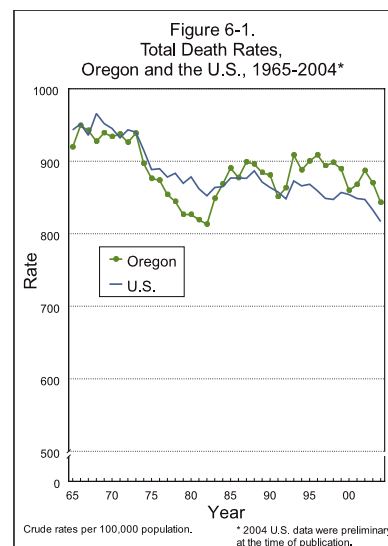


# Mortality

Fewer Oregonians died in 2004 (30,201) than during 2003 when 30,813 deaths were recorded. Oregon's crude death rate fell 3.1 percent during 2004 to 843.0 per 100,000 population, down from 870.1 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 838.4 to 814.8, a record low and a continuation of long-term downward trend.

For many years, Oregon had a lower age-adjusted death rate than the nation, but in recent years that difference has gradually diminished. During 2003 (the most recent available data), Oregon's rate was 2.9 percent lower than the US rate and ranked 30th highest among the states and District of Columbia. [Table 6-51]. During the past quarter-century, the greatest difference between the rates occurred during 1982 when Oregon's rate was 7.7 percent lower than the US rate (909.4 versus 984.9) and sixth lowest among the states and District of Columbia.

Oregon's age-adjusted cause-specific death rates ranked among the top 10 states (and District of Columbia) for seven causes: cerebrovascular disease (7th highest), Alzheimer's disease (7th), suicide (8th), alcohol-induced deaths (4th), hypertension (8th), Parkinson's disease (5th), amyotrophic lateral sclerosis (6th), and, viral hepatitis (8th). At the same time, Oregon was among the states with the 10 lowest rates for six causes: heart disease (5th lowest), influenza/pneumonia (6th), nephritis/nephrosis (7th), septicemia (4th), perinatal conditions (6th), and, homicide (10th).

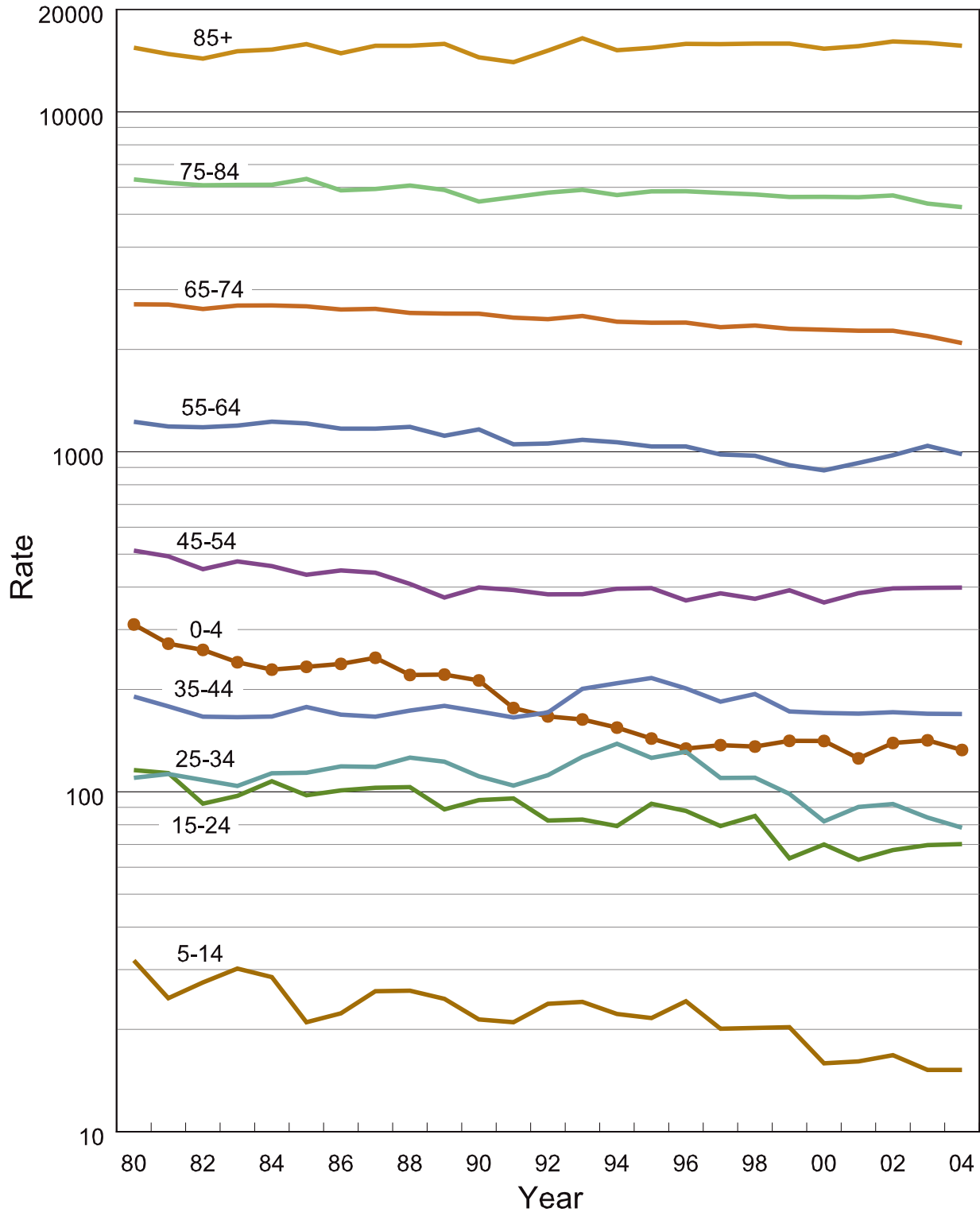


**The life expectancy of Oregonians in 2004 was 78.1 years.**

Life Expectancy, Oregon and the United States, 1960-2004						
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
1995	76.8	74.0	79.5	75.8	72.5	78.9
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
2004	78.1	75.7	80.4	77.9	75.2	80.4

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 2004 ([http://www.cdc.gov/nchs/data/nvsr/nvsr54/nvsr54\\_19.pdf](http://www.cdc.gov/nchs/data/nvsr/nvsr54/nvsr54_19.pdf)).

Figure 6-2.  
Age-specific Death Rates,  
Oregon Residents, 1980-2004



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

## LIFE EXPECTANCY

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 far shorter lives, but the long-term trend is for an increasing life expectancy. Since 1960, the life expectancy of Oregonians has increased from 70.9 years at birth to 78.1 in 2004.

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, and changing medical technology.

Life expectancy for Oregon males reached a record high 75.7 years in 2004, while the rate for females increased to 80.4, matching the level seen in 2000. 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 has since and fallen precipitously with state's life expectancy exceeding the nation's by just 0.2 years (78.1 versus 77.9.) The Oregon advantage disappeared entirely in 2004 for resident females. Relative to the United States, Oregon's life expectancy has risen more slowly since 1960; while the state's life expectancy has increased 10.2 percent, the nation's has increased 11.8 percent.

Among the nations of the world, the United States ranked 45th in life expectancy, ranking below countries such as Spain, Jordan, and Liechtenstein. Life expectancy was longest in Andorra—83.5 years.<sup>1</sup>

## DEMOGRAPHIC CHARACTERISTICS

### Gender

The decline in Oregon's overall mortality rate between 2003 and 2004 reflects the decline seen for both sexes. [Table 6-1]. Although the crude death rate for females (848.4 per 100,000 population) was 1.3 percent higher than that recorded for males (837.5), 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 manifested in the age-adjusted death rates (694.5 versus 980.4). The increase in female crude death rates vis-à-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 women than men, 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 United States ranks 45th in life expectancy, tied with Cyprus.***

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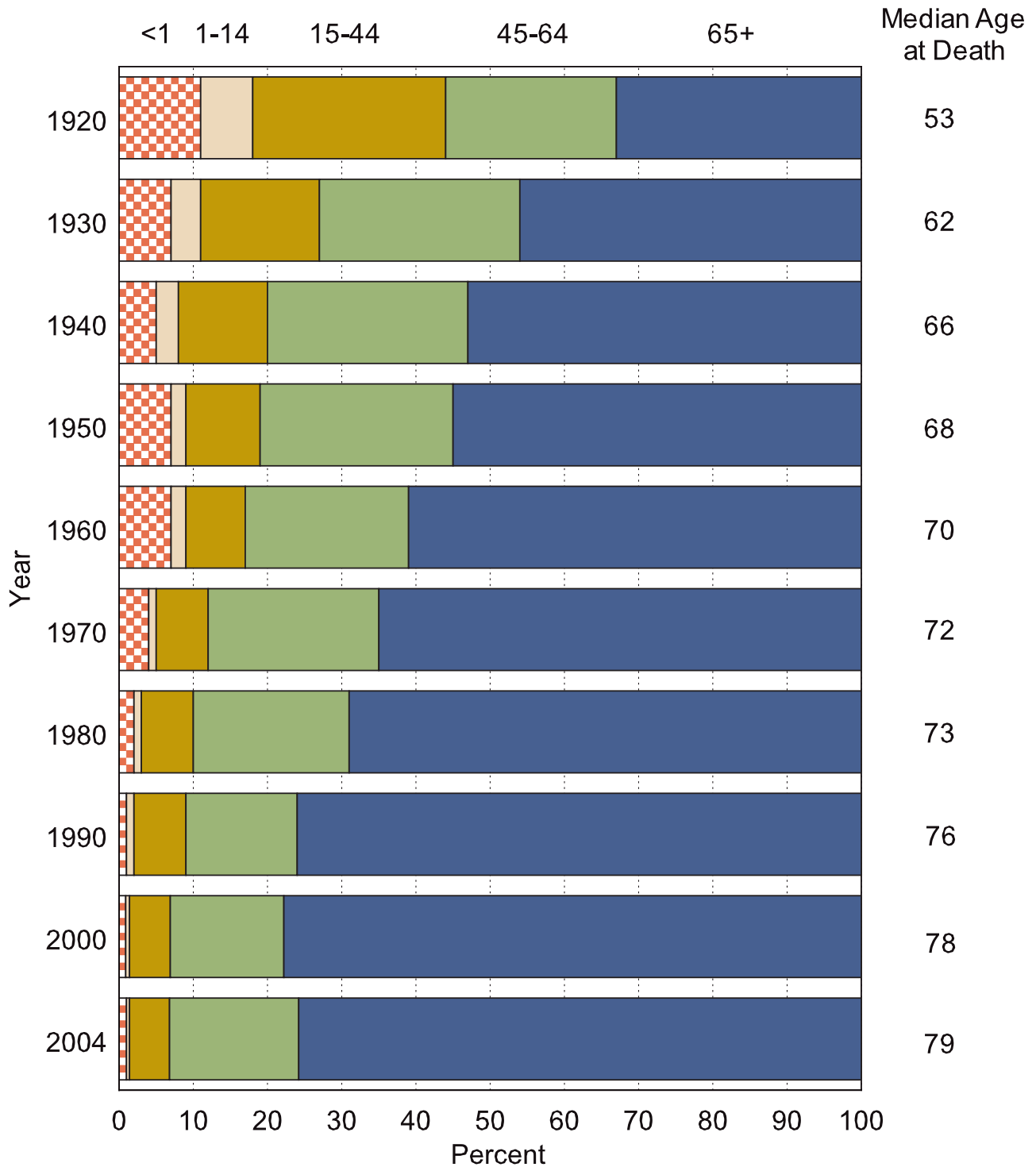


