

U.S. Population Mortality Observations

Updated with 2016 Experience

December 2018



U.S. Population Mortality Observations Updated with 2016 Experience

AUTHORS R. Jerome Holman, FSA, MAAA
Cynthia S. MacDonald, FSA, MAAA
Peter J. Miller, ASA, MAAA

REVIEWERS Hugh Cox
R. Dale Hall, FSA, MAAA, CERA, CFA
Ed Hui, FSA, MAAA, CFA
Robert B. Lau, FSA, FCIA
Hezhong Ma, FSA, MAAA

Caveat and Disclaimer

This study is published by the Society of Actuaries (SOA) and contains information from a variety of sources. It may or may not reflect the experience of any individual company. The study is for informational purposes only and should not be construed as professional or financial advice. The SOA does not recommend or endorse any particular use of the information provided in this study. The SOA makes no warranty, express or implied, or representation whatsoever and assumes no liability in connection with the use or misuse of this study.

Copyright ©2018 All rights reserved by the Society of Actuaries

TABLE OF CONTENTS

| | |
|---|-----------|
| Preface: Revisions Made to this Report Subsequent to January 11, 2018 a.m. | 4 |
| Section 1: Introduction | 5 |
| Section 2: Overall Summary Observations | 6 |
| Section 3: Methodology | 9 |
| Section 4: All Causes of Death | 11 |
| 4.1 Total Population Analysis..... | 11 |
| 4.2 Top 30 Percentile Income Analysis | 12 |
| Section 5: Accidents | 13 |
| 5.1 Total Population Analysis..... | 13 |
| 5.2 Top 30 Percentile Income Analysis | 14 |
| 5.3 Analysis of Deaths Due to Accidents Excluding Opioid Deaths | 15 |
| Section 6: Alzheimer’s/Dementia | 16 |
| 6.1 Total Population Analysis..... | 16 |
| 6.2 Top 30 Percentile Income Analysis | 17 |
| Section 7: Assault | 18 |
| 7.1 Total Population Analysis..... | 18 |
| 7.2 Top 30 Percentile Income Analysis | 19 |
| Section 8: Cancer | 20 |
| 8.1 Total Population Analysis..... | 20 |
| 8.2 Top 30 Percentile Income Analysis | 21 |
| Section 9: Diabetes | 22 |
| 9.1 Total Population Analysis..... | 22 |
| 9.2 Top 30 Percentile Income Analysis | 23 |
| Section 10: Heart | 24 |
| 10.1 Total Population Analysis..... | 24 |
| 10.2 Top 30 Percentile Income Analysis | 25 |
| Section 11: Liver | 26 |
| 11.1 Total Population Analysis..... | 26 |
| 11.2 Top 30 Percentile Income Analysis | 27 |
| Section 12: Pulmonary | 28 |
| 12.1 Total Population Analysis..... | 28 |
| 12.2 Top 30 Percentile Income Analysis | 29 |
| Section 13: Stroke | 30 |
| 13.1 Total Population Analysis..... | 30 |
| 13.2 Top 30 Percentile Income Analysis | 31 |
| Section 14: Suicide | 32 |
| 14.1 Total Population Analysis..... | 32 |
| 14.2 Top 30 Percentile Income Analysis | 33 |
| Section 15: Opioids | 34 |
| 15.1 Total Population Analysis..... | 34 |
| 15.2 Top 30 Percentile Income Analysis | 35 |
| Reliance and Limitations | 36 |
| Appendix A: Age adjusted Death Rates per 100,000 | 37 |
| Appendix B: Death Rates by Age Group per 100,000 | 42 |
| About The Society of Actuaries | 55 |

Preface: Revisions Made to this Report Subsequent to January 11, 2018 a.m.

January 11, 2018 p.m. updates

- “All age groups, except ages 15-24, had lower mortality in 2016 than 1999.” was corrected to “All age groups, except ages 25-34, had lower mortality in 2016 than 1999” on page 6.

April 20, 2018 update

- 1b. “Over 1996-2016, mortality increased by an average annual rate of 2.1%.” was corrected to “Over 2006-2016, mortality increased by an average annual rate of 2.1%.” on page 32.

December 19, 2018 update

- 1c. “Over 1999-2016, mortality increased by an average annual rate of 0.6%. Initially, over 1999-2006, mortality decreased by an average annual rate of 1.5%. Over 2006-2008, mortality saw a dramatic increase by an average annual rate of 4.4%, which was followed by an average annual rate of 1.1% since then.” was corrected to “Over 1999-2016, mortality decreased by an average annual rate of 0.6%. Initially, over 1999-2006, mortality decreased by an average annual rate of 1.5%. Over 2006-2008, mortality saw a dramatic increase by an average annual rate of 4.4%, followed by an increase of the average annual rate of 1.1% since then.” on page 28.
- 3c. “In the long term, 1999-2016, all age groups had average annual mortality increases.” was corrected to “In the long term, 1999-2016, all age groups had average annual mortality decreases.” On page 30.

Section 1: Introduction

The Society of Actuaries has developed this report to provide insights on the historical levels and emerging trends in U.S. population mortality. The most recently released U.S. population mortality experience from 2016 has been incorporated and added to prior available data to enable analysis of mortality experience over the period 1999-2016. This research is part of its ongoing longevity and mortality research initiatives.

The report begins with a set of high level, summary observations obtained by looking across the overall population results and the results from the individual causes of death (CODs), subsequently analyzed in the report. Next, in section 4, the overall population mortality is reviewed. Results from the analyses of ten individual CODs follow in sections 5-14, with one section devoted to each of the CODs. The ten individual CODs were selected from the National Center for Health Statistics' (NCHS) list of rankable causes of death. Given the continued interest in opioid-related deaths, the report concludes with a section devoted to deaths from opioid drug overdoses. Each of the ten individual COD sections and the opioid section also contain an analysis of mortality by income level. Here, the top 30% of the counties, based on the average, county-level median household income, were identified and the mortality for this population subset was compared to the overall population.

Section 2: Overall Summary Observations

The following observations were obtained by comparing and contrasting the overall population results from section 4 and the results from the individual CODs analyses in sections 5-15.

- The overall age adjusted mortality rate (both genders) from all causes of death decreased 0.6% in 2016. This decrease in overall mortality may seem to run counter to the CDC's report that life expectancy at birth declined 0.1 years in 2016. Generally, a decrease in the mortality rate would be expected to produce an increase in life expectancy. However, both figures are correct.

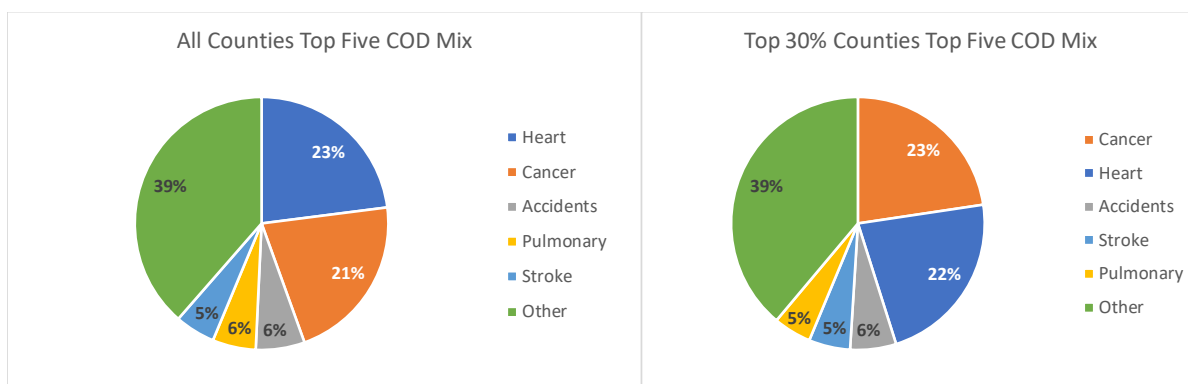
In this respect, 2016 was a somewhat anomalous year. In most years, when age adjusted mortality rates decrease, life expectancy at birth would increase. Conversely, when age adjusted mortality rates increase, life expectancy at birth would decline. This is what occurred in 2015, when age adjusted mortality increased by 1.2%, and life expectancy at birth declined by 0.1 years.

The anomaly that occurred in 2016 is explained by the differing impacts on life expectancy of mortality rate changes of different ages. In 2016, increased mortality rates in the younger and middle ages (mostly due to accidents) reduced life expectancy at birth more than it was extended by mortality improvement at older ages. However, the overall age adjusted mortality rate for the entire U.S. population did decline by 0.6%.

Age adjusted rates are calculated assuming the mix of ages in the population stays the same each year. Life expectancy is a composite of mortality rates over a single person's future lifetime. This report focuses on age adjusted rates, as opposed to life expectancy, because actuaries generally require mortality rates, not life expectancies, as an input assumption for their work.

- The overall decrease of mortality in 2016 reversed the experience of 2015. Mortality improvement in older age groups offset large mortality increases, mostly due to external causes, in middle age groups. All age groups, except ages 25-34, had lower mortality in 2016 than 1999.
- The rate of overall mortality improvement has slowed in the most recent five years.
 - A very large contributor to the recent slowdown in population mortality improvement since the late 2000's has been deaths due to heart disease. While the improvement rates for this #1 COD have continued to be mostly positive in recent years, they have shifted from material improvement levels to much smaller levels (e.g. average annual mortality improvement over 1999-2011 was 3.5%, but only 0.9% in 2011-2016.)
 - Conversely, a notably consistent contributor to positive population mortality improvement since 1999 has been the reduction (average annual decrease of 1.5% from 1999-2016) of cancer deaths.
- Mortality was analyzed over the entire U.S. population (All Counties) and compared to mortality in the top 30 percentile counties (Top 30%), based on median household income, as described in section 3. As shown in the left pie chart below, for All Counties on an age adjusted basis, heart disease was the #1 killer in 2016, accounting for 23% of all deaths, and cancer was #2, accounting for 21%. These two CODs switched places in the Top 30%, where, as shown in the right pie chart, cancer

was the #1 killer, accounting for 23% of all deaths, and heart disease was #2, accounting for 22%. Accidents were the #3 killer in both instances, while pulmonary and stroke switched rank. Pulmonary deaths were #4 and stroke deaths were #5 nationally, but traded rankings in the Top 30%. While the mix of the top five COD percentages was similar nationally and for the Top 30%, the overall mortality rate for the Top 30% was 87% of the All Counties mortality rate in 2016.



- The age adjusted mortality in the Top 30% was materially lower than the All Counties mortality in all years between 1999 and 2016. The difference between the overall Top 30% and All Counties mortality rates increased slightly over time. This difference also increased for each COD covered in this report, except accidents. Also, the difference between the overall mortality rate in the Top 30% and in All Counties narrows as the age increases.
- The highest increase in 2016 mortality, 27.4%, occurred in the opioid COD, which contributed to the large 9.3% increase in the accident COD. Opioid deaths are mainly a subset of accidents and suicide. In 2016, opioid deaths made up 23% of the accident deaths and 4% of the suicide deaths. Age groups between ages 15-44 saw the greatest increases in accident deaths and opioid deaths.
 - Even though the death rate due to opioid drug overdoses was about five times greater in 2016 than in 1999, it only accounted for a small proportion, less than 2%, of the total 2016 deaths.
 - The highest 2016 age group ratios of the Top 30% mortality to All Counties mortality occurred in the opioid 15-24, 25-34, 75-84 and 85+ age groups. These ratios were greater than 105%.
- All the CODs except accidents had their lowest 2016 ratio of Top 30% mortality to All Counties mortality in the age groups between ages 25 to 64. With respect to all ages combined in 2016, assault deaths had the lowest ratio, 58%, while the highest ratios were 98% for Alzheimer’s/dementia, 96% for opioids, and 91% for cancer.

- Examining mortality by gender, female mortality is lower than male mortality for all CODs except stroke, which is similar, and for the combination of Alzheimer’s and dementia, which is higher.
 - Female to male mortality is comparatively much lower for external causes of death (accident, assault, and suicide) than natural causes of death.
 - The table below lists the average annual rate of mortality improvement for heart disease and cancer by gender over recent and longer periods. Generally, females had higher improvement rates than males for heart disease, while males had higher improvement rates for cancer in the short and long-term, both nationally and for the Top 30%. An exception to this occurred for cancer experience during 2016 in the Top 30%, where the male improvement rate was less than the female improvement rate.

AVERAGE ANNUAL MORTALITY IMPROVEMENT

| Years(s) | Heart Disease | | | | Cancer | | | |
|-----------|---------------|-------|---------|-------|--------------|-------|---------|-------|
| | All Counties | | Top 30% | | All Counties | | Top 30% | |
| | Female | Male | Female | Male | Female | Male | Female | Male |
| 2015-2016 | 2.40% | 1.20% | 3.40% | 1.30% | 1.40% | 2.00% | 1.60% | 1.50% |
| 2011-2016 | 1.20% | 0.80% | 1.60% | 1.20% | 1.40% | 1.90% | 1.70% | 2.00% |
| 1999-2016 | 3.00% | 2.60% | 3.30% | 2.90% | 1.30% | 1.80% | 1.60% | 2.00% |

Section 3: Methodology

The source of the mortality rates found in this report is the Centers for Disease Control and Prevention’s (CDC) Wide-ranging Online Data for Epidemiologic Research (WONDER) database, released in December 2017. The data used to develop the list of U.S. counties with the upper thirty percent, by population, of median household income based on the average of 2007 and 2008 census data, was obtained from the U.S. Census Bureau’s Small Area Income and Poverty Estimates Program. These counties were then entered into WONDER to obtain the mortality rates for the top 30 percentile counties. Any reference to the “Top 30%” refers to the top 30 percentile counties and any reference to “All Counties” reference to the entire U.S. population or all U.S. counties.

All mortality rates shown in this report, other than those shown for ten-year age groups, are age adjusted rates based on the CDC’s non-standard population option of 2010. The non-standard population in 2010 was chosen here as opposed to the 2000 standard population, used in age adjusted rates published by the CDC, because 2010 was more central to the mid-point of the years of data, 1999-2017, covered in this report. To achieve consistent comparisons across gender and across the Top 30% vs. All Counties, all age adjusted rates were determined using the 2010 national, combined, female and male age group distribution.

To meet the CDC’s privacy data use requirements, calculated annual improvement values are not shown for age groups where the number of deaths for that age group is less than ten in any one year. Also, comparisons of the Top 30% versus the All Counties death rates for age groups where the deaths in 1999-2016 in either the Top 30% or the All Counties total deaths were less than ten, are not shown.

The NCHS’ rankable causes of death are a subset of the NCHS’ “113 Selected Causes of Death.” The selected ten causes of death covered in the report were chosen in a review of the top five rankable causes of death for each of the ten-year age groups available in WONDER. Below is a table of the ten selected causes of death covered in this report and their ICD-10 113 Code and Cause List as they appear in WONDER.

| Report Cause of Death | ICD-10 113 Code | ICD-10 113 Cause List (with IDC-10 codes) |
|-----------------------------------|-----------------|---|
| Accidents | GR113-112 | #Accidents (unintentional injuries) (V01-X59,Y85-Y86) |
| Alzheimer's/Dementia ¹ | GR113-052 | #Alzheimer's disease (G30) |
| Assault | GR113-127 | #Assault (homicide) (*U01-*U02,X85-Y09,Y87.1) |
| Cancer | GR113-019 | #Malignant neoplasms (C00-C97) |
| Diabetes | GR113-046 | #Diabetes mellitus (E10-E14) |
| Heart | GR113-054 | #Diseases of heart (I00-I09,I11,I13,I20-I51) |
| Liver | GR113-093 | #Chronic liver disease and cirrhosis (K70,K73-K74) |
| Pulmonary | GR113-082 | #Chronic lower respiratory diseases (J40-J47) |
| Suicide | GR113-124 | #Intentional self-harm (suicide) (*U03,X60-X84,Y87.0) |
| Stroke | GR113-070 | #Cerebrovascular diseases (I60-I69) |

¹ Dementia is not one of the NCHS’ rankable causes of death but has been included with the review of Alzheimer’s. The ICD-10 codes for Dementia are (F01,F03)

For section 15, the method to identify drug overdose deaths involving opioids was taken from the *Increases in Drug and Opioid Overdose Deaths – United States, 2010-2015*². These deaths were identified by the ICD-10 underlying cause-of-death codes X40–44 (unintentional), X60–64 (suicide), X85 (homicide), or Y10–Y14 (undetermined intent) in combination with any one of the following multiple cause-of-death codes: opioids (T40.0, T40.1, T40.2, T40.3, T40.4, or T40.6); natural/semisynthetic opioids (T40.2); methadone (T40.3); synthetic opioids other than methadone (T40.4); or heroin (T40.1).

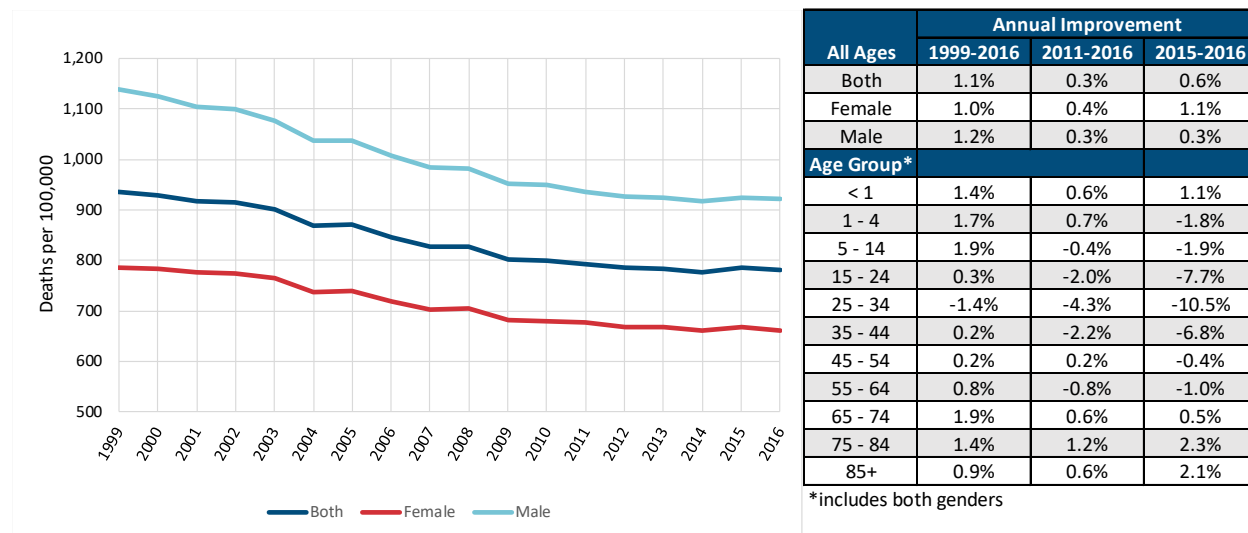
The age adjusted death rates used to produce all graphs, and stated for comparative purposes in tables accompanying the graphs, are included in Appendix A. Those values are also used to derive the “All Ages” mortality improvement rates stated in the accompanying table to the graph in each COD’s “Total Population Analysis” subsection. Ten-year age group death rates (unless they are suppressed) are listed in Appendix B. These rates are used to derive combined gender mortality improvement rates for the overall population. The ten-year age group death rates are also used to draw comparisons by age group between the Top 30% and All Counties mortality. In some instances, quantitative relationships or comparisons are stated in the report that are not listed in the accompanying tables. The values related to all such statements can be derived from the data supplied in Appendices A and B.

² Rudd RA, Seth P, David F, Scholl, L. Increases in drug and opioid overdose deaths—United States, 2000–2015. *MMWR Early Release* 2016;64:1378–82. [CrossRefPubMed](#)

Section 4: All Causes of Death

4.1 Total Population Analysis

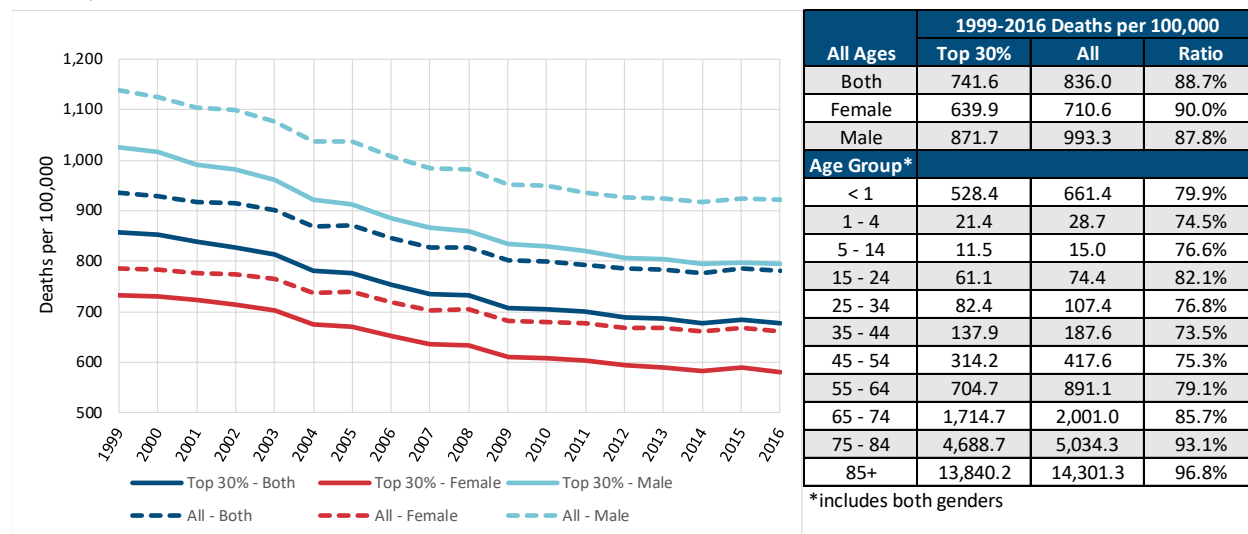
AGE ADJUSTED MORTALITY 1999-2016



1. Overall Trend Observations
 - a. The overall mortality rate (both genders) from all causes of death decreased 0.6% in 2016, which followed a 1.2% increase in 2015.
 - b. The 2016 mortality rate decrease, 0.6%, was greater than the 2011-2016 average annual decrease, 0.3%, whose single year improvement rates ranged from -1.2% to 1.1%.
 - c. Average annual mortality improvement has been lower in the most recent five years, 0.3%, than during 1999-2016, 1.1%.
2. Gender Observations
 - a. During 2016, the female mortality rate decreased more than the male mortality rate, 1.1% vs. 0.3%, respectively. This contrasted with 2015 experience where the female mortality rate increased more than the male mortality rate, 1.3% vs. 0.9%.
 - b. The gender disparity decreased during 1999-2016. Lower female than male average annual mortality improvement, 1.0% vs. 1.2%, respectively, increased the female to male mortality ratio from 69.1% to 71.9%.
3. Age Groups Observations
 - a. Mortality decreased for infants under age one and at age 65 and over in 2016, while it increased for all other ages. The highest 2016 mortality increase, 10.5%, occurred for age group 25-34, while the highest improvement, 2.3%, occurred for age group 75-84.
 - b. There was a notably higher one-year mortality increase for 2016 vs. the one-year mortality increase for 2015 for age groups ranging from 15-44. The highest acceleration in those ages occurred for age group 35-44, where the mortality rate increased by 2.8% and 6.8%, respectively, in 2015 and 2016. The second highest 2015-2016 acceleration and highest two-year cumulative increase occurred for age group 25-34, which had mortality increases of 7.7% and 10.5%, respectively, in 2015 and 2016.
 - c. Every age group, except ages 1-4 and 65-74, had the same directional mortality change (up or down) and at a higher rate of change in 2016 vs. the average annual change in 2011-2016.

4.2 Top 30 Percentile Income Analysis

TOP 30% VS. ALL COUNTIES BY INCOME AGE ADJUSTED MORTALITY 1999-2016

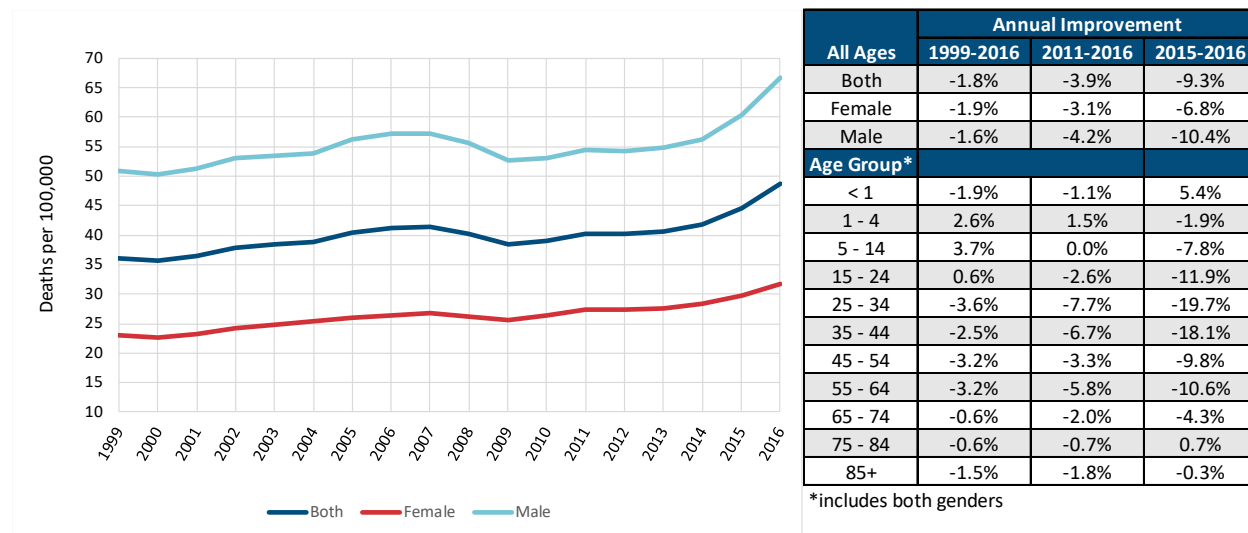


1. Overall Trend Observations
 - a. For all causes of death (both genders), Top 30% mortality decreased 1.0% vs. 0.6% for All Counties in 2016, following 1.2% and 1.0% increases, respectively, in 2015.
 - b. The Top 30% mortality rate, averaged over 1999-2016, was 88.7% of the All Counties rate.
 - c. The Top 30% mortality rate has been consistently lower in all years than All Counties, but with a slightly diverging trend. The percentage of Top 30% to All Counties mortality has decreased from 91.5% to 86.8% during 1999-2016.
2. Gender Observations
 - a. Top 30% female mortality decreased more than All Counties, 1.7% vs. 1.1%, respectively, whereas male mortality decreased by the same amount, 0.3%, for both areas in 2016.
 - b. The ratios of the female to male mortality rates, averaged over 1999-2016, for the Top 30% and All Counties were 73.4% and 71.5%, respectively.
 - c. The ratio of Top 30% to the All Counties mortality was greater for females than males. The ratios of Top 30% to the All Counties mortality for females and males, averaged over 1999-2016, were 90.0% and 87.8%, respectively.
3. Age Group Observations
 - a. Age groups spanning ages 1-14, 25-44 and 65-74 had adverse mortality experience in the Top 30% relative to All Counties in 2016. Ages 5-14 had the highest such difference with 2016 mortality increases of 5.8% and 1.9% in the Top 30% and All Counties, respectively. Conversely, age < 1 had the greatest favorable difference in the Top 30% relative to All Counties. The 2016 mortality rate improvement for age < 1 in the Top 30% vs. All Counties was 2.8% and 1.1%, respectively.
 - b. Top 30% mortality was lower than All Counties mortality, averaged across 1999-2016, for all age groups. During 1999-2016, Top 30% to All Counties mortality ranged from 73.5% for age group 35-44, to 96.8% for age group 85+.
 - c. Age groups spanning ages 5-34 were the only ones that had lower mortality improvement rates, averaged over 1999-2016, in the Top 30% vs. All Counties. The Top 30% vs. All Counties mortality improvement rates, averaged over 1999-2016, were 1.8% and 1.9%, respectively, for age group 5-14; 0.0% and 0.3%, respectively, for age group 15-24; and -1.8% and -1.4%, respectively, for age group 25-34.

Section 5: Accidents

5.1 Total Population Analysis

AGE ADJUSTED MORTALITY 1999-2016



1. Overall Trend Observations

- a. The overall mortality rate (both genders) from accidents has risen, increasing 9.3% in 2016 after a 6.6% increase in 2015.
- b. The lowest overall mortality rate in 1999-2016 occurred in 2000, when the rate was 35.7 per 100,000. The rate then increased, at an average annual rate of 2.1%, to 41.3 deaths per 100,000 in 2007 before dropping, at an average annual rate of 3.5%, to 38.5 deaths per 100,000 in 2009. Since 2009, the rate has increased, at an average annual rate of 3.4%, to a rate of 48.7 deaths per 100,000.

