

## Deaths: Preliminary Data for 2002

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### Abstract

**Objectives**—This report presents preliminary data on deaths for the year 2002 in the United States. U.S. data on deaths are shown by age, sex, race, and Hispanic origin. Death rates for 2002 are based on population estimates consistent with the April 1, 2000, census. Data on life expectancy, leading causes of death, and infant mortality are also presented.

**Methods**—Data in this report are based on a large number of deaths comprising approximately 97 percent of the demographic file and 93 percent of the medical file for all deaths in the United States in 2002. The records are weighted to independent control counts of infant deaths and deaths 1 year of age and over received in State vital statistics offices for 2002. Unless otherwise indicated, comparisons are made with final data for 2001. For certain causes of death, preliminary data differ from final data because of the truncated nature of the preliminary file. These are, in particular, unintentional injuries, homicides, suicides, and respiratory diseases.

Populations were produced for the Centers for Disease Control and Prevention's National Center for Health Statistics under a collaborative arrangement with the U.S. Census Bureau. The populations reflect the results of the 2000 census. This census allowed people to report more than one race for themselves and their household members and also separated the category for Asian or Pacific Islander persons into two groups (Asian and Native Hawaiian or Other Pacific Islander). These changes reflected the Office of Management and Budget's (OMB) 1997 revisions to the standards for the classification of Federal data on race and ethnicity. Because only one race is currently reported in death certificate data, the 2000 census populations were "bridged" to the single race categories specified in OMB's 1977 guidelines for race and ethnic statistics in Federal reporting, which are still in use in the collection of vital statistics data.

**Results**—The age-adjusted death rate in 2002 for the United States decreased from 854.5 deaths per 100,000 population in 2001 to 846.8 in 2002. Declines in age-adjusted death rates occurred for Diseases of heart, Malignant neoplasms, Cerebrovascular diseases, Accidents (unintentional injuries), Chronic liver disease and cirrhosis, and Assault (homicide). The decrease in homicide reflects the effect of the terrorist attacks of September 11, 2001, on the rates for that year. Age-adjusted death rates also decreased for alcohol-induced deaths

between 2001 and 2002. Age-adjusted death rates increased between 2001 and 2002 for the following causes: Alzheimer's disease, Influenza and pneumonia, Essential (primary) hypertension and hypertensive renal disease, Septicemia, and Nephritis, nephrotic syndrome and nephrosis.

Life expectancy at birth rose by 0.2 years to a record high of 77.4 years. The infant mortality rate increased between 2001 and 2002, the first numerical increase in the infant mortality rate since 1957–58. However, supplemental analyses of fetal death records indicate that the perinatal mortality rate remained stable between 2001 and 2002.

**Keywords:** deaths • vital statistics • mortality • cause of death • life expectancy

### Introduction

This report presents preliminary mortality data based on vital records for a substantial proportion of deaths occurring in 2002. This report only includes data on deaths; reports previous to 1999 in the preliminary series included data for both births and deaths. Preliminary natality data for 2002 were published separately (1). Trends shown in preliminary reports for 1995–2001 deaths, for most measures, were confirmed by final statistics for each year (2–8).

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## Sources and Methods

### Data sources

Preliminary data in this report are based on records of deaths that occurred during the year 2002 and were received and processed by the Centers for Disease Control and Prevention's National Center for Health Statistics (NCHS) as of July 10, 2003. Compared with independent control counts of 2002 deaths received from State vital statistics offices, demographic information was available for an estimated 96 percent of infant deaths (under 1 year of age) and about 97 percent of deaths to persons aged 1 year and over. Medical or cause-of-death information was processed separately and was available for an estimated 92 percent of infant deaths and 93 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 1 year and over for 2002 received in the State vital statistics offices. Two separate sets of weights were applied to the death 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 and medical tables (see section on "Nature and sources of data" in the "Technical Notes"). Preliminary estimates are subject to sampling variation as well as random variation.

Cause of death is not always available when the preliminary data are sent to NCHS, but it 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 on "Bias estimation" 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. Race and Hispanic origin are reported as separate items on the death certificate. Data are shown for the following race and ethnic groups: white, non-Hispanic white, black, non-Hispanic black, American Indian, Asian or Pacific Islander (API), and Hispanic. Tabulations by race and ethnic group are based on the race and ethnic group reported for the decedent. Death rates for American Indian, API, and to a lesser extent, for Hispanics are known to be too low because of reporting problems (see section on "Race and Hispanic origin" in the "Technical Notes").