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***The oldest Oregonian to die in 2004 was a 107 year-old man.***

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Figure 6-3.  
Proportion of Deaths by Selected Age Groups,  
Oregon Residents, 1920-2004



## Age

During the past decade, age-specific death rates have declined for five of the six groups shown in Table 6-1, the exception being Oregonians 65 or older where the rate increased by a negligible 0.1 percent. Age-specific rates declined between 24 and 30 percent among Oregonians ages 5-44.

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, 95.1 per 100,000 versus 44.1. For both sexes combined, the median age at death increased from 78 to 79 in 2004 while that for males increased from 75 to 76. The female median age at death remained unchanged.

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

### Overview

In 2001, for the first time, the number of Oregonians dying as a consequence of cancer exceeded the number dying from heart disease, albeit by just five deaths. By 2004, the difference increased one hundredfold to 540, with malignant neoplasms accounting for 7,227 deaths compared to 6,687 for heart disease. Throughout the 20th century, with the notable exception of the great influenza pandemic of 1918-19, heart disease was the leading cause of death of Oregonians.

Together, malignant neoplasms and heart disease accounted for 46.1 percent of all deaths during 2004. 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 (see box on page 6-6), a reflection of the younger ages of cancer's victims. The apparent increasing risk of cancer vis-à-vis heart disease isn't a result of increasing cancer deaths 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 rapidly.

Some causes of death have become increasingly common, with their rates displaying a significant upward trend during the past decade. Age-adjusted death rates were at record highs for the following causes: viral hepatitis (from 1.7 in 1995 to 2.9 in 2004); esophageal cancer (4.3 to 5.6); diabetes mellitus (22.1 to 29.0); Parkinson's disease (7.2 to 8.6); Alzheimer's disease (19.5 to 33.4); hypertension (6.7 to 9.5); nephritis/nephrosis (5.2 to 8.2); and, falls (6.1 to 10.1). At the same time, other causes have become less common, showing a significant downward trend, with the rate falling to its lowest point during the past decade, including: malignant neoplasms in general (213.7 to 196.7); cancer of the colon, rectum, and anus (22.1 to 17.5); female breast cancer (30.4

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

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**Cancer deaths outnumbered heart disease deaths.**

to 25.0); prostate cancer (38.3 to 28.1); leukemia (8.5 to 7.3); heart disease (232.6 to 179.2); coronary artery disease (181.9 to 119.7); myocardial infarction (61.8 to 39.5); cerebrovascular disease (82.2 to 61.9); arteriosclerosis (9.0 to 4.6); influenza and pneumonia (19.8 to 14.7); and emphysema (9.2 to 6.4).

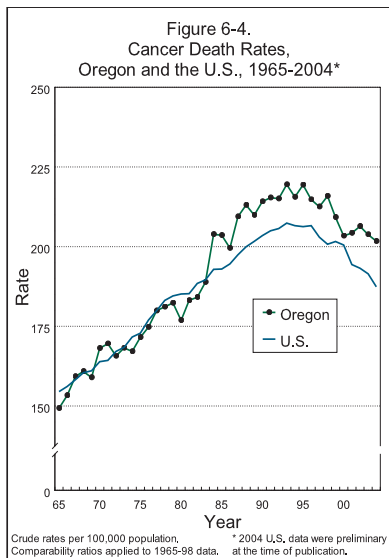
Causes of death varied by age group. Among infants, perinatal conditions were most common, but unintentional injuries ranked first for Oregonians ages 1-44. From age 45 through 84 cancer was leading cause of death, but among residents 85 or older, heart disease ranked first. Until 2003, heart disease had been the leading cause of death beginning at age 75.

**Cancer**

During 2004, cancer was the leading cause of death among Oregonians. 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 2004, the crude death rate was 201.7 per 100,000 population compared to 203.8 a year earlier. Age-adjusted death rates trended lower, as well, falling from 198.2 to 196.7 in 2004. Malignant neoplasms were a contributing factor, but not the underlying cause, in 822 deaths.

The difference in death rates between males and females has narrowed greatly during the past two decades. During 2004, the crude death rate for cancer was 7.5 percent higher for males than females, 209.0 versus 194.5. Nonetheless, the disparity was far greater when age-adjusted death rates were compared, 238.4 versus 169.6, a 40.6 percent difference. [Table 6-43m and Table 6-43f]. Malignant neoplasms were the leading cause of death for both males and females. [Table 6-2].

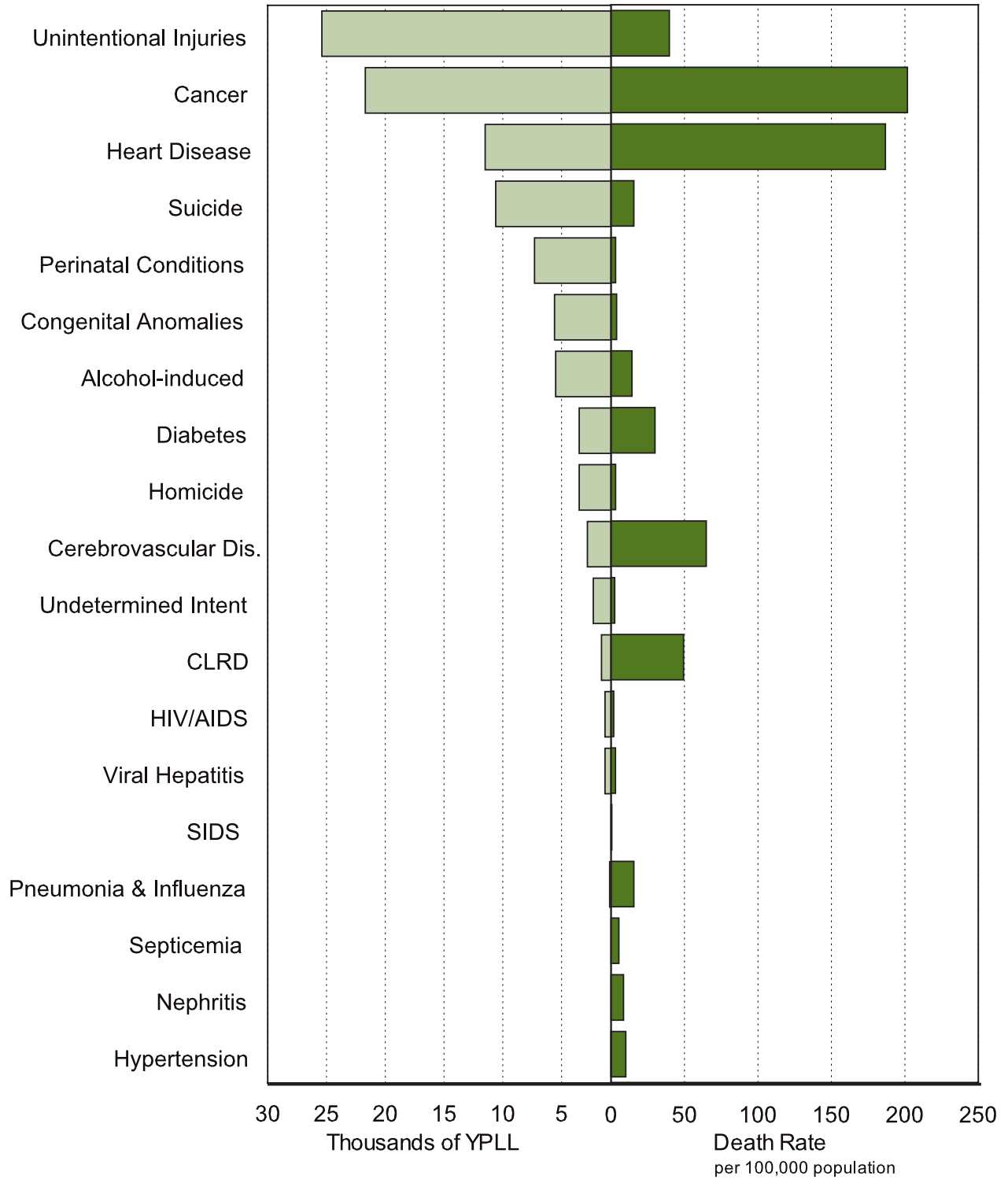
Cancer was one of the top five leading causes of death among Oregonians of all ages, except infants, and was the leading cause of death for residents ages 45 through 84. Half of all the deaths from this cause in 2004 occurred by age 74. Malignant neoplasms