2. Gender Observations

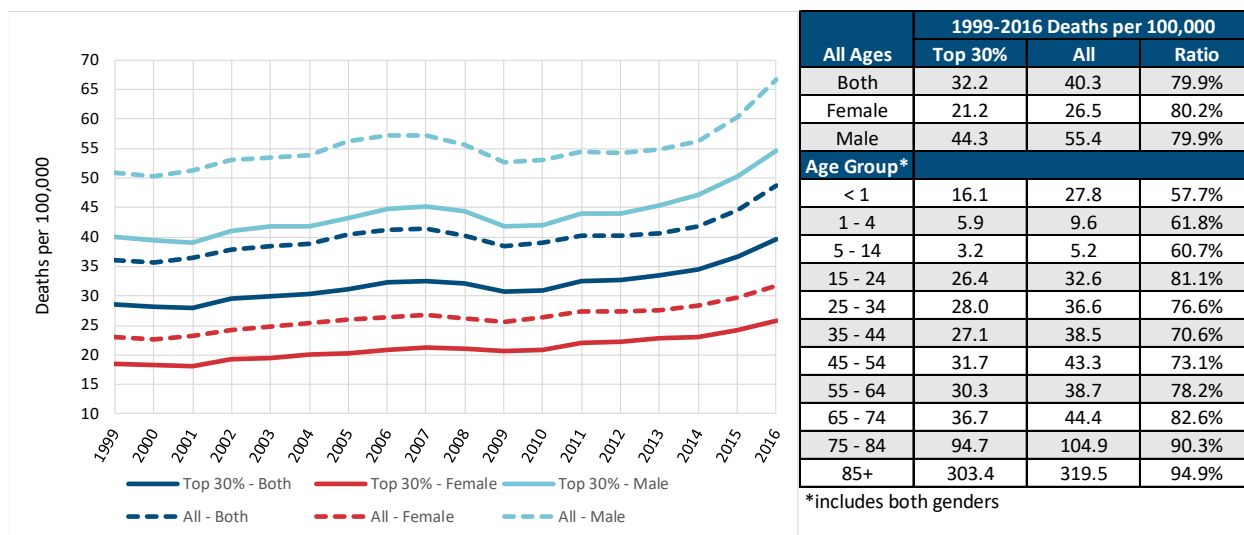
- a. The male death rate has increased even more than the overall rate, increasing 10.4% in 2016 after a 7.3% increase in 2015. The next largest single year increase was 4.5% in 2005, less than half the 2016 increase.
- b. The female death rate also increased in 2016, but at a lower pace than the male rate. The rate increase of 6.8% in 2016 was the largest single-year increase in 1999-2016 for females.
- c. Females tend to die from accidental causes at a lower rate than males. The female death rate, averaged over 1999-2016, as a percentage of the male death rate, averaged over 1999-2016, has ranged between 45-50.5%. In 2016, this ratio was 47.7% in 2016, down from 49.3% in 2015 and 50.5% in 2012.

3. Age Group Observations

- a. The 25-34 and 35-44 age groups have had remarkable increases in mortality since 2014. The mortality rate has increased at an average annual rate of 16.1% for ages 25-34, and 14.4% for ages 35-44, between 2014 and 2016.
- b. Other notable increases between 2014 and 2016 were the average annual rates of 5.3% for ages 5-14, 9.1% for ages 15-24, 7.4% for ages 45-54, and 8.3% for the 55-64 age group.

5.2 Top 30 Percentile Income Analysis

TOP 30% VS. ALL COUNTIES BY INCOME AGE ADJUSTED MORTALITY 1999-2016



1. Overall Trend Observations

- The overall mortality rate (both genders) from accidents has been consistently lower in the Top 30% than in All Counties.
- The 2016 mortality rate in the Top 30% was 81.6% of the mortality rate in All Counties.
- In each year since 1999, the ratio of the Top 30% mortality rate and the All Counties mortality rate has been fairly consistent, varying between 76.8% and 82.6%.
- Averaged over 1999-2016, the mortality rate of the Top 30% was 79.9% of the mortality rate in All Counties.

2. Gender Observations

- In 2016, the Top 30% mortality rates were 80.9% and 82.0% of the respective All Counties mortality rates for females and males.
- Each year since 1999, the ratio of the Top 30% mortality rate to the All Counties mortality rate has been similar for females and males. The largest difference in the male and female ratios was only 2.8%, which occurred in 2000 when the Top 30% rates were 81.2% and 78.4%, respectively, of the All Counties rates for females and males.
- Averaged over 1999-2016, the Top 30% rates were 80.2% and 79.9%, respectively, of the All Counties rates for females and males.

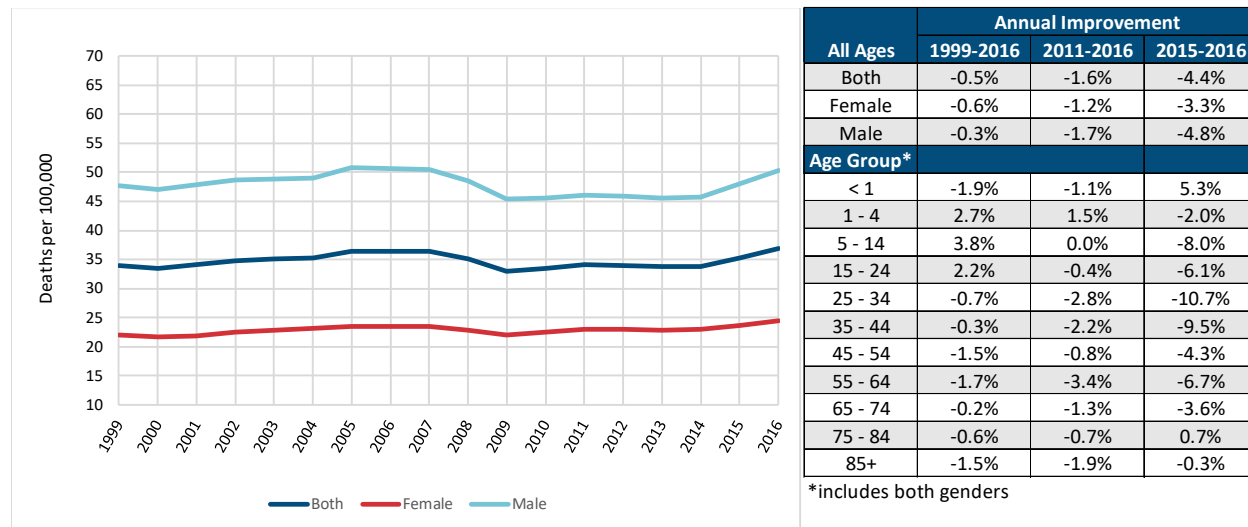
3. Age Group Observations

- In 2016, the <1 age group had the lowest ratio of the Top 30% mortality rate to the All Counties rate, at 56.8%, and the 85+ age group had the largest ratio at 96.6%.
- Excluding the 15-24 and 25-34-year age groups, the ratios of Top 30% mortality to All Counties mortality tended to increase by age group. In 2016, the 15-24 and 25-34 age groups had ratios of 83.9% (4th highest) and 86.4% (3rd highest), respectively.

5.3 Analysis of Deaths Due to Accidents Excluding Opioid Deaths

This analysis removes deaths due to opioid usage from the accident COD analysis in section 5.1

AGE ADJUSTED MORTALITY 1999-2016



1. Overall Trend Observations

- a. Deaths involving accidental opioid drug overdose played a significant part in the analysis of accidental deaths. Removing opioid deaths from the accident analysis resulted in lower death rates in all years from 1999 to 2016. The difference between the accident death rates and the accident excluding opioid death rates has increased between 1999 and 2016.
- b. After removing the opioid deaths from the accident deaths, the overall mortality rate (both genders) increased 4.4% in 2016, after a 4.2% increase in 2015.
- c. The overall mortality rate increased, at an average annual rate of 1.7% between 2000 and 2005, before decreasing at an average annual rate of 2.4%, until 2009. Between 2009 and 2016, the overall rate increased at an average annual rate of 1.6%, to a mortality rate of 36.8 deaths per 100,000 in 2016.

2. Gender Observations

- a. The male death rate also increased in 2016 at a slightly higher level than the overall rate. The male death rate increased 4.8% in 2016, after a 4.7% increase in 2015.
- b. The female death rate also increased in 2016, but at a lower pace than the male rate. A 3.3% increase in 2016 followed a 3.2% increase in 2015.
- c. Females have consistently died from accidents other than opioid deaths at a lower rate than males. Over 1999-2016, the female death rate as a percentage of the male death rate has ranged between 45.9% in 2001 and 50.2% in 2012.

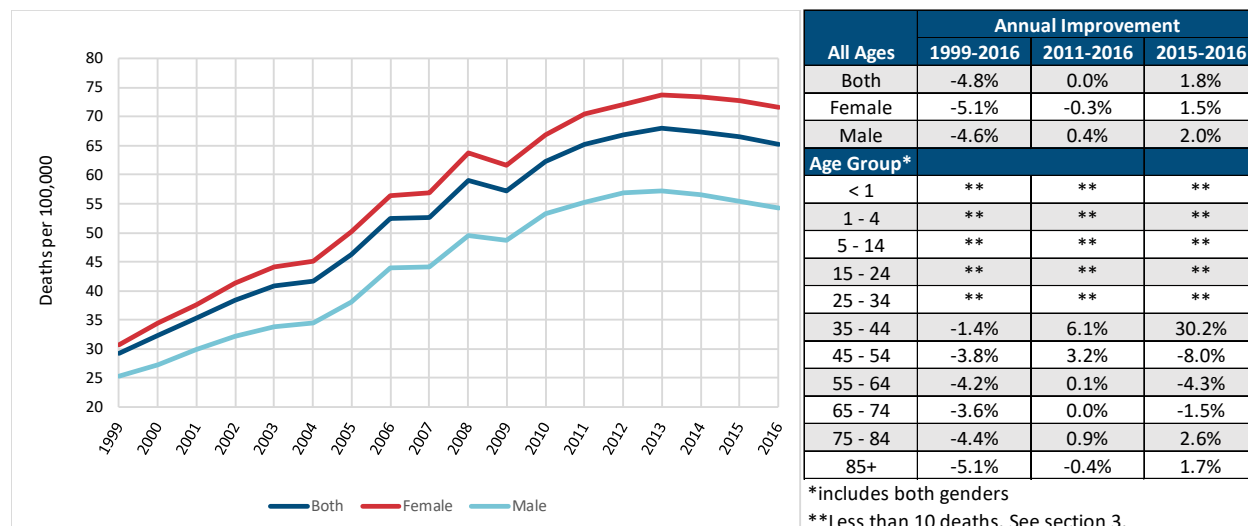
3. Age Group Observations

- a. The 25-34 and 35-44 age groups had the largest increases in mortality since 2014. The mortality rate increased at an average annual rate of 8.9% for ages 25-34, and 7.8% for ages 35-44 between 2014 and 2016.
- b. Other notable increases between 2014 and 2016 were the average annual rates of 5.1% for ages 5-14, 5.1% for ages 15-24, and 5.4% for the 55-64 age group.

Section 6: Alzheimer’s/Dementia

6.1 Total Population Analysis

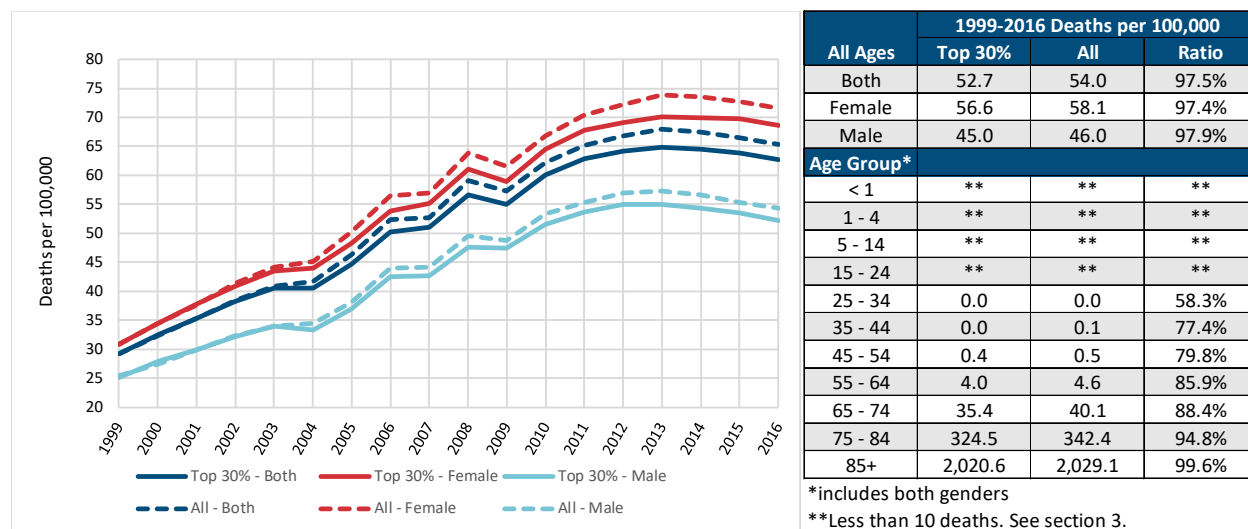
AGE ADJUSTED MORTALITY 1999-2016



1. Overall Trend Observations
 - a. The overall mortality rate (both genders) from Alzheimer’s and dementia decreased 1.8% in 2016, which was similar to the 1.4% decrease in 2015.
 - b. Over 1999-2013, mortality increased by an average annual rate of 6.2%.
 - c. Since reaching the highest overall mortality rate from 1999-2016 of 68.0 per 100,000 in 2013, mortality decreased by an average annual rate of 1.3% over the next three years.
2. Gender Observations
 - a. The male mortality rate decreased by 2.0% in 2016, which was very similar to the 2.1% decrease in 2015, whereas female mortality improvement increased from 1.0% in 2015 to 1.5% in 2016.
 - b. Females and males reached their highest overall mortality rate from 1999-2016 with 73.8 and 57.2 deaths per 100,000, respectively, in 2013.
 - c. Males have tended to die from Alzheimer’s and dementia at a much lower rate than females. The female mortality rate as a percent of the male mortality rate was 132.0% in 2016, down from 131.4% in 2015. This ratio has ranged between a low of 121.2% in 1999 to a high of 132.0% in 2016.
3. Age Group Observations
 - a. Alzheimer’s and dementia primarily affect the older age groups. Over 1999-2016, 98.9% of the total deaths were in age groups 65-74 and above. Analysis will focus on these age groups.
 - b. Mortality increased in the 65-74 age group and decreased in the 75-84 and 85+ age groups.
 - c. Over 2011-2016, for ages 75-84, mortality decreased by 0.9% on an average annual basis, while it increased by 0.4% on an average annual basis for ages 85+.

6.2 Top 30 Percentile Income Analysis

TOP 30% VS. ALL COUNTIES BY INCOME AGE ADJUSTED MORTALITY 1999-2016



1. Overall Trend Observations

- a. The trend of the overall mortality rate (both genders) due to Alzheimer’s and dementia in the Top 30% and All Counties was nearly identical.
- b. The 2016 mortality rate in the Top 30% was 95.9% of the mortality rate in All Counties.
- c. Over 1999-2016, the ratio of the Top 30% mortality rate to the All Counties rate went from 100.0% to 95.9%. The maximum was 100.5% in 2000 and the minimum was 95.3% in 2013.

2. Gender Observations

- a. In 2016, the Top 30% mortality rates were 95.8% and 96.1%, respectively, of the All Counties mortality rates for females and males.
- b. Over 1999-2016, the ratio of the Top 30% mortality rate to the All Counties rate for females went from 100.4% to 95.8%. The maximum was 100.4% in 1999 and the minimum was 95.0% in 2013.
- c. Over 1999-2016, the ratio of the Top 30% mortality rate to the All Counties rate for males went from 99.0% to 96.1%. The maximum was 102.1% in 2000 and the minimum was 95.9% in 2014.

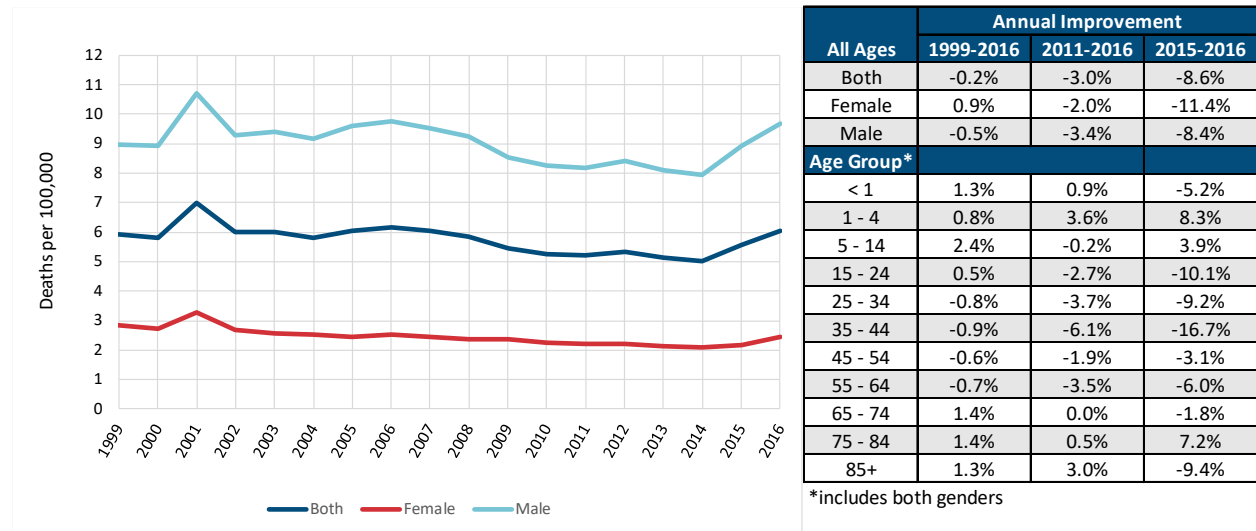
3. Age Group Observations

- a. Again, Alzheimer’s and dementia primarily affects the older age groups. Over 1999-2016, 98.9% of the total deaths were in age groups 65-74 and above. Analysis will focus on these age groups.
- b. In 2016, the 65-74 age group had the lowest ratio of the Top 30% mortality rate to the All Counties rate, at 86.2%, and the 85+ age group had the largest ratio at 98.2%.
- c. Over 1999-2016, as the age group increased, the ratio of the Top 30% mortality rate to the All Counties rates tended to increase, going from a low of 88.4% for 65-74 to a high of 99.6% for 85+.

Section 7: Assault

7.1 Total Population Analysis

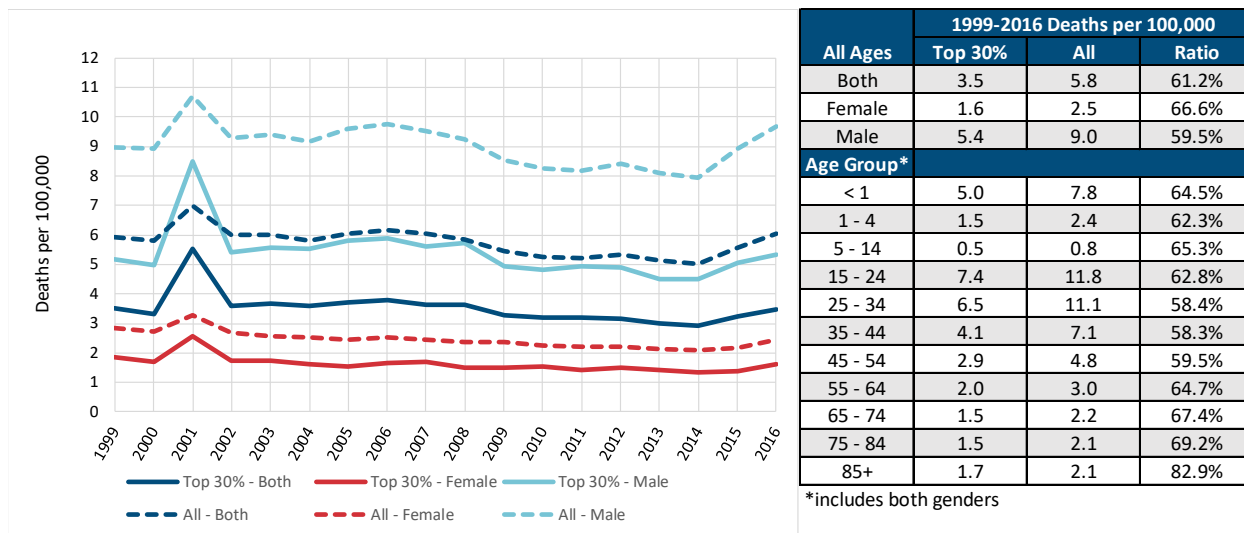
AGE ADJUSTED MORTALITY 1999-2016



1. Overall Trend Observations
 - a. The overall mortality rate (both genders) due to assault increased 8.6% in 2016, which was down from the 11% increase in 2015.
 - b. The 11% annual increase in mortality in 2015 was the largest increase since the 20.2% increase in 2001, which included the deaths from the 9/11 terrorist attacks.
 - c. Excluding 2001, the mortality rate peaked at 6.2 deaths per 100,000 in 2006 and reached its lowest level in 2014 at 5.0 deaths per 100,000.
2. Gender Observations
 - a. The male death rate increased 8.4% in 2016, which was down from the large increase of 12.8% in 2015, whereas the female rate increased 11.4% in 2016, following a much smaller 4.9% increase in 2015. The male increase in 2015 and female increase in 2016 were the largest annual increases since 2001, when the male and female mortality rates increased about 20%.
 - b. Females tend to die from assault at a much lower rate than males. The female mortality rate, as a percent of the male mortality rate, was 25.2% in 2016, up from 24.5% in 2015. This ratio ranged between a high of 31.6% in 1999 to a low of 24.5% in 2015.
3. Age Group Observations
 - a. Mortality increased in all age groups in 2016, except ages 1-4, 5-14, and 75-84.
 - b. In 2016, the 35-44 age group experienced the largest increase in mortality of 16.7%, while the 75-84 group saw the largest decrease in mortality of 7.2%.
 - c. Age groups 15-24 and younger and 65-74 and older had a lower mortality rate in 2016 than in 1999. The 35-44 age group had the most deterioration from 1999 to 2016, during which the death rate increased at an average annual rate of 0.9%.

7.2 Top 30 Percentile Income Analysis

TOP 30% VS. ALL COUNTIES BY INCOME AGE ADJUSTED MORTALITY 1999-2016



1. Overall Trend Observations

- The overall mortality rate (both genders) due to assault was consistently lower in the Top 30% than in All Counties.
- The 2016 mortality rate in the Top 30% was 57.6% of the mortality rate in All Counties.
- Excluding 2001, the ratio of the Top 30% mortality rate to the All Counties mortality rate, in each year, was fairly consistent and ranged between 57.3% in 2000 and 62.1% in 2008.
- In 2001, the mortality rate of the Top 30% rose to 78.9% of the mortality rate in All Counties, indicating that the 9/11 attacks had a greater impact on the higher income counties than in All Counties.

2. Gender Observations

- In 2016, the Top 30% death rates were 65.9% and 55.2%, respectively, of the All Counties death rates for females and males.
- In 2001, the ratio of the Top 30% mortality rate to All Counties mortality rate increased to 78.2% for females and 79.4% for males.
- Each year except 2001, the difference between the ratio of the Top 30% death rate to All Counties death rate for females and the ratio of the Top 30% death rate to All Counties death rate for males was positive, but no greater than 10.7%.

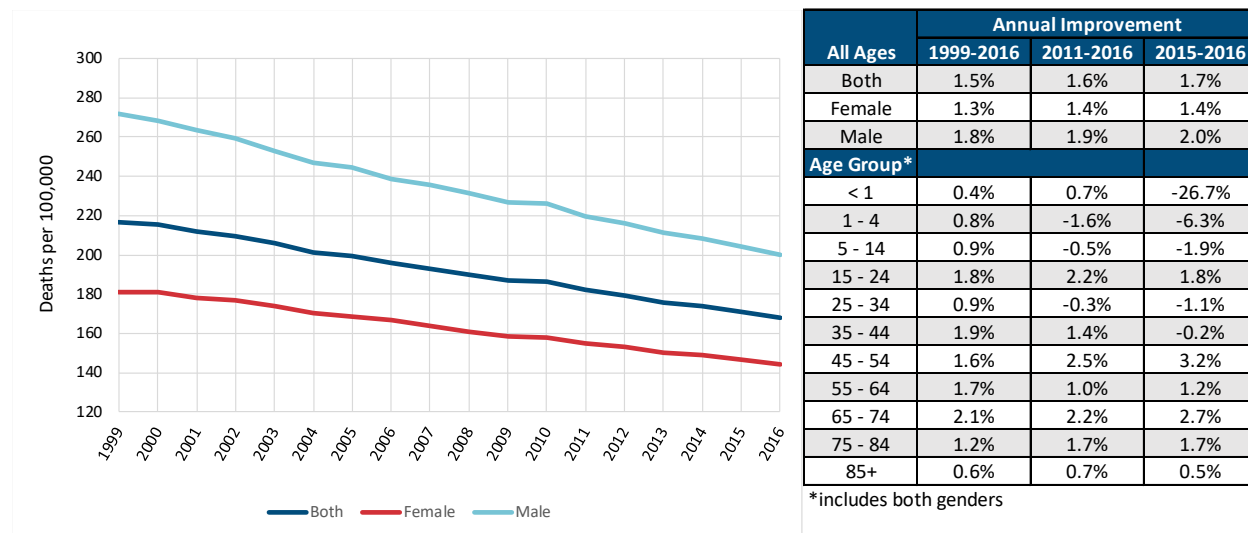
3. Age Group Observations

- In 2016, the 25-34 age group had the lowest ratio of the Top 30% mortality rate to the All Counties rate, at 53.3%, and the 75-84 age group had the largest ratio at 102.0%.
- The ratios of the Top 30% death rate to All Counties death rate for the <1, 75-84 and 85+ age groups increased 4.7% (63.6% in 1999 to 68.3% in 2016), 25.8% (from 54.4% in 1999 to 80.2% in 2016), and 59.0% (from 43.0% in 1999 to 102.0% in 2016), respectively, while the other age groups saw their ratios decrease.
- 9/11 caused the Top 30% death rates for the 35-44, 45-54 and 55-64 age groups to reach levels about equal to their respective All Counties rate.

Section 8: Cancer

8.1 Total Population Analysis

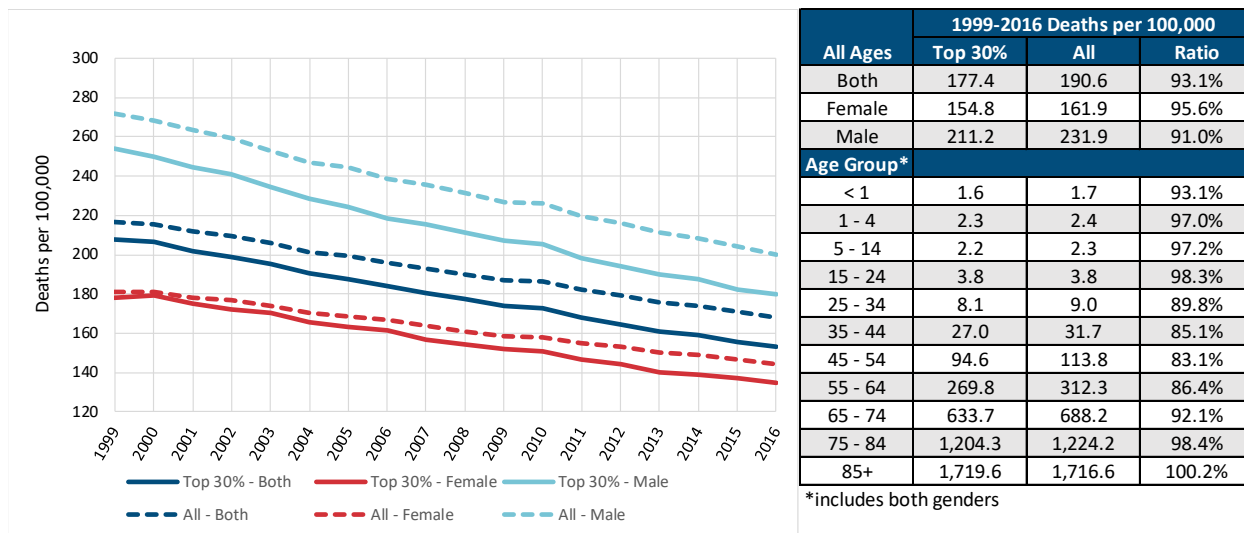
AGE ADJUSTED MORTALITY 1999-2016



1. Overall Trend Observations
 - a. The overall mortality rate (both genders) from cancer decreased 1.7% in 2016, which followed a 1.6% decrease in 2015.
 - b. Average annual mortality improvement measured over one year, five years and the period from 1999-2016 was very consistent.
 - c. Annual mortality improvement from 1999-2016 ranged from a low of 0.4% in 2010 to a high of 2.2% in 2004 and 2011.
2. Gender Observations
 - a. Male mortality improved more than female mortality in 2016, 2.0% vs. 1.4%, respectively. This followed 1.8% and 1.5%, respectively, for male and female mortality improvement in 2015.
 - b. Higher short and long-term male vs. female mortality improvement rates caused the female to male mortality ratio to increase from 66.7% to 72.2% over 1999-2016.
3. Age Group Observations
 - a. The mortality of age groups 15-24 and at or above 45-54 decreased, while the mortality of all other age groups increased in 2016. Although based on a low rate, the mortality of age < 1 increased the most in percentage terms, 26.7%, from 1.3 to 1.7 deaths per 100,000. The highest improvement occurred for ages 45-54, with mortality declining 3.2% from 99.7 to 96.5 deaths per 100,000 from 2015 to 2016.
 - b. Each age group had lower mortality in 2016 than 1999. Age groups < 1, 15-24, 45-54, 65-74, 75-84 and 85+ had higher mortality improvement between 2011-2016 than 1999-2016. Age group 45-54 had the highest acceleration of improvement, with average annual improvement of 1.6% and 2.5% over 1999-2016 and 2011-2016, respectively.
 - c. The average annual rate of improvement decreased with increasing age group at and above age group 65-74. During 1999-2016, age groups 65-74, 75-84 and 85+ had average annual mortality improvement of 2.1%, 1.2% and 0.6%, respectively.