The proportion of records processed by each State is shown in [table I](#) in the "Technical Notes." Changes in death rates between 2001 and 2002 and differences in death rates across demographic groups for 2002 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."

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. 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 (9). In addition, the 1997 OMB guidelines called for reporting of Asian persons separately from Native Hawaiians or other Pacific Islanders. Under the prior OMB standards (issued in 1977), data for Asian or Pacific Islander persons were collected as a single group (10). Death certificates currently collect only one race for the decedent in the same categories as specified in the 1977 OMB guidelines. In addition, 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 currently incompatible with the population data collected in the 2000 census (the denominators for the rates). In order to produce death rates for 2001 and 2002, it was necessary to "bridge" the reported population data for multiple race persons back to single race categories. The 2000 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 (11). The procedures used to produce the "bridged" populations are described in separate publications (12,13). It is anticipated that "bridged" population data will be used over the next few years for computing population-based rates. Beginning with deaths occurring in 2003, some States will collect information on multiple race reporting. As States gradually begin to collect data on race according to the 1997 OMB guidelines, 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 American Indians (12). Over the next several years, additional information will be incorporated in the estimation procedures, possibly resulting in further revisions of the population estimates.

## Results

### Trends in numbers and rates

The preliminary number of deaths in the United States for 2002 was 2,447,864, representing an increase of 31,439 from the 2001 total. The crude death rate of 848.9 per 100,000 population was essentially the same as the rate of 848.5 per 100,000 in 2001. The estimated age-adjusted death rate, which accounts for changes in the age distribution of the population, reached a record low of 846.8 per 100,000 U.S. standard population, 0.9 percent lower than the 2001 rate of 854.5 ([table A](#)) (2). 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 on "Computing rates and percents" in the "Technical Notes").

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

**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 2001 and preliminary 2002**

[Race categories are consistent with the 1977 Office of Management and Budget guidelines]

Measure and sex	All races <sup>1</sup>		White		Black	
	2002	2001	2002	2001	2002	2001
All deaths . . . . .	2,447,864	2,416,425	2,107,730	2,079,691	289,431	287,709
Age-adjusted death rate <sup>2</sup> . . . . .	846.8	854.5	831.0	836.5	1,081.2	1,101.2
Male . . . . .	1,015.3	1,029.1	995.1	1,006.1	1,338.4	1,375.0
Female . . . . .	716.7	721.8	703.2	706.7	900.4	912.5
Life expectancy at birth <sup>3</sup> . . . . .	77.4	77.2	77.8	77.7	72.5	72.2
Male . . . . .	74.7	74.4	75.3	75.0	68.9	68.6
Female . . . . .	79.9	79.8	80.3	80.2	75.7	75.5
All infant deaths . . . . .	27,977	27,568	18,390	17,955	8,446	8,498
Infant mortality rate <sup>4,5</sup> . . . . .	7.0	6.8	5.8	5.7	14.3	14.0

<sup>1</sup>Includes races other than white and black.<sup>2</sup>Age-adjusted death rates are per 100,000 U.S. standard population, based on the year 2000 standard; see "Technical Notes."<sup>3</sup>Life expectancy at birth stated in years.<sup>4</sup>Infant mortality rates are deaths under 1 year per 1,000 live births in specified group.<sup>5</sup>See text and Health E-Stats report at <http://www.cdc.gov/nchs> for additional information on the increase in the infant mortality rate.

(14,15). The preliminary age-adjusted death rate for 2002 was 0.9 percent lower than the 2001 final rate despite an influenza outbreak at the beginning of the year (16).

From 2001 to 2002, age-adjusted death rates decreased by 1.3 percent for males and by 0.7 percent for females. For white males and females, the age-adjusted death rate decreased 1.1 percent and 0.5 percent, respectively. Reductions in the age-adjusted death rate also occurred for non-Hispanic white males (0.8 percent), black males (2.7 percent), black females (1.3 percent), non-Hispanic black males (2.6 percent), non-Hispanic black females (1.3 percent), API males (3.5 percent), API females (3.8 percent), Hispanic males (4.6 percent), and Hispanic females (4.9 percent). American Indian males and females and non-Hispanic white females experienced no statistically significant change in age-adjusted death rates between 2001 and 2002 (table 1).