**Years of Potential Life Lost**

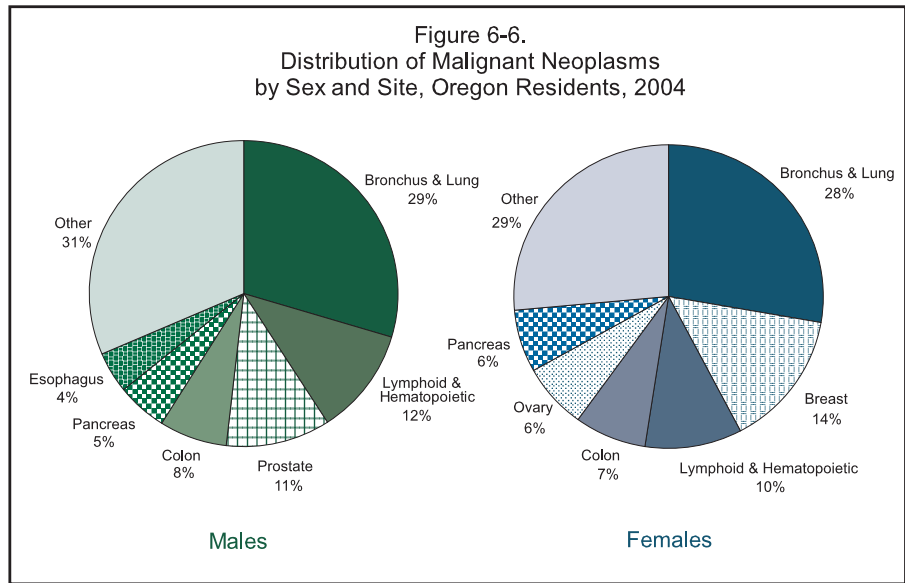
Mortality rates alone do not show the full impact upon society of certain causes of death. The deaths of young people are a greater “cost” to society than deaths of older people in terms of years of potential life lost (YPLL). The YPLL yardstick quantifies premature mortality occurring in younger age 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, 2004



CLRD = Chronic Lower Respiratory Disease

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



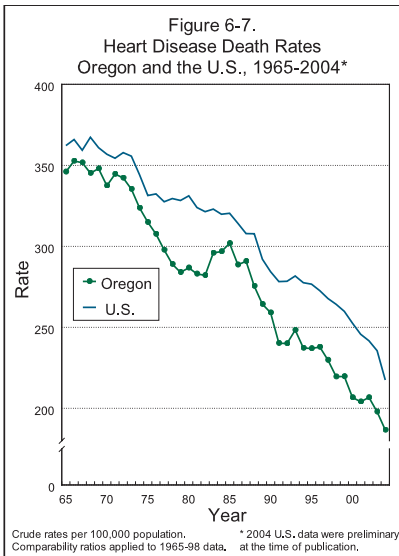
were the second-leading cause of premature death, following unintentional injuries, and accounted for 21,652 years of potential life lost.

Oregon’s age-adjusted malignant neoplasm death rate had long been lower than that of the United States’, but more recently the rates have been similar; in 2003, the rate was 1.4 percent higher than the nation’s and ranked 26th among the states and District of Columbia.<sup>3</sup> Cancer claimed the life an Oregonian every 73 minutes, on average.

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 3.6 male deaths due to lung cancer for every female death, but by 2004 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, 975 versus 512, respectively. Ranking third and fourth were lymphoid and hematopoietic cancer and colon cancer. Among males, lymphoid and hematopoietic cancer ranked second, followed by prostate and colon cancer.

**Heart Disease**

Despite brief occasional breaks in the long-term downward trend in its death rate, heart disease had been the leading cause of death in Oregon during most of the 20th century.<sup>4</sup> In 2001, for the first time, more deaths (five) resulted from cancer than from heart disease. During 2004, 6,687 Oregonians succumbed to heart disease, 540 fewer than from malignant neoplasms. The crude death rate fell from 197.9 per 100,000 population in 2003 to 186.7 during 2004, while the age-adjusted death rate fell from 189.5





to 179.2. Heart disease was listed on 4,361 death certificates as a contributing factor in the decedent's death, but not the underlying cause.

The 2004 crude death rate for heart disease was 4.2 percent higher for males than females (190.5 versus 182.9). However, age-adjusted death rates for heart disease showed that the risk of death from this cause was actually far greater among males than females, 230.3 compared to 142.9, a 61.2 percent difference. [Table 6-43m and Table 6-43f].

Heart disease was the leading cause of death for Oregonians 85 or older and one of the top five causes among Oregonians of all ages except infants and youth ages 15-24. It was the second-leading cause of death for residents ages 45-84. The median age at death increased from 81 to 82 years during 2004, a record high. [Table 6-13]. Reflecting the relatively older ages at which Oregonians died from heart disease was this cause's rank by years of potential life lost; 11,505 years of potential life were lost, making it the third leading cause of premature death following cancer and unintentional injuries. [Table 6-11].

Oregon's rate has consistently been lower than the US rate; in 2003, the state's age-adjusted death rate was 25.5 percent lower and ranked 46th among the states and District of Columbia.<sup>3</sup> [Table 6-51]. Every 79 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 6-6].

### Cerebrovascular Disease

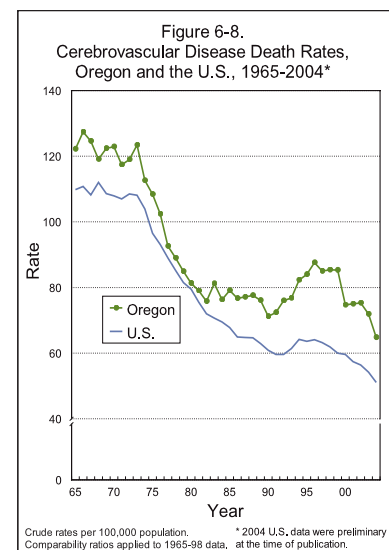
For more than a quarter of a century, the cerebrovascular disease death rate has trended downward and during 2004 fell to its lowest point in more than 20 years. [Figure 6-8]. In 2004, the crude death rate was 64.8 per 100,000 population compared to 71.9 in 2003. At 61.9, the age-adjusted death rate declined 9.6 percent over the previous year's 68.5. The number of deaths resulting from cerebrovascular disease, the third leading cause of death, dropped from 2,548 in 2003 to 2,322 in 2004. Cerebrovascular disease was mentioned as a factor, but not the underlying cause, in another 1,449 deaths.

Many more females than males died from cerebrovascular disease, and although the female crude death rate was 46.5 percent higher than the rate for males (76.9 versus 52.5), the age-adjusted rates revealed that males were at a somewhat greater risk of dying from cerebrovascular disease than females, 65.4 versus 59.3. [Table 6-43m and Table 6-43f].

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***The heart disease death rate fell to a record low in 2004.***

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

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 10th by years of potential life lost (2,804), 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, the same as during 2003.

The cerebrovascular disease death rate has long been higher in Oregon than in the US as a whole. In 2003, the age-adjusted death rate was 22.2 percent higher and seventh highest among the states, including the District of Columbia.<sup>3</sup> Every 3.8 hours, on average, a resident died from cerebrovascular disease.

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."

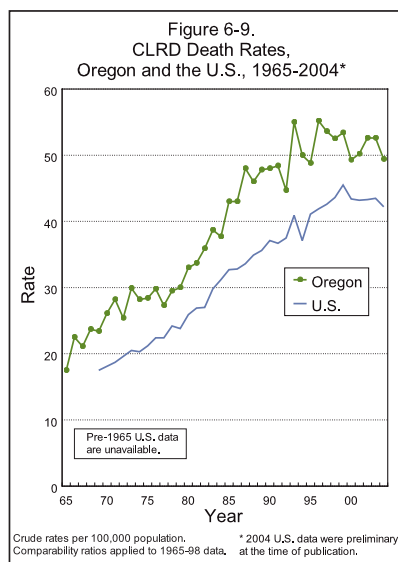
### Chronic Lower Respiratory Disease

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 2004, the crude death rate was 49.4 per 100,000 population compared to 51.3 the preceding year. CLRD was the underlying cause of death for 1,770 of the state's residents, but it contributed to an even larger number of deaths where it was not the underlying cause, 1,869. The age-adjusted death rate fell from 49.8 during 2003 to 48.1 during 2004.

For most of the 20th century, far more males succumbed to CLRD than did females, but in 1999 this pattern reversed for the first time. In 2004, 877 males and 893 females died from this disease. Although females appear to be at greater risk than males, this is a reflection of the age distribution of Oregon's population. The 2004 age-adjusted death rates showed that males were at substantially greater risk from CLRD than females, 59.1 compared to 41.6, a 42.1 percent difference. [Table 6-43m and Table 6-43f].

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 (1,604). The median age at death was 78, unchanged from the previous year.

