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# Mortality

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As Oregon's population both ages and increases, the annual number of deaths generally trends upward. In 2016, the number of deaths increased to 35,799, up from 35,709 the previous year.\* However, the crude death rate decreased from 889.6 per 100,000 population in 2015 to 878.2 in 2016 (see Figure 6-1 and Table 6-3). (Unless otherwise specified, references to death rates mean crude death rates; see the appendix for further discussion of crude and age-adjusted rates.) The age-adjusted death rate also decreased from 718.6 to 702.6 (see Table 6-47t).

In 2015, the most recent year for which final U.S. data are available (1), Oregon's age-adjusted death rate was 1.5% lower than the U.S. rate and ranked 31st (from highest to lowest) among the states and the District of Columbia† (see Table 6-55). During the past 25 years, the greatest difference between the United States and Oregon rates occurred in 1991 when Oregon's rate was 6.8% lower than the U.S. rate (859.6 versus 921.9) and 36th among the states and the District of Columbia.

Oregon's age-adjusted, cause-specific death rates ranked among the 10 highest rates in the states and the District of Columbia for five causes: viral hepatitis (third highest), alcohol-induced deaths (fourth), amyotrophic lateral sclerosis (fourth), hypertension (seventh) and Parkinson's disease (eighth). At the same time, Oregon was among the 10 states with the lowest rates for six causes: septicemia (second lowest), influenza and pneumonia (third), heart disease (fourth), atherosclerosis (fifth), nephritis and nephrosis (sixth), and HIV/AIDS (ninth).

## Life expectancy at birth

The longest living Oregonian ever recorded was a Siberian-born man who died in 1999 at 117 years of age. Most of the state's residents have much shorter lives, but the

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\* State vital records offices within the United States maintain an inter-jurisdictional exchange agreement to provide a copy of the death record, or electronic equivalent, to the vital records office of the decedent's residence state if the person dies outside his or her home state. This exchange is highly dependent on the capacity of the state in which the death occurred to provide those files to Oregon.

† Excludes states with unreliable data for each cause.

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**The age-adjusted death rate decreased from 718.6 to 702.6.**

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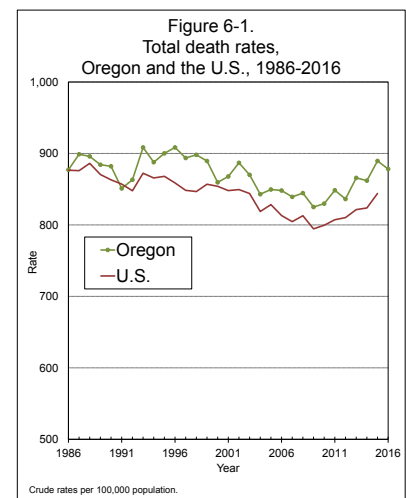
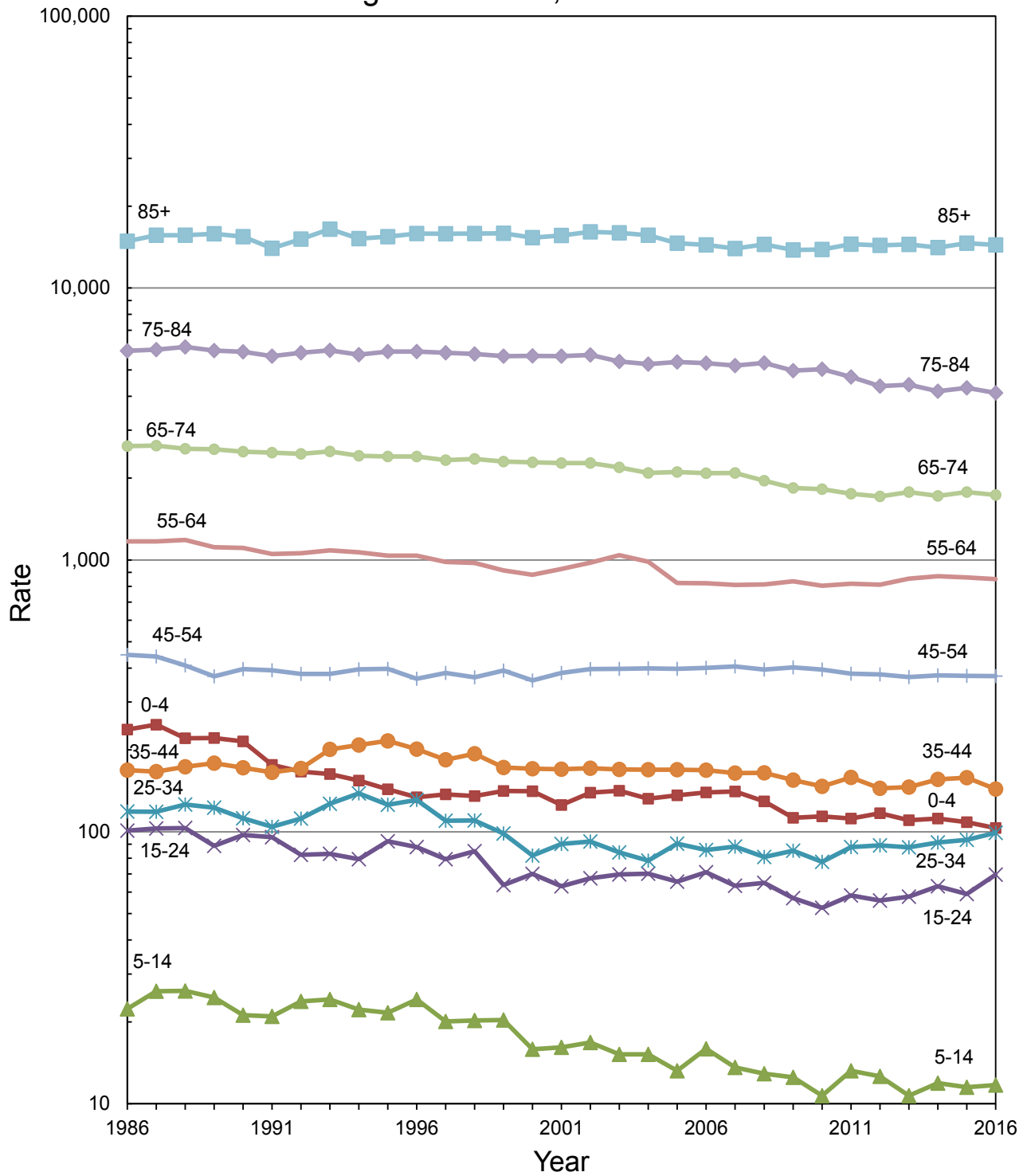


Figure 6-2.  
Age-specific death rates,  
Oregon residents, 1986-2016



Rates per 100,000 population.  
Note: A logarithmic scale is used for the vertical axis.

<b>Table A - Life expectancy, Oregon and the United States, 1960-2016</b>						
<b>Year</b>	<b>Oregon</b>			<b>United States</b>		
	<b>Total</b>	<b>Male</b>	<b>Female</b>	<b>Total</b>	<b>Male</b>	<b>Female</b>
<b>1960</b>	70.9	N.A.	N.A.	69.7	66.6	73.1
<b>1970</b>	72.1	68.4	76.2	70.8	67.1	74.7
<b>1980</b>	75.0	71.4	78.8	73.7	70.0	77.4
<b>1990</b>	76.7	73.3	80.1	75.4	71.8	78.8
<b>2000</b>	78.0	75.6	80.4	76.8	74.1	79.3
<b>2010</b>	79.5	77.4	81.6	78.7	76.2	81.0
<b>2015</b>	79.6	77.3	81.8	N/A	N/A	N/A
<b>2016</b>	79.8	77.4	82.2	N/A	N/A	N/A

2014 is the most recent year for which final U.S. data are available. U.S. data source: National Center for Health Statistics. Deaths: Final Data for 2014. National Vital Statistics Reports, Vol 65 no 4. ([www.cdc.gov/nchs/data/nvsr/nvsr65/nvsr65\\_04.pdf](http://www.cdc.gov/nchs/data/nvsr/nvsr65/nvsr65_04.pdf))

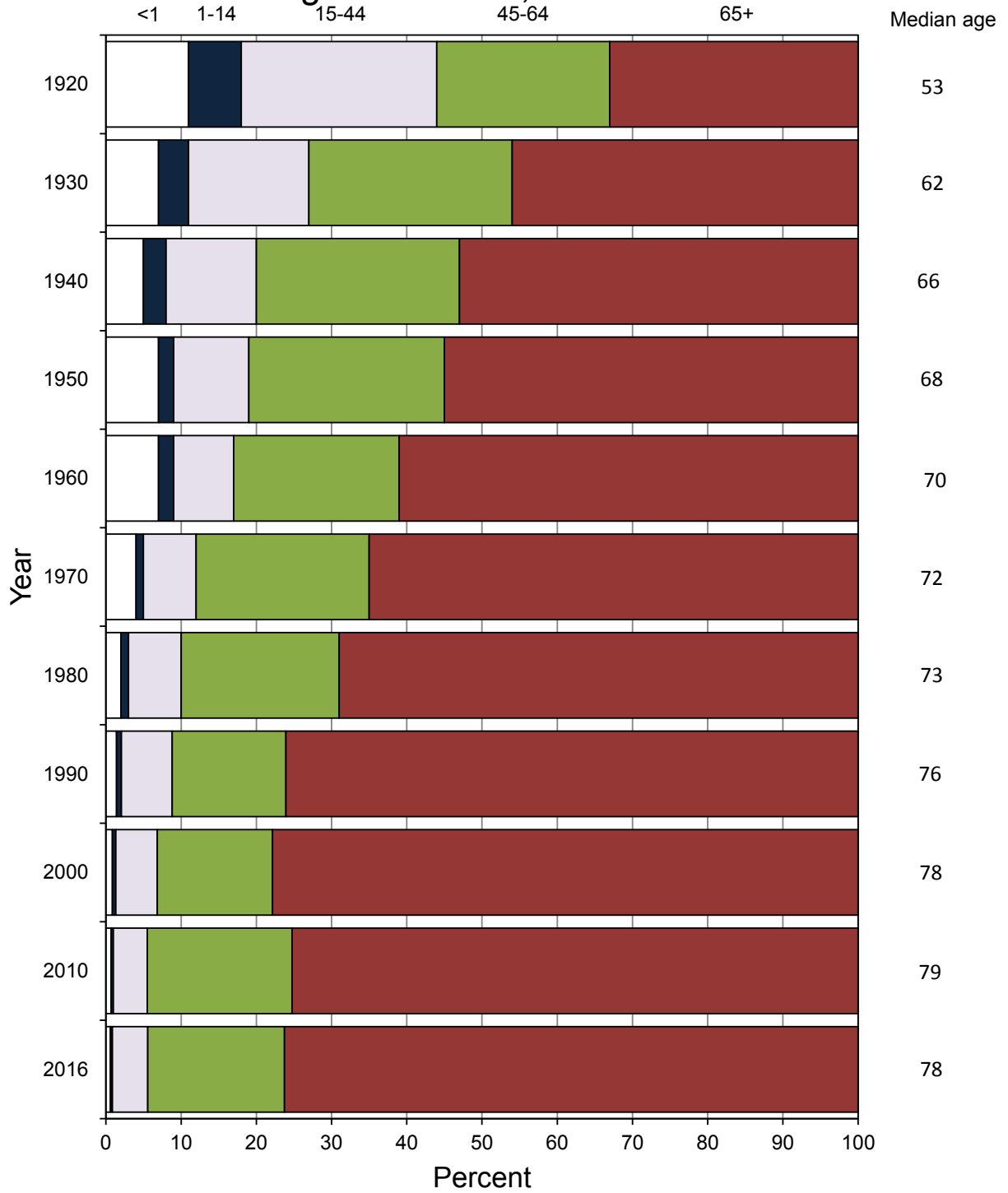
long-term trend is for increasing life expectancy. Since 1960, the life expectancy of Oregonians at the time of their birth has increased from 70.9 years to 79.8 in 2016 (see Table A).

Life expectancy is a hypothetical construct representing the average number of years a group of infants would live if they were to experience, throughout their lives, the age-specific death rates present at the time of their birth. Such factors as the environment, the economy, health behaviors and changing medical technology affect life expectancy.

The life expectancy of Oregonians increased slightly from 79.6 years in 2015 to 79.8 in 2016. Life expectancy increased slightly among both females and males between 2015 and 2016. The female life expectancy increased from 81.8 to 82.2, and the male life expectancy increased from 77.3 to 77.4.

Life expectancy varied by 6.9 years among Oregon's counties, using a five-year average from 2012 through 2016 (see Table 6-57). Six counties had a life expectancy significantly longer than the state average in 2012–2016 (79.7): Benton (83.0), Grant (82.6), Washington (82.2), Hood River (81.3), Clackamas (80.8) and Deschutes (80.5). The 17 counties with significantly shorter life expectancy were Curry (76.1), Coos and Josephine (77.0), Harney and Klamath (77.2), Jefferson (77.3), Douglas (77.7), Wasco (78.0), Clatsop and Lincoln (78.1), Linn (78.2), Crook and Tillamook (78.6), Malheur (78.8), Jackson (78.9), Umatilla (79.1), and Multnomah (79.2).

