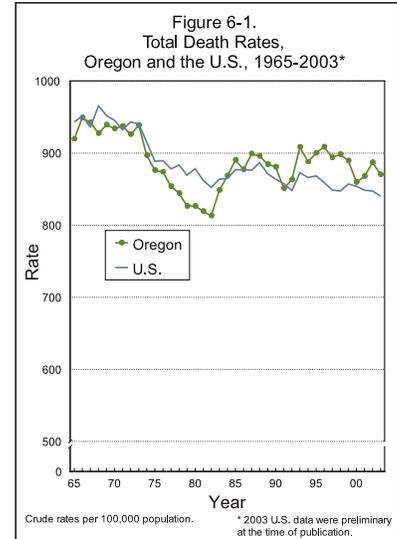


# Mortality

Fewer Oregonians died in 2003 (30,813) than during 2002 when 31,082 deaths were recorded. Oregon's crude death rate fell 1.9 percent during 2003 to 870.1 per 100,000 population, down from 886.9 the previous year. [Figure 6-1, Table 6-3]. (Unless otherwise specified, references to death rates mean crude rates; see the Appendix for further discussion of crude and age-adjusted rates.) The age-adjusted death rate fell from 854.9 to 838.6, a continuation of a long-term downward trend.

Oregon has long had lower age-adjusted death rates than the nation, but in 2002 (the most recent available data), the two rates were nearly identical, with the state's rate 0.2 percent higher (832.6 vs. 831.2). Oregon's rate ranked 28th among the states and the District of Columbia. Oregon's age-adjusted cause-specific death rates ranked in the top five for six causes: Alzheimer's disease, fourth highest; alcohol-induced deaths, fifth; hypertension, third; Parkinson's disease, fourth; amyotrophic lateral sclerosis, fourth; and, viral hepatitis, second. Oregon was among the states (and District of Columbia) with the five lowest rates for two causes: influenza and pneumonia, 46th, and septicemia, 50th.

A new table has been added to this year's annual report: Table 6-49 shows the place of death by sex, age, and cause of death.



## LIFE EXPECTANCY

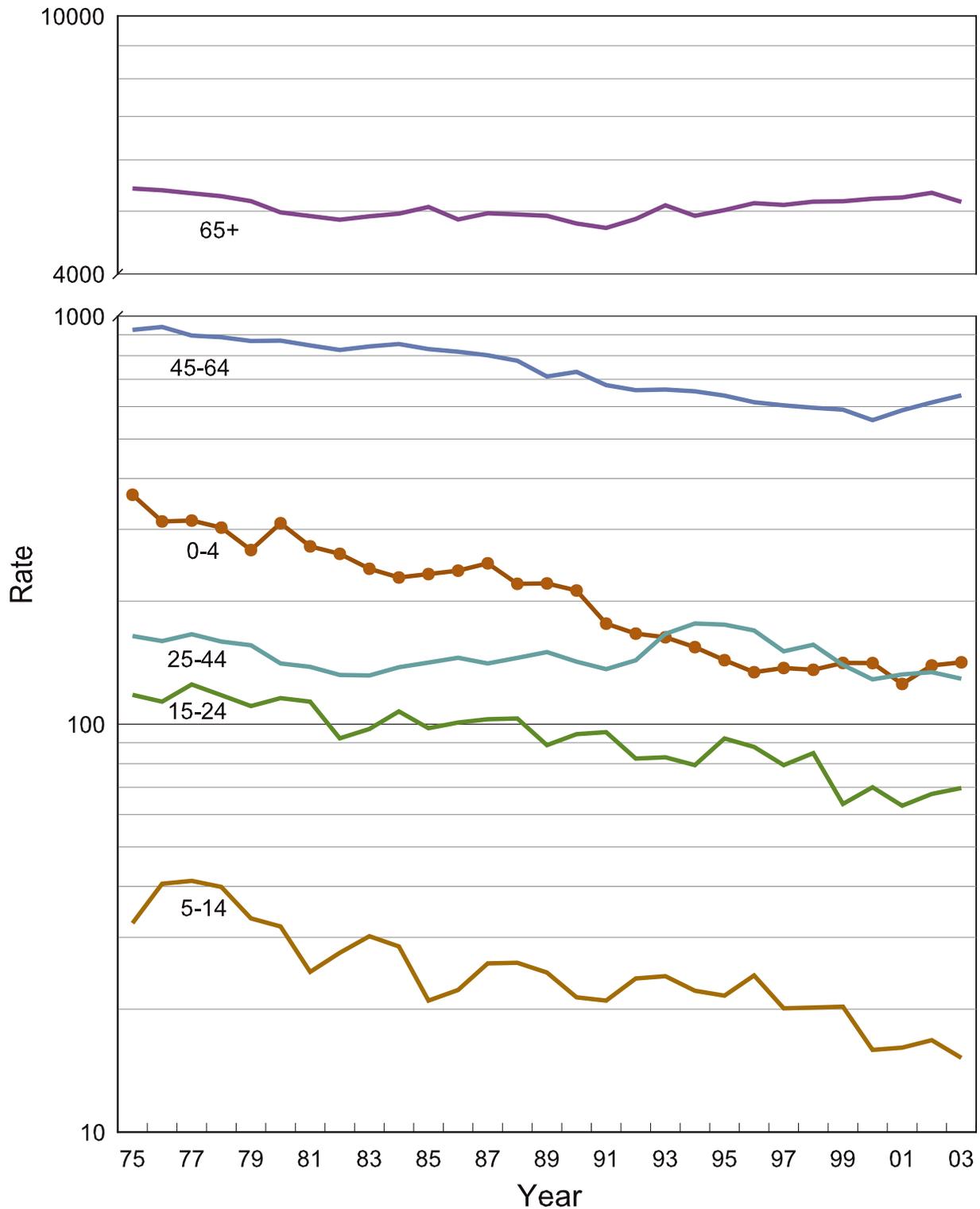
The oldest age at which an Oregonian died was recorded for a Siberian-born man who died in 1999 at 117 years of age. Most of the state's residents have far shorter lives, but the long-term trend is for an increasing life expectancy. Since 1960, the life expectancy of Oregonians increased from 70.9 years at birth to 77.7 in 2003. However, life expectancy has declined from a record high 78.0 during 2000-2001.

**The life expectancy of Oregonians in 2003 was 77.7 years.**

Life Expectancy, Oregon and the United States, 1960-2003						
Year	Oregon			United States		
	Total	Male	Female	Total	Male	Female
1960	70.9	N.A.	N.A.	69.7	66.6	73.1
1970	72.1	68.4	76.2	70.8	67.1	74.7
1980	75.0	71.4	78.8	73.7	70.0	77.4
1990	76.6	73.4	79.8	75.4	71.8	78.8
2000	78.0	75.6	80.5	77.0	74.3	79.4
2001	78.0	75.9	80.2	77.2	74.4	79.8
2002	77.9	75.7	80.0	77.3	74.7	79.9
2003	77.7	75.3	80.1	77.6	74.8	80.1

U.S. data sources: National Center for Health Statistics. Health, United States, 2003. Hyattsville, Maryland. 2004. (<http://www.cdc.gov/nchs/data/hus/04trend.pdf#changes>) National Center for Health Statistics. National Vital Statistics Reports, Vol. 53, No. 15. Deaths: Preliminary Data for 2003 ([http://www.cdc.gov/nchs/data/nvsr/nvsr53/nvsr53\\_15.pdf](http://www.cdc.gov/nchs/data/nvsr/nvsr53/nvsr53_15.pdf)).

Figure 6-2.  
Age-Specific Death Rates,  
Oregon Residents, 1975-2003



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

Life expectancy is a theoretical construct that represents 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 their birth. It is affected by such factors as the environment, the economy, health behaviors, modernization, and changing medical technology.

Life expectancy for Oregon males has declined from a record high of 75.9 in 2001 to 75.3 recorded during 2003. Among females, life expectancy was highest in 2000, but has since fallen from 80.5 to 80.1.

Through most of the latter half of the 20th century, Oregon's life expectancy exceeded the nation's by 1.2-1.3 years. By the year 2000, the difference slipped to 1.0 year and since then has fallen precipitously with Oregon's life expectancy exceeding the nation's by just 0.1 year (77.7 vs. 77.6). Relative to the United States, Oregon's life expectancy has risen more slowly since 1960; while the state's life expectancy has increased 9.6 percent, the nation's has increased 11.3 percent.

Among the nations of the world in 2003, the United States ranked 28th in life expectancy, tied with Slovenia, among others, ranking lower than San Marino, Malta, and Ireland,<sup>1</sup> for example. Life expectancy was longest in Japan -- 82 years.

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***The United States ranks 28th in life expectancy, tied with Slovenia.***

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## DEMOGRAPHIC CHARACTERISTICS

### Gender

The decline in Oregon's overall mortality rate between 2002 and 2003 mirrored the decline seen for both genders. [Table 6-1]. Although the crude death rate for females (876.3 per 100,000) was 1.5 percent higher than that recorded for males (863.7), it would be a mistake to conclude that the risk of death was greater for females than males; female age-specific death rates were lower than those for males and are reflected in the age-adjusted death rates (712.6 vs. 1,002.3). The increase in female death rates vis-a-vis male rates seen over the past decade is largely due to the changing age distribution within these two groups rather than a decline in the health status of the former. Proportionately, there are simply larger numbers of elderly within the female population than there are in the male population, and the elderly, even under the best of circumstances, are more likely to die than are their younger counterparts. (See Appendix B for further information about age-specific and age-adjusted death rates.)