Among the major race and Hispanic origin groups, the lowest mortality was reported for the API, Hispanic, and American Indian populations, whose preliminary age-adjusted death rates were, respectively, 44 percent, 25 percent, and 19 percent lower than those for the non-Hispanic white population. In contrast, the age-adjusted death rate for the non-Hispanic black population was 31 percent higher than that for the non-Hispanic white population (table 1). However, mortality for races other than white and black may be seriously understated due to underreporting for some race groups and Hispanic origin on death certificates (17,18).

The general decrease in mortality between 2001 and 2002 resulted from decreases in the death rate for age groups 1–4 years, 25–34 years, 55–64 years, 65–74 years, and 85 years and over. No age groups had statistically significant increases in death rates between 2001 and 2002.

The preliminary estimate of life expectancy at birth for the total population in 2002 reached a record high of 77.4 years. This represents an increase of 0.2 years relative to 2001 (see tables A and 6). The gap between male and female life expectancy was 5.2 years in 2002, down from 5.4 years in 2001. The difference between male and female life expectancy at birth has been generally decreasing since its peak of 7.8 years in 1979 (19). Life expectancy for males increased by 0.3 years,

reaching a record 74.7 years. Female life expectancy increased by 0.1 year, increasing from 79.8 years to 79.9 years between 2001 and 2002. Record-high life expectancies were reached for white and black males (75.3 years and 68.9 years, respectively), as well as for white and black females (80.3 years and 75.7 years, respectively).

## Causes of death

The 15 leading causes of death in 2002 were 1) Diseases of heart; 2) Malignant neoplasms; 3) Cerebrovascular diseases; 4) Chronic lower respiratory diseases; 5) Accidents (unintentional injuries); 6) Diabetes mellitus; 7) Influenza and pneumonia; 8) Alzheimer's disease; 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) Pneumonitis due to solids and liquids; and 15) Assault (homicide) (table B). The 15 leading causes remained the same for 2001 and 2002, although homicide dropped from 13th to 15th due to the decrease in deaths from terrorist attacks which were included in the 2001 data (table C). Essential (primary) hypertension and hypertensive renal disease and Pneumonitis due to solids and liquids increased in rank from 14th and 15th to 13th and 14th.

The age-adjusted death rate declined for 6 of the 15 leading causes of death. From 2001 to 2002, the preliminary age-adjusted death rate for the leading cause of death, **Diseases of heart**, decreased by 3.0 percent. The age-adjusted death rate for **Malignant neoplasms** decreased by 1.0 percent (see tables B and 2). Deaths from these two diseases combined accounted for more than 1.2 million deaths, 51 percent of all deaths in 2002. While heart disease mortality has exhibited a downward trend since 1950, cancer mortality has declined only since 1990.

The preliminary age-adjusted death rate decreased for **Cerebrovascular diseases** by an estimated 2.8 percent. **Accidents (unintentional injuries)** decreased by 1.1 percent between 2001 and 2002 and **Chronic liver disease and cirrhosis** decreased by 2.1 percent. The 16.9 percent decrease in the age-adjusted death rate for **homicide**

**Table B. Deaths and death rates for 2002 and age-adjusted death rates and percent changes in age-adjusted rates from 2001 to 2002 for the 15 leading causes of death: United States, final 2001 and preliminary 2002**

[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 2002 are based on weighted data rounded to the nearest individual, so categories may not add to totals]

Rank <sup>1</sup>	Cause of death (Based on the <i>International Classification of Diseases, Tenth Revision, 1992</i> )	Number	Death rate	Age-adjusted death rate		
				2002	2001	Percent change
...	All causes	2,447,862	848.9	846.8	854.5	-0.9
1	Diseases of heart . . . . . (I00-I09,I11,I13,I20-I51)	695,754	241.3	240.4	247.8	-3.0
2	Malignant neoplasms . . . . . (C00-C97)	558,847	193.8	194.0	196.0	-1.0
3	Cerebrovascular diseases . . . . . (I60-I69)	163,010	56.5	56.3	57.9	-2.8
4	Chronic lower respiratory diseases . . . . . (J40-J47)	125,500	43.5	43.7	43.7	-
5	Accidents (unintentional injuries) . . . . . (V01-X59,Y85-Y86)	102,303	35.5	35.3	35.7	-1.1
6	Diabetes mellitus . . . . . (E10-E14)	73,119	25.4	25.4	25.3	0.4
7	Influenza and pneumonia . . . . . (J10-J18)	65,984	22.9	22.7	22.0	3.2
8	Alzheimer's disease . . . . . (G30)	58,785	20.4	20.2	19.1	5.8
9	Nephritis, nephrotic syndrome and nephrosis . . . . . (N00-N07,N17-N19,N25-N27)	41,018	14.2	14.2	14.0	1.4
10	Septicemia . . . . . (A40-A41)	33,881	11.7	11.7	11.4	2.6
11	Intentional self-harm (suicide) . . . . . (*U03,X60-X84,Y87.0)	30,646	10.6	10.6	10.7	-0.9
12	Chronic liver disease and cirrhosis . . . . . (K70,K73-K74)	27,045	9.4	9.3	9.5	-2.1
13	Essential (primary) hypertension and hypertensive renal disease . . . . . (I10,I12)	20,241	7.0	7.0	6.8	2.9
14	Pneumonitis due to solids and liquids . . . . . (J69)	17,693	6.1	6.1	6.1	-
15	Assault (homicide) . . . . . (*U01-*U02,X85-Y09,Y87.1)	17,045	5.9	5.9	7.1	-16.9
...	All other causes	416,991	144.6	...	...	...

