than the national average, below the line are values below the average.





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

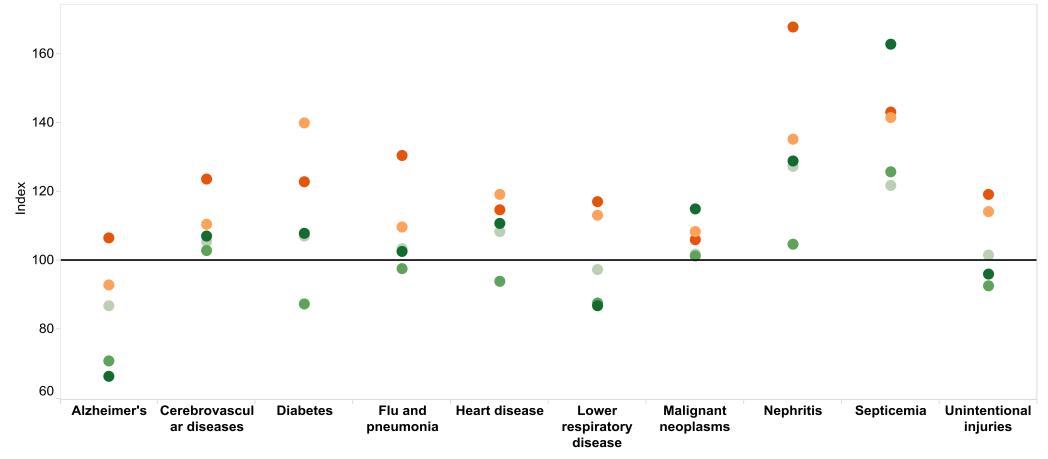
Objects above the horizontal line where index=100 indicates mortality rates higher than the national average, below the line are values below the average.





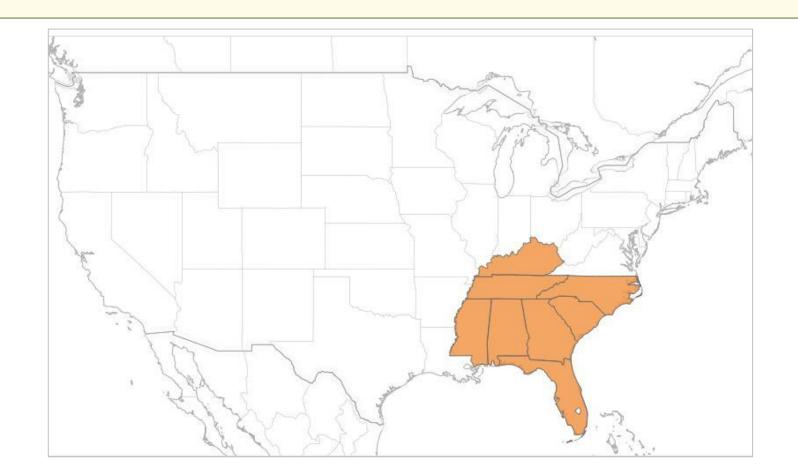
Index for Mortality Rates for Cause Related to the National Mortality Rate among Persons (Females) Age 65 Years and Older, in HHS Region 3 (DE, DC, MD, PA, VA, WV), by Rural-Urban Status: United States, 2011-2013

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



## 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

#### **Persons:**

- Figure 26: Infants (<1 Years)</li>
- Figure 27: Children (Ages 1 to 14 Years)
- Figure 28: Adolescents and Young Adults (Ages 15 to 24 Years), Males
- Figure 29: Adolescents and Young Adults (Ages 15 to 24 Years), Female
- Figure 30: Working-Age Adults (Ages 25 to 64 Years), Male
- Figure 31: Working-Age Adults (Ages 25 to 64 Years), Female
- Figure 32: Seniors (Ages ≥65 Years), Male
- Figure 33: Seniors (Ages ≥65 Years), Female

Please select:

Age Under 1 Year

Sex Both Sexes

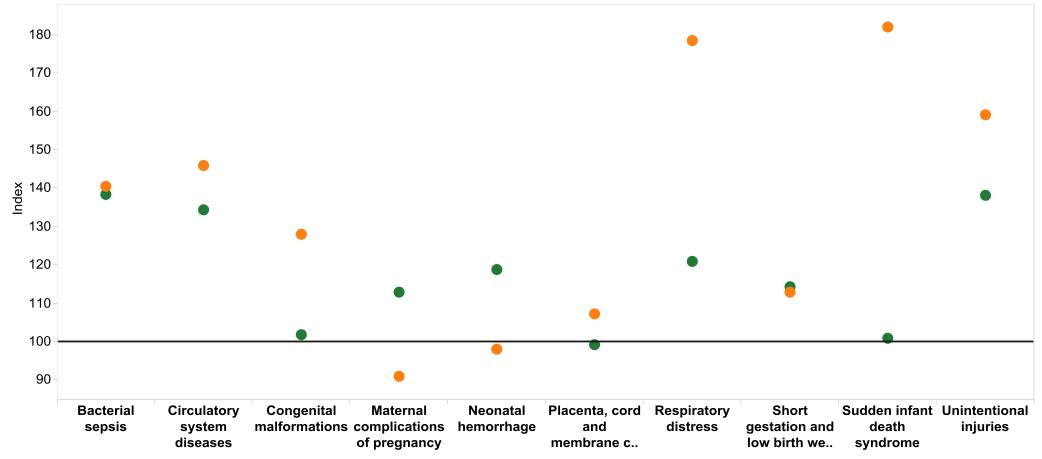
Region HHS Region 4 (AL, FL, GA, KY, MS, NC, SC, TN)

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

**Rural-Urban Status** 

Rural

Urban



Please select:

Age 1 to 14 Years

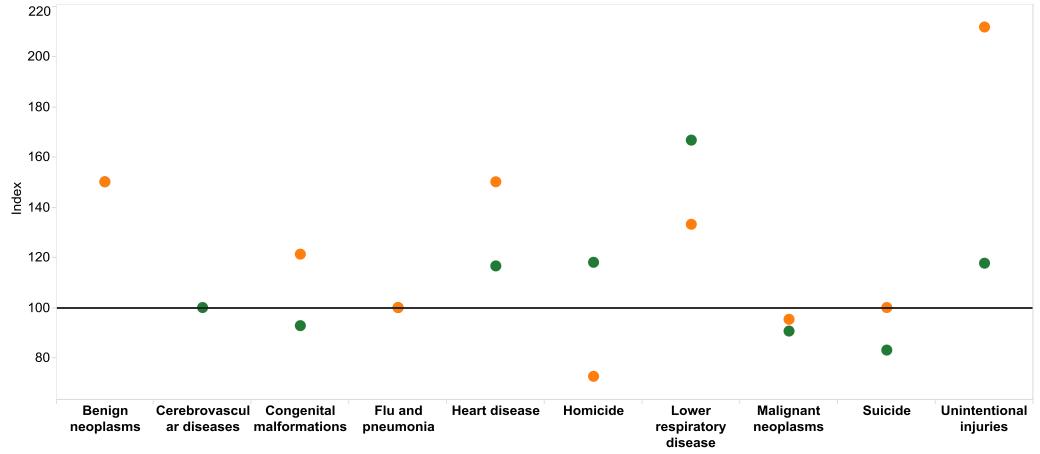
Sex Both Sexes

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 1 to 14 Years, in HHS Region 4 (AL, FL, GA, KY, MS, NC, SC, TN), by Rural-Urban Status: United States, 2011-2013

Rural

Urban



Please select:

Age 15 to 24 Years

Sex Males

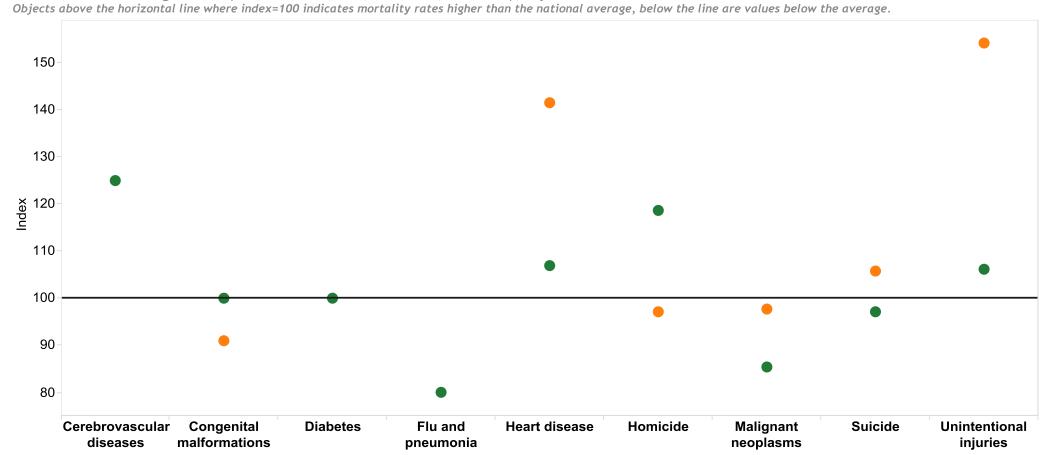
Region HHS Region 4 (AL, FL, GA, KY, MS, NC, SC, TN)

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

**Rural-Urban Status** 

Rural

Urban



Please select:

Age 15 to 24 Years

Sex Females

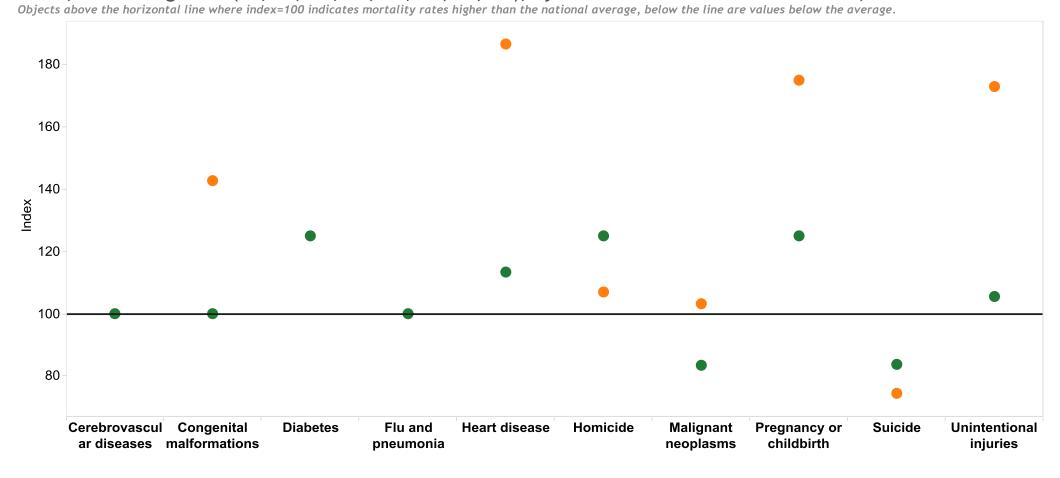
Region HHS Region 4 (AL, FL, GA, KY, MS, NC, SC, TN)

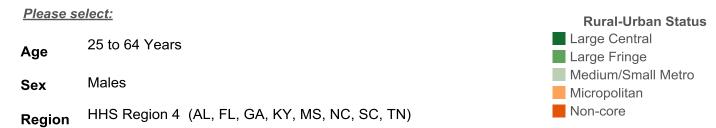
Index for Mortality Rates for Cause Related to the National Mortality Rate among Persons (Females) Age 15 to 24 Years, in HHS Region 4 (AL, FL, GA, KY, MS, NC, SC, TN), by Rural-Urban Status: United States, 2011-2013

**Rural-Urban Status** 

Rural

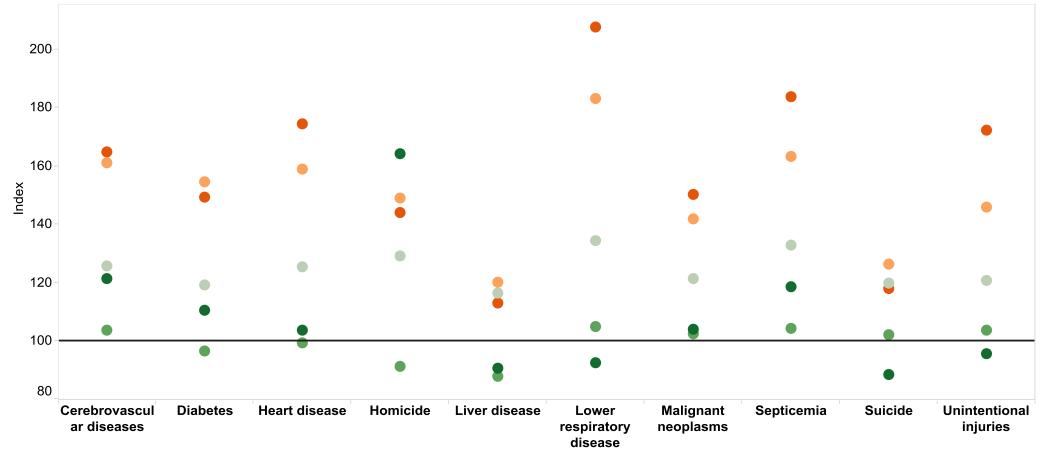
Urban

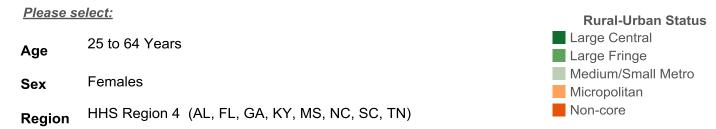




Index for Mortality Rates for Cause Related to the National Mortality Rate among Persons (Males) Age 25 to 64 Years, in HHS Region 4 (AL, FL, GA, KY, MS, NC, SC, TN), by Rural-Urban Status: United States, 2011-2013

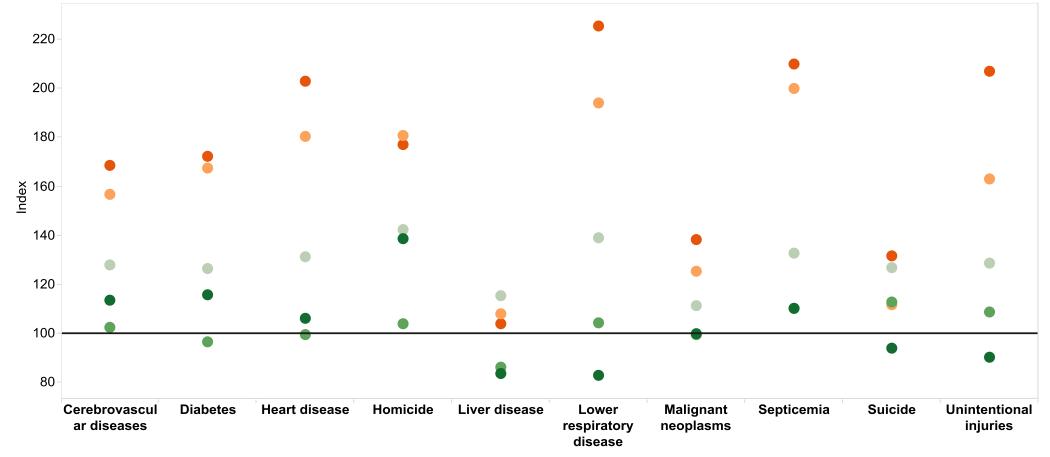
Objects above the horizontal line where index=100 indicates mortality rates higher than the national average, below the line are values below the average.

