

Deaths: Preliminary Data for 2004

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Abstract

Objectives—This report presents preliminary U.S. data on deaths, death rates, life expectancy, leading causes of death, and infant mortality for the year 2004 by selected characteristics such as age, sex, race, and Hispanic origin.

Methods—Data in this report are based on a large number of deaths comprising approximately 91 percent of the demographic file and 90 percent of the medical file for all deaths in the United States in 2004. The records are weighted to independent control counts for 2004. For certain causes of death such as unintentional injuries, homicides, suicides, and respiratory diseases, preliminary and final data differ because of the truncated nature of the preliminary file. Comparisons are made with 2003 final data.

Results—The age-adjusted death rate for the United States decreased from 832.7 deaths per 100,000 population in 2003 to 801.0 deaths per 100,000 population in 2004. Age-adjusted death rates decreased between 2003 and 2004 for the following major causes of death: Diseases of heart, Malignant neoplasms, Cerebrovascular diseases, Chronic lower respiratory diseases, Accidents (unintentional injuries), Diabetes mellitus, Influenza and pneumonia, Septicemia, Chronic liver disease and cirrhosis, and Pneumonitis due to solids and liquids. Rates increased between 2003 and 2004 for the following: Alzheimer's disease and Essential (primary) hypertension and hypertensive renal disease. Life expectancy at birth rose by 0.4 year to a record high of 77.9 years.

Introduction

This report presents preliminary mortality data based on vital records for a substantial proportion of deaths occurring in 2004. Trends shown in preliminary reports for 1995–2003 deaths, for most measures, were confirmed by final statistics for each year (1–9) (see “[Technical Notes](#)” [Tables II](#) and [III](#) for data from 2001–03).

Sources and Methods

Data sources

Preliminary data in this report are based on records of deaths that occurred in calendar year 2004 and were received and processed by the Centers for Disease Control and Prevention's National Center for Health Statistics (NCHS) as of September 12, 2005. After comparison with independent control counts of the number of deaths for 2004 that were received from state vital statistics offices, demographic information was available for an estimated 90 percent of infant deaths (under 1 year of age) and about 91 percent of deaths to persons aged 1 year and over ([Table 1](#)). Medical or cause-of-death information was processed separately and was available for an estimated 90 percent of infant deaths and 90 percent of deaths to persons aged 1 year and over.

To produce the preliminary estimates shown in this report, records were weighted using independent control counts of infant deaths and deaths aged 1 year and over for 2004 received in the state vital statistics offices. Two separate sets of weights were applied to the death

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records—one set for the demographic information, and one set for the medical information. This results in slight inconsistencies between comparable demographic data from the mortality demographic tables and the medical tables showing causes of death (see section “Nature and sources of data” in the “[Technical Notes](#)”). Preliminary estimates are subject to sampling variation as well as random variation.

The proportion of records processed by each state is shown in [Table I](#) in the “[Technical Notes](#).” Changes in death rates between 2003 and 2004 and differences in death rates across demographic groups for 2004 were tested for statistical significance. Unless otherwise specified, reported differences in death rates are statistically significant. Detailed information on the nature, sources, and qualifications of the preliminary data is given in the “[Technical Notes](#).”

Cause of death is not always available when the preliminary data are sent to NCHS, but is available later for final data processing. As a result, estimates based on preliminary mortality data may differ from statistics from the final mortality data. Such differences may affect certain causes of death where the cause is pending investigation, such as for Assault (homicide), Intentional self-harm (suicide), Accidents (unintentional injuries), and Sudden infant death syndrome (SIDS), or conditions that are highly seasonal, such as Influenza and pneumonia and Chronic lower respiratory diseases (see section “Nonsampling error” in the “[Technical Notes](#)”).

In addition to national and state estimates of total deaths and death rates, this report includes preliminary statistics on life expectancy, infant mortality, and causes of death. Data are shown for the following race and ethnic groups: white, non-Hispanic white, black, non-Hispanic black, American Indian or Alaska Native (AIAN), Asian or Pacific Islander (API), and Hispanic populations. Tabulations by race and ethnic group are based on the race and ethnic group reported for the decedent. Race and Hispanic origin are reported as separate items on the death certificate. Death rates for AIAN, API, and to a lesser extent, for Hispanics are known to be too low because of reporting problems (see section “Race and Hispanic origin” in the “[Technical Notes](#)”).

Age-adjusted death rates are better indicators than crude death rates for showing changes in the risk of death over time when the age distribution of the population is changing and for comparing the mortality of subgroups of the population that have different age compositions. All age-adjusted death rates are standardized to the year 2000 population (see section “Computing rates and percentages” in the “[Technical Notes](#)”). Two measures of infant mortality are shown, the infant death rate and the infant mortality rate (see section “Infant mortality” in the “[Technical Notes](#)”). These measures typically are similar although they can differ because the denominator of the infant death rate includes a combination of infants born the previous year who have not reached their first birthday and infants born before the reference date for the population estimate, whereas the denominator of the infant mortality rate is all births occurring during the reference year. For example, the preliminary number of live births for 2004 is about 1.0 percent greater than the infant population in 2004. An infant mortality rate is a better indicator of the risk of dying during the first year of life.

This report includes data for 12 areas (California, Idaho, Michigan, Montana, New Hampshire, New Jersey, New York City, New York State, Oklahoma, South Dakota, Washington, and Wyoming), which implemented the 2003 revision of the U.S. Standard Certificate of Death by

2004, and the remaining states and the District of Columbia that collected and reported death data in 2004 based on the 1989 revision of the U.S. Standard Certificate of Death. The 2003 revision is described in detail elsewhere (10,11). In this report, revised data are combined with unrevised but comparable data. More details on procedures used to combine revised with unrevised data on race are given in the “[Technical Notes](#).”

The populations used to calculate death rates were produced under a collaborative arrangement with the U.S. Census Bureau and are based on the 2000 census counts. Except for 15 states (California, Hawaii, Idaho, Maine, Michigan, Minnesota, Montana, New Hampshire, New Jersey, New York, Oklahoma, South Dakota, Washington, Wisconsin, and Wyoming), the death certificate data by race (the numerators for death rates) are currently incompatible with the population data collected in the 2000 census (the denominators for the rates). In order to produce national death rates for 2003 and 2004, it was necessary to “bridge” the incompatible reported population data to be consistent with the 1977 Office of Management and Budget (OMB) single race categories (12), that is, to bridge multiple-race categories back to single-race categories and report the data for Asian persons and Native Hawaiians or other Pacific Islanders as a combined category, APIs, and to reflect age as of the census reference date (13). The procedures used to produce the “bridged” populations are described in separate publications (14,15). As the remaining 35 states and the District of Columbia gradually begin to collect data on race according to the 1997 OMB guidelines (16), it is expected that use of the “bridged” populations can be discontinued.

Readers should keep in mind that the population data used to compile the death rates by race shown in this report are based on special estimation procedures. They are not true counts. This is the case even for the 2000 populations that are based on the 2000 census. The estimation procedures used to develop these populations are subject to error. Smaller population groups are affected much more than larger populations by this measurement error, especially AIANs (14).

Results

Trends in numbers and rates

The preliminary number of deaths in the United States for 2004 was 2,398,343, representing a decrease of 49,945 from the 2003 total. The crude death rate of 816.7 per 100,000 population was 3.0 percent less than the rate of 841.9 per 100,000 in 2003. The estimated age-adjusted death rate, which accounts for changes in the age distribution of the population, reached a record low of 801.0 per 100,000 U.S. standard population, 3.8 percent lower than the 2003 rate of 832.7 ([Tables A and 1](#)) (4). The age-adjusted death rate in the United States has generally trended downward since 1900 with occasional increases usually due to outbreaks of influenza, the most recent being from 1998 to 1999 (17,18). From 2003 to 2004, age-adjusted death rates decreased by 3.9 percent for males and by 3.7 percent for females. All the sex, race, and Hispanic origin groups described in this report showed significant decreases in the age-adjusted death rate between 2003 and 2004. The relative magnitude of these changes by sex and race and Hispanic origin ([Table 1](#)) are as follows.

Table A. Deaths, age-adjusted death rates, and life expectancy at birth, by race and sex; and infant deaths and mortality rates by race: United States, final 2003 and preliminary 2004

[Data are based on a continuous file of records received from the states. Figures for 2004 are based on weighted data rounded to the nearest individual, so categories may not add to totals]

Measure and sex	All races ^{1,2}		White ²		Black ²	
	2004	2003	2004	2003	2004	2003
All deaths	2,398,343	2,448,288	2,059,949	2,103,714	284,877	291,300
Age-adjusted death rate ³	801.0	832.7	787.4	817.0	1,019.3	1,065.9
Male	955.1	994.3	937.4	973.9	1,258.4	1,319.1
Female	680.1	706.2	668.6	693.1	849.6	885.6
Life expectancy at birth ⁴	77.9	77.5	78.3	78.0	73.3	72.7
Male	75.2	74.8	75.7	75.3	69.8	69.0
Female	80.4	80.1	80.8	80.5	76.5	76.1
All infant deaths	27,838	28,025	18,240	18,440	8,359	8,402
Infant mortality rate ⁵	6.76	6.85	5.65	5.72	13.65	14.01

¹Includes races other than white and black.

²Race categories are consistent with the 1977 Office of Management and Budget (OMB) standards. California, Hawaii, Idaho, Maine, Michigan, Minnesota, Montana, New Hampshire, New Jersey, New York, Oklahoma, South Dakota, Washington, Wisconsin, and Wyoming reported multiple-race data in 2004. The multiple-race data for these states were bridged to the single race categories of the 1977 OMB standards for comparability with the other states; see "Technical Notes."

³Age-adjusted death rates are per 100,000 U.S. standard population, based on the year 2000 standard; see "Technical Notes."

⁴Life expectancy at birth stated in years.

⁵Infant mortality rates are deaths under 1 year per 1,000 live births in specified group.

Decreases in age-adjusted death rates:

White males (3.7 percent)
 White females (3.5 percent)
 Non-Hispanic white males (3.5 percent)
 Non-Hispanic white females (3.2 percent)
 Black males (4.6 percent)
 Black females (4.1 percent)
 Non-Hispanic black males (4.4 percent)
 Non-Hispanic black females (3.9 percent)
 American Indian or Alaska Native (AIAN) males (5.9 percent)
 AIAN females (5.9 percent)
 Asian or Pacific Islander (API) males (5.1 percent)
 API females (3.5 percent)
 Hispanic males (6.1 percent)
 Hispanic females (6.3 percent)

Among the major race and Hispanic origin groups, the lowest mortality was reported for the API population (44 percent lower than the non-Hispanic white population), the Hispanic population (27 percent lower than the non-Hispanic white population), and the AIAN population (19 percent lower than the non-Hispanic white population). In contrast, the age-adjusted death rate for the non-Hispanic black population was 30 percent higher than that for the non-Hispanic white population (Table 1). However, mortality for races other than white and black may be, in some cases, seriously understated due to underreporting for some race groups and Hispanic origin on death certificates (19–21).

Statistically significant decreases in mortality between 2003 and 2004 were registered across all age groups except 5–14 years, as follows:

Under 1 year (2.5 percent—see also section on "Infant mortality")
 1–4 years (4.8 percent)
 5–14 years (2.4 percent decrease, not significant)
 15–24 years (2.8 percent)

25–34 years (3.0 percent)
 35–44 years (5.2 percent)
 45–54 years (2.3 percent)
 55–64 years (3.7 percent)
 65–74 years (4.0 percent)
 75–84 years (3.2 percent)
 85 years and over (4.8 percent)

The death rate for "Under 1 year" shown above is based on a population estimate and is different from the infant mortality rate, which is based on live births (see discussion on infant mortality rates in section on "Infant mortality").

The preliminary estimate of life expectancy at birth for the total population in 2004 reached a record high of 77.9 years. This represents an increase of 0.4 year relative to 2003 (see Tables A and 6). Record-high life expectancies were reached for white males (75.7 years) and black males (69.8 years), as well as for white females (80.8 years) and black females (76.5 years). The gap between male and female life expectancy was 5.2 years in 2004, down from 5.3 years in 2003, and 5.4 years in 2002. The difference between male and female life expectancy at birth has been generally decreasing since its peak of 7.8 years in 1979 (22). Life expectancy for males increased by 0.4 year, reaching a record 75.2 years. Female life expectancy increased by 0.3 year, increasing from 80.1 years to 80.4 years between 2003 and 2004.

By state of residence, Hawaii had the lowest mortality in 2004 with an age-adjusted death rate of 623.6 deaths per 100,000 standard population. Mortality was highest for Mississippi, with an age-adjusted death rate of 998.2 per 100,000 standard population.

Causes of death

The 15 leading causes of death in 2004 (Table B) remained the same as in 2003 with the exception of two causes that exchanged ranks. Alzheimer's disease, the eighth leading cause in 2003, became the seventh leading cause in 2004, whereas Influenza and

Table B. Deaths and death rates for 2004 and age-adjusted death rates and percentage changes in age-adjusted rates from 2003 to 2004 for the 15 leading causes of death in 2004: United States, final 2003 and preliminary 2004

[Data are based on a continuous file of records received from the states. Rates are per 100,000 population; age-adjusted rates per 100,000 U.S. standard population based on the year 2000 standard; see "Technical Notes." For explanation of asterisks (*) preceding cause-of-death codes, see "Technical Notes." Figures for 2004 are based on weighted data rounded to the nearest individual, so categories may not add to totals]

Rank ¹	Cause of death (Based on the <i>International Classification of Diseases, Tenth Revision, 1992</i>)	Number	Death rate	Age-adjusted death rate		
				2004	2003	Percent change
...	All causes	2,398,365	816.7	801.1	832.7	-3.8
1	Diseases of heart (I00-I09,I11,I13,I20-I51)	654,092	222.7	217.5	232.3	-6.4
2	Malignant neoplasms (C00-C97)	550,270	187.4	184.6	190.1	-2.9
3	Cerebrovascular diseases (I60-I69)	150,147	51.1	50.0	53.5	-6.5
4	Chronic lower respiratory diseases (J40-J47)	123,884	42.2	41.8	43.3	-3.5
5	Accidents (unintentional injuries) (V01-X59,Y85-Y86)	108,694	37.0	36.6	37.3	-1.9
6	Diabetes mellitus (E10-E14)	72,815	24.8	24.4	25.3	-3.6
7	Alzheimer's disease (G30)	65,829	22.4	21.7	21.4	1.4
8	Influenza and pneumonia (J10-J18)	61,472	20.9	20.4	22.0	-7.3
9	Nephritis, nephrotic syndrome and nephrosis (N00-N07,N17-N19,N25-N27)	42,762	14.6	14.3	14.4	-0.7
10	Septicemia (A40-A41)	33,464	11.4	11.2	11.6	-3.4
11	Intentional self-harm (suicide) (*U03,X60-X84,Y87.0)	31,647	10.8	10.7	10.8	-0.9
12	Chronic liver disease and cirrhosis (K70,K73-K74)	26,549	9.0	8.8	9.3	-5.4
13	Essential (primary) hypertension and hypertensive renal disease (I10,I12)	22,953	7.8	7.6	7.4	2.7
14	Parkinson's disease (G20-G21)	18,018	6.1	6.1	6.2	-1.6
15	Pneumonitis due to solids and liquids (J69)	16,959	5.8	5.6	5.9	-5.1
...	All other causes	418,810	142.6	...	...	...

... Category not applicable.

¹Rank based on number of deaths; see "Technical Notes."

pneumonia, the seventh leading cause in 2003, became the eighth leading cause in 2004. The 15 leading causes of death in 2004 were as follows:

- 1) Diseases of heart;
- 2) Malignant neoplasms;
- 3) Cerebrovascular diseases;
- 4) Chronic lower respiratory diseases;
- 5) Accidents (unintentional injuries);
- 6) Diabetes mellitus;
- 7) Alzheimer's disease;
- 8) Influenza and pneumonia;
- 9) Nephritis, nephrotic syndrome and nephrosis;
- 10) Septicemia;
- 11) Intentional self-harm (suicide);
- 12) Chronic liver disease and cirrhosis;
- 13) Essential (primary) hypertension and hypertensive renal disease;
- 14) Parkinson's disease; and
- 15) Pneumonitis due to solids and liquids.

The age-adjusted death rate declined significantly for 10 of the 15 leading causes of death. From 2003 to 2004, the preliminary age-adjusted death rate for the leading cause of death, **Diseases of heart**, decreased by 6.4 percent. The age-adjusted death rate for **Malignant neoplasms** decreased by 2.9 percent (see [Tables B and 2](#)). Deaths from these two diseases combined accounted for more than 1.2 million deaths, 50 percent of all deaths in 2004. Although heart disease mortality has exhibited a downward trend since 1950, cancer mortality has declined only since 1990.

The preliminary age-adjusted death rate also decreased between 2003 and 2004 for **Influenza and pneumonia** (7.3 percent), **Cerebrovascular disease** (6.5 percent), **Chronic liver disease and**

cirrhosis (5.4 percent), **Pneumonitis due to solids and liquids** (5.1 percent), **Diabetes mellitus** (3.6 percent), **Chronic lower respiratory diseases** (3.5 percent), **Septicemia** (3.4 percent), and **Accidents (unintentional injuries)** (1.9 percent). Although there were declines in the death rates for kidney disease, suicide, and Parkinson's disease, these declines were not statistically significant.

Although **Human immunodeficiency virus (HIV) disease** was not among the 15 leading causes of death, it is still a major public health concern. The preliminary age-adjusted death rate for HIV disease declined significantly by 6.4 percent between 2003 and 2004 ([Table 2](#)). From 1987 to 1994, HIV disease mortality increased an average of 16 percent annually. In 1995, the rate for this disease reached a plateau, not differing significantly from the 1994 rate. Subsequently, the rate decreased an average of 33 percent from 1995 to 1998, and 3 percent from 1999 to 2002. HIV disease is currently the sixth leading cause of death for all races combined for the age group 25-44 years. It is also the 9th leading cause of death for the age group 15-24 years—an upward movement in the leading-cause rankings relative to its 2003 position of 10th place for this group ([Table 7](#)). In 2004, HIV disease exited the list of top 10 leading causes of death for the age group 45-64 years.

Increases occurred for **Essential hypertension and hypertensive renal disease** (2.7 percent) and **Alzheimer's disease** (1.4 percent). The latter moved from eighth to seventh place in the leading-cause list.

Between 2003 and 2004, the preliminary age-adjusted death rate declined by 4.9 percent for **Firearm injuries**, 2.9 percent for **Alcohol-induced deaths**, and 2.0 percent for **Drug-induced deaths** ([Table 2](#)). The age-adjusted death rate for **Injury at work** decreased by 4.5 percent between 2003 and 2004.

For certain causes of death such as unintentional injuries, homicides, suicides, and respiratory diseases, preliminary and final data differ because of the truncated nature of the preliminary file.

Infant mortality

The preliminary infant mortality rate for 2004 was 6.76 infant deaths per 1,000 live births. The slight decrease of 1.3 percent relative to the rate in 2003 was not statistically significant (see [Tables A and 4](#)). The neonatal mortality rate for 2004 decreased significantly by 2.6 percent relative to the rate in 2003. The most dramatic decrease in neonatal mortality rate was observed for the black population (down 4.6 percent from 2003; see [Table 4](#)).

The infant mortality rate has either decreased or remained level each successive year between 1958 and 2001 (2,6,23). The increase in 2002 was concentrated among neonates, and most of the increase in the infant mortality rate that year was due to the change in the distribution of births by birthweight, particularly an increase in infants born weighing less than 750 grams (24).

The 2004 preliminary infant mortality rate for black infants was 13.65 infant deaths per 1,000 live births, more than double the rate for white infants ([Table A](#)). Because of inconsistencies in the reporting of some race groups and Hispanic origin on birth and death certificates, infant mortality rates for some groups are likely to be underestimated (20,21). The linked birth/infant death data set provides a better source of data for infant deaths and mortality rates by maternal race and ethnicity (25).

Although the infant mortality rate is the preferred indicator of the risk of dying during the first year of life, another measure of infant mortality is also shown in this report; the infant death rate (see section "Infant mortality" in the "[Technical Notes](#)"). The two measures typically are similar yet they can differ because the denominator of the infant death rate includes a combination of infants born the previous year who have not reached their first birthday and infants born before the reference date for the population estimate, whereas the denominator of the infant mortality rate is **all births occurring during the reference year**. For example, the preliminary number of live births for 2004 is about 1.0 percent greater than the infant population in 2004. This difference in the denominators of the two measures of mortality is large enough that the decrease in the infant mortality rate between 2003 and 2004 is not statistically significant, whereas the decrease measured in the infant death rate for the same period is.

The 10 leading causes of infant mortality for 2004 were:

- 1) Congenital malformations, deformations and chromosomal abnormalities;
- 2) Disorders related to short gestation and low birth weight, not elsewhere classified;
- 3) Sudden infant death syndrome (SIDS);
- 4) Newborn affected by maternal complications of pregnancy;
- 5) Newborn affected by complications of placenta, cord and membranes;
- 6) Accidents (unintentional injuries);
- 7) Respiratory distress of newborn;
- 8) Bacterial sepsis of newborn;
- 9) Neonatal hemorrhage; and
- 10) Intrauterine hypoxia and birth asphyxia.

The only differences between the leading causes as shown for 2003 (4) and those for 2004 concern the dropping off of Diseases of

the circulatory system from the list (it was previously the 10th leading cause of infant death) and the incorporation of Intrauterine hypoxia and birth asphyxia to the 2004 list as the 10th leading cause of infant mortality.

The infant mortality rate did not change significantly between 2003 and 2004 for the leading cause of infant mortality, Congenital malformations, deformations and chromosomal abnormalities. There was, however, a significant decrease of 4.0 percent in the mortality rate of the second leading cause of infant death, Disorders related to short gestation and low birth weight, not elsewhere classified ([Tables 5 and 8](#)). Deaths from these two conditions combined accounted for more than 10,000 deaths, 37 percent of infant deaths in 2004.

Among the leading causes of infant death, a significant decrease in the infant mortality rate was also documented for the fifth leading cause, Newborn affected by complications of placenta, cord and membranes. The rate dropped 10.0 percent between 2003 and 2004.

Deaths due to SIDS, currently the third leading cause of infant death, have been declining since 1988 (8). The slight decline of 3.2 percent in the mortality rate of SIDS between 2003 and 2004 is not statistically significant. The general consensus concerning recent declines in mortality due to SIDS is that they mostly reflect a change in the way SIDS is diagnosed and reported by medical examiners and coroners (26).

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Table 1. Deaths and death rates by age, sex, and race and Hispanic origin, and age-adjusted death rates, by sex and race and Hispanic origin: United States, final 2003 and preliminary 2004

[Data are based on a continuous file of records received from the states. Age-specific rates are per 100,000 population in specified group. Age-adjusted rates are per 100,000 U.S. standard population; see "Technical Notes." The number of deaths and death rates for Hispanic origin and specified races other than white and black should be interpreted with caution because of inconsistencies between reporting Hispanic origin and race on death certificates and censuses and surveys; see "Technical Notes." Race categories are consistent with the 1977 Office of Management and Budget guidelines. Figures for 2004 are based on weighted data rounded to the nearest individual, so categories may not add to totals]

Age, race, and sex	2004		2003	
	Number	Rate	Number	Rate
All races, both sexes				
All ages	2,398,343	816.7	2,448,288	841.9
Under 1 year ¹	27,838	682.8	28,025	700.0
1-4 years	4,801	30.0	4,965	31.5
5-14 years	6,756	16.6	6,954	17.0
15-24 years	33,020	79.2	33,568	81.5
25-34 years	40,244	100.5	41,300	103.6
35-44 years	84,310	191.1	89,461	201.6
45-54 years	176,105	423.1	176,781	433.2
55-64 years	263,413	905.9	262,519	940.9
65-74 years	399,841	2,165.6	413,497	2,255.0
75-84 years	686,293	5,291.0	703,024	5,463.1
85 years and over	675,296	13,896.0	687,852	14,593.3
Not stated	426	...	342	...
Age-adjusted rate ² . . . . .	...	801.0	...	832.7
All races, male				
All ages	1,179,995	816.4	1,201,964	840.3
Under 1 year ¹	15,690	752.4	15,902	777.4
1-4 years	2,635	32.2	2,826	35.1
5-14 years	3,934	18.9	4,150	19.8
15-24 years	24,260	113.2	24,670	116.5
25-34 years	27,904	137.2	28,602	141.4
35-44 years	52,867	239.9	56,435	255.0
45-54 years	110,257	539.1	110,682	552.2
55-64 years	156,968	1,121.2	156,461	1,165.5
65-74 years	223,079	2,647.0	231,421	2,771.7
75-84 years	334,415	6,408.6	342,332	6,641.8
85 years and over	227,684	15,099.7	228,212	15,794.0
Not stated	302	...	271	...
Age-adjusted rate ² . . . . .	...	955.1	...	994.3
All races, female				
All ages	1,218,348	817.0	1,246,324	843.4
Under 1 year ¹	12,149	610.0	12,123	619.1
1-4 years	2,166	27.7	2,139	27.8
5-14 years	2,822	14.2	2,804	14.0
15-24 years	8,760	43.2	8,898	44.4
25-34 years	12,340	62.7	12,698	64.6
35-44 years	31,443	142.4	33,026	148.5
45-54 years	65,847	311.1	66,099	318.4
55-64 years	106,446	705.9	106,058	732.7
65-74 years	176,762	1,761.3	182,076	1,823.0
75-84 years	351,878	4,538.8	360,692	4,675.5
85 years and over	447,612	13,354.5	459,640	14,062.5
Not stated	124	...	71	...
Age-adjusted rate ² . . . . .	...	680.1	...	706.2

See footnotes at end of table.