Oregon's age-adjusted CLRD death rate had long been markedly higher than that of the nation's, but the disparity has abated in recent years. During 2003, the state's rate was just 11.8 percent

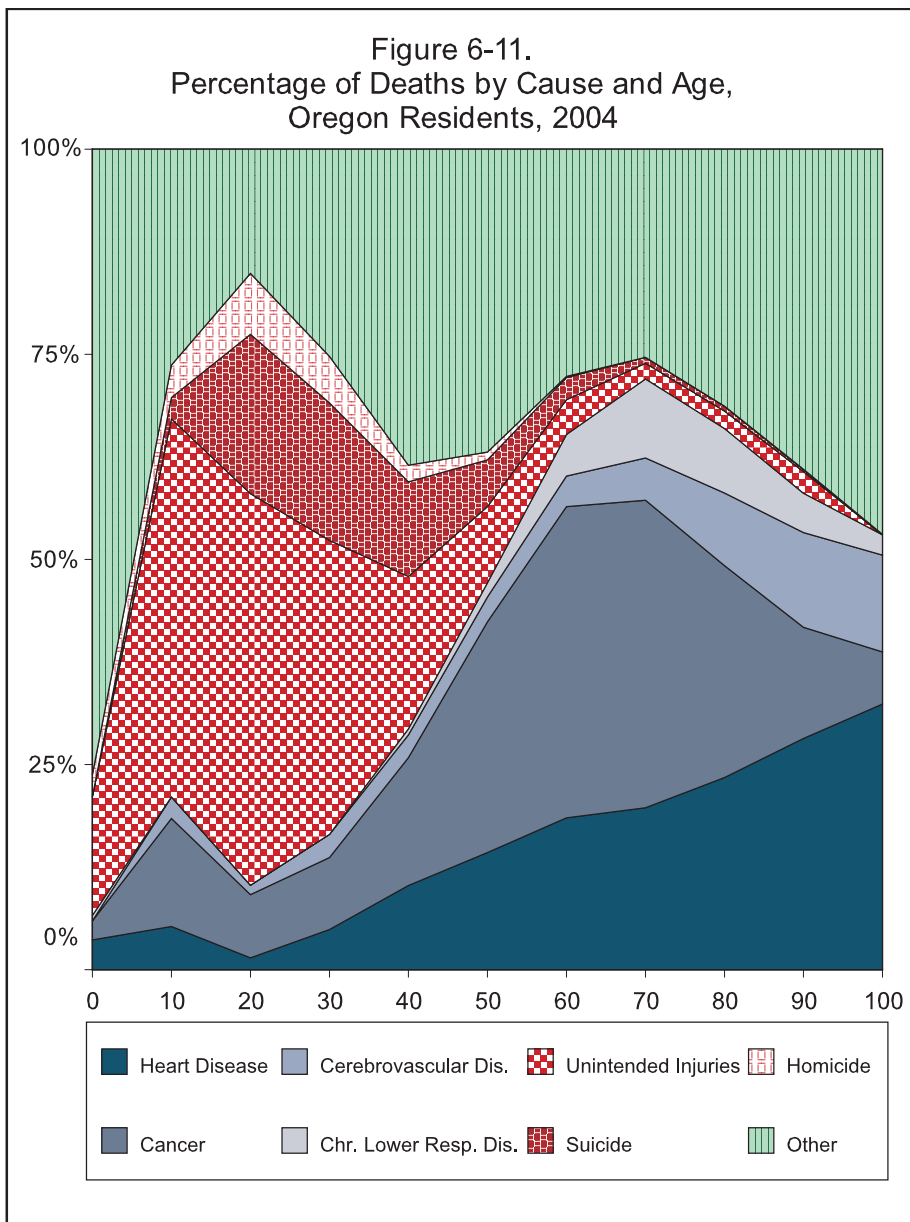
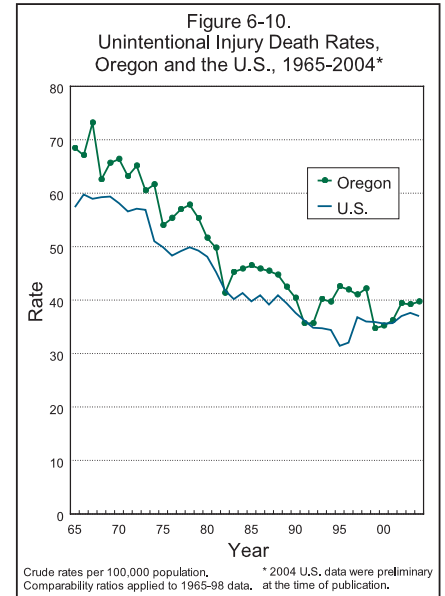


**Oregon's age-adjusted emphysema rate was 53 percent higher than the nation's and the highest among the states.**

higher than the nation's and ranked 17th among the states and District of Columbia. The greatest disparity occurred in 1987 when Oregon's rate was 26.8 percent higher and ranked 11th among the states. Despite the overall improvement in the CLRD rate vis-a-vis the U.S., Oregon's emphysema rate was the highest nationally. On average, an Oregonian died from CLRD every 4.9 hours.

**Unintentional Injuries**

The unintentional injury death rate changed little during 2004, increasing slightly to 39.7 per 100,000 population over the previous year's rate of 39.2.<sup>5</sup> [Table 6-3 and Figure 6-10]. Fatal unintentional injuries claimed 1,423 Oregonians, and contributed to the deaths of another 613 residents. The age-adjusted death rate was 38.8 compared to 38.3 year earlier. Unintentional injuries were the fifth leading cause of death of Oregonians.

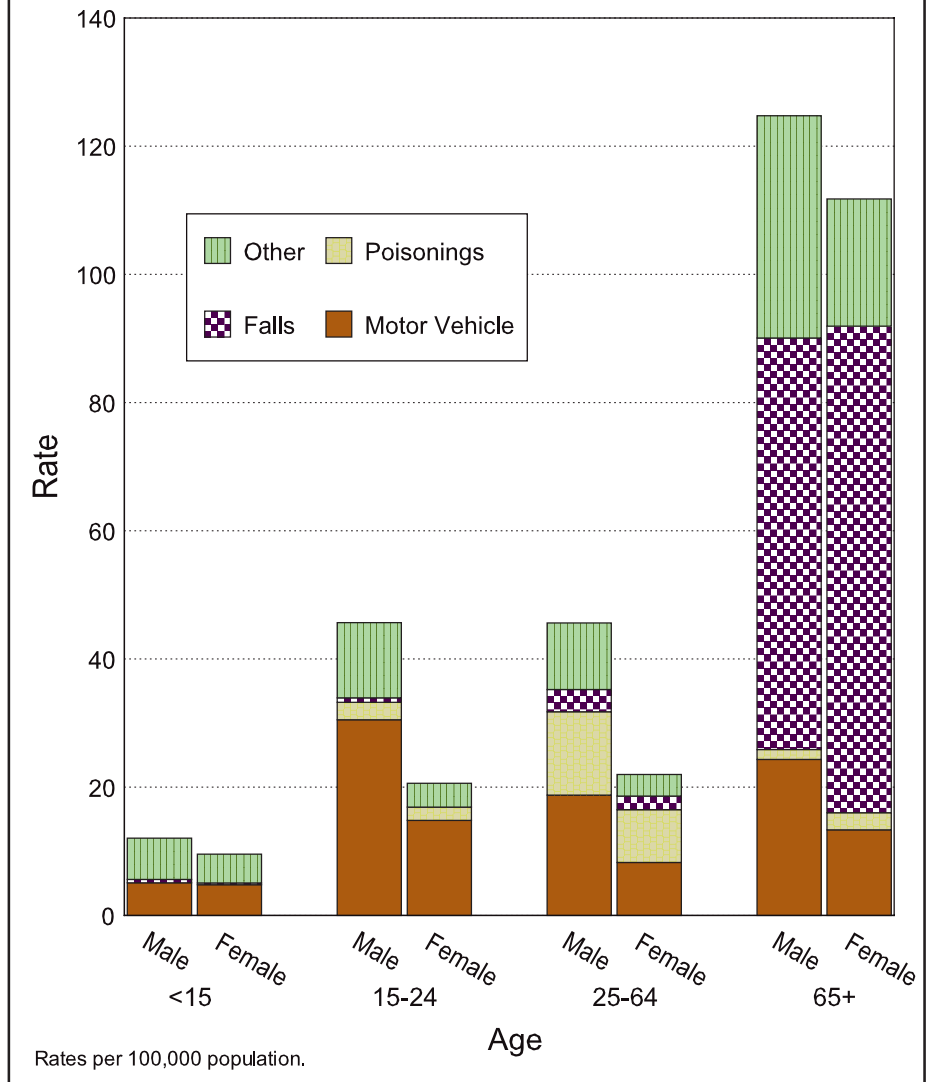


A strong gender dichotomy exists in unintentional injury deaths. The age-adjusted death rates revealed that males were nearly twice as likely to die in this manner as were females (50.1 versus 28.8). [Table 6-43m and Table 6-43f].

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 middle age. During the “golden years,” however, the risk of falling led to a greatly increased unintentional injury death rate. [Figure 6-12]. Although the fifth leading cause of death, unintentional injuries accounted for more years of potential life lost (25,424) than any other cause, reflecting its role as the most common killer of young Oregonians. The median age at death has trended upward since the mid-1990s, reaching 54 in 2002, but falling since to 52 in 2004. By comparison, the median age at death in 1995 was 42.

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

Figure 6-12.  
Unintentional Injury Death Rates by Age and Type of Injury, Oregon Residents, 2004



During the past several decades, Oregon's unintentional injury death rate has, nearly without exception, been higher than that of the nation's. More recently, however, the difference has been small; in 2003, the state's age-adjusted death rate was just 3.1 percent higher than the U.S. rate and ranked 28th among the states and District of Columbia. Every 6.2 hours, on average, an Oregonian succumbed to an unintentional injury.

Forty-eight Oregonians died on the job in 2004. The victims were overwhelmingly male (41 versus 7 females) with motor vehicle crashes and falls accounting for most of the deaths. [Table 6-46].

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 5 most commonly resulted from suffocation and motor vehicle crashes. Beginning at age 5 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) pose the greatest risk of fatal injuries to Oregon residents. In fact, transportation-related injuries accounted for 37.5 percent of all unintentional injury deaths with nine out of 10 of these resulting from motor vehicle crashes. [Table 6-23]. Of the 484 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 6-6]. In most deadly Oregon traffic accidents, the fatalities occurred among persons traveling by car (243), pickup truck/van (64) or foot (65). Less common were the deaths of motorcyclists (42) and pedal cyclists (14). Interestingly, while one in five (20.2%) of all fatalities occurring among persons in cars resulted from noncollisions (i.e., rollovers following loss of control), one in four (28.1%) of the fatalities occurring among persons in pickups or vans involved noncollisions.