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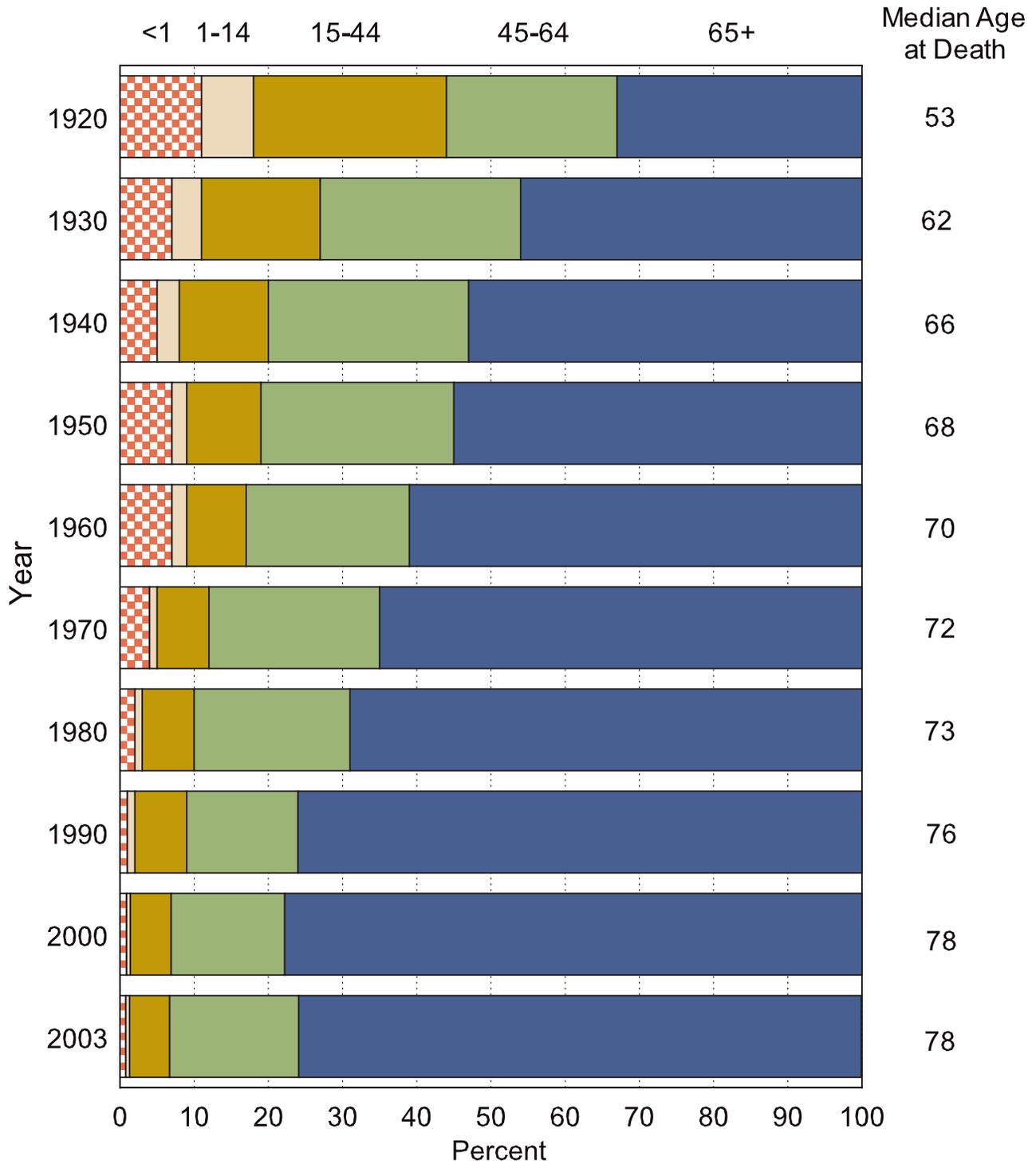
***The oldest Oregonian to die in 2003 was a 111 year-old woman.***

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### Age

Although the age-adjusted death rate has trended downward since 1995 (from 882.3 to 838.6 in 2003), the age-specific rate for children under the age of five was little different than it was in 1995 (141.7 per 100,000 population vs. 143.4, respectively). The

Figure 6-3.  
 Proportion of Deaths by Selected Age Groups,  
 Oregon Residents, 1920-2003



age-specific death rates for residents ages 45-64 are notable in that they have risen annually since 2000, increasing from 556.0 to 639.3, but most deaths occurred to Oregonians 65 or older. [Figures 6-2 and 6-3].

Table 6-1 shows the disparity in the age-specific death rates by gender; most striking is the twofold greater risk of death among males ages 15-24 than among similarly-aged females, 96.3 per 100,000 vs. 41.7. For both genders combined, the median age at death declined from 79 years in 2002 to 78 years in 2003, but remained unchanged for the individual sexes, 75 years for males and 81 years for females.

## LEADING CAUSES OF DEATH<sup>2</sup>

### Overview

During 2003, cancer was the number one killer of Oregonians displacing heart disease, the leading cause of death during nearly all of the 20th century. During the previous two years, the number of deaths from these two causes were virtually identical, with five more deaths due to cancer than heart disease in 2001 and 13 more deaths resulting from heart disease than cancer in 2002. Most recently, the number of cancer deaths exceeded heart disease deaths by 209. Together, these two causes accounted for 46.2 percent of all resident deaths. Although the number of deaths resulting from these causes were similar, malignant neoplasms resulted in the loss of nearly twice as many years of potential life, a reflection of the younger ages of cancer's victims. The apparent increasing risk of cancer vis-a-vis heart disease isn't a result of increasing cancer death rates, but, instead, declining heart disease death rates. In fact, the malignant neoplasm death rate has trended downward during the past decade, but the heart disease death rate has fallen more quickly.

Some causes of death have become increasingly common, with their rates displaying a significant upward trend. Age-adjusted death rates were at record highs for the following causes: liver/intrahepatic bile duct cancer (from 2.3 in 1990 to 4.7 in 2003); Parkinson's disease (5.0 to 8.4); and, Alzheimer's disease (9.6 to 30.6). At the same time other causes have become less common with their rates falling to record lows: prostate cancer (from 36.4 in 1990 to 29.4 in 2003); leukemia (8.9 to 7.3); heart disease (259.3 to 189.5); and, aortic aneurysm (7.9 to 5.3).

Causes of death varied by age group. Among infants, perinatal conditions were most common, but unintentional injuries ranked first for Oregonians ages 1-44. From age 45 through age 84, cancer was the leading cause of death, but among residents 85 or older, heart disease ranked first. This is a change from previous years when heart disease was also the leading cause of death among 75- to 84- year-olds.

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***Together, cancer and heart disease account for nearly one-half of all deaths.***

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**For only the second time, cancer was the leading killer of Oregonians.**

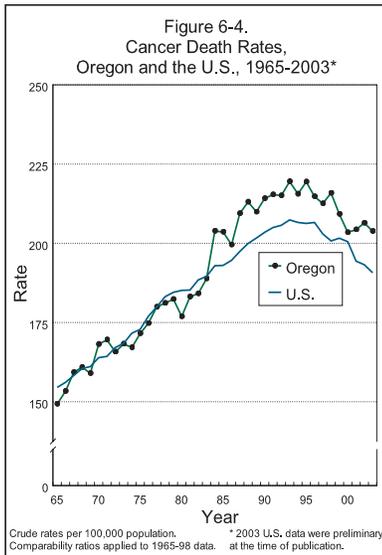
**Cancer**

During 2003, and for only the second time, cancer was the leading cause of death among Oregonians. In 2001, cancer was the leading cause of mortality, edging out heart disease by five deaths, but in 2002 slipped back into second place with 13 fewer deaths than heart disease. In 2003, cancer led heart disease by a more substantial 209 deaths, claiming the lives of 7,217 Oregonians. [Figure 6-5]. For many decades, the cancer death rate increased inexorably, but by the early 1990s it had plateaued; since then the rate has trended downward. In 2003, the crude death rate was 203.8 while the age-adjusted death rate was 198.2. Cancer was a contributing factor, but not the underlying cause, in 782 deaths.

The difference in death rates between males and females has narrowed greatly during the past two decades. During 2003, the crude death rate for cancer was 6.2 percent higher for males than females, 210.0 compared to 197.7, nonetheless the disparity was far greater when age-adjusted death rates were compared, 238.5 versus 171.7, a 38.9 percent difference. [Table 6-44m and Table 6-44f]. Malignant neoplasms were the leading cause of death for both males and females. [Table 6-2].

Cancer was one of the top five leading causes of death in every age group except infants and was the leading cause of death for residents ages 45 to 84. Half of all the deaths from this cause in 2003 occurred by age 74, an increase of one year compared to 2002. Cancer was the second leading cause of premature death, following unintentional injuries, accounting for 21,504 years of potential life lost.