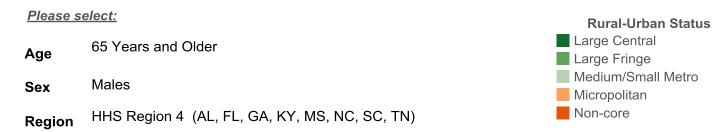




Index for Mortality Rates for Cause Related to the National Mortality Rate among Persons (Females) Age 25 to 64 Years, in HHS Region 4 (AL, FL, GA, KY, MS, NC, SC, TN), by Rural-Urban Status: United States, 2011-2013

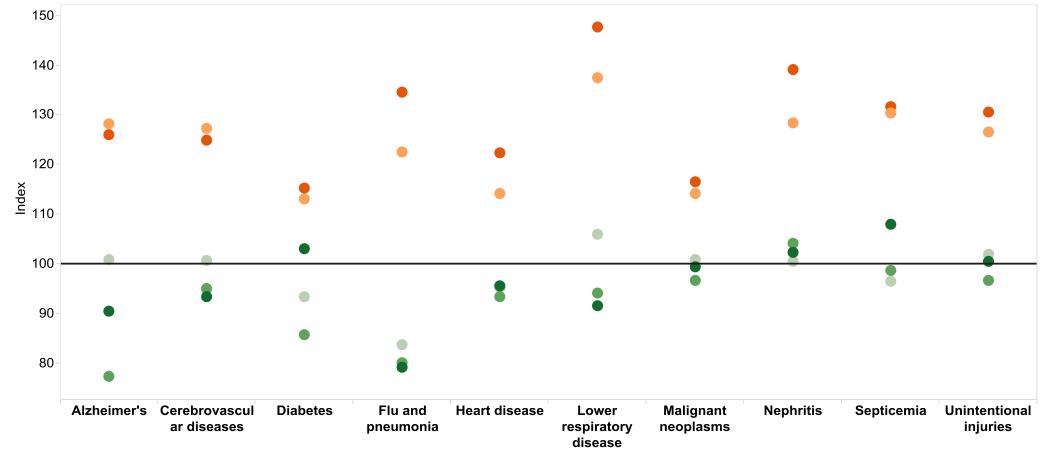


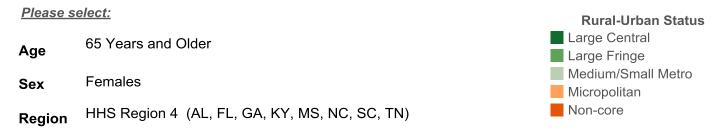




Index for Mortality Rates for Cause Related to the National Mortality Rate among Persons (Males) Age 65 Years and Older, in HHS Region 4 (AL, FL, GA, KY, MS, NC, SC, TN), by Rural-Urban Status: United States, 2011-2013

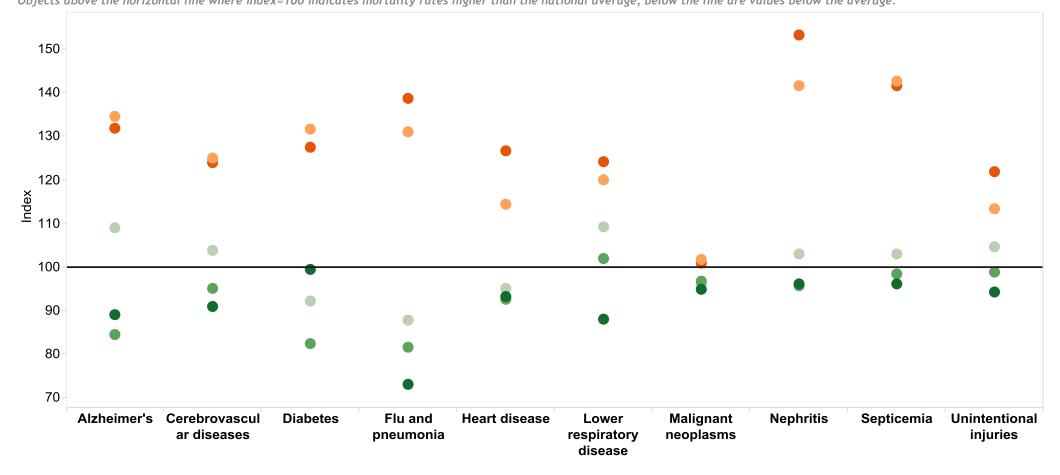
Objects above the horizontal line where index=100 indicates mortality rates higher than the national average, below the line are values below the average.





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:**

- Figure 34: Infants (<1 Years)</li>
- Figure 35: Children (Ages 1 to 14 Years)
- Figure 36: Adolescents and Young Adults (Ages 15 to 24 Years), Males
- Figure 37: Adolescents and Young Adults (Ages 15 to 24 Years), Female
- Figure 38: Working-Age Adults (Ages 25 to 64 Years), Male
- Figure 39: Working-Age Adults (Ages 25 to 64 Years), Female
- Figure 40: Seniors (Ages ≥65 Years), Male
- Figure 41: Seniors (Ages ≥65 Years), Female

Please select:

Age Under 1 Year

Sex Both Sexes

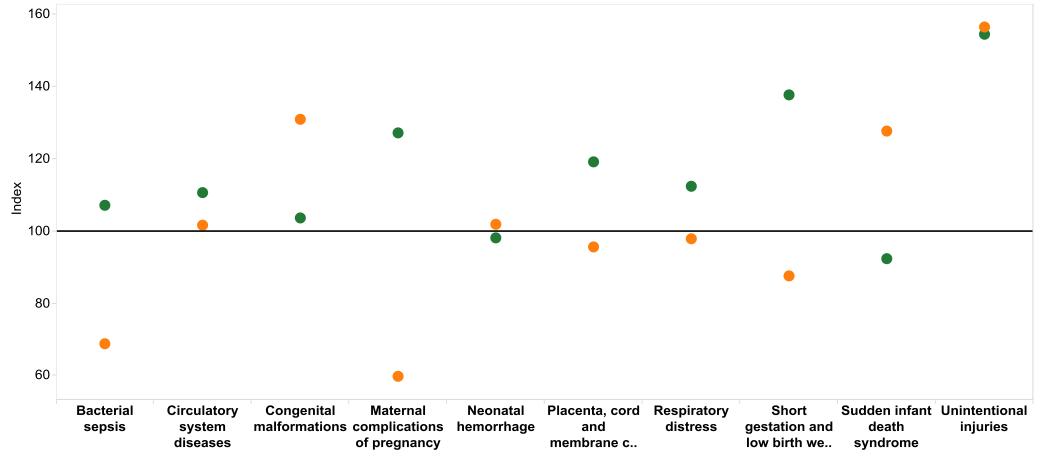
Region HHS Region 5 (IL, IN, MI, MN, OH, WI)

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

**Rural-Urban Status** 

Rural

Urban



<u>Please select:</u> Rural-Urban Status

Age 1 to 14 Years

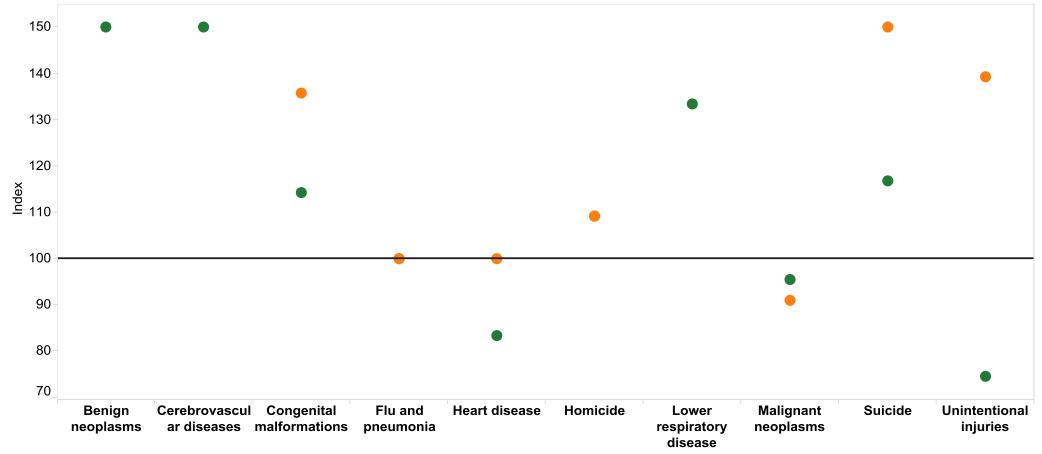
Sex Both Sexes

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

Rural

Urban



Please select:

Age 15 to 24 Years

Cerebrovascular

diseases

Congenital

malformations

Sex Males

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

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.

**Rural-Urban Status** 

Unintentional

injuries

Rural

Urban

140 120 100-Index 80 60 40 20

**Heart disease** 

Homicide

Malignant

neoplasms

Suicide

Diabetes

Flu and

pneumonia

Please select:

Age 15 to 24 Years

Sex Females

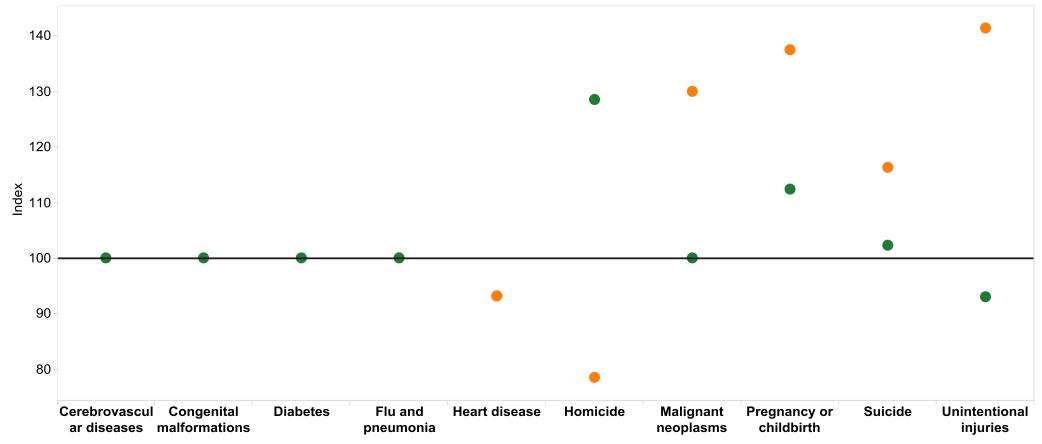
Region HHS Region 5 (IL, IN, MI, MN, OH, WI)

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

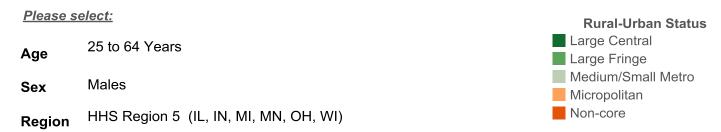
**Rural-Urban Status** 

Rural

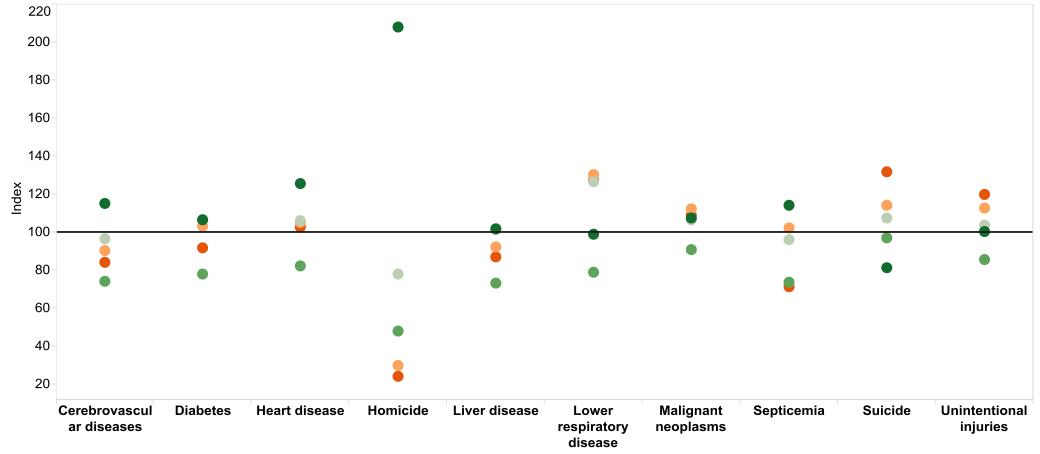
Urban



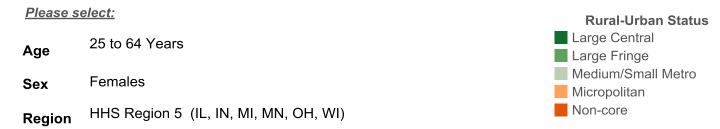




Index for Mortality Rates for Cause Related to the National Mortality Rate among Persons (Males) Age 25 to 64 Years, in HHS Region 5 (IL, IN, MI, MN, OH, WI), by Rural-Urban Status: United States, 2011-2013

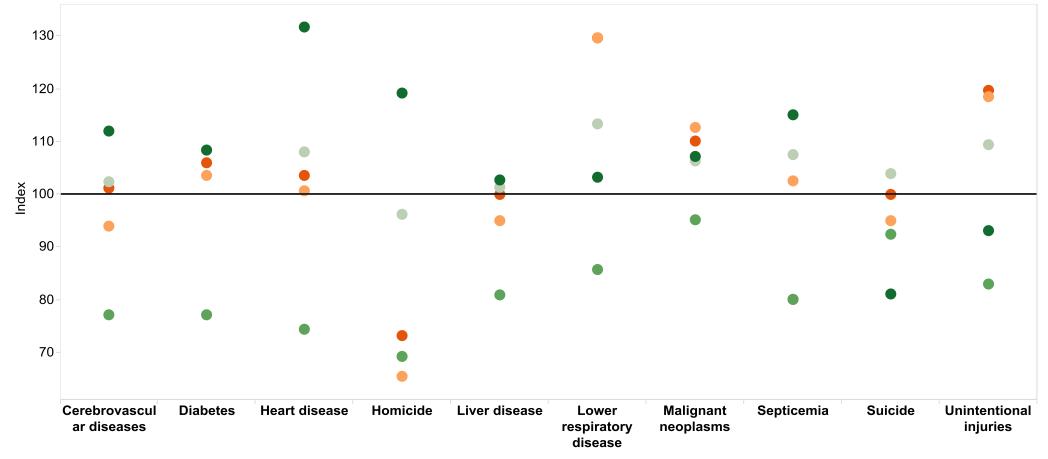


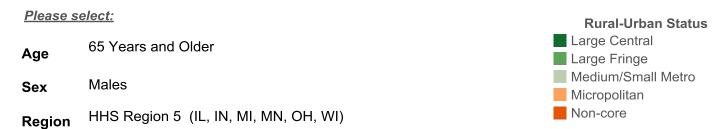




Index for Mortality Rates for Cause Related to the National Mortality Rate among Persons (Females) Age 25 to 64 Years, in HHS Region 5 (IL, IN, MI, MN, OH, WI), by Rural-Urban Status: United States, 2011-2013

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





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.