8.2 Top 30 Percentile Income Analysis

TOP 30% VS. ALL COUNTIES BY INCOME AGE ADJUSTED MORTALITY 1999-2016



1. Overall Trend Observations

- For deaths due to cancer (both genders), Top 30% mortality decreased 1.6% vs 1.7% for All Counties in 2016, following 2.0% and 1.6% decreases, respectively, in 2015.
- The Top 30% mortality rate was 93.1% of the All Counties rate averaged over 1999-2016.
- The Top 30% mortality rate was consistently lower in all years than All Counties, but with a slightly diverging trend. The percentage of Top 30% to All Counties mortality decreased from 95.7% to 91.2% during 1999-2016.

2. Gender Observations

- Female mortality decreased more in the Top 30% than All Counties, 1.6% vs. 1.4%, respectively, in 2016. Conversely, male mortality decreased less in the Top 30% than in All Counties, 1.5% vs. 2.0%, respectively, in 2016.
- The ratios of the female to male mortality rates, averaged over 1999-2016, for the Top 30% and All Counties were 73.3% and 69.8%, respectively.
- The ratio of Top 30% to the All Counties mortality rates was greater for females than males. The ratios of Top 30% to All Counties mortality rates for females and males, averaged over 1999-2016, were 95.6% and 91.0%, respectively.

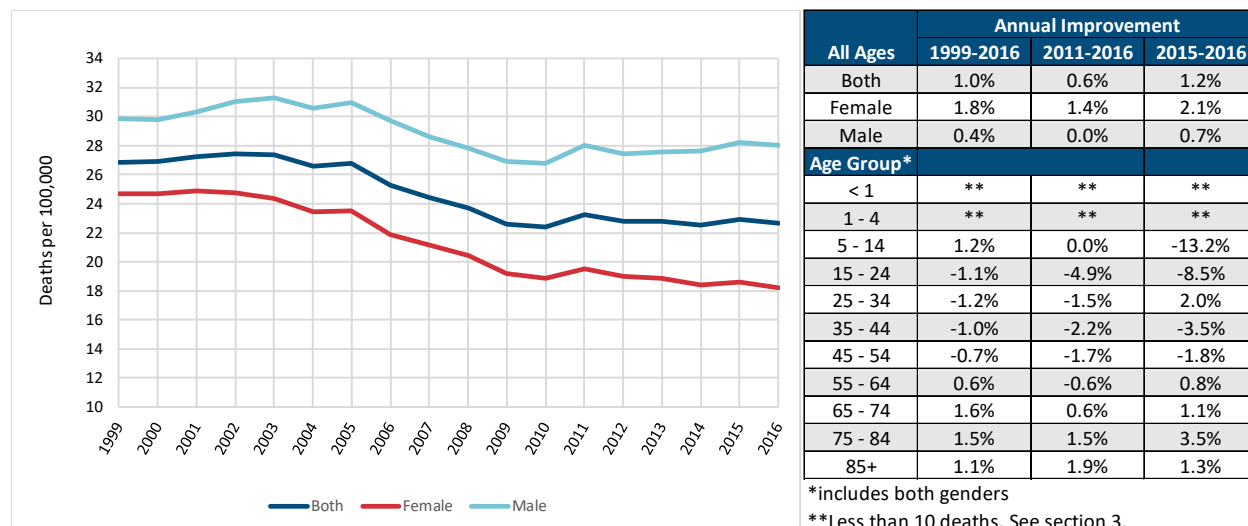
3. Age Groups Observations

- Age groups ranging from 1-44 and 85+ had adverse mortality experience in the Top 30%, relative to All Counties, in 2016. Ages 35-44 had the highest such difference with 2016 mortality increases of 5.3% and 0.2% in the Top 30% and All Counties. Conversely, age < 1 had the greatest favorable difference in the Top 30%, relative to All Counties. The 2016 mortality improvement rates for age < 1 in the Top 30 vs. All Counties were 4.6% and -26.7%, respectively.
- Top 30% mortality was lower than All Counties mortality, averaged across 1999-2016 for all age groups, except 85+, with ratios ranging from 83.1% for age group 45-54 to 100.2% for ages 85+.
- Age groups under age 15 and ages 25-34 were the only ones that had lower annual mortality improvement rates, averaged over 1999-2016, in the Top 30% vs. All Counties.

Section 9: Diabetes

9.1 Total Population Analysis

AGE ADJUSTED MORTALITY 1999-2016



1. Overall Trend Observations

- The overall mortality rate (both genders) for diabetes decreased 1.2% in 2016. This reversed a 1.8% increase in 2015.
- Over 2011-2016, mortality held relatively steady with an average annual improvement of 0.6%. The mortality rate varied between a high of 22.9 deaths per 100,000 and a low of 22.5 deaths per 100,000.
- Prior to this, in 2011, mortality increased 4.0%. Over 2003-2010, mortality decreased by an average annual rate of 2.8%. Over 1999-2003, mortality decreased by an average annual rate of 0.5%.

2. Gender Observations

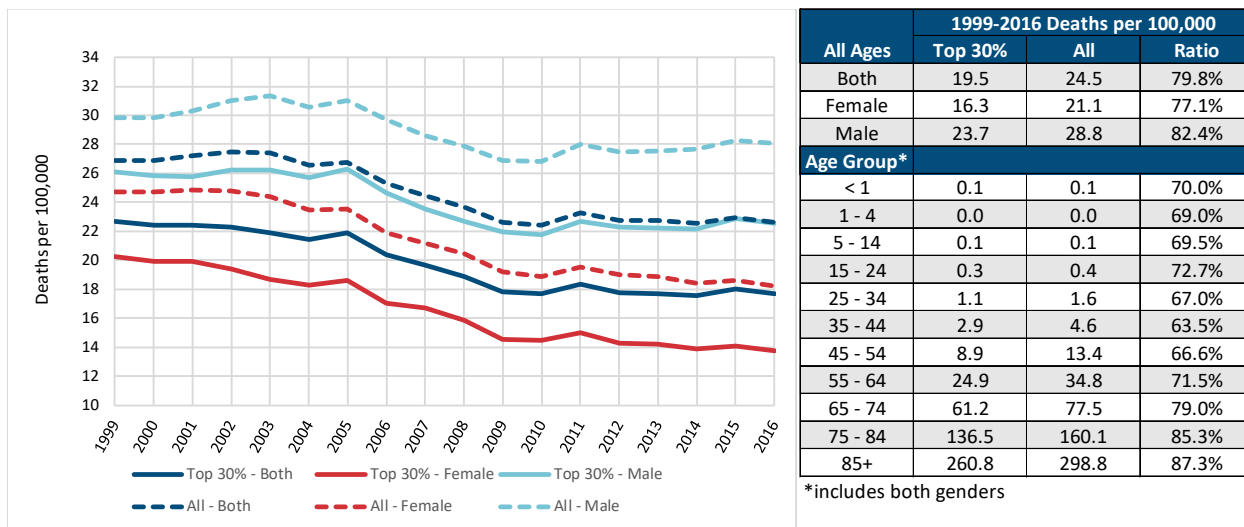
- The female mortality rate decreased by 2.1% in 2016. Similar to the overall trend, this was a reversal of a 1.0% increase in 2015.
- The male mortality rate decreased by 0.7% in 2016. Similar to the overall trend, this was a reversal of an increase in the average annual rate over 2013-2015 of 1.2%.
- Over 1999-2016, the ratio of female to male mortality went from 82.8% to 64.9%. The ratio decreased by an average of 1.1% each year.

3. Age Group Observations

- Diabetes primarily affects the older age groups. Over 1999-2016, 98.8% of the total deaths were in age groups 35-54 and above. Analysis will focus on these age groups.
- In 2016, the 34-44 and 45-54 age groups were the only ones to have an increase in mortality, which were 3.5% and 1.8%, respectively, while the 75-84 age group saw the largest decrease in mortality of 3.5%.
- Over 1999-2016, mortality increased in the 45-54 age group and decreased in the 55-64 and above age groups. Short term, over 2011-2016, mortality also increased by 0.6% for age group 55-64.

9.2 Top 30 Percentile Income Analysis

TOP 30% VS. ALL COUNTIES BY INCOME AGE ADJUSTED MORTALITY 1999-2016



1. Overall Trend Observations

- a. The overall mortality rate (both genders) due to diabetes was consistently lower in the Top 30% than in All Counties.
- b. The 2016 mortality rate in the Top 30% was 78.0% of the mortality rate in All Counties.
- c. Averaged over 1999-2016, the mortality rate of the Top 30% was 79.8% of the mortality rate in All Counties. In 1999, this ratio was 84.4% and dropped an average of 0.4% per year to the 78.0% ratio in 2016.

2. Gender Observations

- a. In 2016, the Top 30% mortality rates were 75.5% and 80.3% of the respective All Counties mortality rates for females and males.
- b. Averaged over 1999-2016, the Top 30% rates were 77.1% and 82.4%, respectively, of the All Counties rates for females and males.
- c. Over 1999-2016, the difference in the ratio of the Top 30% mortality rate and All Counties mortality rate did not differ much, ranging from a low of 5.3% to a high of 7.0%.

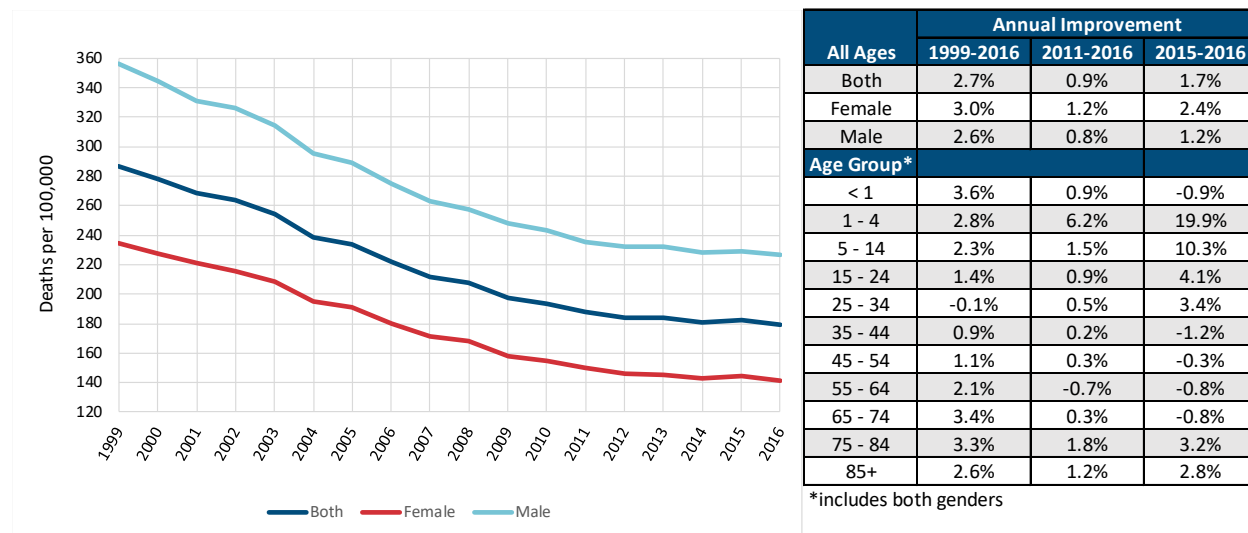
3. Age Group Observations

- a. Again, Diabetes primarily affects the older age groups. Over 1999-2016, 98.8% of the total deaths were in age groups 35-54 and above. Analysis will focus on these age groups.
- b. In 2016, the 35-54 age group had the lowest ratio of the Top 30% mortality rate to the All Counties rate, at 59.4%, and the 85+ age group had the largest ratio at 90.2%.
- c. As the age group increases, the ratio of the Top 30% mortality rate to the All Counties rate, averaged over 1999-2016, tended to increase, going from a low of 63.5% for 35-44 to a high of 87.3% for 85+.

Section 10: Heart

10.1 Total Population Analysis

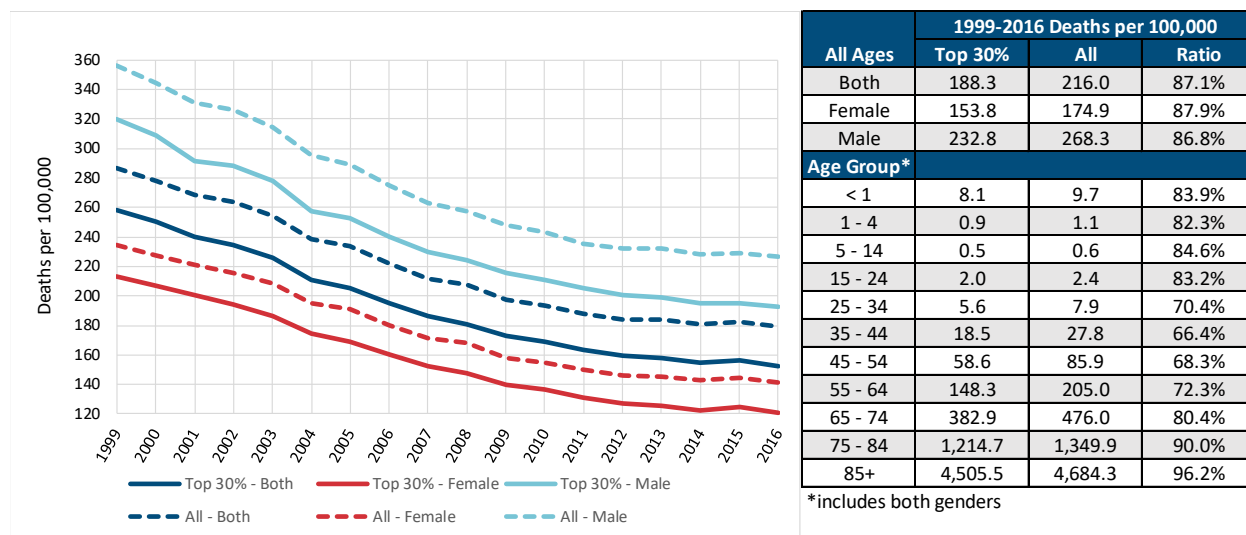
AGE ADJUSTED MORTALITY 1999-2016



1. Overall Trend Observations
 - a. The overall mortality rate (both genders) from heart disease decreased 1.7% in 2016, which followed a 1.0% increase in 2015.
 - b. Mortality improvement over the most recent five years has slowed, relative to 1999-2016. Average annual mortality improvement over 1999-2016 was 2.7%, whereas it was 0.9% in 2011-2016. Annual mortality improvement ranged from -1.0% in 2015 (the only negative year) to 6.2% in 2004.
2. Gender Observations
 - a. Female mortality improved more than male mortality in 2016, 2.4% vs. 1.2%, respectively. This followed -1.4% and -0.5%, respectively, for female and male mortality improvement in 2015.
 - b. Higher short and long-term female vs. male mortality improvement rates caused the female to male mortality ratio to decrease from 65.9% to 62.3% over 1999-2016.
3. Age Groups Observations
 - a. The mortality of age groups ranging from ages 1-34 and over age 74 decreased, while the mortality of all other age groups increased in 2016. The mortality of ages 35-44 increased the most, 1.2%, while age group 1-4 had the largest decrease, 19.9%. Age groups 75-84 and 85+ had one year mortality improvement of 3.2% and 2.8%, respectively, while age groups 55-64 and 65-74 saw a 0.8% mortality increase in 2016.
 - b. All but one age group, 25-34, had lower mortality in 2016 than 1999. Average annual mortality improvement over 1999-2016 was greatest for the lowest and highest ages. Age groups up to age 14 and over age 54 had average annual improvement ranging from 2.1% for age group 55-64 to 3.6% for age < 1. Notably, age groups 65-74, 75-84 and 85+ had 3.4%, 3.3% and 2.6%, respectively, average annual mortality improvement during 1999-2016.
 - c. All age groups, except ages 1-4 and 25-34, had lower mortality improvement in 2011-2016 vs. 1999-2016. The greatest decrease over these two time periods occurred for ages 65-74, which had 3.4% average annual improvement over 1999-2016, but only 0.3% improvement during 2011-2016.

10.2 Top 30 Percentile Income Analysis

TOP 30% VS. ALL COUNTIES BY INCOME AGE ADJUSTED MORTALITY 1999-2016



1. Overall Trend Observations

- For deaths due to heart disease (both genders), Top 30% mortality decreased 2.3% vs. 1.7% for All Counties in 2016, following 0.9% and 1.0% increases, respectively, in 2015.
- The Top 30% mortality rate was 87.1% of the All Counties rate, averaged over 1999-2016.
- The Top 30% mortality rate was consistently lower in all years than All Counties, but with a slightly diverging trend. The percentage of Top 30% to All Counties mortality decreased from 90.1% to 85.0% during 1999-2016.

2. Gender Observations

- Female mortality decreased more in the Top 30% than All Counties, 3.4% vs. 2.4%, respectively, in 2016. Similarly, but to a smaller degree, male mortality also decreased more in the Top 30% than All Counties, 1.3% and 1.2%, respectively, in 2016.
- The ratios of the female to male mortality rates, averaged over 1999-2016, for the Top 30% and All Counties were 66.1% and 65.2%, respectively.
- The ratio of Top 30% to All Counties mortality was slightly higher for females than males. The ratios of Top 30% to All Counties mortality for females and males, averaged over 1999-2016, were 87.9% and 86.8%, respectively.

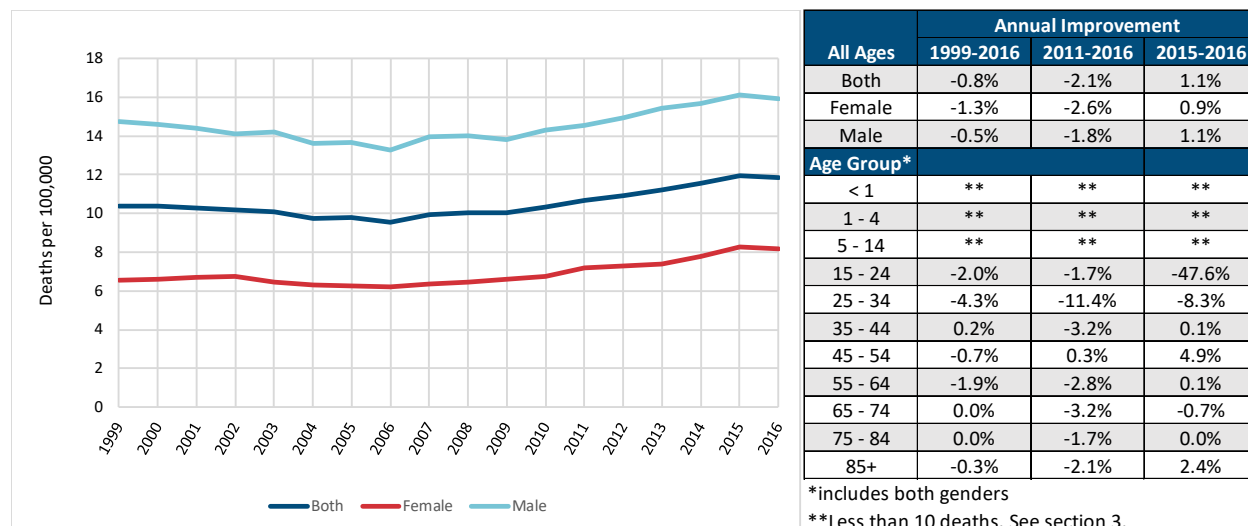
3. Age Groups Observations

- Age groups 5-14, 25-34, 35-44 and 65-74 had lower mortality improvement in the Top 30% vs. All Counties in 2016. Ages 5-14 had the highest such difference, with 2016 mortality improvement of -0.2% and 10.3%, respectively, in the Top 30% and All Counties. Conversely, ages 1-4 had the greatest favorable difference in the Top 30% relative to All Counties. The 2016 mortality improvement rates for age group 1-4 in the Top 30% vs. All Counties were 39.7% and 19.9%, respectively.
- Top 30% mortality was lower than All Counties mortality, averaged across 1999-2016 for all age groups, with ratios ranging from 66.4% for age group 35-44 to 96.2% for ages 85+.
- All age groups, except 1-4 and 15-24, had higher Top 30% vs. All Counties average annual mortality improvement from 1999-2016.

Section 11: Liver

11.1 Total Population Analysis

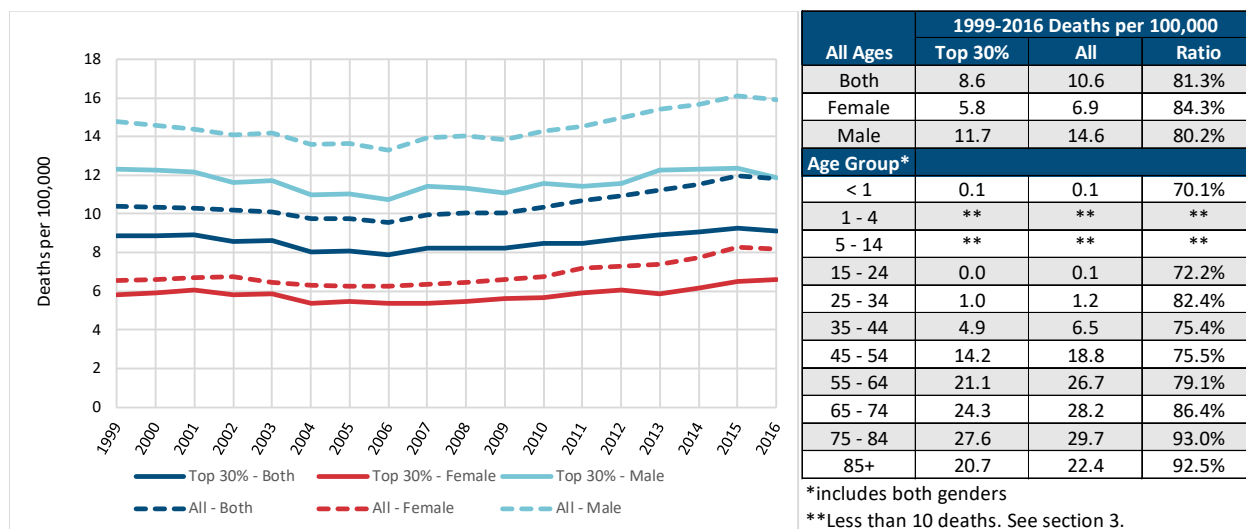
AGE ADJUSTED MORTALITY 1999-2016



1. Overall Trend Observations
 - a. The overall mortality rate (both genders) due to liver disease decreased 1.1% in 2016, following a 3.7% increase in 2015.
 - b. The 2016 change reversed a pattern of annual mortality increases observed since 2006.
 - c. Mortality rates increased at an average annual rate of 2.5% between 2006 and 2015, and followed an average annual rate of decrease of 1.1% between 1999 and 2006.
2. Gender Observations
 - a. The male death rate decreased 1.1% in 2016, following an increase of 2.7% in 2015, whereas the female rate decreased 0.9% in 2016, following a 6.4% increase in 2015.
 - b. The female mortality rate as a percent of the male mortality rate was 51.3% in both 2015 and 2016.
 - c. Averaged over 1999-2016, the mortality rate for females was 47.4% of the rate for males.
 - d. The ratio of the female mortality rate to the male mortality rate increased modestly from 44.3% in 1999 to 51.3% in 2016.
3. Age Groups Observations
 - a. In 2016, the 15-24 age group experienced the largest increase of 47.6% in mortality, while the 45-54 age group saw the largest decrease in mortality of 4.9%
 - b. The 35-44 age group was the only adult age group (age groups with ages >21) that had a lower mortality rate, 3.8% lower, in 2016 than in 1999. The 25-34 age group exhibited the most deterioration with a 2016 death rate - more than double its 1999 death rate.

11.2 Top 30 Percentile Income Analysis

TOP 30% VS. ALL COUNTIES BY INCOME AGE ADJUSTED MORTALITY 1999-2016



1. Overall Trend Observations

- a. The overall mortality rate (both genders) due to liver disease was consistently lower in the Top 30% than in All Counties.
- b. The 2016 mortality rate in the Top 30% was 76.9% of the mortality rate in All Counties.
- c. The ratio of the Top 30% mortality rate to the All Counties mortality rate decreased slightly, from a high of 86.4% in 2001 to the 76.9% level in 2016.
- d. Averaged over 1999-2016, the mortality rate of the Top 30% was 81.3% of the mortality rate in All Counties.

2. Gender Observations

- a. In 2016, the Top 30% mortality rates were 80.6% and 74.6%, respectively, of the All Counties mortality rates for females and males.
- b. Each year since 1999, the ratio of the Top 30% mortality rate to the All Counties mortality rate was similar for females and males. The difference between the female and male ratios was less than or equal to 6% in all but two years.
- c. The ratio of the Top 30% mortality rate to the All Counties mortality rate for females was greater than or equal to the ratio for males in all years.
- d. Averaged over 1999-2016, the Top 30% rates were 84.3% and 80.2%, respectively, of the All Counties rates for females and males.

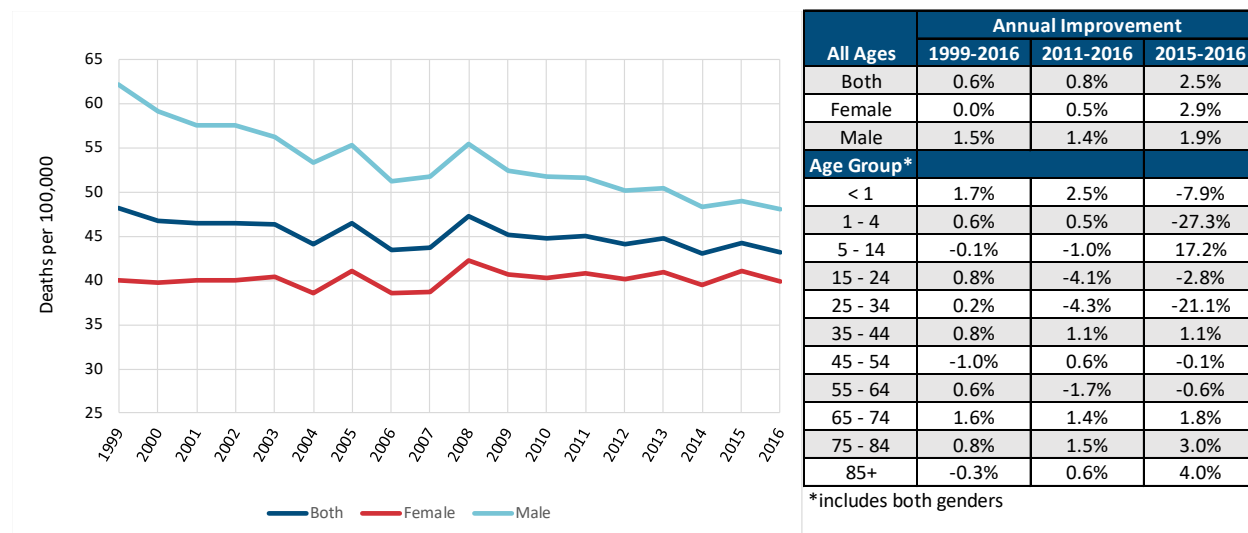
3. Age Groups Observations

- a. In 2016, the 55-64 age group had the lowest ratio of the Top 30% mortality rate to the All Counties rate, at 73.1%, and the 25-34 age group had the largest ratio of 87.3%.
- b. In 1999-2016, the 35-44, 45-54 and 55-64 age groups tended to have the lowest ratios of the Top 30% mortality rate to the All Counties rate in any one year, and the 75-84 and 85+ age groups tended to have the highest ratios.