Figure 6-3.  
 Proportion of deaths by selected age groups,  
 Oregon residents, 1920-2016



## Demographic characteristics

### Sex

Between 2015 and 2016, the mortality rate for males increased and the rate for females decreased, resulting in an overall decrease in Oregon's crude death rate (see Table 6-1). The male rate increased 0.6% (908.9 per 100,000 population in 2015 compared to 914.2 in 2016), and the female rate decreased 3.2% (870.9 in 2015 compared to 843.1 in 2016).

During 2016, the female crude death rate was lower than the male rate. While this was typical during the 20th century, the female rate has occasionally been higher than the male rate in recent years (see Table 6-1). Increases in female crude death rates vis-à-vis male rates seen over the past decade are largely due to the changing age distribution within these two groups, rather than a decline in the health status of females. There are simply more elderly women than men, and the elderly — even under the best of circumstances — are more likely to die than their younger counterparts are. Despite recent fluctuations in crude death rates, the age-adjusted death rates for males have consistently been higher than for females. In 2014–2016, the male age-adjusted death rate was 38.4% higher than the female rate — 834.5 compared to 602.9 (see Table 6-48m and Table 6-48f). (See Appendix B for further information about age-specific and age-adjusted death rates.)

### Age

Compared with Oregon rates in 2010, age-specific death rates have increased for four of the six age groups shown in Table 6-1. The exceptions are Oregonians 0–4 years of age, where the rate decreased by 9.5%, and those aged 65 and older, where the rate decreased 13.9%. Those aged 15–24 years saw the greatest increase (32.4%). (See Figure 6-2 and Figure 6-3.)

Table 6-1 shows the disparity in age-specific death rates by sex. Male rates are higher than female rates in all six age categories. The age-specific death rate for males 15–24 years old was more than twice as high as the rate for women in the same age group — 96.4 per 100,000 versus 41.7 per 100,000. The median age at death for both sexes combined was 78 years, the same as in 2015 (see Table 6-15). The

<b>Table B - Age-adjusted death rates by county of residence, 2016</b>	
<b>County</b>	<b>Rate</b>
<b>Oregon total</b>	<b>702.6</b>
Baker	672.3
Benton**	542.5
Clackamas**	657.8
Clatsop	759.1
Columbia	752.7
Coos*	837.5
Crook	739.0
Curry*	836.9
Deschutes**	667.2
Douglas*	766.7
Gilliam	648.5
Grant	627.4
Harney	865.7
Hood River**	590.5
Jackson	721.9
Jefferson	755.5
Josephine*	836.4
Klamath*	844.4
Lake*	869.0
Lane	702.5
Lincoln*	767.9
Linn*	823.9
Malheur	733.5
Marion*	743.0
Morrow	603.0
Multnomah	721.9
Polk	683.8
Sherman	689.1
Tillamook*	789.4
Umatilla*	783.8
Union	676.0
Wallowa	627.7
Wasco	785.7
Washington**	583.4
Wheeler	519.3
Yamhill	711.6

Rates per 100,000 population.  
 \* Significantly higher than the state rate.  
 \*\* Significantly lower than the state rate.

median age at death for males was 74 years, unchanged from the previous year. Females experienced a slight decrease to 81 years (from 82 in 2015).

### County of residence

In 2016, the state age-adjusted death rate was 702.6 per 100,000 population. Eleven counties had significantly higher age-adjusted rates, while five counties had significantly lower rates (see Table B). Simply residing in a particular county will not necessarily increase or decrease one's chance of dying in a given year. Mortality is a consequence of many factors including availability and quality of medical care, environmental exposure, smoking, other personal health behaviors, socioeconomic status, and heredity.

Elevated age-adjusted death rates within a county do not necessarily indicate that residing there will reduce longevity. For example, persons with chronic diseases may move in disproportionate numbers to an area with a lower cost of living or to an area with specialized medical facilities.

### Hispanic ethnicity and race

Beginning in 2006, staff at the Oregon Center for Health Statistics changed the methodology for collecting race and Hispanic ethnicity information. Previously, the informant on the death record could report only one race for the decedent. The informant — usually an immediate family member — can now report multiple race categories for the decedent.

There are four Hispanic ethnicity choices based on the country or countries of origin: Mexican, Cuban, Puerto Rican and Other Hispanic. A person of Hispanic ethnicity may belong to any race category. There are six major race categories: White, Black or African American, American Indian/Alaska Native, Asian, Hawaiian or Pacific Islander, and Other Specified.

The data collected for the Asian categories allow for differentiation by Asian Indian, Chinese, Filipino, Japanese, Korean, Vietnamese and Other Asian. Among Pacific Islanders, the data collected allow for differentiation among Hawaiian, Guamanian, Samoan and Other Pacific Islander. However, the counts in these more specific race categories are too small for reliable statistical reporting.

Most (92.0%) decedents are reported as non-Hispanic White only. Multiple race categories were marked on the death records of 268 decedents in 2016 (see Table 6-9 and Table C). Among decedents recorded as having multiple race categories, 92.5% were identified as White and 69.8% as American Indian, each in combination with other categories. Allowing multiple race selections raises the mortality counts for all race categories. For instance, when looking at single-mention race categories, the count of American Indian decedents in 2016 was 337 (see Table 6-9). This count increased by 55.5% to 524 when also including multiple race decedents identifying in part as American Indian, in combination with other races (see Table 6-10). Other databases such as birth, youth surveys and adult telephone surveys are now also collecting multiple race categories. The younger participants in those databases more frequently report multiple races.

Race group*	Number	Percent
Total multiple race	268	100.0
White	248	92.5
African American	32	11.9
American Indian	187	69.8
Asian <sup>1</sup>	55	20.5
Hawaiian & Pacific Islander <sup>2</sup>	24	9.0

\* Decedents of Hispanic ethnicity may belong to any race. Columns will not add to total due to multiple race selections.

<sup>1</sup> Includes Asian Indian, Chinese, Filipino, Japanese, Korean, Vietnamese and other Asian.

<sup>2</sup> Includes Native Hawaiian, Guamanian, Samoan and other Pacific Islander.

## Leading causes of death\*†

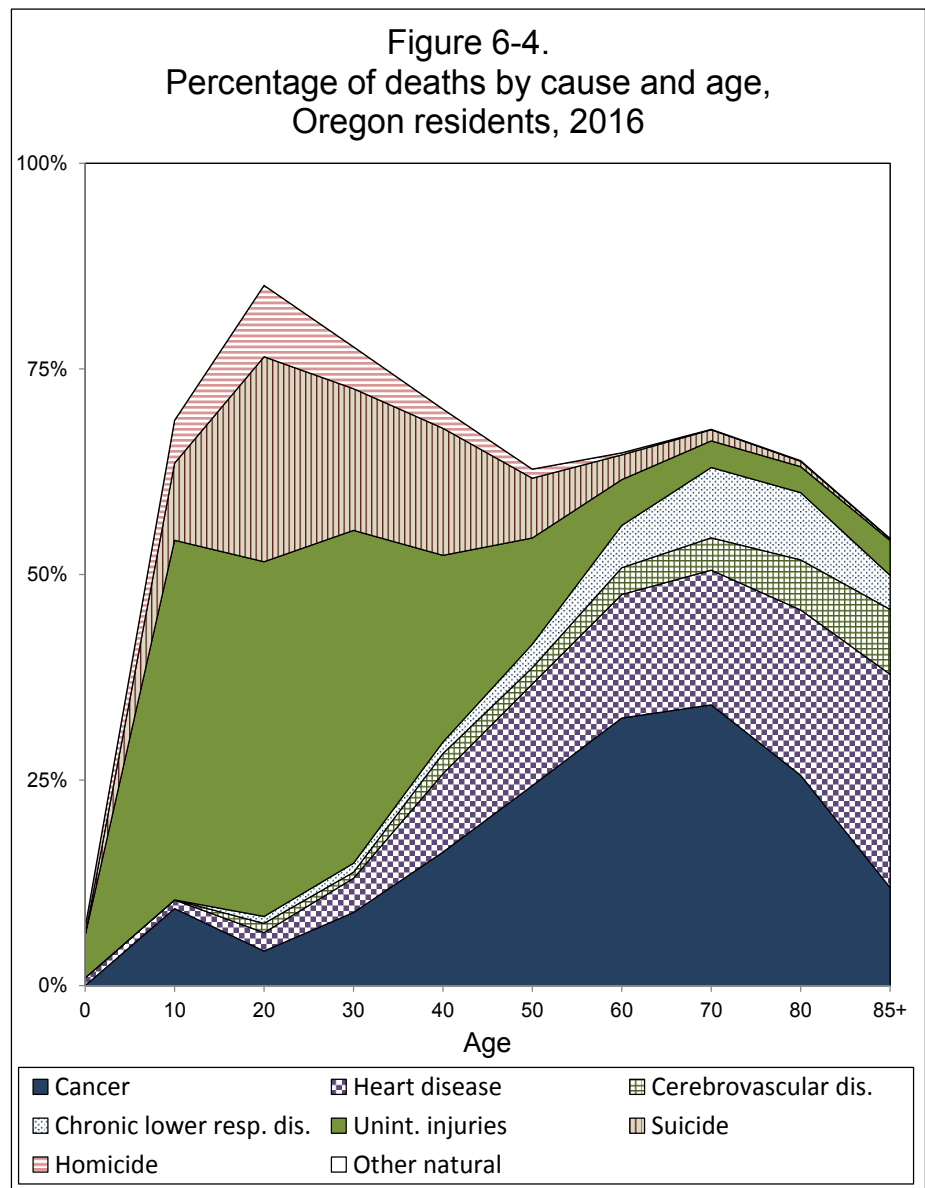
### Overview

During the 20th century, with the notable exception of the great influenza pandemic of 1918–1919, heart disease was the leading cause of death among Oregonians. However, cancer has emerged in the 21st century as the leading cause of death. In 2001, for the first time, more Oregonians died from cancer, also referred to as malignant neoplasms, than from diseases of the heart. During 2016, 8,076 Oregonians died from cancer while 6,972 died from heart disease.

The first and second leading causes of death during 2016 were malignant neoplasms and heart disease; combined, they accounted for 42.0% of all deaths. Malignant neoplasms resulted in the loss of more than twice as many years of potential life as heart disease. This is a reflection of

\* Statewide records of cause of death were first collected in 1908.

† The International Classification of Diseases is periodically revised. The 10th revision was implemented in 1999. It had considerably greater detail for some diseases and less for others; shifts of inclusion in terms and titles from one category, section or chapter to another; regrouping of diseases; new titles in sections; and modification of the coding rules. As a result, serious breaks in the comparability occurred for a number of causes of death. Readers wishing to compare numbers of deaths or rates for 1999 and subsequent years to prior years should use the final comparability ratios described in Appendix B. Table 6-3 data apply final comparability ratios.