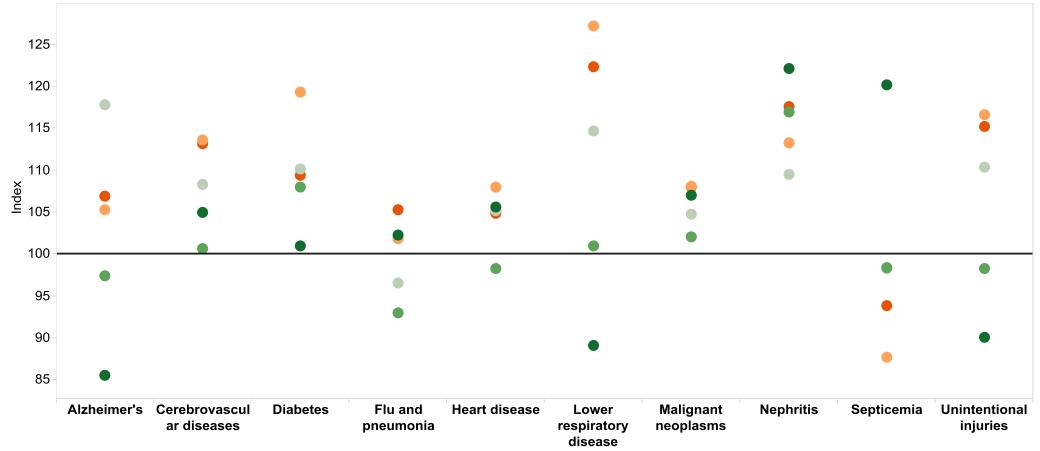
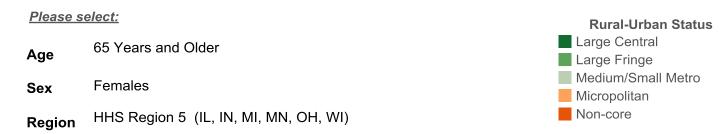
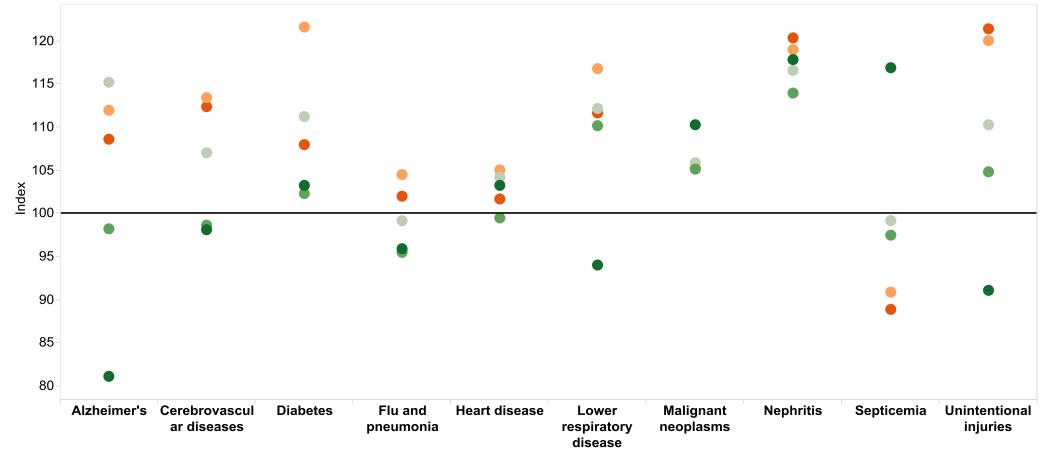


Figure 41



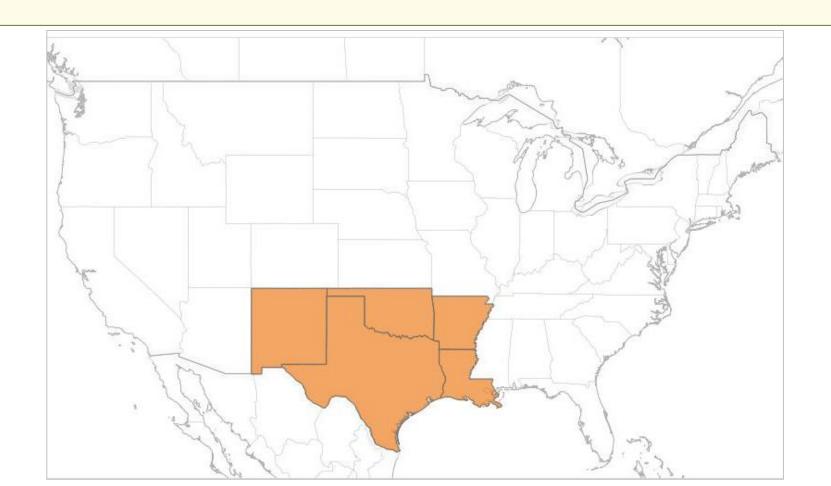
Index for Mortality Rates for Cause Related to the National Mortality Rate among Persons (Females) Age 65 Years and Older, in HHS Region 5 (IL, IN, MI, MN, OH, WI), by Rural-Urban Status: United States, 2011-2013

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)</li>
- 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

Please select:

Age Under 1 Year

Sex Both Sexes

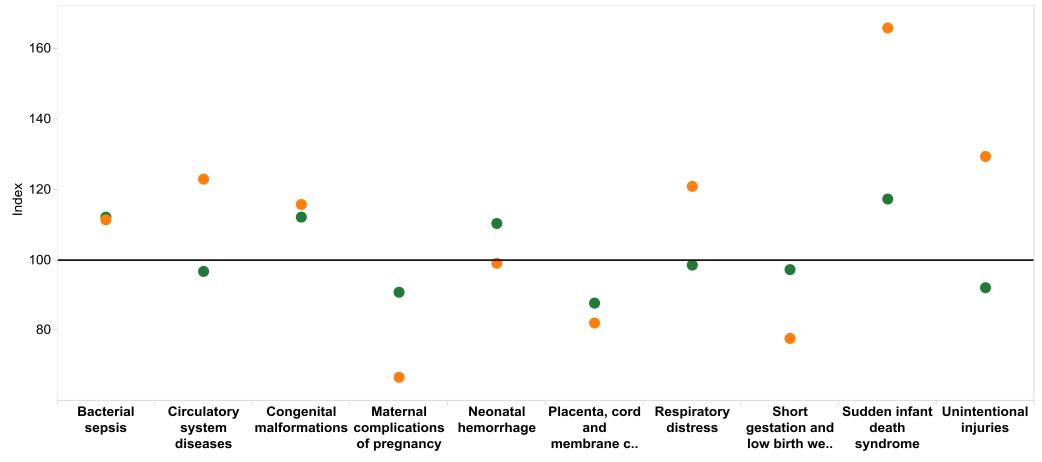
Region HHS Region 6 (AR, LA, NM, OK, TX)

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

**Rural-Urban Status** 

Rural

Urban



Please select:

Age 1 to 14 Years

Sex Both Sexes

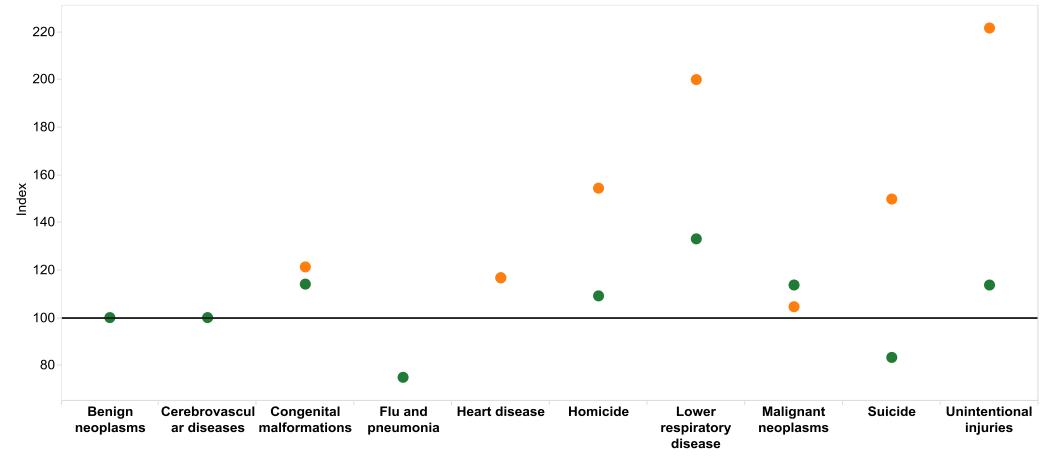
Region HHS Region 6 (AR, LA, NM, OK, TX)

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

**Rural-Urban Status** 

Rural

Urban



Please select:

Age 15 to 24 Years

Sex Males

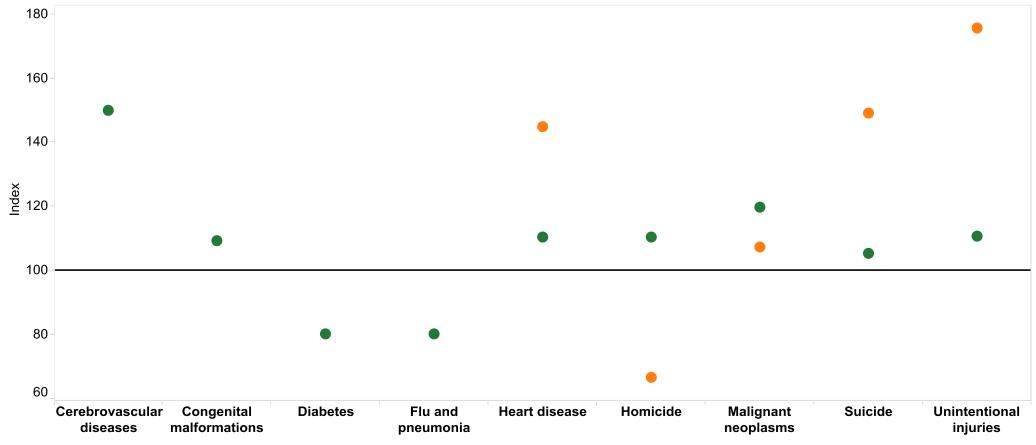
Region HHS Region 6 (AR, LA, NM, OK, TX)

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

**Rural-Urban Status** 

Rural

Urban



Please select:

Age 15 to 24 Years

Sex Females

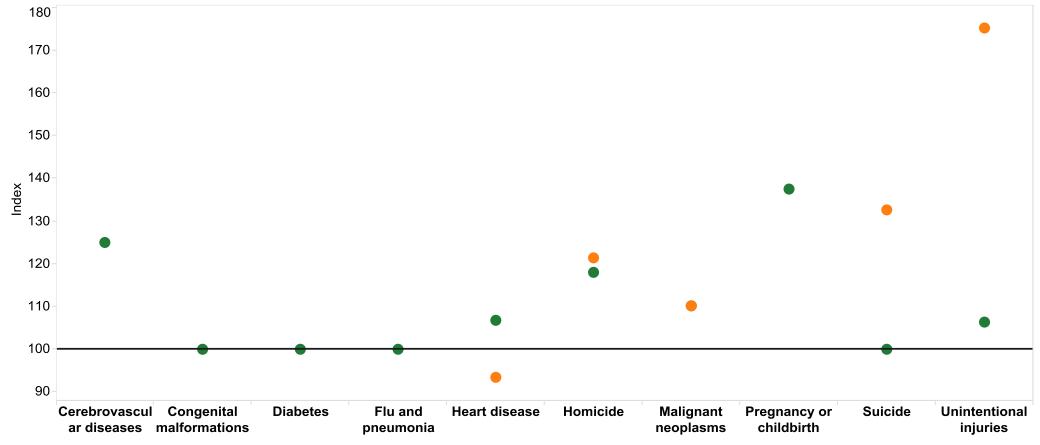
Region HHS Region 6 (AR, LA, NM, OK, TX)

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

**Rural-Urban Status** 

Rural

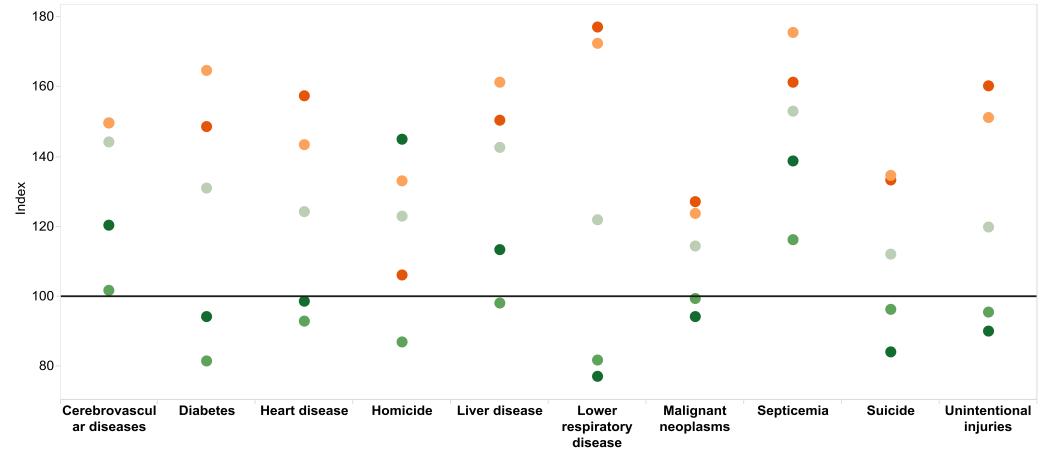
Urban

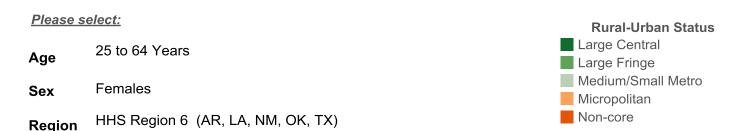




Index for Mortality Rates for Cause Related to the National Mortality Rate among Persons (Males) Age 25 to 64 Years, in HHS Region 6 (AR, LA, NM, OK, TX), by Rural-Urban Status: United States, 2011-2013

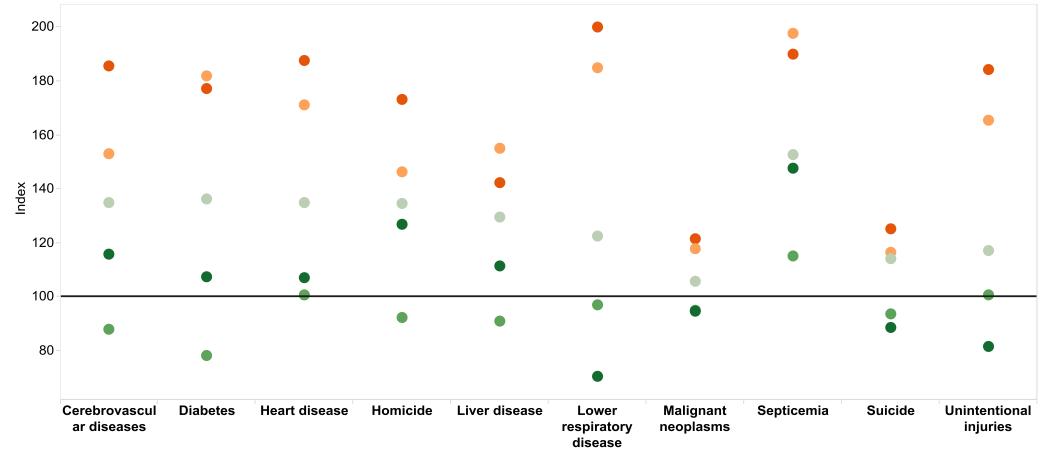
Objects above the horizontal line where index=100 indicates mortality rates higher than the national average, below the line are values below the average.