- Quantity zero.

... Category not applicable.

<sup>1</sup>Rank based on number of deaths; see "Technical Notes."

**Table C. Numbers of deaths and age-adjusted death rates for homicide and injury at work: United States, final 2000-2001 and preliminary 2002**

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

Cause of death and measure	2002	2001 <sup>1</sup>	2000
Assault (homicide)			
Number of deaths . . . . .	17,045	20,308	16,765
Age-adjusted death rate . . . . .	5.9	7.1	5.9
Injury at work			
Number of deaths . . . . .	5,252	8,303	5,430
Age-adjusted death rate . . . . .	2.3	3.7	2.5

<sup>1</sup>Includes deaths from September 11, 2001, terrorist attacks.

between 2001 and 2002 is due to terrorist attack deaths classified as homicides that occurred in 2001. As a result of the 2001 terrorist attacks, the number of deaths from homicide increased from 16,765 in 2000 to 20,308 in 2001, and then decreased to 17,045 in 2002 (table C). Excluding deaths from the terrorist attacks in 2001, the age-adjusted death rate for homicide would have decreased by 3.3 percent. Homicide had been on a downward trend since 1991 (2-8).

Increases occurred for **Alzheimer's disease** (5.8 percent), **Influenza and pneumonia** (3.2 percent), **Essential (primary) hypertension and hypertensive renal disease** (2.9 percent), **Septicemia** (2.6 percent), and **Nephritis, nephrotic syndrome and nephrosis** (1.4 percent).

The preliminary age-adjusted death rate for **Human immunodeficiency virus (HIV) disease** declined by 2.0 percent between 2001 and 2002, but the decline was not statistically significant (table 2). From

1987 until 1994, HIV disease mortality increased an average of 16 percent annually. In 1995 the rate for HIV disease was not significantly different from the rate for 1994. The rate for HIV decreased 28.8 percent from 1995 to 1996, 47.7 percent from 1996 to 1997, 20.6 percent from 1997 to 1998, 1.9 percent from 1999 to 2000, and 3.8 percent from 2000 to 2001. For the age group 25-44 years, HIV disease is currently the fifth leading cause of death for all races combined (table 7).

Between 2001 and 2002, the preliminary age-adjusted death rate for **Alcohol-induced deaths** declined by 4.3 percent. There was no significant change in the age-adjusted death rates for **Drug-induced deaths** or **Firearm injuries** (table 2). The age-adjusted death rate for **Injury at work** decreased by 37.8 percent due to the terrorist attack deaths in 2001 (table C).

### Infant mortality

The preliminary **infant mortality rate** for 2002 increased to 7.0 infant deaths per 1,000 live births compared with a rate of 6.8 in 2001 (see tables A and 4). The infant mortality rate has either decreased or remained level each successive year through 2001 since 1958 (2,20). Because the infant mortality rate is one of the key indicators of the Nation's health, additional analyses were done to try to assess the factors accounting for the increase. Analyses of additional partially edited mortality records processed after the close of the preliminary data file and partially edited fetal death data for 2002 indicate that the increase in the 2002 preliminary infant mortality will be confirmed by final data when it becomes available and that the **perinatal mortality rate** (the number of late fetal deaths (28 or more weeks of gestation) and early neonatal deaths (less than 7 days) per 1,000 live births plus late fetal deaths) remained unchanged.