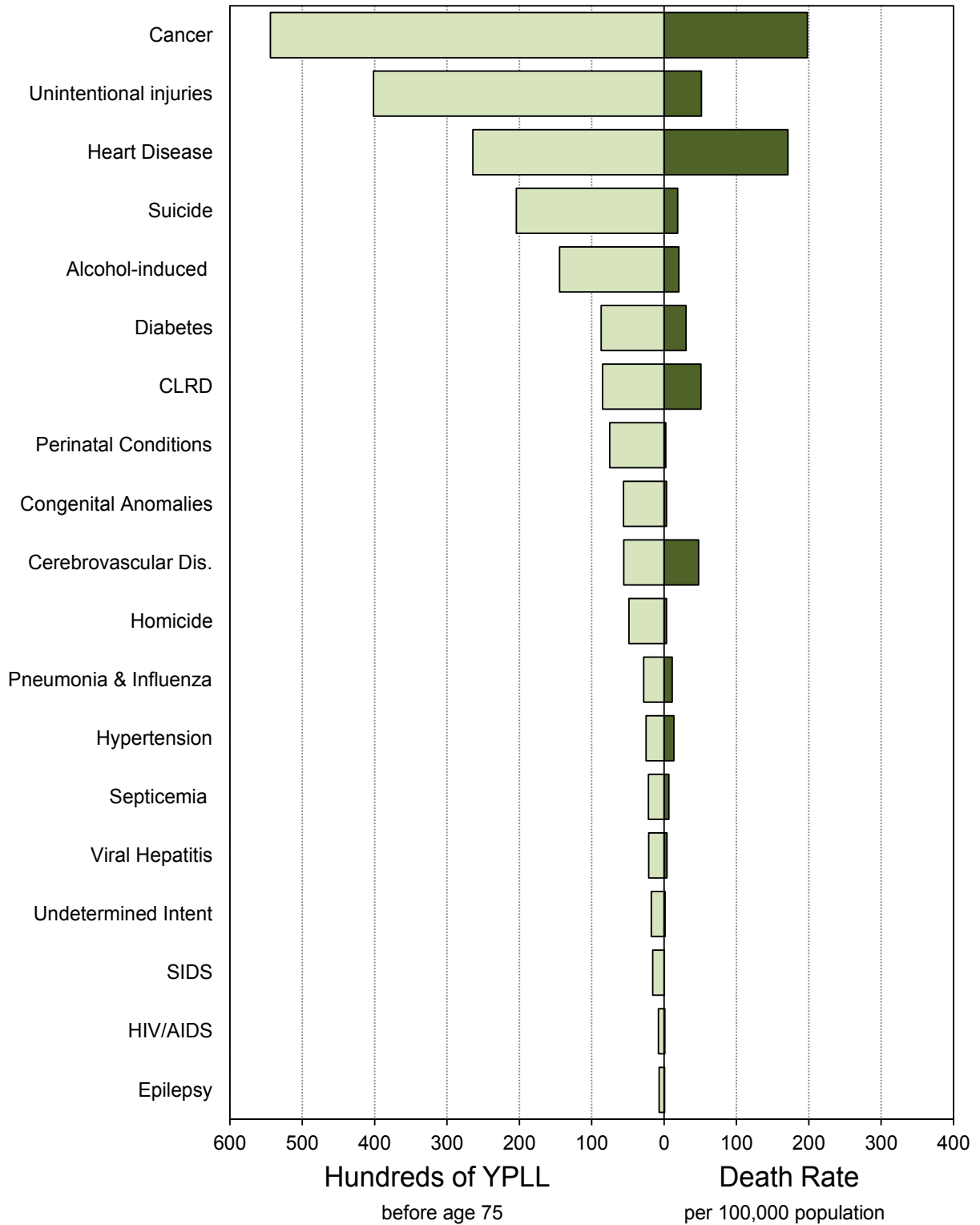


the younger ages of cancer's victims (see Table 6-14). The apparent increasing risk of cancer vis-à-vis heart disease during the 21st century is not the result of an increasing cancer death rate, but rather a declining heart disease death rate. In fact, the malignant neoplasm death rate has trended downward in the past 25 years, but the heart disease death rate has fallen more rapidly.

Causes of death varied by age group. Among infants, perinatal conditions were most common. Unintentional injuries ranked first for Oregonians aged 1 through 44. From age 45 through 84, cancer was the leading cause of death. Among residents 85 or older, heart disease ranked first (see Table 6-4 and Figure 6-4).



Figure 6-5.  
 Leading causes of years of potential life lost and corresponding death rates, Oregon residents, 2016



## Years of potential life lost

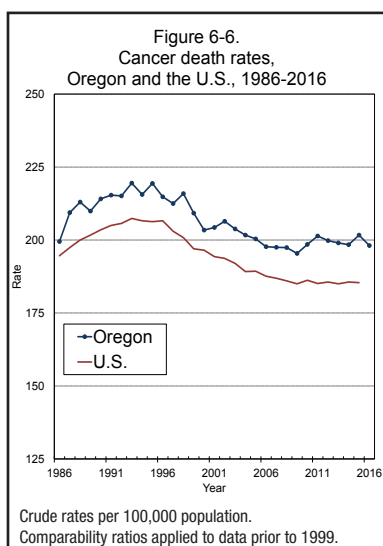
Mortality rates alone do not show the full impact upon society of certain causes of death. The deaths of young people are a greater cost to society in terms of years of potential life lost (YPLL) than are the deaths of older people. The YPLL yardstick quantifies premature mortality occurring in younger age groups by measuring the number of years between age at death and a set standard age. With the standard set at 75 years, a death at age 21 results in 54 years lost. The numbers of YPLL for all decedents are then totaled. Figure 6-5 shows the disparity between death rates and the years of potential life lost. In all references to YPLL in this report, the standard is 75 years unless otherwise noted. Use of YPLL measures in Figure 6-5 highlights the impact of death due to unintentional injuries.

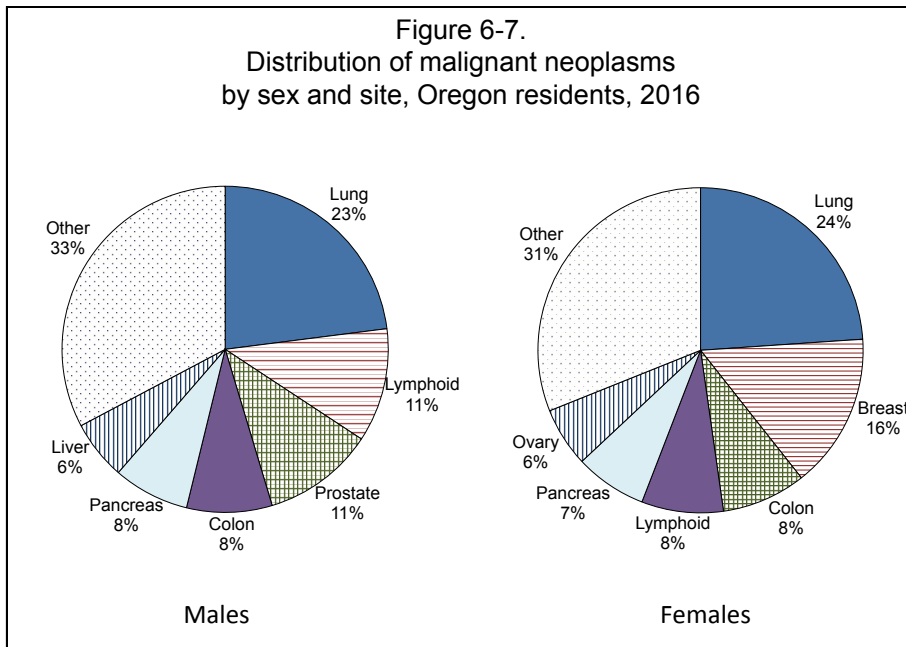
## Cancer

During 2016, cancer was the leading cause of death among Oregonians, claiming 8,076 lives. Malignant neoplasms were also a contributing factor, but not the underlying cause, in another 1,112 deaths. The cancer crude death rate increased for many decades before hitting a plateau in the 1990s. The rate then trended downward for several years, but has remained relatively stable for the last decade (see Figure 6-6). From 2015 to 2016, the crude death rate decreased slightly from 201.7 per 100,000 population to 198.1 (see Table 6-3). The age-adjusted death rate also decreased, from 159.5 per 100,000 population to 154.9 (see Table 6-47t).

Malignant neoplasms were the leading cause of death for both sexes, and the difference in death rates between males and females has narrowed during the past two decades. During 2016 the crude death rate for cancer was 16.3% higher for males than females — 213.2 versus 183.4 (see Table 6-4). The disparity was far greater when age-adjusted death rates were compared: 183.9 for males versus 133.9 for females, a 37.3% difference (see Table 6-47m and Table 6-47f).

Cancer was one of the five leading causes of death among Oregonians of all ages except infants, and was the leading cause of death for residents ages 45 through 84. The median age at death increased to 73 years in 2016 from 72 in 2015. Malignant neoplasms were the leading cause of premature death and accounted for 54,393 years of potential life lost (see Table 6-13).





During 2014–2016, six Oregon counties had age-adjusted cancer death rates significantly higher than the state rate (157.9): Coos (192.2), Tillamook (182.1), Douglas (181.6), Linn (181.1), Josephine (180.1) and Marion (167.0). Five counties recorded significantly lower rates than the state rate: Grant (98.0), Benton (129.5), Washington (133.7), Deschutes (143.6) and Clackamas (148.8).

Prior to 2001, Oregon’s age-adjusted cancer death rate was typically lower than the U.S. rate but has since trended higher. In 2015, Oregon’s rate was 1.1% higher than the nation’s (160.2 compared to 158.5) and ranked 26th (from highest to lowest) among the states and District of Columbia (1) (see Table 6-55).

The most common fatal cancer for both sexes is bronchus and lung cancer, which rarely occurs in the absence of smoking. The increasing prevalence of smoking, which peaked in 1993, drove the decades-long increase in the overall malignant neoplasm death rate — especially among women. In 1965, there were 5.5 male deaths due to lung cancer for every female death; however, by 2015, there was one male death for every female death (see Table D). Although breast cancer is more often in the public eye, lung cancer claimed the lives of 1.5 times as many women as breast cancer did: 906 versus 585, respectively (see Table 6-6 and Figure 6-7).

***Lung cancer claimed the lives of 55% more women than did breast cancer.***

<b>Table D - Lung cancer deaths - ratio of males to females</b>	
1965	5.5
1975	3.6
1985	2.0
1995	1.2
2005	1.2
2015	1.0
2016	1.1

***The age-adjusted heart disease death rate decreased slightly in 2016.***

## Heart disease

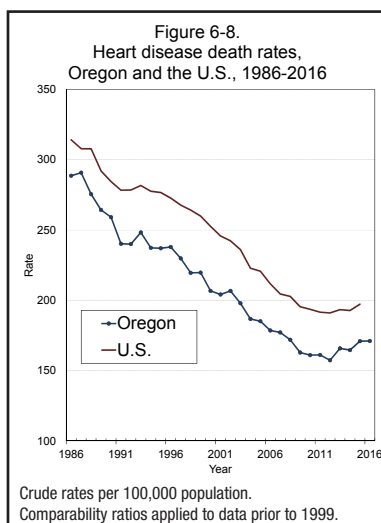
Despite the long-term downward trend in its crude death rate, heart disease was the leading cause of death in Oregon during most of the 20th century. In 2001, for the first time, more deaths (five) resulted from cancer than from heart disease. During 2016, heart disease was the second leading cause of death; 6,972 Oregonians succumbed to it, 1,104 fewer than from malignant neoplasms. The crude death rate from heart disease increased slightly from 170.9 in 2015 to 171.0 in 2016 (see Figure 6-8), while the age-adjusted death rate decreased from 135.3 per 100,000 population to 134.3. By comparison, the age-adjusted death rate was 264.2 in 1990, 96.7% higher than the 2016 rate. An additional 6,958 death records listed heart disease as a contributing factor in decedents' deaths, but not the underlying cause.

The 2016 crude death rate for heart disease was 24.9% higher for males than for females (190.3 versus 152.3). The age-adjusted death rate for heart disease was 72.8% higher for males than for females (175.7 versus 101.7), reflecting the younger ages at which men are more likely than women to die from heart disease (see Table 6-47m and Table 6-47f).

Heart disease was the leading cause of death for Oregonians age 85 or older and one of the five leading causes among Oregonians age 35 and older. It was the second leading cause of death for residents aged 55–84 (see Table 6-4). The median age at death from heart disease was 83 years in 2016 (see Table 6-15). The relatively older ages at which Oregonians died from heart disease lower its rank among the causes of premature death. There were 26,410 years of potential life lost, making heart disease the third leading cause of premature death, following cancer and unintentional injuries (see Table 6-13).

During 2014–2016, 11 Oregon counties had age-adjusted heart disease death rates significantly higher than the state's (133.6): Jefferson (183.1), Wallowa (173.9), Curry (173.1), Malheur (172.3), Linn (165.0), Klamath (162.3), Wasco (161.6), Coos (158.1), Clatsop (157.5), Columbia (154.7) and Multnomah (145.5). Four counties had significantly lower rates: Benton (102.9), Washington (115.0), Clackamas (118.4) and Lane (120.6).

In 2015, the state's age-adjusted heart disease death rate was 19.2% lower than the U.S. rate, and Oregon ranked



48th (fourth lowest) among the states, including the District of Columbia (1) (see Table 6-55). Oregon's heart disease death rate has long been lower than the U.S. rate, even as the United States has seen a striking downward trend in the overall age-adjusted heart disease death rate. In 2005, the U.S. age-adjusted rate was 211.1, compared to 168.5 in 2015 (see Table 6-58).

### Chronic lower respiratory disease

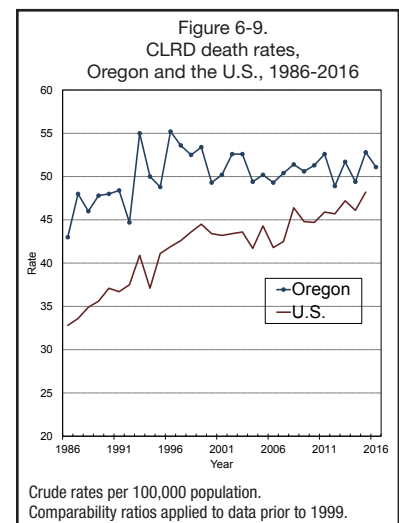
Chronic lower respiratory disease (CLRD) includes a variety of conditions including emphysema, chronic obstructive pulmonary disease (COPD), bronchitis and asthma.

Oregon's CLRD crude death rates increased steadily for several decades, reaching a record high of 54.9 per 100,000 population in 1996. Increased smoking, particularly by women, drove the rising death rate. CLRD is now the fourth leading cause of death, with 137 more deaths than cerebrovascular disease. Since 2000, the rate varied little and ranged between 48.9 and 52.8 per 100,000 (see Table 6-3 and Figure 6-11). The crude death rate for CLRD decreased from 52.8 per 100,000 in 2015 to 51.1 in 2016. The age-adjusted death rate also decreased from 41.9 to 40.0 (see Table 6-47t). CLRD was the underlying cause of death for 2,081 of Oregon's residents, but it contributed to an even larger number of deaths (2,657) where it was not the underlying cause (see Table 6-6 and Table 6-51).