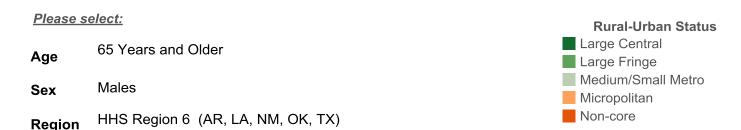




Index for Mortality Rates for Cause Related to the National Mortality Rate among Persons (Females) Age 25 to 64 Years, in HHS Region 6 (AR, LA, NM, OK, TX), by Rural-Urban Status: United States, 2011-2013

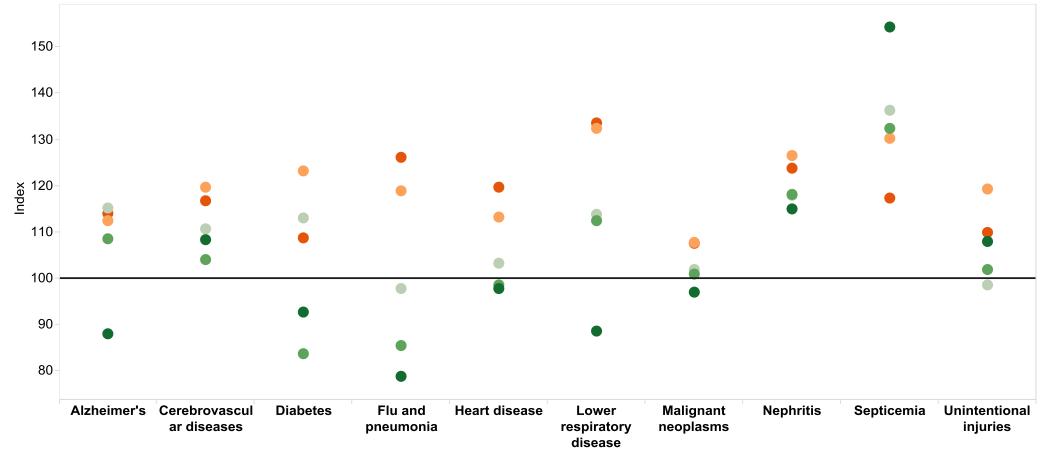
Objects above the horizontal line where index=100 indicates mortality rates higher than the national average, below the line are values below the average.





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

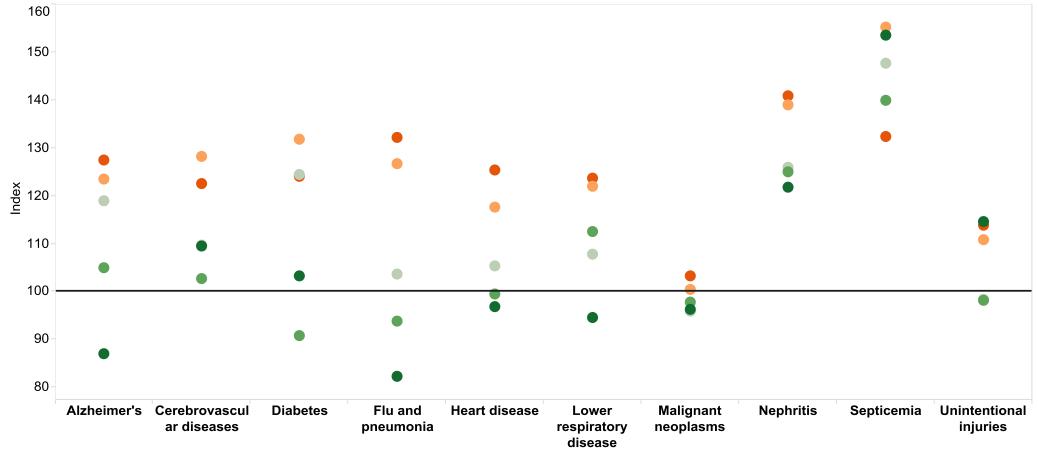
Objects above the horizontal line where index=100 indicates mortality rates higher than the national average, below the line are values below the average.





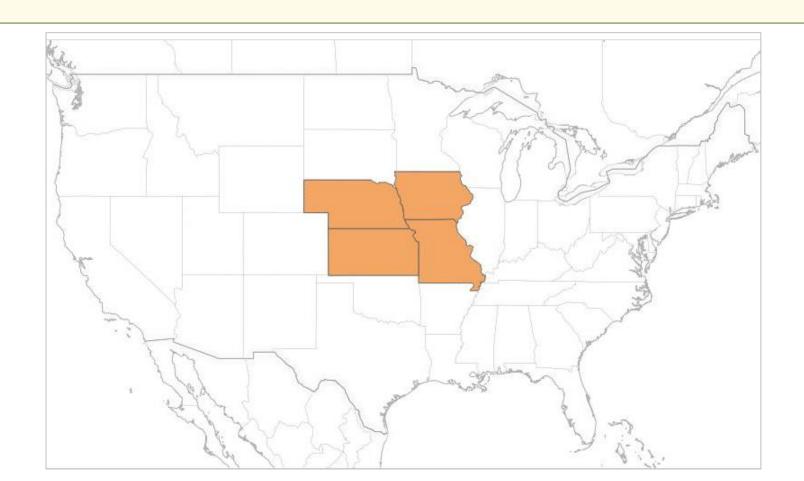
Index for Mortality Rates for Cause Related to the National Mortality Rate among Persons (Females) Age 65 Years and Older, in HHS Region 6 (AR, LA, NM, OK, TX), by Rural-Urban Status: United States, 2011-2013

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



## 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)</li>
- 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

Please select:

Age Under 1 Year

Sex Both Sexes

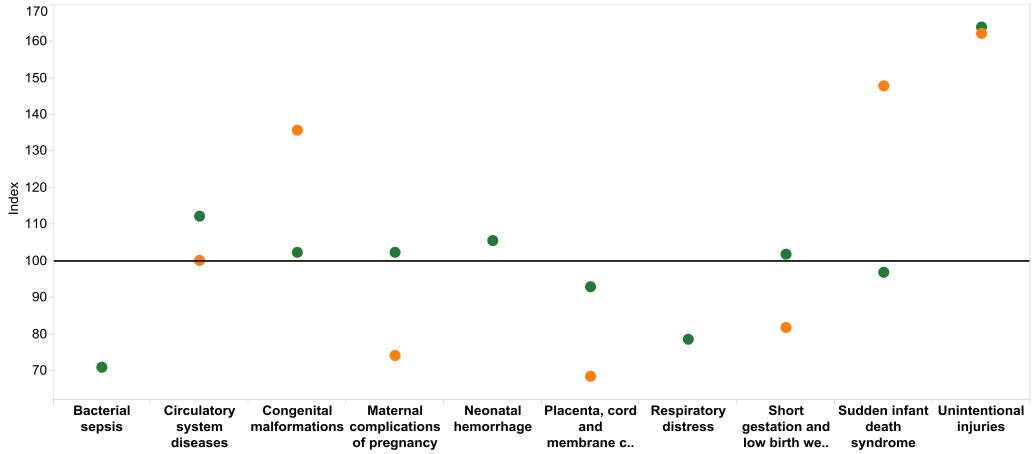
Region 7 (IA, KS, MO, NE)

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

Rural

Urban

**Rural-Urban Status** 



Please select:

Age 1 to 14 Years

Sex Both Sexes

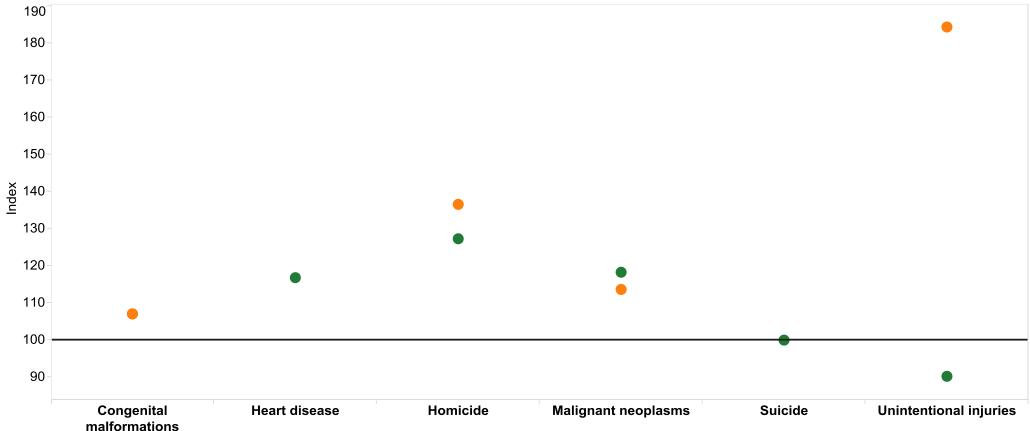
Region 7 (IA, KS, MO, NE)

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

**Rural-Urban Status** 

Rural

Urban



Please select:

Age 15 to 24 Years

Sex Males

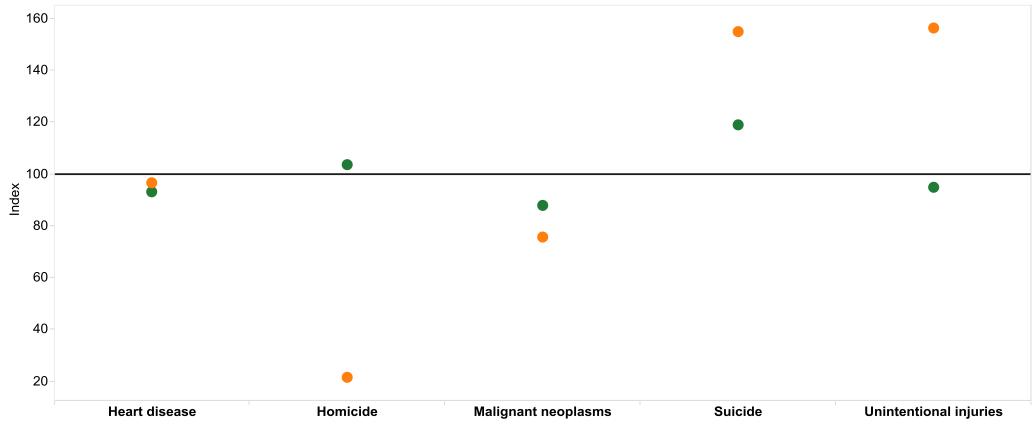
Region 7 (IA, KS, MO, NE)

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

**Rural-Urban Status** 

Rural

Urban



Please select:

Age 15 to 24 Years

Sex Females

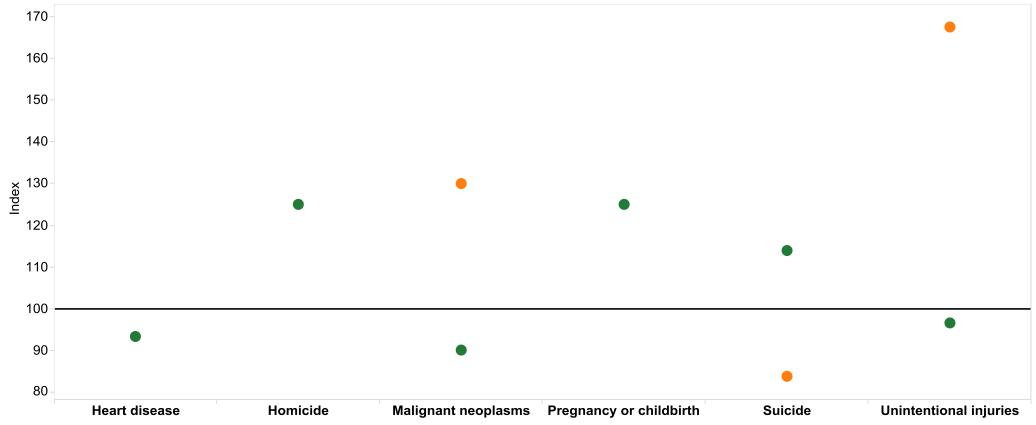
Region 7 (IA, KS, MO, NE)

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

**Rural-Urban Status** 

Rural

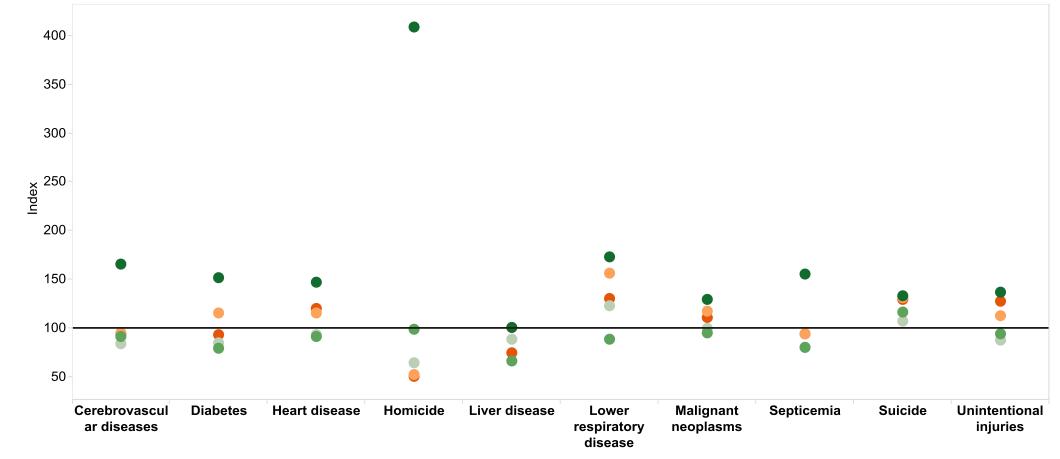
Urban





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

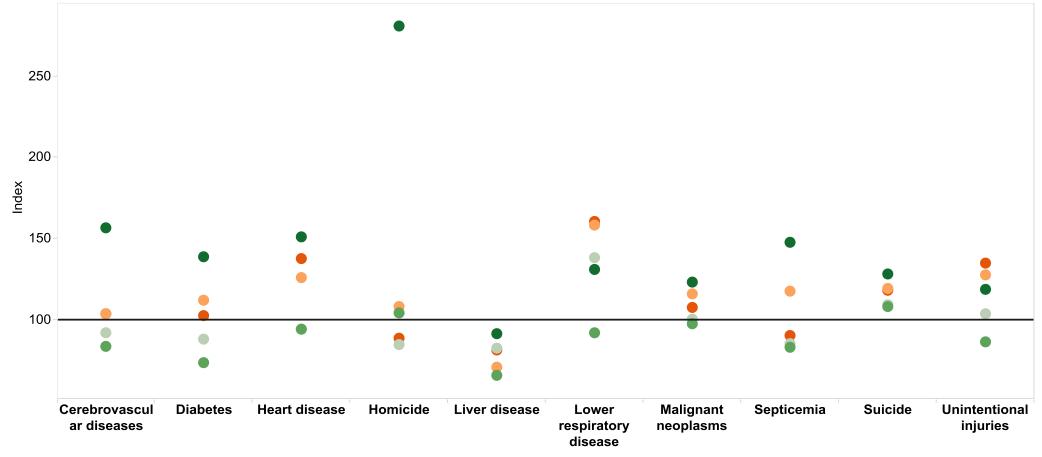
Objects above the horizontal line where index=100 indicates mortality rates higher than the national average, below the line are values below the average.