Falls, the second most common type of fatal unintentional injury, claimed 381 Oregonians, most of whom (78.0%) were 75 or older. About half of all falls occurred on the same level, most commonly from slipping or tripping. Eighteen involved falls from stairs/steps, 17 from beds, and 11 each from a chair or wheelchair. Among adults 75 or more years of age, falls were the most common type of unintended fatal injury. [Table 6-23]. The age-adjusted death rates revealed that males were at a 20.2 percent greater risk of suffering a fatal fall than were females. [Table 6-43m and Table 6-43f].

Unintentional poisonings involving drugs/medications, most often by narcotics and hallucinogens, ranked third among the types of fatal unintentional injuries. [Table 6-23]. Although 224 deaths

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

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***Falls accounted for two-thirds of all unintentional injury fatalities among the elderly.***

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***During the past five years, the risk of death from poisoning has doubled for females.***

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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 to a mental/behavioral disorder (see the first footnote of Table 6-31). Additional poisoning deaths are classified as suicides or of undetermined intent.

The age-adjusted death rates indicate that males were 49.0 percent more likely than females to die from unintentional overdoses/poisonings. (During the five-year period 2000-2004, the age-adjusted death rate for females increased annually, from 2.2 per 100,000 to 4.9.) 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 59 residents. [Table 6-41]. In Oregon, drownings not involving watercraft were most common (58). Of these, most (41) occurred in natural water with the remainder (among the specified sites) having occurred in bathtubs/hot tubs (8) and swimming pools (3).

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

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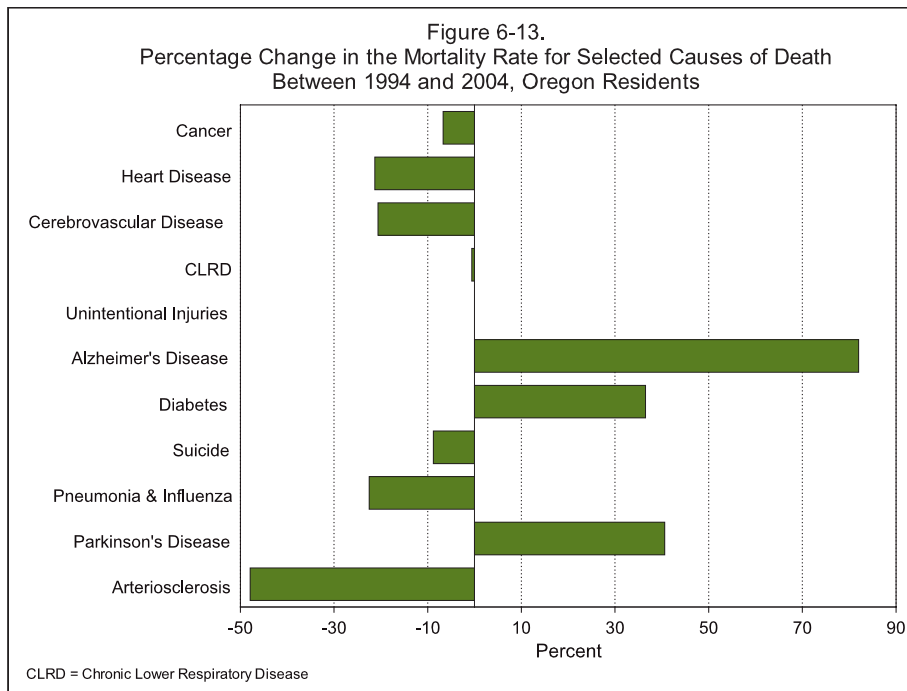
### **Alzheimer's Disease**

Mirroring the aging of Oregon's population has been the seemingly inexorable rise in the number of deaths from Alzheimer's disease. Since 1990, the death rate has more than doubled, the largest increase among the leading causes of death. [Figure 6-13]. During 2004, the tangles and plaques characteristic of this disease led to the deaths of 1,263 Oregonians and a record high death rate of 35.3 per 100,000 population. The age-adjusted death rate was 33.4, up from 30.5 a year earlier. Alzheimer's disease also contributed to the deaths of 465 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 12.7 percent higher than that for men (34.7 versus 30.8). Alzheimer's disease is the eighth leading cause of death among men but fifth among women.

This devastating disorder takes years to claim its victims' lives; more than nine in 10 of the deaths occurred after the decedent's 75th birthday. [Table 6-6]. Concomitant with the high median age at death (86) was a minimal number (36) of years of potential life lost. 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.

Oregonians have long been more likely to die from Alzheimer's disease than other US residents. In 2003, the state's age-adjusted death rate was 34.1 percent higher than the nation's and ranked seventh highest among the states and District of Columbia. On average, an Oregonian succumbed to Alzheimer's disease every 6.9 hours.



Although deaths resulting from Alzheimer's disease and Alzheimer's dementia are counted here, deaths attributed to dementia, organic dementia, presenile dementia and vascular dementia are included in ICD-10 codes F01 (vascular dementia) and F03 (unspecified dementia). There were 755 such deaths during 2004.

### Diabetes Mellitus

In 2004, diabetes mellitus was the seventh leading cause of death (1,072 deaths). Although the death rate for diabetes increased nearly every year during 1985-2001, it has changed little since then. Nonetheless, the rate edged up slightly from 29.1 in 2003 to 29.9 per 100,000 population, a record high. The age-adjusted death rate was 29.0, also a record high. Diabetes was a contributing factor more often than it was the underlying cause of death, 2,235 versus 1,072.

Although the crude death rates for males and females were similar, age-adjusted death rates showed that males were at a 39.9 percent greater risk of death from diabetes (34.7 versus 24.8). [Table 6-43m and Table 6-43f]. Diabetes was the sixth leading cause of death for males and seventh for females.

Four Oregonians younger than 25 died from diabetes, but 86.8 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 of death among those 65-74 years of age. The median age at death was 76, one of the lowest ages recorded among the natural causes of death. [Table 6-13]. Diabetes resulted in the loss of 3,528 years of potential life.

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

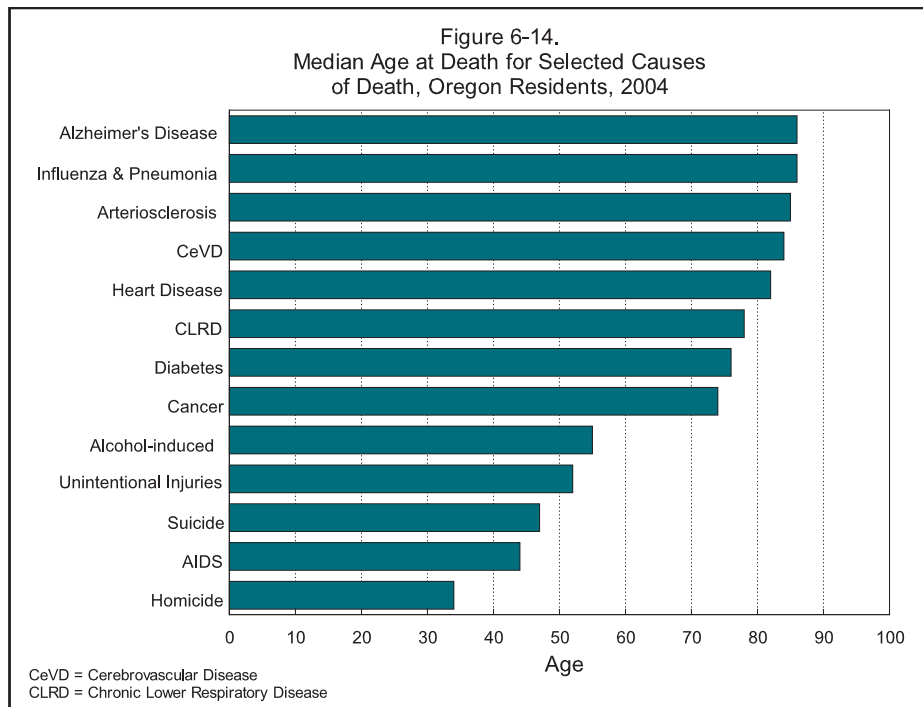
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***Oregon's diabetes death rate continues to worsen vis-a-vis the U.S. rate.***

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A generation ago, the state’s age-adjusted diabetes death rate was consistently 25-30 percent lower than the nation’s. The Oregon advantage gradually diminished thereafter, and in 1997, for the first time, Oregon’s rate exceeded the US rate (by 1.3 percent). The gap has continued to widen, and in 2003, Oregon’s rate was 7.5 percent higher than the US rate and ranked 21st among the states and District of Columbia. Every 8.2 hours, on average, an Oregonian died from diabetes.

**Suicide**

Suicide claimed the lives of 555 Oregonians during 2004, down from 589 deaths the year before. At same time, the crude death rate fell from 16.6 per 100,000 population to 15.5. Oregon’s highest suicide rate was recorded during 1998: 17.4. The age-adjusted death rate was 15.2 for 2004 with the highest rate also recorded during 1998 (17.1).

Males have long been at a far greater risk of suicide than females; with age-adjusted death rates of 23.9 and 7.6, respectively, males were 3.1 times more likely to die by suicide, with gender-specific rate differences greatest among the elderly. [Table 6-43m and Table 6-43f, Table 6-7m and Table 6-7f]. Suicide was the seventh leading cause of death among males and 12th among females.

Overall, suicide rates peak among the elderly, but this masks a gender-based dichotomy: females were more likely to die by suicide in middle age, where the rate peaked at 15.3 among 45- to 54-year-olds, while rates among males increased sharply beginning at age 75, with the highest rate (103.0) recorded among those 85 or older. Although the overall suicide rate is highest among the elderly, most deaths (65.6%) occurred before age 55, resulting in

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***Among men, suicide was most common among the elderly; among females it was most common among the middle-aged.***

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the fourth-largest number of years of potential life lost (10,614) 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 was 47 during 2004, down from 48 the previous year. The youngest person to die by suicide was a 13-year-old boy who shot himself with a handgun and the oldest a 99-year-old woman who hanged herself.