Section 12: Pulmonary

12.1 Total Population Analysis

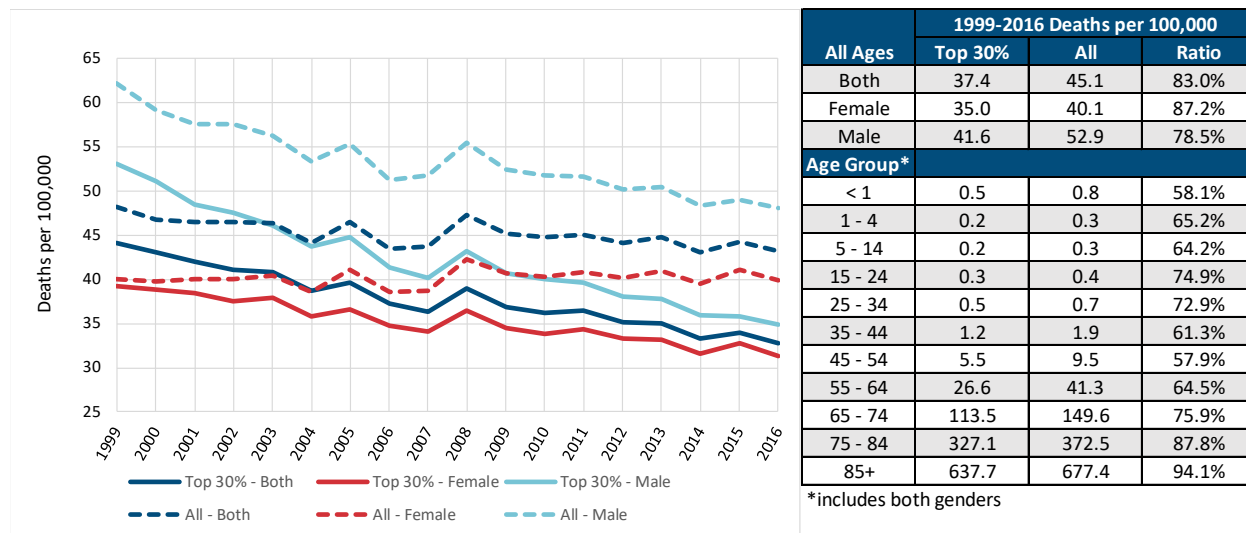
AGE ADJUSTED MORTALITY 1999-2016



1. Overall Trend Observations
 - a. The overall mortality rate (both genders) from pulmonary disease decreased 2.5% in 2016. This reversed a 3.0% increase in 2015.
 - b. Over 1999-2016, the mortality rate varied between a high of 48.2 deaths per 100,000 and a low of 43.0 deaths per 100,000.
 - c. Over 1999-2016, mortality decreased by an average annual rate of 0.6%. Initially, over 1999-2006, mortality decreased by an average annual rate of 1.5%. Over 2006-2008, mortality saw a dramatic increase by an average annual rate of 4.4%, followed by an increase of the average annual rate of 1.1% since then.
2. Gender Observations
 - a. The female mortality rate decreased by 2.9% in 2016. Similar to the overall trend, this was a reversal of a 4.0% increase in 2015.
 - b. The male mortality rate decreased by 1.9% in 2016. Similar to the overall trend, this was a reversal of a 1.5% increase in 2015.
 - c. Over 1999-2016, the ratio of female to male rates went from 64.3% to 82.9%. The ratio increased by an average of 1.1% each year.
3. Age Group Observations
 - a. Pulmonary disease primarily affects the older age groups. Over 1999-2016, 95.9% of the total deaths were in age groups 55-64 and above. Analysis will focus on these age groups.
 - b. In 2016, the 55-64 age group was the only one that had an increase in mortality which was 0.6%, while the 85+ group saw the largest decrease in mortality of 4.0%.
 - c. Over 1999-2016, mortality increased in the 85+ age group, while it decreased in the age groups below this. Short term, over 2011-2016, mortality increased in the 55-64 age group and decreased in the age groups above this.

12.2 Top 30 Percentile Income Analysis

TOP 30% VS. ALL COUNTIES BY INCOME AGE ADJUSTED MORTALITY 1999-2016



1. Overall Trend Observations

- a. The overall mortality rate (both genders) due to pulmonary disease was consistently lower in the Top 30% than in All Counties.
- b. The 2016 mortality rate in the Top 30% was 75.9% of the mortality rate in All Counties.
- c. Over 1999-2016, the mortality rate of the Top 30% was 83.0% of the mortality rate in All Counties. In 1999, this ratio was 91.6% and dropped an average of 0.9% per year to the 75.9% ratio in 2016.

2. Gender Observations

- a. In 2016, the Top 30% mortality rates were 78.8% and 72.6% of the respective All Counties mortality rates for females and males.
- b. Averaged over 1999-2016, the Top 30% rates were 87.2% and 78.5%, respectively, of the All Counties rates for females and males.
- c. Over 1999-2007, the difference in the ratio of the Top 30% mortality rate to the All Counties mortality rate had been similar for females and males. The average difference in the ratios was 10.8%. Over 2008-2016, the difference in the ratios decreased from 8.6% to 6.2%.

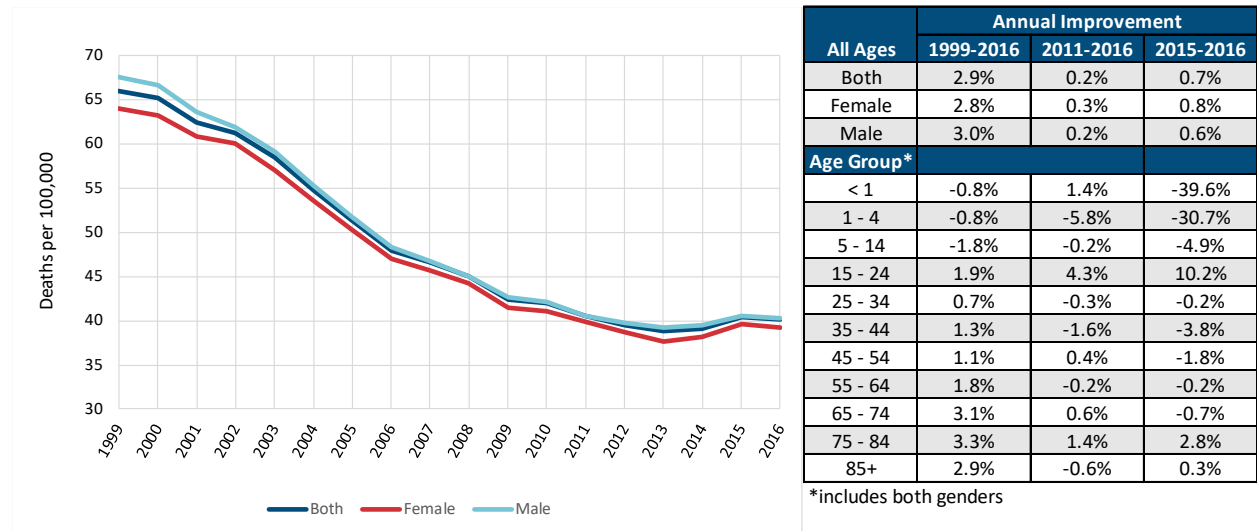
3. Age Group Observations

- a. Again, pulmonary disease primarily affects the older age groups. Over 1999-2016, 95.9% of the total deaths were in age groups 55-64 and above. Analysis will focus on these age groups.
- b. In 2016, the 55-64 age group had the lowest ratio of the Top 30% mortality rate to the All Counties rate, at 56.9%, and the 85+ age group had the largest ratio, at 88.7%.
- c. As the age group increases, the ratios of the Top 30% mortality rate to the All Counties, averaged over 1999-2016, tended to increase.
- d. Over 1999-2016, the ratio of the top 30% counties mortality rate to the All Counties decreased in all age groups. The largest drop was in the 65-74 age group of 20.3%, where the ratio dropped from 88.6% in 1999 to 68.2% in 2016.

Section 13: Stroke

13.1 Total Population Analysis

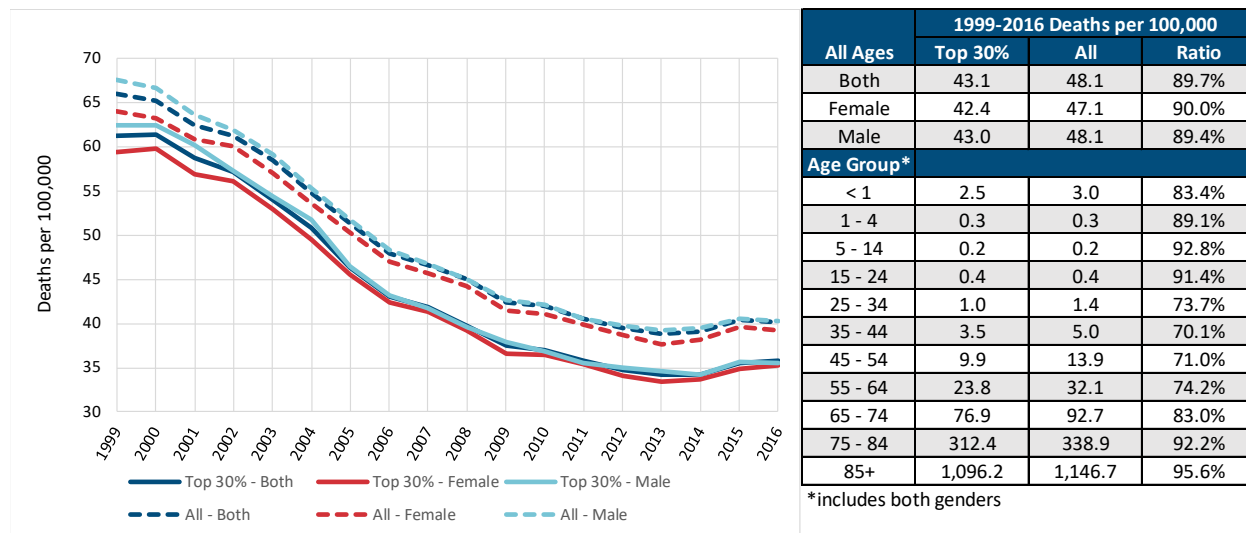
AGE ADJUSTED MORTALITY 1999-2016



1. Overall Trend Observations
 - a. The overall mortality rate (both genders) from stroke has decreased 0.7% in 2016. This was a reversal of a short, two-year trend in 2014 and 2015 that saw rates increased 1.0% and 3.2%, respectively.
 - b. Over 1999-2013, mortality decreased by an average annual rate of 3.7%.
 - c. In 2013, mortality hit its lowest overall rate of 38.8 per 100,000.
2. Gender Observations
 - a. The female mortality rate decreased by 0.8% in 2016. Similar to the overall trend, this was a reversal of a short two-year trend in 2014 and 2015 that saw rates increase 1.3% and 3.7%, respectively.
 - b. The male mortality rate decreased by 0.6% in 2016. Similar to overall and female trends, this was a reversal of a short, two-year trend in 2014 and 2015 that saw rates increase 0.7% and 2.5%, respectively.
 - c. Averaged over 1999-2016, the average ratio of female to male mortality rates was 97.9%.
 - d. Over 1999-2008, the ratio of female to male mortality rates steadily increased from 94.8% to 98.2%. Over 2009-2011, the ratio reached a minimum of 97.3%, and then returned to 98.2%. Over 2012-2016, the ratio had a low of 95.9% and high of 97.7%.
3. Age Group Observations
 - a. Stroke primarily affects the older age groups. Over 1999-2016, 99.3% of the total deaths were in age groups 35-44 and above. Analysis will focus on these age groups.
 - b. In 2016, age groups 35-44, 45-54, 55-64 and 65-74 all had mortality increases; the largest increase, 3.8%, occurred for age group 45-54. While age groups 75-84 and 85+ had mortality decreases, the largest increase, 2.8%, occurred for age group 75-84.
 - c. In the long term, 1999-2016, all age groups had average annual mortality decreases.

13.2 Top 30 Percentile Income Analysis

TOP 30% VS. ALL COUNTIES BY INCOME AGE ADJUSTED MORTALITY 1999-2016



1. Overall Trend Observations

- The overall mortality rate (both genders) due to stroke were consistently lower in the Top 30% than in All Counties.
- The 2016 mortality rate in the Top 30% was 89.1% of the mortality rate in All Counties.
- In each year since 1999, the ratio of the Top 30% mortality rate to the All Counties mortality rate has been fairly consistent, varying between 87.3% and 94.1%.
- Averaged over 1999-2016, the mortality rate of the Top 30% was 89.7% of the mortality rate in All Counties.

2. Gender Observations

- In 2016, the Top 30% mortality rates were 89.8% and 88.2% of the respective All Counties mortality rates for females and males.
- Since 1999, the ratios of the Top 30% mortality rate to the All Counties mortality rate were similar for females and males. The largest difference in the male and female ratios was only 1.6% and occurred in 2014 and 2016.
- Averaged over 1999-2016, the Top 30% rates were 90.0% and 89.4%, respectively, of the All Counties rates for females and males.

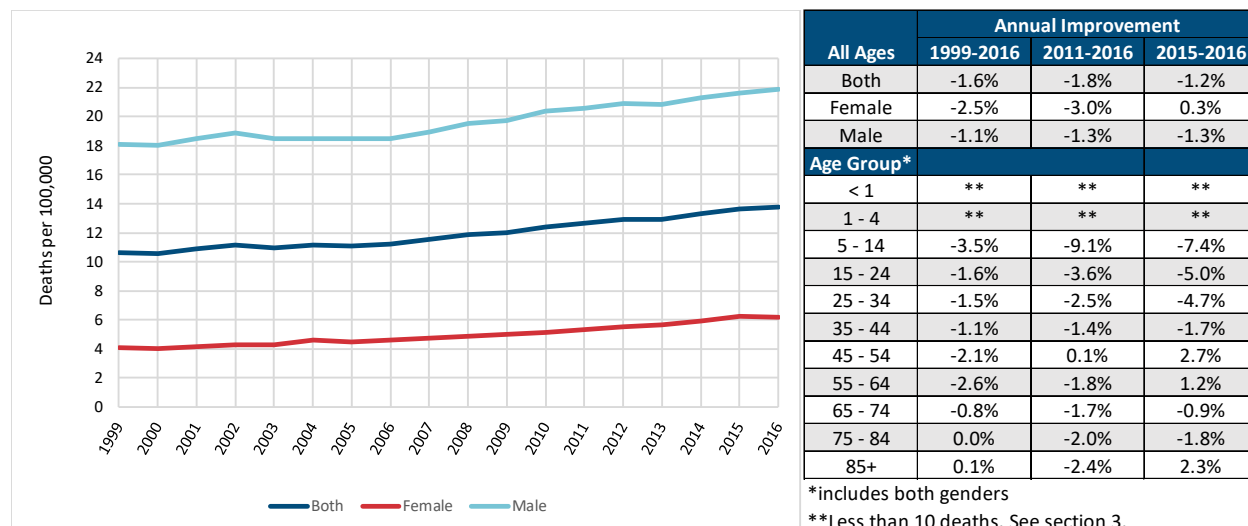
3. Age Group Observations

- Again, stroke primarily affects the older age groups. Over 1999-2016, 99.3% of the total deaths were in age groups 35-44 and above. Analysis will focus on these age groups.
- In 2016, the 45-54 age group had the lowest ratio of the Top 30% mortality rate to the All Counties rate, at 66.5%, and the 85+ age group had the largest ratio at 98.0%.
- As the age group increases, the ratio of the Top 30% mortality rate to the All Counties rate, averaged over 1999-2016, tended to increase, going from a low of 70.1% for 35-44 to a high of 95.6% for 85+.

Section 14: Suicide

14.1 Total Population Analysis

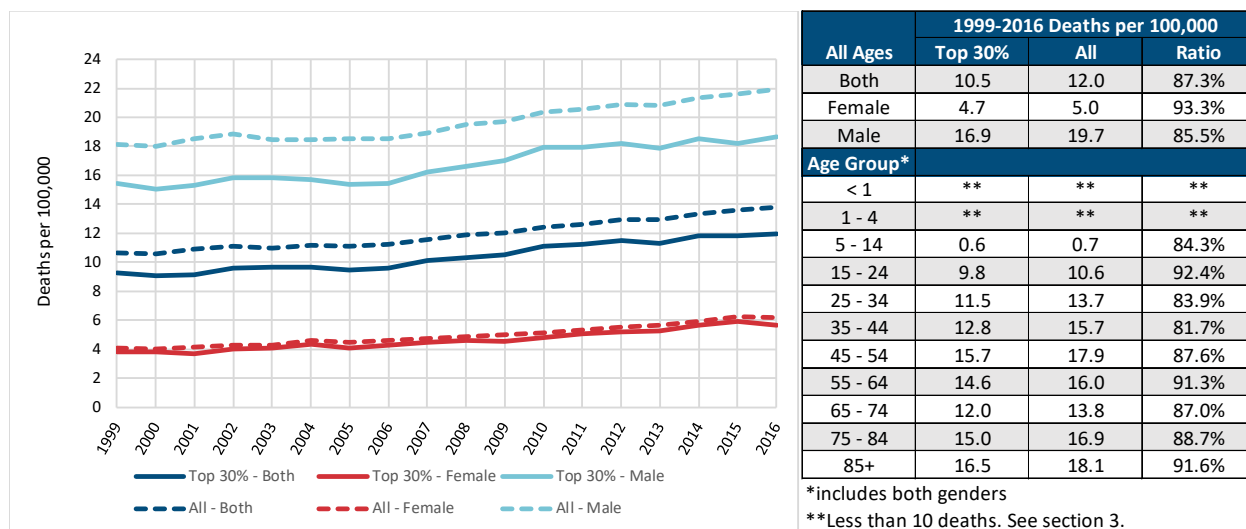
AGE ADJUSTED MORTALITY 1999-2016



1. Overall Trend Observations
 - a. The overall mortality rate (both genders) from suicide increased 1.2% in 2016.
 - b. Over 1999-2016, mortality increased by an average annual rate of 1.6%. Over 1999-2006, mortality increased by an average annual rate of 0.8%. Over 2006-2016, mortality increased by an average annual rate of 2.1%.
 - c. The mortality rate varied between a low of 10.6 deaths per 100,000 in 1999 and 2000, and a high of 13.8 deaths per 100,000 in 2016.
2. Gender Observations
 - a. The female mortality rate decreased by 0.3% in 2016. This was opposite of the overall change in 2016.
 - b. The male mortality rate increased by 1.3% in 2016. This was in line with the overall change in 2016.
 - c. Averaged over 1999-2016, the female to male ratio was 25.4%. This went from 22.5% in 1999 to 28.3% in 2016. The ratio increased by an average of 0.3% each year.
3. Age Group Observations
 - a. In 2016, mortality increased for the younger age groups 5-14, 15-24, 25-34 and 35-44 and older age groups 65-74 and 75-84, and decreased for the middle age groups 45-54 and 55-64, with the exception of an increase in the oldest age group, 85+, which also had a decrease.
 - b. Longer term, over 2011-2016 and 1999-2016, there was little to no age group distinction and the overall average annual mortality improvement.

14.2 Top 30 Percentile Income Analysis

TOP 30% VS. ALL COUNTIES BY INCOME AGE ADJUSTED MORTALITY 1999-2016



1. Overall Trend Observations

- a. The overall mortality rate (both genders) due to suicide was consistently lower in the Top 30% than in All Counties.
- b. The 2016 mortality rate in the Top 30% was 86.5% of the mortality rate in All Counties.
- c. In each year since 1999, the ratio of the Top 30% mortality rate to the All Counties mortality rate was fairly consistent, varying between 84.1% and 89.3%.
- d. Averaged over 1999-2016, the mortality rate of the Top 30% was 87.3% of the mortality rate in All Counties.

2. Gender Observations

- a. In 2016, the Top 30% mortality rates were 91.0% and 85.2% of the, respective, All Counties mortality rates for females and males.
- b. Over each year in 1999-2016, the ratios of the Top 30% mortality rate to the respective All Counties mortality rate for females averaged 93.3%, with a low of 86.9% and a high of 94.9%.
- c. Over each year in 1999-2016, the ratios of the Top 30% mortality rate to the respective All Counties mortality rate for males averaged 85.5%, with a low of 82.5% and a high of 88.2%.

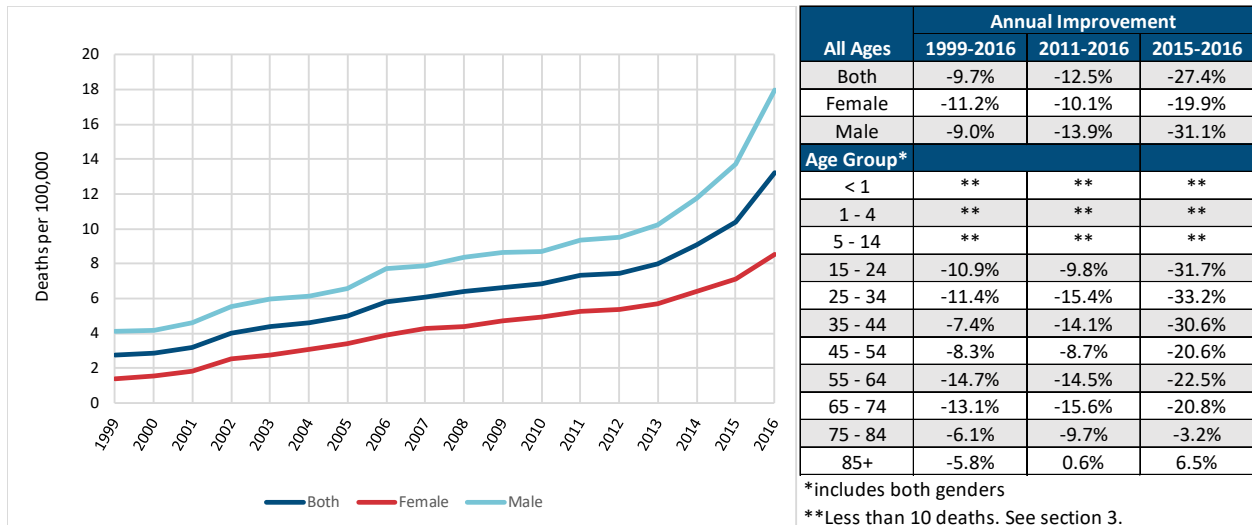
3. Age Group Observations

- a. In 2016, the 35-44 age group had the lowest ratio of the Top 30% mortality rate to the All Counties rate, at 77.6%, and the 15-24 age group had the largest ratio at 94.7%.
- b. Since 1999, the youngest age groups along with the oldest, 5-14, 15-24, 25-35 and 85+, saw an increase in the ratio. The largest of these were age groups 5-14 and 15-24, which increased by 7.9% and 8.3%, respectively, over 1999-2016. Of the age groups that decreased, 35-44 and 75-84 were the largest at 6.8% and 6.7%, respectively.

Section 15: Opioids

15.1 Total Population Analysis

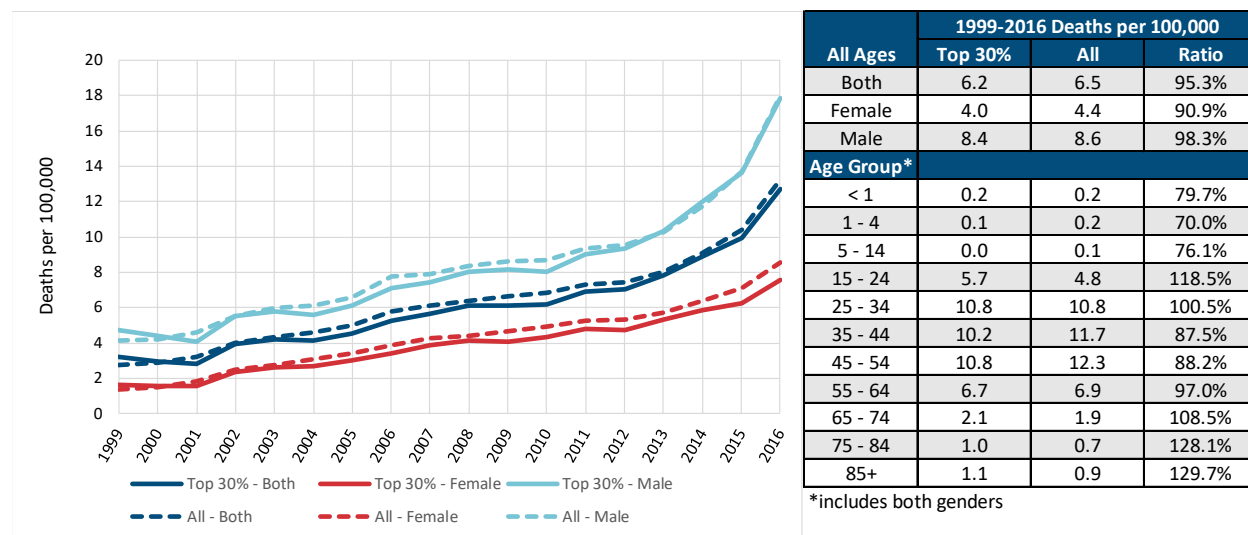
AGE ADJUSTED MORTALITY 1999-2016



1. Overall Trend Observations
 - a. The overall mortality rate (both genders) due to opioid drug overdose increased 27.4% in 2016 and was the largest percentage increase in 1999-2016.
 - b. Between 2013 and 2016, the mortality rate increased at an average annual rate of 18.2%.
 - c. In 2016, the death rate per 100,000 was 13.2, almost five times the death rate of 2.8 per 100,000 in 1999.
2. Gender Observations
 - a. The male death rate increased 31.1% in 2016, almost twice the rate of 16.7% in 2015, whereas the female rate increased 19.9% in 2016, which followed a 11.2% increase in 2015.
 - b. Female mortality rates increased at an average annual rate of 11.2% over 1999-2016, whereas male mortality rates increased at an average annual rate of 9.0%. However, between 2013 and 2016, the male average annual rate of increase, 20.5%, out-paced the female average rate of increase of 14.3%.
 - c. The ratio of the female mortality rate to the male mortality rate increased from 34.0% in 1999 to a high level of 56.8% in 2010. Since 2010, the ratio dropped to 47.6% in 2016.
3. Age Groups Observations
 - a. In 2016, the 15-24, 25-34, and 35-44 age groups experienced very large increases in mortality of 31.7%, 33.2%, and 30.6%, respectively. The 85+ age group, with a 6.5% improvement, was the only age group to see a decrease in mortality in 2016.
 - b. All age groups had a higher mortality rate in 2016 than in 1999. 2016 death rates in age groups 15-24 and 25-34 were about six times their respective 1999 death rates. The 55-64 and 65-74 age groups death rates in 2016 were ten and eight times their respective 1999 death rates.

15.2 Top 30 Percentile Income Analysis

TOP 30% VS. ALL COUNTIES BY INCOME AGE ADJUSTED MORTALITY 1999-2016



1. Overall Trend Observations

- a. Mortality from opioid drug overdose did not vary much between the Top 30% and All Counties, unlike most of the other CODs covered in this report.
- b. The 2016 mortality rate in the Top 30% was 96.1% of the mortality rate in All Counties.
- c. Averaged over 1999-2016, the overall mortality rate (both genders) due to opioid drug overdose in the Top 30% averaged about 95.3% of the All Counties rate.

2. Gender Observations

- a. In 2016, the Top 30% mortality rates were 88.9% and 99.4%, respectively, of the All Counties mortality rates for females and males.
- b. Mortality rates were higher in the Top 30% income counties than in All Counties in 1999-2000 and 2013-2014 for males, and in 1999-2000 for females.
- c. In each year from 1999 to 2016, the mortality rates in the Top 30% were fairly close to the rates in All Counties for males and females. The ratios of the Top 30% mortality rate to the All Counties mortality rate ranged from 89.0% in 2001 to 114.9% in 1999 for males and 84.9% in 2001 to 115.9% in 1999 for females.
- d. Averaged over 1999-2016, the Top 30% female and male rates were 90.9% and 98.3%, respectively, of the All Counties female and male rates.

3. Age Groups Observations

- a. In 2016, the 15-24, 25-34, 75-84, and 85+ age groups had Top 30% mortality rates that were 118.8%, 106.7%, 115.7%, and 148.9% of their, respective, All Counties rate. The other age groups had Top 30% mortality rates that ranged between 86.2% and 95.0% of their, respective, All Counties mortality rate.
- b. The 15-24, 25-34, 65-74, 75-84 and 85+ age groups had mortality rates, averaged over 1999-2016, that were higher in the Top 30% than in All Counties.

Reliance and Limitations

Data to calculate mortality rates in this report were drawn from the Centers for Disease Control and Prevention (CDC) Wide-ranging Online Data for Epidemiologic Research (WONDER) database. There are some limited instances where the mortality rates, associated mortality improvement or comparative results between the Top 30% and All Counties are not shown. This is because death counts of less than ten for sub-national data are suppressed by WONDER.

Data provided through WONDER is subject to restricted use for health statistical reporting and analysis. This research confines itself to those parameters. While the data may be useful for application in specific purposes, no assessment has been made concerning the applicability of this experience to other such purposes.

Opioid deaths, analyzed in section 15, overlap with the accident, assault, and suicide deaths analyzed in this report. The opioid deaths have a meaningful impact on the accident result and, therefore, have been removed from accident deaths in a separate analysis shown in section 5.3. The impact of opioid deaths in the assault and suicide analyses was deemed to be immaterial and, therefore, not included in this report.

This report does not attempt to comment on changes or improvements in the process to record causes of death codes over the report horizon and their potential impact on observations noted in this report. For example, given some possible limitations regarding the accuracy or completeness of the assignment of COD, some of the deaths associated with the increases in 2015 and 2016 in section 5.3, where opioid deaths were removed from the accident death analysis, could in fact be opioid related. Potential changes in recording processes should be considered if utilizing the information provided in this report.

The top 30% counties were determined by ranking counties based on their average county-level median household income. It should be noted that some counties, especially the large ones, will contain households with a wide range of income levels and the average median income for those counties may be quite different than the income level in each individual household in those counties.