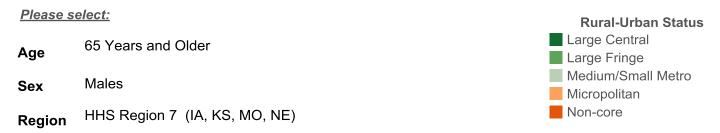




Index for Mortality Rates for Cause Related to the National Mortality Rate among Persons (Females) Age 25 to 64 Years, in HHS Region 7 (IA, KS, MO, NE), by Rural-Urban Status: United States, 2011-2013

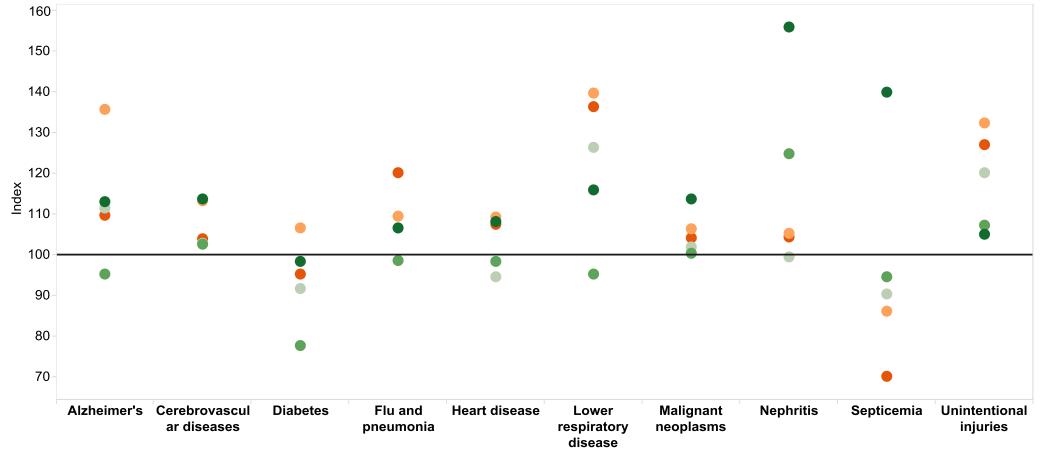
Objects above the horizontal line where index=100 indicates mortality rates higher than the national average, below the line are values below the average.





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

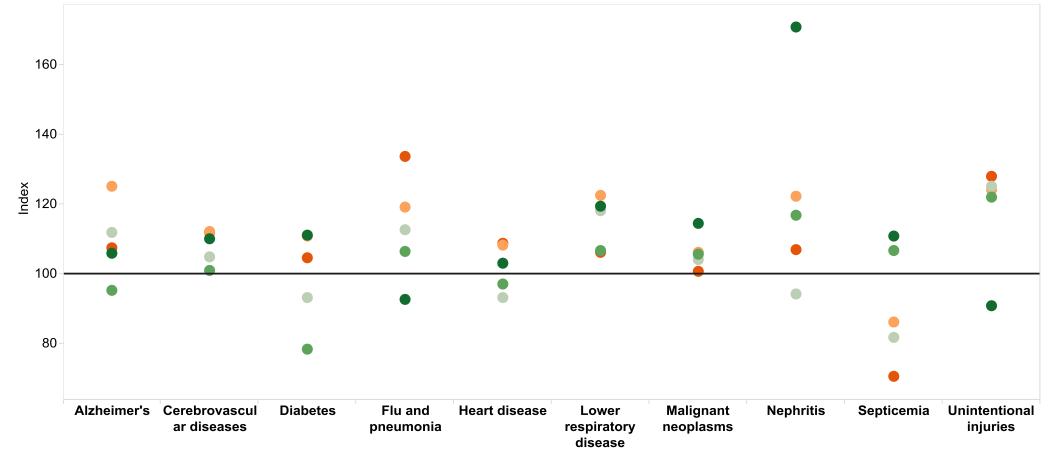
Objects above the horizontal line where index=100 indicates mortality rates higher than the national average, below the line are values below the average.





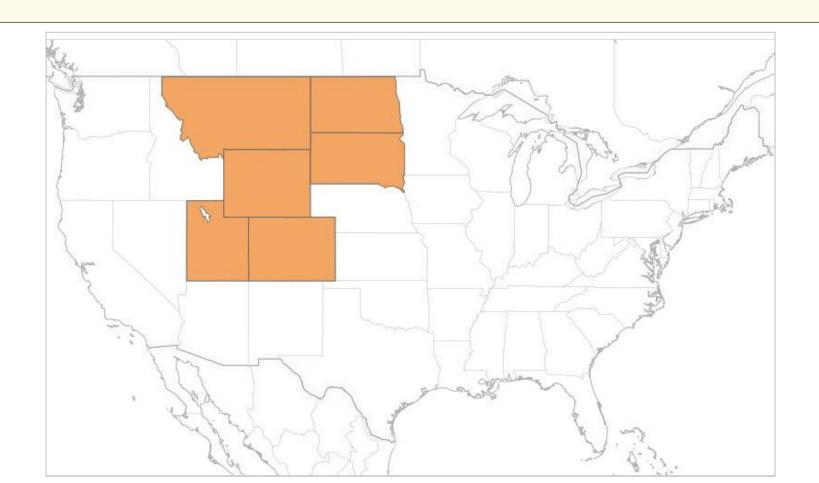
Index for Mortality Rates for Cause Related to the National Mortality Rate among Persons (Females) Age 65 Years and Older, in HHS Region 7 (IA, KS, MO, NE), by Rural-Urban Status: United States, 2011-2013

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



## 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)</li>
- 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

Please select:

Age Under 1 Year

Sex Both Sexes

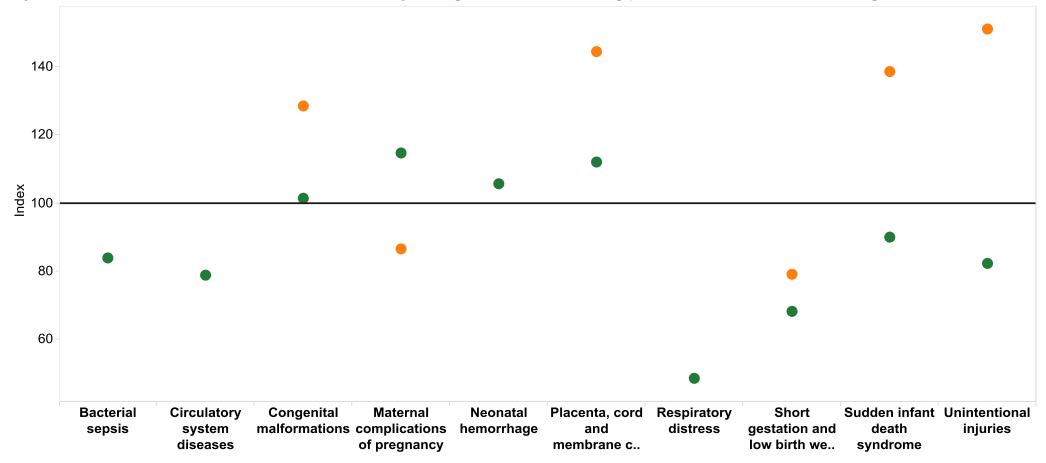
Region HHS Region 8 (CO, MT, ND, SD, UT, WY)

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

**Rural-Urban Status** 

Rural

Urban



<u>Please select:</u> Rural-Urban Status

Age 1 to 14 Years

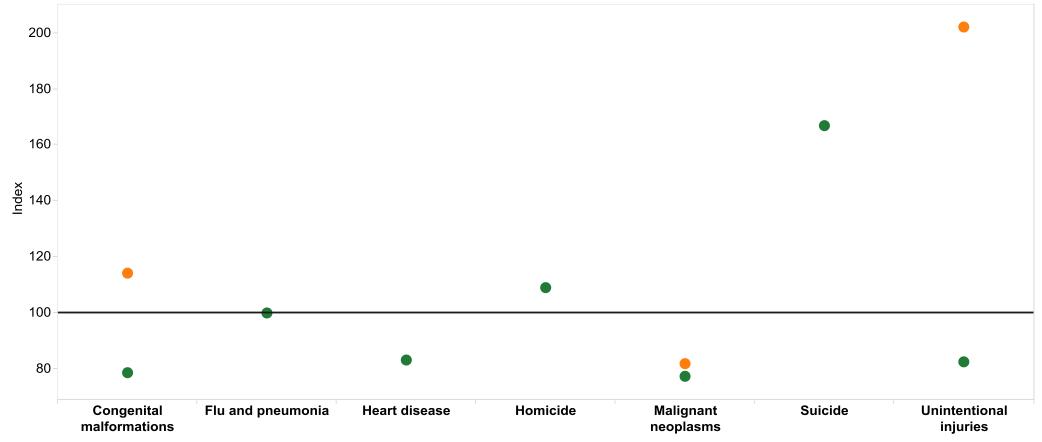
Sex Both Sexes

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 1 to 14 Years, in HHS Region 8 (CO, MT, ND, SD, UT, WY), by Rural-Urban Status: United States, 2011-2013

Rural

Urban



Please select:

Age 15 to 24 Years

Sex Males

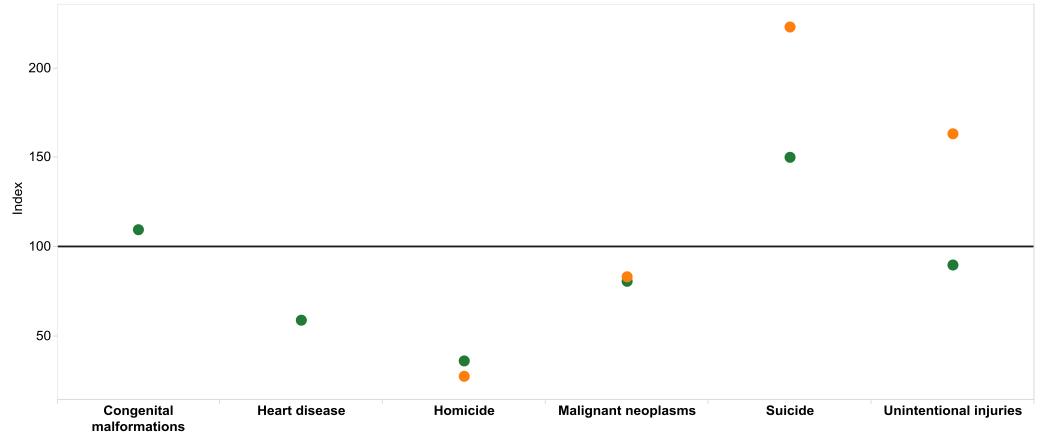
Region HHS Region 8 (CO, MT, ND, SD, UT, WY)

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

**Rural-Urban Status** 

Rural

Urban



Please select:

Age 15 to 24 Years

Sex Females

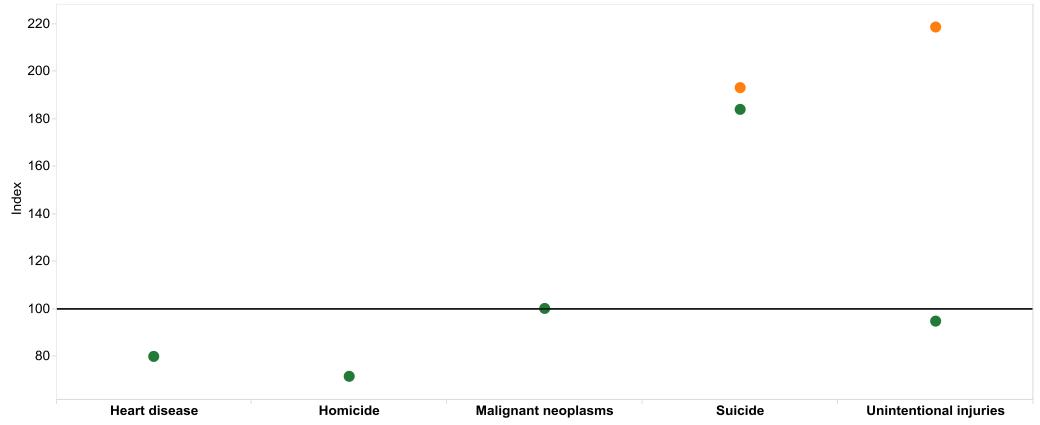
Region HHS Region 8 (CO, MT, ND, SD, UT, WY)

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

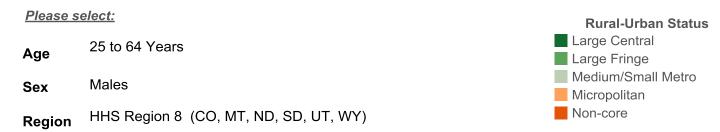
**Rural-Urban Status** 

Rural

Urban

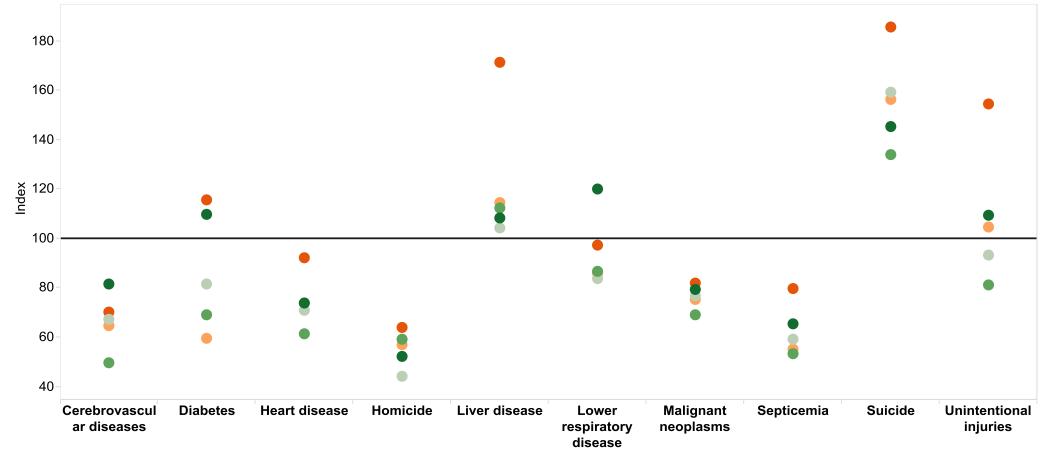


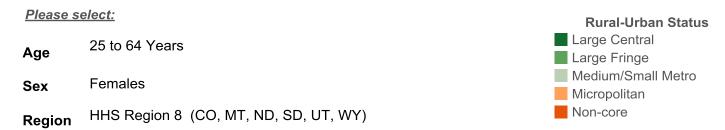




Index for Mortality Rates for Cause Related to the National Mortality Rate among Persons (Males) Age 25 to 64 Years, in HHS Region 8 (CO, MT, ND, SD, UT, WY), by Rural-Urban Status: United States, 2011-2013

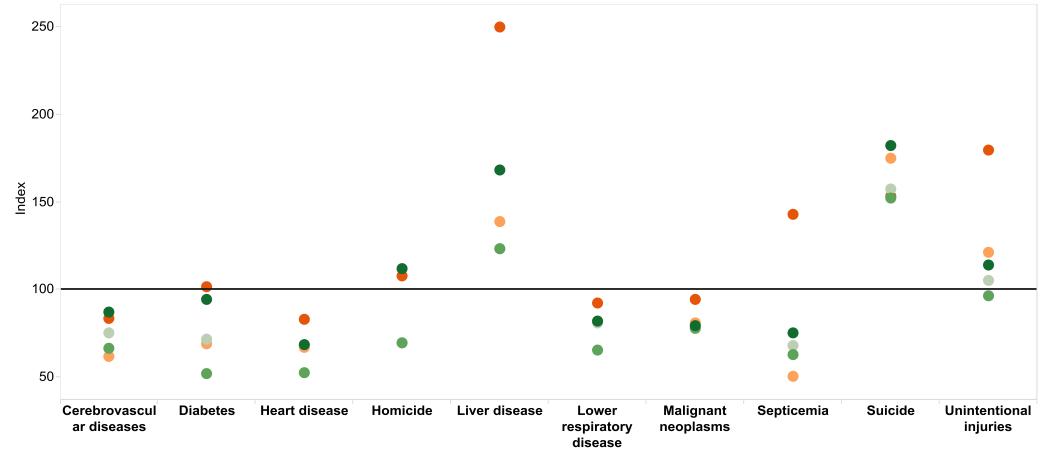
Objects above the horizontal line where index=100 indicates mortality rates higher than the national average, below the line are values below the average.