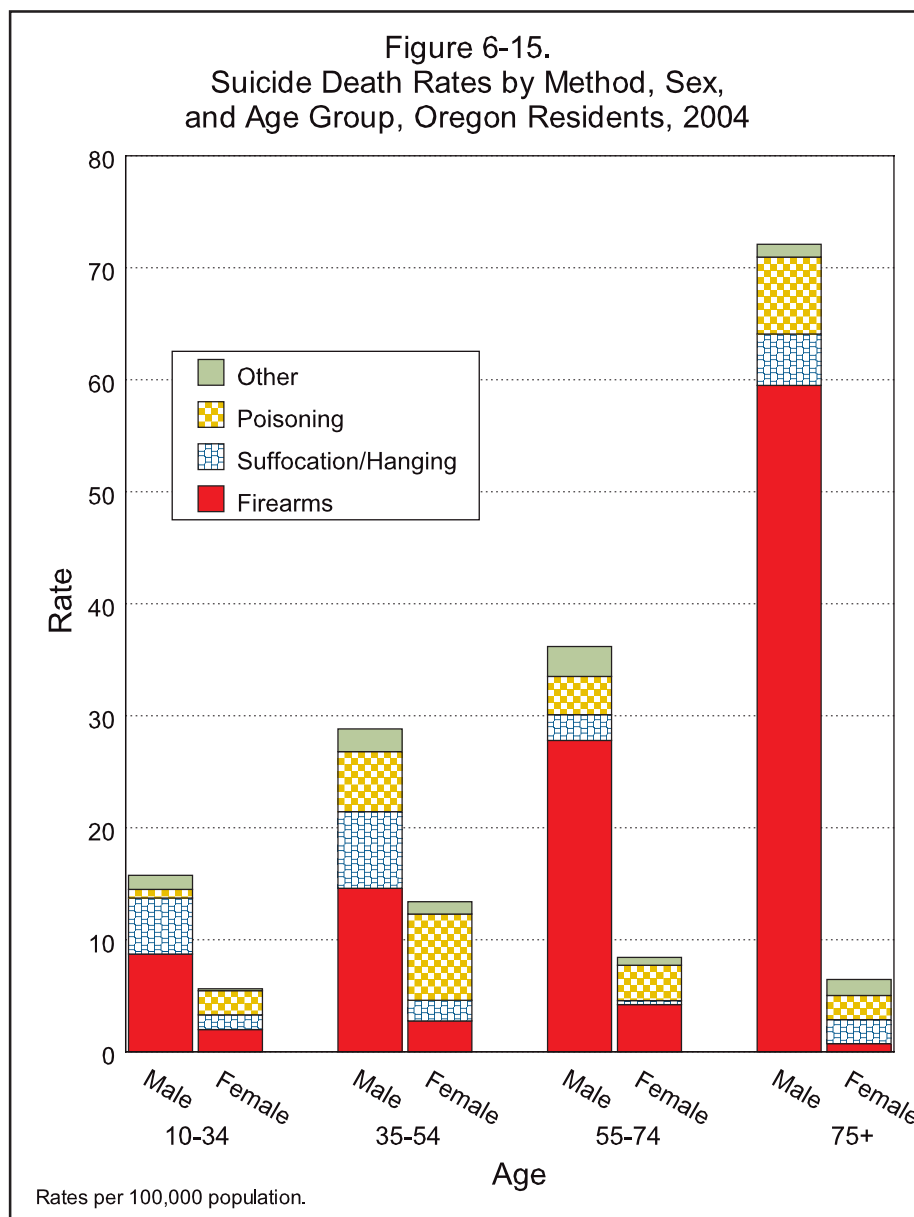
Oregonians have long had higher suicide rates than residents of most other states. In 2003, Oregon's age-adjusted suicide rate was 49.1 percent higher than the nation's and ranked eighth highest among the states and District of Columbia.<sup>3</sup> On average, an Oregonian died by suicide every 15.8 hours in 2004.

The method of suicide varied by age and gender, but overall most (54.1%) deaths resulted from fatal gunshot injuries. [Table 6-29 and Figure 6-15]. Although most suicides were a result of

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**Oregon's suicide rate was 49 percent higher than the nation's.**

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gunshot wounds, there was a considerable dichotomy by sex; six-tenths (62.7%) of males shot themselves, but only three-tenths (28.6%) of females did so. (Two-thirds of the gunshot fatalities resulted from the use of handguns.) Females were more likely to poison themselves (47.9%) than they were to shoot themselves, while males were much less likely to die by poisoning (11.8%). Moreover, there was a difference by gender in the type of poison used: 91.0 percent of all poisoning deaths by females involved medications compared to 65.3 percent of the poisoning deaths among males. Overall, one in five suicides (20.9%) involved poisoning. Hanging/suffocation was the third most common method of suicide (18.2%) with only a small difference in the proportion of males and females using this method.

### **Influenza and Pneumonia**

In 2004, influenza/pneumonia claimed 554 Oregonians, the lowest number since 1991 when 552 residents succumbed to these infectious diseases. It slipped from the eighth leading cause of death in 2003 to ninth in 2004. At the same time, the crude death rate fell from 17.9 per 100,000 population to 15.5 and the age-adjusted rate from 17.0 to 14.7. Influenza/pneumonia contributed to almost three times as many deaths as it directly caused: 1,606.

Although more women than men died from these two infectious diseases in 2004 (303 versus 251), age-adjusted death rates revealed that males were still at a greater risk (18.2 per 100,000 population versus 12.8). [Table 6-43m and Table 6-43f]. 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 10 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 864.

In recent years, Oregon's age-adjusted death rate has been markedly lower than the rates for most other states. In 2003, Oregon's age-adjusted death rate was 27.7 percent lower than the nation's and ranked 46th (i.e., sixth lowest, including the District of Columbia). Every 15.8 hours, on average, influenza or pneumonia claimed the life of an Oregonian.

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.

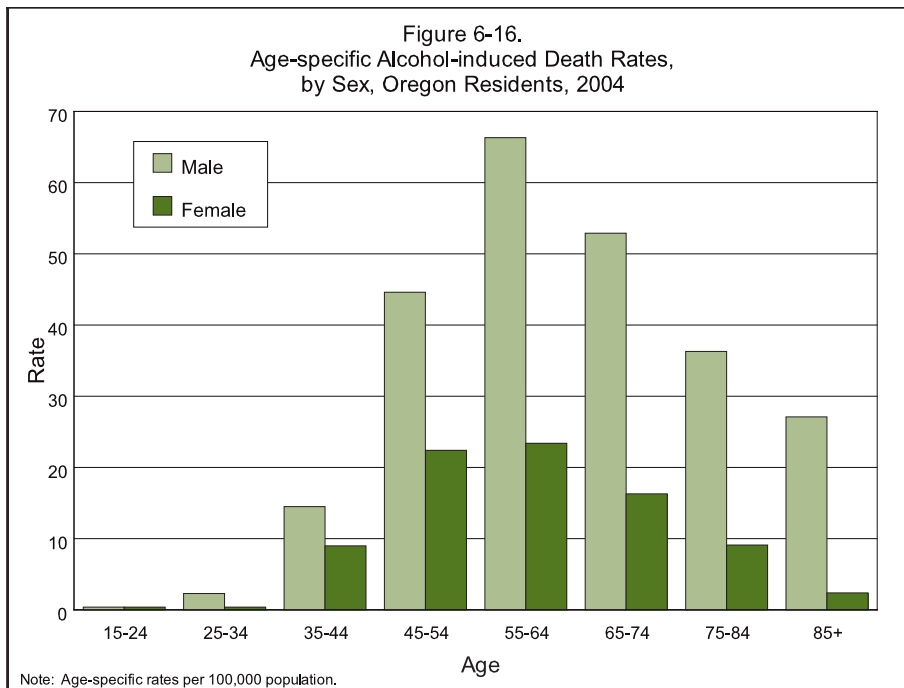
### **Alcohol-induced Deaths**

Alcoholism (including related disorders and alcohol poisonings) claimed 510 Oregonians during 2004, making it the 10th leading cause of death.<sup>7</sup> Alcohol was a factor in no fewer than 387 deaths, but did not directly cause the death. [Table 6-47]. The

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

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crude death rate for this group of allied conditions was 14.2 per 100,000 population, second only to the record high 14.6 recorded in 2003.

Fatal alcohol abuse was the ninth leading cause of death among men and 10th leading cause among women, but the difference is greater than this would suggest: the age-adjusted death rate for males was more than twice that for females, 20.0 versus 8.6, respectively.

Age-specific alcoholism rates peaked among residents ages 55-64. [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 are dying at younger ages from alcohol-related conditions; the median age at death fell to a record low of 55 years during 2002 and has remained unchanged since. By comparison, the median age at death 15 years earlier was 61. Alcoholism was the seventh leading cause of premature death, accounting for 5,486 years of potential life lost.

The Oregon alcohol-induced death rate has long been higher than that for the United States. In 2003, Oregon’s rate was 92.9 percent higher than the nation’s and ranked fourth 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. Oregonians succumbed to alcohol-related causes every 17.2 hours, on average.

Alcohol-induced Deaths by Diagnosis	
Diagnosis	Count
Alcoholism	195
Nervous system degeneration	1
Cardiomyopathy	4
Gastritis	1
Fatty liver	2
Hepatitis	20
Cirrhosis of the liver	180
Hepatic failure	49
Unspecified liver disease	51
Chronic pancreatitis	6
Poisoning of undetermined intent	1

This category is comprised of alcohol-related disorders from multiple organ systems with cirrhosis of the liver accounting for the greatest number of deaths (40.8%). 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. (The role, if any, of alcohol in injury deaths is rarely reported on death certificates.)