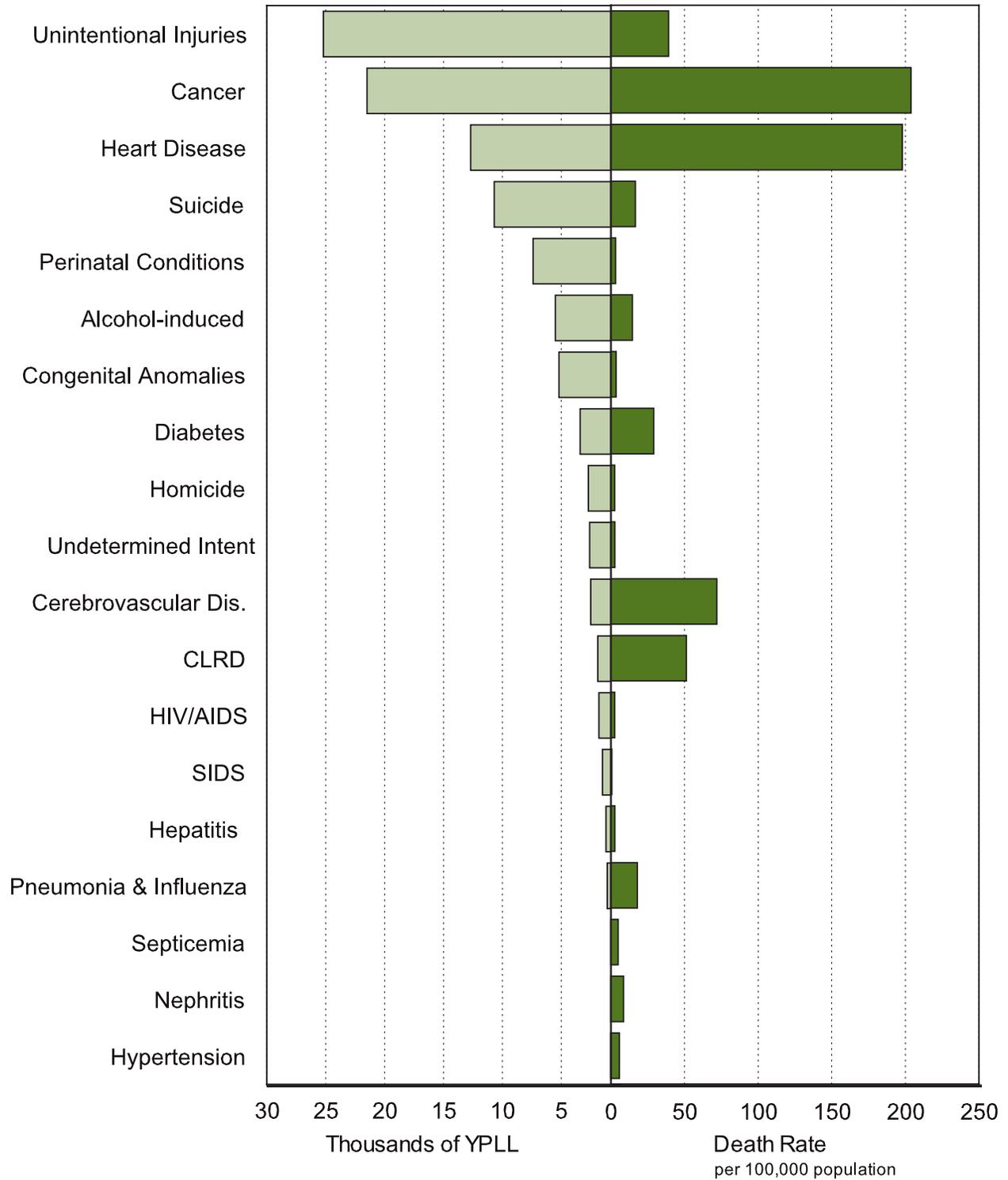
Oregon’s age-adjusted malignant neoplasm death rate has long been lower than that of the United States, but in 2002<sup>3</sup>, the rate was 4.2 percent higher than the nation’s and ranked 26th among the states and District of Columbia. Cancer claimed the life of a resident every 73 minutes, on average.



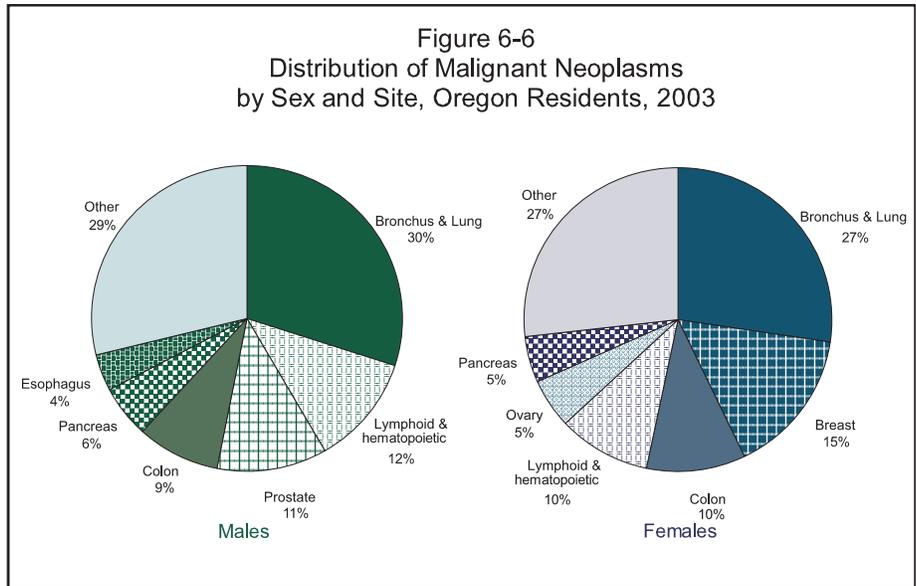
**Years of Potential Life Lost**

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 than deaths of older people in terms of years of potential life lost (YPLL). 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. With the standard set at 65 years, for example, a death at age 21 results in 44 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 65 years unless otherwise noted.)

Figure 6-5.  
 Leading Causes of Years of Potential Life Lost  
 and Corresponding Death Rates, Oregon Residents, 2003

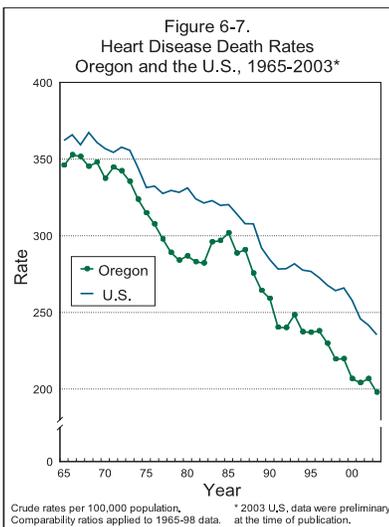


**Lung cancer claimed the lives of nearly twice as many women as did breast cancer.**



The most common fatal cancer for both sexes is lung cancer, a cause that would be rare in the absence of smoking. [Figure 6-6]. Its increasing frequency drove the decades-long increase in the overall malignant neoplasm death rate, especially among females. Thirty years ago, there were 3.7 male deaths due to lung cancer for every female death, but by 2003 the ratio was 1.1:1.0. Although more often in the public eye than lung cancer, breast cancer claimed about one-half the number of women, 965 vs. 548, respectively. Ranking third and fourth were lymphoid and hematopoietic cancer (e.g., leukemia and multiple myeloma) and colon cancer. Among males, lymphoid and hematopoietic cancer ranked second, followed by prostate and colon cancer.

**The heart disease death rate fell to a record low in 2003.**



**Heart Disease**

Despite brief occasional breaks in the long-term downward trend of the heart disease death rate, heart disease had been the leading cause of death in Oregon every year (with the exception of 2001) since the influenza pandemic of 1918-1919.<sup>4</sup> During 2003, both the number of deaths and the death rate decreased compared to 2002, falling from 7,245 to 7,008 and 206.7 to 197.9, respectively. The age-adjusted death rate was 189.5. Heart disease was listed on 4,204 death certificates as a contributing factor in the decedent’s death, but not the underlying cause.

The 2003 crude death rate for heart disease was 10.8 percent higher for males than females (208.1 vs. 187.9). However, age-adjusted rates for heart disease showed that the risk of death from this cause was actually far greater among males than females, 248.4 compared to 145.3, a 71.0 percent difference. [Table 6-44m and Table 6-44f].

In previous years, heart disease was the leading cause of death for Oregonians 75 or older, but in 2003 it was the leading cause of death only for residents 85 or older. Nonetheless, it

was among the top five causes of death in all age groups and the second leading cause of death for residents ages 45-84. The median age at death for heart disease was 81 years. Reflecting the relatively older ages at which Oregonians died from heart disease was this cause's rank by years of potential life lost; 12,676 years of potential life were lost due to heart disease, making it third following cancer and unintentional injuries. [Table 6-11].

Oregon's rate has consistently been lower than the U.S. rate; in 2002, the state's age-adjusted death rate was 17.3 percent lower than the nation's and ranked 45th among the states (including the District of Columbia).<sup>3</sup> That is, Oregon had the sixth lowest rate. [Table 6-51]. Every 75 minutes, on average, a resident died from heart disease.

The heart disease category includes a number of conditions, but the most common, and accounting for the majority of heart disease deaths, were myocardial infarctions and other forms of ischemic heart disease such as coronary artery disease. [Table 6-7].

### Cerebrovascular Disease

At 71.9 deaths per 100,000 population, the cerebrovascular disease death rate fell to its lowest point during the past decade with the number of deaths totaling 2,548, down from the 2,639 recorded during 2002. [Figure 6-8]. Cerebrovascular disease was mentioned as a factor, but not the underlying cause, in another 1,456 deaths. This disease was the third leading cause of death.

Many more females than males died from cerebrovascular disease, and although the female crude death rate was 60.1 percent higher than the rate for males (88.4 vs. 55.2), the age-adjusted death rates were nearly identical, 68.1 and 67.9, respectively. [Table 6-44m and Table 6-44f]. The age-adjusted death rate for both genders was 68.5.

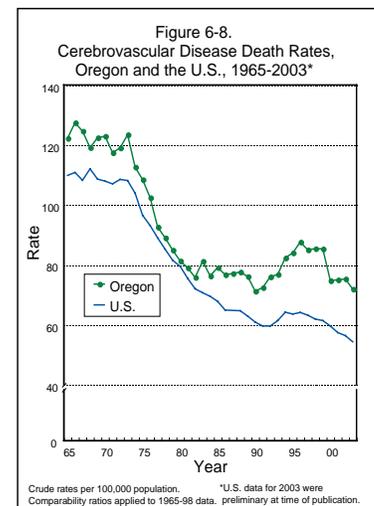
Fatal cerebrovascular disease was uncommon before age 55, but by age 75 it was the third most common cause of death among Oregon residents. Despite the frequency with which it occurred, it ranked 11th by years of potential life lost (2,504), a consequence of the older ages of decedents (compared to relatively younger ages at death for many other causes). Four-fifths of the deaths occurred after age 74 with half of all deaths occurring by age 84, compared to 83 the previous year. The cerebrovascular disease death rate has long been higher in Oregon than in the US. In 2002, the age-adjusted death rate was 29.3 percent higher and sixth highest among the states (including the District of Columbia).<sup>3</sup> On average, an Oregonian died from cerebrovascular disease every 3.4 hours.