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.





Please select:

Age 65 Years and Older

Sex Males

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

Rural-Urban Status

Large Central

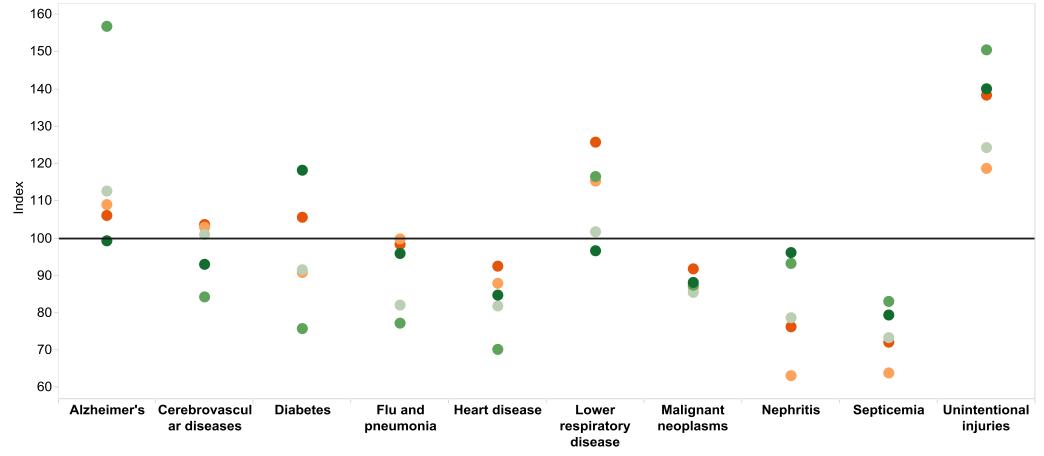
Large Fringe

Medium/Small Metro

Micropolitan

Non-core

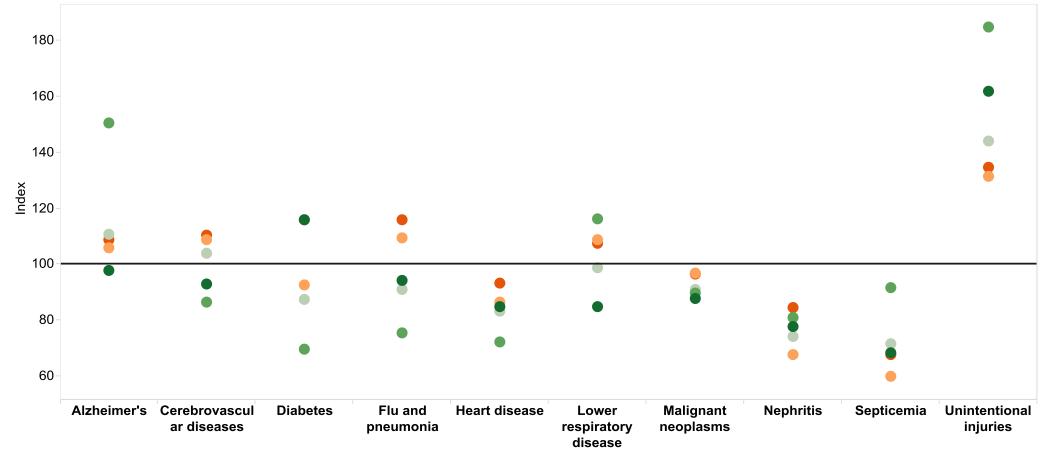
Index for Mortality Rates for Cause Related to the National Mortality Rate among Persons (Males) Age 65 Years and Older, in HHS Region 8 (CO, MT, ND, SD, UT, WY), by Rural-Urban Status: United States, 2011-2013





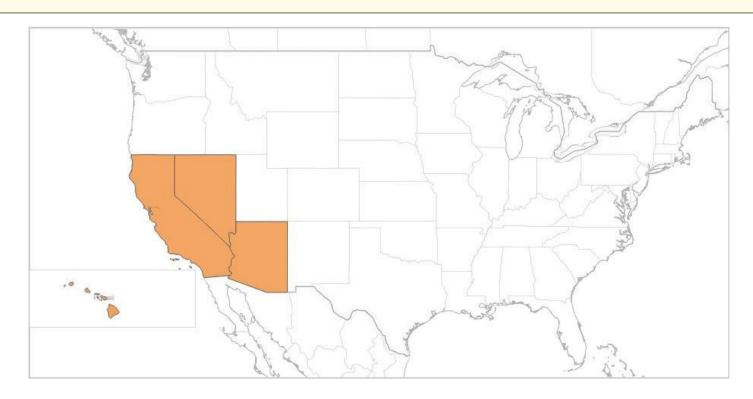
Index for Mortality Rates for Cause Related to the National Mortality Rate among Persons (Females) Age 65 Years and Older, in HHS Region 8 (CO, MT, ND, SD, UT, WY), by Rural-Urban Status: United States, 2011-2013

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



## HHS Region 9<sup>2</sup>

Arizona, California, Hawaii, and Nevada



<sup>2</sup>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.

http://www.hhs.gov/iea/regional/, http://wonder.cdc.gov/wonder/help/mcd.html



# Index for Regional Mortality Rates of Region 9, by Rural-Urban Status: United States, 2011-2013

#### **Persons:**

- Figure 66: Infants (<1 Years)</li>
- 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

Please select:

Age Under 1 Year

Sex Both Sexes

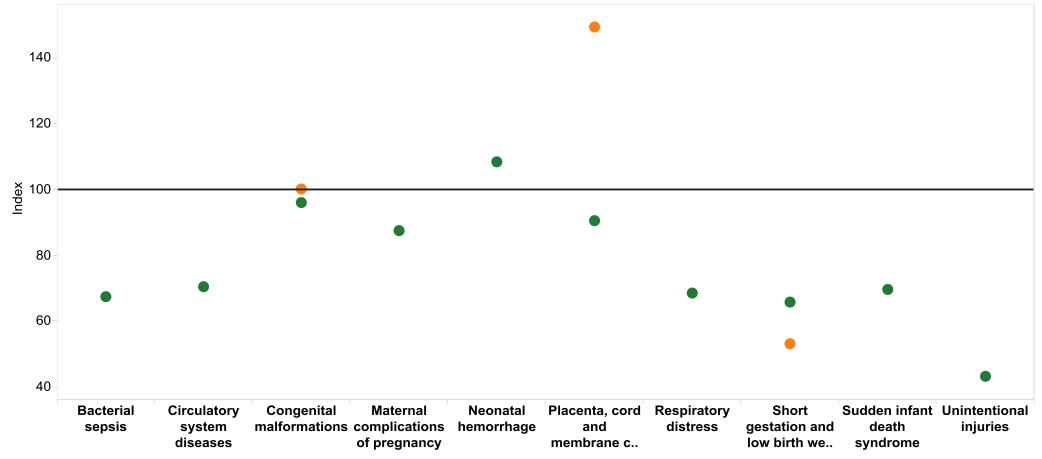
Region HHS Region 9 (AZ, CA, HI, NV)

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

**Rural-Urban Status** 

Rural

Urban



Please select:

Age 1 to 14 Years

Sex Both Sexes

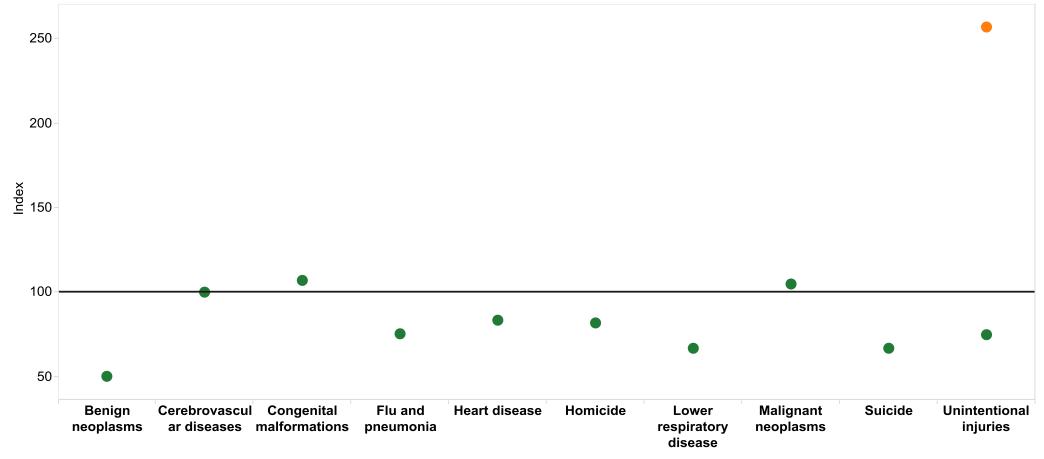
Region HHS Region 9 (AZ, CA, HI, NV)

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

**Rural-Urban Status** 

Rural

Urban



Please select:

Age 15 to 24 Years

Sex Males

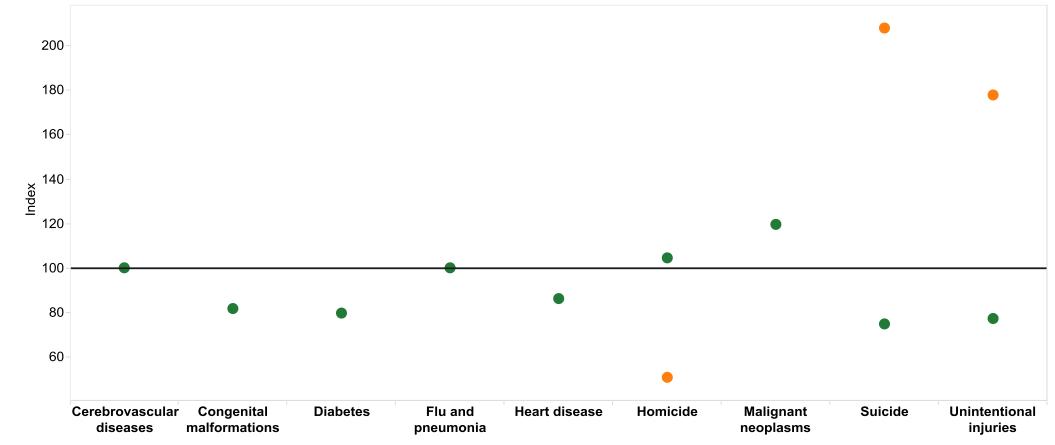
Region HHS Region 9 (AZ, CA, HI, NV)

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

**Rural-Urban Status** 

Rural

Urban



Please select:

Age 15 to 24 Years

Sex Females

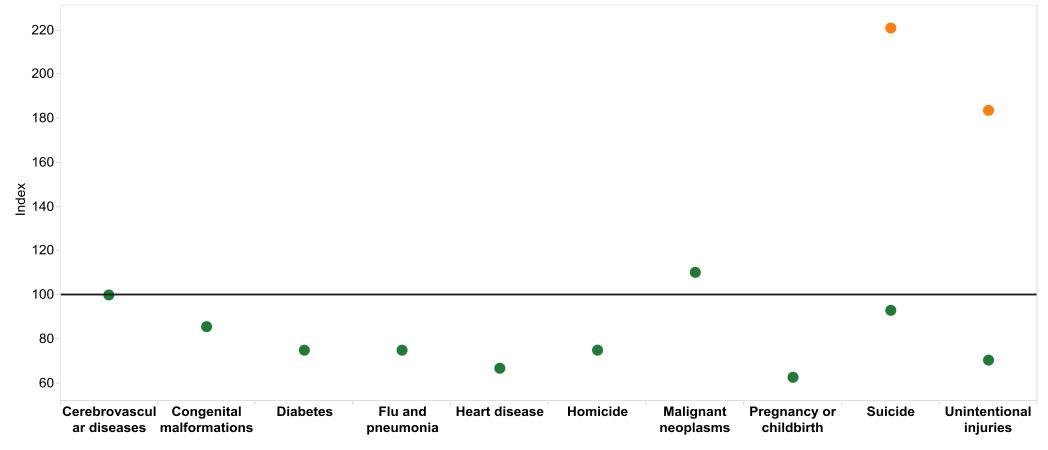
Region HHS Region 9 (AZ, CA, HI, NV)

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

**Rural-Urban Status** 

Rural

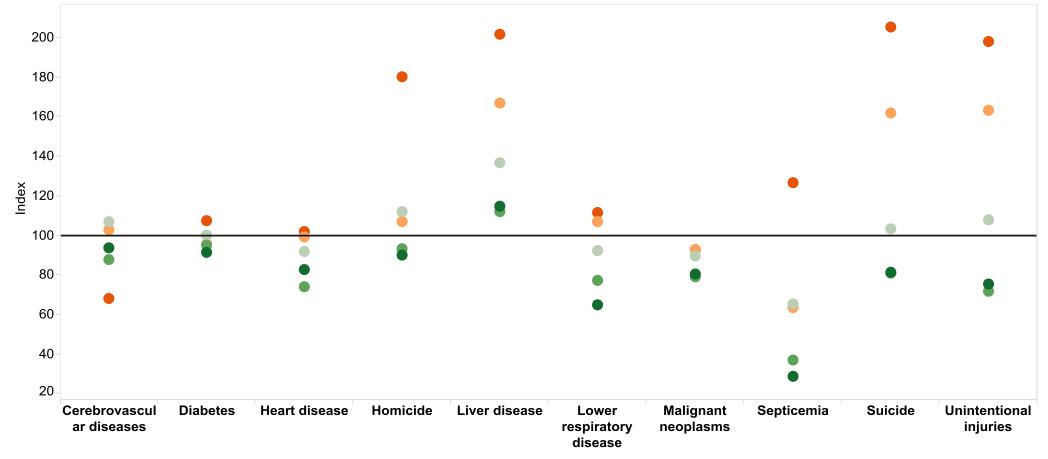
Urban





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

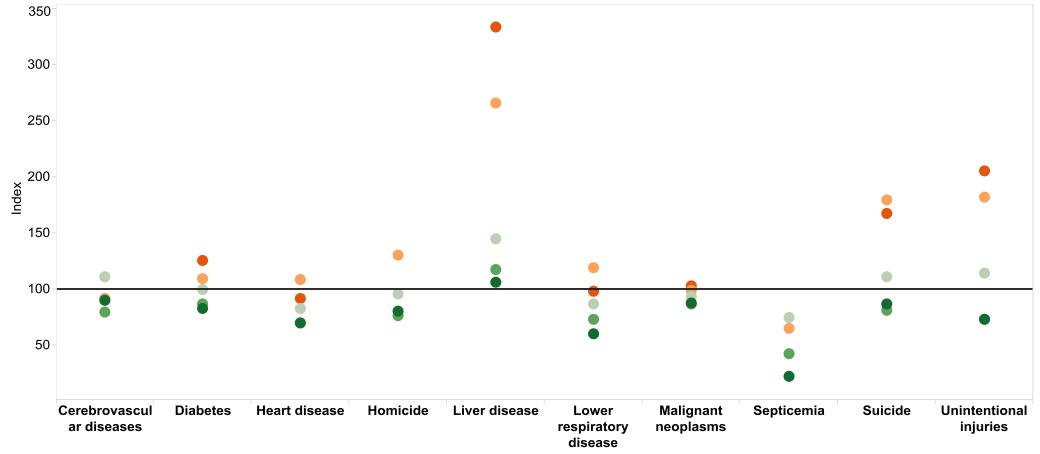
Objects above the horizontal line where index=100 indicates mortality rates higher than the national average, below the line are values below the average.