Appendix A: Age adjusted Death Rates per 100,000

ALL CAUSES OF DEATH

| Counties | Gender | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 |
|----------|--------|---------|---------|---------|---------|---------|---------|---------|---------|-----------|-------|
| All | Both | 935.9 | 928.7 | 917.6 | 914.2 | 901.0 | 869.0 | 870.6 | 845.7 | 828.3 | 828.4 |
| | Female | 786.0 | 783.1 | 776.8 | 774.2 | 765.4 | 738.6 | 740.5 | 718.9 | 703.8 | 706.0 |
| | Male | 1,138.2 | 1,124.1 | 1,104.1 | 1,099.1 | 1,077.3 | 1,038.0 | 1,036.8 | 1,006.4 | 985.0 | 981.4 |
| Top 30% | Both | 856.2 | 852.3 | 838.5 | 827.4 | 813.1 | 781.8 | 776.3 | 754.3 | 736.0 | 732.9 |
| | Female | 732.1 | 731.7 | 724.4 | 713.2 | 702.3 | 675.7 | 670.6 | 652.1 | 635.4 | 633.7 |
| | Male | 1,026.4 | 1,017.5 | 991.0 | 981.0 | 960.3 | 921.4 | 913.4 | 886.1 | 865.5 | 859.6 |
| Counties | Gender | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | All Years | |
| All | Both | 801.4 | 799.5 | 793.4 | 784.8 | 784.1 | 776.6 | 785.6 | 780.8 | 836.0 | |
| | Female | 681.1 | 679.8 | 677.1 | 669.1 | 668.1 | 661.0 | 669.3 | 662.3 | 710.6 | |
| | Male | 952.0 | 949.0 | 936.4 | 926.3 | 924.9 | 916.2 | 924.5 | 921.7 | 993.3 | |
| Top 30% | Both | 708.3 | 705.8 | 699.4 | 687.9 | 685.5 | 677.0 | 684.0 | 677.4 | 741.6 | |
| | Female | 610.7 | 609.0 | 604.0 | 593.6 | 590.2 | 582.0 | 590.8 | 580.8 | 639.9 | |
| | Male | 833.7 | 829.1 | 819.9 | 805.8 | 804.7 | 794.5 | 797.4 | 794.9 | 871.7 | |

ACCIDENTS

| Counties | Gender | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 |
|-----------------------------|--------|------|------|------|------|------|------|------|------|-----------|------|
| All | Both | 36.0 | 35.7 | 36.4 | 37.9 | 38.4 | 38.9 | 40.4 | 41.1 | 41.3 | 40.3 |
| | Female | 22.9 | 22.6 | 23.1 | 24.2 | 24.8 | 25.4 | 26.0 | 26.5 | 26.8 | 26.2 |
| | Male | 50.9 | 50.3 | 51.2 | 53.0 | 53.4 | 53.9 | 56.3 | 57.2 | 57.2 | 55.7 |
| Top 30% | Both | 28.6 | 28.2 | 27.9 | 29.6 | 30.0 | 30.3 | 31.2 | 32.3 | 32.5 | 32.1 |
| | Female | 18.6 | 18.4 | 18.1 | 19.4 | 19.6 | 20.0 | 20.3 | 20.9 | 21.2 | 21.0 |
| | Male | 39.9 | 39.4 | 39.1 | 41.0 | 41.7 | 41.9 | 43.2 | 44.7 | 45.1 | 44.4 |
| Accidents excluding Opioids | Both | 34.0 | 33.6 | 34.1 | 34.9 | 35.1 | 35.4 | 36.5 | 36.4 | 36.4 | 35.0 |
| | Female | 22.1 | 21.6 | 21.9 | 22.5 | 22.9 | 23.2 | 23.5 | 23.5 | 23.6 | 22.8 |
| | Male | 47.7 | 47.1 | 47.8 | 48.7 | 48.8 | 49.0 | 50.8 | 50.7 | 50.6 | 48.5 |
| Counties | Gender | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | All Years | |
| All | Both | 38.5 | 39.1 | 40.3 | 40.3 | 40.7 | 41.8 | 44.5 | 48.7 | 40.3 | |
| | Female | 25.6 | 26.5 | 27.4 | 27.4 | 27.6 | 28.3 | 29.8 | 31.8 | 26.5 | |
| | Male | 52.8 | 53.1 | 54.4 | 54.3 | 54.8 | 56.3 | 60.4 | 66.7 | 55.4 | |
| Top 30% | Both | 30.7 | 31.0 | 32.6 | 32.7 | 33.5 | 34.5 | 36.7 | 39.7 | 32.2 | |
| | Female | 20.7 | 20.9 | 22.1 | 22.3 | 22.8 | 23.0 | 24.1 | 25.7 | 21.2 | |
| | Male | 41.9 | 42.1 | 44.1 | 44.1 | 45.4 | 47.1 | 50.3 | 54.7 | 44.3 | |
| Accidents excluding Opioids | Both | 33.1 | 33.4 | 34.1 | 33.9 | 33.7 | 33.9 | 35.3 | 36.8 | 34.9 | |
| | Female | 22.0 | 22.6 | 23.0 | 23.0 | 22.9 | 23.0 | 23.7 | 24.5 | 23.0 | |
| | Male | 45.5 | 45.5 | 46.1 | 45.8 | 45.7 | 45.8 | 48.0 | 50.3 | 48.1 | |

ALZHEIMER'S/DEMENTIA

| Counties | Gender | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 |
|----------|--------|------|------|------|------|------|------|------|------|-----------|------|
| All | Both | 29.2 | 32.4 | 35.3 | 38.5 | 40.9 | 41.7 | 46.2 | 52.4 | 52.6 | 59.0 |
| | Female | 30.8 | 34.5 | 37.6 | 41.3 | 44.1 | 45.1 | 50.2 | 56.4 | 56.9 | 63.8 |
| | Male | 25.4 | 27.3 | 29.9 | 32.2 | 33.9 | 34.5 | 38.0 | 44.0 | 44.1 | 49.5 |
| Top 30% | Both | 29.2 | 32.5 | 35.3 | 38.2 | 40.5 | 40.5 | 44.6 | 50.1 | 51.0 | 56.6 |
| | Female | 30.9 | 34.5 | 37.7 | 40.9 | 43.5 | 44.0 | 48.2 | 53.8 | 55.2 | 61.1 |
| | Male | 25.1 | 27.9 | 29.8 | 32.2 | 33.9 | 33.3 | 37.0 | 42.5 | 42.6 | 47.7 |
| Counties | Gender | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | All Years | |
| All | Both | 57.2 | 62.2 | 65.2 | 66.8 | 68.0 | 67.4 | 66.5 | 65.3 | 54.0 | |
| | Female | 61.6 | 66.8 | 70.5 | 72.2 | 73.8 | 73.5 | 72.7 | 71.6 | 58.1 | |
| | Male | 48.7 | 53.3 | 55.2 | 56.9 | 57.2 | 56.6 | 55.4 | 54.3 | 46.0 | |
| Top 30% | Both | 55.0 | 60.0 | 62.9 | 64.1 | 64.8 | 64.4 | 63.9 | 62.6 | 52.7 | |
| | Female | 58.9 | 64.5 | 67.8 | 69.1 | 70.1 | 70.0 | 69.7 | 68.6 | 56.6 | |
| | Male | 47.4 | 51.5 | 53.6 | 54.9 | 54.9 | 54.2 | 53.4 | 52.2 | 45.0 | |

ASSAULT

| Counties | Gender | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 |
|----------|--------|------|------|------|------|------|------|------|------|-----------|------|
| All | Both | 5.9 | 5.8 | 7.0 | 6.0 | 6.0 | 5.8 | 6.0 | 6.2 | 6.1 | 5.8 |
| | Female | 2.8 | 2.7 | 3.3 | 2.7 | 2.6 | 2.5 | 2.5 | 2.5 | 2.5 | 2.4 |
| | Male | 9.0 | 8.9 | 10.7 | 9.3 | 9.4 | 9.2 | 9.6 | 9.7 | 9.5 | 9.2 |
| Top 30% | Both | 3.5 | 3.3 | 5.5 | 3.6 | 3.7 | 3.6 | 3.7 | 3.8 | 3.7 | 3.6 |
| | Female | 1.9 | 1.7 | 2.5 | 1.8 | 1.7 | 1.6 | 1.5 | 1.7 | 1.7 | 1.5 |
| | Male | 5.2 | 5.0 | 8.5 | 5.4 | 5.6 | 5.5 | 5.8 | 5.9 | 5.6 | 5.7 |
| Counties | Gender | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | All Years | |
| All | Both | 5.5 | 5.2 | 5.2 | 5.3 | 5.1 | 5.0 | 5.6 | 6.1 | 5.8 | |
| | Female | 2.4 | 2.2 | 2.2 | 2.2 | 2.1 | 2.1 | 2.2 | 2.4 | 2.5 | |
| | Male | 8.5 | 8.3 | 8.2 | 8.4 | 8.1 | 7.9 | 8.9 | 9.7 | 9.0 | |
| Top 30% | Both | 3.3 | 3.2 | 3.2 | 3.2 | 3.0 | 2.9 | 3.2 | 3.5 | 3.5 | |
| | Female | 1.5 | 1.5 | 1.4 | 1.5 | 1.4 | 1.3 | 1.4 | 1.6 | 1.6 | |
| | Male | 5.0 | 4.8 | 4.9 | 4.9 | 4.5 | 4.5 | 5.0 | 5.3 | 5.4 | |

CANCER

| Counties | Gender | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 |
|----------|--------|-------|-------|-------|-------|-------|-------|-------|-------|-----------|-------|
| All | Both | 216.9 | 215.5 | 212.0 | 209.6 | 205.7 | 201.3 | 199.3 | 195.7 | 193.0 | 189.9 |
| | Female | 181.2 | 181.2 | 178.3 | 176.7 | 174.2 | 170.6 | 168.8 | 166.6 | 163.9 | 160.9 |
| | Male | 271.7 | 268.2 | 263.5 | 259.5 | 253.0 | 247.0 | 244.5 | 238.5 | 235.4 | 231.3 |
| Top 30% | Both | 207.6 | 206.3 | 201.8 | 199.0 | 195.2 | 190.3 | 187.5 | 184.1 | 180.3 | 177.5 |
| | Female | 178.4 | 179.1 | 174.9 | 172.1 | 170.1 | 165.7 | 163.3 | 161.3 | 156.8 | 154.6 |
| | Male | 253.7 | 249.7 | 244.2 | 240.9 | 234.6 | 228.4 | 224.4 | 218.5 | 215.7 | 211.3 |
| Counties | Gender | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | All Years | |
| All | Both | 186.8 | 186.2 | 182.0 | 179.4 | 175.9 | 173.8 | 171.0 | 168.1 | 190.6 | |
| | Female | 158.6 | 158.0 | 155.0 | 153.1 | 150.2 | 148.8 | 146.5 | 144.5 | 161.9 | |
| | Male | 227.0 | 226.1 | 219.8 | 216.0 | 211.3 | 208.1 | 204.3 | 200.2 | 231.9 | |
| Top 30% | Both | 174.1 | 173.0 | 167.7 | 164.6 | 160.8 | 158.9 | 155.8 | 153.3 | 177.4 | |
| | Female | 151.9 | 150.9 | 146.6 | 144.2 | 140.3 | 138.8 | 137.0 | 134.8 | 154.8 | |
| | Male | 207.1 | 205.5 | 198.4 | 193.9 | 190.2 | 187.7 | 182.3 | 179.6 | 211.2 | |

DIABETES

| Counties | Gender | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 |
|----------|--------|------|------|------|------|------|------|------|------|-----------|------|
| All | Both | 26.9 | 26.9 | 27.2 | 27.5 | 27.4 | 26.6 | 26.8 | 25.3 | 24.4 | 23.7 |
| | Female | 24.7 | 24.7 | 24.9 | 24.8 | 24.4 | 23.5 | 23.5 | 21.9 | 21.2 | 20.4 |
| | Male | 29.8 | 29.8 | 30.3 | 31.0 | 31.3 | 30.6 | 31.0 | 29.7 | 28.6 | 27.8 |
| Top 30% | Both | 22.6 | 22.4 | 22.4 | 22.3 | 21.9 | 21.5 | 21.9 | 20.4 | 19.7 | 18.9 |
| | Female | 20.2 | 19.9 | 19.9 | 19.4 | 18.7 | 18.3 | 18.6 | 17.1 | 16.7 | 15.9 |
| | Male | 26.1 | 25.8 | 25.8 | 26.2 | 26.2 | 25.7 | 26.3 | 24.7 | 23.5 | 22.7 |
| Counties | Gender | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | All Years | |
| All | Both | 22.6 | 22.4 | 23.3 | 22.8 | 22.8 | 22.5 | 22.9 | 22.6 | 24.5 | |
| | Female | 19.2 | 18.9 | 19.5 | 19.0 | 18.9 | 18.4 | 18.6 | 18.2 | 21.1 | |
| | Male | 26.9 | 26.8 | 28.0 | 27.4 | 27.6 | 27.6 | 28.2 | 28.0 | 28.8 | |
| Top 30% | Both | 17.8 | 17.7 | 18.3 | 17.7 | 17.7 | 17.5 | 18.0 | 17.7 | 19.5 | |
| | Female | 14.6 | 14.5 | 15.0 | 14.3 | 14.2 | 13.9 | 14.1 | 13.7 | 16.3 | |
| | Male | 22.0 | 21.7 | 22.7 | 22.3 | 22.2 | 22.2 | 22.9 | 22.5 | 23.7 | |

HEART

| Counties | Gender | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 |
|----------|--------|-------|-------|-------|-------|-------|-------|-------|-------|-----------|-------|
| All | Both | 287.1 | 277.7 | 268.9 | 263.6 | 254.7 | 238.9 | 233.9 | 221.6 | 211.6 | 207.4 |
| | Female | 234.9 | 227.2 | 221.2 | 215.7 | 208.6 | 195.4 | 191.2 | 180.2 | 171.4 | 168.1 |
| | Male | 356.3 | 344.6 | 331.2 | 326.7 | 314.8 | 295.3 | 289.1 | 274.8 | 262.9 | 257.5 |
| Top 30% | Both | 258.7 | 250.6 | 240.0 | 234.5 | 226.1 | 210.6 | 205.4 | 195.0 | 186.1 | 181.1 |
| | Female | 213.2 | 206.7 | 200.8 | 194.3 | 186.8 | 174.6 | 169.3 | 160.4 | 152.3 | 148.0 |
| | Male | 319.9 | 309.1 | 291.2 | 288.2 | 278.0 | 257.7 | 252.7 | 239.8 | 230.2 | 224.3 |
| Counties | Gender | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | All Years | |
| All | Both | 197.4 | 193.6 | 187.7 | 184.4 | 183.6 | 180.7 | 182.4 | 179.4 | 216.0 | |
| | Female | 158.0 | 154.6 | 149.8 | 146.4 | 145.0 | 142.5 | 144.6 | 141.1 | 174.9 | |
| | Male | 247.7 | 243.3 | 235.7 | 232.3 | 232.1 | 228.4 | 229.4 | 226.7 | 268.3 | |
| Top 30% | Both | 172.9 | 169.1 | 163.2 | 159.2 | 157.6 | 154.5 | 155.9 | 152.4 | 188.3 | |
| | Female | 140.0 | 136.9 | 130.8 | 127.4 | 125.2 | 122.6 | 124.7 | 120.5 | 153.8 | |
| | Male | 215.7 | 210.9 | 205.2 | 200.5 | 199.3 | 195.4 | 195.5 | 192.8 | 232.8 | |

LIVER

| Counties | Gender | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 |
|----------|--------|------|------|------|------|------|------|------|------|-----------|------|
| All | Both | 10.4 | 10.4 | 10.3 | 10.2 | 10.1 | 9.7 | 9.8 | 9.6 | 10.0 | 10.0 |
| | Female | 6.5 | 6.6 | 6.7 | 6.7 | 6.4 | 6.3 | 6.3 | 6.2 | 6.3 | 6.4 |
| | Male | 14.8 | 14.6 | 14.4 | 14.1 | 14.2 | 13.6 | 13.7 | 13.3 | 13.9 | 14.0 |
| Top 30% | Both | 8.8 | 8.9 | 8.9 | 8.6 | 8.6 | 8.0 | 8.1 | 7.9 | 8.2 | 8.2 |
| | Female | 5.8 | 5.9 | 6.1 | 5.8 | 5.9 | 5.4 | 5.5 | 5.4 | 5.4 | 5.5 |
| | Male | 12.3 | 12.3 | 12.2 | 11.6 | 11.7 | 11.0 | 11.0 | 10.7 | 11.4 | 11.3 |
| Counties | Gender | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | All Years | |
| All | Both | 10.1 | 10.3 | 10.7 | 10.9 | 11.2 | 11.5 | 12.0 | 11.8 | 10.6 | |
| | Female | 6.6 | 6.7 | 7.2 | 7.3 | 7.4 | 7.8 | 8.3 | 8.2 | 6.9 | |
| | Male | 13.8 | 14.3 | 14.5 | 15.0 | 15.4 | 15.7 | 16.1 | 15.9 | 14.6 | |
| Top 30% | Both | 8.2 | 8.5 | 8.5 | 8.7 | 8.9 | 9.1 | 9.3 | 9.1 | 8.6 | |
| | Female | 5.6 | 5.7 | 5.9 | 6.1 | 5.9 | 6.2 | 6.5 | 6.6 | 5.8 | |
| | Male | 11.1 | 11.6 | 11.4 | 11.6 | 12.3 | 12.3 | 12.4 | 11.9 | 11.7 | |

PULMONARY

| Counties | Gender | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 |
|----------|--------|------|------|------|------|------|------|------|------|-----------|------|
| All | Both | 48.2 | 46.8 | 46.5 | 46.5 | 46.4 | 44.1 | 46.5 | 43.4 | 43.8 | 47.3 |
| | Female | 40.0 | 39.7 | 40.1 | 40.0 | 40.4 | 38.6 | 41.0 | 38.6 | 38.7 | 42.2 |
| | Male | 62.2 | 59.1 | 57.6 | 57.5 | 56.3 | 53.3 | 55.3 | 51.3 | 51.7 | 55.4 |
| Top 30% | Both | 44.1 | 43.1 | 42.0 | 41.0 | 40.8 | 38.7 | 39.6 | 37.2 | 36.3 | 38.9 |
| | Female | 39.3 | 38.8 | 38.5 | 37.5 | 37.9 | 35.8 | 36.5 | 34.7 | 34.1 | 36.5 |
| | Male | 53.0 | 51.0 | 48.5 | 47.6 | 46.1 | 43.7 | 44.7 | 41.4 | 40.1 | 43.1 |
| Counties | Gender | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | All Years | |
| All | Both | 45.2 | 44.7 | 45.1 | 44.1 | 44.7 | 43.0 | 44.3 | 43.2 | 45.1 | |
| | Female | 40.6 | 40.2 | 40.8 | 40.1 | 40.9 | 39.5 | 41.0 | 39.8 | 40.1 | |
| | Male | 52.5 | 51.7 | 51.6 | 50.1 | 50.4 | 48.3 | 49.0 | 48.0 | 52.9 | |
| Top 30% | Both | 36.8 | 36.2 | 36.4 | 35.1 | 35.0 | 33.3 | 34.0 | 32.8 | 37.4 | |
| | Female | 34.4 | 33.9 | 34.4 | 33.3 | 33.2 | 31.6 | 32.7 | 31.4 | 35.0 | |
| | Male | 40.7 | 40.0 | 39.6 | 38.1 | 37.8 | 36.0 | 35.8 | 34.9 | 41.6 | |

STROKE

| Counties | Gender | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 |
|----------|--------|------|------|------|------|------|------|------|------|-----------|------|
| All | Both | 65.9 | 65.1 | 62.5 | 61.3 | 58.4 | 54.7 | 51.3 | 48.0 | 46.6 | 45.0 |
| | Female | 64.0 | 63.2 | 60.8 | 60.0 | 57.0 | 53.6 | 50.3 | 47.0 | 45.7 | 44.3 |
| | Male | 67.5 | 66.6 | 63.5 | 61.9 | 59.1 | 55.2 | 51.7 | 48.3 | 46.7 | 45.1 |
| Top 30% | Both | 61.2 | 61.3 | 58.7 | 57.1 | 53.9 | 50.9 | 46.3 | 43.0 | 41.8 | 39.7 |
| | Female | 59.4 | 59.8 | 56.9 | 56.1 | 52.9 | 49.6 | 45.5 | 42.4 | 41.3 | 39.2 |
| | Male | 62.4 | 62.5 | 60.2 | 57.3 | 54.4 | 51.7 | 46.5 | 43.1 | 41.7 | 39.7 |
| Counties | Gender | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | All Years | |
| All | Both | 42.4 | 41.9 | 40.6 | 39.5 | 38.8 | 39.1 | 40.4 | 40.1 | 48.1 | |
| | Female | 41.5 | 41.1 | 39.8 | 38.7 | 37.7 | 38.2 | 39.6 | 39.3 | 47.1 | |
| | Male | 42.6 | 42.1 | 40.6 | 39.7 | 39.3 | 39.5 | 40.5 | 40.2 | 48.1 | |
| Top 30% | Both | 37.5 | 37.0 | 35.8 | 34.8 | 34.3 | 34.2 | 35.5 | 35.8 | 43.1 | |
| | Female | 36.6 | 36.4 | 35.3 | 34.1 | 33.4 | 33.6 | 34.9 | 35.3 | 42.4 | |
| | Male | 37.9 | 36.8 | 35.5 | 35.0 | 34.6 | 34.2 | 35.6 | 35.5 | 43.0 | |

SUICIDE

| Counties | Gender | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 |
|----------|--------|------|------|------|------|------|------|------|------|-----------|------|
| All | Both | 10.6 | 10.6 | 10.9 | 11.1 | 11.0 | 11.2 | 11.1 | 11.2 | 11.5 | 11.9 |
| | Female | 4.1 | 4.0 | 4.1 | 4.3 | 4.3 | 4.6 | 4.5 | 4.6 | 4.7 | 4.9 |
| | Male | 18.1 | 18.0 | 18.5 | 18.9 | 18.5 | 18.5 | 18.5 | 18.5 | 18.9 | 19.5 |
| Top 30% | Both | 9.3 | 9.1 | 9.2 | 9.6 | 9.6 | 9.7 | 9.4 | 9.6 | 10.1 | 10.3 |
| | Female | 3.8 | 3.8 | 3.7 | 4.0 | 4.1 | 4.3 | 4.1 | 4.3 | 4.5 | 4.6 |
| | Male | 15.4 | 15.0 | 15.3 | 15.8 | 15.9 | 15.7 | 15.4 | 15.5 | 16.2 | 16.6 |
| Counties | Gender | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | All Years | |
| All | Both | 12.0 | 12.4 | 12.6 | 12.9 | 12.9 | 13.3 | 13.6 | 13.8 | 12.0 | |
| | Female | 5.0 | 5.1 | 5.3 | 5.5 | 5.6 | 5.9 | 6.2 | 6.2 | 5.0 | |
| | Male | 19.7 | 20.4 | 20.5 | 20.9 | 20.8 | 21.3 | 21.6 | 21.9 | 19.7 | |
| Top 30% | Both | 10.5 | 11.1 | 11.2 | 11.5 | 11.3 | 11.8 | 11.8 | 11.9 | 10.5 | |
| | Female | 4.6 | 4.8 | 5.0 | 5.2 | 5.3 | 5.6 | 5.9 | 5.6 | 4.7 | |
| | Male | 17.0 | 18.0 | 18.0 | 18.2 | 17.9 | 18.5 | 18.2 | 18.7 | 16.9 | |

OPIOIDS

| Counties | Gender | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 |
|----------|--------|------|------|------|------|------|------|------|------|-----------|------|
| All | Both | 2.8 | 2.9 | 3.2 | 4.0 | 4.4 | 4.6 | 5.0 | 5.8 | 6.1 | 6.4 |
| | Female | 1.4 | 1.5 | 1.9 | 2.5 | 2.8 | 3.1 | 3.4 | 3.9 | 4.3 | 4.4 |
| | Male | 4.1 | 4.2 | 4.6 | 5.6 | 6.0 | 6.2 | 6.6 | 7.7 | 7.9 | 8.4 |
| Top 30% | Both | 3.2 | 3.0 | 2.8 | 4.0 | 4.2 | 4.1 | 4.6 | 5.2 | 5.7 | 6.1 |
| | Female | 1.6 | 1.6 | 1.6 | 2.4 | 2.6 | 2.7 | 3.0 | 3.4 | 3.9 | 4.2 |
| | Male | 4.8 | 4.4 | 4.1 | 5.5 | 5.8 | 5.6 | 6.1 | 7.1 | 7.5 | 8.0 |
| Counties | Gender | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | All Years | |
| All | Both | 6.6 | 6.8 | 7.3 | 7.4 | 8.0 | 9.1 | 10.4 | 13.2 | 6.5 | |
| | Female | 4.7 | 4.9 | 5.3 | 5.4 | 5.7 | 6.4 | 7.1 | 8.5 | 4.4 | |
| | Male | 8.6 | 8.7 | 9.4 | 9.5 | 10.2 | 11.7 | 13.7 | 18.0 | 8.6 | |
| Top 30% | Both | 6.1 | 6.2 | 6.9 | 7.0 | 7.9 | 8.9 | 9.9 | 12.7 | 6.2 | |
| | Female | 4.1 | 4.3 | 4.8 | 4.7 | 5.3 | 5.8 | 6.3 | 7.6 | 4.0 | |
| | Male | 8.2 | 8.0 | 9.0 | 9.3 | 10.4 | 12.0 | 13.6 | 17.9 | 8.4 | |