Table 1. Deaths and death rates by age, sex, and race and Hispanic origin, and age-adjusted death rates, by sex and race and Hispanic origin: United States, final 2003 and preliminary 2004—Con.

[Data are based on a continuous file of records received from the states. Age-specific rates are per 100,000 population in specified group. Age-adjusted rates are per 100,000 U.S. standard population; see "Technical Notes." The number of deaths and death rates for Hispanic origin and specified races other than white and black should be interpreted with caution because of inconsistencies between reporting Hispanic origin and race on death certificates and censuses and surveys; see "Technical Notes." Race categories are consistent with the 1977 Office of Management and Budget guidelines. Figures for 2004 are based on weighted data rounded to the nearest individual, so categories may not add to totals]

Age, race, and sex	2004		2003	
	Number	Rate	Number	Rate
Total white³, both sexes				
All ages	2,059,949	864.6	2,103,714	890.1
Under 1 year ¹	18,240	574.3	18,440	591.3
1–4 years	3,377	27.1	3,509	28.5
5–14 years	4,851	15.3	5,031	15.8
15–24 years	24,791	75.7	24,976	77.1
25–34 years	28,818	91.5	29,689	94.3
35–44 years	63,259	177.6	66,748	185.7
45–54 years	134,793	391.3	134,512	397.5
55–64 years	213,420	860.4	212,821	892.2
65–74 years	338,816	2,123.9	350,549	2,207.0
75–84 years	612,138	5,294.2	627,452	5,457.8
85 years and over	617,115	14,087.2	629,695	14,792.3
Not stated	331	...	292	...
Age-adjusted rate ² . . . . .	...	787.4	...	817.0
White³ male				
All ages	1,007,294	854.3	1,025,650	877.6
Under 1 year ¹	10,313	634.5	10,500	658.7
1–4 years	1,857	29.1	1,981	31.5
5–14 years	2,862	17.6	3,008	18.4
15–24 years	18,112	107.2	18,219	108.9
25–34 years	20,239	124.9	20,814	128.8
35–44 years	40,588	225.6	43,083	237.6
45–54 years	85,682	500.6	85,587	509.2
55–64 years	127,976	1,061.0	127,752	1,102.3
65–74 years	190,519	2,589.4	197,853	2,707.3
75–84 years	300,346	6,406.2	307,050	6,620.6
85 years and over	208,562	15,322.2	209,575	16,037.9
Not stated	236	...	228	...
Age-adjusted rate ² . . . . .	...	937.4	...	973.9
White³ female				
All ages	1,052,656	874.6	1,078,064	902.3
Under 1 year ¹	7,927	511.1	7,940	520.7
1–4 years	1,520	25.0	1,528	25.5
5–14 years	1,989	12.9	2,023	13.1
15–24 years	6,679	42.2	6,757	43.2
25–34 years	8,578	56.1	8,875	58.0
35–44 years	22,671	128.6	23,665	132.9
45–54 years	49,111	283.4	48,925	287.2
55–64 years	85,444	670.6	85,069	693.7
65–74 years	148,296	1,725.4	152,696	1,780.6
75–84 years	311,792	4,535.8	320,402	4,671.6
85 years and over	408,553	13,530.5	420,120	14,240.6
Not stated	95	...	64	...
Age-adjusted rate ² . . . . .	...	668.6	...	693.1

See footnotes at end of table.

Table 1. Deaths and death rates by age, sex, and race and Hispanic origin, and age-adjusted death rates, by sex and race and Hispanic origin: United States, final 2003 and preliminary 2004—Con.

[Data are based on a continuous file of records received from the states. Age-specific rates are per 100,000 population in specified group. Age-adjusted rates are per 100,000 U.S. standard population; see "Technical Notes." The number of deaths and death rates for Hispanic origin and specified races other than white and black should be interpreted with caution because of inconsistencies between reporting Hispanic origin and race on death certificates and censuses and surveys; see "Technical Notes." Race categories are consistent with the 1977 Office of Management and Budget guidelines. Figures for 2004 are based on weighted data rounded to the nearest individual, so categories may not add to totals]

Age, race, and sex	2004		2003	
	Number	Rate	Number	Rate
Non-Hispanic white, both sexes				
All ages	1,937,440	969.8	1,979,465	993.6
Under 1 year ¹	13,073	565.6	13,223	576.5
1–4 years	2,470	26.9	2,539	27.6
5–14 years	3,803	15.5	3,884	15.6
15–24 years	19,626	75.0	19,640	75.8
25–34 years	23,076	94.6	23,557	95.8
35–44 years	55,008	184.1	58,095	190.9
45–54 years	122,245	398.3	121,832	402.3
55–64 years	198,288	872.7	197,598	902.4
65–74 years	318,192	2,156.4	329,570	2,237.2
75–84 years	584,872	5,359.3	600,563	5,515.4
85 years and over	596,619	14,268.5	608,843	14,944.8
Not stated	168	...	121	...
Age-adjusted rate ² . . . . .	...	798.6	...	826.1
Non-Hispanic white male				
All ages	938,800	958.1	956,194	979.1
Under 1 year ¹	7,446	629.1	7,591	647.2
1–4 years	1,356	28.8	1,423	30.2
5–14 years	2,256	17.9	2,319	18.1
15–24 years	13,944	104.2	14,022	105.9
25–34 years	15,885	129.1	16,097	129.9
35–44 years	34,836	232.9	37,123	243.8
45–54 years	77,246	507.2	77,106	513.2
55–64 years	118,692	1,072.1	118,383	1,110.5
65–74 years	179,056	2,624.0	186,112	2,738.5
75–84 years	286,737	6,483.7	293,774	6,692.2
85 years and over	201,249	15,558.2	202,148	16,234.4
Not stated	97	...	96	...
Age-adjusted rate ² . . . . .	...	949.9	...	984.0
Non-Hispanic white female				
All ages	998,640	981.1	1,023,271	1,007.6
Under 1 year ¹	5,627	498.9	5,632	502.5
1–4 years	1,114	24.9	1,116	24.9
5–14 years	1,547	12.9	1,565	12.9
15–24 years	5,682	44.5	5,618	44.3
25–34 years	7,191	59.5	7,460	61.2
35–44 years	20,172	135.2	20,972	138.0
45–54 years	44,999	291.0	44,726	293.1
55–64 years	79,596	683.1	79,215	705.0
65–74 years	139,136	1,754.2	143,458	1,807.9
75–84 years	298,135	4,593.1	306,789	4,720.5
85 years and over	395,370	13,690.8	406,695	14,377.2
Not stated	72	...	25	...
Age-adjusted rate ² . . . . .	...	679.3	...	702.1

See footnotes at end of table.

Table 1. Deaths and death rates by age, sex, and race and Hispanic origin, and age-adjusted death rates, by sex and race and Hispanic origin: United States, final 2003 and preliminary 2004—Con.

[Data are based on a continuous file of records received from the states. Age-specific rates are per 100,000 population in specified group. Age-adjusted rates are per 100,000 U.S. standard population; see "Technical Notes." The number of deaths and death rates for Hispanic origin and specified races other than white and black should be interpreted with caution because of inconsistencies between reporting Hispanic origin and race on death certificates and censuses and surveys; see "Technical Notes." Race categories are consistent with the 1977 Office of Management and Budget guidelines. Figures for 2004 are based on weighted data rounded to the nearest individual, so categories may not add to totals]

Age, race, and sex	2004		2003	
	Number	Rate	Number	Rate
Total black³, both sexes				
All ages	284,877	738.0	291,300	763.6
Under 1 year ¹	8,359	1,264.3	8,402	1,273.8
1–4 years	1,172	45.1	1,199	46.8
5–14 years	1,574	23.4	1,551	22.9
15–24 years	6,899	107.1	7,145	113.1
25–34 years	9,780	176.7	9,942	181.6
35–44 years	18,265	318.6	19,784	343.6
45–54 years	36,240	735.2	37,006	771.4
55–64 years	43,081	1,485.5	42,823	1,549.9
65–74 years	51,278	2,959.3	53,128	3,108.4
75–84 years	60,975	6,129.7	62,372	6,353.9
85 years and over	47,176	13,303.5	47,908	13,976.7
Not stated	78	...	40	...
Age-adjusted rate ² . . . . .	...	1,019.3	...	1,065.9
Black³ male				
All ages	144,503	784.6	148,022	813.7
Under 1 year ¹	4,672	1,385.4	4,740	1,410.0
1–4 years	649	49.2	699	53.7
5–14 years	874	25.6	922	26.8
15–24 years	5,220	160.7	5,448	171.3
25–34 years	6,599	249.1	6,693	256.2
35–44 years	10,556	391.6	11,544	426.7
45–54 years	21,547	945.8	21,986	991.4
55–64 years	24,980	1,932.0	24,770	2,011.2
65–74 years	27,362	3,791.5	28,291	3,981.3
75–84 years	27,471	7,647.9	28,600	8,067.0
85 years and over	14,517	14,421.7	14,294	14,903.4
Not stated	56	...	35	...
Age-adjusted rate ² . . . . .	...	1,258.4	...	1,319.1
Black³ female				
All ages	140,374	695.5	143,278	717.9
Under 1 year ¹	3,686	1,137.9	3,662	1,132.2
1–4 years	523	40.9	500	39.7
5–14 years	700	21.2	629	18.9
15–24 years	1,679	52.6	1,697	54.0
25–34 years	3,180	110.2	3,249	113.5
35–44 years	7,709	253.8	8,240	270.0
45–54 years	14,693	554.3	15,020	582.3
55–64 years	18,102	1,126.3	18,053	1,178.8
65–74 years	23,917	2,365.4	24,837	2,487.2
75–84 years	33,504	5,271.7	33,772	5,385.5
85 years and over	32,660	12,860.7	33,614	13,616.7
Not stated	22	...	5	...
Age-adjusted rate ² . . . . .	...	849.6	...	885.6

See footnotes at end of table.

Table 1. Deaths and death rates by age, sex, and race and Hispanic origin, and age-adjusted death rates, by sex and race and Hispanic origin: United States, final 2003 and preliminary 2004—Con.

[Data are based on a continuous file of records received from the states. Age-specific rates are per 100,000 population in specified group. Age-adjusted rates are per 100,000 U.S. standard population; see "Technical Notes." The number of deaths and death rates for Hispanic origin and specified races other than white and black should be interpreted with caution because of inconsistencies between reporting Hispanic origin and race on death certificates and censuses and surveys; see "Technical Notes." Race categories are consistent with the 1977 Office of Management and Budget guidelines. Figures for 2004 are based on weighted data rounded to the nearest individual, so categories may not add to totals]

Age, race, and sex	2004		2003	
	Number	Rate	Number	Rate
Non-Hispanic black, both sexes				
All ages	281,807	763.3	287,968	788.8
Under 1 year ¹	8,134	1,283.5	8,159	1,290.0
1–4 years	1,138	45.9	1,169	48.0
5–14 years	1,541	24.2	1,530	23.8
15–24 years	6,782	110.5	7,021	116.6
25–34 years	9,656	184.3	9,795	188.9
35–44 years	18,042	328.7	19,561	354.2
45–54 years	35,855	752.5	36,584	788.3
55–64 years	42,640	1,515.2	42,350	1,578.4
65–74 years	50,764	3,010.8	52,583	3,158.7
75–84 years	60,420	6,218.0	61,770	6,433.0
85 years and over	46,792	13,467.7	47,426	14,107.7
Not stated	44	...	20	...
Age-adjusted rate ² . . . . .	...	1,037.7	...	1,083.2
Non-Hispanic black male				
All ages	142,749	811.5	146,136	840.6
Under 1 year ¹	4,537	1,404.1	4,601	1,427.7
1–4 years	635	50.4	681	55.1
5–14 years	853	26.4	911	27.9
15–24 years	5,127	165.8	5,343	176.5
25–34 years	6,503	259.7	6,592	266.6
35–44 years	10,414	404.0	11,405	440.0
45–54 years	21,282	967.3	21,708	1,012.8
55–64 years	24,708	1,971.3	24,468	2,047.7
65–74 years	27,074	3,858.2	27,957	4,041.1
75–84 years	27,197	7,757.0	28,297	8,165.7
85 years and over	14,387	14,618.9	14,156	15,082.2
Not stated	33	...	17	...
Age-adjusted rate ² . . . . .	...	1,281.7	...	1,341.1
Non-Hispanic black female				
All ages	139,058	719.4	141,832	741.6
Under 1 year ¹	3,597	1,158.1	3,558	1,146.9
1–4 years	503	41.2	488	40.7
5–14 years	688	22.0	619	19.6
15–24 years	1,655	54.3	1,678	56.0
25–34 years	3,153	115.3	3,203	118.0
35–44 years	7,628	262.1	8,156	278.4
45–54 years	14,573	568.3	14,876	595.7
55–64 years	17,933	1,148.9	17,882	1,201.6
65–74 years	23,690	2,406.7	24,626	2,531.2
75–84 years	33,222	5,349.0	33,473	5,454.6
85 years and over	32,405	13,012.7	33,270	13,730.3
Not stated	11	...	3	...
Age-adjusted rate ² . . . . .	...	864.7	...	899.8

See footnotes at end of table.

Table 1. Deaths and death rates by age, sex, and race and Hispanic origin, and age-adjusted death rates, by sex and race and Hispanic origin: United States, final 2003 and preliminary 2004—Con.

[Data are based on a continuous file of records received from the states. Age-specific rates are per 100,000 population in specified group. Age-adjusted rates are per 100,000 U.S. standard population; see "Technical Notes." The number of deaths and death rates for Hispanic origin and specified races other than white and black should be interpreted with caution because of inconsistencies between reporting Hispanic origin and race on death certificates and censuses and surveys; see "Technical Notes." Race categories are consistent with the 1977 Office of Management and Budget guidelines. Figures for 2004 are based on weighted data rounded to the nearest individual, so categories may not add to totals]

Age, race, and sex	2004		2003	
	Number	Rate	Number	Rate
Total American Indian or Alaska Native ^{3,4} , both sexes				
All ages	13,047	414.4	13,147	422.6
Under 1 year ¹	391	903.6	335	795.8
1–4 years	99	55.5	95	50.3
5–14 years	126	22.0	137	23.7
15–24 years	577	98.7	621	108.6
25–34 years	687	145.7	643	138.6
35–44 years	1,187	254.8	1,244	266.6
45–54 years	1,733	437.2	1,812	470.7
55–64 years	2,067	876.3	2,042	916.7
65–74 years	2,323	1,925.1	2,256	1,953.4
75–84 years	2,338	3,910.9	2,363	4,170.3
85 years and over	1,509	7,392.0	1,594	8,452.2
Not stated	10	...	5	...
Age-adjusted rate ² . . . . .	...	646.2	...	685.0
American Indian or Alaska Native ^{3,4} male				
All ages	7,067	449.5	7,106	457.6
Under 1 year ¹	237	1,076.0	195	911.5
1–4 years	50	55.3	55	57.3
5–14 years	69	23.8	86	29.3
15–24 years	397	132.5	450	153.1
25–34 years	453	185.6	444	185.3
35–44 years	749	322.1	784	338.1
45–54 years	1,044	542.9	1,090	583.6
55–64 years	1,209	1,064.6	1,136	1,058.3
65–74 years	1,212	2,173.5	1,191	2,237.3
75–84 years	1,112	4,448.2	1,092	4,644.0
85 years and over	528	7,984.3	578	9,583.8
Not stated	8	...	5	...
Age-adjusted rate ² . . . . .	...	750.2	...	797.0
American Indian or Alaska Native ^{3,4} female				
All ages	5,980	379.3	6,041	387.7
Under 1 year ¹	154	724.8	140	676.2
1–4 years	49	55.7	40	43.0
5–14 years	57	20.2	51	17.9
15–24 years	180	63.2	171	61.5
25–34 years	233	102.5	199	88.7
35–44 years	439	188.2	460	196.0
45–54 years	689	337.6	722	364.4
55–64 years	859	702.3	906	785.0
65–74 years	1,111	1,711.7	1,065	1,710.7
75–84 years	1,226	3,524.8	1,271	3,834.3
85 years and over	981	7,108.2	1,016	7,920.2
Not stated	2	...	–	...
Age-adjusted rate ² . . . . .	...	557.4	...	592.1

See footnotes at end of table.

Table 1. Deaths and death rates by age, sex, and race and Hispanic origin, and age-adjusted death rates, by sex and race and Hispanic origin: United States, final 2003 and preliminary 2004—Con.

[Data are based on a continuous file of records received from the states. Age-specific rates are per 100,000 population in specified group. Age-adjusted rates are per 100,000 U.S. standard population; see "Technical Notes." The number of deaths and death rates for Hispanic origin and specified races other than white and black should be interpreted with caution because of inconsistencies between reporting Hispanic origin and race on death certificates and censuses and surveys; see "Technical Notes." Race categories are consistent with the 1977 Office of Management and Budget guidelines. Figures for 2004 are based on weighted data rounded to the nearest individual, so categories may not add to totals]

Age, race, and sex	2004		2003	
	Number	Rate	Number	Rate
Total Asian or Pacific Islander ³ , both sexes				
All ages	40,469	296.7	40,127	303.9
Under 1 year ¹	848	431.6	848	463.1
1–4 years	152	20.1	162	22.5
5–14 years	205	11.2	235	13.1
15–24 years	754	38.7	826	42.8
25–34 years	960	38.1	1,026	41.6
35–44 years	1,599	69.8	1,685	76.4
45–54 years	3,339	180.6	3,451	193.7
55–64 years	4,845	425.2	4,833	455.6
65–74 years	7,424	1,129.4	7,564	1,203.0
75–84 years	10,842	3,062.6	10,837	3,244.8
85 years and over	9,495	9,136.7	8,655	9,116.3
Not stated	7	...	5	...
Age-adjusted rate ² . . . . .	...	445.6	...	465.7
Asian or Pacific Islander ³ male				
All ages	21,131	318.6	21,186	330.0
Under 1 year ¹	467	462.9	467	496.9
1–4 years	78	20.2	91	24.8
5–14 years	129	13.9	134	14.6
15–24 years	531	53.4	553	56.3
25–34 years	612	49.5	651	53.8
35–44 years	974	87.6	1,024	95.9
45–54 years	1,984	229.0	2,019	242.6
55–64 years	2,803	528.3	2,803	565.5
65–74 years	3,986	1,362.7	4,086	1,472.8
75–84 years	5,486	3,766.3	5,590	4,041.0
85 years and over	4,077	10,341.4	3,765	10,391.7
Not stated	2	...	3	...
Age-adjusted rate ² . . . . .	...	534.1	...	562.7
Asian or Pacific Islander ³ female				
All ages	19,338	276.1	18,941	279.2
Under 1 year ¹	381	398.5	381	427.5
1–4 years	74	20.1	71	20.1
5–14 years	76	8.5	101	11.5
15–24 years	222	23.3	273	28.8
25–34 years	348	27.2	375	29.9
35–44 years	624	52.9	661	58.2
45–54 years	1,354	137.8	1,432	150.8
55–64 years	2,042	335.3	2,030	359.2
65–74 years	3,438	942.3	3,478	989.9
75–84 years	5,356	2,570.7	5,247	2,681.8
85 years and over	5,418	8,400.3	4,890	8,329.2
Not stated	4	...	2	...
Age-adjusted rate ² . . . . .	...	379.0	...	392.7

See footnotes at end of table.

Table 1. Deaths and death rates by age, sex, and race and Hispanic origin, and age-adjusted death rates, by sex and race and Hispanic origin: United States, final 2003 and preliminary 2004—Con.

[Data are based on a continuous file of records received from the states. Age-specific rates are per 100,000 population in specified group. Age-adjusted rates are per 100,000 U.S. standard population; see "Technical Notes." The number of deaths and death rates for Hispanic origin and specified races other than white and black should be interpreted with caution because of inconsistencies between reporting Hispanic origin and race on death certificates and censuses and surveys; see "Technical Notes." Race categories are consistent with the 1977 Office of Management and Budget guidelines. Figures for 2004 are based on weighted data rounded to the nearest individual, so categories may not add to totals]

Age, race, and sex	2004		2003	
	Number	Rate	Number	Rate
Hispanic ⁵ , both sexes				
All ages	121,173	293.2	122,026	305.8
Under 1 year ¹	5,262	580.4	5,281	610.1
1–4 years	943	27.2	993	30.2
5–14 years	1,070	14.0	1,173	15.7
15–24 years	5,251	74.0	5,394	77.1
25–34 years	5,789	76.0	6,189	83.9
35–44 years	8,272	134.3	8,576	144.9
45–54 years	12,411	308.1	12,516	327.8
55–64 years	14,964	673.4	14,913	714.3
65–74 years	20,325	1,600.1	20,596	1,685.6
75–84 years	26,832	3,919.9	26,219	4,093.5
85 years and over	19,998	9,512.8	20,129	10,431.5
Not stated	54	...	47	...
Age-adjusted rate ² . . . . .	...	583.2	...	621.2
Hispanic ⁵ male				
All ages	67,681	317.1	68,119	330.7
Under 1 year ¹	2,934	633.5	2,940	665.5
1–4 years	518	29.3	569	33.8
5–14 years	620	15.8	706	18.4
15–24 years	4,251	112.0	4,244	112.9
25–34 years	4,391	105.5	4,742	118.1
35–44 years	5,751	177.4	5,887	189.8
45–54 years	8,305	410.6	8,336	436.4
55–64 years	9,118	861.9	9,122	920.8
65–74 years	11,217	1,983.3	11,465	2,115.7
75–84 years	13,370	4,782.0	12,904	4,948.5
85 years and over	7,154	10,022.4	7,165	11,029.2
Not stated	52	...	39	...
Age-adjusted rate ² . . . . .	...	702.7	...	748.1
Hispanic ⁵ female				
All ages	53,492	267.8	53,907	279.3
Under 1 year ¹	2,328	525.0	2,341	552.4
1–4 years	425	25.1	424	26.3
5–14 years	450	12.0	467	12.8
15–24 years	1,000	30.3	1,150	35.5
25–34 years	1,398	40.5	1,447	43.0
35–44 years	2,522	86.4	2,689	95.5
45–54 years	4,107	204.8	4,180	219.1
55–64 years	5,846	502.2	5,791	527.9
65–74 years	9,109	1,292.6	9,131	1,342.9
75–84 years	13,462	3,324.6	13,315	3,506.4
85 years and over	12,844	9,250.9	12,964	10,128.1
Not stated	2	...	8	...
Age-adjusted rate ² . . . . .	...	483.5	...	515.8

... Category not applicable.

– Quantity zero.

¹Death rates for Under 1 year (based on population estimates) differ from infant mortality rates (based on live births). See text and Health E-Stats report at <http://www.cdc.gov/nchs> for additional information on the infant mortality rate.

²For method of computation, see "Technical Notes."

³Race and Hispanic origin are reported separately on the death certificate. Race categories are consistent with the 1977 Office of Management and Budget (OMB) standards. California, Hawaii, Idaho, Maine, Michigan, Minnesota, Montana, New Hampshire, New Jersey, New York, Oklahoma, South Dakota, Washington, Wisconsin, and Wyoming reported multiple-race data in 2004. The multiple-race data for these states were bridged to the single race categories of the 1977 OMB standards for comparability with other states; see "Technical Notes." Data for persons of Hispanic origin are included in the data for each race group, according to the decedent's reported race; see "Technical Notes."

⁴Includes deaths among Aleuts and Eskimos.

⁵Includes all persons of Hispanic origin of any race; see "Technical Notes."

NOTE: Data are subject to sampling or random variation. For information regarding the calculation of standard errors and further discussion of the variability of the data, see "Technical Notes."