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

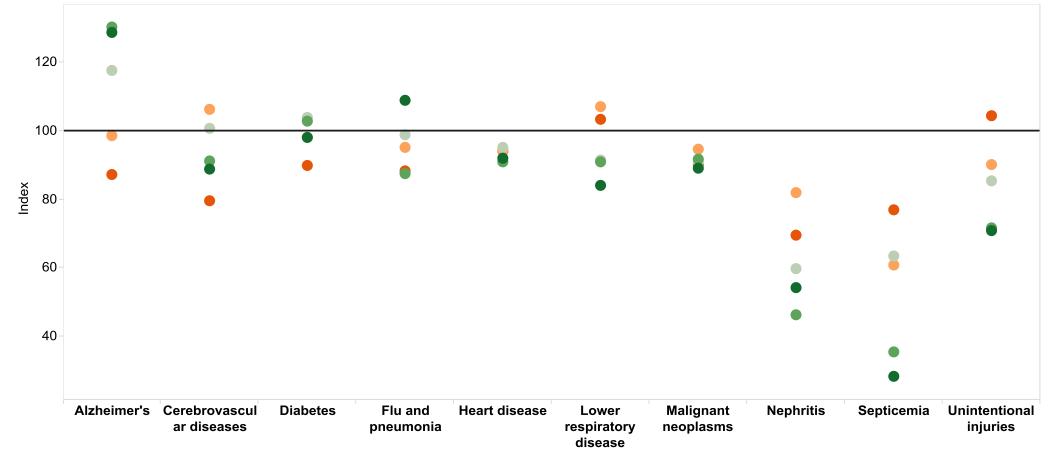
Objects above the horizontal line where index=100 indicates mortality rates higher than the national average, below the line are values below the average.





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

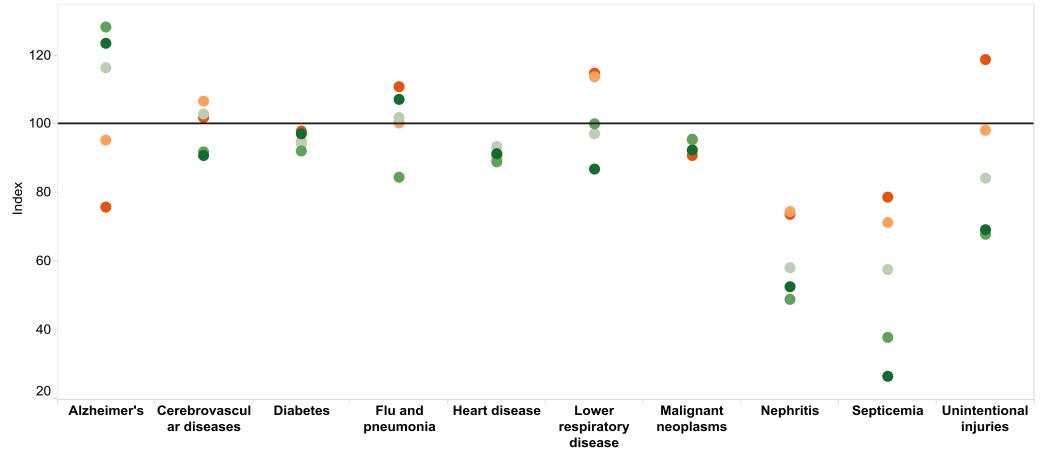
Objects above the horizontal line where index=100 indicates mortality rates higher than the national average, below the line are values below the average.





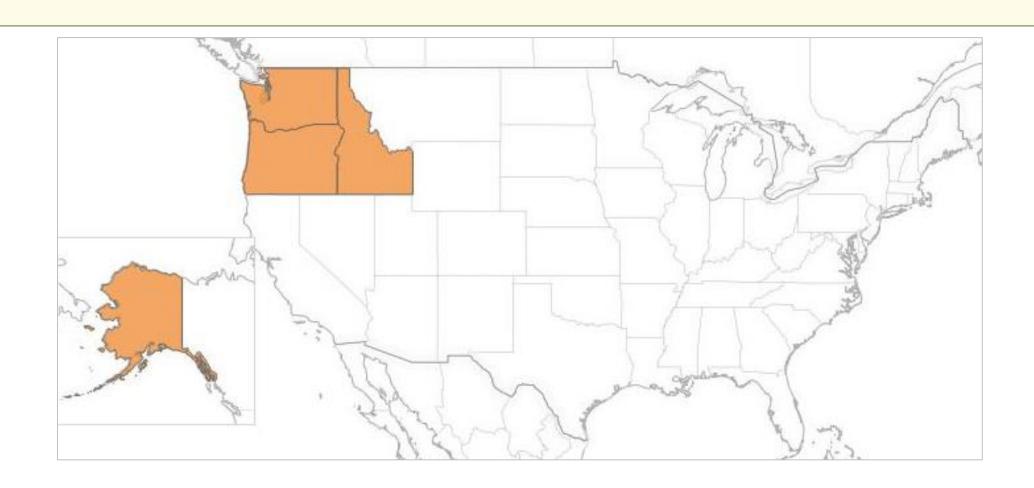
Index for Mortality Rates for Cause Related to the National Mortality Rate among Persons (Females) Age 65 Years and Older, in HHS Region 9 (AZ, CA, HI, NV), by Rural-Urban Status: United States, 2011-2013

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



## 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)</li>
- 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

<u>Please select:</u>

Age Under 1 Year

Sex Both Sexes

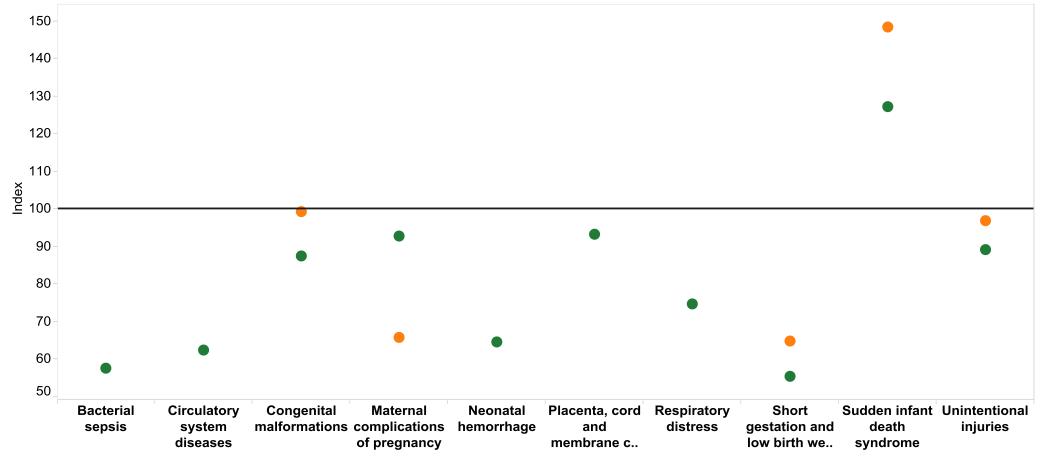
Region HHS Region 10 (AK, ID, OR, WA)

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

**Rural-Urban Status** 

Rural

Urban



Please select:

Age 1 to 14 Years

Sex Both Sexes

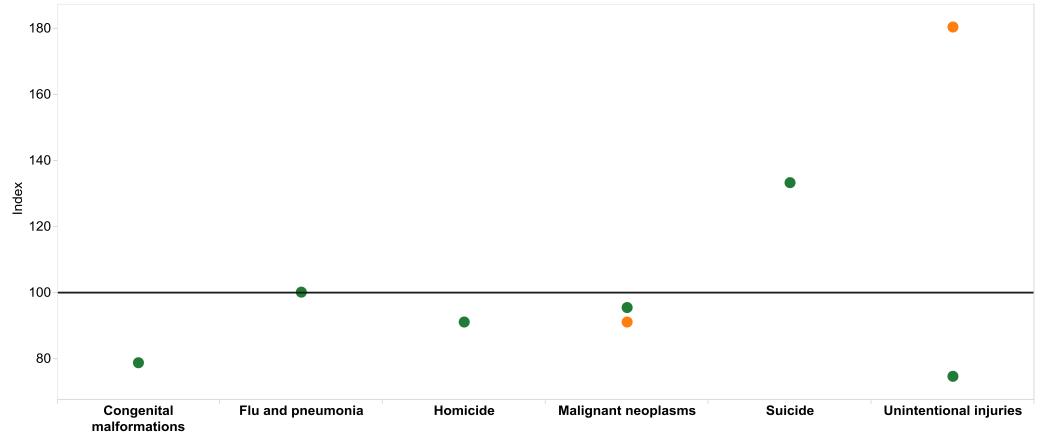
Region HHS Region 10 (AK, ID, OR, WA)

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

**Rural-Urban Status** 

Rural

Urban



Please select:

Age 15 to 24 Years

Sex Males

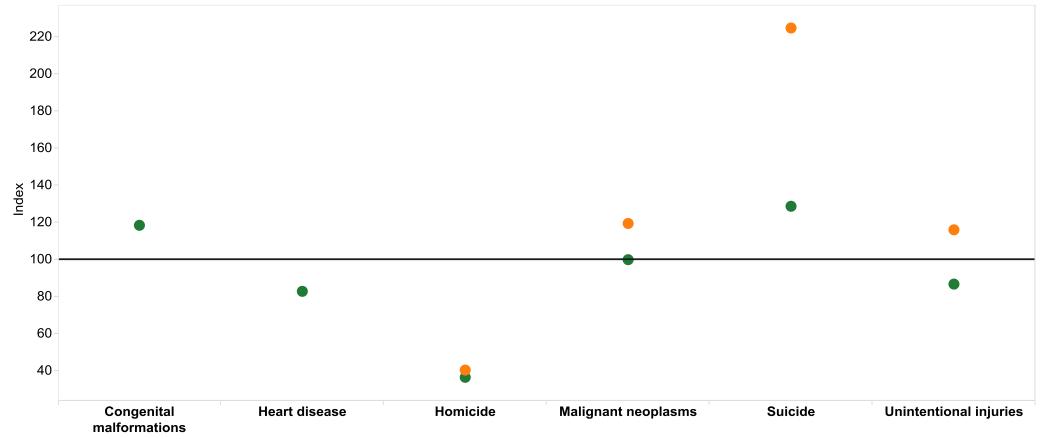
Region HHS Region 10 (AK, ID, OR, WA)

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

**Rural-Urban Status** 

Rural

Urban



Please select:

Age 15 to 24 Years

Sex Females

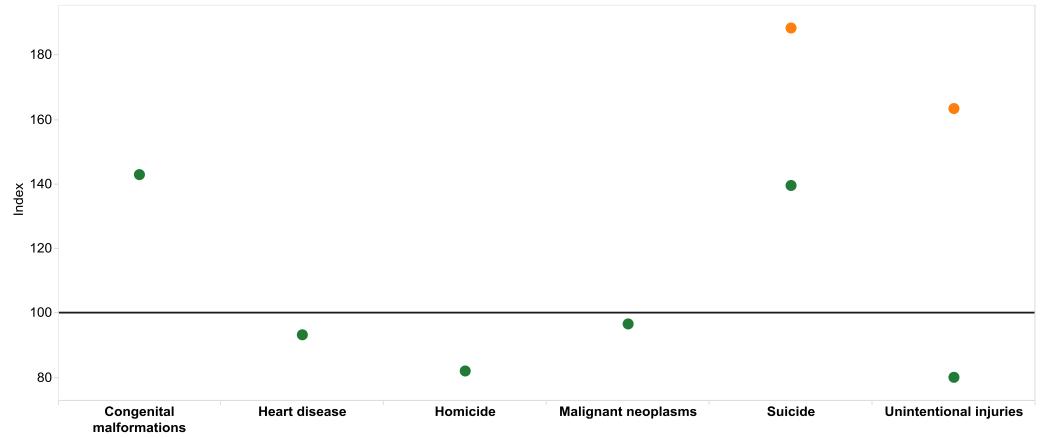
Region HHS Region 10 (AK, ID, OR, WA)

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

**Rural-Urban Status** 

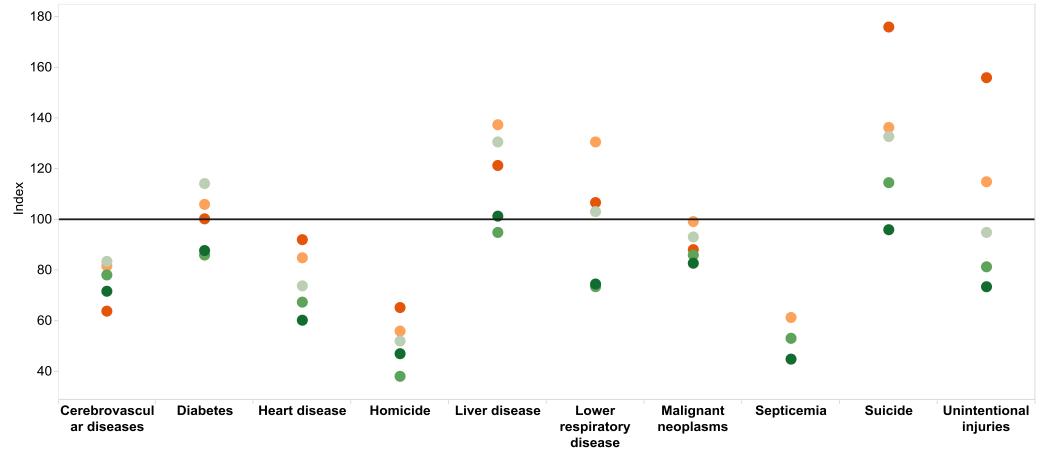
Rural

Urban





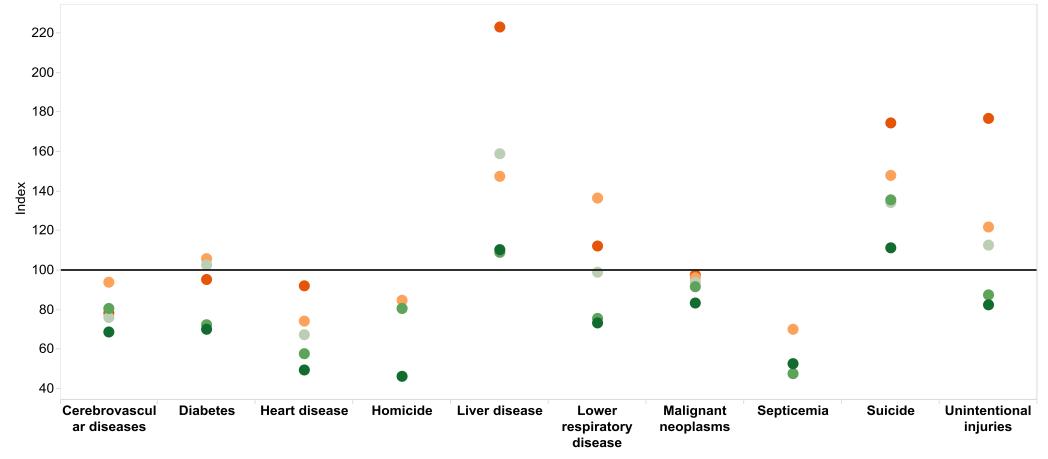
Index for Mortality Rates for Cause Related to the National Mortality Rate among Persons (Males) Age 25 to 64 Years, in HHS Region 10 (AK, ID, OR, WA), by Rural-Urban Status: United States, 2011-2013





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.