Appendix B: Death Rates by Age Group per 100,000

ALL CAUSES OF DEATH

| Counties | Age Group | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 |
|-----------|-------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|---------|
| All | < 1 year | 736.0 | 736.7 | 687.0 | 709.5 | 704.9 | 695.9 | 710.2 | 705.8 | 702.5 | 678.9 |
| | 1-4 years | 34.2 | 32.4 | 33.4 | 31.4 | 31.8 | 30.3 | 29.9 | 29.1 | 29.4 | 29.3 |
| | 5-14 years | 18.6 | 18.0 | 17.2 | 17.4 | 16.9 | 16.7 | 16.3 | 15.2 | 15.2 | 13.9 |
| | 15-24 years | 79.3 | 79.9 | 80.2 | 80.9 | 81.1 | 79.7 | 80.7 | 81.4 | 78.8 | 74.2 |
| | 25-34 years | 102.2 | 101.4 | 105.6 | 105.1 | 105.2 | 104.1 | 106.8 | 109.0 | 107.2 | 105.1 |
| | 35-44 years | 198.0 | 198.9 | 203.5 | 204.2 | 202.6 | 194.9 | 194.9 | 192.0 | 186.0 | 181.0 |
| | 45-54 years | 418.2 | 425.6 | 426.7 | 431.0 | 433.1 | 426.8 | 431.9 | 427.5 | 420.3 | 419.6 |
| | 55-64 years | 1,005.0 | 992.2 | 972.5 | 948.7 | 937.3 | 903.2 | 898.5 | 881.3 | 866.7 | 867.1 |
| | 65-74 years | 2,457.3 | 2,399.1 | 2,344.2 | 2,300.3 | 2,235.0 | 2,141.0 | 2,109.7 | 2,031.4 | 1,976.0 | 1,958.4 |
| | 75-84 years | 5,714.5 | 5,666.5 | 5,573.7 | 5,543.8 | 5,451.3 | 5,267.4 | 5,251.8 | 5,096.1 | 4,987.1 | 4,998.1 |
| 85+ years | 15,554.6 | 15,524.4 | 15,432.6 | 15,589.5 | 15,401.4 | 14,777.6 | 14,982.4 | 14,426.7 | 14,160.9 | 14,332.4 | |

| Counties | Age Group | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | All Years |
|-----------|-------------|----------|----------|----------|----------|----------|----------|----------|----------|-----------|
| All | < 1 year | 659.7 | 623.4 | 600.1 | 599.3 | 594.7 | 588.0 | 589.6 | 583.4 | 661.4 |
| | 1-4 years | 27.4 | 26.5 | 26.3 | 26.3 | 25.5 | 24.0 | 24.9 | 25.3 | 28.7 |
| | 5-14 years | 13.8 | 12.9 | 13.2 | 12.6 | 13.0 | 12.7 | 13.2 | 13.4 | 15.0 |
| | 15-24 years | 69.8 | 67.7 | 67.7 | 66.4 | 64.8 | 65.5 | 69.5 | 74.9 | 74.4 |
| | 25-34 years | 104.4 | 102.9 | 104.7 | 105.4 | 106.1 | 108.4 | 116.7 | 129.0 | 107.4 |
| | 35-44 years | 180.0 | 170.5 | 172.0 | 170.7 | 172.0 | 175.2 | 180.1 | 192.2 | 187.6 |
| | 45-54 years | 418.1 | 407.1 | 409.8 | 405.4 | 406.1 | 404.8 | 404.0 | 405.5 | 417.6 |
| | 55-64 years | 856.7 | 851.9 | 849.4 | 854.2 | 860.0 | 870.3 | 875.3 | 883.8 | 891.1 |
| | 65-74 years | 1,888.7 | 1,875.1 | 1,846.2 | 1,802.5 | 1,802.1 | 1,786.3 | 1,796.8 | 1,788.6 | 2,001.0 |
| | 75-84 years | 4,820.2 | 4,790.2 | 4,753.0 | 4,674.5 | 4,648.1 | 4,564.2 | 4,579.2 | 4,474.8 | 5,034.3 |
| 85+ years | 13,660.1 | 13,934.3 | 13,779.3 | 13,678.6 | 13,660.4 | 13,407.9 | 13,673.9 | 13,392.1 | 14,301.3 | |

| Counties | Age Group | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 |
|-----------|-------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|---------|
| Top 30% | < 1 year | 591.3 | 593.9 | 551.0 | 562.9 | 552.8 | 562.5 | 561.1 | 564.7 | 565.1 | 552.5 |
| | 1-4 years | 25.7 | 24.7 | 25.1 | 24.3 | 23.5 | 23.3 | 20.9 | 21.6 | 21.0 | 21.8 |
| | 5-14 years | 14.1 | 14.0 | 13.1 | 13.6 | 12.9 | 12.8 | 12.3 | 11.4 | 11.7 | 10.5 |
| | 15-24 years | 62.4 | 64.1 | 66.1 | 64.1 | 67.0 | 64.4 | 65.5 | 67.1 | 64.5 | 61.0 |
| | 25-34 years | 78.8 | 76.6 | 82.4 | 77.8 | 78.0 | 78.6 | 79.9 | 81.4 | 79.0 | 78.6 |
| | 35-44 years | 151.3 | 151.6 | 155.5 | 152.6 | 149.8 | 143.4 | 143.0 | 138.6 | 136.0 | 131.2 |
| | 45-54 years | 330.7 | 335.4 | 341.4 | 336.5 | 333.5 | 327.4 | 328.0 | 325.1 | 316.5 | 316.5 |
| | 55-64 years | 833.8 | 823.0 | 800.3 | 774.7 | 756.6 | 732.3 | 719.6 | 705.8 | 691.1 | 691.2 |
| | 65-74 years | 2,229.5 | 2,170.6 | 2,114.7 | 2,057.1 | 1,992.9 | 1,897.3 | 1,849.6 | 1,773.4 | 1,712.7 | 1,680.7 |
| | 75-84 years | 5,451.5 | 5,435.2 | 5,327.4 | 5,249.1 | 5,173.9 | 4,981.2 | 4,929.2 | 4,786.0 | 4,672.6 | 4,650.3 |
| 85+ years | 15,278.5 | 15,368.2 | 15,118.3 | 15,182.4 | 14,965.5 | 14,312.2 | 14,392.6 | 13,923.7 | 13,626.1 | 13,717.3 | |

| Counties | Age Group | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | All Years |
|-----------|-------------|----------|----------|----------|----------|----------|----------|----------|----------|-----------|
| Top 30% | < 1 year | 526.2 | 505.2 | 490.1 | 468.4 | 471.4 | 470.2 | 467.6 | 454.6 | 528.4 |
| | 1-4 years | 20.3 | 20.8 | 20.1 | 19.5 | 18.5 | 17.5 | 18.1 | 18.9 | 21.4 |
| | 5-14 years | 10.9 | 9.7 | 10.5 | 10.2 | 9.8 | 9.6 | 9.8 | 10.4 | 11.5 |
| | 15-24 years | 56.7 | 56.8 | 57.0 | 56.3 | 55.2 | 55.0 | 57.8 | 62.1 | 61.1 |
| | 25-34 years | 78.9 | 77.1 | 80.0 | 81.3 | 83.6 | 87.3 | 93.3 | 106.3 | 82.4 |
| | 35-44 years | 130.5 | 124.7 | 124.3 | 124.8 | 123.7 | 126.1 | 129.5 | 139.1 | 137.9 |
| | 45-54 years | 312.0 | 301.5 | 302.5 | 297.1 | 294.3 | 294.5 | 292.2 | 290.2 | 314.2 |
| | 55-64 years | 680.9 | 676.1 | 666.1 | 663.5 | 663.5 | 665.3 | 665.7 | 665.7 | 704.7 |
| | 65-74 years | 1,611.6 | 1,586.2 | 1,551.1 | 1,504.1 | 1,489.5 | 1,471.7 | 1,477.6 | 1,473.3 | 1,714.7 |
| | 75-84 years | 4,473.0 | 4,412.7 | 4,395.0 | 4,285.4 | 4,252.5 | 4,162.1 | 4,161.7 | 4,054.3 | 4,688.7 |
| 85+ years | 13,190.3 | 13,488.8 | 13,356.0 | 13,227.5 | 13,259.4 | 13,009.7 | 13,304.7 | 13,023.7 | 13,840.2 | |

ACCIDENTS

| Counties | Age Group | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 |
|-----------|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| All | < 1 year | 22.3 | 23.1 | 24.3 | 23.9 | 23.8 | 26.2 | 27.0 | 28.4 | 31.0 | 31.8 |
| | 1-4 years | 12.4 | 11.9 | 11.2 | 10.6 | 11.0 | 10.4 | 10.5 | 10.1 | 9.9 | 9.1 |
| | 5-14 years | 7.6 | 7.3 | 6.9 | 6.6 | 6.4 | 6.5 | 5.9 | 5.6 | 5.4 | 4.6 |
| | 15-24 years | 35.3 | 36.0 | 35.8 | 37.7 | 36.9 | 36.8 | 37.1 | 37.9 | 36.8 | 32.5 |
| | 25-34 years | 29.6 | 29.5 | 30.0 | 31.9 | 32.0 | 33.2 | 35.7 | 38.0 | 37.7 | 36.3 |
| | 35-44 years | 33.8 | 34.1 | 35.4 | 37.4 | 38.0 | 37.6 | 38.9 | 40.5 | 39.6 | 38.1 |
| | 45-54 years | 31.8 | 32.6 | 33.9 | 36.7 | 38.8 | 40.7 | 43.2 | 45.5 | 46.2 | 45.8 |
| | 55-64 years | 30.6 | 30.9 | 30.5 | 31.3 | 32.7 | 32.9 | 35.4 | 35.8 | 36.8 | 37.4 |
| | 65-74 years | 44.6 | 41.9 | 42.6 | 44.0 | 43.7 | 43.5 | 45.7 | 43.8 | 44.4 | 43.9 |
| | 75-84 years | 100.5 | 95.1 | 100.7 | 101.1 | 101.6 | 103.6 | 106.0 | 104.7 | 105.0 | 105.7 |
| 85+ years | 282.4 | 273.5 | 282.2 | 289.6 | 294.3 | 295.8 | 303.5 | 299.2 | 313.6 | 318.3 | |

| Counties | Age Group | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | All Years |
|-----------|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-----------|
| All | < 1 year | 29.5 | 28.1 | 29.1 | 29.6 | 29.3 | 29.4 | 32.5 | 30.7 | 27.8 |
| | 1-4 years | 9.0 | 8.6 | 8.5 | 8.4 | 8.3 | 7.6 | 7.8 | 7.9 | 9.6 |
| | 5-14 years | 4.1 | 4.0 | 4.0 | 3.8 | 3.7 | 3.6 | 3.7 | 4.0 | 5.2 |
| | 15-24 years | 28.6 | 28.3 | 28.2 | 27.1 | 26.4 | 26.8 | 28.5 | 31.9 | 32.6 |
| | 25-34 years | 34.5 | 35.5 | 37.1 | 37.5 | 37.8 | 39.8 | 44.8 | 53.7 | 36.6 |
| | 35-44 years | 36.4 | 36.0 | 37.5 | 37.1 | 38.0 | 39.6 | 43.9 | 51.8 | 38.5 |
| | 45-54 years | 44.5 | 43.7 | 46.4 | 46.1 | 46.5 | 47.4 | 49.8 | 54.6 | 43.3 |
| | 55-64 years | 36.5 | 38.4 | 39.8 | 41.0 | 43.4 | 44.9 | 47.7 | 52.7 | 38.7 |
| | 65-74 years | 42.1 | 43.3 | 44.5 | 44.0 | 43.5 | 45.1 | 47.0 | 49.1 | 44.4 |
| | 75-84 years | 103.5 | 106.1 | 107.0 | 107.8 | 107.4 | 108.7 | 111.5 | 110.7 | 104.9 |
| 85+ years | 310.9 | 328.4 | 333.8 | 336.9 | 340.0 | 349.1 | 364.5 | 365.7 | 319.5 | |

| Counties | Age Group | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 |
|-----------|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------|
| Top 30% | < 1 year | 15.6 | 13.8 | 15.1 | 17.3 | 12.2 | 16.3 | 16.9 | 14.6 | 18.2 | 18.4 |
| | 1-4 years | 7.8 | 7.5 | 7.0 | 7.7 | 6.9 | 6.7 | 6.0 | 6.2 | 5.7 | 5.8 |
| | 5-14 years | 4.7 | 4.6 | 4.2 | 4.2 | 3.9 | 3.9 | 3.6 | 3.5 | 3.4 | 2.9 |
| | 15-24 years | 27.2 | 28.8 | 28.3 | 29.0 | 29.8 | 28.9 | 29.7 | 30.5 | 30.1 | 26.5 |
| | 25-34 years | 21.8 | 21.3 | 21.4 | 22.8 | 22.7 | 23.8 | 25.4 | 27.8 | 27.1 | 26.8 |
| | 35-44 years | 24.9 | 23.7 | 23.0 | 26.9 | 26.0 | 25.8 | 26.9 | 28.0 | 28.0 | 27.0 |
| | 45-54 years | 24.0 | 22.8 | 23.3 | 26.7 | 28.3 | 28.5 | 31.1 | 34.1 | 33.4 | 34.0 |
| | 55-64 years | 23.9 | 23.2 | 22.8 | 23.5 | 25.2 | 25.5 | 27.6 | 27.0 | 28.4 | 29.3 |
| | 65-74 years | 36.6 | 35.2 | 35.1 | 35.7 | 36.4 | 35.1 | 36.5 | 36.0 | 36.5 | 36.5 |
| | 75-84 years | 89.6 | 90.3 | 88.5 | 90.0 | 89.3 | 94.9 | 91.1 | 95.1 | 95.3 | 93.5 |
| 85+ years | 260.4 | 260.3 | 259.2 | 265.4 | 271.3 | 275.8 | 268.9 | 271.4 | 289.6 | 298.7 | |

| Counties | Age Group | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | All Years |
|-----------|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-----------|
| Top 30% | < 1 year | 18.4 | 15.6 | 17.0 | 14.1 | 15.8 | 15.1 | 17.1 | 17.4 | 16.1 |
| | 1-4 years | 5.4 | 5.8 | 5.2 | 5.1 | 4.6 | 4.2 | 4.5 | 4.9 | 5.9 |
| | 5-14 years | 2.6 | 2.2 | 2.4 | 2.3 | 2.2 | 2.0 | 2.1 | 2.4 | 3.2 |
| | 15-24 years | 22.8 | 22.8 | 23.6 | 23.1 | 22.7 | 23.5 | 24.1 | 26.8 | 26.4 |
| | 25-34 years | 25.3 | 26.1 | 28.1 | 29.5 | 31.3 | 34.0 | 38.6 | 46.4 | 28.0 |
| | 35-44 years | 25.0 | 25.5 | 26.1 | 26.0 | 27.6 | 28.9 | 32.6 | 37.9 | 27.1 |
| | 45-54 years | 32.4 | 31.1 | 34.1 | 33.9 | 34.5 | 35.8 | 36.7 | 39.6 | 31.7 |
| | 55-64 years | 28.9 | 30.2 | 31.4 | 32.6 | 34.8 | 34.9 | 37.7 | 40.9 | 30.3 |
| | 65-74 years | 34.9 | 35.6 | 36.6 | 36.7 | 36.4 | 37.7 | 39.0 | 40.1 | 36.7 |
| | 75-84 years | 95.1 | 93.8 | 98.8 | 98.5 | 99.3 | 97.2 | 101.1 | 99.8 | 94.7 |
| 85+ years | 296.1 | 309.4 | 326.2 | 324.2 | 329.6 | 341.0 | 353.3 | 353.2 | 303.4 | |

ACCIDENTS EXCLUDING OPIOIDS

| Counties | Age Group | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 |
|-----------|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-----------|-------|
| All | < 1 year | 22.3 | 23.1 | 24.3 | 23.9 | 23.8 | 26.2 | 27.0 | 28.4 | 31.0 | 31.8 |
| | 1-4 years | 12.4 | 11.9 | 11.2 | 10.6 | 11.0 | 10.4 | 10.5 | 10.1 | 9.9 | 9.1 |
| | 5-14 years | 7.6 | 7.3 | 6.9 | 6.6 | 6.4 | 6.5 | 5.9 | 5.5 | 5.3 | 4.6 |
| | 15-24 years | 34.1 | 34.6 | 34.0 | 35.4 | 34.2 | 33.7 | 33.7 | 33.7 | 32.5 | 27.8 |
| | 25-34 years | 26.5 | 26.4 | 26.7 | 27.7 | 27.2 | 28.0 | 29.4 | 30.3 | 29.5 | 27.5 |
| | 35-44 years | 28.5 | 28.8 | 29.8 | 30.4 | 30.8 | 30.2 | 31.2 | 31.6 | 30.5 | 28.7 |
| | 45-54 years | 27.8 | 28.3 | 29.2 | 30.5 | 31.9 | 33.4 | 34.8 | 35.7 | 36.2 | 35.1 |
| | 55-64 years | 29.6 | 29.8 | 29.2 | 29.7 | 30.7 | 30.5 | 32.6 | 32.3 | 32.7 | 32.8 |
| | 65-74 years | 44.3 | 41.6 | 42.3 | 43.5 | 43.2 | 42.9 | 45.0 | 43.0 | 43.6 | 42.7 |
| | 75-84 years | 100.3 | 95.1 | 100.7 | 100.9 | 101.4 | 103.3 | 105.7 | 104.3 | 104.7 | 105.3 |
| 85+ years | 282.4 | 273.5 | 282.2 | 289.6 | 293.9 | 295.8 | 302.9 | 298.7 | 313.1 | 317.9 | |
| Counties | Age Group | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | All Years | |
| All | < 1 year | 29.5 | 28.1 | 29.1 | 29.6 | 29.3 | 29.4 | 32.5 | 30.7 | 27.8 | |
| | 1-4 years | 9.0 | 8.6 | 8.5 | 8.4 | 8.3 | 7.6 | 7.8 | 7.9 | 9.5 | |
| | 5-14 years | 4.1 | 3.9 | 4.0 | 3.8 | 3.7 | 3.6 | 3.7 | 4.0 | 5.2 | |
| | 15-24 years | 24.1 | 23.4 | 22.9 | 22.3 | 21.3 | 21.2 | 22.0 | 23.4 | 28.4 | |
| | 25-34 years | 25.2 | 25.5 | 25.8 | 25.9 | 25.2 | 25.0 | 26.8 | 29.7 | 27.1 | |
| | 35-44 years | 26.8 | 26.1 | 26.6 | 26.0 | 26.1 | 25.6 | 27.2 | 29.7 | 28.6 | |
| | 45-54 years | 33.7 | 32.8 | 34.6 | 34.1 | 33.8 | 33.5 | 34.4 | 35.9 | 33.2 | |
| | 55-64 years | 31.3 | 32.7 | 33.6 | 34.3 | 35.3 | 35.8 | 37.2 | 39.7 | 33.2 | |
| | 65-74 years | 40.9 | 42.2 | 43.2 | 42.5 | 41.7 | 42.8 | 44.4 | 46.0 | 43.2 | |
| | 75-84 years | 103.1 | 105.7 | 106.6 | 107.3 | 106.9 | 108.2 | 110.9 | 110.2 | 104.6 | |
| 85+ years | 310.5 | 327.8 | 333.3 | 336.5 | 339.6 | 348.6 | 364.5 | 365.7 | 319.1 | | |

ALZHEIMER'S/DEMENTIA

| Counties | Age Group | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 |
|-----------|-------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|-------|
| All | < 1 year | ** | ** | ** | ** | ** | ** | ** | ** | ** | ** |
| | 1-4 years | ** | ** | ** | ** | ** | ** | ** | ** | ** | ** |
| | 5-14 years | ** | ** | ** | ** | ** | ** | ** | ** | ** | ** |
| | 15-24 years | ** | ** | ** | ** | ** | ** | ** | ** | ** | ** |
| | 25-34 years | ** | ** | ** | ** | ** | ** | ** | ** | ** | ** |
| | 35-44 years | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 | 0.1 | 0.1 |
| | 45-54 years | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.4 | 0.4 | 0.6 | 0.5 | 0.6 |
| | 55-64 years | 2.8 | 3.0 | 3.2 | 3.0 | 3.3 | 3.2 | 3.8 | 4.6 | 4.6 | 5.0 |
| | 65-74 years | 25.7 | 27.9 | 29.1 | 30.4 | 32.5 | 31.5 | 34.6 | 39.8 | 39.6 | 43.2 |
| | 75-84 years | 195.4 | 215.5 | 232.0 | 251.9 | 266.2 | 271.8 | 298.5 | 339.1 | 341.3 | 387.0 |
| 85+ years | 1,055.7 | 1,173.4 | 1,291.1 | 1,419.9 | 1,513.5 | 1,546.8 | 1,722.9 | 1,946.6 | 1,954.0 | 2,187.1 | |

| Counties | Age Group | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | All Years |
|-----------|-------------|---------|---------|---------|---------|---------|---------|---------|---------|-----------|
| All | < 1 year | ** | ** | ** | ** | ** | ** | ** | ** | ** |
| | 1-4 years | ** | ** | ** | ** | ** | ** | ** | ** | ** |
| | 5-14 years | ** | ** | ** | ** | ** | ** | ** | ** | ** |
| | 15-24 years | ** | ** | ** | ** | ** | ** | ** | ** | 0.0 |
| | 25-34 years | ** | ** | ** | ** | ** | ** | ** | ** | 0.0 |
| | 35-44 years | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.0 | 0.1 | 0.0 | 0.1 |
| | 45-54 years | 0.6 | 0.7 | 0.6 | 0.6 | 0.7 | 0.5 | 0.5 | 0.5 | 0.5 |
| | 55-64 years | 4.8 | 5.4 | 5.6 | 5.8 | 6.0 | 5.4 | 5.3 | 5.6 | 4.6 |
| | 65-74 years | 42.1 | 45.1 | 47.0 | 46.8 | 47.5 | 47.3 | 46.4 | 47.1 | 40.1 |
| | 75-84 years | 373.3 | 401.3 | 424.8 | 432.7 | 434.3 | 429.9 | 417.8 | 407.0 | 342.4 |
| 85+ years | 2,123.9 | 2,323.0 | 2,427.1 | 2,498.3 | 2,553.9 | 2,538.3 | 2,519.1 | 2,475.2 | 2,029.1 | |

| Counties | Age Group | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 |
|-----------|-------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|-------|
| Top 30% | < 1 year | ** | ** | ** | ** | ** | ** | ** | ** | ** | ** |
| | 1-4 years | ** | ** | ** | ** | ** | ** | ** | ** | ** | ** |
| | 5-14 years | ** | ** | ** | ** | ** | ** | ** | ** | ** | ** |
| | 15-24 years | ** | ** | ** | ** | ** | ** | ** | ** | ** | ** |
| | 25-34 years | ** | ** | ** | ** | ** | ** | ** | ** | ** | ** |
| | 35-44 years | ** | ** | ** | ** | ** | ** | ** | ** | ** | ** |
| | 45-54 years | 0.2 | 0.3 | 0.2 | 0.2 | 0.2 | 0.4 | 0.3 | 0.5 | 0.4 | 0.5 |
| | 55-64 years | 2.5 | 2.7 | 2.7 | 2.6 | 3.0 | 3.1 | 3.4 | 4.1 | 4.0 | 4.3 |
| | 65-74 years | 25.2 | 25.7 | 27.5 | 28.8 | 31.4 | 29.0 | 31.6 | 34.0 | 35.1 | 36.7 |
| | 75-84 years | 193.2 | 214.4 | 228.8 | 247.7 | 261.2 | 260.1 | 283.2 | 323.1 | 326.6 | 364.9 |
| 85+ years | 1,066.3 | 1,196.3 | 1,311.9 | 1,423.7 | 1,509.3 | 1,521.2 | 1,680.6 | 1,884.5 | 1,918.8 | 2,133.7 | |

| Counties | Age Group | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | All Years |
|-----------|-------------|---------|---------|---------|---------|---------|---------|---------|---------|-----------|
| Top 30% | < 1 year | ** | ** | ** | ** | ** | ** | ** | ** | ** |
| | 1-4 years | ** | ** | ** | ** | ** | ** | ** | ** | ** |
| | 5-14 years | ** | ** | ** | ** | ** | ** | ** | ** | ** |
| | 15-24 years | ** | ** | ** | ** | ** | ** | ** | ** | ** |
| | 25-34 years | ** | ** | ** | ** | ** | ** | ** | ** | 0.0 |
| | 35-44 years | 0.1 | ** | ** | ** | ** | ** | ** | ** | 0.0 |
| | 45-54 years | 0.5 | 0.5 | 0.5 | 0.5 | 0.4 | 0.4 | 0.3 | 0.3 | 0.4 |
| | 55-64 years | 4.2 | 4.6 | 4.7 | 5.2 | 5.0 | 4.1 | 4.5 | 4.4 | 4.0 |
| | 65-74 years | 36.3 | 38.8 | 41.3 | 40.6 | 39.9 | 40.4 | 39.0 | 40.6 | 35.4 |
| | 75-84 years | 347.7 | 378.4 | 397.0 | 396.4 | 397.3 | 394.5 | 385.1 | 377.5 | 324.5 |
| 85+ years | 2,089.3 | 2,285.5 | 2,390.5 | 2,462.7 | 2,503.5 | 2,491.2 | 2,488.9 | 2,429.7 | 2,020.6 | |

ASSAULT

| Counties | Age Group | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 |
|-----------|-------------|------|------|------|------|------|------|------|------|------|------|
| All | < 1 year | 8.7 | 9.2 | 8.3 | 7.7 | 8.6 | 8.1 | 7.6 | 8.3 | 8.5 | 8.2 |
| | 1-4 years | 2.5 | 2.3 | 2.7 | 2.7 | 2.4 | 2.4 | 2.4 | 2.3 | 2.5 | 2.6 |
| | 5-14 years | 1.1 | 0.9 | 0.8 | 0.9 | 0.8 | 0.8 | 0.8 | 1.0 | 0.9 | 0.8 |
| | 15-24 years | 12.9 | 12.6 | 13.2 | 12.8 | 13.0 | 12.1 | 12.9 | 13.3 | 12.9 | 12.2 |
| | 25-34 years | 10.5 | 10.4 | 13.2 | 11.4 | 11.5 | 11.4 | 12.1 | 12.0 | 12.0 | 11.5 |
| | 35-44 years | 7.1 | 7.1 | 9.5 | 7.3 | 7.0 | 6.8 | 7.1 | 7.0 | 7.1 | 6.9 |
| | 45-54 years | 4.6 | 4.7 | 6.3 | 4.8 | 4.9 | 4.8 | 4.8 | 5.1 | 4.9 | 4.8 |
| | 55-64 years | 3.0 | 3.0 | 4.1 | 3.1 | 2.8 | 3.0 | 2.8 | 3.2 | 3.0 | 2.9 |
| | 65-74 years | 2.6 | 2.4 | 2.9 | 2.3 | 2.3 | 2.4 | 2.3 | 2.1 | 2.1 | 2.3 |
| | 75-84 years | 2.5 | 2.4 | 2.5 | 2.3 | 2.5 | 2.2 | 2.2 | 2.1 | 2.0 | 1.8 |
| 85+ years | 2.4 | 2.4 | 2.4 | 2.2 | 2.3 | 2.3 | 2.3 | 2.1 | 1.6 | 2.3 | |

| Counties | Age Group | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | All Years |
|-----------|-------------|------|------|------|------|------|------|------|------|-----------|
| All | < 1 year | 7.9 | 7.9 | 7.3 | 7.3 | 7.2 | 6.3 | 6.6 | 7.0 | 7.8 |
| | 1-4 years | 2.3 | 2.4 | 2.5 | 2.1 | 2.1 | 2.3 | 2.3 | 2.1 | 2.4 |
| | 5-14 years | 0.7 | 0.6 | 0.7 | 0.8 | 0.7 | 0.7 | 0.7 | 0.7 | 0.8 |
| | 15-24 years | 11.2 | 10.7 | 10.4 | 10.5 | 9.8 | 9.5 | 10.8 | 11.9 | 11.8 |
| | 25-34 years | 10.4 | 10.4 | 10.0 | 10.3 | 9.9 | 9.6 | 11.0 | 12.0 | 11.1 |
| | 35-44 years | 6.7 | 6.0 | 6.2 | 6.7 | 6.4 | 6.4 | 7.1 | 8.3 | 7.1 |
| | 45-54 years | 4.6 | 4.4 | 4.6 | 4.6 | 4.5 | 4.5 | 4.9 | 5.0 | 4.8 |
| | 55-64 years | 2.9 | 2.9 | 2.9 | 3.0 | 3.0 | 2.9 | 3.2 | 3.4 | 3.0 |
| | 65-74 years | 2.2 | 2.1 | 2.0 | 2.1 | 2.0 | 2.1 | 2.0 | 2.0 | 2.2 |
| | 75-84 years | 2.0 | 1.9 | 2.0 | 2.0 | 2.1 | 2.0 | 2.1 | 2.0 | 2.1 |
| 85+ years | 2.3 | 2.0 | 2.2 | 1.9 | 1.9 | 1.9 | 1.7 | 1.9 | 2.1 | |

| Counties | Age Group | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 |
|-----------|-------------|------|------|------|------|------|------|------|------|------|------|
| Top 30% | < 1 year | 5.5 | 6.1 | 5.2 | 4.6 | 5.6 | 5.4 | 5.1 | 6.0 | 5.8 | 4.5 |
| | 1-4 years | 1.8 | 1.3 | 1.7 | 1.4 | 1.5 | 1.4 | 1.4 | 1.6 | 1.5 | 1.7 |
| | 5-14 years | 0.7 | 0.6 | 0.5 | 0.7 | 0.6 | 0.5 | 0.5 | 0.6 | 0.6 | 0.4 |
| | 15-24 years | 7.6 | 7.1 | 8.1 | 8.1 | 8.6 | 8.4 | 8.4 | 8.8 | 8.3 | 8.2 |
| | 25-34 years | 5.8 | 5.7 | 9.8 | 6.4 | 6.4 | 6.5 | 7.5 | 7.2 | 7.0 | 6.9 |
| | 35-44 years | 4.1 | 3.8 | 9.0 | 4.0 | 4.1 | 3.6 | 3.9 | 3.8 | 4.0 | 3.9 |
| | 45-54 years | 2.8 | 2.7 | 6.1 | 2.8 | 2.8 | 2.7 | 2.9 | 2.9 | 2.7 | 2.9 |
| | 55-64 years | 2.1 | 1.9 | 4.2 | 1.8 | 1.7 | 2.0 | 1.6 | 2.3 | 1.8 | 1.9 |
| | 65-74 years | 1.9 | 1.6 | 2.1 | 1.5 | 1.7 | 1.7 | 1.5 | 1.2 | 1.3 | 1.4 |
| | 75-84 years | 1.4 | 1.8 | 2.0 | 1.9 | 1.8 | 1.6 | 1.4 | 1.2 | 1.6 | 1.1 |
| 85+ years | 1.0 | 1.9 | 1.9 | 2.0 | 2.3 | 1.4 | 1.7 | 1.9 | 0.9 | 2.3 | |

| Counties | Age Group | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | All Years |
|-----------|-------------|------|------|------|------|------|------|------|------|-----------|
| Top 30% | < 1 year | 5.9 | 5.0 | 5.7 | 4.2 | 4.1 | 3.1 | 4.1 | 4.7 | 5.0 |
| | 1-4 years | 1.7 | 1.3 | 1.6 | 1.2 | 1.2 | 1.6 | 1.4 | 1.3 | 1.5 |
| | 5-14 years | 0.7 | 0.4 | 0.5 | 0.7 | 0.3 | 0.3 | 0.4 | 0.4 | 0.5 |
| | 15-24 years | 6.8 | 6.9 | 6.7 | 6.5 | 6.1 | 5.6 | 6.7 | 7.0 | 7.4 |
| | 25-34 years | 6.0 | 6.1 | 5.9 | 5.9 | 5.5 | 5.5 | 6.1 | 6.4 | 6.5 |
| | 35-44 years | 3.6 | 3.3 | 3.4 | 3.8 | 3.2 | 3.7 | 3.8 | 4.7 | 4.1 |
| | 45-54 years | 2.4 | 2.6 | 2.7 | 2.6 | 2.7 | 2.5 | 2.5 | 2.7 | 2.9 |
| | 55-64 years | 1.8 | 1.9 | 1.7 | 1.8 | 2.0 | 1.6 | 1.9 | 2.2 | 2.0 |
| | 65-74 years | 1.7 | 1.3 | 1.6 | 1.2 | 1.3 | 1.5 | 1.4 | 1.3 | 1.5 |
| | 75-84 years | 1.1 | 1.1 | 1.2 | 1.3 | 1.6 | 1.5 | 1.6 | 1.6 | 1.5 |
| 85+ years | 2.1 | 1.7 | 1.9 | 1.6 | 1.3 | 1.7 | 1.7 | 1.9 | 1.7 | |