Table 2. Deaths, death rates, and age-adjusted death rates for 113 selected causes, Injury by firearms, Drug-induced deaths, Alcohol-induced deaths, and Injury at work: United States, final 2003 and preliminary 2004

[Data are based on a continuous file of records received from the states. Rates per 100,000 population. Age-adjusted rates are per 100,000 U.S. standard population; see "Technical Notes." For explanation of asterisks (*) preceding cause-of-death codes, see "Technical Notes." Figures for 2004 are based on weighted data rounded to the nearest individual, so categories may not add to totals or subtotals]

Cause of death (Based on the <i>International Classification of Diseases, Tenth Revision, 1992</i>)	2004			2003		
	Number	Rate	Age-adjusted rate	Number	Rate	Age-adjusted rate
All causes	2,398,365	816.7	801.1	2,448,288	841.9	832.7
Salmonella infections (A01–A02)	30	0.0	0.0	43	0.0	0.0
Shigellosis and amebiasis (A03,A06)	2	*	*	7	*	*
Certain other intestinal infections (A04,A07–A09)	4,357	1.5	1.4	3,090	1.1	1.0
Tuberculosis (A16–A19)	662	0.2	0.2	711	0.2	0.2
Respiratory tuberculosis (A16)	509	0.2	0.2	562	0.2	0.2
Other tuberculosis (A17–A19)	153	0.1	0.1	149	0.1	0.0
Whooping cough (A37)	13	*	*	11	*	*
Scarlet fever and erysipelas (A38,A46)	2	*	*	1	*	*
Meningococcal infection (A39)	141	0.0	0.0	161	0.1	0.0
Septicemia (A40–A41)	33,464	11.4	11.2	34,069	11.7	11.6
Syphilis (A50–A53)	38	0.0	0.0	34	0.0	0.0
Acute poliomyelitis (A80)	–	*	*	–	*	*
Arthropod-borne viral encephalitis (A83–A84,A85.2)	5	*	*	13	*	*
Measles (B05)	1	*	*	1	*	*
Viral hepatitis (B15–B19)	5,392	1.8	1.8	5,431	1.9	1.8
Human immunodeficiency virus (HIV) disease (B20–B24)	12,995	4.4	4.4	13,658	4.7	4.7
Malaria (B50–B54)	10	*	*	4	*	*
Other and unspecified infectious and parasitic diseases and their sequelae (A00,A05,A20–A36, A42–A44, A48–A49,A54–A79,A81–A82,A85.0–A85.1,A85.8,A86–B04,B06–B09,B25–B49,B55–B99)	7,526	2.6	2.5	7,427	2.6	2.5
Malignant neoplasms (C00–C97)	550,270	187.4	184.6	556,902	191.5	190.1
Malignant neoplasms of lip, oral cavity and pharynx (C00–C14)	7,712	2.6	2.6	7,778	2.7	2.6
Malignant neoplasm of esophagus (C15)	12,916	4.4	4.3	12,860	4.4	4.4
Malignant neoplasm of stomach (C16)	11,635	4.0	3.9	12,110	4.2	4.1
Malignant neoplasms of colon, rectum and anus (C18–C21)	53,614	18.3	17.9	55,958	19.2	19.1
Malignant neoplasms of liver and intrahepatic bile ducts (C22)	15,133	5.2	5.0	14,706	5.1	5.0
Malignant neoplasm of pancreas (C25)	31,447	10.7	10.5	30,777	10.6	10.5
Malignant neoplasm of larynx (C32)	3,646	1.2	1.2	3,792	1.3	1.3
Malignant neoplasms of trachea, bronchus and lung (C33–C34)	157,218	53.5	52.9	158,086	54.4	54.1
Malignant melanoma of skin (C43)	7,895	2.7	2.6	7,818	2.7	2.7
Malignant neoplasm of breast (C50)	40,880	13.9	13.6	42,000	14.4	14.2
Malignant neoplasm of cervix uteri (C53)	3,806	1.3	1.3	3,919	1.3	1.3
Malignant neoplasms of corpus uteri and uterus, part unspecified (C54–C55)	6,912	2.4	2.3	6,899	2.4	2.3
Malignant neoplasm of ovary (C56)	14,604	5.0	4.9	14,657	5.0	5.0
Malignant neoplasm of prostate (C61)	28,922	9.8	9.7	29,554	10.2	10.1
Malignant neoplasms of kidney and renal pelvis (C64–C65)	12,127	4.1	4.0	12,286	4.2	4.2
Malignant neoplasm of bladder (C67)	12,862	4.4	4.3	12,483	4.3	4.3
Malignant neoplasms of meninges, brain and other parts of central nervous system (C70–C72)	12,668	4.3	4.2	12,901	4.4	4.4
Malignant neoplasms of lymphoid, hematopoietic and related tissue (C81–C96)	54,485	18.6	18.3	55,679	19.1	19.1
Hodgkin's disease (C81)	1,265	0.4	0.4	1,347	0.5	0.5
Non-Hodgkin's lymphoma (C82–C85)	20,867	7.1	7.0	21,475	7.4	7.3
Leukemia (C91–C95)	21,367	7.3	7.2	21,535	7.4	7.4
Multiple myeloma and immunoproliferative neoplasms (C88,C90)	10,919	3.7	3.7	11,267	3.9	3.8

See footnotes at end of table.

Table 2. Deaths, death rates, and age-adjusted death rates for 113 selected causes, Injury by firearms, Drug-induced deaths, Alcohol-induced deaths, and Injury at work: United States, final 2003 and preliminary 2004—Con.

[Data are based on a continuous file of records received from the states. Rates per 100,000 population. Age-adjusted rates are per 100,000 U.S. standard population; see "Technical Notes." For explanation of asterisks (*) preceding cause-of-death codes, see "Technical Notes." Figures for 2004 are based on weighted data rounded to the nearest individual, so categories may not add to totals or subtotals]

Cause of death (Based on the <i>International Classification of Diseases, Tenth Revision, 1992</i>)	2004			2003		
	Number	Rate	Age-adjusted rate	Number	Rate	Age-adjusted rate
Other and unspecified malignant neoplasms of lymphoid, hematopoietic and related tissue (C96)	66	0.0	0.0	55	0.0	0.0
All other and unspecified malignant neoplasms (C17,C23–C24,C26–C31,C37–C41,C44–C49, C51–C52, C57–C60,C62–C63,C66,C68–C69,C73–C80,C97)	61,788	21.0	20.7	62,639	21.5	21.4
In situ neoplasms, benign neoplasms and neoplasms of uncertain or unknown behavior (D00–D48)	13,521	4.6	4.5	13,563	4.7	4.6
Anemias (D50–D64)	4,569	1.6	1.5	4,594	1.6	1.6
Diabetes mellitus (E10–E14)	72,815	24.8	24.4	74,219	25.5	25.3
Nutritional deficiencies (E40–E64)	3,042	1.0	1.0	3,338	1.1	1.1
Malnutrition (E40–E46)	2,860	1.0	0.9	3,153	1.1	1.1
Other nutritional deficiencies (E50–E64)	181	0.1	0.1	185	0.1	0.1
Meningitis (G00,G03)	720	0.2	0.2	730	0.3	0.3
Parkinson's disease (G20–G21)	18,018	6.1	6.1	17,997	6.2	6.2
Alzheimer's disease (G30)	65,829	22.4	21.7	63,457	21.8	21.4
Major cardiovascular diseases (I00–I78)	862,800	293.8	287.0	902,443	310.3	306.1
Diseases of heart (I00–I09,I11,I13,I20–I51)	654,092	222.7	217.5	685,089	235.6	232.3
Acute rheumatic fever and chronic rheumatic heart diseases (I00–I09)	3,248	1.1	1.1	3,624	1.2	1.2
Hypertensive heart disease (I11)	28,262	9.6	9.3	28,345	9.7	9.6
Hypertensive heart and renal disease (I13)	2,971	1.0	1.0	3,108	1.1	1.1
Ischemic heart diseases (I20–I25)	452,327	154.0	150.5	480,028	165.1	162.9
Acute myocardial infarction (I21–I22)	157,559	53.7	52.5	170,564	58.7	57.9
Other acute ischemic heart diseases (I24)	2,435	0.8	0.8	3,158	1.1	1.1
Other forms of chronic ischemic heart disease (I20,I25)	292,333	99.5	97.2	306,306	105.3	103.8
Atherosclerotic cardiovascular disease, so described (I25.0)	63,355	21.6	21.0	67,232	23.1	22.7
All other forms of chronic ischemic heart disease (I20,I25.1–I25.9)	228,978	78.0	76.2	239,074	82.2	81.1
Other heart diseases (I26–I51)	167,285	57.0	55.6	169,984	58.5	57.6
Acute and subacute endocarditis (I33)	1,214	0.4	0.4	1,245	0.4	0.4
Diseases of pericardium and acute myocarditis (I30–I31,I40)	766	0.3	0.3	868	0.3	0.3
Heart failure (I50)	57,700	19.6	19.1	57,448	19.8	19.4
All other forms of heart disease (I26–I28,I34–I38,I42–I49,I51)	107,604	36.6	35.8	110,423	38.0	37.5
Essential (primary) hypertension and hypertensive renal disease (I10,I12)	22,953	7.8	7.6	21,940	7.5	7.4
Cerebrovascular diseases (I60–I69)	150,147	51.1	50.0	157,689	54.2	53.5
Atherosclerosis (I70)	11,898	4.1	3.9	13,053	4.5	4.4
Other diseases of circulatory system (I71–I78)	23,709	8.1	7.9	24,672	8.5	8.4
Aortic aneurysm and dissection (I71)	13,765	4.7	4.6	14,810	5.1	5.1
Other diseases of arteries, arterioles and capillaries (I72–I78)	9,944	3.4	3.3	9,862	3.4	3.3
Other disorders of circulatory system (I80–I99)	4,734	1.6	1.6	4,737	1.6	1.6
Influenza and pneumonia (J10–J18)	61,472	20.9	20.4	65,163	22.4	22.0
Influenza (J10–J11)	1,265	0.4	0.4	1,792	0.6	0.6
Pneumonia (J12–J18)	60,207	20.5	20.0	63,371	21.8	21.4
Other acute lower respiratory infections (J20–J22)	310	0.1	0.1	421	0.1	0.1
Acute bronchitis and bronchiolitis (J20–J21)	221	0.1	0.1	304	0.1	0.1
Unspecified acute lower respiratory infection (J22)	89	0.0	0.0	117	0.0	0.0
Chronic lower respiratory diseases (J40–J47)	123,884	42.2	41.8	126,382	43.5	43.3

See footnotes at end of table.

Table 2. Deaths, death rates, and age-adjusted death rates for 113 selected causes, Injury by firearms, Drug-induced deaths, Alcohol-induced deaths, and Injury at work: United States, final 2003 and preliminary 2004—Con.

[Data are based on a continuous file of records received from the states. Rates per 100,000 population. Age-adjusted rates are per 100,000 U.S. standard population; see "Technical Notes." For explanation of asterisks (*) preceding cause-of-death codes, see "Technical Notes." Figures for 2004 are based on weighted data rounded to the nearest individual, so categories may not add to totals or subtotals]

Cause of death (Based on the <i>International Classification of Diseases, Tenth Revision, 1992</i>)	2004			2003		
	Number	Rate	Age-adjusted rate	Number	Rate	Age-adjusted rate
Bronchitis, chronic and unspecified (J40–J42)	798	0.3	0.3	850	0.3	0.3
Emphysema (J43)	13,913	4.7	4.7	14,861	5.1	5.1
Asthma (J45–J46)	3,780	1.3	1.3	4,099	1.4	1.4
Other chronic lower respiratory diseases J44,J47)	105,393	35.9	35.5	106,572	36.6	36.5
Pneumoconioses and chemical effects (J60–J66,J68)	1,018	0.3	0.3	1,114	0.4	0.4
Pneumonitis due to solids and liquids (J69)	16,959	5.8	5.6	17,335	6.0	5.9
Other diseases of respiratory system (J00–J06,J30–J39,J67,J70–J98)	27,391	9.3	9.2	25,520	8.8	8.7
Peptic ulcer (K25–K28)	3,770	1.3	1.3	3,913	1.3	1.3
Diseases of appendix (K35–K38)	446	0.2	0.1	439	0.2	0.1
Hernia (K40–K46)	1,605	0.5	0.5	1,613	0.6	0.6
Chronic liver disease and cirrhosis (K70,K73–K74)	26,549	9.0	8.8	27,503	9.5	9.3
Alcoholic liver disease (K70)	12,283	4.2	4.1	12,360	4.3	4.2
Other chronic liver disease and cirrhosis (K73–K74)	14,265	4.9	4.7	15,143	5.2	5.2
Cholelithiasis and other disorders of gallbladder (K80–K82)	3,045	1.0	1.0	2,948	1.0	1.0
Nephritis, nephrotic syndrome and nephrosis (N00–N07,N17–N19,N25–N27)	42,762	14.6	14.3	42,453	14.6	14.4
Acute and rapidly progressive nephritic and nephrotic syndrome (N00–N01,N04)	164	0.1	0.0	148	0.1	0.1
Chronic glomerulonephritis, nephritis and nephropathy not specified as acute or chronic, and renal sclerosis unspecified (N02–N03,N05–N07,N26)	559	0.2	0.2	537	0.2	0.2
Renal failure (N17–N19)	42,000	14.3	14.0	41,737	14.4	14.2
Other disorders of kidney (N25,N27)	39	0.0	0.0	31	0.0	0.0
Infections of kidney (N10–N12,N13.6,N15.1)	769	0.3	0.3	823	0.3	0.3
Hyperplasia of prostate (N40)	493	0.2	0.2	477	0.2	0.2
Inflammatory diseases of female pelvic organs (N70–N76)	106	0.0	0.0	125	0.0	0.0
Pregnancy, childbirth and the puerperium (O00–O99)	654	0.2	0.2	545	0.2	0.2
Pregnancy with abortive outcome (O00–O07)	26	0.0	0.0	40	0.0	0.0
Other complications of pregnancy, childbirth and the puerperium (O10–O99)	628	0.2	0.2	505	0.2	0.2
Certain conditions originating in the perinatal period (P00–P96)	14,046	4.8	4.8	14,378	4.9	4.9
Congenital malformations, deformations and chromosomal abnormalities (Q00–Q99)	10,459	3.6	3.5	10,518	3.6	3.6
Symptoms, signs and abnormal clinical and laboratory findings, not elsewhere classified (R00–R99)	34,708	11.8	11.5	31,444	10.8	10.6
All other diseases (Residual)	201,989	68.8	67.1	201,676	69.3	68.3
Accidents (unintentional injuries) (V01–X59,Y85–Y86)	108,694	37.0	36.6	109,277	37.6	37.3
Transport accidents (V01–V99,Y85)	46,933	16.0	15.8	48,071	16.5	16.4
Motor vehicle accidents (V02–V04,V09.0,V09.2,V12–V14,V19.0–V19.2,V19.4–V19.6,V20–V79, V80.3–V80.5,V81.0–V81.1,V82.0–V82.1,V83–V86,V87.0–V87.8,V88.0–V88.8,V89.0,V89.2)	43,947	15.0	14.8	44,757	15.4	15.3
Other land transport accidents (V01,V05–V06,V09.1,V09.3–V09.9,V10–V11,V15–V18,V19.3, V19.8–V19.9, V80.0–V80.2,V80.6–V80.9,V81.2–V81.9,V82.2–V82.9,V87.9,V88.9,V89.1, V89.3,V89.9)	1,131	0.4	0.4	1,357	0.5	0.4
Water, air and space, and other and unspecified transport accidents and their sequelae (V90–V99,Y85)	1,855	0.6	0.6	1,957	0.7	0.7
Nontransport accidents (W00–X59,Y86)	61,761	21.0	20.8	61,206	21.0	20.9
Falls (W00–W19)	18,535	6.3	6.2	17,229	5.9	5.9
Accidental discharge of firearms (W32–W34)	661	0.2	0.2	730	0.3	0.2

See footnotes at end of table.

Table 2. Deaths, death rates, and age-adjusted death rates for 113 selected causes, Injury by firearms, Drug-induced deaths, Alcohol-induced deaths, and Injury at work: United States, final 2003 and preliminary 2004—Con.

[Data are based on a continuous file of records received from the states. Rates per 100,000 population. Age-adjusted rates are per 100,000 U.S. standard population; see "Technical Notes." For explanation of asterisks (*) preceding cause-of-death codes, see "Technical Notes." Figures for 2004 are based on weighted data rounded to the nearest individual, so categories may not add to totals or subtotals]

Cause of death (Based on the <i>International Classification of Diseases, Tenth Revision, 1992</i>)	2004			2003		
	Number	Rate	Age-adjusted rate	Number	Rate	Age-adjusted rate
Accidental drowning and submersion (W65–W74)	3,180	1.1	1.1	3,306	1.1	1.1
Accidental exposure to smoke, fire and flames (X00–X09)	3,223	1.1	1.1	3,369	1.2	1.2
Accidental poisoning and exposure to noxious substances (X40–X49)	19,250	6.6	6.5	19,457	6.7	6.7
Other and unspecified nontransport accidents and their sequelae (W20–W31, W35–W64, W75–W99, X10–X39, X50–X59, Y86)	16,912	5.8	5.6	17,115	5.9	5.8
Intentional self-harm (suicide) (*U03, X60–X84, Y87.0)	31,647	10.8	10.7	31,484	10.8	10.8
Intentional self-harm (suicide) by discharge of firearms (X72–X74)	16,603	5.7	5.6	16,907	5.8	5.8
Intentional self-harm (suicide) by other and unspecified means and their sequelae (*U03, X60–X71, X75–X84, Y87.0)	15,044	5.1	5.1	14,577	5.0	5.0
Assault (homicide) (*U01–*U02, X85–Y09, Y87.1)	16,611	5.7	5.6	17,732	6.1	6.0
Assault (homicide) by discharge of firearms (*U01.4, X93–X95)	11,250	3.8	3.8	11,920	4.1	4.1
Assault (homicide) by other and unspecified means and their sequelae (*U01.0–*U01.3, *U01.5–*U01.9, *U02, X85–X92, X96–Y09, Y87.1)	5,360	1.8	1.8	5,812	2.0	2.0
Legal intervention (Y35, Y89.0)	356	0.1	0.1	423	0.1	0.1
Events of undetermined intent (Y10–Y34, Y87.2, Y89.9)	4,750	1.6	1.6	5,072	1.7	1.7
Discharge of firearms, undetermined intent (Y22–Y24)	222	0.1	0.1	232	0.1	0.1
Other and unspecified events of undetermined intent and their sequelae (Y10–Y21, Y25–Y34, Y87.2, Y89.9)	4,529	1.5	1.5	4,840	1.7	1.7
Operations of war and their sequelae (Y36, Y89.1)	28	0.0	0.0	14	*	*
Complications of medical and surgical care (Y40–Y84, Y88)	2,889	1.0	1.0	2,855	1.0	1.0
Injury by firearms ¹ (*U01.4, W32–W34, X72–X74, X93–X95, Y22–Y24, Y35.0)	29,036	9.9	9.8	30,136	10.4	10.3
Drug-induced deaths ¹ (D52.1, D59.0, D59.2, D61.1, D64.2, E06.4, E16.0, E23.1, E24.2, E27.3, E66.1, 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–F15.6, 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, G24.0, G25.1, G25.4, G25.6, G44.4, G62.0, G72.0, I95.2, J70.2–J70.4, L10.5, L27.0–L27.1, M10.2, M32.0, M80.4, M81.4, M83.5, M87.1, R78.1–R78.5, X40–X44, X60–X64, X85, Y10–Y14)	28,457	9.7	9.7	28,723	9.9	9.9
Alcohol-induced deaths ¹ (E24.4, F10, G31.2, G62.1, G72.1, I42.6, K29.2, K70, K86.0, R78.0, X45, X65, Y15)	20,398	6.9	6.8	20,687	7.1	7.0
Injury at work ²	4,971	2.1	2.1	5,025	2.2	2.2

0.0 Quantity more than zero but less than 0.05.

* Figure does not meet standards of reliability or precision; see "Technical Notes."

– Quantity zero.

¹Included in selected categories.

²Injury at work described in "Technical Notes."

NOTES: For certain causes of death such as unintentional injuries, homicides, suicides, and respiratory diseases, preliminary and final data differ because of the truncated nature of the preliminary file. Data are subject to sampling or random variation. For information regarding the calculation of standard errors and further discussion of the variability of the data, see "Technical Notes."

Table 3. Deaths, death rates, and age-adjusted death rates: United States and each state and territory, final 2003 and preliminary 2004

[By place of residence. Data are based on a continuous file of records received from the states. Rates are per 100,000 population. Age-adjusted rates per 100,000 U.S. standard population; see "Technical Notes." Figures for 2004 are based on weighted data rounded to the nearest individual, so categories may not add to totals]

Area	2004			2003		
	Number	Rate	Age-adjusted rate	Number	Rate	Age-adjusted rate
United States ¹	2,398,343	816.7	801.0	2,448,288	841.9	832.7
Alabama	46,111	1,017.9	992.3	46,716	1,038.0	1,001.7
Alaska	3,049	465.2	749.5	3,180	490.1	829.8
Arizona	43,172	751.6	757.6	43,392	777.5	787.1
Arkansas	27,539	1,000.5	925.2	27,918	1,024.2	937.5
California ²	---	---	---	239,371	674.6	754.3
Colorado	28,310	615.2	736.5	29,506	648.4	784.3
Connecticut	29,289	836.0	705.6	29,627	850.5	734.6
Delaware	7,153	861.4	824.7	7,070	864.8	844.4
District of Columbia	5,432	981.4	970.2	5,573	987.5	982.3
Florida	168,952	971.1	763.3	168,657	991.0	776.0
Georgia	65,859	745.9	925.2	66,478	765.5	946.4
Hawaii	9,038	715.7	623.6	8,978	713.9	649.3
Idaho	10,044	720.9	754.7	10,380	759.7	797.1
Illinois ²	---	---	---	105,325	832.4	834.5
Indiana	54,260	869.9	850.3	55,968	903.3	894.5
Iowa	26,884	909.9	728.9	28,062	953.2	768.4
Kansas	23,816	870.6	793.5	24,593	903.0	824.0
Kentucky	38,668	932.7	935.4	40,241	977.2	977.7
Louisiana	42,304	936.8	988.1	42,719	950.1	1,004.5
Maine	12,405	941.7	803.6	12,540	960.4	822.3
Maryland	43,224	777.7	805.8	44,499	807.8	852.9
Massachusetts	54,546	850.1	741.1	56,291	875.0	778.7
Michigan	85,160	842.1	812.6	86,728	860.4	850.5
Minnesota	37,074	726.8	692.0	37,620	743.6	713.0
Mississippi	27,870	960.1	998.2	28,489	988.8	1,014.0
Missouri	53,933	937.2	871.7	55,582	974.4	902.6
Montana	8,097	873.6	778.8	8,467	922.7	828.1
Nebraska	14,648	838.4	746.4	15,465	889.2	790.4
Nevada	17,864	765.1	877.9	17,858	796.8	924.5
New Hampshire	10,110	778.0	761.0	9,708	753.9	749.8
New Jersey ²	---	---	---	73,689	853.0	794.8
New Mexico	14,292	750.9	778.5	14,805	789.8	823.8
New York	152,665	794.0	733.7	155,877	812.3	760.1
North Carolina	72,383	847.5	874.9	73,459	873.8	905.8
North Dakota	5,603	883.2	697.6	6,090	960.8	766.6
Ohio	106,350	928.1	848.5	109,110	954.1	889.8
Oklahoma	34,477	978.5	947.5	35,721	1,017.2	974.3
Oregon	30,332	843.8	778.1	30,912	868.4	808.5
Pennsylvania	127,630	1,028.8	814.5	129,769	1,049.4	849.2
Rhode Island	9,767	903.8	740.9	10,039	932.8	786.9
South Carolina	37,289	888.2	898.2	38,112	919.0	934.8
South Dakota	6,839	887.2	747.1	7,132	933.1	790.5
Tennessee	55,835	946.2	954.1	57,313	981.1	982.2
Texas	153,031	680.4	836.5	154,870	700.2	855.7
Utah	13,327	557.8	760.3	13,412	570.4	782.3
Vermont	4,995	803.8	730.9	5,120	827.0	765.3
Virginia	56,549	758.0	809.2	58,282	789.1	850.9
Washington	44,820	722.5	739.1	45,920	748.9	775.9
West Virginia	20,795	1,145.5	966.1	21,306	1,176.9	994.9
Wisconsin	45,607	827.9	749.9	46,177	843.8	772.5
Wyoming	3,950	779.8	788.5	4,172	832.3	849.9
Puerto Rico	28,922	742.6	782.1	28,202	727.1	779.8
Virgin Islands	624	573.7	691.2	631	579.9	717.7
Guam	683	411.2	686.0	680	415.7	755.8
American Samoa	286	493.9	1,352.2	256	442.6	1,209.7
Northern Marianas	165	210.9	1,161.3	142	186.5	805.1

--- Data not available.

¹Excludes data for U.S. territories.

²California, Illinois, and New Jersey data are not shown separately but are included in U.S. totals; see "Technical Notes."

NOTE: Data are subject to sampling or random variation. For information regarding the calculation of standard errors and further discussion of the variability of the data, see "Technical Notes."

Table 4. Infant deaths and infant mortality rates, by age and race and Hispanic origin: United States, final 2003 and preliminary 2004

[Data are based on the continuous file of records received from the states. Rates per 1,000 live births. Figures for 2004 are based on weighted data rounded to the nearest individual, so categories may not add to totals. Rates for Hispanic origin should be interpreted with caution because of the inconsistencies between reporting Hispanic origin on birth and death certificates; see "Technical Notes." Race categories are consistent with the 1977 Office of Management and Budget guidelines]

Age and race and Hispanic origin	2004		2003	
	Number	Rate	Number	Rate
All races¹				
Under 1 year	27,838	6.76	28,025	6.85
Under 28 days	18,532	4.50	18,893	4.62
28 days–11 months.	9,307	2.26	9,132	2.23
Total white²				
Under 1 year	18,240	5.65	18,440	5.72
Under 28 days	12,238	3.79	12,495	3.87
28 days–11 months.	6,003	1.86	5,945	1.84
Non-Hispanic white				
Under 1 year	13,073	5.67	13,223	5.69
Under 28 days	8,684	3.77	8,906	3.84
28 days–11 months.	4,389	1.90	4,317	1.86
Total black²				
Under 1 year	8,359	13.65	8,402	14.01
Under 28 days	5,495	8.97	5,640	9.40
28 days–11 months.	2,864	4.68	2,762	4.60
Hispanic³				
Under 1 year	5,262	5.57	5,281	5.79
Under 28 days	3,598	3.81	3,601	3.95
28 days–11 months.	1,664	1.76	1,680	1.84

¹Includes races other than white or black.