In 2016, more females than males died from CLRD (1,068 versus 1,013), and the crude rate was also higher for females than for males (51.7 versus 50.4). However, the age-adjusted death rate was higher for males: 44.7 per 100,000 population versus 36.9 for females, a 21.1% difference (see Table 6-47m and Table 6-47f). For most of the 20th century, far more males succumbed to CLRD than did females, but since 1999 this pattern has generally reversed (with the exceptions of 2002 and 2008). The increasing number of women dying from CLRD is a reflection of the higher numbers of older women than older men in Oregon. Even in years when more females than males died of CLRD, the age-adjusted death rates were still higher for males than females.

CLRD is the fifth leading cause of death for Oregonians aged 55 to 64 and third for decedents aged 65 to 84. Residents aged 75 to 84 had the largest number of CLRD deaths with 672 (see Table 6-4). Although the fourth most

***Oregon's 2015 age-adjusted heart disease death rate was the third lowest nationally.***



common cause of death overall, chronic lower respiratory disease ranked seventh in the number of years of potential life lost (8,501). The median age at death was 77 in 2016, one year younger than during the previous year (see Table 6-13 and Table 6-15).

During 2014–2016, 14 counties had CLRD age-adjusted death rates significantly higher than the state’s (40.5): Lake (78.7), Klamath (63.7), Grant (62.0), Union (59.7), Baker (59.0), Curry (58.6), Josephine (55.5), Tillamook (54.7), Columbia (54.3), Coos (53.4), Umatilla (52.8), Douglas (52.5), Lincoln (51.3) and Jackson (45.9). Three counties with 20 or more CLRD deaths had significantly lower rates: Washington (25.4), Benton (27.0) and Clackamas (33.4).

Oregon’s age-adjusted CLRD death rate has long been higher than the U.S. rate, but the disparity has abated somewhat in recent years. The greatest disparity occurred in 1987 when Oregon’s rate was 26.8% higher and ranked 11th among the states and District of Columbia. During 2015, the state’s rate was 1.9% lower than the nation’s rate and ranked 29th (1) (see Table 6-55).

### Unintentional injuries

Oregon’s unintentional injury\* crude death rate increased from 49.5 in 2015 to 51.7 in 2016 (see Table 6-3 and Figure 6-9). Fatal unintentional injuries claimed the lives of 2,108 Oregonians and contributed to the deaths of another 665 residents (see Table 6-51). The age-adjusted death rate increased from 44.1 in 2015 to 46.0 in 2016. Unintentional injuries were Oregon’s third leading cause of death.

A strong dichotomy exists in unintentional injury deaths between sexes. The crude death rate was 52.1% higher for males than for females (62.6 versus 41.1). The disparity in age-adjusted death rates was even greater; the male rate was 82.4% higher than the female rate: 60.0 versus 32.9 (see Table 6-47m and Table 6-47f).

For Oregonians under age 45, unintentional injuries were the leading cause of death (see Table 6-4). They also ranked second in years of potential life lost at 40,139, a 10% increase from the previous year (see Table 6-13 and Figure 6-5).

While age-specific injury rates vary little from the mid-teen

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***There was a 10% increase in years of potential life lost to unintentional injuries during 2016***

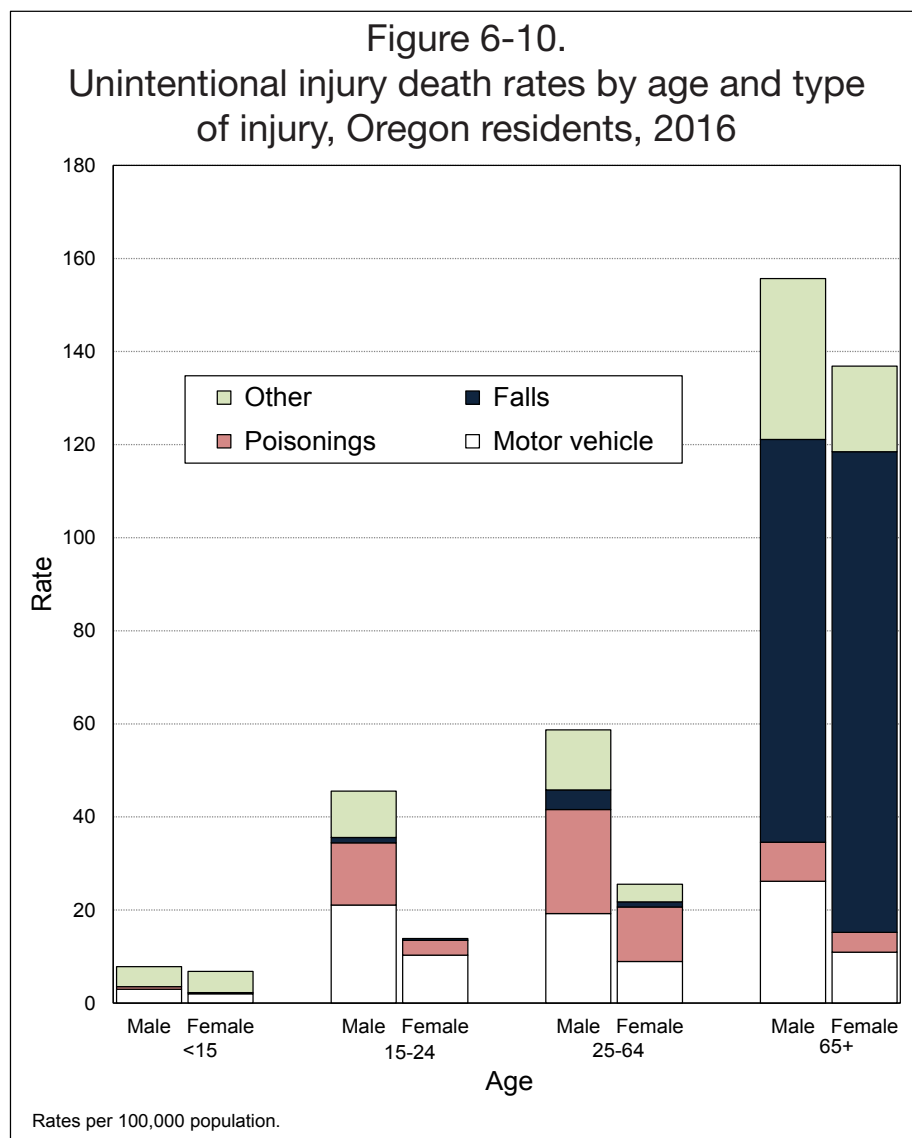
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\* The public health community prefers “unintentional injuries” to the term “accidents.”

until middle age, the oldest age groups have an increased unintentional injury death rate largely due to the increased risk of falling (see Table 6-7t and Figure 6-10). The median age at death from unintentional injuries has trended upward, reaching 63 in 2016. By comparison, the median age at death in 2002 was 54 (see Table 6-15).

During 2014–2016, 11 counties had age-adjusted unintentional injury death rates significantly higher than the state rate (43.6): Harney (78.7), Wallowa (77.5), Curry (74.8), Jefferson (69.4), Crook (66.9), Josephine (64.0), Lincoln (60.9), Coos (60.2), Linn (56.8), Douglas (56.2) and Lane (56.0). Two counties had significantly lower rates: Washington (27.6) and Clackamas (38.2).

During most of the past several decades, Oregon’s unintentional injury death rate has been higher than the



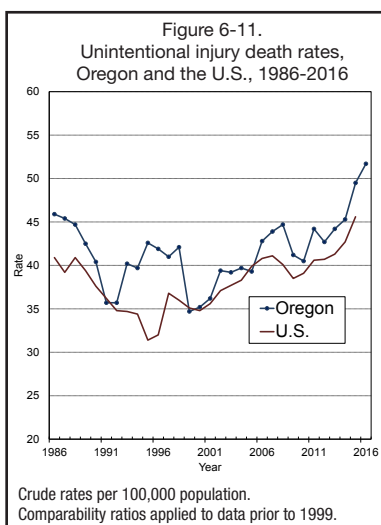
nation's. In 2015, the state's age-adjusted death rate from unintentional injuries was 3.0% above the national rate and ranked 34th among the states and District of Columbia. (1)

In 2016, 57 work-related deaths occurred in Oregon to both residents and non-residents. The victims were overwhelmingly male (52 males versus five females), with motor vehicle crashes being the most common cause of death from unintentional work-related injuries (see Table 6-50).

Just as the leading cause of death varies by age, so does the type of fatal unintentional injury (see Figure 6-10). Unintentional injury deaths among children under 5 years of age most commonly resulted from suffocation or airway obstruction. Transportation-related injuries were the most common unintentional injury cause among decedents aged 5–34. Among those aged 35–54, poisoning (usually of drugs used in an illicit or inappropriate manner) was the most common cause of unintentional injury death. Transportation-related injuries were the most common unintentional injury cause among decedents aged 55–64, and falls were the most common type among Oregonians 65 or older (see Table 6-27).

**Falls.** Falls were the state's most common type of fatal unintentional injury in 2016. They claimed the lives of 717 Oregonians, most of whom (91.5%) were 65 or older (see Table 6-27). Falls commonly occurred on the same level (72.9%), most often from slipping or tripping. Twenty involved falls from beds; 18 involved falls on and from stairs. Falls involving wheelchairs caused 13 deaths (see Table 6-28). The age-adjusted death rate for fatal falls among males was 19.5% higher than among females (15.3 versus 12.8) (see Table 6-47m and Table 6-47f). The age-adjusted death rate for falls increased 6.9% since 2012, from 13.1 per 100,000 population to 14.0 per 100,000 in 2016 (see Table 6-47t).

**Transportation and related fatalities.** Transportation-related injuries accounted for the second largest number of unintentional injury deaths (573) among Oregon residents, with motor vehicle traffic accidents accounting for 88.0% of all transportation injury deaths (see Table 6-27). Of the 504 motor vehicle traffic accidents, 66.9% occurred among males. The age-adjusted motor vehicle traffic accident death rate for males was more than twice as high as the rate for females (16.1 per 100,000 population versus 7.7) (see Table





6-47m and Table 6-47f). Although teens and young adults aged 15–24 accounted for 16.1% of all motor vehicle traffic accident fatalities, age-specific death rates were highest among adults over 85, 33.2 per 100,000 population (see Table E and Table 6-7t).

In most motor vehicle land transport deaths occurring in Oregon, the fatalities occurred among persons traveling by car (231), foot (93), unspecified vehicle (88), pickup or van (65), or motorcycle (58). Less common were the deaths of those traveling by all-terrain vehicle (14), pedal cycle (12), heavy transport vehicle (5) or agricultural vehicle (5). Of all fatalities among persons in cars, 22.9% resulted from non-collisions (e.g., rollovers following loss of control); among fatalities of persons in pickups or vans, 29.2% occurred in non-collisions (see Table 6-29).

**Overdoses and poisonings.** Unintentional poisonings involving drugs/medications, most often by narcotics and hallucinogens, ranked third among the types of fatal unintentional injuries, claiming the lives of 454 Oregonians in 2016 (see Table 6-27). The 2016 age-adjusted death rate for poisonings is 32.9% higher than the age-adjusted rate in 2006 (10.9 in 2016 versus 8.2 in 2006), a statistically significant difference. As with most other types of unintentional injuries, age-adjusted poisoning death rates were far higher for males than females (14.6 versus 7.2) (see Table 6-47m and Table 6-47f). The death rate peaked among residents aged 45–54 (20.2 per 100,000) (see Table 6-7t).

Although 454 deaths were attributed to unintentional poisonings, it alone does not account for all deaths resulting from overdoses and poisonings. Depending on how the fatality was reported on the death record, a death could be attributed to an unintentional injury or to a mental/behavioral disorder (see Table 6-35, footnote 1).

**Suffocation or obstruction.** Ranking fourth, suffocation or airway obstruction (including hanging and strangulation) accounted for the deaths of 104 Oregon residents (see Table 6-27). Of these deaths, 43 (41.3%) involved inhalation or ingestion of objects or substances other than food or gastric contents. Oregonians aged 85 years and older accounted for the highest number of suffocation or obstruction deaths (26 or 25.0%), followed by those 65–74 years old (20 or 19.2%).

Age group	Rate
85+	33.2
75-84	18.5
65-74	12.5
55-64	14.2
45-54	14.3
35-44	10.5
25-34	15.1
15-24	15.8
5-14	2.7
1-4	1.5
< 1	0.0
Crude rates per 100,000 population.	