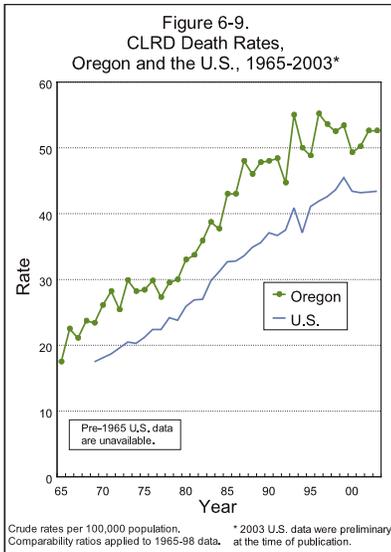
Intracerebral hemorrhages and cerebral infarctions are examples of two forms of cerebrovascular disease, but appearing most commonly on death certificates is the more general term "stroke."

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***Oregon's cerebrovascular disease death rate ranked sixth highest among the states.***

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***Oregon's age-adjusted emphysema rate was 48 percent higher than the nation's and ranked third highest among the states.***

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***Males were twice as likely as females to die from unintentional injuries.***

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## Chronic Lower Respiratory Disease

Chronic lower respiratory disease (CLRD) death rates increased inexorably for several decades, plateauing in the early to mid-1990s. [Figure 6-9]. Increased smoking, particularly by women, drove the rising death rate and resulted in CLRD becoming the fourth most common cause of death beginning in 1987. During 2003, the crude death rate was 51.3 per 100,000 population, reflecting the deaths of 1,818 Oregonians. CLRD contributed to an even larger number of deaths where it was not the underlying cause: 1,870. The age-adjusted death rate was 49.8.

Until recently, far more males succumbed to CLRD than did females, but in 1999 this pattern reversed for the first time. In 2003, 878 males and 940 females died from this cause. Although females appear to be at greater risk than males, this is a reflection of the age distribution of Oregon's population. The 2003 age-adjusted death rates showed that males were substantially more likely to die from CLRD than females, 59.6 vs. 44.3, a 34.5 percent difference. [Table 6-44m and Table 6-44f].

CLRD is the third leading cause of death for Oregonians ages 55-74, but the largest number of CLRD deaths occurred to residents ages 75-84 where CLRD ranked fourth. [Table 6-4]. Although the fourth most common cause of death overall, chronic lower respiratory disease ranked 12th in the number of years of potential life lost. The median age at death was 78, unchanged from the previous year.

Oregon's age-adjusted CLRD death rate has long been higher than that of the nation's, although the disparity has decreased in recent years. In 2002, the state's rate was 16.0 percent higher and ranked 12th among states and the District of Columbia.<sup>3</sup> An Oregonian died from CLRD every 4.8 hours, on average, during 2003.

## Unintentional Injuries

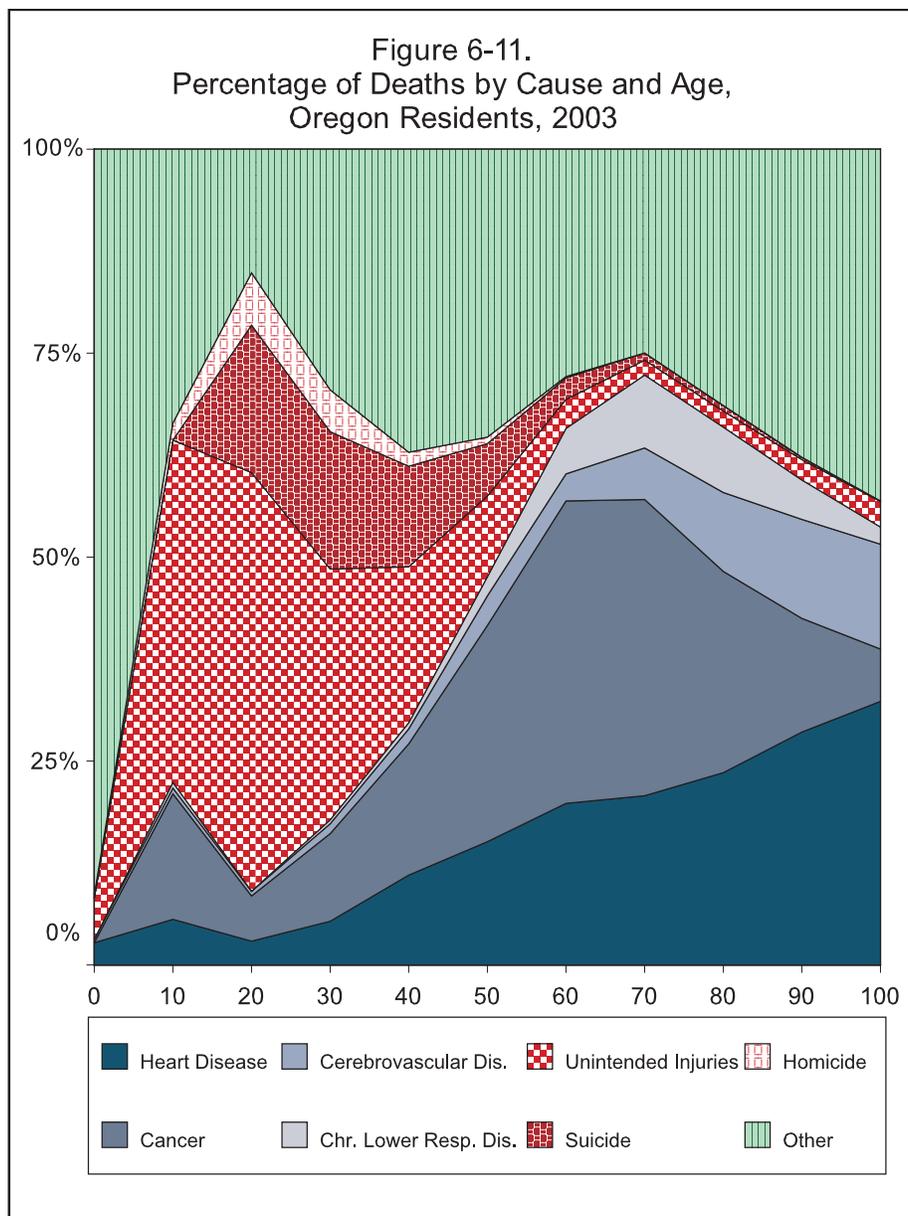
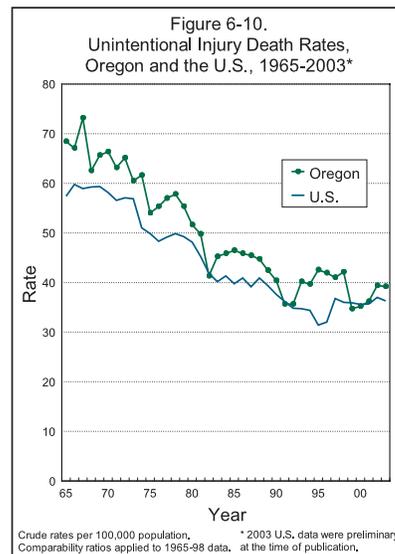
The unintentional injury<sup>5</sup> crude death rate changed little during 2003, slipping from 39.4 per 100,000 population in 2002 to 39.2. [Table 6-3 and Figure 6-10]. Fatal unintentional injuries claimed 1,388 Oregonians, making them the fifth leading cause of death, and contributed to the deaths of another 622 residents. Fifty-seven of the deaths occurred on the job. [Table 6-46].

A strong gender dichotomy exists in the unintentional injury deaths. The age-adjusted death rates revealed that males were about twice as likely to die in this manner as were females (51.5 vs. 26.7). [Table 6-44m and Table 6-44f]. The age-adjusted death rate for both genders was 38.3.

Unintentional injuries were the leading cause of death among children and adults ages 1-44 years (Figure 6-11) with the age-specific rates relatively invariant from the midteens until age 75. During the "golden years," however, the risk of falling led to a

greatly increased unintentional injury death rate. Although the fifth leading cause of death, unintentional injuries accounted for more years of potential life lost (25,182) than any other cause, reflecting its role as the most common killer of young Oregonians. The median age of death has trended upward since the mid-1990s, reaching 54 in 2002 before falling to 51 in 2003. By comparison, the median age of death in 1993 for this cause was 43.

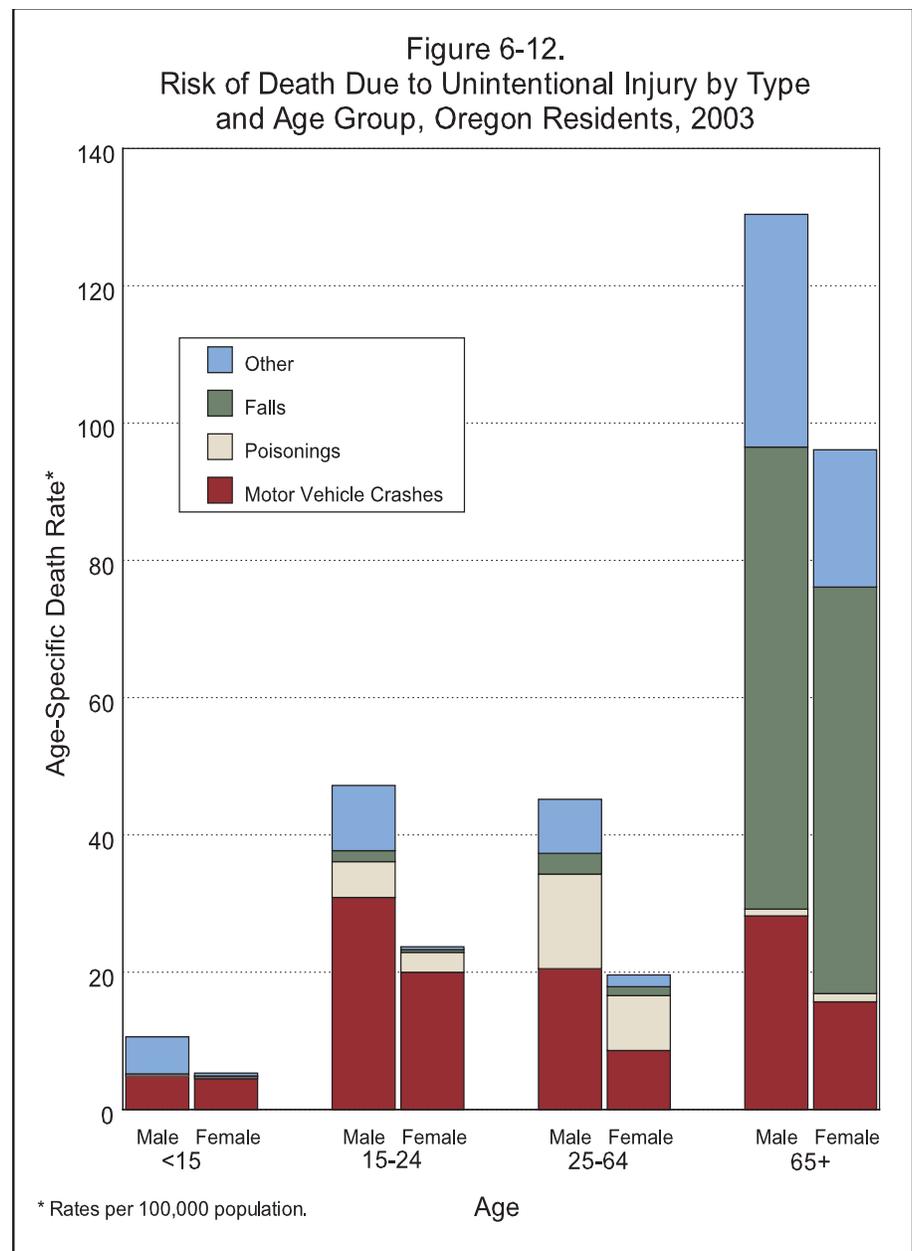
During the past several decades, Oregon's unintentional injury death rate has, nearly without exception, been notably higher than that of the nation's. More recently, however, the difference has been small; in 2002, Oregon's age-adjusted death rate was 4.4 percent higher than the nation's and ranked 27th highest.<sup>3</sup> Every 6.3 hours, on average, an Oregonian succumbed to an unintentional injury.