²Race and Hispanic origin are reported separately on both the birth and death certificate. Race categories are consistent with the 1977 Office of Management and Budget (OMB) standards. California, Hawaii, Idaho, Maine, Michigan, Minnesota, Montana, New Hampshire, New Jersey, New York, Oklahoma, South Dakota, Washington, Wisconsin, and Wyoming reported multiple-race data in 2004. The multiple-race data for these states were bridged to the single race categories of the 1977 OMB standards for comparability with other states; see "Technical Notes." Data for persons of Hispanic origin are included in the data for each race group, according to the decedent's reported race; see "Technical Notes."

³Includes all persons of Hispanic origin of any race; see "Technical Notes."

NOTES: Data are subject to sampling or random variation. For information regarding the calculation of standard errors and further discussion of the variability of the data, see "Technical Notes." Although the infant mortality rate is the preferred indicator of the risk of dying during the first year of life, another measure of infant mortality, the infant death rate, is shown elsewhere in this report. The two measures typically are similar yet they can differ because the denominators used for these measures are different. For more information on these measures of risk, see section Infant mortality in the "Technical Notes."

Table 5. Infant deaths and infant mortality rates for 130 selected causes: United States, final 2003 and preliminary 2004

[Data are based on a continuous file of records from the states. Rates per 100,000 live births. For explanation of asterisks (*) preceding cause-of-death codes, see "Technical Notes." Figures for 2004 are based on weighted data rounded to the nearest individual, so categories may not add to totals or subtotals]

Cause of death (Based on the <i>International Classification of Diseases, Tenth Revision, 1992</i>)	2004		2003	
	Number	Rate	Number	Rate
All causes	27,835	676.3	28,025	685.2
Certain infectious and parasitic diseases (A00–B99)	492	12.0	494	12.1
Certain intestinal infectious diseases (A00–A08)	9	*	13	*
Diarrhea and gastroenteritis of infectious origin (A09)	–	*	1	*
Tuberculosis (A16–A19)	1	*	–	*
Tetanus (A33,A35)	–	*	–	*
Diphtheria (A36)	–	*	–	*
Whooping cough (A37)	13	*	10	*
Meningococcal infection (A39)	11	*	12	*
Septicemia (A40–A41)	288	7.0	278	6.8
Congenital syphilis (A50)	–	*	–	*
Gonococcal infection (A54)	–	*	–	*
Viral diseases (A80–B34)	120	2.9	116	2.8
Acute poliomyelitis (A80)	–	*	–	*
Varicella (chickenpox) (B01)	–	*	1	*
Measles (B05)	–	*	–	*
Human immunodeficiency virus (HIV) disease (B20–B24)	3	*	5	*
Mumps (B26)	–	*	–	*
Other and unspecified viral diseases (A81–B00,B02–B04,B06–B19,B25,B27–B34)	117	2.8	110	2.7
Candidiasis (B37)	17	*	22	0.5
Malaria (B50–B54)	–	*	–	*
Pneumocystosis (B59)	1	*	3	*
All other and unspecified infectious and parasitic diseases (A20–A32,A38,A42–A49, A51–A53,A55–A79,B35–B36,B38–B49,B55–B58,B60–B99)	32	0.8	39	1.0
Neoplasms (C00–D48)	152	3.7	137	3.3
Malignant neoplasms (C00–C97)	79	1.9	75	1.8
Hodgkin's disease and non-Hodgkin's lymphomas (C81–C85)	2	*	–	*
Leukemia (C91–C95)	30	0.7	30	0.7
Other and unspecified malignant neoplasms (C00–C80,C88–C90,C96–C97)	47	1.1	45	1.1
In situ neoplasms, benign neoplasms and neoplasms of uncertain or unknown behavior (D00–D48)	73	1.8	62	1.5
Diseases of the blood and blood-forming organs and certain disorders involving the immune mechanism (D50–D89)	95	2.3	105	2.6
Anemias (D50–D64)	16	*	22	0.5
Hemorrhagic conditions and other diseases of blood and blood-forming organs (D65–D76)	60	1.5	63	1.5
Certain disorders involving the immune mechanism (D80–D89)	19	*	20	0.5
Endocrine, nutritional and metabolic diseases (E00–E88)	241	5.9	248	6.1
Short stature, not elsewhere classified (E34.3)	6	*	12	*
Nutritional deficiencies (E40–E64)	5	*	10	*
Cystic fibrosis (E84)	7	*	5	*
Volume depletion, disorders of fluid, electrolyte and acid-base balance (E86–E87)	76	1.8	78	1.9
All other endocrine, nutritional and metabolic diseases (E00–E32,E34.0–E34.2, E34.4–E34.9,E65–E83,E85,E88)	147	3.6	143	3.5
Diseases of the nervous system (G00–G98)	370	9.0	400	9.8
Meningitis (G00,G03)	68	1.7	77	1.9
Infantile spinal muscular atrophy, type I (Werdnig-Hoffman) (G12.0)	9	*	18	*

See footnotes at end of table.

Table 5. Infant deaths and infant mortality rates for 130 selected causes: United States, final 2003 and preliminary 2004—Con.

[Data are based on a continuous file of records from the states. Rates per 100,000 live births. For explanation of asterisks (*) preceding cause-of-death codes, see "Technical Notes." Figures for 2004 are based on weighted data rounded to the nearest individual, so categories may not add to totals or subtotals]

Cause of death (Based on the <i>International Classification of Diseases, Tenth Revision, 1992</i>)	2004		2003	
	Number	Rate	Number	Rate
Infantile cerebral palsy (G80)	12	*	11	*
Anoxic brain damage, not elsewhere classified (G93.1)	41	1.0	50	1.2
Other diseases of nervous system (G04,G06–G11,G12.1–G12.9,G20–G72,G81–G92,G93.0, G93.2–G93.9,G95–G98)	240	5.8	244	6.0
Diseases of the ear and mastoid process (H60–H93)	6	*	8	*
Diseases of the circulatory system (I00–I99)	605	14.7	591	14.5
Pulmonary heart disease and diseases of pulmonary circulation (I26–I28)	173	4.2	132	3.2
Pericarditis, endocarditis and myocarditis (I30,I33,I40)	12	*	26	0.6
Cardiomyopathy (I42)	104	2.5	126	3.1
Cardiac arrest (I46)	24	0.6	20	0.5
Cerebrovascular diseases (I60–I69)	131	3.2	101	2.5
All other diseases of circulatory system (I00–I25,I31,I34–I38,I44–I45,I47–I51,I70–I99)	161	3.9	186	4.5
Diseases of the respiratory system (J00–J98)	635	15.4	699	17.1
Acute upper respiratory infections (J00–J06)	6	*	14	*
Influenza and pneumonia (J10–J18)	275	6.7	322	7.9
Influenza (J10–J11)	16	*	31	0.8
Pneumonia (J12–J18)	259	6.3	291	7.1
Acute bronchitis and acute bronchiolitis (J20–J21)	53	1.3	53	1.3
Bronchitis, chronic and unspecified (J40–J42)	17	*	20	0.5
Asthma (J45–J46)	5	*	7	*
Pneumonitis due to solids and liquids (J69)	9	*	13	*
Other and unspecified diseases of respiratory system (J22,J30–J39,J43–J44,J47–J68,J70–J98)	270	6.6	270	6.6
Diseases of the digestive system (K00–K92)	566	13.8	551	13.5
Gastritis, duodenitis, and noninfective enteritis and colitis (K29,K50–K55)	302	7.3	310	7.6
Hernia of abdominal cavity and intestinal obstruction without hernia (K40–K46,K56)	76	1.8	65	1.6
All other and unspecified diseases of digestive system (K00–K28,K30–K38,K57–K92)	188	4.6	176	4.3
Diseases of the genitourinary system (N00–N98)	213	5.2	206	5.0
Renal failure and other disorders of kidney (N17–N19,N25,N27)	180	4.4	170	4.2
Other and unspecified diseases of genitourinary system (N00–N15,N20–N23,N26,N28–N98)	33	0.8	36	0.9
Certain conditions originating in the perinatal period (P00–P96)	13,908	337.9	14,254	348.5
Newborn affected by maternal factors and by complications of pregnancy, labor and delivery (P00–P04)	3,050	74.1	3,166	77.4
Newborn affected by maternal hypertensive disorders (P00.0)	83	2.0	69	1.7
Newborn affected by other maternal conditions which may be unrelated to present pregnancy (P00.1–P00.9)	72	1.7	83	2.0
Newborn affected by maternal complications of pregnancy (P01)	1,705	41.4	1,710	41.8
Newborn affected by incompetent cervix (P01.0)	462	11.2	444	10.9
Newborn affected by premature rupture of membranes (P01.1)	768	18.7	731	17.9
Newborn affected by multiple pregnancy (P01.5)	262	6.4	305	7.5
Newborn affected by other maternal complications of pregnancy (P01.2–P01.4, P01.6–P01.9)	213	5.2	230	5.6
Newborn affected by complications of placenta, cord and membranes (P02)	998	24.2	1,099	26.9
Newborn affected by complications involving placenta (P02.0–P02.3)	526	12.8	597	14.6
Newborn affected by complications involving cord (P02.4–P02.6)	58	1.4	41	1.0
Newborn affected by chorioamnionitis (P02.7)	414	10.1	458	11.2
Newborn affected by other and unspecified abnormalities of membranes (P02.8–P02.9)	–	*	3	*
Newborn affected by other complications of labor and delivery (P03)	147	3.6	163	4.0

See footnotes at end of table.

Table 5. Infant deaths and infant mortality rates for 130 selected causes: United States, final 2003 and preliminary 2004—Con.

[Data are based on a continuous file of records from the states. Rates per 100,000 live births. For explanation of asterisks (*) preceding cause-of-death codes, see "Technical Notes." Figures for 2004 are based on weighted data rounded to the nearest individual, so categories may not add to totals or subtotals]

Cause of death (Based on the <i>International Classification of Diseases, Tenth Revision, 1992</i>)	2004		2003	
	Number	Rate	Number	Rate
Newborn affected by noxious influences transmitted via placenta or breast milk (P04)	47	1.1	42	1.0
Disorders related to length of gestation and fetal malnutrition (P05–P08)	4,755	115.5	4,912	120.1
Slow fetal growth and fetal malnutrition (P05)	70	1.7	63	1.5
Disorders related to short gestation and low birth weight, not elsewhere classified (P07)	4,685	113.8	4,849	118.6
Extremely low birth weight or extreme immaturity (P07.0,P07.2)	3,596	87.4	3,683	90.0
Other low birth weight or preterm (P07.1,P07.3)	1,089	26.5	1,166	28.5
Disorders related to long gestation and high birth weight (P08)	–	*	–	*
Birth trauma (P10–P15)	21	0.5	26	0.6
Intrauterine hypoxia and birth asphyxia (P20–P21)	502	12.2	558	13.6
Intrauterine hypoxia (P20)	92	2.2	109	2.7
Birth asphyxia (P21)	410	10.0	449	11.0
Respiratory distress of newborn (P22)	877	21.3	831	20.3
Other respiratory conditions originating in the perinatal period (P23–P28)	1,202	29.2	1,217	29.8
Congenital pneumonia (P23)	88	2.1	78	1.9
Neonatal aspiration syndromes (P24)	40	1.0	56	1.4
Interstitial emphysema and related conditions originating in the perinatal period (P25)	134	3.3	151	3.7
Pulmonary hemorrhage originating in the perinatal period (P26)	173	4.2	163	4.0
Chronic respiratory disease originating in the perinatal period (P27)	255	6.2	262	6.4
Atelectasis (P28.0–P28.1)	443	10.8	441	10.8
All other respiratory conditions originating in the perinatal period (P28.2–P28.9)	68	1.7	66	1.6
Infections specific to the perinatal period (P35–P39)	995	24.2	967	23.6
Bacterial sepsis of newborn (P36)	798	19.4	772	18.9
Omphalitis of newborn with or without mild hemorrhage (P38)	2	*	4	*
All other infections specific to the perinatal period (P35,P37,P39)	195	4.7	191	4.7
Hemorrhagic and hematological disorders of newborn (P50–P61)	697	16.9	746	18.2
Neonatal hemorrhage (P50–P52,P54)	593	14.4	649	15.9
Hemorrhagic disease of newborn (P53)	–	*	–	*
Hemolytic disease of newborn due to isoimmunization and other perinatal jaundice (P55–P59)	9	*	10	*
Hematological disorders (P60–P61)	95	2.3	87	2.1
Syndrome of infant of a diabetic mother and neonatal diabetes mellitus (P70.0–P70.2)	7	*	7	*
Necrotizing enterocolitis of newborn (P77)	438	10.6	405	9.9
Hydrops fetalis not due to hemolytic disease (P83.2)	198	4.8	188	4.6
Other perinatal conditions (P29,P70.3–P76,P78–P81,P83.0–P83.1,P83.3–P96)	1,167	28.4	1,231	30.1
Congenital malformations, deformations and chromosomal abnormalities (Q00–Q99)	5,627	136.7	5,621	137.4
Anencephaly and similar malformations (Q00)	288	7.0	334	8.2
Congenital hydrocephalus (Q03)	88	2.1	101	2.5
Spina bifida (Q05)	20	0.5	11	*
Other congenital malformations of nervous system (Q01–Q02,Q04,Q06–Q07)	343	8.3	319	7.8
Congenital malformations of heart (Q20–Q24)	1,396	33.9	1,445	35.3
Other congenital malformations of circulatory system (Q25–Q28)	239	5.8	237	5.8
Congenital malformations of respiratory system (Q30–Q34)	631	15.3	619	15.1
Congenital malformations of digestive system (Q35–Q45)	99	2.4	94	2.3
Congenital malformations of genitourinary system (Q50–Q64)	338	8.2	332	8.1
Congenital malformations and deformations of musculoskeletal system, limbs and integument (Q65–Q85)	534	13.0	548	13.4
Down's syndrome (Q90)	107	2.6	116	2.8

See footnotes at end of table.

Table 5. Infant deaths and infant mortality rates for 130 selected causes: United States, final 2003 and preliminary 2004—Con.

[Data are based on a continuous file of records from the states. Rates per 100,000 live births. For explanation of asterisks (*) preceding cause-of-death codes, see "Technical Notes." Figures for 2004 are based on weighted data rounded to the nearest individual, so categories may not add to totals or subtotals]

Cause of death (Based on the <i>International Classification of Diseases, Tenth Revision, 1992</i>)	2004		2003	
	Number	Rate	Number	Rate
Edward's syndrome (Q91.0–Q91.3)	509	12.4	469	11.5
Patau's syndrome (Q91.4–Q91.7)	311	7.6	274	6.7
Other congenital malformations and deformations (Q10–Q18, Q86–Q89)	525	12.8	526	12.9
Other chromosomal abnormalities, not elsewhere classified (Q92–Q99)	201	4.9	196	4.8
Symptoms, signs and abnormal clinical and laboratory findings, not elsewhere classified (R00–R99)	3,501	85.1	3,318	81.1
Sudden infant death syndrome (R95)	2,109	51.2	2,162	52.9
Other symptoms, signs and abnormal clinical and laboratory findings, not elsewhere classified (R00–R53, R55–594, R96–R99)	1,392	33.8	1,156	28.3
All other diseases (Residual)	22	0.5	17	*
External causes of mortality (*U01, V01–Y84)	1,403	34.1	1,376	33.6
Accidents (unintentional injuries) (V01–X59)	995	24.2	945	23.1
Transport accidents (V01–V99)	156	3.8	148	3.6
Motor vehicle accidents (V02–V04, V09.0, V09.2, V12–V14, V19.0–V19.2, V19.4–V19.6, V20–V79, V80.3–V80.5, V81.0–V81.1, V82.0–V82.1, V83–V86, V87.0–V87.8, V88.0–V88.8, V89.0, V89.2)	154	3.7	145	3.5
Other and unspecified transport accidents (V01, V05–V06, V09.1, V09.3–V09.9, V10–V11, V15–V18, V19.3, V19.8, V19.9, V80.0–V80.2, V80.6–V80.9, V81.2–V81.9, V82.2–V82.9, V87.9, V88.9, V89.1, V89.3, V89.9, V90–V99)	2	*	3	*
Falls (W00–W19)	21	0.5	14	*
Accidental discharge of firearms (W32–W34)	1	*	–	*
Accidental drowning and submersion (W65–W74)	53	1.3	58	1.4
Accidental suffocation and strangulation in bed (W75)	480	11.7	418	10.2
Other accidental suffocation and strangulation (W76–W77, W81–W84)	138	3.4	140	3.4
Accidental inhalation and ingestion of food or other objects causing obstruction of respiratory tract (W78–W80)	51	1.2	61	1.5
Accidents caused by exposure to smoke, fire and flames (X00–X09)	28	0.7	30	0.7
Accidental poisoning and exposure to noxious substances (X40–X49)	13	*	20	0.5
Other and unspecified accidents (W20–W31, W35–W64, W85–W99, X10–X39, X50–X59)	55	1.3	56	1.4
Assault (homicide) (*U01, X85–Y09)	299	7.3	341	8.3
Assault (homicide) by hanging, strangulation and suffocation (X91)	38	0.9	39	1.0
Assault (homicide) by discharge of firearms (*U01.4, X93–X95)	7	*	8	*
Neglect, abandonment and other maltreatment syndromes (Y06–Y07)	89	2.2	100	2.4
Assault (homicide) by other and unspecified means (*U01.0–*U01.3, *U01.5–*U01.9, X85–X90, X92, X96–X99, Y00–Y05, Y08–Y09)	164	4.0	194	4.7
Complications of medical and surgical care (Y40–Y84)	19	*	15	*
Other external causes and their sequelae (X60–X84, Y10–Y36)	90	2.2	75	1.8

* Figure does not meet standards of reliability or precision; see "Technical Notes."

– Quantity zero.

NOTES: For certain causes of death such as unintentional injuries, homicides, suicides, and respiratory diseases, preliminary and final data differ because of the truncated nature of the preliminary file. Data are subject to sampling or random variation. For information regarding the calculation of standard errors and further discussion of the variability of the data, see "Technical Notes." Although the infant mortality rate is the preferred indicator of the risk of dying during the first year of life, another measure of infant mortality, the infant death rate, is shown elsewhere in this report. The two measures typically are similar yet they can differ because the denominators used for these measures are different. For more information on these measures of risk, see section "Infant mortality" in the "Technical Notes."

Table 6. Expectation of life by age, race, and sex: United States, final 2003 and preliminary 2004

[Data are based on a continuous file of records from the states. Calculations of life expectancy employ populations estimated as of July 1 for 2003 and 2004; see "Technical Notes." Race categories are consistent with the 1977 Office of Management and Budget guidelines]

Age (years) and race	Both sexes		Male		Female	
	2004	2003	2004	2003	2004	2003
All races¹						
0	77.9	77.5	75.2	74.8	80.4	80.1
1	77.4	77.0	74.8	74.3	79.9	79.6
5	73.5	73.1	70.9	70.4	76.0	75.7
10	68.6	68.2	65.9	65.5	71.0	70.7
15	63.6	63.2	61.0	60.6	66.1	65.8
20	58.8	58.4	56.3	55.8	61.2	60.9
25	54.1	53.7	51.6	51.2	56.4	56.0
30	49.3	48.9	47.0	46.5	51.5	51.2
35	44.6	44.2	42.3	41.9	46.7	46.4
40	39.9	39.5	37.7	37.3	41.9	41.6
45	35.3	35.0	33.2	32.8	37.2	37.0
50	30.9	30.6	28.8	28.5	32.7	32.4
55	26.6	26.3	24.7	24.4	28.3	28.0
60	22.5	22.2	20.8	20.4	24.0	23.8
65	18.7	18.4	17.1	16.8	20.0	19.8
70	15.2	14.9	13.7	13.5	16.2	16.0
75	12.0	11.8	10.7	10.5	12.8	12.6
80	9.2	9.0	8.2	8.0	9.8	9.6
85	6.9	6.8	6.1	6.0	7.2	7.2
90	5.0	5.0	4.4	4.4	5.2	5.2
95	3.6	3.6	3.2	3.2	3.7	3.7
100	2.6	2.6	2.3	2.3	2.6	2.6
White²						
0	78.3	78.0	75.7	75.3	80.8	80.5
1	77.8	77.4	75.2	74.8	80.2	79.9
5	73.8	73.5	71.3	70.9	76.3	76.0
10	68.9	68.5	66.3	66.0	71.3	71.0
15	63.9	63.6	61.4	61.0	66.4	66.1
20	59.1	58.8	56.7	56.3	61.5	61.2
25	54.4	54.1	52.0	51.6	56.6	56.3
30	49.6	49.3	47.3	46.9	51.8	51.5
35	44.8	44.5	42.6	42.2	46.9	46.6
40	40.1	39.8	38.0	37.6	42.1	41.9
45	35.5	35.2	33.4	33.1	37.4	37.2
50	31.1	30.8	29.1	28.8	32.9	32.6
55	26.7	26.5	24.9	24.6	28.4	28.1
60	22.6	22.3	20.9	20.6	24.1	23.8
65	18.7	18.5	17.1	16.9	20.0	19.8
70	15.1	14.9	13.7	13.5	16.2	16.0
75	11.9	11.7	10.7	10.5	12.8	12.6
80	9.1	9.0	8.1	8.0	9.7	9.6
85	6.8	6.7	6.0	5.9	7.1	7.1
90	4.9	4.9	4.3	4.3	5.1	5.1
95	3.5	3.5	3.1	3.1	3.6	3.6
100	2.5	2.5	2.2	2.2	2.5	2.5

See footnotes at end of table.

Table 6. Expectation of life by age, race, and sex: United States, final 2003 and preliminary 2004—Con.

[Data are based on a continuous file of records from the states. Calculations of life expectancy employ populations estimated as of July 1 for 2003 and 2004; see "Technical Notes." Race categories are consistent with the 1977 Office of Management and Budget guidelines]

Age (years) and race	Both sexes		Male		Female	
	2004	2003	2004	2003	2004	2003
Black ²						
0	73.3	72.7	69.8	69.0	76.5	76.1
1	73.3	72.7	69.8	69.1	76.4	76.0
5	69.4	68.9	65.9	65.3	72.5	72.2
10	64.5	63.9	61.0	60.3	67.6	67.2
15	59.6	59.0	56.1	55.4	62.7	62.3
20	54.8	54.2	51.4	50.7	57.8	57.4
25	50.2	49.6	46.9	46.3	53.0	52.6
30	45.5	45.0	42.5	41.8	48.2	47.8
35	41.0	40.4	38.0	37.3	43.5	43.1
40	36.4	36.0	33.6	32.9	38.9	38.6
45	32.1	31.6	29.3	28.7	34.5	34.1
50	28.0	27.6	25.3	24.8	30.2	29.9
55	24.2	23.8	21.7	21.2	26.1	25.9
60	20.6	20.2	18.3	17.9	22.3	22.1
65	17.3	17.0	15.3	14.9	18.7	18.5
70	14.2	14.0	12.6	12.1	15.4	15.3
75	11.5	11.4	10.1	9.8	12.3	12.4
80	9.2	9.2	8.2	7.9	9.7	9.8
85	7.3	7.4	6.6	6.4	7.6	7.8
90	5.7	5.7	5.2	5.0	5.8	6.0
95	4.4	4.4	4.0	3.8	4.3	4.5
100	3.4	3.4	3.1	3.0	3.3	3.4

¹Includes races other than white and black.

²Race categories are consistent with the 1977 Office of Management and Budget (OMB) standards. California, Hawaii, Idaho, Maine, Michigan, Minnesota, Montana, New Hampshire, New Jersey, New York, Oklahoma, South Dakota, Washington, Wisconsin, and Wyoming reported multiple-race data in 2004. The multiple-race data for these states were bridged to the single race categories of the 1977 OMB standards for comparability with other states; see "Technical Notes."

NOTE: Data are subject to sampling or random variation.