CANCER

| Counties | Age Group | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 |
|-----------|-------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| All | < 1 year | 1.8 | 2.4 | 1.6 | 1.9 | 1.9 | 1.8 | 1.9 | 1.9 | 1.7 | 1.7 |
| | 1-4 years | 2.7 | 2.7 | 2.7 | 2.6 | 2.5 | 2.5 | 2.4 | 2.4 | 2.3 | 2.4 |
| | 5-14 years | 2.5 | 2.5 | 2.4 | 2.6 | 2.6 | 2.5 | 2.5 | 2.2 | 2.4 | 2.2 |
| | 15-24 years | 4.5 | 4.4 | 4.2 | 4.2 | 4.0 | 4.1 | 4.0 | 3.8 | 3.8 | 3.8 |
| | 25-34 years | 10.0 | 9.8 | 10.1 | 9.8 | 9.5 | 9.3 | 9.2 | 9.3 | 8.7 | 8.8 |
| | 35-44 years | 37.1 | 36.6 | 36.8 | 36.0 | 35.1 | 33.6 | 33.5 | 32.2 | 31.0 | 30.1 |
| | 45-54 years | 127.6 | 127.5 | 125.8 | 124.1 | 122.1 | 119.0 | 118.6 | 116.3 | 114.2 | 113.4 |
| | 55-64 years | 374.6 | 366.7 | 359.4 | 349.7 | 341.6 | 330.8 | 323.9 | 317.7 | 311.4 | 304.7 |
| | 65-74 years | 827.1 | 816.3 | 799.7 | 787.2 | 763.5 | 746.8 | 733.2 | 716.3 | 702.9 | 688.4 |
| | 75-84 years | 1,331.5 | 1,335.6 | 1,313.7 | 1,308.8 | 1,299.7 | 1,278.6 | 1,272.8 | 1,259.2 | 1,250.1 | 1,230.9 |
| 85+ years | 1,805.8 | 1,819.4 | 1,802.9 | 1,812.4 | 1,792.3 | 1,767.4 | 1,778.2 | 1,748.3 | 1,739.4 | 1,724.6 | |

| Counties | Age Group | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | All Years |
|-----------|-------------|---------|---------|---------|---------|---------|---------|---------|---------|-----------|
| All | < 1 year | 1.8 | 1.6 | 1.8 | 1.6 | 1.6 | 1.3 | 1.3 | 1.7 | 1.7 |
| | 1-4 years | 2.2 | 2.1 | 2.2 | 2.4 | 2.1 | 2.0 | 2.2 | 2.4 | 2.4 |
| | 5-14 years | 2.2 | 2.2 | 2.1 | 2.2 | 2.2 | 2.1 | 2.1 | 2.1 | 2.3 |
| | 15-24 years | 3.8 | 3.7 | 3.7 | 3.6 | 3.4 | 3.6 | 3.4 | 3.3 | 3.8 |
| | 25-34 years | 9.0 | 8.8 | 8.4 | 8.7 | 8.6 | 8.3 | 8.4 | 8.5 | 9.0 |
| | 35-44 years | 30.2 | 28.8 | 28.8 | 28.0 | 28.1 | 27.8 | 26.9 | 26.9 | 31.7 |
| | 45-54 years | 112.8 | 111.6 | 109.3 | 108.5 | 105.5 | 103.2 | 99.7 | 96.5 | 113.8 |
| | 55-64 years | 301.7 | 300.1 | 295.8 | 293.2 | 288.2 | 287.6 | 284.1 | 280.6 | 312.3 |
| | 65-74 years | 668.2 | 666.1 | 647.6 | 632.2 | 616.9 | 603.1 | 594.3 | 578.3 | 688.2 |
| | 75-84 years | 1,213.0 | 1,202.2 | 1,179.1 | 1,161.7 | 1,139.4 | 1,125.9 | 1,100.8 | 1,081.7 | 1,224.2 |
| 85+ years | 1,699.3 | 1,729.5 | 1,676.2 | 1,658.9 | 1,635.4 | 1,632.9 | 1,628.6 | 1,620.3 | 1,716.6 | |

| Counties | Age Group | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 |
|-----------|-------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| Top 30% | < 1 year | 1.3 | 1.9 | 1.6 | 1.8 | 1.8 | 1.8 | 1.3 | 2.0 | 1.7 | 1.2 |
| | 1-4 years | 2.6 | 2.9 | 3.0 | 2.6 | 2.3 | 2.5 | 2.1 | 2.4 | 2.2 | 2.0 |
| | 5-14 years | 2.3 | 2.6 | 2.3 | 2.7 | 2.5 | 2.4 | 2.2 | 2.1 | 2.2 | 2.0 |
| | 15-24 years | 4.5 | 4.0 | 4.1 | 4.2 | 3.9 | 3.9 | 4.1 | 3.8 | 3.7 | 3.7 |
| | 25-34 years | 9.1 | 8.9 | 9.0 | 8.7 | 8.5 | 8.8 | 8.0 | 8.5 | 7.4 | 7.8 |
| | 35-44 years | 32.1 | 31.9 | 31.0 | 30.5 | 29.6 | 28.7 | 28.3 | 27.6 | 26.4 | 25.4 |
| | 45-54 years | 111.2 | 111.2 | 110.5 | 107.8 | 104.1 | 99.7 | 99.9 | 98.1 | 93.8 | 95.4 |
| | 55-64 years | 336.7 | 331.5 | 323.2 | 312.5 | 303.2 | 294.6 | 282.2 | 278.5 | 271.5 | 265.2 |
| | 65-74 years | 799.7 | 784.4 | 760.0 | 749.8 | 727.7 | 710.3 | 691.6 | 672.4 | 653.7 | 636.6 |
| | 75-84 years | 1,329.8 | 1,334.4 | 1,311.9 | 1,298.4 | 1,295.9 | 1,266.8 | 1,261.3 | 1,240.2 | 1,235.1 | 1,216.7 |
| 85+ years | 1,826.0 | 1,840.9 | 1,807.4 | 1,817.1 | 1,802.2 | 1,767.4 | 1,783.2 | 1,761.6 | 1,735.2 | 1,724.2 | |

| Counties | Age Group | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | All Years |
|-----------|-------------|---------|---------|---------|---------|---------|---------|---------|---------|-----------|
| Top 30% | < 1 year | 1.8 | 1.3 | 1.5 | 1.5 | 1.6 | 1.5 | 1.8 | 1.7 | 1.6 |
| | 1-4 years | 1.7 | 2.3 | 2.2 | 2.4 | 1.8 | 1.9 | 2.2 | 2.5 | 2.3 |
| | 5-14 years | 2.2 | 2.0 | 2.1 | 2.3 | 2.0 | 2.0 | 2.1 | 2.3 | 2.2 |
| | 15-24 years | 3.7 | 3.8 | 3.7 | 3.5 | 3.5 | 3.4 | 3.2 | 3.2 | 3.8 |
| | 25-34 years | 8.2 | 8.2 | 7.8 | 7.5 | 7.6 | 7.6 | 7.3 | 7.7 | 8.1 |
| | 35-44 years | 26.7 | 24.4 | 24.1 | 23.6 | 23.9 | 23.8 | 22.1 | 23.3 | 27.0 |
| | 45-54 years | 92.8 | 90.1 | 88.1 | 87.9 | 84.4 | 83.4 | 80.0 | 77.1 | 94.6 |
| | 55-64 years | 260.6 | 260.5 | 251.9 | 247.4 | 243.1 | 241.1 | 235.9 | 231.5 | 269.8 |
| | 65-74 years | 614.1 | 607.2 | 588.1 | 573.1 | 549.2 | 537.2 | 531.0 | 516.6 | 633.7 |
| | 75-84 years | 1,194.5 | 1,182.1 | 1,156.7 | 1,131.4 | 1,112.1 | 1,089.4 | 1,067.4 | 1,044.6 | 1,204.3 |
| 85+ years | 1,714.6 | 1,750.0 | 1,667.0 | 1,644.6 | 1,631.7 | 1,649.5 | 1,627.0 | 1,637.7 | 1,719.6 | |

DIABETES

| Counties | Age Group | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 |
|-----------|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| All | < 1 year | ** | ** | ** | ** | ** | ** | ** | ** | ** | ** |
| | 1-4 years | ** | ** | ** | ** | ** | ** | ** | ** | ** | ** |
| | 5-14 years | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 |
| | 15-24 years | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 0.5 | 0.4 | 0.4 | 0.5 |
| | 25-34 years | 1.4 | 1.6 | 1.5 | 1.6 | 1.7 | 1.5 | 1.6 | 1.7 | 1.5 | 1.4 |
| | 35-44 years | 4.3 | 4.3 | 4.3 | 4.8 | 4.6 | 4.6 | 4.7 | 4.8 | 4.6 | 4.4 |
| | 45-54 years | 12.9 | 13.1 | 13.6 | 13.7 | 13.9 | 13.4 | 13.4 | 13.1 | 13.1 | 12.6 |
| | 55-64 years | 38.3 | 37.8 | 38.1 | 37.5 | 38.3 | 36.8 | 36.9 | 35.8 | 34.1 | 33.3 |
| | 65-74 years | 91.8 | 90.7 | 91.0 | 90.9 | 90.0 | 86.2 | 85.7 | 80.6 | 76.7 | 74.7 |
| | 75-84 years | 178.0 | 179.5 | 181.1 | 182.4 | 180.7 | 176.6 | 177.0 | 166.2 | 161.9 | 153.2 |
| 85+ years | 317.2 | 319.7 | 328.6 | 337.0 | 335.1 | 328.2 | 338.8 | 310.4 | 302.2 | 298.9 | |

| Counties | Age Group | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | All Years |
|-----------|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-----------|
| All | < 1 year | ** | ** | ** | ** | ** | ** | ** | ** | 0.1 |
| | 1-4 years | ** | ** | ** | ** | ** | ** | ** | ** | 0.0 |
| | 5-14 years | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 |
| | 15-24 years | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 0.5 | 0.4 |
| | 25-34 years | 1.5 | 1.5 | 1.6 | 1.5 | 1.6 | 1.6 | 1.8 | 1.8 | 1.6 |
| | 35-44 years | 4.5 | 4.4 | 4.5 | 4.6 | 4.8 | 4.9 | 4.9 | 5.1 | 4.6 |
| | 45-54 years | 12.8 | 12.5 | 13.4 | 13.0 | 13.5 | 13.9 | 14.4 | 14.6 | 13.4 |
| | 55-64 years | 32.1 | 32.0 | 33.3 | 32.5 | 33.2 | 33.3 | 34.7 | 34.4 | 34.8 |
| | 65-74 years | 69.6 | 67.6 | 72.0 | 69.7 | 68.5 | 69.0 | 70.6 | 69.9 | 77.5 |
| | 75-84 years | 145.8 | 144.1 | 148.8 | 145.8 | 145.7 | 141.8 | 143.0 | 137.9 | 160.1 |
| 85+ years | 282.6 | 285.5 | 289.5 | 285.7 | 279.5 | 268.6 | 267.0 | 263.6 | 298.8 | |

| Counties | Age Group | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 |
|-----------|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Top 30% | < 1 year | ** | ** | ** | ** | ** | ** | ** | ** | ** | ** |
| | 1-4 years | ** | ** | ** | ** | ** | ** | ** | ** | ** | ** |
| | 5-14 years | ** | ** | 0.1 | ** | 0.1 | 0.1 | 0.1 | ** | ** | ** |
| | 15-24 years | 0.4 | 0.3 | 0.2 | 0.3 | 0.4 | 0.2 | 0.3 | 0.4 | 0.3 | 0.3 |
| | 25-34 years | 1.2 | 1.1 | 1.0 | 0.9 | 1.2 | 1.1 | 1.2 | 1.1 | 1.0 | 1.0 |
| | 35-44 years | 3.1 | 2.9 | 2.9 | 3.2 | 3.1 | 3.0 | 3.2 | 3.0 | 3.0 | 2.8 |
| | 45-54 years | 8.7 | 9.5 | 9.5 | 9.1 | 9.4 | 9.4 | 9.0 | 8.6 | 8.5 | 8.7 |
| | 55-64 years | 29.3 | 29.1 | 28.0 | 27.2 | 27.6 | 26.9 | 26.9 | 25.7 | 24.6 | 23.9 |
| | 65-74 years | 76.7 | 75.2 | 75.2 | 74.2 | 71.3 | 68.3 | 70.6 | 65.5 | 61.4 | 60.4 |
| | 75-84 years | 160.7 | 156.9 | 160.0 | 160.1 | 152.6 | 151.7 | 154.2 | 141.7 | 142.1 | 127.4 |
| 85+ years | 286.0 | 283.6 | 286.3 | 291.1 | 290.3 | 286.4 | 297.6 | 274.4 | 258.5 | 258.7 | |

| Counties | Age Group | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | All Years |
|-----------|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-----------|
| Top 30% | < 1 year | ** | ** | ** | ** | ** | ** | ** | ** | 0.1 |
| | 1-4 years | ** | ** | ** | ** | ** | ** | ** | ** | 0.0 |
| | 5-14 years | ** | ** | ** | ** | ** | ** | ** | ** | 0.1 |
| | 15-24 years | 0.3 | 0.3 | 0.3 | 0.3 | 0.2 | 0.3 | 0.3 | 0.4 | 0.3 |
| | 25-34 years | 1.0 | 0.9 | 1.1 | 0.9 | 0.9 | 1.0 | 1.1 | 1.2 | 1.1 |
| | 35-44 years | 2.7 | 2.9 | 2.7 | 2.9 | 2.7 | 2.8 | 3.0 | 3.0 | 2.9 |
| | 45-54 years | 8.4 | 8.6 | 9.1 | 8.1 | 8.5 | 9.1 | 9.3 | 9.0 | 8.9 |
| | 55-64 years | 22.5 | 22.7 | 23.4 | 22.8 | 23.5 | 22.7 | 24.4 | 24.1 | 24.9 |
| | 65-74 years | 54.8 | 53.4 | 55.7 | 52.7 | 51.6 | 52.2 | 55.3 | 54.0 | 61.2 |
| | 75-84 years | 120.8 | 121.1 | 123.9 | 122.9 | 122.8 | 119.8 | 120.3 | 114.2 | 136.5 |
| 85+ years | 247.1 | 241.6 | 254.8 | 248.3 | 244.2 | 238.7 | 236.1 | 237.8 | 260.8 | |

HEART

| Counties | Age Group | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 |
|-----------|-------------|---------|---------|---------|---------|---------|---------|---------|---------|-----------|---------|
| All | < 1 year | 13.8 | 13.0 | 11.9 | 12.7 | 11.0 | 10.5 | 8.9 | 8.6 | 10.2 | 9.6 |
| | 1-4 years | 1.2 | 1.2 | 1.5 | 1.1 | 1.2 | 1.2 | 0.9 | 1.0 | 1.1 | 1.2 |
| | 5-14 years | 0.7 | 0.7 | 0.7 | 0.6 | 0.6 | 0.6 | 0.6 | 0.6 | 0.6 | 0.6 |
| | 15-24 years | 2.8 | 2.6 | 2.5 | 2.5 | 2.7 | 2.5 | 2.6 | 2.5 | 2.5 | 2.5 |
| | 25-34 years | 7.6 | 7.4 | 8.0 | 8.0 | 8.3 | 8.1 | 8.3 | 8.4 | 8.1 | 8.1 |
| | 35-44 years | 30.2 | 29.2 | 29.6 | 30.7 | 30.8 | 29.5 | 29.2 | 28.5 | 27.7 | 26.9 |
| | 45-54 years | 95.7 | 94.2 | 92.4 | 93.9 | 92.4 | 90.2 | 89.7 | 88.0 | 85.2 | 85.2 |
| | 55-64 years | 269.9 | 261.2 | 248.9 | 240.5 | 232.3 | 217.1 | 212.8 | 205.1 | 197.8 | 195.3 |
| | 65-74 years | 701.7 | 665.6 | 632.6 | 612.0 | 579.8 | 535.7 | 512.3 | 483.0 | 454.8 | 441.4 |
| | 75-84 years | 1,849.9 | 1,780.3 | 1,723.0 | 1,673.2 | 1,607.7 | 1,504.1 | 1,458.5 | 1,378.0 | 1,308.6 | 1,271.7 |
| 85+ years | 6,063.0 | 5,926.1 | 5,784.1 | 5,726.3 | 5,570.7 | 5,233.8 | 5,188.3 | 4,877.6 | 4,668.1 | 4,598.4 | |
| Counties | Age Group | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | All Years | |
| All | < 1 year | 9.6 | 8.3 | 7.7 | 8.5 | 7.8 | 8.0 | 7.3 | 7.4 | 9.7 | |
| | 1-4 years | 0.9 | 1.0 | 1.0 | 1.0 | 1.1 | 0.9 | 0.9 | 0.7 | 1.1 | |
| | 5-14 years | 0.5 | 0.5 | 0.5 | 0.4 | 0.4 | 0.5 | 0.5 | 0.5 | 0.6 | |
| | 15-24 years | 2.4 | 2.4 | 2.3 | 2.2 | 2.1 | 2.2 | 2.3 | 2.2 | 2.4 | |
| | 25-34 years | 7.8 | 7.8 | 7.9 | 7.6 | 7.6 | 7.7 | 8.0 | 7.7 | 7.9 | |
| | 35-44 years | 26.7 | 25.8 | 26.2 | 25.9 | 25.6 | 25.6 | 25.6 | 25.9 | 27.8 | |
| | 45-54 years | 82.3 | 81.6 | 80.7 | 79.7 | 80.3 | 80.1 | 79.3 | 79.5 | 85.9 | |
| | 55-64 years | 190.0 | 186.6 | 183.2 | 184.6 | 184.6 | 185.8 | 188.1 | 189.6 | 205.0 | |
| | 65-74 years | 422.8 | 409.2 | 399.0 | 388.3 | 390.3 | 385.2 | 389.5 | 392.5 | 476.0 | |
| | 75-84 years | 1,210.8 | 1,172.0 | 1,134.7 | 1,103.7 | 1,095.1 | 1,070.2 | 1,071.6 | 1,037.1 | 1,349.9 | |
| 85+ years | 4,316.9 | 4,285.2 | 4,111.6 | 4,046.1 | 4,013.9 | 3,920.9 | 3,986.5 | 3,873.4 | 4,684.3 | | |

| Counties | Age Group | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 |
|-----------|-------------|---------|---------|---------|---------|---------|---------|---------|---------|-----------|---------|
| Top 30% | < 1 year | 12.4 | 11.7 | 10.9 | 10.8 | 9.2 | 9.1 | 7.3 | 5.3 | 8.6 | 7.8 |
| | 1-4 years | 0.8 | 1.2 | 1.1 | 0.9 | 1.1 | 1.0 | 0.7 | 0.7 | 0.7 | 1.2 |
| | 5-14 years | 0.7 | 0.5 | 0.6 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.6 | 0.4 |
| | 15-24 years | 2.2 | 2.0 | 1.8 | 1.9 | 2.4 | 1.9 | 2.1 | 2.2 | 2.2 | 2.1 |
| | 25-34 years | 5.8 | 5.4 | 5.9 | 6.0 | 5.7 | 5.7 | 5.9 | 6.1 | 5.8 | 5.5 |
| | 35-44 years | 20.7 | 20.7 | 20.0 | 20.5 | 21.1 | 19.2 | 19.5 | 19.1 | 18.7 | 17.8 |
| | 45-54 years | 69.5 | 66.5 | 65.7 | 66.8 | 64.0 | 62.8 | 61.6 | 61.1 | 59.3 | 58.6 |
| | 55-64 years | 208.1 | 198.4 | 185.0 | 178.0 | 171.2 | 160.1 | 157.2 | 150.1 | 144.2 | 142.7 |
| | 65-74 years | 598.0 | 572.4 | 539.7 | 515.1 | 486.2 | 445.7 | 419.1 | 396.6 | 372.2 | 354.9 |
| | 75-84 years | 1,711.6 | 1,645.6 | 1,583.0 | 1,529.1 | 1,479.9 | 1,370.8 | 1,326.5 | 1,252.8 | 1,193.6 | 1,148.6 |
| 85+ years | 5,922.9 | 5,818.7 | 5,599.8 | 5,553.6 | 5,370.9 | 5,021.6 | 4,967.2 | 4,697.6 | 4,494.3 | 4,414.5 | |
| Counties | Age Group | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | All Years | |
| Top 30% | < 1 year | 7.4 | 7.1 | 7.6 | 7.0 | 5.5 | 6.0 | 7.3 | 5.9 | 8.1 | |
| | 1-4 years | 0.8 | 0.9 | 0.9 | 0.7 | 0.9 | 0.6 | 0.9 | 0.5 | 0.9 | |
| | 5-14 years | 0.4 | 0.4 | 0.5 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 0.5 | |
| | 15-24 years | 2.1 | 2.0 | 1.9 | 1.8 | 1.9 | 1.5 | 2.0 | 2.0 | 2.0 | |
| | 25-34 years | 5.4 | 5.4 | 5.4 | 5.2 | 5.2 | 5.4 | 5.4 | 5.3 | 5.6 | |
| | 35-44 years | 17.7 | 17.1 | 17.1 | 17.2 | 16.4 | 15.8 | 16.2 | 16.5 | 18.5 | |
| | 45-54 years | 56.0 | 55.3 | 54.0 | 53.1 | 52.5 | 52.5 | 52.2 | 51.1 | 58.6 | |
| | 55-64 years | 139.2 | 135.5 | 131.1 | 131.0 | 129.8 | 128.8 | 131.8 | 131.0 | 148.3 | |
| | 65-74 years | 339.5 | 324.1 | 314.3 | 302.6 | 301.9 | 296.9 | 298.7 | 302.7 | 382.9 | |
| | 75-84 years | 1,093.5 | 1,048.1 | 1,018.6 | 979.0 | 962.3 | 944.2 | 934.4 | 900.7 | 1,214.7 | |
| 85+ years | 4,190.4 | 4,183.2 | 4,001.7 | 3,927.9 | 3,896.3 | 3,799.9 | 3,871.2 | 3,750.6 | 4,505.5 | | |

LIVER

| Counties | Age Group | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 |
|-----------|-------------|------|------|------|------|------|------|------|------|------|------|
| All | < 1 year | ** | ** | ** | ** | ** | ** | 0.2 | ** | ** | 0.2 |
| | 1-4 years | ** | ** | ** | ** | ** | ** | ** | ** | ** | ** |
| | 5-14 years | ** | ** | ** | ** | ** | ** | ** | ** | ** | ** |
| | 15-24 years | 0.1 | 0.1 | 0.1 | 0.1 | 0.0 | 0.0 | 0.1 | 0.1 | 0.1 | 0.1 |
| | 25-34 years | 1.0 | 1.0 | 1.0 | 1.0 | 0.9 | 0.8 | 0.8 | 0.8 | 1.0 | 1.1 |
| | 35-44 years | 7.3 | 7.5 | 7.4 | 7.1 | 6.8 | 6.4 | 6.2 | 5.9 | 6.0 | 6.1 |
| | 45-54 years | 17.4 | 17.7 | 18.4 | 18.0 | 18.3 | 18.0 | 17.7 | 17.8 | 18.7 | 18.5 |
| | 55-64 years | 23.7 | 23.8 | 22.9 | 22.8 | 22.9 | 22.4 | 23.3 | 22.6 | 24.2 | 25.0 |
| | 65-74 years | 30.6 | 29.8 | 29.8 | 29.3 | 29.2 | 27.4 | 26.8 | 25.6 | 26.2 | 26.3 |
| | 75-84 years | 31.9 | 31.0 | 30.2 | 31.3 | 29.9 | 28.7 | 28.9 | 28.9 | 28.2 | 28.0 |
| 85+ years | 23.2 | 23.1 | 22.7 | 22.5 | 21.2 | 21.1 | 21.3 | 21.1 | 21.7 | 21.9 | |

| Counties | Age Group | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | All Years |
|-----------|-------------|------|------|------|------|------|------|------|------|-----------|
| All | < 1 year | ** | ** | ** | ** | ** | ** | ** | ** | 0.1 |
| | 1-4 years | ** | ** | ** | ** | ** | ** | ** | ** | 0.0 |
| | 5-14 years | ** | ** | ** | ** | ** | ** | ** | ** | 0.0 |
| | 15-24 years | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 |
| | 25-34 years | 1.1 | 1.2 | 1.2 | 1.4 | 1.6 | 1.7 | 1.9 | 2.1 | 1.2 |
| | 35-44 years | 6.0 | 5.9 | 6.0 | 6.1 | 6.2 | 6.4 | 7.0 | 7.0 | 6.5 |
| | 45-54 years | 18.7 | 19.2 | 19.8 | 20.1 | 20.1 | 19.9 | 20.5 | 19.5 | 18.8 |
| | 55-64 years | 25.9 | 26.8 | 28.2 | 29.1 | 30.4 | 31.9 | 32.5 | 32.4 | 26.7 |
| | 65-74 years | 25.4 | 26.3 | 26.3 | 27.6 | 28.1 | 29.6 | 30.5 | 30.7 | 28.2 |
| | 75-84 years | 27.2 | 27.7 | 29.3 | 29.3 | 29.9 | 30.4 | 31.9 | 31.9 | 29.7 |
| 85+ years | 21.1 | 21.8 | 22.1 | 21.4 | 23.0 | 23.4 | 25.1 | 24.5 | 22.4 | |

| Counties | Age Group | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 |
|-----------|-------------|------|------|------|------|------|------|------|------|------|------|
| Top 30% | < 1 year | ** | ** | ** | ** | ** | ** | ** | ** | ** | ** |
| | 1-4 years | ** | ** | ** | ** | ** | ** | ** | ** | ** | ** |
| | 5-14 years | ** | ** | ** | ** | ** | ** | ** | ** | ** | ** |
| | 15-24 years | ** | ** | ** | ** | ** | ** | ** | ** | ** | ** |
| | 25-34 years | 0.9 | 0.8 | 0.7 | 0.6 | 0.6 | 0.7 | 0.5 | 0.6 | 0.7 | 1.0 |
| | 35-44 years | 5.4 | 5.7 | 5.6 | 5.4 | 5.3 | 4.6 | 4.8 | 4.5 | 4.6 | 4.6 |
| | 45-54 years | 13.1 | 13.6 | 14.7 | 13.0 | 14.3 | 14.0 | 13.4 | 13.2 | 14.7 | 13.9 |
| | 55-64 years | 19.3 | 19.9 | 19.2 | 18.8 | 18.2 | 17.7 | 18.1 | 18.5 | 19.4 | 19.7 |
| | 65-74 years | 30.2 | 28.0 | 28.1 | 27.7 | 27.5 | 24.6 | 24.6 | 22.0 | 22.6 | 22.8 |
| | 75-84 years | 30.8 | 30.4 | 29.2 | 31.3 | 30.7 | 26.2 | 28.4 | 28.7 | 26.0 | 26.0 |
| 85+ years | 21.7 | 22.7 | 24.6 | 20.8 | 20.7 | 20.0 | 18.9 | 18.7 | 20.8 | 22.6 | |

| Counties | Age Group | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | All Years |
|-----------|-------------|------|------|------|------|------|------|------|------|-----------|
| Top 30% | < 1 year | ** | ** | ** | ** | ** | ** | ** | ** | ** |
| | 1-4 years | ** | ** | ** | ** | ** | ** | ** | ** | ** |
| | 5-14 years | ** | ** | ** | ** | ** | ** | ** | ** | ** |
| | 15-24 years | ** | ** | ** | ** | ** | ** | ** | ** | 0.0 |
| | 25-34 years | 0.8 | 1.0 | 1.0 | 1.2 | 1.4 | 1.6 | 1.5 | 1.8 | 1.0 |
| | 35-44 years | 4.5 | 4.7 | 4.6 | 4.8 | 4.6 | 4.7 | 5.1 | 5.2 | 4.9 |
| | 45-54 years | 14.5 | 14.5 | 15.0 | 14.8 | 14.6 | 14.5 | 15.0 | 14.6 | 14.2 |
| | 55-64 years | 21.2 | 21.9 | 21.9 | 23.1 | 23.4 | 24.7 | 24.6 | 23.7 | 21.1 |
| | 65-74 years | 21.6 | 21.6 | 21.7 | 22.7 | 23.7 | 24.1 | 24.3 | 24.2 | 24.3 |
| | 75-84 years | 24.1 | 25.7 | 25.9 | 25.9 | 27.7 | 26.7 | 27.8 | 27.3 | 27.6 |
| 85+ years | 19.0 | 20.8 | 19.5 | 18.4 | 20.8 | 20.5 | 22.8 | 20.9 | 20.7 | |