**Unintentional injuries  
accounted for more  
years of potential  
life lost than any  
other cause.**

Just as leading causes of death vary within different age groups, so does the type of fatal unintentional injury. [Figure 6-12]. Unintentional injury deaths occurring to children under age five most commonly resulted from motor vehicle crashes and drownings. Beginning at age five and through age 74 (with one exception) motor vehicle crashes predominated; the exception occurred among 45- to 54-year-olds where poisoning (usually of drugs used in an illicit manner) was most common. Oregonians 75 or older were most vulnerable to falls.

Motor vehicle accidents/crashes (MVAs/MVCs) posed the greatest risk of fatal injuries to Oregon residents. In fact, transportation-related injuries accounted for 42.6 percent of all unintentional injury deaths with nine out of ten of these resulting from motor vehicle crashes. [Table 6-7]. Of the 528 MVCs,



nearly two-thirds occurred among males and one-fourth among residents ages 15-24. In rank order, the MVC death rates were highest for residents ages 85+, 15-24, and 75-84. [Table 6-6t]. In most deadly Oregon traffic accidents, the fatalities occurred among persons traveling by car (229) or pickup truck/van (75). Less common were the deaths of pedestrians (59), motorcyclists (42), and pedal cyclists (14). Interestingly, while one-fourth (23.1%) of all fatalities occurring among persons in cars resulted from non-collisions (i.e., rollovers following loss of control), one-third (32.0%) of the fatalities occurring among persons in pickups or vans involved non-collisions.

Falls, the second most common type of fatal unintentional injury claimed 331 Oregonians, most of whom (77.9%) were 75 or older. About half of all falls occurred on the same level, most commonly from slipping or tripping. Twenty-four involved falls from stairs/steps, 20 from beds, and 13 from buildings or other structures. Among adults 75 or more years of age, falls were the greatest cause of an unintended fatal injury. [Table 6-23]. The age-adjusted death rates revealed that males were at a 52.7 percent greater risk of suffering a fatal fall than were females. [Table 6-44m and Table 6-44f]. (The increase in age-adjusted death rates seen in 2000 and 2001 may reflect, in part, improved reporting of falls on death certificates as a consequence of querying physicians.)

Unintentional poisonings, most often by narcotics and hallucinogens, ranked third among the types of fatal unintentional injuries. [Table 6-23]. Although 232 deaths were attributed to this category, it alone does not account for all deaths resulting from overdoses/poisonings; depending on how the fatality was reported on the death certificate, the death could be attributed to an unintentional injury or a mental/behavioral disorder (see the first footnote of Table 6-31). The age-adjusted death rates indicate that males were 65.3 percent more likely than females to die from unintentional overdoses/poisonings. These types of deaths were most common among residents 35-54 years of age.

Ranking fourth, drownings (including those involving watercraft) accounted for the deaths of 65 residents. [Table 6-41]. In Oregon, drownings not involving watercraft were most common (45). Of these, most (30) occurred in natural water with the remainder (among the specified sites) having occurred in swimming pools (4) and bathtubs/hot tubs (1). [Table 6-28].

### **Alzheimer's Disease**

Mirroring the aging of Oregon's population has been the seemingly inexorable rise in the number of Alzheimer's disease deaths. Since 1990, the death rate has more than doubled, the largest increase among the leading causes of death. [Figure 6-13]. During 2003, the tangles and plaques characteristic of this

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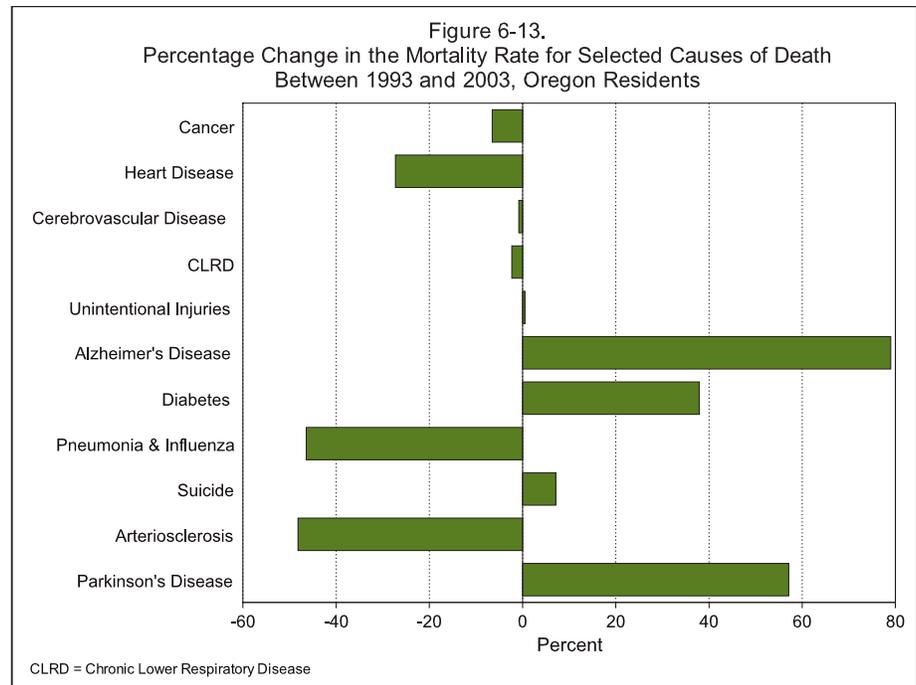
***Two-fifths of all unintentional injury deaths resulted from motor vehicle crashes.***

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***Falls accounted for three-fourths of all unintentional injury deaths among the elderly.***

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***The Alzheimer's disease death rate has increased 18 out of the last 20 years.***

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disease led to the deaths of 1,149 Oregonians and a record high death rate of 32.4 per 100,000 population. The age-adjusted death rate was 30.5. Alzheimer's disease also contributed to the deaths of 457 residents (where it was not the underlying cause).

Women have long been at greater risk of dying from this disease, in part because they are less likely to die from causes of death that most commonly claim their victims at younger ages. The age-adjusted death rate for women was 27.1 percent higher than that for men (32.8 vs. 25.8). [Table 6-44m and Table 6-44f]. Alzheimer's disease is the ninth leading cause of death among men but fifth among women.

This devastating disorder takes years to claim its victims lives; more than nine in ten of the deaths occurred after the decedent's 75th birthday. [Table 6-7]. Concomitant with the high median age at death (86) was a minimal number (56) of years of potential life loss. Alzheimer's disease is the fifth leading cause of death among residents ages 75-84 and the fourth leading cause among those 85 or older.

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***Oregon's Alzheimer's disease death rate ranked fourth highest among the states.***

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Oregonians have long been more likely to die from Alzheimer's disease than other U.S. residents. In 2002, the state's age-adjusted death rate was 36.0 percent higher than the nation's and ranked fourth among the states (including the District of Columbia).<sup>3</sup> On average, Oregonians succumbed to Alzheimer's disease every 7.6 hours.

Because of differences between the state and the nation in leading cause of death categorization, the comparability ratios published by the National Center for Health Statistics should not be applied to Oregon data (unless only ICD-9 code 331.0 is used). Please see Appendix B for further information.

### Diabetes Mellitus

With 1,032 resident deaths in 2003, diabetes mellitus was the seventh leading cause of death. The death rate for this disease increased nearly every year since 1985, but has changed little since 2001, declining from 29.8 per 100,000 Oregonians to 29.1 in 2003. The age-adjusted death rate was 28.2. Diabetes was a contributing factor more often than it was the underlying cause of death, 2,149 vs. 1,032. Some of the increase in deaths attributed to diabetes during 1999-2001 resulted from querying certifying physicians for the underlying cause when renal failure (not otherwise specified) was listed on the death certificate.

Although the crude death rates for males and females were similar, age-adjusted death rates showed that males were at a 38.4 percent greater risk of death from diabetes (33.5 vs. 24.2). [Table 6-44m and Table 6-44f]. Diabetes was the sixth leading cause of death for males and seventh for females.

Seven Oregonians younger than 25 died from diabetes, but 87.2 percent of all deaths occurred after age 54. It was the fourth leading cause of death among Oregonians ages 55-64 and the fifth leading cause among those 65-74 years of age. The median age at death was 76, compared to 77 a year earlier, and one of the lowest ages recorded among the natural causes of death. [Table 6-13]. Diabetes resulted in the loss of 3,376 years of potential life.