**Parkinson’s Disease**

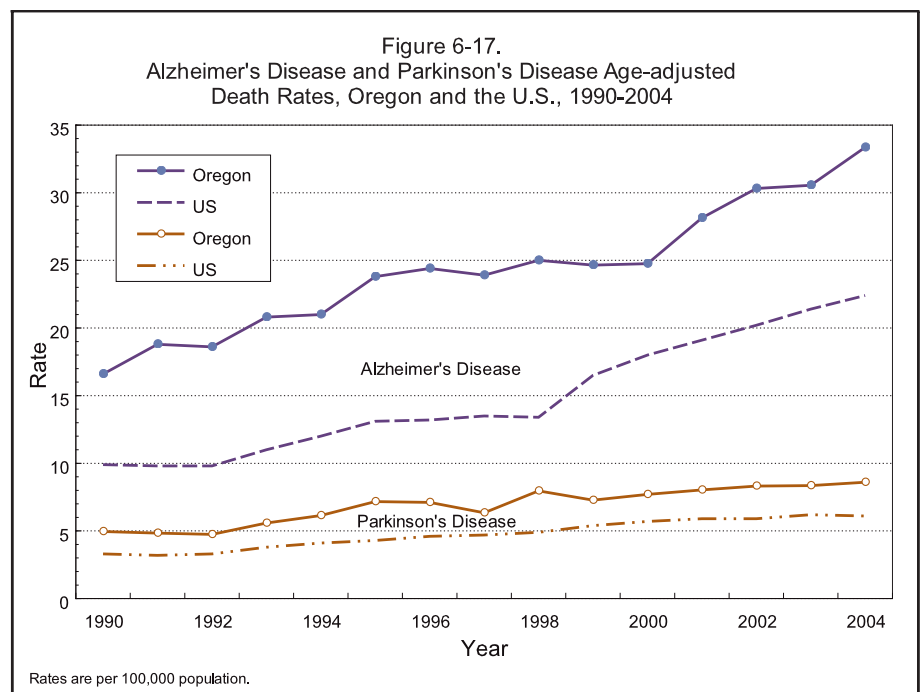
Ranking 12th among the leading causes of death during 2004, Parkinson’s disease claimed 321 Oregon residents with the crude death rate reaching a record high of 9.0 per 100,000 population. The age-adjusted death rate was 8.6, also a record high. While the mortality rates for many major causes have fallen 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 13.3 and 5.7, respectively. [Table 6-43m and Table 6-43f]. Parkinsonism was the 11th leading cause of death among men and 13th among women.

Parkinson’s disease claims almost exclusively persons 55 or older, although three younger Oregonians did die from the disorder during 2004. [Table 6-6]. The median age at death was 83 years, up from 82 the previous year, but has shown no clear trend during the previous decade, ranging between 81 and 83. As with many other causes with a high median age at death, the number of years of potential life lost were few: just 47 in 2004.

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

Figure 6-17.  
Alzheimer’s Disease and Parkinson’s Disease Age-adjusted Death Rates, Oregon and the U.S., 1990-2004



Rates are per 100,000 population.

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. [Figure 6-17]. During 2003, Oregon's rate was 30.6 percent higher than the US rate and ranked fifth highest among the states and District of Columbia. Every 27.3 hours, on average, a resident died from this disorder.

### Arteriosclerosis

The decades-long trend of declining arteriosclerosis mortality continued in 2004, with the rate falling to a record low of 4.9 per 100,000 population. The age-adjusted death rate also fell to a record low, 4.6. With 174 deaths, arteriosclerosis was the 17th leading cause of death in 2004. 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 (5.2 versus 4.3) in 2004. [Table 6-43m and Table 6-43f]. Arteriosclerosis was the 20th leading cause of death among males and 14th among females.

More than four-fifths (83.3%) of the deaths occurred among those 75 or older. The median age at death for arteriosclerosis was 85 years, third-highest, following Alzheimer's disease and pneumonia/influenza at 86 years. 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 2004, just 65 years were lost.

Oregon's age-adjusted arteriosclerosis death rate had long been notably higher than the nation's, but this difference has diminished somewhat in recent years. During 2003, the rate was 18.2 percent higher and ranked 12th among the states and District of Columbia. A resident died from arteriosclerosis every 2.1 days, on average.

### Homicide

After falling to a four-decade low rate of 2.6 per 100,000 population in 2003, Oregon's homicide rate increased 19.2 percent to 3.1.<sup>8</sup> Even so, the rate for 2004 was less than one-half of that recorded in 1986 when a record high of 6.8 was reached. With 112 victims, homicide was the 21st leading cause of death during 2004. One death occurred while the decedent was at work.

Every year, more males than females are murdered—and 2004 was no exception. The male age-adjusted death rate (4.8) was 3.4 times higher than the rate (1.4) recorded for females. [Table 6-43m and Table 6-43f]. The age-adjusted rate for both genders was 3.1.

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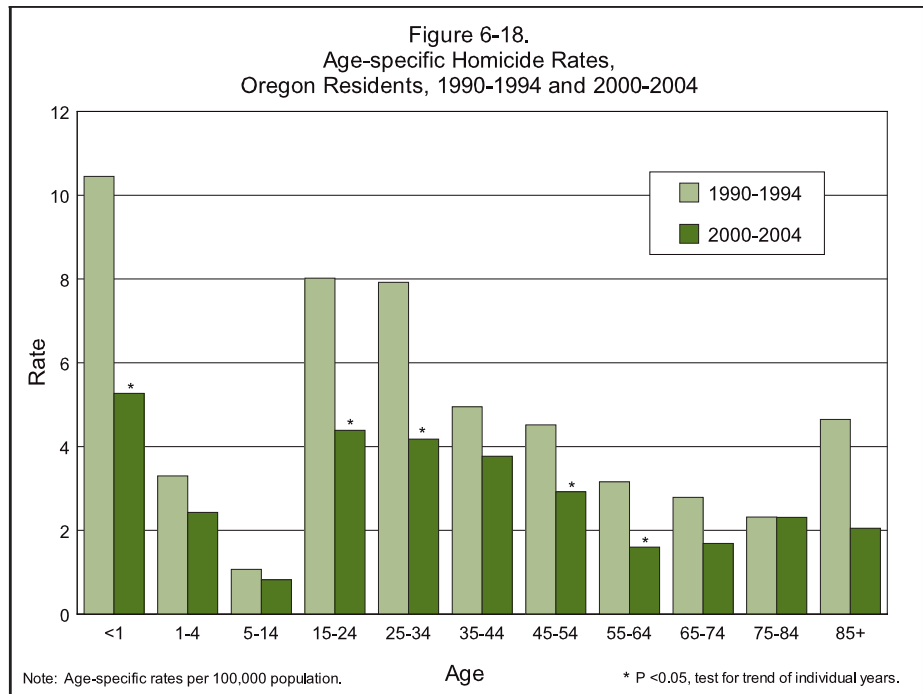
***The arteriosclerosis death rate fell to a record low during 2004.***

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***The national homicide rate is twice as high as Oregon's.***

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**The age group with the highest homicide rate: Infants.**

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By age, infants were more likely to be homicide victims than Oregonians in any other age group; during 2000-2004, their homicide rate was 5.3 per 100,000 population compared to 4.4 for 15- to 24-year-olds and 4.2 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.) During the past decade (1990-94 versus 2000-04), the infant homicide rate fell by half (49.6%), a statistically significant decline. Statistically significant declines for other age groups are indicated with an asterisk in Figure 6-18. Homicide was one of the five leading causes of death among residents ages 1-34. The median age at death for homicide victims was 34 years, unchanged from the previous year and the lowest among the leading causes (except for causes associated with infancy). With 3,446 years of potential life lost, homicide was the ninth leading cause of premature death.

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**Number of homicide deaths by method:**  
**Firearms – 64**  
**Sharp objects – 16**  
**Strangulation – 3**  
**Blunt objects – 2**

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Historically, Oregon’s homicide death rate has been among the lowest in the nation. During 2003, the state’s rate was 59.0 percent lower and ranked 42nd (i.e., tenth lowest) among the states and District of Columbia. During 2004, an Oregonian was murdered every 3.3 days.

Firearms are unrivaled as an implement of homicide, accounting for nearly six in 10 of all such deaths, and, of those, two-thirds resulted from injuries from handguns.

**AIDS/HIV**

After peaking at 360 deaths in 1995, the number of AIDS/HIV deaths declined to a low of 62 in 2000 with the age-adjusted death rate falling from 12.3 per 100,000 population to 1.8. Both the number and rate of AIDS/HIV deaths increased during 2001-2003, but during 2004 the count fell to 65 and the rate matched the record low of 1.8.

Among the leading causes of death, there's no stronger dichotomy by sex and the risk of death than there is with AIDS/HIV. With age-adjusted rates of 3.2 and 0.5, respectively, males were over six times more likely to die from this cause.

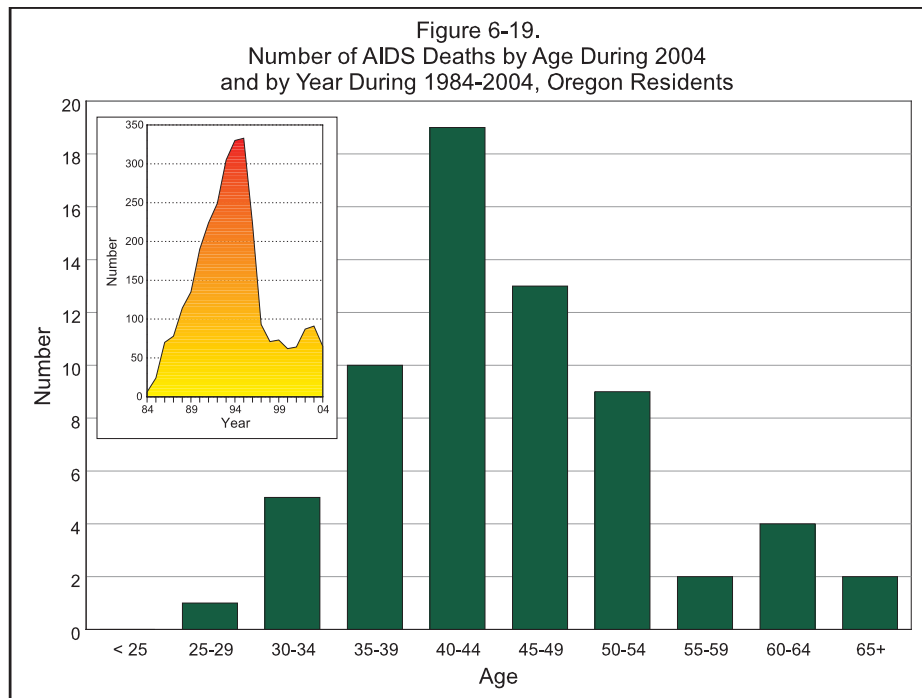
Age-specific death rates rose sharply in early adulthood reaching 5.2 per 100,000 in 35- to 44-year olds, before declining to 4.1 among 45- to 54-year-olds, and then diminishing markedly among older age groups. [Figure 6-19]. These rates are driven largely by deaths among males. The years of potential life lost were 1,270 and the median age at death 44 years, one year less than that recorded during 2003. A decade earlier, half of all deaths occurred by age 40.