Table 7. Deaths and death rates for the 10 leading causes of death in specified age groups: United States, preliminary 2004

[Data are based on a continuous file of records received from the states. Rates are per 100,000 population in specified group. For explanation of asterisks (*) preceding cause-of-death codes, see "Technical Notes." Figures are based on weighted data rounded to the nearest individual, so categories may not add to totals or subtotals]

Rank ¹	Cause of death and age (Based on the <i>International Classification of Diseases, Tenth Revision, 1992</i>)	Number	Rate
All ages ²			
...	All causes	2,398,365	816.7
1	Diseases of heart (I00–I09,I11,I13,I20–I51)	654,092	222.7
2	Malignant neoplasms (C00–C97)	550,270	187.4
3	Cerebrovascular diseases (I60–I69)	150,147	51.1
4	Chronic lower respiratory diseases (J40–J47)	123,884	42.2
5	Accidents (unintentional injuries) (V01–X59,Y85–Y86)	108,694	37.0
...	Motor vehicle accidents . . . (V02–V04,V09.0,V09.2,V12–V14,V19.0–V19.2,V19.4–V19.6,V20–V79,V80.3–V80.5, V81.0–V81.1,V82.0–V82.1,V83–V86,V87.0–V87.8,V88.0–V88.8,V89.0,V89.2)	43,947	15.0
...	All other accidents . . . (V01,V05–V06,V09.1,V09.3–V09.9,V10–V12,V15–V18,V19.3,V19.8–V19.9,V80.0–V80.2, V80.6–V80.9,V81.2–V81.9,V82.2–V82.9,V87.9,V88.9,V89.1,V89.3,V89.9,V90–V99,W00–X59,Y85–Y86)	64,747	22.0
6	Diabetes mellitus (E10–E14)	72,815	24.8
7	Alzheimer's disease (G30)	65,829	22.4
8	Influenza and pneumonia (J10–J18)	61,472	20.9
9	Nephritis, nephrotic syndrome and nephrosis (N00–N07,N17–N19,N25–N27)	42,762	14.6
10	Septicemia (A40–A41)	33,464	11.4
...	All other causes (Residual)	534,936	182.2
1–4 years			
...	All causes	4,775	29.9
1	Accidents (unintentional injuries) (V01–X59,Y85–Y86)	1,606	10.0
...	Motor vehicle accidents . . . (V02–V04,V09.0,V09.2,V12–V14,V19.0–V19.2,V19.4–V19.6,V20–V79,V80.3–V80.5, V81.0–V81.1,V82.0–V82.1,V83–V86,V87.0–V87.8,V88.0–V88.8,V89.0,V89.2)	630	3.9
...	All other accidents . . . (V01,V05–V06,V09.1,V09.3–V09.9,V10–V12,V15–V18,V19.3,V19.8–V19.9,V80.0–V80.2, V80.6–V80.9,V81.2–V81.9,V82.2–V82.9,V87.9,V88.9,V89.1,V89.3,V89.9,V90–V99,W00–X59,Y85–Y86)	976	6.1
2	Congenital malformations, deformations and chromosomal abnormalities (Q00–Q99)	580	3.6
3	Malignant neoplasms (C00–C97)	388	2.4
4	Assault (homicide) (*U01–*U02,X85–Y09,Y87.1)	354	2.2
5	Diseases of heart (I00–I09,I11,I13,I20–I51)	191	1.2
6	Influenza and pneumonia (J10–J18)	132	0.8
7	Septicemia (A40–A41)	76	0.5
8	Certain conditions originating in the perinatal period (P00–P96)	58	0.4
9	In situ neoplasms, benign neoplasms and neoplasms of uncertain or unknown behavior (D00–D48)	53	0.3
10	Chronic lower respiratory diseases (J40–J47)	43	0.3
...	All other causes (Residual)	1,294	8.1
5–14 years			
...	All causes	6,755	16.6
1	Accidents (unintentional injuries) (V01–X59,Y85–Y86)	2,578	6.3
...	Motor vehicle accidents . . . (V02–V04,V09.0,V09.2,V12–V14,V19.0–V19.2,V19.4–V19.6,V20–V79,V80.3–V80.5, V81.0–V81.1,V82.0–V82.1,V83–V86,V87.0–V87.8,V88.0–V88.8,V89.0,V89.2)	1,592	3.9
...	All other accidents . . . (V01,V05–V06,V09.1,V09.3–V09.9,V10–V12,V15–V18,V19.3,V19.8–V19.9,V80.0–V80.2, V80.6–V80.9,V81.2–V81.9,V82.2–V82.9,V87.9,V88.9,V89.1,V89.3,V89.9,V90–V99,W00–X59,Y85–Y86)	986	2.4
2	Malignant neoplasms (C00–C97)	1,028	2.5
3	Congenital malformations, deformations and chromosomal abnormalities (Q00–Q99)	385	0.9
4	Assault (homicide) (*U01–*U02,X85–Y09,Y87.1)	318	0.8
5	Intentional self-harm (suicide) (*U03,X60–X84,Y87.0)	292	0.7
6	Diseases of heart (I00–I09,I11,I13,I20–I51)	233	0.6
7	Chronic lower respiratory diseases (J40–J47)	113	0.3
8	In situ neoplasms, benign neoplasms and neoplasms of uncertain or unknown behavior (D00–D48)	91	0.2
9	Influenza and pneumonia (J10–J18)	84	0.2
10	Cerebrovascular diseases (I60–I69)	77	0.2
...	All other causes (Residual)	1,556	3.8

See footnotes at end of table.

Table 7. Deaths and death rates for the 10 leading causes of death in specified age groups: United States, preliminary 2004—Con.

[Data are based on a continuous file of records received from the states. Rates are per 100,000 population in specified group. For explanation of asterisks (*) preceding cause-of-death codes, see "Technical Notes." Figures are based on weighted data rounded to the nearest individual, so categories may not add to totals or subtotals]

Rank ¹	Cause of death and age (Based on the <i>International Classification of Diseases, Tenth Revision, 1992</i>)	Number	Rate
15–24 years			
...	All causes	32,904	78.9
1	Accidents (unintentional injuries) (V01–X59, Y85–Y86)	15,163	36.4
...	Motor vehicle accidents (V02–V04, V09.0, V09.2, V12–V14, V19.0–V19.2, V19.4–V19.6, V20–V79, V80.3–V80.5, V81.0–V81.1, V82.0–V82.1, V83–V86, V87.0–V87.8, V88.0–V88.8, V89.0, V89.2)	10,874	26.1
...	All other accidents (V01, V05–V06, V09.1, V09.3–V09.9, V10–V12, V15–V18, V19.3, V19.8–V19.9, V80.0–V80.2, V80.6–V80.9, V81.2–V81.9, V82.2–V82.9, V87.9, V88.9, V89.1, V89.3, V89.9, V90–V99, W00–X59, Y85–Y86)	4,289	10.3
2	Assault (homicide) (*U01–*U02, X85–Y09, Y87.1)	4,877	11.7
3	Intentional self-harm (suicide) (*U03, X60–X84, Y87.0)	4,214	10.1
4	Malignant neoplasms (C00–C97)	1,680	4.0
5	Diseases of heart (I00–I09, I11, I13, I20–I51)	978	2.3
6	Congenital malformations, deformations and chromosomal abnormalities (Q00–Q99)	482	1.2
7	Cerebrovascular diseases (I60–I69)	207	0.5
8	Influenza and pneumonia (J10–J18)	193	0.5
9	Human immunodeficiency virus (HIV) disease (B20–B24)	191	0.5
10	Chronic lower respiratory diseases (J40–J47)	168	0.4
...	All other causes (Residual)	4,751	11.4
25–44 years			
...	All causes	124,376	147.8
1	Accidents (unintentional injuries) (V01–X59, Y85–Y86)	28,273	33.6
...	Motor vehicle accidents (V02–V04, V09.0, V09.2, V12–V14, V19.0–V19.2, V19.4–V19.6, V20–V79, V80.3–V80.5, V81.0–V81.1, V82.0–V82.1, V83–V86, V87.0–V87.8, V88.0–V88.8, V89.0, V89.2)	13,370	15.9
...	All other accidents (V01, V05–V06, V09.1, V09.3–V09.9, V10–V12, V15–V18, V19.3, V19.8–V19.9, V80.0–V80.2, V80.6–V80.9, V81.2–V81.9, V82.2–V82.9, V87.9, V88.9, V89.1, V89.3, V89.9, V90–V99, W00–X59, Y85–Y86)	14,903	17.7
2	Malignant neoplasms (C00–C97)	18,263	21.7
3	Diseases of heart (I00–I09, I11, I13, I20–I51)	15,744	18.7
4	Intentional self-harm (suicide) (*U03, X60–X84, Y87.0)	11,403	13.6
5	Assault (homicide) (*U01–*U02, X85–Y09, Y87.1)	7,192	8.5
6	Human immunodeficiency virus (HIV) disease (B20–B24)	6,312	7.5
7	Chronic liver disease and cirrhosis (K70, K73–K74)	3,035	3.6
8	Cerebrovascular diseases (I60–I69)	2,893	3.4
9	Diabetes mellitus (E10–E14)	2,568	3.1
10	Influenza and pneumonia (J10–J18)	1,204	1.4
...	All other causes (Residual)	27,489	32.7
45–64 years			
...	All causes	439,003	621.0
1	Malignant neoplasms (C00–C97)	145,293	205.5
2	Diseases of heart (I00–I09, I11, I13, I20–I51)	100,037	141.5
3	Accidents (unintentional injuries) (V01–X59, Y85–Y86)	25,307	35.8
...	Motor vehicle accidents (V02–V04, V09.0, V09.2, V12–V14, V19.0–V19.2, V19.4–V19.6, V20–V79, V80.3–V80.5, V81.0–V81.1, V82.0–V82.1, V83–V86, V87.0–V87.8, V88.0–V88.8, V89.0, V89.2)	10,069	14.2
...	All other accidents (V01, V05–V06, V09.1, V09.3–V09.9, V10–V12, V15–V18, V19.3, V19.8–V19.9, V80.0–V80.2, V80.6–V80.9, V81.2–V81.9, V82.2–V82.9, V87.9, V88.9, V89.1, V89.3, V89.9, V90–V99, W00–X59, Y85–Y86)	15,237	21.6
4	Diabetes mellitus (E10–E14)	16,252	23.0
5	Cerebrovascular diseases (I60–I69)	16,051	22.7
6	Chronic lower respiratory diseases (J40–J47)	15,324	21.7
7	Chronic liver disease and cirrhosis (K70, K73–K74)	13,784	19.5
8	Intentional self-harm (suicide) (*U03, X60–X84, Y87.0)	10,622	15.0
9	Nephritis, nephrotic syndrome and nephrosis (N00–N07, N17–N19, N25–N27)	6,006	8.5
10	Septicemia (A40–A41)	5,955	8.4
...	All other causes (Residual)	84,372	119.3

See footnotes at end of table.

Table 7. Deaths and death rates for the 10 leading causes of death in specified age groups: United States, preliminary 2004—Con.

[Data are based on a continuous file of records received from the states. Rates are per 100,000 population in specified group. For explanation of asterisks (*) preceding cause-of-death codes, see "Technical Notes." Figures are based on weighted data rounded to the nearest individual, so categories may not add to totals or subtotals]

Rank ¹	Cause of death and age (Based on the <i>International Classification of Diseases, Tenth Revision, 1992</i>)	Number	Rate
65 years and over			
...	All causes	1,762,293	4,855.6
1	Diseases of heart (I00–I09,I11,I13,I20–I51)	536,428	1,478.0
2	Malignant neoplasms (C00–C97)	383,528	1,056.7
3	Cerebrovascular diseases (I60–I69)	130,745	360.2
4	Chronic lower respiratory diseases (J40–J47)	107,113	295.1
5	Alzheimer's disease (G30)	65,188	179.6
6	Influenza and pneumonia (J10–J18)	54,485	150.1
7	Diabetes mellitus (E10–E14)	53,797	148.2
8	Nephritis, nephrotic syndrome and nephrosis (N00–N07,N17–N19,N25–N27)	35,402	97.5
9	Accidents (unintentional injuries) (V01–X59,Y85–Y86)	34,689	95.6
...	Motor vehicle accidents . . (V02–V04,V09.0,V09.2,V12–V14,V19.0–V19.2,V19.4–V19.6,V20–V79,V80.3–V80.5, V81.0–V81.1,V82.0–V82.1,V83–V86,V87.0–V87.8,V88.0–V88.8,V89.0,V89.2)	7,233	19.9
...	All other accidents . . (V01,V05–V06,V09.1,V09.3–V09.9,V10–V12,V15–V18,V19.3,V19.8–V19.9,V80.0–V80.2, V80.6–V80.9,V81.2–V81.9,V82.2–V82.9,V87.9,V88.9,V89.1,V89.3,V89.9,V90–V99,W00–X59,Y85–Y86)	27,455	75.6
10	Septicemia (A40–A41)	25,787	71.1
...	All other causes (Residual)	335,131	923.4

... Category not applicable.

¹Rank based on number of deaths; see "Technical Notes."

²Includes deaths under 1 year of age.

NOTES: For certain causes of death such as unintentional injuries, homicides, suicides, and respiratory diseases, preliminary and final data differ because of the truncated nature of the preliminary file. Data are subject to sampling or random variation. For information regarding the calculation of standard errors and further discussion of the variability of the data, see "Technical Notes."

Table 8. Infant deaths and infant mortality rates for the 10 leading causes of infant death, by race and Hispanic origin: United States, preliminary 2004

[Data are based on a continuous file of records received from the states. Rates are per 100,000 live births. Figures are based on weighted data rounded to the nearest individual, so categories may not add to totals or subtotals. Rates for Hispanic origin should be interpreted with caution because of inconsistencies between reporting Hispanic origin on birth and death certificates; see "Technical Notes"]

Rank ¹	Cause of death and age (Based on the <i>International Classification of Diseases, Tenth Revision, 1992</i>)	Number	Rate
All races ²			
...	All causes	27,835	676.3
1	Congenital malformations, deformations and chromosomal abnormalities (Q00–Q99)	5,623	136.6
2	Disorders related to short gestation and low birth weight, not elsewhere classified (P07)	4,685	113.8
3	Sudden infant death syndrome (R95)	2,109	51.2
4	Newborn affected by maternal complications of pregnancy (P01)	1,705	41.4
5	Newborn affected by complications of placenta, cord and membranes (P02)	998	24.2
6	Accidents (unintentional injuries) (V01–X59)	995	24.2
7	Respiratory distress of newborn (P22)	877	21.3
8	Bacterial sepsis of newborn (P36)	798	19.4
9	Neonatal hemorrhage (P50–P52,P54)	593	14.4
10	Intrauterine hypoxia and birth asphyxia (P20–P21)	502	12.2
...	All other causes (Residual)	8,950	217.5
Total white ³			
...	All causes	18,243	564.8
1	Congenital malformations, deformations and chromosomal abnormalities (Q00–Q99)	4,271	132.2
2	Disorders related to short gestation and low birth weight, not elsewhere classified (P07)	2,727	84.4
3	Sudden infant death syndrome (R95)	1,352	41.9
4	Newborn affected by maternal complications of pregnancy (P01)	1,005	31.1
5	Accidents (unintentional injuries) (V01–X59)	658	20.4
6	Newborn affected by complications of placenta, cord and membranes (P02)	656	20.3
7	Respiratory distress of newborn (P22)	551	17.1
8	Bacterial sepsis of newborn (P36)	499	15.5
9	Neonatal hemorrhage (P50–P52,P54)	403	12.5
10	Intrauterine hypoxia and birth asphyxia (P20–P21)	354	11.0
...	All other causes (Residual)	5,766	178.5
Non-Hispanic white			
...	All causes	13,084	567.8
1	Congenital malformations, deformations and chromosomal abnormalities (Q00–Q99)	3,002	130.3
2	Disorders related to short gestation and low birth weight, not elsewhere classified (P07)	1,895	82.3
3	Sudden infant death syndrome (R95)	1,123	48.8
4	Newborn affected by maternal complications of pregnancy (P01)	753	32.7
5	Accidents (unintentional injuries) (V01–X59)	534	23.2
6	Newborn affected by complications of placenta, cord and membranes (P02)	482	20.9
7	Respiratory distress of newborn (P22)	398	17.3
8	Bacterial sepsis of newborn (P36)	344	14.9
9	Neonatal hemorrhage (P50–P52,P54)	277	12.0
10	Intrauterine hypoxia and birth asphyxia (P20–P21)	264	11.4
...	All other causes (Residual)	4,013	174.2
Total black ³			
...	All causes	8,347	1,362.8
1	Disorders related to short gestation and low birth weight, not elsewhere classified (P07)	1,766	288.4
2	Congenital malformations, deformations and chromosomal abnormalities (Q00–Q99)	1,049	171.3
3	Sudden infant death syndrome (R95)	683	111.5
4	Newborn affected by maternal complications of pregnancy (P01)	624	101.9
5	Newborn affected by complications of placenta, cord and membranes (P02)	306	49.9
6	Respiratory distress of newborn (P22)	302	49.4
7	Accidents (unintentional injuries) (V01–X59)	300	49.0
8	Bacterial sepsis of newborn (P36)	268	43.7
9	Neonatal hemorrhage (P50–P52,P54)	157	25.6
10	Necrotizing enterocolitis of newborn (P77)	151	24.6
...	All other causes (Residual)	2,741	447.5

See footnotes at end of table.

Table 8. Infant deaths and infant mortality rates for the 10 leading causes of infant death, by race and Hispanic origin: United States, preliminary 2004—Con.

[Data are based on a continuous file of records received from the states. Rates are per 100,000 live births. Figures are based on weighted data rounded to the nearest individual, so categories may not add to totals or subtotals. Rates for Hispanic origin should be interpreted with caution because of inconsistencies between reporting Hispanic origin on birth and death certificates; see "Technical Notes"]

Rank ¹	Cause of death and age (Based on the <i>International Classification of Diseases, Tenth Revision, 1992</i>)	Number	Rate
	Hispanic ⁴		
...	All causes	3,782	400.2
1	Congenital malformations, deformations and chromosomal abnormalities (Q00–Q99)	1,288	136.3
2	Disorders related to short gestation and low birth weight, not elsewhere classified (P07)	828	87.7
3	Newborn affected by maternal complications of pregnancy (P01)	268	28.3
4	Sudden infant death syndrome (R95)	241	25.5
5	Newborn affected by complications of placenta, cord and membranes (P02)	174	18.4
6	Bacterial sepsis of newborn (P36)	163	17.2
7	Respiratory distress of newborn (P22)	160	16.9
8	Accidents (unintentional injuries) (V01–X59)	132	14.0
9	Neonatal hemorrhage (P50–P52,P54)	127	13.5
10	Atelectasis (P28.0–P28.1)	108	11.4
...	All other causes (Residual)	294	31.1

... Category not applicable.

¹Rank based on number of deaths; see "Technical Notes."

²Includes races other than white and black.

³Race and Hispanic origin are reported separately on both the birth and death certificate. Race categories are consistent with the 1977 Office of Management and Budget (OMB) standards. California, Hawaii, Idaho, Maine, Michigan, Minnesota, Montana, New Hampshire, New Jersey, New York, Oklahoma, South Dakota, Washington, Wisconsin, and Wyoming reported multiple-race data in 2004. The multiple-race data for these states were bridged to the single race categories of the 1977 OMB standards for comparability with other states; see "Technical Notes." Data for persons of Hispanic origin are included in the data for each race group, according to the decedent's reported race; see "Technical Notes."

⁴Includes all persons of Hispanic origin of any race; see "Technical Notes."

NOTE: For certain causes of death such as unintentional injuries, homicides, suicides, and respiratory diseases, preliminary and final data differ because of the truncated nature of the preliminary file. Data are subject to sampling and/or random variation. For information regarding the calculation of standard errors and further discussion of the variability of the data, see "Technical Notes." Although the infant mortality rate is the preferred indicator of the risk of dying during the first year of life, another measure of infant mortality, the infant death rate, is shown elsewhere in this report. The two measures typically are similar yet they can differ because the denominators used for these measures are different. For more information on these measures of risk, see section "Infant mortality" in the "Technical Notes."

Technical Notes

Nature and sources of data

Preliminary mortality data for 2004 are based on a substantial proportion of death records for that year. The data for 2004 are based on a continuous receipt and processing of statistical records through September 12, 2005, by the Centers for Disease Control and Prevention's National Center for Health Statistics (NCHS). NCHS received the data from the states' vital registration systems through the Vital Statistics Cooperative Program. In this report, U.S. totals include only events occurring within the 50 states and the District of Columbia. Data for Puerto Rico, the Virgin Islands, Guam, American Samoa, and the Northern Marianas that are included in tables showing data by state are not included in U.S. totals.

For 2004, individual records of infant deaths (deaths under 1 year of age) and deaths of persons aged 1 year and over are weighted (when necessary) to independent counts of deaths occurring in each state. These state-specific counts serve as control totals and are the basis for the record weights in the preliminary file. If the number of records in the preliminary file is greater than the count received from the state, the state-specific number of records in the preliminary file is used instead and the weight is set at 1.0.

For this report, two separate files are processed: the medical file, or cause of death file, containing records that include demographic and medical information that is used to generate tables showing cause of death; and the demographic file, which includes records from the medical file as well as additional records containing demographic information only and is used to generate tables showing mortality by demographic characteristics only. A state-specific weight is computed for each file by dividing the state control total by the number of records in the preliminary sample. Because there are two separate files, with two separate sets of weights, slight inconsistencies may occur between the demographic and medical tables in this report. [Table I](#) shows the percentage completeness of the preliminary file by place of occurrence. The percentage completeness is obtained by dividing the number of records in the preliminary file by the control total and multiplying by 100. Although data by place of occurrence are used to compute the weights, all data in this report are tabulated by place of residence.

For selected variables in the mortality file, unknown or not stated values are imputed. The percentage not stated was less than 2.0 percent for all variables discussed in this report. Detailed information on reporting completeness and imputation procedures may be found in *Technical Appendix, Vital Statistics of the United States: Mortality, 1999* (27).

2003 revision of the U.S. Standard Certificate of Death

This report includes data for 12 areas (California, Idaho, Michigan, Montana, New Hampshire, New Jersey, New York City, New York State, Oklahoma, South Dakota, Washington, and Wyoming), which implemented the 2003 revision of the U.S. Standard Certificate of Death by 2004 and for the remaining 39 states and the District of Columbia that collected and reported death data in 2004 based on the 1989 revision of the U.S. Standard Certificate of Death. The 2003 revision is described in detail elsewhere (10,11). Because the items presented in this report appear largely comparable despite

changes to item wording and format in the 2003 revision, data from both groups of states are combined.

Race and Hispanic origin

The 2003 revision of the U.S. Standard Certificate of Death allows the reporting of more than one race (multiple races) (10). This change was implemented to reflect the increasing diversity of the population of the United States and to be consistent with the decennial census. The race and ethnicity items on the revised certificate are compliant with the revisions to the 1977 Race and Ethnic Standards for Federal Statistics and Administrative Reporting, which were issued by the Office of Management and Budget (OMB) in 1997. The new standards mandate the collection of more than one race for federal data (see "Population denominators") (16). In addition, the new certificate is compliant with the OMB-mandated minimum set of five races to be reported for federal data. These are White, Black or African American, American Indian or Alaska Native (AIAN), Asian, and Native Hawaiian or Other Pacific Islander.

For the 2004 report, multiple race was reported on the revised death certificates of California, Idaho, Michigan, Montana, New Jersey, New York (state and city), Oklahoma, South Dakota, Washington, and Wyoming, as well as on the unrevised certificates of Hawaii, Maine, Minnesota, and Wisconsin. New Hampshire fully began reporting multiple race data using the revised certificate of death in mid-April 2004. Earlier in 2004, only a portion of the records submitted by this state contained multiple race data. Data from the vital records of the remaining 35 states and the District of Columbia are based on the 1989 revision of the U.S. Standard Certificate of Death, which follows the 1977 OMB standard, allowing only a single race to be reported (11,12). In addition, these states report a minimum set of four races as stipulated in the 1977 standard. These are White, Black or African American, AIAN, and Asian or Pacific Islander (API).

In order to provide uniformity and comparability of the data during the transition period, before all or most of the data would be available in the new multiple race format, it was necessary to adjust the population denominators by "bridging" the responses of those who reported more than one race (multiple race) to one, single race (see "Population denominators"). The bridging procedure used for mortality numerators is similar to the procedure used to bridge multiracial population estimates (14,15). Multiracial decedents are imputed to a single race (either white, black, AIAN, or API) according to their combination of races, Hispanic origin, sex, and age indicated on the death certificate. The imputation procedure is described in detail at http://www.cdc.gov/nchs/data/dvs/Multiple_race_docu_5-10-04.pdf.

Race and Hispanic origin are reported separately on the death certificate. Therefore, data shown by race include persons of Hispanic or non-Hispanic origin, and data for Hispanic origin include persons of any race. In this report, unless otherwise specified, deaths of Hispanic origin are included in the totals for each race group—white, black, AIAN, and API—according to the decedent's race as reported on the death certificate. Data shown for Hispanic persons include all persons of Hispanic origin of any race. Mortality data on the Hispanic origin population are based on deaths in all states. Death rates for Hispanic, AIAN, and API persons should be interpreted with caution because of inconsistencies in reporting race on the death certificate as compared with race on censuses, surveys, and birth certificates. Studies have shown underreporting on death certificates of AIAN, API, and Hispanic decedents; and undercounts of these groups in the censuses (19–21).