According to the data processed as of January 2004, the rise in the infant mortality rate was concentrated in the neonatal period (less than 28 days), particularly the first week of life where more than half of all infant deaths typically occur. Analysis of partially edited fetal death records shows a decline in the late fetal mortality rate. The perinatal mortality rate, which more fully describes the risk of death at late stages of pregnancy and shortly after birth, appears unchanged for 2002 (data not shown).

Final birth data for 2002 indicate that two key predictors of infant health, the percentage of births born preterm (less than 37 completed weeks of gestation) and low birthweight (less than 2,500 grams), also rose for 2002, continuing fairly long-term upward trends (21). A more detailed analysis of the current year increase in infant mortality is available on the Internet at: <http://www.cdc.gov/nchs>. Data from the 2002 linked birth/infant death file (a forthcoming report in the summer of 2004) will be critical in assessing the role of these and other maternal and infant factors in this increase in infant mortality.

The non-Hispanic white population infant mortality rate increased from 5.7 to 5.9 between 2001 and 2002. The black population experienced an increase of 2.1 percent between 2001 and 2002, but the increase was not statistically significant. According to the preliminary file, the rate for black infants was 14.3 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 these groups are likely to be underestimated (17,18). The linked birth/infant death data set provides a better source of data for infant deaths and mortality rates by race and ethnicity (22).

The leading cause of infant mortality, **Congenital malformations, deformations and chromosomal abnormalities**, accounted for 20.2 percent of all infant deaths. The infant mortality rate for this cause increased slightly from 136.9 infant deaths per 100,000 live births in 2001 to 140.7 in 2002, but the increase was not statistically significant (tables 5 and 8). **Disorders related to short gestation and low birth weight, not elsewhere classified**, the second leading cause of death for all infants, accounted for 16.4 percent of all infant deaths and the infant mortality rate increased from 109.5 infant deaths per 100,000 live births in 2001 to 114.4 in 2002. The rate for the third leading cause of infant mortality, **Sudden infant death syndrome (SIDS)**, decreased by an estimated 8.8 percent from 2001. However, the magnitude of this decrease may be the result of bias due to delayed reporting in the preliminary file (see section on "Bias estimation" in the "Technical Notes" and table III). For 2001 the preliminary weighted count of SIDS deaths was only 88 percent of the final count. Recent declines may also reflect a change in the way SIDS is diagnosed by the medical community. Deaths due to SIDS have been declining since 1988 (5). The fourth leading cause of infant mortality, **Newborn affected by maternal complications of pregnancy**, increased from 37.2 infant deaths per 100,000 live births in 2001 to 42.9 in 2002.

The first, second, and fourth of the 10 leading causes of infant death appear to account for most of the current year increase: Congenital malformations, deformations and chromosomal abnormalities; Disorders related to short gestation and low birth weight, not elsewhere classified; and Newborn affected by maternal complications of pregnancy (table 8).

Other leading causes of infant death in 2002 included, in rank order, Newborn affected by complications of placenta, cord and membranes (5th); Respiratory distress of newborn (6th); Accidents (unintentional injuries) (7th); Bacterial sepsis of newborn (8th); Diseases of the circulatory system (9th); and Intrauterine hypoxia and birth asphyxia (10th).

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## List of Detailed Tables

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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 2001 and preliminary 2002**

[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 2002 are based on weighted data rounded to the nearest individual, so categories may not add to totals]