Oregon's AIDS/HIV age-adjusted death rate has long been lower than the nation's and in 2003 was 44.7 percent lower than the national rate, ranking 26th among the states and District of Columbia. On average, a resident died every 5.6 days from this disease.

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***Males were six times more likely to die from AIDS than were females.***

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### Drug-induced Deaths

During 2004, nearly as many deaths were attributed to drug-related causes as were attributed to alcohol, 471 versus 510.<sup>9</sup> (Because of a considerable overlap between the drug-induced death category and other cause of death categories, it is not counted among the leading causes of death. Nevertheless, with a death rate of 13.1 per 100,000 population, drugs/poisonings represent a significant cause of mortality among Oregonians.)

Males were more likely than females to die as a consequence of drug use, but not greatly so; the death rates were 15.0 and 11.3, respectively.

The risk of death from drug use increased from adolescence through middle age, peaking at 27.0 among residents ages 45-54. [Table 6-7t]. More than half of all drug-induced deaths (58.4%) occurred among residents ages 35-54.

This category includes ICD codes included in other cause of death rubrics, with the majority of deaths categorized as unintentional injuries (218), mental disorders (104), and suicide (93).

### 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 US Department of Defense and are not forwarded to the decedant's state of residence. However, these deaths, (with the decedent's name, date of death, home city, age, and sex) are posted weekly on the Department of Defense's website (see source in table). They are presented here in tabular form for Oregon residents for 2003 and 2004.

Operation Iraqi Freedom and Operation Enduring Freedom, Oregon Resident Military Deaths, 2003-2004				
County	2003	2004	Age	2003 & 2004
Benton	1	1	<20	2
Clatsop	-	1	20-24	14
Klamath	-	2	25-29	6
Lincoln	-	1	30+	4
Linn	-	2	Total	26
Multnomah	3	6		
Polk	1	1		
Umatilla	1	1		
Washington	1	4		
Total	7	19		
			Sex	
			Males	26
			Females	-
			Total	26

Source: <http://siadapp.dior.whs.mil/personnel/CASUALTY/castop.htm>



**ENDNOTES**

1. US Central Intelligence Agency. The World Factbook: 2005. Office of Public Affairs. Washington, DC.
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 final comparability ratios described in Appendix B. Comparability ratios have been applied to the data in tables 6-3 and 6-50.
3. The most recent available data is for 2003. Age-adjusted death rates where Oregon and the United States are compared use US Census Bureau population estimates, unlike the age-adjusted death rates used elsewhere in this report, where Portland State University Center for Population Research 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 V01-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. The Oregon Center for Health Statistics (OCHS) has included a category for alcohol-induced deaths since 1979. With the advent of ICD-10, Oregon included four causes of death that had not been included by the National Center for Health Statistics (NCHS): G72.1, K86.0, O35.4, and P04.3. In 2006, beginning with final 2003 data, NCHS added the following three ICD-10 codes to the list of alcohol-induced codes: E24.4, G72.1, and K86.0. In the interest of maintaining comparability with national data, OCHS has removed two ICD-10 codes that we previously included: O35.4, maternal care for damage to fetus from alcohol and P04.3, fetus/newborn affected by maternal alcohol use.

The complete list of causes of death attributable to alcohol-induced mortality now includes ICD-10 codes E24.4, Alcohol-induced pseudo-Cushing's syndrome; F10, Mental and behavioral disorders due to alcohol use; G31.2, Degeneration of nervous system due to alcohol; G62.1, Alcoholic polyneuropathy; G72.1, Alcoholic myopathy; I42.6, Alcoholic cardiomyopathy; K29.2, Alcoholic gastritis; K70, Alcoholic liver disease; K86.0, Alcohol-induced chronic pancreatitis; R78.0, Finding of alcohol in blood; X45, Accidental poisoning by and exposure to alcohol; X65, Intentional self-poisoning by and exposure to alcohol; and Y15, Poisoning by and exposure to alcohol, undetermined intent. Alcohol-induced causes excludes accidents, homicides, and other causes indirectly related to alcohol use. This category also excludes newborn deaths associated with maternal alcohol use.

Nationally, the number of deaths and death rates based on the newly modified list of causes may differ slightly from those previously published. For example, for 2002, the addition of the three codes increased the U.S. total number of deaths from alcohol-induced causes from 19,928 to 20,218 (an increase of 290) and increased the total crude death rate, although not significantly, from 6.9 to 7.0. The total age-adjusted rate remained the same.

Because, unlike drug-induced deaths, there's very little overlap between the components of the alcohol-induced category and other leading cause categories, OCHS, unlike NCHS, has included alcohol-induced deaths as a leading cause of death rather than as a supplemental rubric.

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. In 2006, the National Center for Health Statistics released new definitions for both alcohol-induced deaths and drug-induced deaths. The code changes to the alcohol category were relatively minor, but those to the drug-induced category resulted in the inclusion of many more causes, although not a greatly increased number of deaths. The list of codes included in the drug-induced death category was expanded by NCHS to be more comprehensive. Specifically, the following 37 ICD-10 codes were added to the list of drug-induced codes: D52.1, D59.0, D59.2, D61.1, D64.2, E06.4, E16.0, E23.1, E24.2, E27.3, E66.1, G21.1, G24.0, G25.1, G25.4, G25.6, G44.4, G62.0, G72.0, I95.2, J70.2, J70.3, J70.4, L10.5, L27.0, L27.1, M10.2, M32.0, M80.4, M81.4, M83.5, M87.1, R78.1, R78.2, R78.3, R78.4, and R78.5. The Oregon Center for Health Statistics (OCHS) has done so, as well.

The complete list of causes of death attributable to drug-induced mortality now includes ICD-10 codes D52.1, Drug-induced folate deficiency anemia; D59.0, Drug-induced hemolytic anemia; D59.2, Drug-induced nonautoimmune hemolytic anemia; D61.1, Drug-induced aplastic anemia; D64.2, Secondary sideroblastic anemia due to drugs and toxins; E06.4, Drug-induced thyroiditis; E16.0, Drug-induced hypoglycemia without coma; E23.1, Drug-induced hypopituitarism; E24.2, Drug-induced Cushing's syndrome; E27.3, Drug-induced adrenocortical insufficiency; E66.1, Drug-induced obesity; selected codes from the ICD-10 title Mental and behavioral disorders due to psychoactive substance use, specifically, F11.0-F11.5, F11.7-F11.9, F12.0-F12.5, F12.7-F12.9, F13.0-F13.5, F13.7-F13.9, F14.0-F14.5, F14.7-F14.9, F15.0-F15.5, F15.7-F15.9, F16.0-F16.5, F16.7-F16.9, F17.0, F17.3-F17.5, F17.7-F17.9, F18.0-F18.5, F18.7-F18.9, F19.0-F19.5, F19.7-F19.9; G21.1, Other drug-induced secondary parkinsonism; G24.0, Drug-induced dystonia; G25.1, Drug-induced tremor; G25.4, Drug-induced chorea; G25.6, Drug-induced tics and other tics of organic origin; G44.4, Drug-induced headache, not elsewhere classified; G62.0, Drug-induced polyneuropathy; G72.0, Drug-induced myopathy; I95.2, Hypotension due to drugs; J70.2, Acute drug-induced interstitial lung disorders; J70.3, Chronic drug-induced interstitial lung disorders; J70.4, Drug-induced interstitial lung disorder, unspecified; L10.5, Drug-induced pemphigus; L27.0, Generalized skin eruption due to drugs and medicaments; L27.1, Localized skin eruption due to drugs and medicaments; M10.2, Drug-induced gout; M32.0, Drug-induced systemic lupus erythematosus; M80.4, Drug-induced osteoporosis with pathological fracture; M81.4, Drug-induced osteoporosis; M83.5, Other drug-induced osteomalacia in adults; M87.1, Osteonecrosis due to drugs; R78.1, Finding of opiate drug in blood; R78.2, Finding of cocaine in blood; R78.3, Finding of hallucinogen in blood; R78.4, Finding of other drugs of addictive potential in blood; R78.5, Finding of psychotropic drug in blood; X40-X44, Accidental poisoning by and exposure to drugs, medicaments, and biological substances; X60-X64, Intentional self-poisoning (suicide) by and exposure to drugs, medicaments, and biological substances; X85, Assault (homicide) by drugs, medicaments, and biological substances; and Y10-Y14, Poisoning by and exposure to drugs, medicaments and biological substances, undetermined intent. Drug-induced causes exclude accidents, homicides, and other causes indirectly related to drug use. Also excluded are newborn and maternal deaths associated with a mother's drug use.

The number of deaths and death rates based on the newly modified list of causes may differ slightly from those previously published. Nationally, for example, the addition of the 37 codes increased the total number of deaths from drug-induced causes from 26,018 to 26,040 (an increase of 22) for 2002; the total crude and age-adjusted death rates were unaffected.