In recent years, the Oregon and United States diabetes mellitus age-adjusted death rates have been little different. At 11.1 percent higher than the U.S. rate during 2002, Oregon ranked 14th among the states. Every 8.5 hours, on average, an Oregonian died from diabetes.

### Influenza and Pneumonia

In 2003, influenza/pneumonia claimed 633 Oregonians, making it the eighth leading cause of death. The crude death rate was 17.9 per 100,000 population and the age-adjusted death rate was 16.9. Influenza/pneumonia contributed to almost three times as many deaths as it directly caused: 1,695.

Although more women than men died from these two infectious diseases in 2003 (357 versus 276), age-adjusted death rates revealed that males were at greater risk (20.2 vs. 15.4). [Table 6-44m and Table 6-44f]. Influenza/pneumonia ranked eighth among the leading causes of death for females and 10th for males.

These two related types of pulmonary infections claimed Oregonians in every age group, but eight in ten of the deaths occurred after age 74. The median age at death was 86 (Figure 6-14) and the years of potential life lost was 1,092.

In 2002, Oregon's age-adjusted death rate was 21.5 percent lower than the nation's and ranked 46th (i.e., fifth lowest, including the District of Columbia). Every 13.8 hours, on average, influenza or pneumonia claimed the life of an Oregonian.

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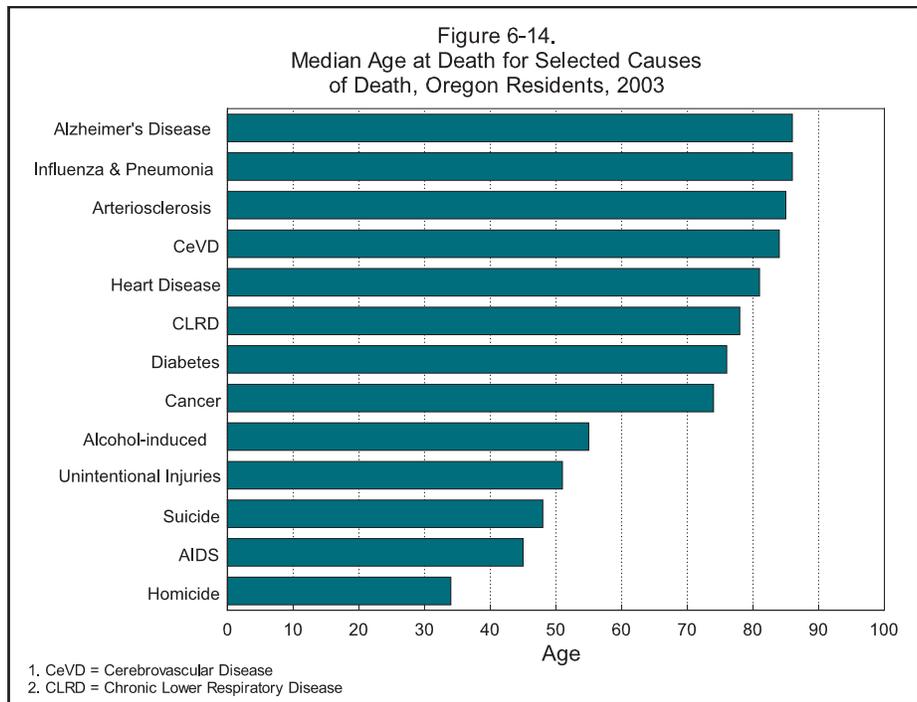
**Diabetes caused or contributed to the deaths of 3,181 Oregonians.**

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**Oregon's influenza/pneumonia death rate was the fifth lowest nationally.**

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In 1918, influenza swept across America 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.

**Suicide**

The number of Oregonians dying by suicide increased sharply during 2003 with a record 589 deaths compared to 517 the year before. Although the rate increased from 14.8 per 100,000 population to 16.6, it is not historically the highest; in 1998, a record high rate of 17.4 was recorded. [Table 6-3].

Males have long been at a far greater risk of suicide than females; with age-adjusted death rates of 27.8 and 6.0, respectively, males were 4.6 times more likely to die by suicide, but gender-specific rate differences were greatest among the elderly. [Table 6-44m and Table 6-44f, Table 6-7m and Table 6-7f]. The age-adjusted death rate for both sexes combined was 16.3. Suicide was the seventh leading cause of death among males and 14th among females.

Overall, suicide rates peaked among the elderly, but this masks a gender-based dichotomy: females were more likely to commit suicide in middle age, where the rate peaked at 13.2 among 45- to 54-year-olds, while rates among males increased sharply beginning at age 75, with the highest rate (109.1) recorded among those 85 or older. Although the overall suicide rate is highest among the elderly, most deaths (64.3%) occurred before age 55, resulting in the fourth largest number of years of potential life lost (10,716) by cause. Suicide was the second leading cause of death among residents ages 15-34 and third among those ages 35-44. The median age at death ranged between 44 and 46 years during

**A record 589 residents died by suicide in 2003, up from 517 in 2002.**

1997-2002, but in 2003 increased to 48 years, a record high. The youngest individuals to die by suicide were two 15-year-olds, a boy (who poisoned himself) and a girl (who hung herself) and the oldest a 97-year-old male (who shot himself).

Oregonians have long had higher suicide rates than residents of most other states. In 2002, Oregon's age-adjusted suicide rate was 37.1 percent higher than the nation's and ranked 11th highest among the states.<sup>3</sup> On average, an Oregonian committed suicide every 14.9 hours in 2003.

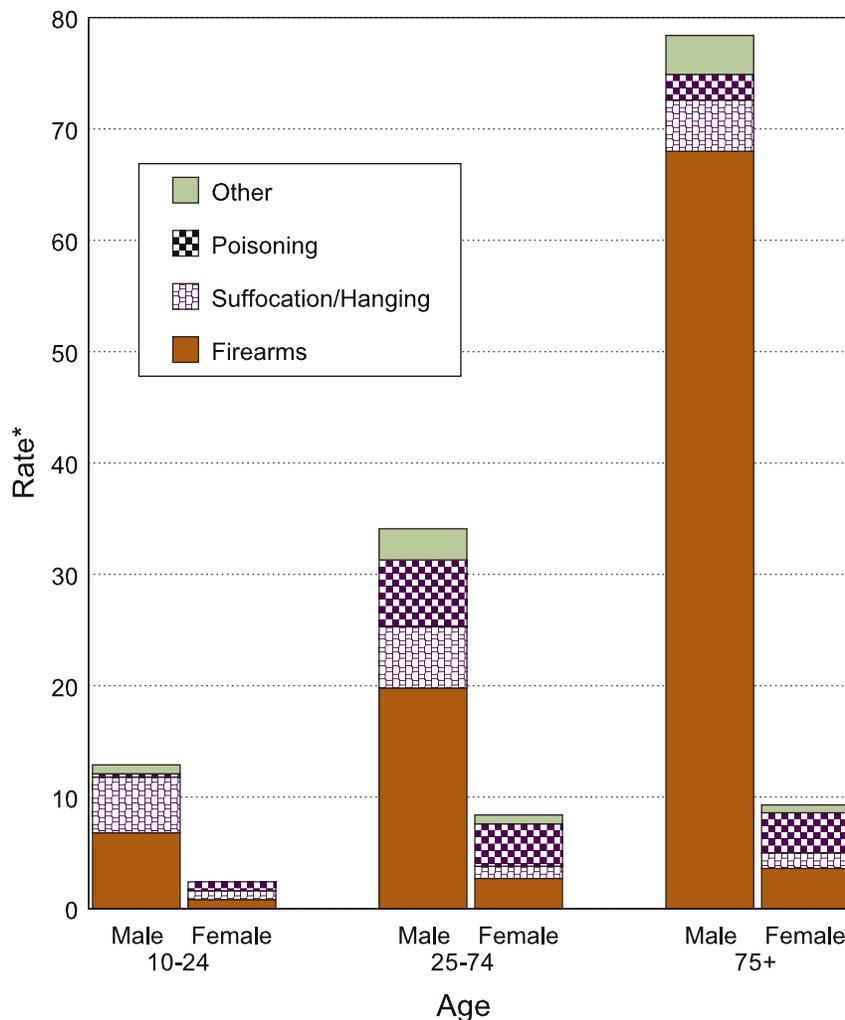
The method of suicide varied by age and gender, but overall most (55.9%) deaths resulted from fatal gunshot injuries. [Table 6-29 and Figure 6-15]. Although most suicides were committed with guns, there was a considerable dichotomy by sex; six-tenths (61.1%) of males shot themselves, but only one-third (33.3%) of females did so. (Nearly three-quarters of the gunshot fatalities

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***Oregon's suicide rate was 37 percent higher than the nation's.***

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Figure 6-15.  
Suicide Death Rates by Method, Sex,  
and Age Group, Oregon Residents, 2003



\* Rates per 100,000 population.