PULMONARY

| Counties | Age Group | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 |
|-----------|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| All | < 1 year | 0.9 | 0.9 | 1.0 | 1.0 | 0.8 | 0.9 | 0.8 | 0.7 | 1.0 | 0.8 |
| | 1-4 years | 0.4 | 0.3 | 0.3 | 0.4 | 0.4 | 0.3 | 0.4 | 0.3 | 0.4 | 0.3 |
| | 5-14 years | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 |
| | 15-24 years | 0.5 | 0.5 | 0.4 | 0.5 | 0.5 | 0.4 | 0.3 | 0.4 | 0.3 | 0.4 |
| | 25-34 years | 0.8 | 0.7 | 0.7 | 0.8 | 0.7 | 0.6 | 0.7 | 0.6 | 0.7 | 0.6 |
| | 35-44 years | 2.0 | 2.1 | 2.2 | 2.3 | 2.2 | 2.0 | 2.0 | 1.9 | 1.9 | 1.9 |
| | 45-54 years | 8.5 | 8.6 | 8.4 | 8.7 | 8.7 | 8.4 | 9.4 | 9.1 | 9.5 | 9.9 |
| | 55-64 years | 47.5 | 44.2 | 44.5 | 42.2 | 43.1 | 40.1 | 41.6 | 38.8 | 38.6 | 41.1 |
| | 65-74 years | 177.2 | 169.4 | 167.3 | 162.0 | 161.7 | 152.1 | 158.4 | 147.0 | 145.5 | 155.9 |
| | 75-84 years | 397.8 | 386.1 | 379.3 | 385.8 | 382.2 | 366.2 | 385.0 | 362.0 | 367.1 | 395.4 |
| 85+ years | 646.0 | 648.6 | 658.3 | 670.3 | 670.2 | 643.2 | 691.9 | 641.3 | 652.0 | 722.7 | |

| Counties | Age Group | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | All Years |
|-----------|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-----------|
| All | < 1 year | 0.7 | 0.9 | 0.8 | 0.5 | 0.6 | 0.5 | 0.7 | 0.7 | 0.8 |
| | 1-4 years | 0.4 | 0.3 | 0.3 | 0.3 | 0.4 | 0.3 | 0.3 | 0.3 | 0.3 |
| | 5-14 years | 0.3 | 0.3 | 0.3 | 0.3 | 0.4 | 0.3 | 0.4 | 0.3 | 0.3 |
| | 15-24 years | 0.4 | 0.3 | 0.4 | 0.3 | 0.4 | 0.4 | 0.5 | 0.5 | 0.4 |
| | 25-34 years | 0.7 | 0.7 | 0.6 | 0.7 | 0.7 | 0.8 | 0.7 | 0.8 | 0.7 |
| | 35-44 years | 1.8 | 1.7 | 1.8 | 1.8 | 1.9 | 1.9 | 1.7 | 1.7 | 1.9 |
| | 45-54 years | 10.4 | 9.9 | 10.4 | 10.2 | 10.6 | 10.1 | 10.1 | 10.1 | 9.5 |
| | 55-64 years | 40.0 | 39.0 | 39.5 | 39.4 | 40.5 | 41.2 | 42.7 | 43.0 | 41.3 |
| | 65-74 years | 147.5 | 146.3 | 144.3 | 140.0 | 141.2 | 134.9 | 136.6 | 134.1 | 149.6 |
| | 75-84 years | 376.4 | 369.9 | 374.9 | 364.0 | 367.0 | 349.0 | 357.9 | 347.2 | 372.5 |
| 85+ years | 684.9 | 690.7 | 697.9 | 687.8 | 699.3 | 670.5 | 705.1 | 676.9 | 677.4 | |

| Counties | Age Group | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 |
|-----------|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Top 30% | < 1 year | ** | ** | ** | ** | ** | ** | ** | ** | ** | ** |
| | 1-4 years | 0.3 | 0.2 | ** | ** | 0.2 | 0.2 | ** | 0.2 | 0.2 | 0.3 |
| | 5-14 years | 0.3 | 0.2 | 0.1 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 |
| | 15-24 years | 0.4 | 0.4 | 0.3 | 0.3 | 0.3 | 0.4 | 0.2 | 0.3 | 0.2 | 0.4 |
| | 25-34 years | 0.7 | 0.6 | 0.5 | 0.6 | 0.6 | 0.3 | 0.5 | 0.4 | 0.4 | 0.4 |
| | 35-44 years | 1.4 | 1.5 | 1.4 | 1.5 | 1.4 | 1.3 | 1.4 | 1.3 | 1.2 | 1.0 |
| | 45-54 years | 5.9 | 5.8 | 5.2 | 6.1 | 5.4 | 5.4 | 5.4 | 5.6 | 5.8 | 5.9 |
| | 55-64 years | 35.6 | 34.1 | 32.6 | 29.9 | 29.8 | 27.3 | 27.8 | 26.2 | 25.7 | 26.5 |
| | 65-74 years | 156.9 | 148.3 | 144.4 | 134.7 | 135.3 | 126.1 | 125.5 | 115.6 | 111.6 | 115.7 |
| | 75-84 years | 377.9 | 372.0 | 358.2 | 357.2 | 352.0 | 337.5 | 346.6 | 329.6 | 318.7 | 346.0 |
| 85+ years | 652.4 | 656.6 | 659.6 | 654.8 | 658.8 | 630.9 | 659.3 | 612.5 | 607.7 | 667.8 | |

| Counties | Age Group | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | All Years |
|-----------|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-----------|
| Top 30% | < 1 year | ** | ** | ** | ** | ** | ** | ** | ** | 0.5 |
| | 1-4 years | 0.2 | 0.2 | 0.3 | ** | 0.2 | 0.2 | ** | ** | 0.2 |
| | 5-14 years | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.3 | 0.2 | 0.2 |
| | 15-24 years | 0.3 | 0.2 | 0.3 | 0.2 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 |
| | 25-34 years | 0.6 | 0.5 | 0.5 | 0.5 | 0.5 | 0.6 | 0.5 | 0.5 | 0.5 |
| | 35-44 years | 0.9 | 1.0 | 0.9 | 1.1 | 1.0 | 1.1 | 1.0 | 1.0 | 1.2 |
| | 45-54 years | 6.0 | 5.3 | 5.7 | 5.5 | 5.2 | 5.2 | 5.0 | 5.1 | 5.5 |
| | 55-64 years | 25.1 | 24.8 | 24.8 | 23.9 | 24.0 | 24.2 | 24.4 | 24.4 | 26.6 |
| | 65-74 years | 107.1 | 105.7 | 104.6 | 98.2 | 97.7 | 91.7 | 93.6 | 91.5 | 113.5 |
| | 75-84 years | 326.3 | 313.8 | 318.5 | 307.4 | 305.8 | 283.7 | 287.9 | 277.4 | 327.1 |
| 85+ years | 637.8 | 648.7 | 647.8 | 635.0 | 633.9 | 614.8 | 635.5 | 600.7 | 637.7 | |

STROKE

| Counties | Age Group | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 |
|-----------|-------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|-------|
| All | < 1 year | 2.7 | 3.3 | 2.7 | 3.0 | 2.5 | 3.2 | 3.1 | 3.5 | 3.2 | 3.4 |
| | 1-4 years | 0.3 | 0.3 | 0.4 | 0.3 | 0.3 | 0.3 | 0.4 | 0.3 | 0.3 | 0.4 |
| | 5-14 years | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 |
| | 15-24 years | 0.5 | 0.5 | 0.5 | 0.4 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.4 |
| | 25-34 years | 1.4 | 1.5 | 1.5 | 1.4 | 1.5 | 1.4 | 1.4 | 1.3 | 1.3 | 1.3 |
| | 35-44 years | 5.7 | 5.8 | 5.5 | 5.4 | 5.6 | 5.4 | 5.2 | 5.1 | 5.0 | 4.8 |
| | 45-54 years | 15.2 | 16.0 | 15.0 | 15.1 | 15.0 | 14.8 | 15.0 | 14.6 | 14.5 | 13.7 |
| | 55-64 years | 40.6 | 41.0 | 38.3 | 37.1 | 35.5 | 34.0 | 32.7 | 32.9 | 31.7 | 30.6 |
| | 65-74 years | 130.8 | 128.6 | 122.9 | 119.6 | 111.9 | 106.6 | 99.8 | 94.9 | 91.4 | 87.3 |
| | 75-84 years | 469.8 | 461.3 | 443.3 | 430.0 | 409.8 | 385.6 | 358.4 | 333.9 | 320.8 | 313.3 |
| 85+ years | 1,614.8 | 1,589.2 | 1,532.0 | 1,520.1 | 1,446.0 | 1,331.9 | 1,239.7 | 1,131.7 | 1,110.7 | 1,071.0 | |

| Counties | Age Group | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | All Years |
|-----------|-------------|-------|-------|-------|-------|-------|-------|-------|---------|-----------|
| All | < 1 year | 3.7 | 3.3 | 3.4 | 2.6 | 2.7 | 2.4 | 2.2 | 3.1 | 3.0 |
| | 1-4 years | 0.3 | 0.3 | 0.3 | 0.3 | 0.2 | 0.2 | 0.3 | 0.3 | 0.3 |
| | 5-14 years | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 |
| | 15-24 years | 0.4 | 0.4 | 0.4 | 0.4 | 0.3 | 0.4 | 0.4 | 0.3 | 0.4 |
| | 25-34 years | 1.3 | 1.3 | 1.3 | 1.3 | 1.2 | 1.3 | 1.3 | 1.3 | 1.4 |
| | 35-44 years | 4.6 | 4.6 | 4.2 | 4.3 | 4.2 | 4.3 | 4.4 | 4.6 | 5.0 |
| | 45-54 years | 13.7 | 13.1 | 12.8 | 12.8 | 12.4 | 12.3 | 12.3 | 12.5 | 13.9 |
| | 55-64 years | 29.7 | 29.3 | 29.4 | 28.7 | 28.9 | 29.3 | 29.6 | 29.7 | 32.1 |
| | 65-74 years | 82.8 | 81.7 | 78.2 | 75.7 | 74.2 | 74.5 | 75.5 | 76.0 | 92.7 |
| | 75-84 years | 294.9 | 288.3 | 285.4 | 272.2 | 268.9 | 265.7 | 273.0 | 265.5 | 338.9 |
| 85+ years | 992.2 | 993.8 | 943.7 | 931.2 | 906.0 | 929.7 | 975.8 | 972.9 | 1,146.7 | |

| Counties | Age Group | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 |
|-----------|-------------|---------|---------|---------|---------|---------|---------|---------|---------|-------|-------|
| Top 30% | < 1 year | 2.8 | 3.0 | 1.5 | 2.1 | 2.0 | 2.6 | 2.3 | 2.6 | 2.6 | 3.2 |
| | 1-4 years | 0.3 | 0.3 | 0.3 | 0.2 | ** | 0.3 | 0.4 | 0.3 | 0.3 | 0.3 |
| | 5-14 years | 0.1 | 0.2 | 0.2 | 0.2 | 0.1 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 |
| | 15-24 years | 0.4 | 0.5 | 0.4 | 0.5 | 0.5 | 0.4 | 0.3 | 0.5 | 0.4 | 0.5 |
| | 25-34 years | 1.1 | 1.2 | 1.3 | 1.1 | 1.0 | 1.1 | 0.9 | 1.0 | 1.1 | 0.9 |
| | 35-44 years | 3.8 | 3.9 | 3.9 | 4.1 | 4.0 | 3.7 | 3.7 | 3.5 | 3.4 | 3.3 |
| | 45-54 years | 11.5 | 11.8 | 11.3 | 10.9 | 10.7 | 11.1 | 11.0 | 10.5 | 10.3 | 9.5 |
| | 55-64 years | 30.4 | 32.7 | 28.8 | 28.4 | 27.4 | 26.8 | 24.3 | 24.8 | 23.5 | 22.4 |
| | 65-74 years | 117.4 | 111.8 | 110.8 | 105.8 | 95.6 | 92.0 | 86.0 | 79.3 | 76.4 | 71.9 |
| | 75-84 years | 442.9 | 446.5 | 424.6 | 411.1 | 391.3 | 368.2 | 331.2 | 309.6 | 294.3 | 287.4 |
| 85+ years | 1,580.8 | 1,581.4 | 1,520.9 | 1,488.5 | 1,409.1 | 1,307.3 | 1,183.0 | 1,075.8 | 1,067.2 | 999.9 | |

| Counties | Age Group | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | All Years |
|-----------|-------------|-------|-------|-------|-------|-------|-------|-------|---------|-----------|
| Top 30% | < 1 year | 3.3 | 2.4 | 2.8 | 2.1 | 2.3 | 2.3 | 2.0 | 3.1 | 2.5 |
| | 1-4 years | 0.3 | 0.2 | 0.3 | 0.4 | ** | 0.2 | 0.2 | 0.3 | 0.3 |
| | 5-14 years | 0.2 | 0.2 | 0.2 | 0.1 | 0.2 | 0.2 | 0.1 | 0.2 | 0.2 |
| | 15-24 years | 0.4 | 0.4 | 0.4 | 0.4 | 0.3 | 0.3 | 0.3 | 0.3 | 0.4 |
| | 25-34 years | 1.0 | 0.9 | 1.0 | 1.0 | 0.7 | 0.9 | 0.8 | 1.0 | 1.0 |
| | 35-44 years | 3.2 | 3.4 | 3.1 | 3.3 | 2.9 | 3.0 | 3.2 | 3.2 | 3.5 |
| | 45-54 years | 9.5 | 9.3 | 8.7 | 8.8 | 9.0 | 8.0 | 8.7 | 8.3 | 9.9 |
| | 55-64 years | 21.7 | 21.8 | 21.7 | 21.2 | 20.9 | 20.6 | 21.0 | 21.7 | 23.8 |
| | 65-74 years | 67.0 | 66.4 | 62.9 | 61.2 | 60.2 | 58.2 | 59.5 | 60.3 | 76.9 |
| | 75-84 years | 270.2 | 255.2 | 255.8 | 242.7 | 238.7 | 240.9 | 244.6 | 238.8 | 312.4 |
| 85+ years | 940.2 | 947.5 | 899.3 | 884.7 | 875.4 | 881.0 | 932.6 | 953.2 | 1,096.2 | |

SUICIDE

| Counties | Age Group | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 |
|-----------|-------------|------|------|------|------|------|------|------|------|------|------|
| All | < 1 year | ** | ** | ** | ** | ** | ** | ** | ** | ** | ** |
| | 1-4 years | ** | ** | ** | ** | ** | ** | ** | ** | ** | ** |
| | 5-14 years | 0.6 | 0.7 | 0.7 | 0.6 | 0.6 | 0.7 | 0.7 | 0.5 | 0.5 | 0.5 |
| | 15-24 years | 10.1 | 10.2 | 9.9 | 9.8 | 9.6 | 10.3 | 9.9 | 9.8 | 9.6 | 9.9 |
| | 25-34 years | 12.7 | 12.0 | 12.8 | 12.8 | 12.9 | 12.9 | 12.7 | 12.7 | 13.3 | 13.2 |
| | 35-44 years | 14.3 | 14.5 | 14.7 | 15.3 | 15.0 | 15.2 | 15.1 | 15.2 | 15.7 | 15.9 |
| | 45-54 years | 13.9 | 14.4 | 15.1 | 15.8 | 15.9 | 16.6 | 16.5 | 17.2 | 17.7 | 18.6 |
| | 55-64 years | 12.2 | 12.1 | 13.2 | 13.5 | 13.7 | 13.7 | 13.7 | 14.4 | 15.3 | 16.0 |
| | 65-74 years | 13.4 | 12.5 | 13.2 | 13.4 | 12.6 | 12.2 | 12.4 | 12.4 | 12.4 | 13.6 |
| | 75-84 years | 18.1 | 17.6 | 17.4 | 17.7 | 16.4 | 16.3 | 16.8 | 15.8 | 16.2 | 16.1 |
| 85+ years | 19.3 | 19.6 | 17.8 | 18.9 | 17.9 | 17.6 | 18.3 | 17.3 | 17.0 | 16.4 | |

| Counties | Age Group | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | All Years |
|-----------|-------------|------|------|------|------|------|------|------|------|-----------|
| All | < 1 year | ** | ** | ** | ** | ** | ** | ** | ** | ** |
| | 1-4 years | ** | ** | ** | ** | ** | ** | ** | ** | ** |
| | 5-14 years | 0.6 | 0.7 | 0.7 | 0.8 | 1.0 | 1.0 | 1.0 | 1.1 | 0.7 |
| | 15-24 years | 10.0 | 10.5 | 11.0 | 11.1 | 11.1 | 11.6 | 12.5 | 13.2 | 10.6 |
| | 25-34 years | 13.1 | 14.0 | 14.6 | 14.7 | 14.8 | 15.1 | 15.7 | 16.5 | 13.7 |
| | 35-44 years | 16.1 | 16.0 | 16.2 | 16.7 | 16.2 | 16.6 | 17.1 | 17.4 | 15.7 |
| | 45-54 years | 19.2 | 19.6 | 19.8 | 20.0 | 19.7 | 20.2 | 20.3 | 19.7 | 17.9 |
| | 55-64 years | 16.4 | 17.5 | 17.1 | 18.0 | 18.1 | 18.8 | 18.9 | 18.7 | 16.0 |
| | 65-74 years | 13.7 | 13.7 | 14.1 | 14.0 | 15.0 | 15.6 | 15.2 | 15.4 | 13.8 |
| | 75-84 years | 15.8 | 15.7 | 16.5 | 16.8 | 17.1 | 17.5 | 17.9 | 18.2 | 16.9 |
| 85+ years | 16.4 | 17.6 | 16.9 | 17.8 | 18.6 | 19.3 | 19.4 | 19.0 | 18.1 | |

| Counties | Age Group | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 |
|-----------|-------------|------|------|------|------|------|------|------|------|------|------|
| Top 30% | < 1 year | ** | ** | ** | ** | ** | ** | ** | ** | ** | ** |
| | 1-4 years | ** | ** | ** | ** | ** | ** | ** | ** | ** | ** |
| | 5-14 years | 0.5 | 0.7 | 0.6 | 0.6 | 0.4 | 0.6 | 0.6 | 0.5 | 0.3 | 0.5 |
| | 15-24 years | 8.7 | 9.1 | 9.3 | 8.5 | 8.8 | 9.0 | 8.7 | 9.1 | 8.6 | 8.9 |
| | 25-34 years | 10.9 | 9.8 | 10.5 | 10.6 | 10.7 | 10.6 | 10.6 | 10.3 | 11.2 | 10.8 |
| | 35-44 years | 12.1 | 11.5 | 11.7 | 12.6 | 12.3 | 12.6 | 12.3 | 12.0 | 13.2 | 13.1 |
| | 45-54 years | 12.2 | 12.8 | 12.8 | 13.2 | 14.0 | 14.2 | 14.2 | 14.7 | 15.8 | 16.4 |
| | 55-64 years | 11.0 | 10.7 | 10.9 | 12.5 | 12.6 | 12.5 | 11.8 | 12.4 | 14.4 | 14.8 |
| | 65-74 years | 11.9 | 10.5 | 11.3 | 12.0 | 11.5 | 10.9 | 10.1 | 10.4 | 10.0 | 11.7 |
| | 75-84 years | 16.7 | 16.1 | 13.7 | 14.7 | 15.4 | 14.4 | 15.2 | 13.9 | 14.4 | 14.6 |
| 85+ years | 17.0 | 17.3 | 15.9 | 18.8 | 15.8 | 18.2 | 15.4 | 17.9 | 15.1 | 14.1 | |

| Counties | Age Group | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | All Years |
|-----------|-------------|------|------|------|------|------|------|------|------|-----------|
| Top 30% | < 1 year | ** | ** | ** | ** | ** | ** | ** | ** | ** |
| | 1-4 years | ** | ** | ** | ** | ** | ** | ** | ** | ** |
| | 5-14 years | 0.5 | 0.7 | 0.6 | 0.6 | 0.8 | 0.8 | 0.9 | 0.9 | 0.6 |
| | 15-24 years | 9.2 | 10.5 | 10.4 | 10.7 | 10.5 | 10.6 | 11.7 | 12.5 | 9.8 |
| | 25-34 years | 10.9 | 11.6 | 11.9 | 12.8 | 12.7 | 12.8 | 13.3 | 14.5 | 11.5 |
| | 35-44 years | 12.9 | 13.1 | 13.4 | 14.4 | 13.3 | 13.7 | 13.8 | 13.5 | 12.8 |
| | 45-54 years | 17.0 | 17.7 | 17.8 | 17.4 | 16.9 | 18.1 | 17.7 | 16.8 | 15.7 |
| | 55-64 years | 15.1 | 15.9 | 16.5 | 16.6 | 16.6 | 17.3 | 17.0 | 16.8 | 14.6 |
| | 65-74 years | 12.0 | 12.6 | 12.4 | 11.9 | 13.0 | 14.1 | 13.2 | 13.1 | 12.0 |
| | 75-84 years | 13.4 | 14.4 | 15.3 | 15.1 | 14.8 | 16.8 | 15.3 | 15.5 | 15.0 |
| 85+ years | 16.0 | 16.0 | 14.9 | 16.6 | 17.5 | 17.6 | 16.6 | 17.4 | 16.5 | |

OPIOIDS

| Counties | Age Group | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 |
|-----------|-------------|------|------|------|------|------|------|------|------|------|------|
| All | < 1 year | ** | ** | ** | ** | ** | ** | ** | ** | ** | ** |
| | 1-4 years | ** | ** | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.2 | 0.2 |
| | 5-14 years | ** | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 |
| | 15-24 years | 1.6 | 1.9 | 2.3 | 2.9 | 3.4 | 3.8 | 4.0 | 4.9 | 5.0 | 5.3 |
| | 25-34 years | 4.1 | 4.1 | 4.4 | 5.6 | 6.2 | 6.6 | 7.4 | 9.0 | 9.6 | 10.0 |
| | 35-44 years | 7.2 | 7.3 | 7.8 | 9.5 | 9.6 | 9.7 | 9.6 | 10.8 | 11.0 | 11.2 |
| | 45-54 years | 5.4 | 5.8 | 6.6 | 8.4 | 9.2 | 9.6 | 10.7 | 12.2 | 12.5 | 13.2 |
| | 55-64 years | 1.5 | 1.6 | 2.0 | 2.4 | 2.9 | 3.4 | 3.9 | 4.8 | 5.6 | 6.2 |
| | 65-74 years | 0.5 | 0.5 | 0.5 | 0.8 | 0.9 | 1.0 | 1.2 | 1.2 | 1.4 | 1.7 |
| | 75-84 years | 0.4 | 0.3 | 0.4 | 0.5 | 0.5 | 0.6 | 0.7 | 0.8 | 0.7 | 0.7 |
| 85+ years | 0.3 | 0.4 | 0.5 | 0.8 | 0.7 | 0.6 | 1.0 | 0.8 | 1.1 | 0.8 | |

| Counties | Age Group | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | All Years |
|-----------|-------------|------|------|------|------|------|------|------|------|-----------|
| All | < 1 year | ** | 0.3 | 0.3 | 0.4 | ** | ** | 0.3 | 0.3 | 0.2 |
| | 1-4 years | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.3 | 0.2 | 0.2 |
| | 5-14 years | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 |
| | 15-24 years | 5.1 | 5.5 | 5.8 | 5.3 | 5.7 | 6.2 | 7.0 | 9.3 | 4.8 |
| | 25-34 years | 10.7 | 11.4 | 12.6 | 12.8 | 13.8 | 16.2 | 19.4 | 25.9 | 10.8 |
| | 35-44 years | 11.3 | 11.6 | 12.4 | 12.6 | 13.3 | 15.6 | 18.4 | 24.1 | 11.7 |
| | 45-54 years | 13.4 | 13.2 | 14.0 | 14.2 | 14.8 | 16.1 | 17.6 | 21.2 | 12.3 |
| | 55-64 years | 7.0 | 7.4 | 7.8 | 8.3 | 9.9 | 11.1 | 12.4 | 15.2 | 6.9 |
| | 65-74 years | 1.9 | 1.7 | 2.1 | 2.3 | 2.7 | 3.3 | 3.5 | 4.2 | 1.9 |
| | 75-84 years | 0.9 | 0.8 | 0.8 | 1.0 | 0.9 | 1.0 | 1.2 | 1.2 | 0.7 |
| 85+ years | 0.8 | 1.3 | 0.9 | 0.9 | 1.0 | 1.1 | 0.9 | 0.9 | 0.9 | |

| Counties | Age Group | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 |
|-----------|-------------|------|------|------|------|------|------|------|------|------|------|
| Top 30% | < 1 year | ** | ** | ** | ** | ** | ** | ** | ** | ** | ** |
| | 1-4 years | ** | ** | ** | ** | ** | ** | ** | ** | ** | ** |
| | 5-14 years | ** | ** | ** | ** | ** | ** | ** | ** | ** | 0.1 |
| | 15-24 years | 2.4 | 2.7 | 2.6 | 3.3 | 3.8 | 3.9 | 4.2 | 5.2 | 5.5 | 5.9 |
| | 25-34 years | 4.8 | 4.5 | 4.1 | 5.7 | 6.0 | 5.9 | 6.7 | 7.7 | 8.7 | 9.5 |
| | 35-44 years | 8.0 | 7.0 | 6.8 | 8.7 | 8.4 | 7.9 | 8.1 | 8.7 | 9.6 | 9.6 |
| | 45-54 years | 6.0 | 5.5 | 5.1 | 7.7 | 8.7 | 8.3 | 9.3 | 11.0 | 11.0 | 11.8 |
| | 55-64 years | 1.7 | 1.6 | 1.8 | 2.8 | 3.0 | 3.4 | 4.1 | 4.5 | 5.7 | 6.6 |
| | 65-74 years | 0.7 | 0.6 | 0.5 | 1.1 | 1.3 | 1.3 | 1.4 | 1.6 | 1.4 | 2.0 |
| | 75-84 years | 0.5 | 0.4 | 0.5 | 0.6 | 0.8 | 0.7 | 0.7 | 1.0 | 1.0 | 1.1 |
| 85+ years | ** | ** | ** | ** | ** | ** | 1.4 | 0.9 | 1.6 | 0.9 | |

| Counties | Age Group | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | All Years |
|-----------|-------------|------|------|------|------|------|------|------|------|-----------|
| Top 30% | < 1 year | ** | ** | ** | ** | ** | ** | ** | ** | 0.2 |
| | 1-4 years | ** | ** | ** | ** | ** | ** | ** | ** | 0.1 |
| | 5-14 years | ** | 0.1 | 0.1 | ** | ** | ** | ** | ** | 0.0 |
| | 15-24 years | 5.5 | 5.9 | 6.9 | 6.8 | 7.3 | 7.9 | 8.7 | 11.0 | 5.7 |
| | 25-34 years | 10.2 | 10.4 | 12.1 | 13.0 | 14.8 | 17.8 | 20.6 | 27.6 | 10.8 |
| | 35-44 years | 9.6 | 9.5 | 10.6 | 10.1 | 11.9 | 14.0 | 16.4 | 21.2 | 10.2 |
| | 45-54 years | 11.3 | 11.3 | 12.3 | 12.3 | 12.8 | 14.1 | 14.6 | 18.3 | 10.8 |
| | 55-64 years | 7.0 | 6.8 | 7.8 | 8.1 | 9.7 | 10.0 | 11.1 | 13.8 | 6.7 |
| | 65-74 years | 2.1 | 2.0 | 1.8 | 2.5 | 2.7 | 3.3 | 3.5 | 4.0 | 2.1 |
| | 75-84 years | 1.1 | 1.1 | 1.0 | 1.2 | 1.1 | 1.5 | 1.5 | 1.4 | 1.0 |
| 85+ years | 1.0 | 2.0 | 1.0 | 0.9 | 1.3 | 1.4 | 1.3 | 1.3 | 1.1 | |

About The Society of Actuaries

The Society of Actuaries (SOA), formed in 1949, is one of the largest actuarial professional organizations in the world dedicated to serving 24,000 actuarial members and the public in the United States, Canada and worldwide. In line with the SOA Vision Statement, actuaries act as business leaders who develop and use mathematical models to measure and manage risk in support of financial security for individuals, organizations and the public.

The SOA supports actuaries and advances knowledge through research and education. As part of its work, the SOA seeks to inform public policy development and public understanding through research. The SOA aspires to be a trusted source of objective, data-driven research and analysis with an actuarial perspective for its members, industry, policymakers and the public. This distinct perspective comes from the SOA as an association of actuaries, who have a rigorous formal education and direct experience as practitioners as they perform applied research. The SOA also welcomes the opportunity to partner with other organizations in our work where appropriate.

The SOA has a history of working with public policymakers and regulators in developing historical experience studies and projection techniques as well as individual reports on health care, retirement, and other topics. The SOA's research is intended to aid the work of policymakers and regulators and follow certain core principles:

Objectivity: The SOA's research informs and provides analysis that can be relied upon by other individuals or organizations involved in public policy discussions. The SOA does not take advocacy positions or lobby specific policy proposals.

Quality: The SOA aspires to the highest ethical and quality standards in all of its research and analysis. Our research process is overseen by experienced actuaries and non-actuaries from a range of industry sectors and organizations. A rigorous peer-review process ensures the quality and integrity of our work.

Relevance: The SOA provides timely research on public policy issues. Our research advances actuarial knowledge while providing critical insights on key policy issues, and thereby provides value to stakeholders and decision makers.

Quantification: The SOA leverages the diverse skill sets of actuaries to provide research and findings that are driven by the best available data and methods. Actuaries use detailed modeling to analyze financial risk and provide distinct insight and quantification. Further, actuarial standards require transparency and the disclosure of the assumptions and analytic approach underlying the work.

Society of Actuaries
475 N. Martingale Road, Suite 600
Schaumburg, Illinois 60173
www.SOA.org