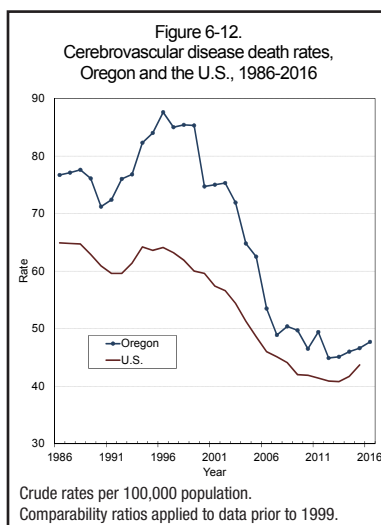
**Drownings.** Ranking fifth among causes of death from unintentional injuries, drownings (including those involving watercraft) accounted for the deaths of 81 Oregon residents (see Table 6-27). There were 94 total drowning deaths in Oregon to residents and non-residents; most of these deaths did not involve watercraft. Fifty-one deaths occurred in natural water. Twenty deaths occurred in bathtubs or hot tubs, and three occurred in swimming pools. Eighteen deaths involved watercraft (see Table 6-32).

### Cerebrovascular disease

Accounting for 5.4% of all deaths, cerebrovascular disease was the fifth leading cause of mortality among Oregonians. The number of deaths attributed to cerebrovascular disease increased from 1,869 in 2015 to 1,944 in 2016. The number of deaths in which this disease was a contributing factor also increased from 1,553 deaths in 2015 to 1,713 deaths in 2016 (see Table 6-3 and Table 6-51). The crude death rate for this cause has trended downward since 1996\*, but has inched up for the last four years. Between 2015 and 2016, the crude death rate increased slightly from 46.6 per 100,000 population to 47.7 (see Figure 6-12). The age-adjusted death rate also increased from 37.1 in 2015 to 37.5 (see Table 6-47t).

More females than males died from cerebrovascular disease, and the male crude death rate was 25.5% lower than the female rate (40.6 versus 54.6, see Table 6-2). However, the age-adjusted rate for males was 5.0% higher than the rate for females (38.1 versus 36.3) (see Table 6-47m and Table 6-47f).

Fatal cerebrovascular disease was uncommon before age 45, but it was the fifth most common cause of death among Oregon residents aged 65–74 and fourth most common cause of death among Oregonians aged 75 and older (see Table 6-4). Despite its relatively high frequency of occurrence, cerebrovascular disease ranked 10th by years of potential life lost (5,585), a consequence of the older ages of decedents compared to relatively younger ages at death



\* For trend analysis, researchers should be aware of a coding change that occurred in 2005 when the National Center for Health Statistics altered the cause of death classification methodology. In prior years, “multi-infarct dementia” and “vascular dementia” were coded as forms of cerebrovascular disease (I63.9 and I67.9, respectively). Beginning in 2005, these diseases were coded as forms of organic dementia (F01.1 and F01.9, respectively). This coding change resulted in a drop in the number and rate of deaths attributed to cerebrovascular disease.

for many other causes (see Table 6-13). Nearly three-fourths of the deaths occurred after age 74, and the median age at death held steady from the previous year at 84 years in 2016 (see Table 6-6 and Table 6-15).

Excluding counties with fewer than 20 deaths due to cerebrovascular disease, the age-adjusted death rates for two counties during 2014–2016 were significantly higher than the state rate (37.2): Linn (44.5) and Multnomah (40.4). One county had a significantly lower rate: Washington (31.5).

Oregon's cerebrovascular disease death rate typically exceeds the rate for the United States as a whole. However, in 2015 the age-adjusted death rate was 0.3% lower than the nation's rate, and ranked 26th among the states including the District of Columbia (1) (see Table 6-55).

Intracerebral hemorrhages and cerebral infarctions are examples of two forms of cerebrovascular disease, but the more general term “stroke” appears most commonly on death records.

### **Alzheimer's disease**

Historically, the number of deaths from Alzheimer's disease has mirrored the aging of Oregon's population. Deaths from Alzheimer's disease had fluctuated little in prior years but have recently increased. The number of deaths increased from 1,650 in 2015 to 1,786 in 2016 — a record high for the third year in a row. The crude death rate from Alzheimer's disease increased 6.6%, from 41.1 per 100,000 in 2015 to 43.8 in 2016 (see Table 6-3).

The age-adjusted death rate from Alzheimer's disease also increased, from 32.6 in 2015 to 34.5 in 2016 (see Table 6-47t). While the age-adjusted death rate held relatively steady during the past decade, it has increased over time. The 2016 age-adjusted rate is 114.3% higher than the 1990 rate (16.1). This is the largest increase seen among the 10 leading causes of death. Alzheimer's disease also contributed to the deaths of 425 residents where it was not the underlying cause.

Women are at greater risk of dying from this disease, in part because they are less likely to die from causes that most commonly lead to death at younger ages. The age-adjusted Alzheimer's disease death rate for women was 41.5% higher than that for men (38.9 versus 27.5) (see Table 6-47m and

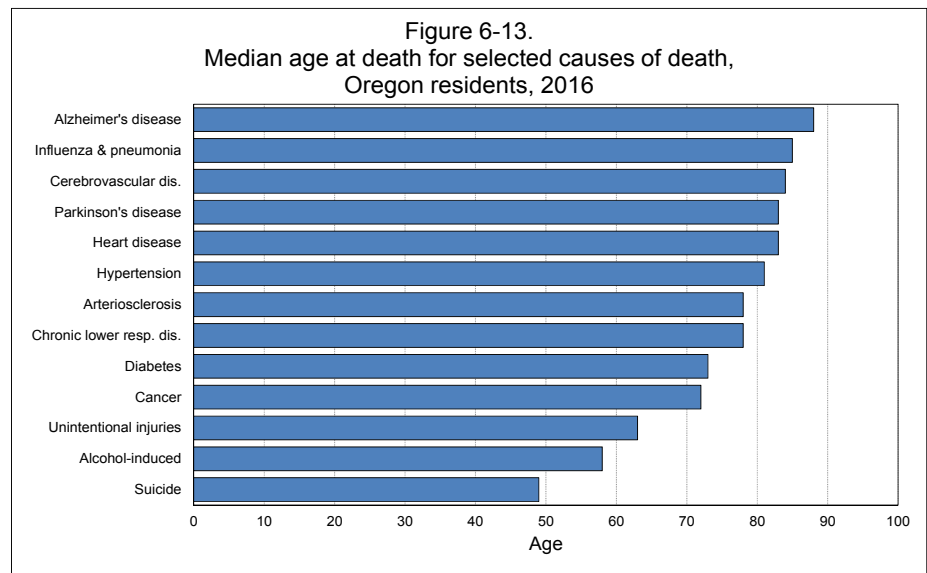


Table 6-47f). Alzheimer's disease was the ninth leading cause of death among men but third among women (see Table 6-2).

People with Alzheimer's disease tend to die at an older age than people who die from other causes. In 2016, 93.8% of Alzheimer's deaths occurred after the decedent's 75th birthday (see Table 6-6). The median age at death from Alzheimer's disease in 2016 was 88 years, unchanged from 2015 and the highest median age at death among Oregon's most common causes of death (see Table 6-15 and Figure 6-13). Alzheimer's disease was the sixth leading cause of death overall.

Excluding those with fewer than 20 deaths in this category, two counties had significantly higher age-adjusted death rates from Alzheimer's disease than the state (31.8) during 2014–2016: Lane (43.1) and Linn (39.2). Five counties had significantly lower rates: Union (18.0), Curry (18.9), Josephine (21.9), Marion (23.5) and Douglas (26.9).

Oregonians have long had higher rates of death than other U.S. residents from Alzheimer's disease. In 2015, the state's age-adjusted death rate was 12.2% higher than the nation's (33.0 and 29.4, respectively) and ranked 20th among the states and District of Columbia (1) (see Table 6-55).

Although deaths resulting from Alzheimer's disease are counted here, deaths attributed to dementia, organic dementia, presenile dementia, multi-infarct dementia and vascular dementia are not included. These causes of death are included in ICD-10 codes F00 (dementia in Alzheimer's

disease), F01 (vascular dementia) and F03 (unspecified dementia) (see Table 6-6).

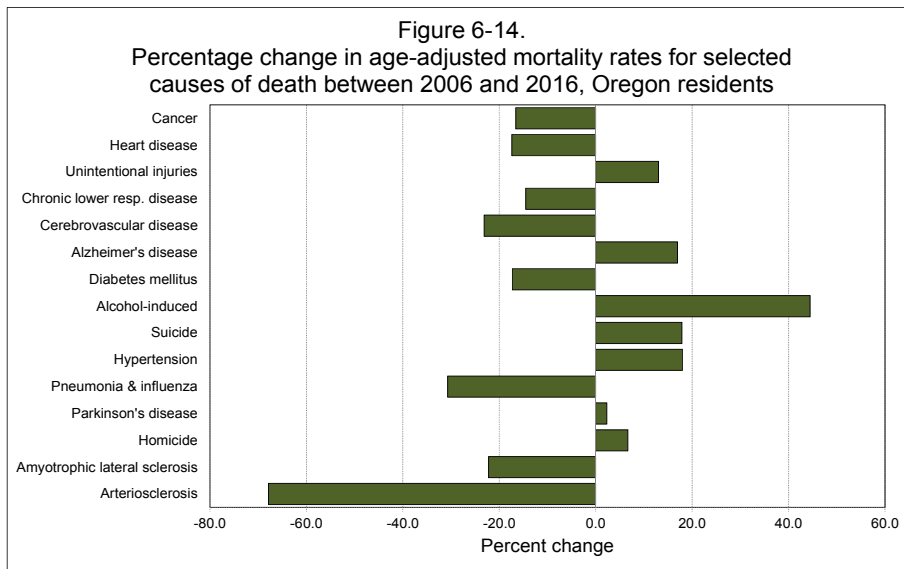
As noted in the section on cerebrovascular disease, a coding change beginning in 2005 resulted in an increase in the number of deaths attributed to organic dementia and a decline in deaths from cerebrovascular disease (see Table 6-6, footnote 10 for more information). During 2016, the deaths of 1,945 Oregonians were attributed under the rubric “organic dementia” (ICD codes F01 and F03). Together, organic dementia and Alzheimer’s disease/dementia accounted for 3,731 deaths, surpassing the third leading cause of death, unintentional injuries (2,108).

Table F - Diabetes age-adjusted death rates and state ranking		
Year	U.S.	Oregon
1982	17.2	12.2
Percent difference: -29.1		
Rank: Lowest		
2015	21.3	22.9
Percent difference: +7.5		
Rank: 21st highest		

**Diabetes mellitus**

During 2016, diabetes mellitus was the seventh leading cause of mortality in Oregon. The death rate for diabetes rose throughout most of the 1980s and 1990s, reaching a high of 31.1 per 100,000 population in 2005. The rate has since trended downward, though 2016 saw the rate increase from 28.6 in 2015 to 30.4 (see Table 6-3). The age-adjusted rate in 2016 (23.9) was 39.0% higher than the rate in 1990 (17.2) and 18.4% lower than 2005’s record high (29.3) (see Figure 6-14 and Figure 6-15). Diabetes was a contributing factor more often than it was the underlying cause of death: 3,061 versus 1,240 (see Table 6-51).

The diabetes crude death rate for males was 47.6% higher than the rate for females (36.4 versus 24.6) (see Table 6-2). The difference between male and female rates was even larger



when looking at age-adjusted rates. The age-adjusted death rate for males was 82.3% higher than the rate for females (31.9 versus 17.5) (see Table 6-47m and Table 6-47f).

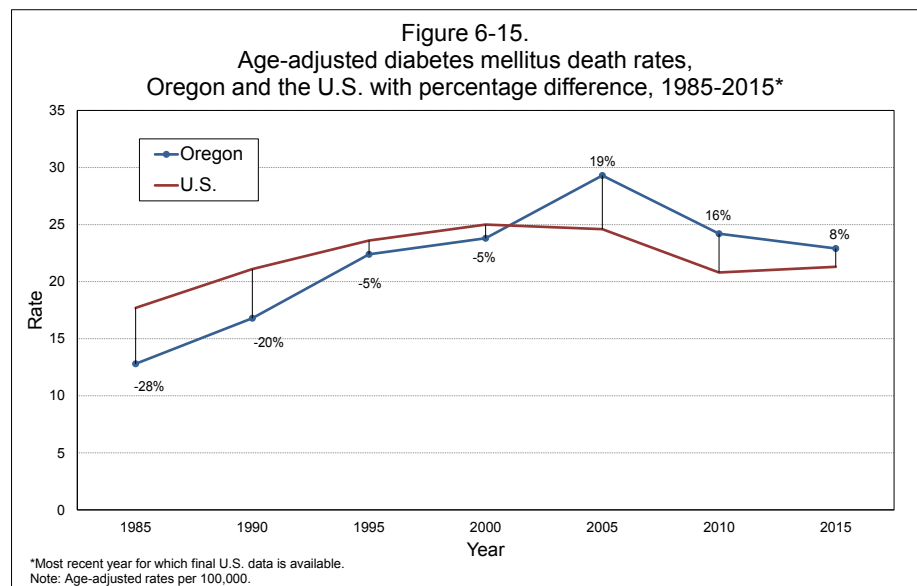
Most diabetes deaths (89.4%) occurred after age 54. Four Oregonians younger than 25 years old died from diabetes in 2016. It was the fourth leading cause of death among Oregonians aged 65–74 (see Table 6-4). The median age at death was unchanged from 2015 at 73 years (see Table 6-15). Diabetes resulted in a loss of 8,691 years of potential life (see Table 6-13).