***Suicide is the second leading cause of death for Oregonians ages 15-34.***

***Oregonians are dying more often and at younger ages from alcohol abuse: the death rate increased to a record high 14.6 and the median age at death fell to 55.***

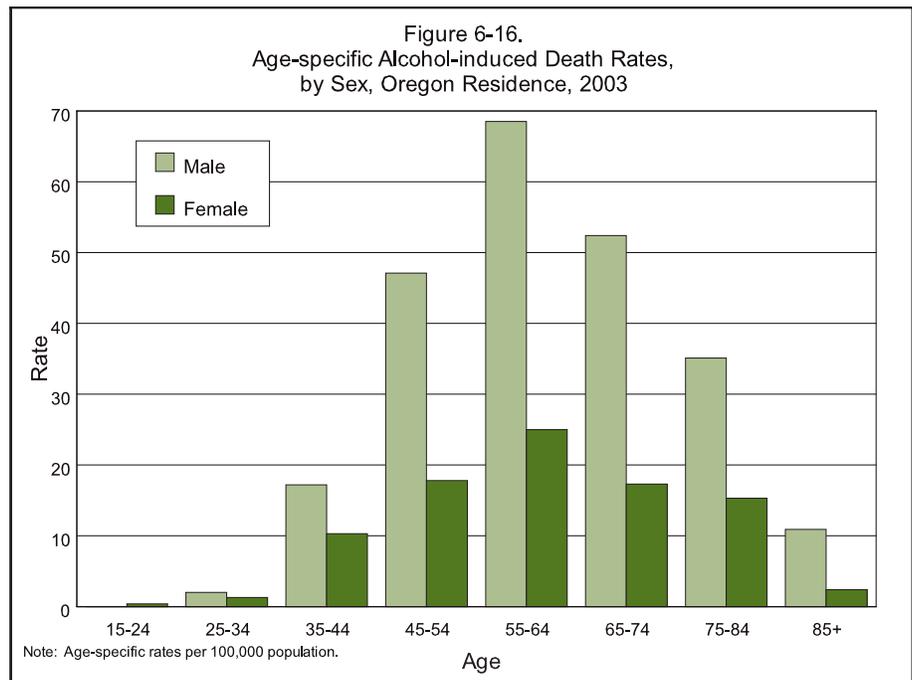
resulted from the use of handguns.) Females were more likely to poison themselves (43.2%) than they were to shoot themselves, while males were much less likely (14.2%) to die by poisoning. Moreover, there was a difference by gender in the type of poison used: 87.5 percent of all poisoning deaths by females involved medications compared to 64.7 percent of the poisoning deaths among males. Overall, one in five (19.7%) suicides involved poisoning. Hanging/suffocation was the third most common method of suicide (16.6%) with only a small difference in the proportion of males and females using this method.

**Alcohol-induced Deaths**

Alcoholism (including related disorders and alcohol poisonings)<sup>7</sup> claimed a record 518 Oregonians during 2003, making it the 10th leading cause of death. Alcohol was a factor in no less than 344 deaths, but did not directly cause the death. [Table 6-47]. The crude death rate for this group of allied conditions was 14.6 per 100,000 population, the highest since at least 1979, when this cause was first tabulated. Although the rate for this cause has increased every year since 1999, when it was 9.2, some of the initial increase may have resulted from querying physicians about the role of alcohol in their patients' deaths, when causes suggestive of alcohol use were mentioned on death certificates.

Fatal alcohol abuse was the eighth leading cause of death among males and 10th among females. The age-adjusted alcohol-induced death rate was over twice as high for males as for females (20.7 versus 8.4). [Table 6-44m and Table 6-44f]. The overall age-adjusted death rate was 14.2. [Table 6-44].

Age-specific alcoholism rates peaked among residents 55- to 64 years old. [Figure 6-16]. This disorder was the fourth leading



cause of death among residents ages 45-54 years and the fifth leading cause of death among those ages 35-44 years and 55-64 years. Oregonians have been dying at increasingly younger ages from this cause; in 1990 the median age of death was 61 years, but by 2003 it had fallen to 55 years, the lowest ever recorded. Alcoholism was the seventh leading cause of premature death, accounting for 5,522 years of potential life lost.

The Oregon alcohol-induced death rate has long been higher than that of the United States. In 2002, the most recent available data year, Oregon's rate was 78.3 percent higher than the nation's and ranked fifth among the states. However, at least part of the difference between the state and the nation may result from a reporting artifact: while Oregon queries physicians for additional information when causes listed on death certificates are suggestive of alcohol use, such as esophageal varices, many states do not. An Oregonian succumbed to alcoholism every 16.9 hours, on average.

This category is comprised of alcohol-related disorders from multiple organ systems with alcoholic liver disease accounting for the majority (59.1%). If intentional and unintentional injury deaths where alcohol was a factor (e.g., motor vehicle crashes, homicides) were included in this category, the count would be considerably higher. (The role, if any, of alcohol in injury deaths is rarely reported on death certificates.)

### **Parkinson's Disease**

Ranking 12th during 2003, Parkinson's disease claimed 310 Oregon residents with the crude death rate reaching a record high of 8.8 per 100,000 population. The age-adjusted death rate was 8.4. While the mortality rates for many major causes have fallen in recent decades, the rate for this neurological disorder has continued to trend upward. [Table 6-3].

The risk of death among males from Parkinson's disease was twice that of females; age-adjusted death rates were 12.0 for men and 6.0 for women. [Table 6-44m and Table 6-44f]. Parkinson's disease was the 11th leading cause of death among males and 12th among females.

Parkinson's disease claims almost exclusively persons 55 or older, although one younger Oregonian did die from the disorder during 2003. [Table 6-7]. The median age at death was 82 in 2003, but has shown no clear trend during the previous decade, ranging between 81 and 83. As with many other causes, the high median age at death was associated with few years of potential life lost; in 2003, Parkinson's claimed just 61 years.

Among the leading causes of death of the state's residents, Oregon's death rates ranked among the top five nationally for

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***Oregon's Parkinson's disease death rate has continued to increase and ranked fourth highest nationally.***

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six causes; three of those causes were neurological diseases (Parkinson's disease, Alzheimer's disease and amyotrophic lateral sclerosis). [Table 6-71]. Oregon's Parkinson's disease death rate has long been higher than the nation's, and at 32.8 percent higher during 2002, the rate was fourth highest among the states. Every 1.2 days, on average, an Oregonian died from Parkinson's disease.

### **Arteriosclerosis**

The long-term trend of a declining arteriosclerosis death rate paused in 2002, resuming in 2003 with the rate falling to a near record low of 5.8 per 100,000 population, second only to the 5.6 recorded in 2001. With 205 deaths, arteriosclerosis was the 14th leading cause of death in 2003. However, the number of deaths attributed to arteriosclerosis does not include all deaths related to this cause since many have been classified to more specific manifestations of cardiac and cerebral disease.

Each year more women than men die from arteriosclerosis; however, age-adjusted death rates showed that males were at a greater risk of dying from this disease (6.4 vs. 5.1) in 2003. [Table 6-44]. For both sexes, the age-adjusted death rate was 5.6. Arteriosclerosis was the 13th leading cause of death among females and 15th among males.

More than four-fifths (83.9%) of the deaths occurred among those 75 or older. The median age at death for arteriosclerosis is typically among the highest and in 2003 was 85 years, one year less than that recorded for Alzheimer's disease and pneumonia/influenza. Because most deaths attributed to arteriosclerosis do not occur until age 65 or older, the number of years of potential life lost is typically very small; in 2003 just 82 years were lost.

Oregon's age-adjusted death rate was 25.0 percent higher than the nation's during 2002 (the most recent available data year) and ranked 24th highest among the states. A resident died from arteriosclerosis every 1.8 days, on average.

### **Homicide**

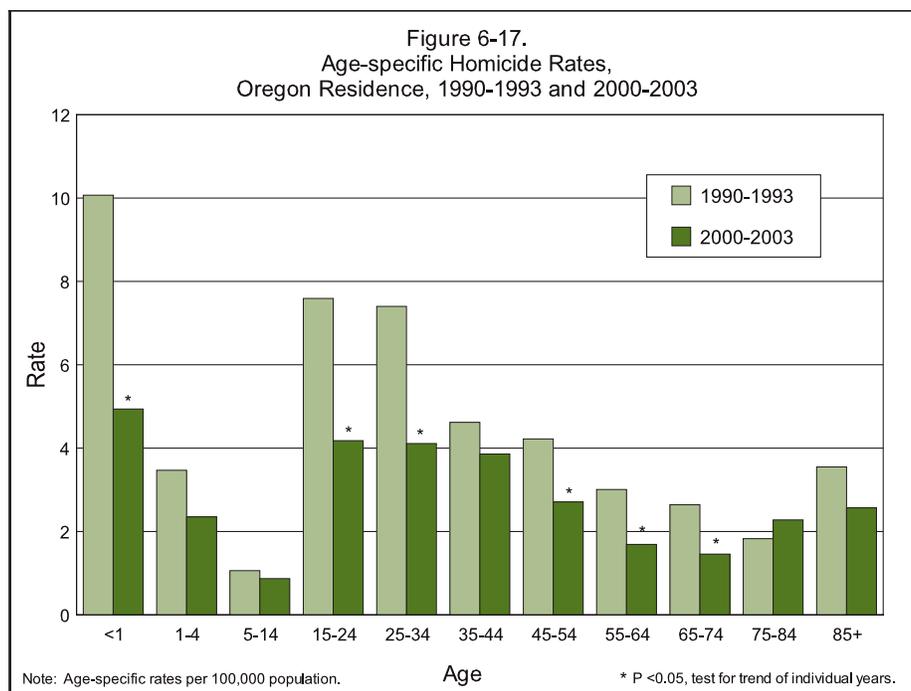
Oregon's homicide rate<sup>8</sup> has trended downward over the past decade, falling to 2.6 per 100,000 population during 2003, the lowest rate recorded since 1964. The highest rate (6.8) occurred in 1986. With 91 victims, homicide was the 23rd leading cause of death during 2003. One death occurred while the decedent was on the job.

Every year, more males than females are murdered -- and 2003 was no exception. The male age-adjusted death rate (3.5) was 2.3 times higher than the rate (1.5) recorded for females. [Table 6-44m and table 6-44f]. The age-adjusted rate for both genders was 2.6.