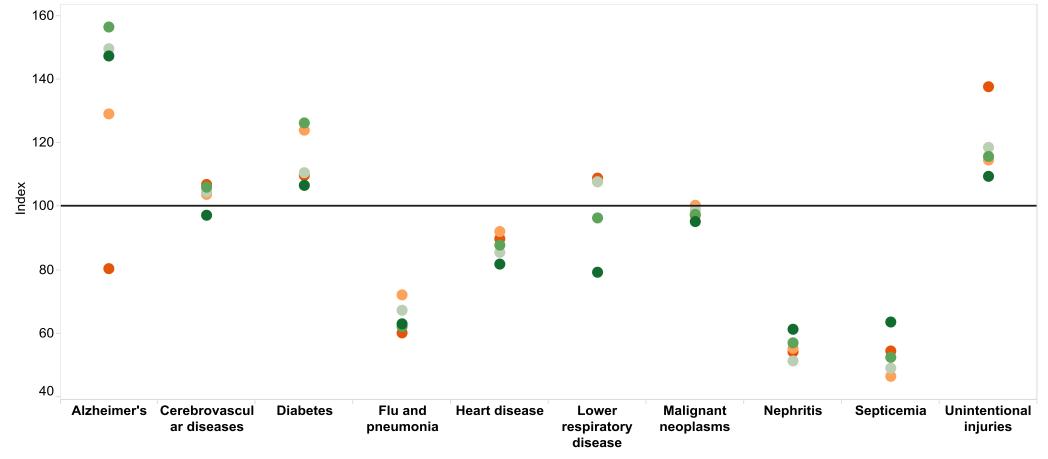


**SOURCES:** Centers for Disease Control and Prevention, National Center for Health Statistics, Multiple Cause of Death. **SUGGESTED CITATION:** Rural Health Reform Policy Research Center. Exploring Rural and Urban Mortality Differences, August 2015 Bethesda, MD. 2015.



Index for Mortality Rates for Cause Related to the National Mortality Rate among Persons (Males) Age 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.

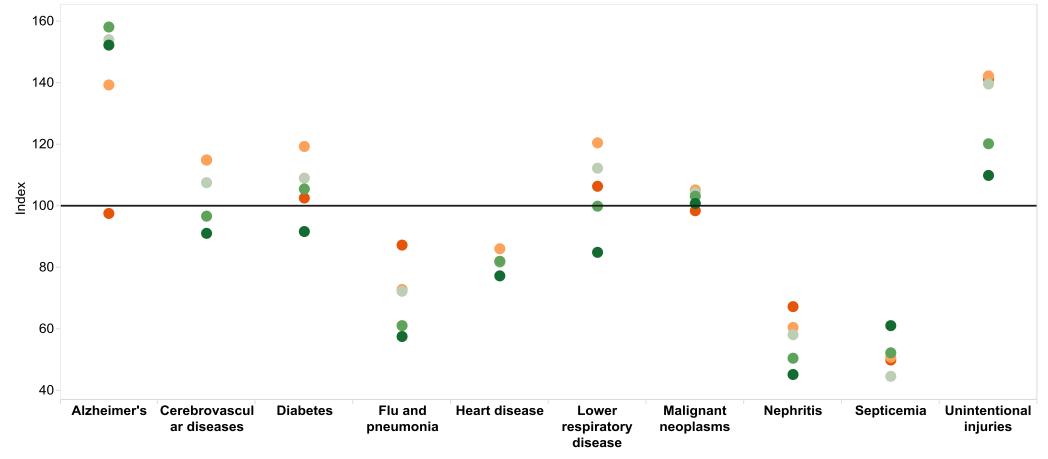


**SOURCES:** Centers for Disease Control and Prevention, National Center for Health Statistics, Multiple Cause of Death. **SUGGESTED CITATION:** Rural Health Reform Policy Research Center. Exploring Rural and Urban Mortality Differences, August 2015 Bethesda, MD. 2015.



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), septicemiá (males), 25 to 64 years.







### Summary: The South

- 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.</li>
    - 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 (region8).
  - 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

		Rural-Urban Status				
Region	Disease	Urban	Rural			
HHS 6	Bacteria Septicemia	1	1			

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

		Rural-Urb	an Status
Region	Disease	Urban	Rural
HHS 4	Benign Neoplasms	1	1
HHS 4	Flu and Pneumonia	1	1
HHS 5	Homicide	1	1
HHS 5	Flu and Pneumonia	1	1
HHS 6	Heart Disease	1	1
HHS 7	Congenital Malformations	1	1

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

			Rural-Urban Status		
Region	Sex	Disease	Urban	Rural	
HHS 5	Males	Heart Disease	1	1	
HHS 5	Females	Heart Disease	1	1	
HHS 6	Females	Malignant Neoplasms	1	1	

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

				Rural-Urban Status					
Region	Sex	Disease	Large Central	Large Fringe	Medium/Small Metro	Micropolitan	Non-core		
HHS 1	Males	Heart Disease			1	1			
HHS 1	Males	Suicide	1	1					
HHS 1	Females	Homicide	1		1				
HHS 2	Males	Cerebrovascular diseases		1			1		
HHS 2	Males	Heart Disease	1		1				
HHS 2	Males	Suicide			1	1			
HHS 2	Females	Unintentional injuries		1	1				
HHS 3	Males	Homicide		1	1	1			
HHS 3	Males	Liver disease	1		1	1			
HHS 3	Females	Lower respiratory disease	1		1				
HHS 3	Females	Septicemia			1		1		
HHS 4	Females	Malignant Neoplasms	1	1					
HHS 4	Females	Septicemia	1	1					
HHS 5	Males	Diabetes	1		1				
HHS 5	Males	Heart Disease			1	1			
HHS 5	Males	Liver disease	1		1				
HHS 5	Males	Lower respiratory disease				1	1		
HHS 5	Males	Malignant Neoplasms	1		1	1			
HHS 5	Females	Diabetes	1		1				
HHS 5	Females	Lower respiratory disease				1	1		
HHS 5	Females	Septicemia	107	1			1		

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

			Rural-Urban Status				
Region	Sex	Disease	Large Central	Large Fringe	Medium/Small Metro	Micropolitan	Non-core
HHS 6	Males	Cerebrovascular diseases				1	1
HHS 6	Females	Malignant Neoplasms	1	1			
HHS 7	Males	Cerebrovascular diseases		1	1	1	1
HHS 7	Males	Heart Disease		1	1		
HHS 7	Males	Homicide				1	1
HHS 7	Males	Liver disease	1			1	
HHS 7	Males	Septicemia		1	1	2	2
HHS 7	Males	Suicide	1			1	1
HHS 7	Females	Cerebrovascular diseases				1	1
HHS 7	Females	Heart Disease					
HHS 7	Females	Malignant Neoplasms		1	1		
HHS 7	Females	Suicide		1	1	2	2

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

1			Rural-Urban Status				
Region	Sex	Disease	Large Central	Large Fringe	Medium/Small Metro	Micropolitan	Non-core
HHS 8	Males	Heart Disease	1			1	
HHS 8	Males	Lower respiratory disease		1	1	1	
HHS 8	Females	Heart Disease	1		1	1	
HHS 8	Females	Homicide		1	1		
HHS 8	Females	Liver disease		1	1		
HHS 8	Females	Lower respiratory disease	1		1	1	
HHS 8	Females	Malignant Neoplasms	1	1	1		
HHS 8	Females	Suicide		1	1		1
HHS 9	Males	Diabetes		1		1	
HHS 9	Males	Malignant Neoplasms	2	2		1	1
HHS 9	Males	Suicide	1	1			
HHS 9	Females	Cerebrovascular diseases	1			1	1
HHS 9	Females	Heart Disease	1	1			
HHS 9	Females	Malignant Neoplasms	1	1			
HHS 9	Females	Unintentional injuries	1	1			
HHS 10	Males	Diabetes	1	1			
HHS 10	Males	Lower respiratory disease	1	1			
HHS 10	Males	Septicemia		1	1		
HHS 10	Females	Cerebrovascular diseases		1	1		1
HHS 10	Females	Homicide		1	1		
HHS 10	Females	Liver disease	1	1			
HHS 10	Females	Septicemia		1	1		
HHS 10	Females	Suicide		1	1		



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

Region	Sex	Disease	Large Central	Large Fringe	Medium/Small Metro	Micropolitan	Non-core
HHS 1	Males	Flu and Pneumonia	1		1		
HHS 1	Males	Malignant Neoplasms		1	1		
HHS 1	Males	Unintentional injuries		2	2	1	1
HHS 1	Females	Heart Disease		1			1
HHS 1	Females	Lower respiratory disease				1	1
HHS 1	Females	Malignant Neoplasms		1	1	1	
HHS 1	Females	Nephritis				1	1
HHS 2	Males	Diabetes			1	1	
HHS 2	Males	Heart Disease		1	1		
HHS 2	Males	Nephritis		1	1		
HHS 2	Females	Cerebrovascular diseases			1	1	
HHS 2	Females	Malignant Neoplasms			1		1
HHS 3	Males	Cerebrovascular diseases		1	1		
HHS 3	Males	Flu and Pneumonia		1	1		
HHS 3	Males	Heart Disease	2		1	2	1
HHS 3	Males	Lower respiratory disease				1	1
HHS 3	Males	Unintentional injuries	1			1	1
HHS 3	Females	Cerebrovascular diseases	1		1		
HHS 3	Females	Diabetes	1		1		
HHS 3	Females	Flu and Pneumonia	1		1		
HHS 3	Females	Lower respiratory disease	1	1			
HHS 3	Females	Malignant Neoplasms		1	1		

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

			Rural-Urban Status						
Region	Sex	Disease	Large Central	Large Fringe	Medium/Small Metro	Micropolitan	Non-core		
HHS 4	Males	Heart Disease	1		1				
HHS 4	Females	Heart Disease	1	1					
HHS 4	Females	Malignant Neoplasms		1	1	2	2		
HHS 4	Females	Nephritis	1	1					
HHS 5	Males	Heart Disease	1		1		1		
HHS 5	Males	Malignant Neoplasms				1	1		
HHS 5	Males	Septicemia		1	1				
HHS 5	Females	Cerebrovascular diseases	1	1					
HHS 5	Females	Flu and Pneumonia	1	1					
HHS 5	Females	Malignant Neoplasms		1		1	1		
HHS 6	Males	Heart Disease	1	1					
HHS 6	Males	Malignant Neoplasms				1	1		
HHS 6	Males	Nephritis		1	1				
HHS 6	Females	Cerebrovascular diseases	1		1				
HHS 6	Females	Diabetes			1		1		
HHS 6	Females	Malignant Neoplasms	1		1				
HHS 6	Females	Nephritis	1		1				

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.



## Appendix A: Overlapping Points by Region, Sex, Disease, 65+ years of age, Region 7 to 8

			Rural-Urban Status					
Region	Sex	Disease	Large Central	Large Fringe	Medium/Small Metro	Micropolitan	Non-core	
HHS 7	Males	Cerebrovascular diseases	2	1	1	2		
HHS 7	Males	Flu and Pneumonia	1		1			
HHS 7	Males	Heart Disease	1			1	1	
HHS 7	Males	Nephritis				1	1	
HHS 7	Females	Cerebrovascular diseases	1				1	
HHS 7	Females	Diabetes	1			1		
HHS 7	Females	Heart Disease				1	1	
HHS 7	Females	Lower respiratory disease		1			1	
HHS 7	Females	Lower respiratory disease	1		1			
HHS 7	Females	Malignant Neoplasms		1	1	1		
HHS 7	Females	Unintentional injuries		1	1	1		
HHS 8	Males	Cerebrovascular diseases				1	1	
HHS 8	Males	Diabetes			1	1		
HHS 8	Males	Malignant Neoplasms	1	1	1	1		
HHS 8	Females	Diabetes	1				1	
HHS 8	Females	Malignant Neoplasms				1	1	
HHS 8	Females	Septicemia	1				1	

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

Region	Sex	Disease	Large Central	Large Fringe	Medium/Small Metro	Micropolitan	Non-core
HHS 9	Males	Diabetes	2	1	1	2	
HHS 9	Males	Flu and Pneumonia		1			1
HHS 9	Males	Heart Disease			1	1	1
HHS 9	Males	Lower respiratory disease		1	1		
HHS 9	Males	Malignant Neoplasms	1	1	1		1
HHS 9	Males	Unintentional injuries	1	1			
HHS 9	Females	Cerebrovascular diseases	1	1			
HHS 9	Females	Diabetes	2		1	1	2
HHS 9	Females	Heart Disease	1	1		1	1
HHS 9	Females	Malignant Neoplasms	1	2	1	2	
HHS 9	Females	Nephritis				1	1
HHS 10	Males	Diabetes			1		1
HHS 10	Males	Flu and Pneumonia	1	1			
HHS 10	Males	Lower respiratory disease			1	1	1
HHS 10	Males	Malignant Neoplasms		1	1		1
HHS 10	Females	Cerebrovascular diseases				1	1
HHS 10	Females	Flu and Pneumonia			1	1	
HHS 10	Females	Heart Disease		1	1		1
HHS 10	Females	Malignant Neoplasms		1	1	1	
HHS 10	Females	Unintentional injuries			1	1	1

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.