Excluding those with fewer than 20 deaths in this category, six counties had significantly higher age-adjusted diabetes death rates compared to the state during 2014–2016 (23.0): Jefferson (36.6), Wasco (35.9), Douglas (31.9), Linn (31.6), Marion (30.5) and Coos (30.4). Four counties had a significantly lower rate: Benton (12.8), Deschutes (16.7), Clackamas (18.1) and Washington (19.2).

Prior to 1987, Oregon’s age-adjusted diabetes death rate was consistently 25% to 30% lower than the national rate. Oregon’s rate exceeded the U.S. rate for the first time in 1998 (13.7 per 100,000 population, versus 13.6). In 2015, Oregon’s age-adjusted rate was 7.5% higher than the U.S. rate, ranking 21st among the states and District of Columbia (1) (see Table 6-55 and Table F).

### Alcohol-induced deaths\*

The alcohol-induced deaths category summarizes alcohol-related deaths, but excludes alcohol-related injury deaths.



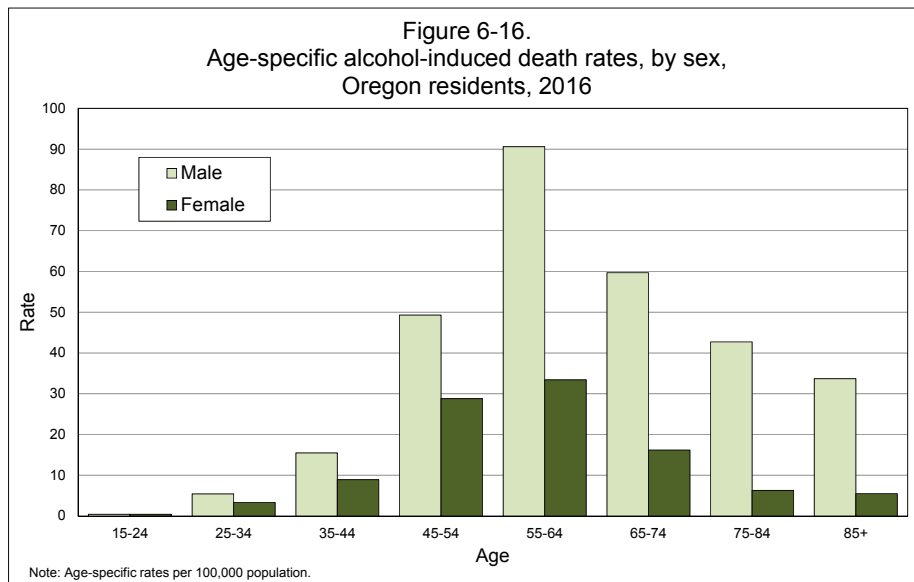
The National Center for Health Statistics' leading causes of death taxonomy does not typically report this as a leading cause of death. However, when alcohol conditions are combined, it becomes the eighth leading cause of death in Oregon. This category comprises alcohol-related disorders from multiple organ systems, with alcoholic liver disease accounting for the greatest number of deaths (61.2%, see Table G). If intentional and unintentional injury deaths where alcohol was a factor (e.g., motor vehicle crashes and homicides) were included in this category, the count would be considerably higher. Death records rarely report the role, if any, of alcohol in injury deaths.

Diagnosis	Count
Alcoholic liver disease	507
Mental/behavioral disorders	251
Poisoning, accidental	45
Acute or chronic pancreatitis	12
Cardiomyopathy	9
Nervous system degeneration	5
Polyneuropathy	0

Alcohol-induced deaths claimed the lives of 829 Oregonians during 2016 (see Table 6-6). Additionally, alcohol was a contributing factor but not the direct cause in 660 deaths (see Table 6-51). The crude death rate decreased to 20.3 per 100,000 population in 2016 from 22.3 during 2015, and the age-adjusted death rate decreased from 18.7 in 2015 to 16.9 in 2016 (see Table 6-47t).

**Oregon's 2015 age-adjusted alcohol-induced death rate was the fourth highest nationally.**

Fatal alcohol abuse was the seventh leading cause of death among men and the ninth leading cause among women, but the difference was greater when age-adjusted. The age-adjusted death rate for males was 2.4 times the rate for



\* Chronic liver disease and cirrhosis as well as nephritis were not discussed as leading causes in the narrative section, although they would be ranked respectively as the 10th and 13th leading causes of death under the NCHS rubric. Most of these deaths were counted under alcohol-induced deaths in the narrative section

Age	Metro <sup>1</sup>	Coastal <sup>2</sup>	Other
<25	10.9%	6.9%	14.7%
25-64	72.8%	54.2%	60.6%
65+	16.2%	38.9%	24.7%
Method	Metro <sup>1</sup>	Coastal <sup>2</sup>	Other
Poison	17.7%	13.9%	13.8%
Hanging/suff.	27.5%	19.4%	22.4%
Firearm	47.2%	62.5%	55.8%
Other	7.5%	4.2%	8.1%

<sup>1</sup> Metro counties: Clackamas, Multnomah, and Washington.  
<sup>2</sup> Coastal counties: Clatsop, Coos, Curry, Lincoln, and Tillamook.

females, 24.2 versus 10.2, respectively (see Table 6-47m and Table 6-47f).

Age-specific alcohol-induced death rates ranked third among the leading causes of death for residents aged 55–64 (see Table 6-4 and Figure 6-16). This category was the fourth leading cause of death among residents aged 45–54 years, and the fifth leading cause among those aged 25–44. The median age at death held steady at 58 in 2016 (see Table 6-15). Oregonians are dying at markedly younger ages from this cause than they were in 1988, when the median age of alcohol-induced death was 62. In 2016, alcohol-induced death was the fifth leading cause of premature death, accounting for 14,448 years of potential life lost (see Table 6-13).

Excluding counties with fewer than 20 deaths in this category, eight counties had age-adjusted alcohol-induced death rates significantly higher than the state's rate (17.3) during 2014–2016: Jefferson (34.5), Klamath (33.4), Wasco (32.3), Lincoln (31.4), Coos (30.9), Josephine (26.8), Douglas (25.8) and Linn (23.0). Rates were significantly below the state rate in three counties: Polk (10.6), Washington (10.7) and Clackamas (13.2).

The Oregon alcohol-induced death rate has long been higher than that for the United States. In 2015, Oregon's age-adjusted rate was 104.4% higher than the nation's and ranked fourth among the states and the District of Columbia. (1) However, at least part of the difference between the state and the nation likely results from a reporting artifact: Staff at the Oregon Center for Health Statistics ask physicians for more information when causes listed on death records (e.g., esophageal varices) suggest alcohol use, while many states do not.

## Suicide

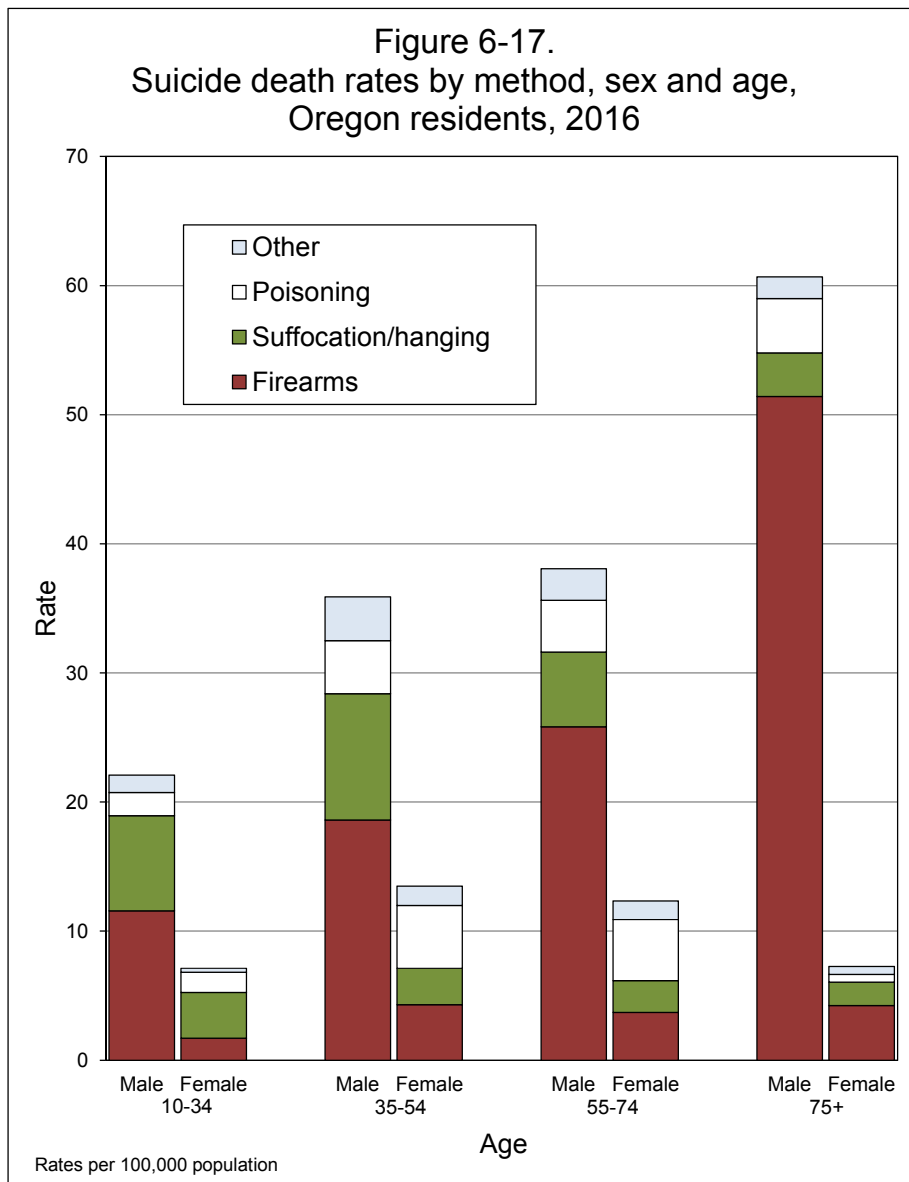
Suicide was reported as the manner of death for 771 Oregonians during 2016, increasing from 761 deaths the previous year. The crude death rate decreased slightly from 19.0 per 100,000 population in 2015 to 18.9 in 2016 (see Table 6-3). In 2016, the age-adjusted death rate remained the same at 17.8 (see Table 6-47t).

Males are at much greater risk of suicide death than females, with age-adjusted death rates of 27.6 and 8.7, respectively (see



Table 6-47m and Table 6-47f). Sex-specific rate differences were greatest among the elderly (see Table H).

Overall, suicide rates peak among the elderly, but this masks a dichotomy between the sexes: Females were more likely to die by suicide in middle age, where the crude rate peaked at 16.3 among those 45 to 54 years old. In contrast, rates among males generally increased with age, with the highest crude rate (87.5) recorded among those aged 85 and up (see Table 6-7t, Table 6-7m and Table 6-7f). Although suicide death rates are high among the elderly, 59.1% of deaths occurred before age 55, resulting in the fourth largest number of years of potential life lost (20,427) by cause (see Table 6-13). Suicide was the second-leading cause of death among residents between the ages of 5 and 34; it was the third leading cause among those aged 35–44, and fifth



5-14	1.4
15-24	3.4
25-34	4.1
35-44	3.3
45-54	2.5
55-64	3.1
65-74	3.5
75-84	7.6
85+	11.2

among those aged 45–54 (see Table 6-4). The median age at death increased from 49 to 50 years during 2016 (see Table 6-15). The youngest person to die by suicide was an 11-year-old male and the oldest a 99-year-old female.

Excluding counties with fewer than 20 deaths in this category, eight Oregon counties had age-adjusted suicide death rates that were significantly higher than the state's rate (18.1) during 2014–2016: Curry (39.3), Lincoln (33.1), Klamath (25.7), Coos (25.5), Josephine (25.4), Douglas (24.7), Jackson (23.2) and Lane (21.0). Five counties had significantly lower rates: Polk (11.7), Benton (11.8), Washington (13.2), Marion (14.6) and Multnomah (15.8). See Table I for more information.

Oregonians have long had higher suicide rates than residents of most other states. In 2015, Oregon's age-adjusted suicide rate was 33.8% higher than the nation's and ranked 13th among the states and District of Columbia.<sup>(1)</sup>

The method of suicide varied by age and sex but, overall, more than half of suicide deaths (53.4%) resulted from fatal gunshot injuries (see Table 6-33 and Figure 6-17). Firearms were the most common method of suicide for males (60.8%) and second most common for females (31.1%). Handguns were used in 75.0% of firearm suicides.

Hanging/suffocation was the second most common method of suicide (23.9%). A higher proportion of females died by suicide in this manner than males (27.9% and 22.5%, respectively), although the method was the second most common for males and third most for females (see Table 6-33).