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***Oregon's homicide rate  
fell to its lowest level  
since 1964.***

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**Infants were more likely  
to be killed than  
residents of any other  
age group.**

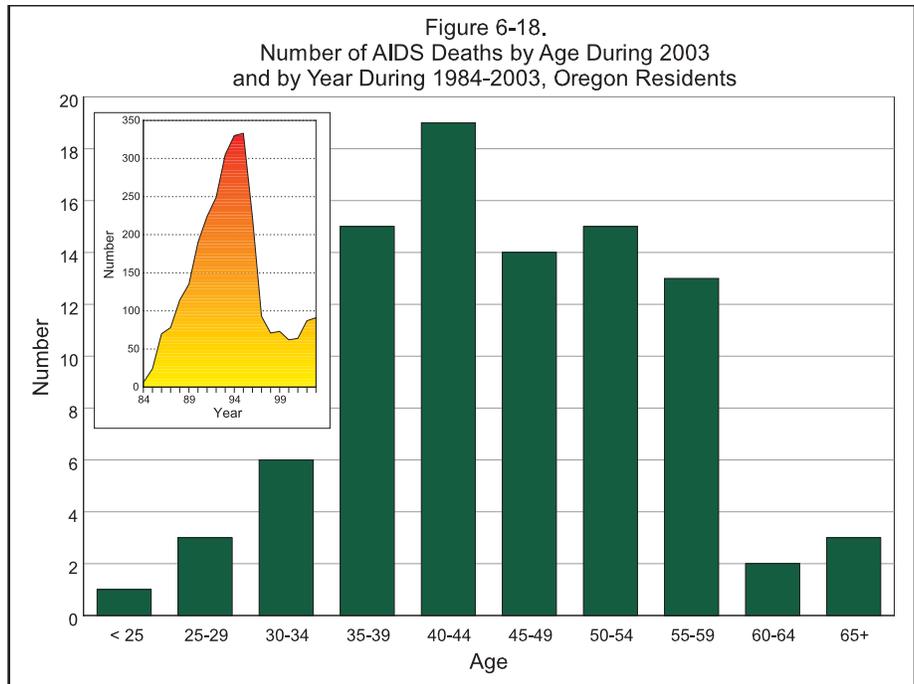
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By age, infants are more likely to be homicide victims than Oregonians of any other age; during 2000-2003 their homicide rate was 4.9 per 100,000 population compared to 4.2 for 15- to 24-year-olds and 4.1 for 25 to 34-year-olds. (Rates based on multiple years yield more representative values than those based on the relatively small numbers recorded for any single year.) Based on a multiyear comparison (1990-93) vs. 2000-03), the infant homicide rate fell by half (51.5%), a statistically significant decline during the past decade. Statistically significant declines for other age groups are indicated with an asterisk in Figure 6-17. A statistically insignificant increase was recorded for 75- to 84-year-olds. Homicide was the third leading cause of death among adolescents and young adults ages 15-24 years and the fifth leading cause among 25- to 34-year-olds. The median age at death for homicide victims was 34 years, the lowest among the leading causes (except for SIDS and perinatal conditions). With 2,662 years of potential life lost, homicide was the ninth leading cause of premature death.

Historically, Oregon's homicide rate has been among the lowest in the nation. During 2002 (the most recent available data year), Oregon's rate was 46.6 percent lower than the nation's and ranked 37th among the states and the District of Columbia. [Table 6-71]. During 2003, a resident was murdered every 4.0 days, on average.

Firearms are unrivaled as an implement of homicide, accounting for more than half of all such deaths. Sharp objects accounted for one in 10 deaths and strangulation for one in 11 deaths. Blunt objects were used in three homicides. [Table 6-29].

**Between 2001 and 2003, the AIDS/HIV death rate increased 44 percent.**



**AIDS/HIV**

After peaking at 360 deaths in 1995, the number of AIDS/HIV deaths declined to a low of 62 in 2000. Since then the number of deaths has trended upward, rising to 91 in 2003. [Figure 6-18]. The crude death rate was 2.6 per 100,000 population, up from 1.8 recorded for both 2000 and 2001.

Among the leading causes of death, there’s no stronger dichotomy by gender in the risk of death than there is with AIDS/HIV. The age-adjusted death rate for males was 4.7, 9.4 times higher than the rate for females (0.5). [Table 6-44m and Table 6-44f]. The age-adjusted death rate for both genders was 2.5.

Age-specific death rates rose sharply in early adulthood reaching 6.2 per 100,000 among 35- to 44-year-olds, declining to 5.5 among 45- to 54-year-olds, and then falling rapidly after age 64. These rates are driven largely by deaths among males. The years of potential life lost were 1,776 and the median age at death 45 years, the highest ever recorded. A decade earlier, half of all deaths occurred by age 38.

Oregon’s AIDS/HIV rate has long been lower than the nation’s; in 2002 (the most recent data year available) the state's rate was 48.9 percent less than the national rate and ranked 25th among the states. On average during 2003, a resident died every 4.0 days from this devastating disease.

**DISPOSAL OF REMAINS**

During the past two decades, the ratio of cremations to burials has changed dramatically. In 1980, the first year such data were recorded, 23 percent of Oregonians who died were

**For the first time, cremations occurred with twice the frequency of burials.**

cremated, while 65 percent were buried. By 1994, the proportion of Oregon decedents who were cremated doubled to 46 percent. By 2003, cremation outnumbered burial by two to one (61% vs. 30%).

**Demographic Characteristics**

Males were more often cremated than females and middle-aged Oregonians more often than their younger or older counterparts (see sidebar). Residents who died at ages 45-54 were more than three times as likely to be cremated as buried (75% vs. 19%).

Race/ethnicity (and its concomitant cultural practices) is linked with the chosen method of disposal of remains. Those least likely to choose cremation were Oregonians of Hispanic ethnicity (39%) while those most likely to do so were Oregonians of Japanese decent (77%).

Strongly correlated with the manner of disposal of remains was the educational attainment of the decedent -- the greater the number of years of education, the more likely the decedent was to be cremated. Among adults 25 or older, 45 percent of those with no more than a grade school education were cremated compared to 69 percent of those with a post-baccalaureate education. Differences exist, too, by occupation.<sup>9</sup>

**Geographic Characteristics**

Cremation was much more common among residents living west of the Cascades than to the east. In fact, in only one eastern county were more than 65 percent of the decedents cremated (Deschutes) while west of the Cascades only one county recorded a cremation rate under 55 percent (Columbia). In all coastal counties and southwestern counties, at least 65 percent of the decedents were cremated. Cremation was most common among Lincoln County residents (77%) and least common among Wallowa County residents (14%).

Nationally, 29 percent of all decedents were cremated in 2003, a figure less than half that seen for Oregon. Like Oregon, the U.S., too, shows marked geographic patterns in the proportion of decedents cremated; rates were highest in the western states and lowest in the southeastern states (except for Florida).<sup>10</sup> In 2003, Oregon's cremation rate ranked fourth following Hawaii (63%), Washington (63%), and Nevada (62%). Fewer than one in 12 residents were cremated in three southern states: Tennessee (3%), Alabama (7%), and Mississippi (8%).

**Oregon's cremation rate was fourth highest nationally.**

Disposal of Remains by Demographic Characteristics of the Decedent, 2003			
Characteristic	Percent <sup>1</sup>		No. of Deaths <sup>2</sup>
	Cremated	Buried	
Total	61	30	30,813
<b>Sex</b>			
Male	64	29	15,164
Female	58	32	15,649
<b>Age</b>			
0-14	46	49	399
15-24	53	36	343
25-34	63	26	410
35-44	71	21	926
45-54	75	19	2,091
55-64	74	21	3,283
65-74	67	27	4,961
95-84	59	33	8,947
85-94	52	36	7,927
95+	44	40	1,526
<b>Race/ethnicity<sup>3</sup></b>			
White	62	30	29,264
African-American	40	44	386
American Indian	50	41	283
Hispanic	39	40	482
Japanese	77	14	78
Chinese	48	40	89
SE Asian & Pacific Isl.	55	41	83
Other	55	33	148
<b>Years of Education (Ages 25+)</b>			
0-8	45	44	3,565
9-11	59	32	3,165
12	61	30	12,784
13-15	65	26	5,598
16	68	24	2,601
17+	69	23	1,845

1. Remains of residents interred in a mausoleum, removed out-of-state, or donated to medical science are included in the total, but not shown.  
 2. Total of all methods.  
 3. All race categories are non-Hispanic: all decedents of Hispanic ethnicity are included in "Hispanic."

**ENDNOTES**

1. World Health Organization. The World Health Report 2005. Geneva, Switzerland. 2005. (<http://www.who.int/whr/2005/annex/en/index.html>).
2. Periodically, the International Classification of Disease manual is revised. The 10th revision was implemented in 1999 resulting in: considerably greater detail for some causes (and less detail 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 occurred in the comparability for a number of causes of death. Readers wishing to compare death rates (and/or number of deaths) for 1999 and subsequent years to prior years should use the comparability ratios described in Appendix B. Comparability ratios have been applied to the data in Table 6-3.
3. The most recent available national data is for 2002. Age-adjusted death rates where Oregon and the United States are compared use U.S. Census Bureau population estimates, unlike other age-adjusted death rates in this report where Portland State University Center for Population Research and Census figures are used.
4. Statewide records of cause of death were first collected in 1908.
5. Unintentional injuries is preferred to the term accidents (ICD-10 V00-X59, Y85-Y86).
6. Note that residents choosing the "Death with Dignity" option are not counted here; they are included in the appropriate disease categories.
7. This cause includes both natural and acute poisoning deaths -- unlike data prior to 1999 which excluded the latter. Beginning with 1999 data, the following causes are included: alcoholic mental/behavioral disorders, degeneration of the nervous system, polyneuropathy, cardiomyopathy, gastritis, liver disease, chronic pancreatitis, maternal care for damage to fetus from alcohol, fetus or newborn affected by maternal alcohol use, alcohol in the blood, acute unintentional alcohol poisoning, acute suicidal alcohol poisoning, and acute alcohol poisoning of undetermined manner. The ICD-10 codes are F10, G31.2, G62.1, I42.6, K29.2, K70, K86.0, O35.4, P04.3, R78.0, X45, X65, and Y15, respectively.
8. Unlike ICD-9, deaths resulting from legal intervention are no longer included in this category; see Table 6-34 for the number of deaths attributable to the actions of law enforcement officers.
9. Oregon Center for Health Statistics. Ashes to Ashes, or the Worm's Lament. *Oregon Health Trends*. 1999; 53: 5-7. Oregon Department of Human Services. Health Division. (<http://oregon.gov/DHS/ph/chs/data/newsltr/oht53/trends53.shtml>).
10. Cremation Association of North America; <http://www.cremationassociation.org/html/statistics.html>