Table I. Total count of records and percentage completeness of preliminary files of infant deaths and deaths 1 year and over: United States, each State and territory, preliminary 2004

[By place of occurrence]

Area	Infant deaths (under 1 year)			Deaths 1 year and over		
	Count of records	Percent completeness		Count of records	Percent completeness	
		Demographic file	Medical file		Demographic file	Medical file
United States ¹	27,896	90.3	89.7	2,374,177	90.9	90.1
Alabama	519	100.0	100.0	44,858	100.0	100.0
Alaska	62	100.0	100.0	2,938	100.0	100.0
Arizona	629	100.0	100.0	43,534	100.0	100.0
Arkansas	312	100.0	100.0	26,700	100.0	100.0
California	2,787	41.4	41.4	230,525	45.3	45.3
Colorado	468	100.0	100.0	28,260	100.0	100.0
Connecticut	223	100.0	100.0	29,041	100.0	100.0
Delaware	117	100.0	100.0	6,944	100.0	100.0
District of Columbia	204	100.0	99.0	6,292	100.0	100.0
Florida	1,568	100.0	100.0	168,710	100.0	100.0
Georgia	1,196	100.0	100.0	65,405	100.0	100.0
Hawaii	102	100.0	100.0	9,150	100.0	100.0
Idaho	120	100.0	100.0	9,713	100.0	100.0
Illinois	1,233	32.4	32.4	98,796	34.8	34.8
Indiana	687	99.9	98.5	54,144	100.0	99.5
Iowa	179	100.0	100.0	26,460	100.0	100.0
Kansas	252	100.0	100.0	23,115	100.0	100.0
Kentucky	340	100.0	87.4	38,068	100.0	97.6
Louisiana	716	100.0	99.9	41,889	100.0	100.0
Maine	81	100.0	100.0	12,256	100.0	99.9
Maryland	537	100.0	100.0	42,564	100.0	100.0
Massachusetts	398	100.0	100.0	54,766	100.0	99.9
Michigan	999	100.0	100.0	83,035	100.0	100.0
Minnesota	366	100.0	98.9	36,737	100.0	100.0
Mississippi	371	100.0	100.0	26,930	100.0	100.0
Missouri	674	100.0	99.9	54,689	100.0	100.0
Montana	49	100.0	98.0	8,030	100.0	100.0
Nebraska	186	100.0	89.2	14,628	100.0	83.7
Nevada	228	93.4	93.4	18,283	99.4	99.4
New Hampshire	74	100.0	37.8	9,919	100.0	42.6
New Jersey	551	61.5	56.1	69,376	62.1	48.5
New Mexico	165	100.0	100.0	13,881	100.0	99.8
New York	1,524	100.0	100.0	150,634	100.0	100.0
New York excluding New York City	764	100.0	100.0	93,933	100.0	100.0
New York City	760	100.0	100.0	56,701	100.0	100.0
North Carolina	1,054	100.0	100.0	71,948	100.0	100.0
North Dakota	40	100.0	100.0	5,928	100.0	100.0
Ohio	1,166	99.5	99.5	105,003	100.0	100.0
Oklahoma	410	99.8	99.8	33,300	100.0	100.0
Oregon	269	100.0	100.0	30,085	100.0	100.0
Pennsylvania	1,121	100.0	100.0	127,275	100.0	100.0
Rhode Island	77	100.0	100.0	9,864	100.0	100.0
South Carolina	485	99.4	99.4	36,007	100.0	100.0
South Dakota	95	100.0	100.0	6,921	100.0	100.0
Tennessee	773	100.0	100.0	58,013	100.0	100.0
Texas	2,409	100.0	100.0	152,334	100.0	100.0
Utah	285	100.0	100.0	13,420	100.0	100.0
Vermont	30	100.0	100.0	4,963	100.0	100.0
Virginia	743	100.0	100.0	55,357	100.0	100.0
Washington	442	100.0	100.0	44,333	100.0	100.0
West Virginia	146	100.0	97.9	20,408	100.0	100.0
Wisconsin	401	100.0	100.0	45,027	100.0	100.0
Wyoming	33	100.0	100.0	3,721	100.0	100.0
Puerto Rico	415	100.0	100.0	28,662	100.0	100.0
Virgin Islands	8	100.0	100.0	620	100.0	99.5
Guam	40	100.0	100.0	653	100.0	100.0
American Samoa	26	100.0	100.0	263	100.0	100.0
Northern Marianas	12	100.0	100.0	160	100.0	100.0

¹Excludes data for Puerto Rico, Virgin Islands, Guam, American Samoa, and Northern Marianas.

NOTE: Percentage completeness = 100 • (Number of records in preliminary file / count of records).

Injury at work

Information on deaths attributed to injuries at work is derived from a separate item on the death certificate that asks the medical certifier whether the death resulted from an injury sustained at work. The item is on the death certificate of all states. Number of deaths, crude death rates, and age-adjusted death rates for injury at work for ages 15 years and over, excluding age not stated, are shown in [Table 2](#). Age-adjusted death rates presented in this report for injury at work were computed using age-specific death rates and the U.S. standard population based on year 2000 standard for ages 15 years and over, excluding age not stated. If the estimated “employed” population aged 15 years and over had been used instead in the denominator, higher death rates would have resulted, especially for population groups with lower employment rates. See section on “Computing rates and percentages.”

Cause-of-death classification

Mortality statistics are compiled in accordance with the World Health Organization regulations that specify that member nations classify and code causes of death in accordance with the current revision of the *International Statistical Classification of Diseases, and Related Health Problems* (ICD). The ICD provides the basic guidance used in virtually all countries to code and classify causes of death. It provides not only disease, injury, and poisoning categories but also the rules used to select the single underlying cause of death for tabulation from the several diagnoses that may be reported on a single death certificate, as well as definitions, tabulation lists, the format of the death certificate, and regulations on the use of the classification. Causes of death for data presented in this report were coded by procedures described in annual issues of part 2a of the NCHS Instruction Manual (28).

Effective with deaths occurring in 1999, the United States began using the Tenth Revision of this classification (ICD–10) (29). During the period 1979–98 causes were coded and classified according to the Ninth Revision (ICD–9) (30). The change from ICD–9 to ICD–10 resulted in discontinuities for selected cause-of-death trends. These discontinuities are measured using comparability ratios from a comparability study (31,32).

Beginning with data for 2001, NCHS introduced categories *U01–*U03 for classifying and coding deaths due to acts of terrorism. The asterisks (*) before the category codes indicate that they are not part of the *International Classification of Diseases, Tenth Revision* (ICD–10). Deaths classified to the terrorism categories are included in the categories Assault (homicide) and Intentional self-harm (suicide) for the 113 causes-of-death list ([Table 2](#)) and for Assault (homicide) in the 130 causes-of-infant-death list ([Table 5](#)). Additional information on these new categories is available from: http://www.cdc.gov/nchs/about/otheract/icd9/terrorism_code.htm.

Codes for drug-induced deaths—The list of codes included in drug-induced causes was expanded in the 2003 data year to be more comprehensive. Specifically, the following 37 ICD–10 codes were added to the previous 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.

Numbers 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 37 codes increased the total number of deaths from drug-induced causes from 26,018 to 26,040 (an increase of 22 deaths); the crude and age-adjusted death rates were unaffected.

Codes for alcohol-induced deaths—The list of codes included in alcohol-induced causes was expanded in the 2003 data year to be more comprehensive. Specifically, the following three ICD–10 codes were added to the previous list of alcohol-induced codes: E24.4, G72.1, and K86.0.

Numbers 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 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 age-adjusted death rate remained the same.

Nonsampling error

Causes of death in this report are subject to nonsampling error because of the nature of the preliminary file. Inasmuch as the preliminary file is processed before a full year of data are available, it is subject to the seasonality of certain causes of death that may not be equally distributed throughout the year. It is known, for example, that external causes such as unintentional injuries occur disproportionately during the summer and that fatal respiratory conditions are more prevalent during the winter. Accordingly, the truncated nature of the preliminary file may systematically overemphasize or underemphasize causes with pronounced seasonality.

Furthermore, for some deaths, especially those subject to medico-legal investigation such as unintentional injuries, homicides, suicides, and SIDS, the final cause may not be available at the time the preliminary file is processed. In those cases, the causes of death may be reported in the preliminary file as unknown and coded to the category Other ill-defined and unspecified causes of mortality (ICD–10 code R99), a subcategory of Symptoms, signs, and abnormal clinical and laboratory findings, not elsewhere classified (ICD–10 codes R00–R99). In the final data, some of the deaths of unknown cause in the preliminary file will be reassigned to specific causes if further, more specific cause-of-death information is provided.

A quantitative assessment of the degree of the nonsampling error can be made by comparing final data and preliminary data for the same year. A comparison for the leading causes of death for the total U.S. population from 2001 to 2003 indicates that preliminary estimates for some causes of death are sometimes underestimated and sometimes overestimated in the preliminary file (see [Table II](#)). Thus, the number of deaths for unintentional injuries was underestimated in 2001 by 3.8 percent, in 2002 by 4.2 percent, and in 2003 by 3.3 percent. A similar error occurred for suicide with underestimates of 3.9 percent in 2001, 3.2 percent in 2002, and 2.7 percent in 2003. Likewise, homicide showed a 2.9 percent underestimate in 2001, 3.4 percent in 2002, and 3.6 percent in 2003. Chronic lower respiratory disease was overestimated by 0.8 percent in 2001 and 0.6 percent in 2002, but was underestimated by 0.2 percent in 2003 when an influenza outbreak occurred at the end of the year ([Table II](#)).

Comparisons showing nonsampling error in estimates for causes of infant death are shown in [Table III](#), where Congenital malformations,

Table II. Ratios of preliminary to final reported numbers of deaths from 113 selected causes: United States, 2001–03

[For explanation of asterisks (*) preceding cause-of-death codes, see "Technical Notes"]

Cause of death (Based on the <i>International Classification of Diseases, Tenth Revision, 1992</i>)	Preliminary number of deaths 2003	Final number of deaths 2003	Ratio of preliminary to final 2003	Preliminary number of deaths 2002	Final number of deaths 2002	Ratio of preliminary to final 2002	Preliminary number of deaths 2001	Final number of deaths 2001	Ratio of preliminary to final 2001
All causes	2,443,930	2,448,288	0.9982	2,447,862	2,443,387	1.0018	2,417,798	2,416,425	1.0006
Salmonella infections (A01–A02)	42	43	0.9767	22	21	1.0476	38	41	0.9268
Shigellosis and amebiasis (A03,A06)	11	7	1.5714	7	8	0.8750	7	7	1.0000
Certain other intestinal infections (A04,A07–A09)	3,028	3,090	0.9799	2,183	2,465	0.8856	1,539	1,537	1.0013
Tuberculosis (A16–A19)	704	711	0.9902	802	784	1.0230	749	764	0.9804
Respiratory tuberculosis (A16)	564	562	1.0036	642	626	1.0256	585	600	0.9750
Other tuberculosis (A17–A19)	140	149	0.9396	160	158	1.0127	164	164	1.0000
Whooping cough (A37)	10	11	0.9091	17	18	0.9444	14	17	0.8235
Scarlet fever and erysipelas (A38,A46)	1	1	1.0000	2	2	1.0000	2	3	0.6667
Meningococcal infection (A39)	152	161	0.9441	155	161	0.9627	204	199	1.0251
Septicemia (A40–A41)	34,243	34,069	1.0051	33,881	33,865	1.0005	32,275	32,238	1.0011
Syphilis (A50–A53)	32	34	0.9412	42	41	1.0244	33	36	0.9167
Acute poliomyelitis (A80)	5	–	–	–	–	–	–	–	–
Arthropod-borne viral encephalitis (A83–A84,A85.2)	12	13	0.9231	69	9	7.6667	9	9	1.0000
Measles (B05)	1	1	1.0000	1	–	–	1	1	1.0000
Viral hepatitis (B15–B19)	5,345	5,431	0.9842	5,706	5,793	0.9850	5,094	5,585	0.9121
Human immunodeficiency virus (HIV) disease (B20–B24)	13,544	13,658	0.9917	13,991	14,095	0.9926	14,132	14,175	0.9970
Malaria (B50–B54)	5	4	1.2500	13	12	1.0833	9	9	1.0000
Other and unspecified infectious and parasitic diseases and their sequelae (A00,A05, A20–A36,A42–A44,A48–A49,A54–A79,A81–A82, A85.0–A85.1,A85.8,A86–B04,B06–B09, B25–B49,B55–B99)	7,430	7,427	1.0004	6,641	6,707	0.9902	6,266	5,715	1.0964
Malignant neoplasms (C00–C97)	554,643	556,902	0.9959	558,847	557,271	1.0028	553,251	553,768	0.9991
Malignant neoplasms of lip, oral cavity and pharynx (C00–C14)	7,712	7,778	0.9915	7,732	7,737	0.9994	7,638	7,702	0.9917
Malignant neoplasm of esophagus (C15)	12,768	12,860	0.9928	12,766	12,701	1.0051	12,509	12,530	0.9983
Malignant neoplasm of stomach (C16)	12,025	12,110	0.9930	12,265	12,198	1.0055	12,340	12,319	1.0017
Malignant neoplasms of colon, rectum and anus (C18–C21)	55,616	55,958	0.9939	56,866	56,741	1.0022	56,799	56,887	0.9985
Malignant neoplasms of liver and intrahepatic bile ducts (C22)	14,572	14,706	0.9909	14,046	14,047	0.9999	13,263	13,351	0.9934
Malignant neoplasm of pancreas (C25)	30,566	30,777	0.9931	30,323	30,264	1.0019	29,723	29,803	0.9973
Malignant neoplasm of larynx (C32)	3,783	3,792	0.9976	3,731	3,723	1.0021	3,826	3,797	1.0076
Malignant neoplasms of trachea, bronchus and lung (C33–C34)	157,521	158,086	0.9964	158,258	157,713	1.0035	156,005	156,058	0.9997
Malignant melanoma of skin (C43)	7,762	7,818	0.9928	7,563	7,514	1.0065	7,543	7,542	1.0001
Malignant neoplasm of breast (C50)	41,941	42,000	0.9986	41,989	41,883	1.0025	41,844	41,809	1.0008
Malignant neoplasm of cervix uteri (C53)	3,899	3,919	0.9949	3,965	3,952	1.0033	4,064	4,092	0.9932
Malignant neoplasms of corpus uteri and uterus, part unspecified (C54–C55)	6,852	6,899	0.9932	6,876	6,853	1.0034	6,835	6,784	1.0075
Malignant neoplasm of ovary (C56)	14,644	14,657	0.9991	14,678	14,682	0.9997	14,361	14,414	0.9963
Malignant neoplasm of prostate (C61)	29,578	29,554	1.0008	30,571	30,446	1.0041	30,714	30,719	0.9998
Malignant neoplasms of kidney and renal pelvis (C64–C65)	12,179	12,286	0.9913	12,184	12,165	1.0016	12,084	12,078	1.0005
Malignant neoplasm of bladder (C67)	12,390	12,483	0.9925	12,670	12,628	1.0033	12,115	12,225	0.9910
Malignant neoplasms of meninges, brain and other parts of central nervous system (C70–C72)	12,804	12,901	0.9925	12,777	12,830	0.9959	12,567	12,609	0.9967
Malignant neoplasms of lymphoid, hematopoietic and related tissue (C81–C96)	55,571	55,679	0.9981	56,377	56,225	1.0027	56,350	56,341	1.0002
Hodgkin's disease (C81)	1,340	1,347	0.9948	1,356	1,352	1.0030	1,315	1,323	0.9940
Non-Hodgkin's lymphoma (C82–C85)	21,443	21,475	0.9985	21,998	21,910	1.0040	22,340	22,305	1.0016
Leukemia (C91–C95)	21,446	21,535	0.9959	21,575	21,498	1.0036	21,518	21,451	1.0031
Multiple myeloma and immunoproliferative neoplasms (C88,C90)	11,288	11,267	1.0019	11,374	11,392	0.9984	11,088	11,172	0.9925

See footnotes at end of table.

Table II. Ratios of preliminary to final reported numbers of deaths from 113 selected causes: United States, 2001–03—Con.

[For explanation of asterisks (*) preceding cause-of-death codes, see “Technical Notes”]

Cause of death (Based on the <i>International Classification of Diseases, Tenth Revision, 1992</i>)	Preliminary number of deaths 2003	Final number of deaths 2003	Ratio of preliminary to final 2003	Preliminary number of deaths 2002	Final number of deaths 2002	Ratio of preliminary to final 2002	Preliminary number of deaths 2001	Final number of deaths 2001	Ratio of preliminary to final 2001
Other and unspecified malignant neoplasms of lymphoid, hematopoietic and related tissue (C96)	54	55	0.9818	74	73	1.0137	89	90	0.9889
All other and unspecified malignant neoplasms (C17,C23–C24,C26–C31,C37–C41,C44–C49,C51–C52,C57–C60, C62–C63,C66,C68–C69,C73–C80,C97)	62,458	62,639	0.9971	63,209	62,969	1.0038	62,669	62,708	0.9994
In situ neoplasms, benign neoplasms and neoplasms of uncertain or unknown behavior (D00–D48)	13,495	13,563	0.9950	13,370	13,299	1.0053	13,673	13,676	0.9998
Anemias (D50–D64)	4,599	4,594	1.0011	4,601	4,614	0.9972	4,611	4,627	0.9965
Diabetes mellitus (E10–E14)	73,965	74,219	0.9966	73,119	73,249	0.9982	71,252	71,372	0.9983
Nutritional deficiencies (E40–E64)	3,358	3,338	1.0060	3,785	3,779	1.0016	3,725	3,704	1.0057
Malnutrition (E40–E46)	3,170	3,153	1.0054	3,515	3,510	1.0014	3,433	3,454	0.9939
Other nutritional deficiencies (E50–E64)	188	185	1.0162	270	269	1.0037	293	250	1.1720
Meningitis (G00,G03)	708	730	0.9699	694	700	0.9914	718	727	0.9876
Parkinson’s disease (G20–G21)	17,898	17,997	0.9945	16,961	16,959	1.0001	16,576	16,544	1.0019
Alzheimer’s disease (G30)	63,343	63,457	0.9982	58,785	58,866	0.9986	53,679	53,852	0.9968
Major cardiovascular diseases (I00–I78)	901,753	902,443	0.9992	917,839	918,628	0.9991	921,819	922,334	0.9994
Diseases of heart (I00–I09,I11,I13,I20–I51)	684,462	685,089	0.9991	695,754	696,947	0.9983	699,697	700,142	0.9994
Acute rheumatic fever and chronic rheumatic heart diseases (I00–I09)	3,554	3,624	0.9807	3,743	3,579	1.0458	3,475	3,489	0.9960
Hypertensive heart disease (I11)	27,653	28,345	0.9756	25,938	26,551	0.9769	24,496	24,689	0.9922
Hypertensive heart and renal disease (I13)	3,110	3,108	1.0006	2,888	2,895	0.9976	2,797	2,826	0.9897
Ischemic heart diseases (I20–I25)	479,304	480,028	0.9985	493,542	494,382	0.9983	501,691	502,189	0.9990
Acute myocardial infarction (I21–I22)	170,960	170,564	1.0023	179,869	179,514	1.0020	184,697	184,757	0.9997
Other acute ischemic heart diseases (I24)	3,182	3,158	1.0076	3,416	3,407	1.0026	3,356	3,351	1.0015
Other forms of chronic ischemic heart disease (I20,I25)	305,163	306,306	0.9963	310,257	311,461	0.9961	313,638	314,081	0.9986
Atherosclerotic cardiovascular disease, so described (I25.0)	65,678	67,232	0.9769	67,104	68,129	0.9850	67,531	68,103	0.9916
All other forms of chronic ischemic heart disease (I20,I25.1–I25.9)	239,485	239,074	1.0017	243,153	243,332	0.9993	246,107	245,978	1.0005
Other heart diseases (I26–I51)	170,841	169,984	1.0050	169,643	169,540	1.0006	167,237	166,949	1.0017
Acute and subacute endocarditis (I33)	1,214	1,245	0.9751	1,149	1,154	0.9957	1,175	1,178	0.9975
Diseases of pericardium and acute myocarditis (I30–I31,I40)	826	868	0.9516	802	848	0.9458	832	839	0.9917
Heart failure (I50)	57,218	57,448	0.9960	56,790	56,494	1.0052	57,345	56,934	1.0072
All other forms of heart disease (I26–I28,I34–I38,I42–I49,I51)	111,583	110,423	1.0105	110,902	111,044	0.9987	107,885	107,998	0.9990
Essential (primary) hypertension and hypertensive renal disease (I10,I12)	21,841	21,940	0.9955	20,241	20,261	0.9990	19,054	19,250	0.9898
Cerebrovascular diseases (I60–I69)	157,803	157,689	1.0007	163,010	162,672	1.0021	163,601	163,538	1.0004
Atherosclerosis (I70)	13,030	13,053	0.9982	13,942	13,821	1.0088	14,111	14,086	1.0018
Other diseases of circulatory system (I71–I78)	24,617	24,672	0.9978	24,891	24,927	0.9986	25,356	25,318	1.0015
Aortic aneurysm and dissection (I71)	14,751	14,810	0.9960	14,746	14,818	0.9951	15,218	15,234	0.9989
Other diseases of arteries, arterioles and capillaries (I72–I78)	9,867	9,862	1.0005	10,146	10,109	1.0037	10,137	10,084	1.0053
Other disorders of circulatory system (I80–I99)	4,683	4,737	0.9886	4,679	4,711	0.9932	4,632	4,665	0.9929
Influenza and pneumonia (J10–J18)	64,847	65,163	0.9952	65,984	65,681	1.0046	62,123	62,034	1.0014
Influenza (J10–J11)	1,605	1,792	0.8956	753	727	1.0358	267	257	1.0389
Pneumonia (J12–J18)	63,241	63,371	0.9979	65,231	64,954	1.0043	61,856	61,777	1.0013
Other acute lower respiratory infections (J20–J22)	406	421	0.9644	361	386	0.9352	359	347	1.0346
Acute bronchitis and bronchiolitis (J20–J21)	292	304	0.9605	257	279	0.9211	269	263	1.0228
Unspecified acute lower respiratory infection (J22)	114	117	0.9744	103	107	0.9626	91	84	1.0833
Chronic lower respiratory diseases (J40–J47)	126,128	126,382	0.9980	125,500	124,816	1.0055	123,974	123,013	1.0078
Bronchitis, chronic and unspecified (J40–J42)	851	850	1.0012	961	955	1.0063	980	959	1.0219
Emphysema (J43)	14,793	14,861	0.9954	15,568	15,489	1.0051	16,407	16,242	1.0102
Asthma (J45–J46)	3,964	4,099	0.9671	4,157	4,261	0.9756	4,222	4,269	0.9890

See footnotes at end of table.

Table II. Ratios of preliminary to final reported numbers of deaths from 113 selected causes: United States, 2001–03—Con.

[For explanation of asterisks (*) preceding cause-of-death codes, see "Technical Notes"]

Cause of death (Based on the <i>International Classification of Diseases, Tenth Revision, 1992</i>)	Preliminary number of deaths 2003	Final number of deaths 2003	Ratio of preliminary to final 2003	Preliminary number of deaths 2002	Final number of deaths 2002	Ratio of preliminary to final 2002	Preliminary number of deaths 2001	Final number of deaths 2001	Ratio of preliminary to final 2001
Other chronic lower respiratory diseases (J44,J47)	106,520	106,572	0.9995	104,814	104,111	1.0068	102,365	101,543	1.0081
Pneumoconioses and chemical effects (J60–J66,J68)	1,107	1,114	0.9937	1,139	1,114	1.0224	1,155	1,136	1.0167
Pneumonitis due to solids and liquids (J69)	17,457	17,335	1.0070	17,693	17,593	1.0057	17,392	17,301	1.0053
Other diseases of respiratory system (J00–J06,J30–J39,J67,J70–J98)	25,304	25,520	0.9915	25,194	25,039	1.0062	26,225	26,178	1.0018
Peptic ulcer (K25–K28)	3,888	3,913	0.9936	4,081	4,079	1.0005	4,462	4,491	0.9935
Diseases of appendix (K35–K38)	432	439	0.9841	474	480	0.9875	425	428	0.9930
Hernia (K40–K46)	1,617	1,613	1.0025	1,595	1,595	1.0000	1,529	1,522	1.0046
Chronic liver disease and cirrhosis (K70,K73–K74)	27,201	27,503	0.9890	27,045	27,257	0.9922	26,751	27,035	0.9895
Alcoholic liver disease (K70)	12,064	12,360	0.9761	11,965	12,121	0.9871	12,000	12,207	0.9830
Other chronic liver disease and cirrhosis (K73–K74)	15,137	15,143	0.9996	15,079	15,136	0.9962	14,751	14,828	0.9948
Cholelithiasis and other disorders of gallbladder (K80–K82)	2,934	2,948	0.9953	2,965	2,979	0.9953	2,960	2,965	0.9983
Nephritis, nephrotic syndrome and nephrosis (N00–N07,N17–N19,N25–N27)	42,536	42,453	1.0020	41,018	40,974	1.0011	39,661	39,480	1.0046
Acute and rapidly progressive nephritic and nephrotic syndrome (N00–N01,N04)	149	148	1.0068	168	166	1.0120	165	156	1.0577
Chronic glomerulonephritis, nephritis and nephropathy not specified as acute or chronic, and renal sclerosis unspecified (N02–N03,N05–N07,N26)	542	537	1.0093	545	553	0.9855	512	511	1.0020
Renal failure (N17–N19)	41,818	41,737	1.0019	40,272	40,222	1.0012	38,957	38,784	1.0045
Other disorders of kidney (N25,N27)	27	31	0.8710	34	33	1.0303	28	29	0.9655
Infections of kidney (N10–N12,N13.6,N15.1)	821	823	0.9976	792	788	1.0051	750	748	1.0027
Hyperplasia of prostate (N40)	487	477	1.0210	431	437	0.9863	426	439	0.9704
Inflammatory diseases of female pelvic organs (N70–N76)	131	125	1.0480	110	114	0.9649	128	127	1.0079
Pregnancy, childbirth and the puerperium (O00–O99)	515	545	0.9450	358	379	0.9446	401	416	0.9639
Pregnancy with abortive outcome (O00–O07)	42	40	1.0500	22	22	1.0000	38	38	1.0000
Other complications of pregnancy, childbirth and the puerperium (O10–O99)	473	505	0.9366	336	357	0.9412	363	378	0.9603
Certain conditions originating in the perinatal period (P00–P96)	14,352	14,378	0.9982	14,148	14,254	0.9926	13,925	13,887	1.0027
Congenital malformations, deformations and chromosomal abnormalities (Q00–Q99)	10,430	10,518	0.9916	10,635	10,687	0.9951	10,490	10,442	1.0046
Symptoms, signs and abnormal clinical and laboratory findings, not elsewhere classified (R00–R99)	38,795	31,444	1.2338	40,532	29,975	1.3522	39,689	32,326	1.2278
All other diseases (Residual)	200,322	201,676	0.9933	193,974	194,591	0.9968	186,446	186,406	1.0002
Accidents (unintentional injuries) (V01–X59,Y85–Y86)	105,695	109,277	0.9672	102,303	106,742	0.9584	97,707	101,537	0.9623
Transport accidents (V01–V99,Y85)	47,325	48,071	0.9845	47,478	48,366	0.9816	45,911	47,288	0.9709
Motor vehicle accidents (V02–V04,V09.0,V09.2,V12–V14,V19.0–V19.2,V19.4–V19.6,V20–V79,V80.3–V80.5,V81.0–V81.1,V82.0–V82.1, V83–V86,V87.0–V87.8,V88.0–V88.8,V89.0,V89.2)	44,059	44,757	0.9844	44,572	45,380	0.9822	41,967	43,293	0.9694
Other land transport accidents (V01,V05–V06,V09.1,V09.3–V09.9,V10–V11,V15–V18,V19.3,V19.8–V19.9,V80.0–V80.2,V80.6–V80.9,V81.2–V81.9,V82.2–V82.9,V87.9,V88.9,V89.1,V89.3,V89.9)	1,352	1,357	0.9963	1,064	1,086	0.9797	1,885	1,900	0.9921
Water, air and space, and other and unspecified transport accidents and their sequelae (V90–V99,Y85)	1,913	1,957	0.9775	1,842	1,900	0.9695	2,059	2,095	0.9828
Nontransport accidents (W00–X59,Y86)	58,371	61,206	0.9537	54,825	58,376	0.9392	51,796	54,249	0.9548
Falls (W00–W19)	16,926	17,229	0.9824	15,848	16,257	0.9748	14,543	15,019	0.9683
Accidental discharge of firearms (W32–W34)	752	730	1.0301	813	762	1.0669	924	802	1.1521
Accidental drowning and submersion (W65–W74)	3,222	3,306	0.9746	3,399	3,447	0.9861	3,247	3,281	0.9896
Accidental exposure to smoke, fire and flames (X00–X09)	3,363	3,369	0.9982	3,024	3,159	0.9573	3,223	3,309	0.9740
Accidental poisoning and exposure to noxious substances (X40–X49)	16,969	19,457	0.8721	14,670	17,550	0.8359	12,030	14,078	0.8545
Other and unspecified nontransport accidents and their sequelae (W20–W31,W35–W64,W75–W99,X10–X39,X50–X59,Y86)	17,138	17,115	1.0013	17,070	17,201	0.9924	17,829	17,760	1.0039

See footnotes at end of table.