Poisoning was the third most common method of suicide overall (15.2%). However, it was the most common method for females. The proportion of suicides among females from poisoning was approximately three times that among males (31.6% versus 9.8%). Drugs and medications were the most common method of poisoning for both females (80.0%) and males (57.9%) (see Table 6-33).

### **Hypertension**

During 2016, 557 Oregonians died as a consequence of hypertension (including hypertensive renal disease, see Table 6-6), making it the 10th leading cause of death. However, the number of deaths attributed to hypertension does not include all deaths related to this cause because

many have been classified to more specific manifestations of cardiovascular disease. The crude death rate decreased from 2015's record high of 14.1 to 13.7 in 2016 (see Table 6-3), which is 2.7 times higher than the 1990 rate of 5.0. The age-adjusted death rate also decreased from 11.1 in 2015 to 10.5 in 2016 (see Table 6-47t).

The hypertension crude death rate for females was higher than the rate for males (14.4 versus 12.9). However, the age-adjusted death rate for males was higher than the rate for females, 11.6 versus 9.4 (see Table 6-47m and Table 6-47f).

Deaths from hypertension are rare among middle-aged and younger Oregonians, but by age 55, the number of deaths begins to increase sharply. Age-specific hypertension death rates are 12.7 times as high among residents 85 or older as among those aged 65–74 (304.0 versus 23.9; see Table 6-7t).

Excluding counties with fewer than 20 deaths in this category, one county had age-adjusted hypertension death rates significantly higher than the state rate (10.5) from 2014–2016: Josephine (14.6). Two counties had rates significantly lower than that of the state: Deschutes (7.4) and Clackamas (8.6).

Oregon's age-adjusted hypertension death rate was markedly lower than the U.S. rate through 1985, but this trend has since reversed. In 2015, Oregon's age-adjusted hypertension death rate was 30.6% higher than the U.S. rate (11.1 versus 8.5) and ranked seventh nationally (1) (see Table 6-55).

### **Influenza and pneumonia**

In 1918, influenza spread across the United States in less than a week and around the world in three months. The pandemic persisted into 1919, with influenza the leading cause of death in Oregon during both years. In 1918 alone, the pandemic claimed the lives of 2,105 Oregonians at a time when Oregon's population was much smaller than it is today.

During 2016, influenza and pneumonia was the 12th leading cause of death for Oregonians, claiming 452 lives, down from 453 a year earlier. The crude death rate decreased from 11.3 in 2015 to 11.1 in 2016 (see Table 6-3). In addition, the age-adjusted rate decreased slightly from 9.0 to 8.8 (see Table 6-47t). Influenza and pneumonia contributed to 1,068 deaths, more than twice as many deaths as they directly caused (see Table 6-51).

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***The age-adjusted hypertension death rate is down from the record high set in 2015.***

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***Oregon's 2015 age-adjusted influenza and pneumonia death rate was one of the lowest in the nation.***

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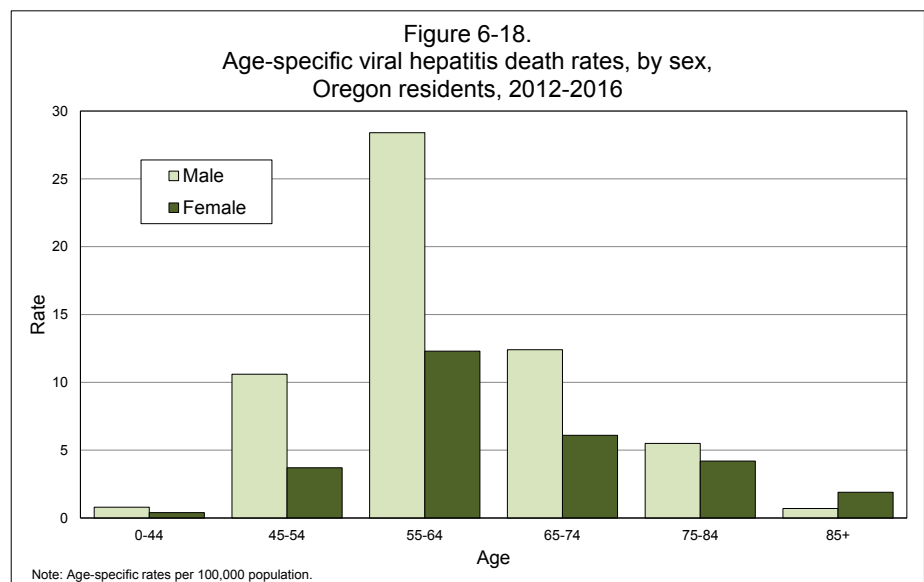
Although more women than men died from these two infectious diseases in 2016 (234 versus 218, respectively, see Table 6-2), age-adjusted death rates revealed the greater risk for males (10.0 per 100,000 population versus 8.0) (see Table 6-47m and Table 6-47f). Although these two related types of respiratory infections caused deaths across age groups, 60.8% of the deaths occurred after age 74. The median age at death decreased from 85 in 2015 to 80 in 2016, the lowest in a 15-year period (see Table 6-15).

Two counties had an age-adjusted influenza and pneumonia death rate significantly higher than the state rate (9.0) during 2014–2016: Union (16.5) and Coos (14.0). No counties had rates significantly lower than that of the state.

In recent years, Oregon's age-adjusted death rate for influenza and pneumonia has been markedly lower than the rates for most other states. In 2015, Oregon's age-adjusted death rate was 40.8% lower than the U.S. rate and the third lowest of all states and the District of Columbia (1) (see Table 6-55).

### **Viral hepatitis**

Viral hepatitis deaths peaked in 2013 with 234 deaths. Since that time, viral hepatitis deaths have declined each year and totaled 159 deaths in 2016 (see Table 6-3). The age-adjusted death rate also declined from 4.6 per 100,000 population to 2.9 over the same time period (see Table 6-47t). Viral hepatitis ranked as the 16th leading cause of death among Oregonians in 2016 and resulted in 2,117 years of potential life lost. Consistent with previous years, more than 90%



of viral hepatitis deaths (94.3% in 2016) were due to the hepatitis C virus.

There are large disparities by sex and age when looking at risk of death from viral hepatitis, as it most often claims middle-aged males (see Figure 6-19). The male age-adjusted rate during 2012–2016\* was more than twice the female rate (5.1 and 2.3, respectively; see Table 6-47m and Table 6-47f). Similarly, the male age-specific rate was more than twice the female rate for ages 45–74. The median age at death from viral hepatitis has increased over time, from 59 in 2012 to 62 in 2016 (see Table 6-13).

In 2016, viral hepatitis contributed to an even larger number of deaths where it was not the underlying cause. It was a contributing cause in 362 deaths in addition to the 159 deaths where it was the underlying cause. Viral hepatitis is often associated with chronic liver disease, and appeared as a contributing cause in 29.7% of liver cancer deaths and 18.3% of deaths from other liver diseases.

### Parkinson's disease

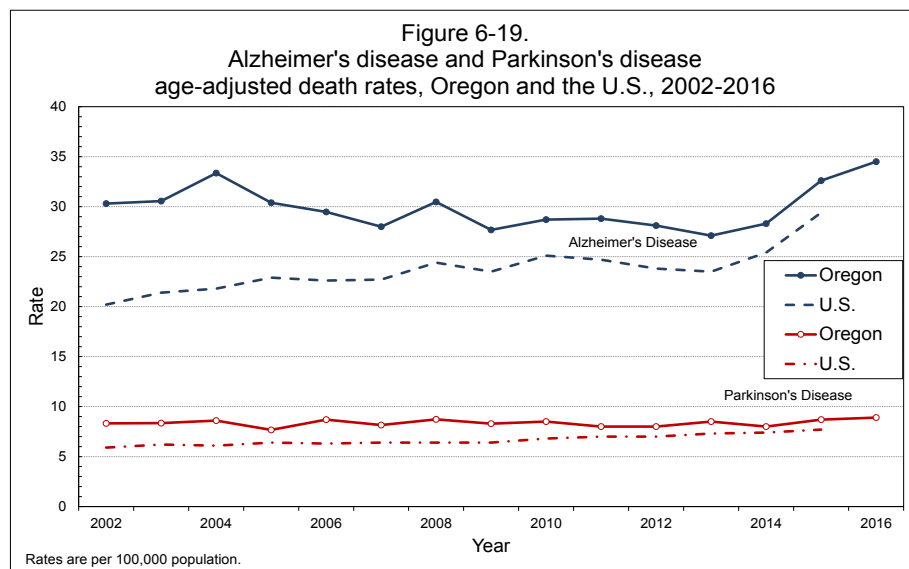
Ranking 11th among causes of death during 2016, Parkinson's disease claimed the lives of 452 Oregon residents. The crude death rate increased to 11.4 per 100,000 population from 10.7 in 2015 (see Table 6-3). The 2016 age-adjusted death rate increased slightly from 8.7 in 2015 to 8.9 in 2016 (see Table 6-47t). While the mortality rates for many

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***Oregon's 2015 age-adjusted viral hepatitis death rate was the third highest nationally.***

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\* Data for five years were aggregated for this analysis because rates based on multiple years' data yield more representative values than those based on the relatively small numbers recorded for any single year.



causes fell in recent decades, the rate for this neurological disorder continues to trend upward, despite short-term fluctuations (see Table 6-3). The age-adjusted Parkinson's death rate for males was 2.4 times as high as that of females (13.7 versus 5.7) (see Table 6-47m and Table 6-47f).

Parkinson's disease most often kills persons age 55 or older (see Table 6-6). The median age at death has fluctuated little during the previous decade, ranging between 82 and 84 years. The median age of death increased slightly to 84 years, up from 83 years in 2015 (see Table 6-15).

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***Oregon's 2015 age-adjusted Parkinson's disease death rate was the eighth highest nationally.***

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Excluding counties with fewer than 20 deaths in this category, one county had an age-adjusted rate significantly higher than the state rate (8.5) during 2014–2016: Deschutes (12.8). No counties had an age-adjusted rate significantly lower than the state rate.

Oregon's age-adjusted Parkinson's disease death rate has long been higher than the nation's, as have two other neurological disorders: Alzheimer's disease and amyotrophic lateral sclerosis (see Table 6-55 and Figure 6-18). During 2015, Oregon's age-adjusted Parkinson's disease death rate of 8.9 was 15.6% higher than the U.S. rate of 7.7, and ranked eighth among the states and District of Columbia.(1)

### **Homicide**

Oregon's homicide rate decreased in 2016 from 3.5 per 100,000 population in 2015 to 3.2 (see Table 6-3). With 129 victims, homicide was the 19th leading cause of death during 2016. Only two counties – Multnomah and Washington – had more than 10 residents die from homicide in 2016 (see Table 6-36).

Every year, more males than females are murdered, and 2016 was no exception. The male age-adjusted death rate decreased from 5.1 per 100,000 population in 2015 to 4.6 in 2016. The female age-adjusted rate was 1.9 in 2016, the same as in 2015. The total (both sexes) age-adjusted rate was 3.2 in 2016, down from 3.5 in 2015 (see Table 6-47t, Table 6-47m and Table 6-47f).

Infants had higher homicide death rates than Oregonians in any other age category. During 2012–2016,\* infants'

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\* Data for five years were aggregated for analysis because rates based on multiple years' data yield more representative values than those based on the relatively small numbers recorded for any single year.

homicide rate was 5.3 per 100,000 population. The group with the second highest homicide death rate was aged 25–34 (4.7). Children between the ages of 5 and 14 had a homicide death rate of 0.5, the lowest of all age groups during 2012–2016 (see Figure 6-20).

The median age at death for homicide victims in 2016 was 34 years, which was a decrease from the median age of 40 in 2015 (see Table 6-15). However, homicide continues to have the lowest median age at death among the leading causes (except for causes associated with infancy). With 4,859 years of potential life lost, homicide was the 11th leading cause of premature death (see Table 6-13).

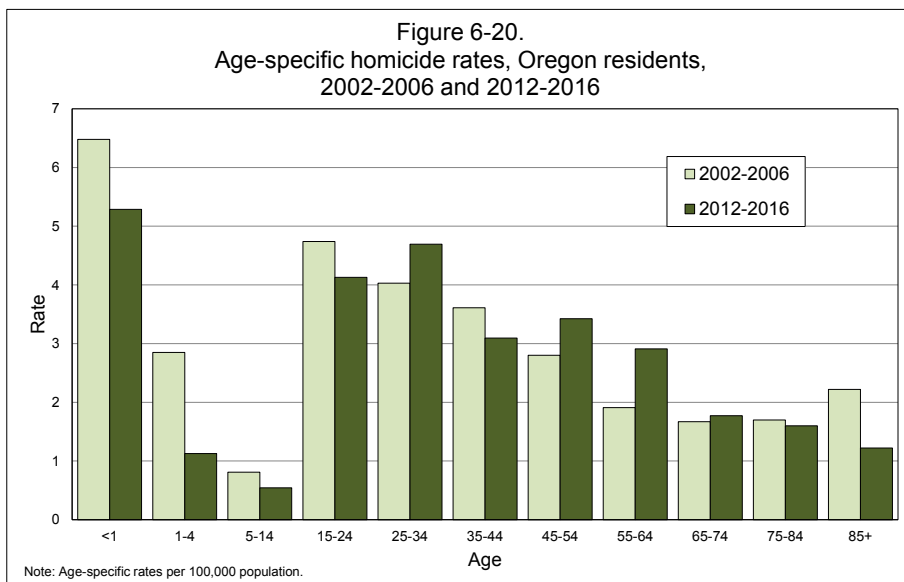
Excluding counties with fewer than 20 deaths in this category, one county had an age-adjusted rate significantly higher than the state rate (3.0) during 2014–2016: Douglas (10.7). This is due in large part to a single shooting incident at Umpqua Community College on Oct. 1, 2015. Two counties had rates significantly lower than that of the state: Washington (1.4) and Clackamas (1.8).

Historically, Oregon’s homicide death rate has been markedly lower than the nation’s. During 2015, the state’s rate was 40.4% lower and ranked 37th among 47 states and the District of Columbia\* (1) (see Table 6-55).

Firearms were the most common implement of homicide, accounting for 77 (59.7%) of homicide deaths in 2016 (see Table 6-33 and Table J).

Method	Count
Firearms	77
Sharp objects	22
Bodily force	3
Neglect & maltreatment	3
Hanging/strang./suff.	2
Drowning/submersion	1

\* States with unreliable data were excluded.



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**Oregon's drug-induced death rate reached a record high in 2016.**

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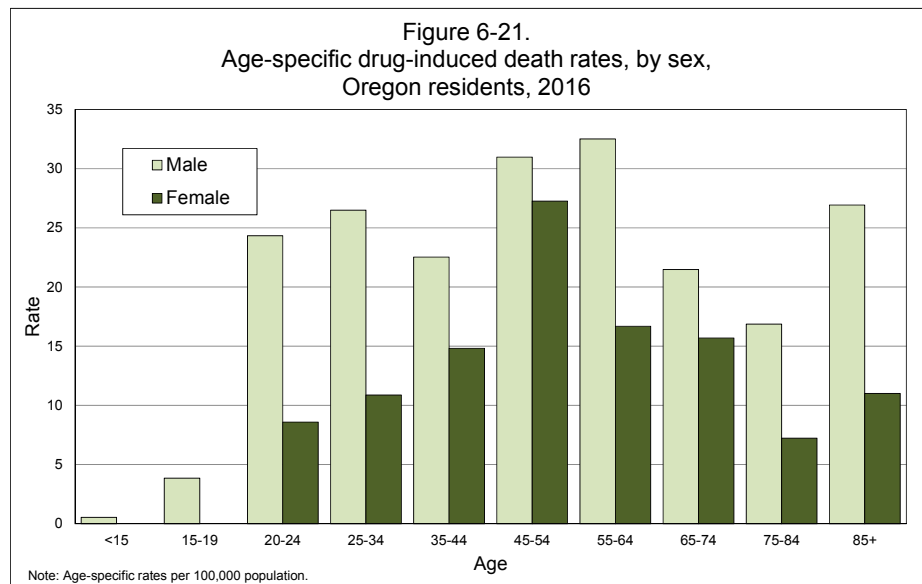
### Drug-induced deaths

During 2016, fewer deaths were attributed to drug-related causes compared to those attributed to alcohol — 649 versus 829 (see Table 6-6). Drug-induced death is not counted as a leading cause due to a considerable overlap with other cause-of-death categories. Nevertheless, with a crude death rate of 15.9 per 100,000 population, drugs/poisonings represented a significant cause of mortality among Oregonians (see Table 6-7t). The drug-induced death rate has trended up recently, and this year's rate is a record high, breaking the previous one (15.7) set in 2006.

Males were more likely to die from drug-induced causes than females (see Figure 6-21). Their age-adjusted death rate was 18.9 per 100,000 population compared to 11.2 for females. Over half of all drug-induced deaths (59.2%) occurred among residents aged 35–64.

Excluding counties with fewer than 20 deaths in this category, three counties had age-adjusted rates significantly higher than the state rate (14.5) from 2014–2016: Lane (21.3), Jackson (18.0) and Multnomah (17.6). Three counties had rates significantly lower than that of the state: Washington (9.5), Marion (11.4) and Clackamas (12.4).

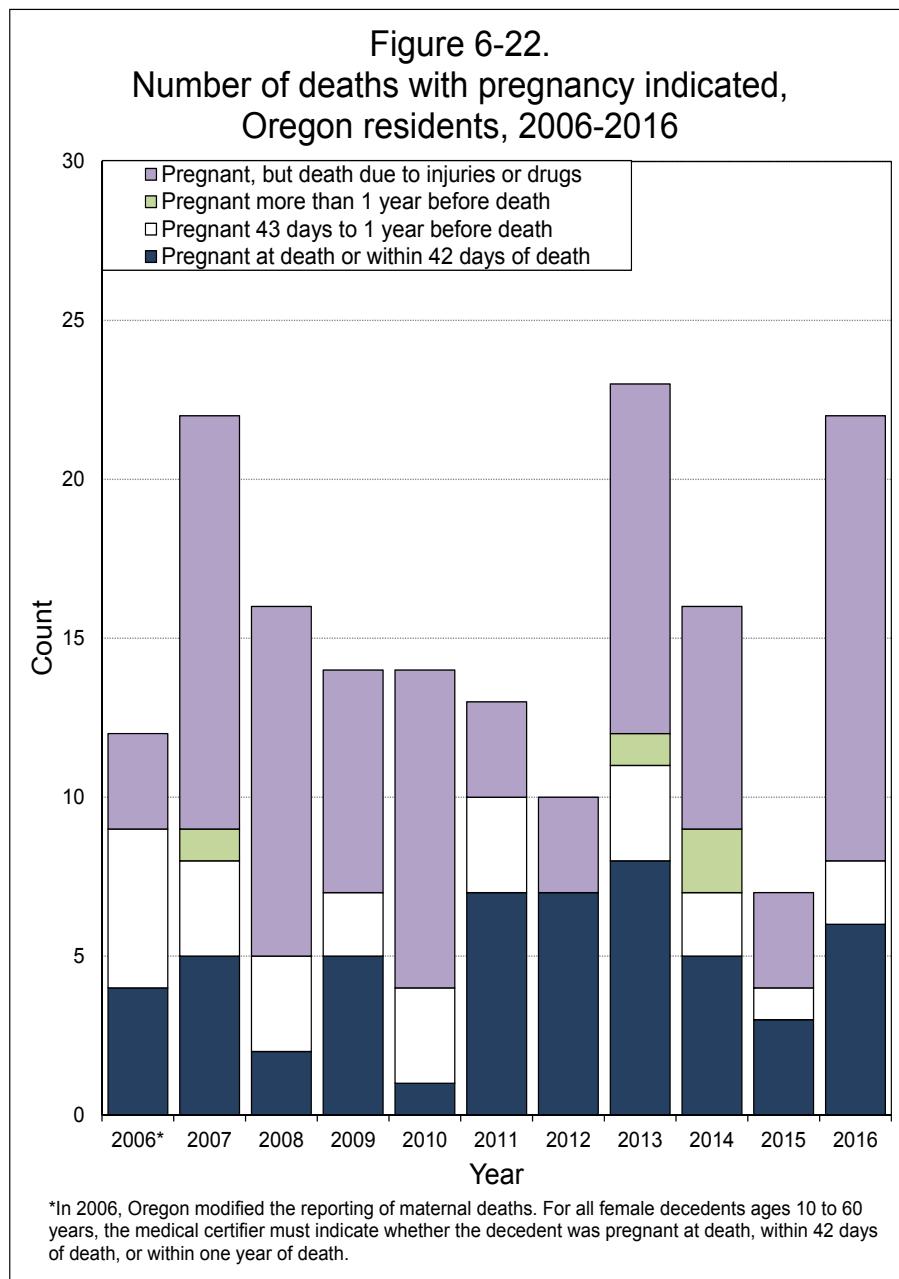
This category consists of ICD codes included in other cause-of-death rubrics, with the majority of deaths categorized as mental disorders, unintentional injuries and suicide.





## Maternal deaths

Before 2006, the category for maternal death (ICD10 codes O00–O99) included only fatalities where the female was either pregnant at the time of death or pregnant within 42 days of death. In addition, for every death of a female between 17 and 44 attributable to such causes as infections, cerebrovascular disease, digestive diseases or ill-defined unknown causes, the Center for Health Statistics re-contacted the physician and asked whether the woman was pregnant at the time of death or within 42 days prior to death. These queries might typically yield one additional maternal death record. However, the types of records queried were small in number.



Beginning in 2006, Oregon modified the reporting of maternal deaths by adding to the death record an item-specific checkbox under the section for causes of death. For all female decedents between 10 and 60 years of age, the medical certifier must now indicate whether the decedent was pregnant at death, pregnant within 42 days of death or pregnant within one year of death. As shown in Figure 6-22, the addition of this question has increased the count of maternal deaths. Under this expanded definition, 2016 saw eight maternal deaths in Oregon.

### **Male veteran deaths**

In 2016, there were 9,700 veteran deaths — 361 women and 9,339 men. Due to the small number of female veterans in Oregon, throughout this section of the report the terms “non-veterans” and “veterans” refer only to males aged 18 and older. Table 6-22 contains cause-of-death information for veterans and non-veterans. Male veteran population figures for rate calculations were obtained from the U.S. Department of Veteran Affairs, VetPop 2016 State Data Tables (2), and those shown in Appendix A, Table A-3.

The death rate for veterans in 2016 was almost five times as high as the rate for non-veterans (3,277.8 per 100,000 population versus 675.1), but much of this difference was due to a larger number of veterans in the older age groups. While the age-specific death rates for veterans exceeded those for non-veterans in all age groups, the difference was significant only among those aged 55–74 (1,986.5 versus 1,258.4) and ages 75 and up (9,184.1 versus 5,445.6). Rate differences for those aged 18–34 (169.9 versus 127.4) and ages 35–54 (351.1 versus 309.0) were not significant (see Table 6-22).

The top two causes of both veteran and non-veteran deaths in 2016 were cancer and heart disease. The third most cited cause of death was chronic lower respiratory disease (CLRD) for veterans and unintentional injuries for non-veterans (see Table 6-22). Because there are more veteran deaths than non-veteran deaths in the oldest age group, veteran death rates for causes seen primarily in older persons (e.g., CLRD) tend to be higher for veterans than for non-veterans.

Suicide is the ninth leading cause of death for veterans and the fifth leading cause of death for non-veterans. However, the overall veteran suicide rate was 70% higher than for non-

veterans (53.7 versus 31.6). The suicide rates for veterans were higher than the rates for non-veterans in all age groups. The difference in rates was greatest among those 18–34, where the veteran suicide rate is over three times higher than the rate for non-veterans (80.2 versus 25.0) (see Table 6-22). The second greatest difference in rates was observed among the 35–54 age group, in which the veteran suicide rate was 52% higher than the rate for non-veterans (51.4 versus 33.8) (see Table 6-22).

### **Male veterans and suicide**

Between 2014 and 2016\*, veterans experienced a lower percentage of deaths from suicide (1.7%, or 466) than non-veterans (5.1%, or 1,266). Among veterans who died from suicide, 26.6% had been in combat; 58.2% were non-combat veterans. Another 15.2% of veterans had unknown combat status. Combat veterans aged 18–49 had a higher percentage of deaths due to suicide than non-combat veterans (30.4% versus 26.1%). For male veterans aged 50 or older, combat veterans had a lower percentage of deaths due to suicide than non-combat veterans (1.0% versus 1.7%).

### **Deaths due to military operations**

The Oregon vital statistics data files do not include deaths to Oregon residents who died in military operations outside the United States. Death records of military personnel are registered with the U.S. Department of Defense and are not forwarded to the decedents' state of residence. However, these deaths (with each decedent's name, date of death, home city, age and sex) are posted weekly on the Department of Defense's website. (3) In 2016, no Oregon residents died in military operations.

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\* Data for three years were aggregated for analysis because statistics based on multiple years' data yield more representative values than those based on the relatively small numbers recorded for any single year.

## Endnotes

1. These data are from the federal Centers for Disease Control and Prevention's (CDC) WONDER online database (<http://wonder.cdc.gov/mortSQL.html>). The most recent year for which final mortality data are available was 2015 at the time this report was compiled. Oregon mortality data from the WONDER database may vary slightly from Oregon data presented elsewhere within this annual report due to different file closure dates, different population estimate methodologies, out-of-state reporting by other states to CDC and incorporation of Oregon's physician query results.
2. Male veteran population estimates for calculating crude death rates were obtained from the U.S. Department of Veteran Affairs, Table 6L: VetPop2016 Living Veterans by State, Age Group, Gender, 2015–2045: [www.va.gov/vetdata/Veteran\\_Population.asp](http://www.va.gov/vetdata/Veteran_Population.asp). Accessed June 16, 2017.
3. Counts of Oregon residents who died in military operations outside the United States were obtained from U.S. Department of Defense: <https://www.dmdc.osd.mil/dcas/pages/casualties.xhtml>. Accessed Sept. 7, 2017.