Table II. Ratios of preliminary to final reported numbers of deaths from 113 selected causes: United States, 2001–03—Con.

[For explanation of asterisks (*) preceding cause-of-death codes, see “Technical Notes”]

Cause of death (Based on the <i>International Classification of Diseases, Tenth Revision, 1992</i>)	Preliminary number of deaths 2003	Final number of deaths 2003	Ratio of preliminary to final 2003	Preliminary number of deaths 2002	Final number of deaths 2002	Ratio of preliminary to final 2002	Preliminary number of deaths 2001	Final number of deaths 2001	Ratio of preliminary to final 2001
Intentional self-harm (suicide) (*U03,X60–X84,Y87.0)	30,642	31,484	0.9733	30,646	31,655	0.9681	29,423	30,622	0.9608
Intentional self-harm (suicide) by discharge of firearms. (X72–X74)	16,859	16,907	0.9972	16,882	17,108	0.9868	16,455	16,869	0.9755
Intentional self-harm (suicide) by other and unspecified means and their sequelae (*U03,X60–X71,X75–X84,Y87.0)	13,782	14,577	0.9455	13,763	14,547	0.9461	12,968	13,749	0.9432
Assault (homicide). (*U01–*U02,X85–Y09,Y87.1)	17,096	17,732	0.9641	17,045	17,638	0.9664	19,727	20,308	0.9714
Assault (homicide) by discharge of firearms (*U01.4,X93–X95)	11,599	11,920	0.9731	11,546	11,829	0.9761	11,001	11,348	0.9694
Assault (homicide) by other and unspecified means and their sequelae (*U01.0–*U01.3,*U01.5–*U01.9,*U02,X85–X92,X96–Y09,Y87.1)	5,498	5,812	0.9460	5,500	5,809	0.9468	8,726	8,960	0.9739
Legal intervention (Y35,Y89.0)	394	423	0.9314	365	384	0.9505	387	396	0.9773
Events of undetermined intent. (Y10–Y34,Y87.2,Y89.9)	4,602	5,072	0.9073	4,423	4,830	0.9157	3,868	4,198	0.9214
Discharge of firearms, undetermined intent. (Y22–Y24)	197	232	0.8491	214	243	0.8807	222	231	0.9610
Other and unspecified events of undetermined intent and their sequelae (Y10–Y21,Y25–Y34,Y87.2,Y89.9)	4,405	4,840	0.9101	4,209	4,587	0.9176	3,646	3,967	0.9191
Operations of war and their sequelae (Y36,Y89.1)	16	14	1.1429	21	20	1.0500	17	17	1.0000
Complications of medical and surgical care. (Y40–Y84,Y88)	2,766	2855	0.9688	2,820	2,843	0.9919	3,089	3,021	1.0225

– Quantity zero.

. . . Category not applicable.

SOURCE: Preliminary and final data from the National Vital Statistics System, National Center for Health Statistics.

Table III. Ratios of preliminary to final reported numbers of deaths from 130 selected causes of infant death: United States, 2001–03

[For explanation of asterisks (*) preceding cause-of-death codes, see "Technical Notes"]

Cause of death (Based on the <i>International Classification of Diseases, Tenth Revision, 1992</i>)	Preliminary number of deaths 2003	Final number of deaths 2003	Ratio of preliminary to final 2003	Preliminary number of deaths 2002	Final number of deaths 2002	Ratio of preliminary to final 2002	Preliminary number of deaths 2001	Final number of deaths 2001	Ratio of preliminary to final 2001
All causes	28,422	28,025	1.0142	27,974	28,034	0.9979	27,798	27,568	1.0083
Certain infectious and parasitic diseases (A00–B99)	495	494	1.0020	573	582	0.9845	576	563	1.0231
Certain intestinal infectious diseases (A00–A08)	9	13	0.6923	10	13	0.7692	10	12	0.8333
Diarrhea and gastroenteritis of infectious origin (A09)	1	1	1.0000	3	3	1.0000	1	2	0.5000
Tuberculosis (A16–A19)	–	–	...	1	1	1.0000	1	2	0.5000
Tetanus (A33,A35)	–	–	...	–	–	...	–	–	...
Diphtheria (A36)	–	–	...	–	–	...	–	–	...
Whooping cough (A37)	9	10	0.9000	17	18	0.9444	13	16	0.8125
Meningococcal infection (A39)	10	12	0.8333	16	17	0.9412	18	16	1.1250
Septicemia (A40–A41)	279	278	1.0036	295	296	0.9966	334	312	1.0705
Congenital syphilis (A50)	–	–	...	1	1	1.0000	1	1	1.0000
Gonococcal infection (A54)	–	–	...	1	1	1.0000	–	–	...
Viral diseases (A80–B34)	117	116	1.0086	159	164	0.9695	114	121	0.9421
Acute poliomyelitis (A80)	–	–	...	–	–	...	–	–	...
Varicella (chickenpox) (B01)	1	1	1.0000	1	1	1.0000	1	1	1.0000
Measles (B05)	–	–	...	–	–	...	–	–	...
Human immunodeficiency virus (HIV) disease (B20–B24)	5	5	1.0000	8	7	1.1429	8	10	0.8000
Mumps (B26)	–	–	...	–	–	...	–	–	...
Other and unspecified viral diseases (A81–B00,B02–B04,B06–B19,B25,B27–B34)	110	110	1.0000	149	156	0.9551	104	110	0.9455
Candidiasis (B37)	23	22	1.0455	21	19	1.1053	21	21	1.0000
Malaria (B50–B54)	–	–	...	–	–	...	–	–	...
Pneumocystosis (B59)	3	3	1.0000	2	2	1.0000	2	2	1.0000
All other and unspecified infectious and parasitic diseases A20–A32,A38, A42–A49,A51–A53,A55–A79,B35–B36,B38–B49,B55–B58,B60–B99	43	39	1.1026	47	47	1.0000	61	58	1.0517
Neoplasms (C00–D48)	152	137	1.1095	150	143	1.0490	122	117	1.0427
Malignant neoplasms (C00–C97)	83	75	1.1067	81	74	1.0946	69	66	1.0455
Hodgkin's disease and non-Hodgkin's lymphomas (C81–C85)	–	–	...	2	2	1.0000	1	1	1.0000
Leukemia (C91–C95)	33	30	1.1000	20	21	0.9524	26	25	1.0400
Other and unspecified malignant neoplasms (C00–C80,C88–C90,C96–C97)	50	45	1.1111	58	51	1.1373	42	40	1.0500
In situ neoplasms, benign neoplasms and neoplasms of uncertain or unknown behavior (D00–D48)	70	62	1.1290	69	69	1.0000	53	51	1.0392
Diseases of the blood and blood-forming organs and certain disorders involving the immune mechanism (D50–D89)	105	105	1.0000	86	82	1.0488	106	106	1.0000
Anemias (D50–D64)	21	22	0.9545	18	18	1.0000	16	16	1.0000
Hemorrhagic conditions and other diseases of blood and blood-forming organs (D65–D76)	66	63	1.0476	45	43	1.0465	61	59	1.0339
Certain disorders involving the immune mechanism (D80–D89)	17	20	0.8500	22	21	1.0476	29	31	0.9355
Endocrine, nutritional and metabolic diseases (E00–E88)	264	248	1.0645	255	266	0.9586	284	292	0.9726
Short stature, not elsewhere classified (E34.3)	10	12	0.8333	26	26	1.0000	30	26	1.1538
Nutritional deficiencies (E40–E64)	10	10	1.0000	4	4	1.0000	3	4	0.7500
Cystic fibrosis (E84)	5	5	1.0000	9	10	0.9000	6	6	1.0000
Volume depletion, disorders of fluid, electrolyte and acid-base balance (E86–E87)	86	78	1.1026	74	74	1.0000	81	90	0.9000
All other endocrine, nutritional and metabolic diseases (E00–E32,E34.0–E34.2, E34.4–E34.9,E65–E83,E85,E88)	152	143	1.0629	142	152	0.9342	164	166	0.9880
Diseases of the nervous system (G00–G98)	424	400	1.0600	376	382	0.9843	356	360	0.9889

See footnotes at end of table.

Table III. Ratios of preliminary to final reported numbers of deaths from 130 selected causes of infant death: United States, 2001–03—Con.

[For explanation of asterisks (*) preceding cause-of-death codes, see “Technical Notes”]

Cause of death (Based on the <i>International Classification of Diseases, Tenth Revision, 1992</i>)	Preliminary number of deaths 2003	Final number of deaths 2003	Ratio of preliminary to final 2003	Preliminary number of deaths 2002	Final number of deaths 2002	Ratio of preliminary to final 2002	Preliminary number of deaths 2001	Final number of deaths 2001	Ratio of preliminary to final 2001
Meningitis (G00,G03)	69	77	0.8961	71	74	0.9595	72	78	0.9231
Infantile spinal muscular atrophy, type I (Werdnig-Hoffman) (G12.0)	21	18	1.1667	24	25	0.9600	19	21	0.9048
Infantile cerebral palsy (G80)	14	11	1.2727	9	9	1.0000	19	19	1.0000
Anoxic brain damage, not elsewhere classified (G93.1)	51	50	1.0200	41	39	1.0513	27	26	1.0385
Other diseases of nervous system (G04,G06–G11,G12.1–G12.9,G20–G72,G81–G92,G93.0,G93.2–G93.9,G95–G98)	268	244	1.0984	231	235	0.9830	219	216	1.0139
Diseases of the ear and mastoid process (H60–H93)	5	8	0.6250	4	6	0.6667	1	3	0.3333
Diseases of the circulatory system (I00–I99)	834	591	1.4112	649	667	0.9730	637	622	1.0241
Pulmonary heart disease and diseases of pulmonary circulation (I26–I28)	361	132	2.7348	177	186	0.9516	173	170	1.0176
Pericarditis, endocarditis and myocarditis (I30,I33,I40)	22	26	0.8462	19	22	0.8636	23	21	1.0952
Cardiomyopathy (I42)	129	126	1.0238	115	118	0.9746	128	137	0.9343
Cardiac arrest (I46)	21	20	1.0500	36	34	1.0588	27	24	1.1250
Cerebrovascular diseases (I60–I69)	111	101	1.0990	121	117	1.0342	121	108	1.1204
All other diseases of circulatory system (I00–I25,I31,I34–I38,I44–I45,I47–I51,I70–I99)	189	186	1.0161	181	190	0.9526	165	162	1.0185
Diseases of the respiratory system (J00–J98)	671	699	0.9599	586	636	0.9214	692	696	0.9943
Acute upper respiratory infections (J00–J06)	8	14	0.5714	8	9	0.8889	8	9	0.8889
Influenza and pneumonia (J10–J18)	314	322	0.9752	232	263	0.8821	290	299	0.9699
Influenza (J10–J11)	30	31	0.9677	7	7	1.0000	9	7	1.2857
Pneumonia (J12–J18)	284	291	0.9759	226	256	0.8828	281	292	0.9623
Acute bronchitis and acute bronchiolitis (J20–J21)	51	53	0.9623	45	49	0.9184	54	49	1.1020
Bronchitis, chronic and unspecified (J40–J42)	19	20	0.9500	20	24	0.8333	27	21	1.2857
Asthma (J45–J46)	6	7	0.8571	2	4	0.5000	9	10	0.9000
Pneumonitis due to solids and liquids (J69)	12	13	0.9231	2	2	1.0000	11	12	0.9167
Other and unspecified diseases of respiratory system (J22,J30–J39,J43–J44,J47–J68,J70–J98)	260	270	0.9630	276	285	0.9684	292	296	0.9865
Diseases of the digestive system (K00–K92)	567	551	1.0290	482	509	0.9470	488	478	1.0209
Gastritis, duodenitis, and noninfective enteritis and colitis (K29,K50–K55)	317	310	1.0226	251	268	0.9366	250	246	1.0163
Hernia of abdominal cavity and intestinal obstruction without hernia (K40–K46,K56)	68	65	1.0462	46	50	0.9200	63	62	1.0161
All other and unspecified diseases of digestive system (K00–K28,K30–K38,K57–K92)	182	176	1.0341	185	191	0.9686	175	170	1.0294
Diseases of the genitourinary system (N00–N98)	185	206	0.8981	183	187	0.9786	166	157	1.0573
Renal failure and other disorders of kidney (N17–N19,N25,N27)	151	170	0.8882	162	165	0.9818	132	125	1.0560
Other and unspecified diseases of genitourinary system (N00–N15,N20–N23,N26,N28–N98)	34	36	0.9444	21	22	0.9545	34	32	1.0625
Certain conditions originating in the perinatal period (P00–P96)	14,173	14,254	0.9943	13,987	14,106	0.9916	13,748	13,734	1.0010
Newborn affected by maternal factors and by complications of pregnancy, labor and delivery (P00–P04)	3,186	3,166	1.0063	3,058	3,063	0.9984	2,768	2,832	0.9774
Newborn affected by maternal hypertensive disorders (P00.0)	69	69	1.0000	68	71	0.9577	61	60	1.0167
Newborn affected by other maternal conditions which may be unrelated to present pregnancy (P00.1–P00.9)	80	83	0.9639	68	76	0.8947	61	70	0.8714
Newborn affected by maternal complications of pregnancy (P01)	1,734	1,710	1.0140	1,723	1,708	1.0088	1,451	1,499	0.9680
Newborn affected by incompetent cervix (P01.0)	437	444	0.9842	486	475	1.0232	396	403	0.9826
Newborn affected by premature rupture of membranes (P01.1)	744	731	1.0178	764	764	1.0000	642	663	0.9683
Newborn affected by multiple pregnancy (P01.5)	319	305	1.0459	254	252	1.0079	256	270	0.9481
Newborn affected by other maternal complications of pregnancy (P01.2–P01.4,P01.6–P01.9)	233	230	1.0130	219	217	1.0092	156	163	0.9571

See footnotes at end of table.

Table III. Ratios of preliminary to final reported numbers of deaths from 130 selected causes of infant death: United States, 2001–03—Con.

[For explanation of asterisks (*) preceding cause-of-death codes, see "Technical Notes"]

Cause of death (Based on the <i>International Classification of Diseases, Tenth Revision, 1992</i>)	Preliminary number of deaths 2003	Final number of deaths 2003	Ratio of preliminary to final 2003	Preliminary number of deaths 2002	Final number of deaths 2002	Ratio of preliminary to final 2002	Preliminary number of deaths 2001	Final number of deaths 2001	Ratio of preliminary to final 2001
Newborn affected by complications of placenta, cord and membranes (P02)	1,112	1,099	1.0118	1,017	1,028	0.9893	1,012	1,018	0.9941
Newborn affected by complications involving placenta (P02.0–P02.3)	610	597	1.0218	508	512	0.9922	525	520	1.0096
Newborn affected by complications involving cord (P02.4–P02.6)	42	41	1.0244	54	55	0.9818	53	51	1.0392
Newborn affected by chorioamnionitis (P02.7)	457	458	0.9978	453	460	0.9848	434	447	0.9709
Newborn affected by other and unspecified abnormalities of membranes (P02.8–P02.9)	3	3	1.0000	1	1	1.0000	–	–	...
Newborn affected by other complications of labor and delivery (P03)	161	163	0.9877	151	144	1.0486	148	148	1.0000
Newborn affected by noxious influences transmitted via placenta or breast milk (P04)	31	42	0.7381	31	36	0.8611	37	37	1.0000
Disorders related to length of gestation and fetal malnutrition (P05–P08)	4,905	4,912	0.9986	4,673	4,714	0.9913	4,496	4,473	1.0051
Slow fetal growth and fetal malnutrition (P05)	60	63	0.9524	75	77	0.9740	62	63	0.9841
Disorders related to short gestation and low birth weight, not elsewhere classified (P07)	4,844	4,849	0.9990	4,598	4,637	0.9916	4,434	4,410	1.0054
Extremely low birth weight or extreme immaturity (P07.0,P07.2)	3,668	3,683	0.9959	3,531	3,543	0.9966	3,331	3,316	1.0045
Other low birth weight or preterm (P07.1,P07.3)	1,177	1,166	1.0094	1,067	1,094	0.9753	1,103	1,094	1.0082
Disorders related to long gestation and high birth weight (P08)	–	–	...	–	–	...	–	–	...
Birth trauma (P10–P15)	28	26	1.0769	348	345	1.0087	138	145	0.9517
Intrauterine hypoxia and birth asphyxia (P20–P21)	567	558	1.0161	578	583	0.9914	548	534	1.0262
Intrauterine hypoxia (P20)	113	109	1.0367	106	110	0.9636	124	120	1.0333
Birth asphyxia (P21)	454	449	1.0111	472	473	0.9979	424	414	1.0242
Respiratory distress of newborn (P22)	819	831	0.9856	958	943	1.0159	1,016	1,011	1.0049
Other respiratory conditions originating in the perinatal period (P23–P28)	1,221	1,217	1.0033	1,205	1,245	0.9679	1,523	1,503	1.0133
Congenital pneumonia (P23)	76	78	0.9744	71	78	0.9103	73	72	1.0139
Neonatal aspiration syndromes (P24)	54	56	0.9643	50	54	0.9259	72	71	1.0141
Interstitial emphysema and related conditions originating in the perinatal period (P25)	160	151	1.0596	157	164	0.9573	210	204	1.0294
Pulmonary hemorrhage originating in the perinatal period (P26)	168	163	1.0307	189	191	0.9895	277	279	0.9928
Chronic respiratory disease originating in the perinatal period (P27)	252	262	0.9618	311	314	0.9904	332	310	1.0710
Atelectasis (P28.0–P28.1)	450	441	1.0204	387	400	0.9675	495	501	0.9880
All other respiratory conditions originating in the perinatal period (P28.2–P28.9)	62	66	0.9394	40	44	0.9091	64	66	0.9697
Infections specific to the perinatal period (P35–P39)	958	967	0.9907	927	948	0.9778	865	869	0.9954
Bacterial sepsis of newborn (P36)	766	772	0.9922	734	749	0.9800	694	696	0.9971
Omphalitis of newborn with or without mild hemorrhage (P38)	4	4	1.0000	1	1	1.0000	3	3	1.0000
All other infections specific to the perinatal period (P35,P37,P39)	188	191	0.9843	192	198	0.9697	168	170	0.9882
Hemorrhagic and hematological disorders of newborn (P50–P61)	745	746	0.9987	492	509	0.9666	603	600	1.0050
Neonatal hemorrhage (P50–P52,P54)	648	649	0.9985	374	387	0.9664	455	453	1.0044
Hemorrhagic disease of newborn (P53)	–	–	...	–	1	–	–	–	...
Hemolytic disease of newborn due to isoimmunization and other perinatal jaundice (P55–P59)	10	10	1.0000	18	19	0.9474	14	14	1.0000
Hematological disorders (P60–P61)	87	87	1.0000	100	102	0.9804	134	133	1.0075
Syndrome of infant of a diabetic mother and neonatal diabetes mellitus (P70.0–P70.2)	5	7	0.7143	8	10	0.8000	7	7	1.0000
Necrotizing enterocolitis of newborn (P77)	397	405	0.9802	348	352	0.9886	389	380	1.0237
Hydrops fetalis not due to hemolytic disease (P83.2)	190	188	1.0106	187	192	0.9740	165	166	0.9940
Other perinatal conditions (P29,P70.3–P76,P78–P81,P83.0–P83.1,P83.3–P96)	1,153	1,231	0.9366	1,205	1,202	1.0025	1,230	1,214	1.0132
Congenital malformations, deformations and chromosomal abnormalities (Q00–Q99)	5,714	5,621	1.0165	5,655	5,623	1.0057	5,608	5,513	1.0172
Anencephaly and similar malformations (Q00)	330	334	0.9880	304	297	1.0236	269	263	1.0228

See footnotes at end of table.

Table III. Ratios of preliminary to final reported numbers of deaths from 130 selected causes of infant death: United States, 2001–03—Con.

[For explanation of asterisks (*) preceding cause-of-death codes, see “Technical Notes”]

Cause of death (Based on the <i>International Classification of Diseases, Tenth Revision, 1992</i>)	Preliminary number of deaths 2003	Final number of deaths 2003	Ratio of preliminary to final 2003	Preliminary number of deaths 2002	Final number of deaths 2002	Ratio of preliminary to final 2002	Preliminary number of deaths 2001	Final number of deaths 2001	Ratio of preliminary to final 2001
Congenital hydrocephalus (Q03)	97	101	0.9604	90	90	1.0000	106	105	1.0095
Spina bifida (Q05)	10	11	0.9091	20	20	1.0000	20	19	1.0526
Other congenital malformations of nervous system (Q01–Q02,Q04,Q06–Q07)	334	319	1.0470	293	286	1.0245	292	286	1.0210
Congenital malformations of heart (Q20–Q24)	1,507	1,445	1.0429	1,508	1,510	0.9987	1,570	1,556	1.0090
Other congenital malformations of circulatory system (Q25–Q28)	239	237	1.0084	217	223	0.9731	188	192	0.9792
Congenital malformations of respiratory system (Q30–Q34)	641	619	1.0355	639	638	1.0016	602	594	1.0135
Congenital malformations of digestive system (Q35–Q45)	92	94	0.9787	99	103	0.9612	106	106	1.0000
Congenital malformations of genitourinary system (Q50–Q64)	338	332	1.0181	354	351	1.0085	363	356	1.0197
Congenital malformations and deformations of musculoskeletal system, limbs and integument (Q65–Q85)	509	548	0.9288	472	460	1.0261	488	477	1.0231
Down’s syndrome (Q90)	115	116	0.9914	119	118	1.0085	126	119	1.0588
Edward’s syndrome (Q91.0–Q91.3)	474	469	1.0107	505	494	1.0223	460	446	1.0314
Patau’s syndrome (Q91.4–Q91.7)	284	274	1.0365	306	295	1.0373	284	276	1.0290
Other congenital malformations and deformations (Q10–Q18,Q86–Q89)	547	526	1.0399	542	548	0.9891	540	526	1.0266
Other chromosomal abnormalities, not elsewhere classified (Q92–Q99)	197	196	1.0051	189	190	0.9947	192	192	1.0000
Symptoms, signs and abnormal clinical and laboratory findings, not elsewhere classified (R00–R99)	3,477	3,318	1.0479	3,702	3,456	1.0712	3,675	3,491	1.0527
Sudden infant death syndrome (R95)	1,994	2,162	0.9223	2,035	2,295	0.8867	1,972	2,234	0.8827
Other symptoms, signs and abnormal clinical and laboratory findings, not elsewhere classified (R00–R53,R55–R94,R96–R99)	1,483	1,156	1.2829	1,667	1,161	1.4358	1,703	1,257	1.3548
All other diseases (Residual)	32	17	1.8824	26	24	1.0833	20	19	1.0526
External causes of mortality (*U01,V01–Y84)	1,324	1,376	0.9622	1,261	1,365	0.9238	1,320	1,417	0.9315
Accidents (unintentional injuries) (V01–X59)	928	945	0.9820	893	946	0.9440	912	976	0.9344
Transport accidents (V01–V99)	150	148	1.0135	129	127	1.0157	142	151	0.9404
Motor vehicle accidents (V02–V04,V09.0,V09.2,V12–V14,V19.0–V19.2,V19.4–V19.6,V20–V79,V80.3–V80.5,V81.0–V81.1,V82.0–V82.1,V83–V86,V87.0–V87.8,V88.0–V88.8,V89.0,V89.2)	147	145	1.0138	124	123	1.0081	134	142	0.9437
Other and unspecified transport accidents (V01,V05–V06,V09.1,V09.3–V09.9,V10–V11,V15–V18,V19.3,V19.8,V19.9,V80.0–V80.2,V80.6–V80.9,V81.2–V81.9,V82.2–V82.9,V87.9,V88.9,V89.1,V89.3,V89.9,V90–V99)	3	3	1.0000	5	4	1.2500	7	9	0.7778
Falls (W00–W19)	13	14	0.9286	24	16	1.5000	23	23	1.0000
Accidental discharge of firearms (W32–W34)	–	–	...	1	1	1.0000	–	–	...
Accidental drowning and submersion (W65–W74)	57	58	0.9828	61	63	0.9683	69	68	1.0147
Accidental suffocation and strangulation in bed (W75)	409	418	0.9785	380	425	0.8941	347	390	0.8897
Other accidental suffocation and strangulation (W76–W77,W81–W84)	138	140	0.9857	147	150	0.9800	151	162	0.9321
Accidental inhalation and ingestion of food or other objects causing obstruction of respiratory tract (W78–W80)	56	61	0.9180	51	61	0.8361	56	62	0.9032
Accidents caused by exposure to smoke, fire and flames (X00–X09)	32	30	1.0667	35	36	0.9722	52	50	1.0400
Accidental poisoning and exposure to noxious substances (X40–X49)	16	20	0.8000	27	26	1.0385	15	15	1.0000
Other and unspecified accidents (W20–W31,W35–W64,W85–W99,X10–X39,X50–X59)	56	56	1.0000	38	41	0.9268	59	55	1.0727

See footnotes at end of table.

Table III. Ratios of preliminary to final reported numbers of deaths from 130 selected causes of infant death: United States, 2001–03—Con.

[For explanation of asterisks (*) preceding cause-of-death codes, see "Technical Notes"]

Cause of death (Based on the <i>International Classification of Diseases, Tenth Revision, 1992</i>)	Preliminary number of deaths 2003	Final number of deaths 2003	Ratio of preliminary to final 2003	Preliminary number of deaths 2002	Final number of deaths 2002	Ratio of preliminary to final 2002	Preliminary number of deaths 2001	Final number of deaths 2001	Ratio of preliminary to final 2001
Assault (homicide). (*U01,X85–Y09)	318	341	0.9326	274	303	0.9043	310	332	0.9337
Assault (homicide) by hanging, strangulation and suffocation (X91)	41	39	1.0513	28	32	0.8750	30	40	0.7500
Assault (homicide) by discharge of firearms (*U01.4,X93–X95)	7	8	0.8750	9	9	1.0000	11	11	1.0000
Neglect, abandonment and other maltreatment syndromes (Y06–Y07)	94	100	0.9400	85	98	0.8673	115	116	0.9914
Assault (homicide) by other and unspecified means (*U01.0–*U01.3, *U01.5–*U01.9,X85–X90,X92,X96–X99,Y00–Y05,Y08–Y09)	176	194	0.9072	152	164	0.9268	154	165	0.9333
Complications of medical and surgical care (Y40–Y84)	12	15	0.8000	14	15	0.9333	24	26	0.9231
Other external causes and their sequelae (X60–X84,Y10–Y36)	65	75	0.8667	80	101	0.7921	74	83	0.8916

– Quantity zero.

... Category not applicable.

SOURCE: Preliminary and final data from the National Vital Statistics System, National Center for Health Statistics.

deformations, and chromosomal abnormalities were overestimated by 1.7 percent in 2001, 0.6 percent in 2002, and 1.7 percent in 2003. Unintentional injuries and SIDS were underestimated in the preliminary data for each of the 3 years with unintentional injuries being underestimated between 1.9 percent and 6.6 percent and SIDS between 7.8 percent and 11.7 percent (Table III).

Tabulation lists and cause-of-death ranking

Tabulation lists for ICD-10 are published in the *NCHS Instruction Manual, Part 9, ICD-10 Cause-of-Death Lists for Tabulating Mortality Statistics*, Updated October 2002 (33). For this report two tabulation lists are used, namely, the List of 113 Selected Causes of Death used for deaths of all ages, and the List of 130 Selected Causes of Infant Death used for infants. These lists are also used to rank leading causes of death for the two population groups (34). For the List of 113 Selected Causes of Death, the group titles Major cardiovascular diseases (ICD-10 codes I00-I78) and Symptoms, signs, and abnormal clinical and laboratory findings, not elsewhere classified (ICD-10 codes R00-R99) are not ranked. In addition, category titles that begin with the words "Other" and "All other" are not ranked to determine the leading causes of death. When one of the titles that represents a subtotal is ranked (for example, Tuberculosis (ICD-10 codes A16-A19)), its component parts are not ranked (in this case, Respiratory tuberculosis (ICD-10 code A16) and Other tuberculosis (ICD-10 codes A17-A19)). For the List of 130 Selected Causes of Infant Death, the same ranking procedures are used, except that the category Major cardiovascular diseases is not in the list.

Infant mortality

The infant mortality rate is the most commonly used index for measuring the risk of dying during the first year of life. The rates presented in this report are calculated by dividing the preliminary number of infant deaths that occurred during 2004 by the number of live births for the same period and are presented as rates per 1,000 or per 100,000 live births. For preliminary birth figures used in the denominator for infant mortality rates, see "Births: Preliminary Data for 2004" (35). In contrast to infant mortality rates based on live births, infant death rates are based on the estimated population under 1 year of age (Table 1). Infant death rates that appear in tabulations of age-specific death rates in this report are calculated by dividing the number of infant deaths in 2004 by the estimated population of persons under 1 year of age on July 1, 2004, and are presented as rates per 100,000 population in this age group. Because of differences in the denominators, infant death rates may differ from infant mortality rates. Information on infant deaths can also be obtained from a file where the infant's death certificate is linked to the birth certificate. The linked birth/infant death data set (linked file) is a better source of data for infant deaths and mortality rates by race and ethnicity because the race of the mother as reported by the mother from the birth certificate is used in both the numerator and denominator of the infant mortality rate. In contrast, for the vital statistics mortality rate—the more "traditional" source of infant mortality data—race information for the denominator is the race of the mother as reported on the birth certificate, but the race information for the numerator is the race of the decedent as reported on the death

certificate. Race information reported on the birth certificate is considered to be more accurate than that on the death certificate, because on the birth certificate, the race of each parent is usually reported by the mother at the time of delivery, whereas on the death certificate, race of the deceased infant is reported by the funeral director based on information provided by an informant or on observation. This difference in the method of reporting race data has a larger impact for races other than white and black and can lead to differences in race-specific infant mortality rates between the two data sources (36,25).

Life tables

The period life table provides a measure of the effect of current mortality on life expectancy. It is composed of sets of values showing the mortality experience of a hypothetical group of infants born at the same time and subject throughout their lifetime to the age-specific death rates of a particular time period, usually a given year. Beginning with final data reported for 1997, the life table methodology was changed from previous annual reports. Previously, U.S. life tables were abridged and constructed by reference to a standard table (37). In addition, the age range for these life tables was limited to 5 year age groups ending with the age group 85 years and over.

Beginning with 1997 mortality data, a revised life table methodology was used to construct complete life tables by single years of age that extend to age 100 (38) using a methodology similar to that of the decennial life tables (39). The advantages of the new methodology over the previous methodology are its comparability with decennial life table methodology, greater accuracy, and greater age detail. A comparison of the two methods shows small differences in resulting values for life expectancy (38). Although the new method produces complete life tables, that is, life tables by single years of age, life table data shown in this report are summarized in 5 year age groupings. Life expectancy by age is shown in Table 6. To calculate the probability of dying at each age, the revised methodology uses vital statistics death rates for ages under 85 years and mortality data from the Medicare program for ages over 85 years. Medicare data were used to model the probability of dying at ages 85 years and over because the data are shown to be significantly more reliable than vital statistics data at the oldest ages (40).

The life tables presented in this report are based on a slight modification of the new life table method introduced in 1997. This modification was necessitated by a change in the age detail of populations received from the U.S. Census Bureau. Populations for 2003 and 2004 were provided by single years of age up to age 84, followed by "85 and over," and as a result it was not possible to apply the same smoothing technique that has been used when population figures in single years of age up to ages "100 years and over" were available (38). Accordingly, Medicare data were used to estimate the probability of dying by single years of age for ages up to "100 years and over."

Population denominators

The rates in this report use population estimates based on the 2000 census and estimated as of July 1, 2003, and July 1, 2004. National rates for 2004 and state rates for 2003 and 2004 are based on population estimates published in 2004, which incorporate infor-

mation not included in the earlier (2001 and 2002) estimates. These population estimates are available on the NCHS home page (41,42).

The population estimates have been produced under a collaborative arrangement with the U.S. Census Bureau and are based on the 2000 census counts. Reflecting the new guidelines issued in 1997 by the Office of Management and Budget (OMB), the 2000 census included an option for individuals to report more than one race as appropriate for themselves and household members (16). In addition, the 1997 OMB guidelines called for reporting of Asian persons separately from Native Hawaiians or Other Pacific Islanders. In the 1977 OMB guidelines, data for Asian or Pacific Islander persons were collected as a single group (12). Death certificates for 35 states and the District of Columbia currently collect only one race in the same categories as specified in the 1977 OMB guidelines (see section "2003 revision of the U.S. Standard Certificate of Death" in the "Technical Notes"). In addition, those death certificate data do not report Asians separately from Native Hawaiians or Other Pacific Islanders. The death certificate data by race (the numerators for death rates) are thus incompatible for most states with the population data collected in the 2000 census (the denominators for the rates).

In order to produce national death rates for 2003 and 2004, it was necessary to "bridge" the reported population data for multiple-race persons back to single-race categories. In addition, the census counts were modified to be consistent with the 1977 OMB race categories; that is, to report the data for Asian persons and Native Hawaiians or Other Pacific Islanders as a combined category, Asian or Pacific Islanders, and to reflect age as of the census reference date. The procedures used to produce the "bridged" populations are described in separate publications (14,15). It is anticipated that "bridged" data will be used over the next few years for computing population-based rates. As more states collect data on race according to the 1997 OMB guidelines (16), it is expected that use of the "bridged" populations can be discontinued.

Computing rates and percentages

Except for infant mortality rates, death rates are on an annual basis per 1,000 or per 100,000 estimated population residing in the specified area. Infant mortality rates are per 1,000 or per 100,000 live births.

Age-adjusted death rates (R') are used to compare relative mortality risks among groups and over time. However, they should be viewed as relative indexes rather than as actual measures of mortality risk. They were computed by the direct method; that is, by applying age-specific death rates (R_i) to the U.S. standard population (relative age distribution of year 2000 projected population of the United States). See formula for age-adjusted death rate, and table of U.S. standard population below:

$$R' = \sum_i \frac{P_{si}}{P_s} R_i$$

where

P_{si} = standard population for age group i

P_s = total U.S. standard population (all ages combined—see next column)

United States standard population

Age	Population
All ages	274,633,642
Under 1 year	3,794,901
1–4 years	15,191,619
5–14 years	39,976,619
15–24 years	38,076,743
25–34 years	37,233,437
35–44 years	44,659,185
45–54 years	37,030,152
55–64 years	23,961,506
65–74 years	18,135,514
75–84 years	12,314,793
85 years and over	4,259,173

Age-adjusted death rates for injury at work were computed by applying the age-specific death rates to the U.S. standard population for ages 15 years and over. The year 2000 standard population used for computing age-adjusted rates and standard errors for injury at work is shown below:

United States standard population for ages 15 years and over

Age	Population
15 years and over	215,670,503
15–24 years	38,076,743
25–34 years	37,233,437
35–44 years	44,659,185
45–54 years	37,030,152
55–64 years	23,961,506
65 years and over	34,709,480

Age-adjusted rates for Puerto Rico, Virgin Islands, Guam, American Samoa, and Northern Marianas were computed by applying the age-specific death rates to the U.S. standard population. Age groups for 75 years and over were combined because population counts were unavailable by single year of age for ages over 79 years. The year 2000 standard population used for computing age-adjusted rates and standard errors for the territories is shown below:

United States standard population for the territories

Age	Population
All ages	274,633,642
Under 1 year	3,794,901
1–4 years	15,191,619
5–14 years	39,976,619
15–24 years	38,076,743
25–34 years	37,233,437
35–44 years	44,659,185
45–54 years	37,030,152
55–64 years	23,961,506
65–74 years	18,135,514
75 years and over	16,573,966

Effective with 1999 data, the standard population was changed from 1940 to the year 2000 population in accordance with new statistical policy promulgated by the Secretary of the U.S. Department of Health and Human Services in August 1998 (43). The new population standard affects levels of mortality and to some extent trends and group comparisons. Of particular note are the effects on race comparison of mortality. For detailed discussion see "Age Standardization of Death Rates: Implementation of the Year 2000 Standard" (43). Beginning with 2003 data, the traditional standard million population along with corresponding standard weights to six decimal places were replaced by the projected year 2000 population age distribution. The effect of the change is negligible and does not significantly affect comparability with age-adjusted rates calculated using the previous method.

Death rates for the Hispanic population are based only on events to persons reported as Hispanic. Rates for non-Hispanic white persons are based on the sum of all events to white decedents reported as non-Hispanic and white decedents with origin not stated. Likewise, rates for non-Hispanic black persons are based on the sum of all events to black decedents reported as non-Hispanic and black decedents with origin not stated. Hispanic origin is not imputed if it is not reported. For calculating death rates, deaths with age not stated are not distributed. The number of deaths with age not stated was 426, or less than 0.02 percent of all deaths.

An asterisk (*) indicates that the figure does not meet standards of reliability or precision. In this report three sets of criteria determine whether a figure meets these standards:

- The state-specific sample is complete enough to provide reliable estimates. For this report, a criterion of at least 75 percent of a state's records (demographic file) for the 12-month period is used as a basis for providing state-specific estimates (see Table I). For 2004, the demographic mortality files contained less than 34.8 percent of their records for Illinois, 45.3 percent for California, and 62.1 percent for New Jersey (see Table I). Data for Illinois, California, and New Jersey are included in U.S. totals, but are not shown separately (Table 3).
- Reporting for any particular variable is at least 80 percent complete. In this report, no data were suppressed based on this criterion.
- A rate or percentage is based on at least 20 deaths. Rates based on fewer than 20 deaths have a relative standard error (RSE) of about 23 percent or more and, therefore, are considered highly variable. For age-adjusted death rates, this criterion is applied to the sum of the age-specific deaths. However, some death rates (based on data files that are less than 100 percent complete and based on 20 to 31 deaths) may have RSEs of 23 percent or more but are still shown instead of asterisks (*). As a result, caution should be exercised in analyzing rates based on 20 to 31 events. Additional information on random variation in numbers of events, rates, ratios, and percentages may be found in the following section on "Reliability of estimates."

Reliability of estimates

Because the preliminary estimates of deaths in this report are based on files that may not be complete, they are subject to sampling variability. This notion is reflected in the fact that record weights are used to adjust record counts to independent control totals. The lack

of completeness of the vital statistics files is due to delays in receiving and processing the death records. Although the proportion of records making up the preliminary file does not constitute a veritable random sample, for the sake of convenience we treat the variability associated with this error (sampling variability) as if it were from a random sample.

Even where the number of vital events in this report is 100 percent complete and not subject to sampling variability, it might be affected by random variation. Thus, when the number of events is small and the probability of such an event is small, considerable caution must be observed in interpreting the data. Such infrequent events may be assumed to follow a Poisson probability distribution. The first column of Table IV shows the estimated RSEs of a file that is nearly 100 percent complete.

Data in a file that is less than 100 percent complete are affected by sampling variation as well as by random variation. The estimated RSEs in columns 2–6 of Table IV for various levels of file completeness are measures of the sampling errors and the random errors of the estimates. They do not include nonsampling error.

The estimated RSEs in Table IV were computed using this formula:

$$1. \text{ RSE} = 100 \sqrt{\frac{1}{\bar{X}} + \frac{(1-f)(N-X)}{\bar{f}X(N-(1/f))}}$$

where

f = the sampling fraction or the percentage of file completeness/100 from Table I. For mortality data based on deaths under 1 year of age, use the f for "infant deaths" for either the demographic or medical file as appropriate. For mortality data based on all ages combined or any age group that is 1 year and over, use the f for "deaths 1 year of age and over" for either the demographic or medical files as appropriate.

X = the estimated number of infant deaths or deaths.

N = the total count of infant deaths or deaths for the United States or any state. (NOTE: The RSEs shown in Table IV are based on $N = 4,000,000$. If N is smaller, the RSEs may be slightly smaller than those shown.)

RSEs may be used to compute 95-percent confidence intervals for the number of events (X), for a rate (R), or for a percentage (P) and to compute statistical tests concerning the equality of two rates (R_1 and R_2) or two percentages (P_1 and P_2).

For the number of deaths, the 95-percent confidence interval may be computed as follows:

$$2. \text{ Lower limit: } X_1 - \left(1.96 \cdot X_1 \cdot \frac{\text{RSE}(X_1)}{100} \right)$$

$$3. \text{ Upper limit: } X_1 + \left(1.96 \cdot X_1 \cdot \frac{\text{RSE}(X_1)}{100} \right)$$

As a hypothetical example, assume the number of deaths, X_1 , is 70 from a file with 80-percent completeness. Then

$$\text{Lower limit: } 70 - \left(1.96 \cdot 70 \cdot \frac{13.4}{100} \right) = 51.6$$

Table IV. Relative standard errors for preliminary number of deaths by percentage of file completeness

[Relative standard errors are expressed as a percentage of the estimate]

Estimated number of deaths	Percent of file completeness					
	100	95	90	80	70	60
	Relative standard error (percent)					
1	100.0	102.6	105.4	111.8	119.5	129.1
5	44.7	45.9	47.1	50.0	53.5	57.7
10	31.6	32.4	33.3	35.4	37.8	40.8
20	22.4	22.9	23.6	25.0	26.7	28.9
30	18.3	18.7	19.2	20.4	21.8	23.6
40	15.8	16.2	16.7	17.7	18.9	20.4
50	14.1	14.5	14.9	15.8	16.9	18.3
60	12.9	13.2	13.6	14.4	15.4	16.7
70	12.0	12.3	12.6	13.4	14.3	15.4
80	11.2	11.5	11.8	12.5	13.4	14.4
90	10.5	10.8	11.1	11.8	12.6	13.6
100	10.0	10.3	10.5	11.2	12.0	12.9
200	7.1	7.3	7.5	7.9	8.5	9.1
300	5.8	5.9	6.1	6.5	6.9	7.5
400	5.0	5.1	5.3	5.6	6.0	6.5
500	4.5	4.6	4.7	5.0	5.3	5.8
600	4.1	4.2	4.3	4.6	4.9	5.3
700	3.8	3.9	4.0	4.2	4.5	4.9
800	3.5	3.6	3.7	4.0	4.2	4.6
900	3.3	3.4	3.5	3.7	4.0	4.3
1,000	3.2	3.2	3.3	3.5	3.8	4.1
2,000	2.2	2.3	2.4	2.5	2.7	2.9
5,000	1.4	1.5	1.5	1.6	1.7	1.8
10,000	1.0	1.0	1.1	1.1	1.2	1.3
20,000	0.7	0.7	0.7	0.8	0.8	0.9
50,000	0.4	0.5	0.5	0.5	0.5	0.6
100,000	0.3	0.3	0.3	0.4	0.4	0.4
200,000	0.2	0.2	0.2	0.2	0.3	0.3
500,000	0.1	0.1	0.1	0.2	0.2	0.2
1,000,000	0.1	0.1	0.1	0.1	0.1	0.1
2,000,000	0.1	0.1	0.1	0.1	0.1	0.1
4,000,000	0.1	0.1	0.1	0.1	0.1	0.1

$$\text{Upper limit: } 70 + \left(1.96 \cdot 70 \cdot \frac{13.4}{100} \right) = 88.4$$

This means that the chances are 95 times out of 100 that the confidence interval (51.6–88.4) will cover the “true” number of deaths.

For rates based on population estimates in the denominator, the 95-percent confidence interval may be computed as follows:

$$4. \text{ Lower limit: } R_1 - \left(1.96 \cdot R_1 \cdot \frac{RSE(R_1)}{100} \right)$$

$$5. \text{ Upper limit: } R_1 + \left(1.96 \cdot R_1 \cdot \frac{RSE(R_1)}{100} \right)$$

As a hypothetical example, assume the death rate, R_1 , is 20.0, which is based on 70 deaths from a file with 80-percent completeness. Then

$$\text{Lower limit: } 20.0 - \left(1.96 \cdot 20.0 \cdot \frac{13.4}{100} \right) = 14.7$$

$$\text{Upper limit: } 20.0 + \left(1.96 \cdot 20.0 \cdot \frac{13.4}{100} \right) = 25.3$$

This means that the chances are 95 times out of 100 that the confidence interval (14.7–25.3) will cover the “true” rate.

For age-adjusted death rates, R' , the 95-percent confidence interval may be computed as follows:

$$6. \text{ Lower limit: } R' - \left(1.96 \cdot R' \cdot \frac{RSE(R')}{100} \right)$$

$$7. \text{ Upper limit: } R' + \left(1.96 \cdot R' \cdot \frac{RSE(R')}{100} \right)$$

where

$$8. RSE(R') = 100 \sqrt{\frac{\sum_i \left(w_i^2 R_i^2 \left[\frac{1}{X_i} + \frac{(1-f_i)(N_i - X_i)}{f_i X_i \left(N_i - \frac{1}{f_i} \right)} \right] \right)}{R'^2}}$$

where

i = each age group where $i = 1$ for infant deaths, $i = 2$ for 1–4 years, $i = 3$ for 5–14 years, ... and $i = 11$ for 85 years and over.

R_i = age-specific rate for the i^{th} age group.

w_i = i^{th} age-specific U.S. standard population such that

$\sum w_i = 1.000000$ (see “Computing rates and percentages”).

- X_i = the estimated number of deaths for the i^{th} age group.
 N_i = the total count of deaths from Table I for each i^{th} age group (for infant deaths, use the count of records as shown; for all age groups 1–4 through 85 years and over, use the count of records as shown for deaths 1 year and over).
 f_i = percentage of file completeness/100 from Table I (for infant deaths, use the percentage completeness for the demographic or medical file as appropriate for deaths under age 1 year; for all age groups 1–4 through 85 years and over, use the percentage completeness for the demographic or medical file as appropriate for deaths 1 year and over).

For testing the equality of two rates, R_1 and R_2 , the following z-test may be used to define a significance test statistic:

$$9. z = \frac{R_1 - R_2}{\sqrt{R_1^2 \left(\frac{\text{RSE}(R_1)}{100}\right)^2 + R_2^2 \left(\frac{\text{RSE}(R_2)}{100}\right)^2}}$$

The two-tailed 0.95 critical value for a z statistic is 1.96. Therefore, if $|z| \geq 1.96$, the difference is significant at the 0.05 level. If $|z| < 1.96$, then the difference would be considered not statistically significant at the 0.05 level.

As a hypothetical example, assume R_1 is the same as the above example for the current 12-month period and that R_2 , 15.0, is based on 50 deaths occurring in the prior 12-month period (which implies that the file is approximately 100 percent complete for R_2). The z-test may be determined as follows:

$$z = \frac{20.0 - 15.0}{\sqrt{(20.0)^2 \left(\frac{13.4}{100}\right)^2 + (15.0)^2 \left(\frac{14.1}{100}\right)^2}} = 1.46$$

Because $|z| < 1.96$, there is not a statistically significant difference between the two rates at the 0.05 level of significance.

For rates or percentages based on denominators having random variation only or random and sampling variation, the RSE must take into account the variation in both the numerator and denominator. For example, for a rate, R_3 , based on the number of live births in the denominator, the RSE is computed as follows:

$$10. \text{RSE}(R_3) = 100 \sqrt{\left(\frac{\text{RSE}(D)}{100}\right)^2 + \left(\frac{\text{RSE}(B)}{100}\right)^2}$$

where

$\text{RSE}(D)$ = the RSE of the number of deaths, D

$\text{RSE}(B)$ = the RSE of the number of births, B

The 95-percent confidence interval of R_3 may be computed as follows:

$$11. \text{Lower limit: } R_3 - \left(1.96 \cdot R_3 \cdot \frac{\text{RSE}(R_3)}{100}\right)$$

$$12. \text{Upper limit: } R_3 + \left(1.96 \cdot R_3 \cdot \frac{\text{RSE}(R_3)}{100}\right)$$

As a hypothetical example, assume the infant mortality rate, R_3 , is 15.0, which is based on 30 infant deaths (D) from a file with 70-percent completeness and 2,000 live births (B) from a file with 80-percent completeness. Then

$$\text{RSE}(R_3) = 100 \sqrt{\left(\frac{21.8}{100}\right)^2 + \left(\frac{2.5}{100}\right)^2} = 21.9$$

$$\text{Lower limit: } 15.0 - \left(1.96 \cdot 15.0 \cdot \frac{21.9}{100}\right) = 8.6$$

$$\text{Upper limit: } 15.0 + \left(1.96 \cdot 15.0 \cdot \frac{21.9}{100}\right) = 21.4$$

This means the chances are 95 times out of 100 that the confidence interval (8.6–21.4) will cover the “true” rate. The same formulas are applicable to a percentage (P_1) that has variation in both the numerator and denominator. To compare the equality of two infant mortality rates or two percentages that have variation in both the numerator and denominator, the above-mentioned z-test may be used.

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