Age, race, and sex	2002		2001	
	Number	Rate	Number	Rate
All ages, both sexes				
All ages . . . . .	2,447,864	848.9	2,416,425	848.5
Under 1 year <sup>1</sup> . . . . .	27,977	693.6	27,568	683.4
1-4 years . . . . .	4,862	31.2	5,107	33.3
5-14 years . . . . .	7,169	17.5	7,095	17.3
15-24 years . . . . .	33,075	81.5	32,252	80.7
25-34 years . . . . .	41,375	103.6	41,683	105.2
35-44 years . . . . .	91,005	202.6	91,674	203.6
45-54 years . . . . .	172,213	429.6	168,065	428.9
55-64 years . . . . .	253,728	953.8	244,139	964.6
65-74 years . . . . .	424,107	2,320.8	430,960	2,353.3
75-84 years . . . . .	709,351	5,570.3	701,929	5,582.4
85 years and over . . . . .	682,634	14,862.3	665,531	15,112.8
Not stated . . . . .	367	...	422	...
Age-adjusted rate <sup>2</sup> . . . . .	...	846.8	...	854.5
All ages, male				
All ages . . . . .	1,201,010	847.8	1,183,421	846.4
Under 1 year <sup>1</sup> . . . . .	15,659	758.7	15,477	749.8
1-4 years . . . . .	2,810	35.3	2,899	37.0
5-14 years . . . . .	4,208	20.0	4,168	19.8
15-24 years . . . . .	24,431	117.3	23,963	117.0
25-34 years . . . . .	28,752	142.3	28,757	143.7
35-44 years . . . . .	57,441	256.8	58,164	259.6
45-54 years . . . . .	107,584	546.8	104,848	545.1
55-64 years . . . . .	151,577	1,185.6	144,958	1,192.7
65-74 years . . . . .	237,588	2,862.2	241,581	2,911.5
75-84 years . . . . .	344,205	6,774.3	340,742	6,833.0
85 years and over . . . . .	226,473	16,295.3	217,533	16,744.8
Not stated . . . . .	283	...	331	...
Age-adjusted rate <sup>2</sup> . . . . .	...	1,015.3	...	1,029.1
All ages, female				
All ages . . . . .	1,246,854	849.9	1,233,004	850.4
Under 1 year <sup>1</sup> . . . . .	12,318	625.3	12,091	613.9
1-4 years . . . . .	2,052	27.0	2,208	29.5
5-14 years . . . . .	2,960	14.8	2,927	14.6
15-24 years . . . . .	8,645	43.7	8,289	42.6
25-34 years . . . . .	12,622	64.0	12,926	66.0
35-44 years . . . . .	33,564	148.8	33,510	148.2
45-54 years . . . . .	64,630	316.7	63,217	316.8
55-64 years . . . . .	102,152	739.3	99,181	754.0
65-74 years . . . . .	186,520	1,870.2	189,379	1,890.8
75-84 years . . . . .	365,146	4,770.9	361,187	4,760.5
85 years and over . . . . .	456,161	14,240.5	447,998	14,429.9
Not stated . . . . .	84	...	91	...
Age-adjusted rate <sup>2</sup> . . . . .	...	716.7	...	721.8

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 2001 and preliminary 2002—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 2002 are based on weighted data rounded to the nearest individual, so categories may not add to totals]

Age, race, and sex	2002		2001	
	Number	Rate	Number	Rate
<b>Total white<sup>3</sup>, both sexes</b>				
All ages . . . . .	2,107,730	897.9	2,079,691	895.1
Under 1 year <sup>1</sup> . . . . .	18,390	587.4	17,955	570.9
1–4 years . . . . .	3,412	28.1	3,670	30.7
5–14 years . . . . .	5,150	16.2	5,170	16.2
15–24 years . . . . .	24,677	77.2	23,748	75.5
25–34 years . . . . .	29,618	93.6	29,994	95.3
35–44 years . . . . .	68,036	186.5	68,137	185.6
45–54 years . . . . .	131,756	395.1	128,699	393.2
55–64 years . . . . .	205,843	904.4	197,853	913.5
65–74 years . . . . .	361,277	2,275.3	367,128	2,298.9
75–84 years . . . . .	634,144	5,559.9	627,752	5,560.9
85 years and over . . . . .	625,129	15,056.2	609,265	15,287.5
Not stated . . . . .	298	...	320	...
Age-adjusted rate <sup>2</sup> . . . . .	...	831.0	...	836.5
<b>White<sup>3</sup> male</b>				
All ages . . . . .	1,027,391	885.9	1,011,218	881.9
Under 1 year <sup>1</sup> . . . . .	10,444	651.6	10,099	627.6
1–4 years . . . . .	1,961	31.6	2,094	34.2
5–14 years . . . . .	3,010	18.4	3,014	18.4
15–24 years . . . . .	18,106	109.9	17,529	108.0
25–34 years . . . . .	20,842	128.5	20,978	130.3
35–44 years . . . . .	43,868	238.8	44,243	239.7
45–54 years . . . . .	83,597	505.0	81,403	501.3
55–64 years . . . . .	123,771	1,120.6	118,353	1,127.5
65–74 years . . . . .	204,390	2,804.4	207,793	2,842.3
75–84 years . . . . .	309,444	6,756.0	306,278	6,799.7
85 years and over . . . . .	207,725	16,519.4	199,179	16,935.4
Not stated . . . . .	235	...	255	...
Age-adjusted rate <sup>2</sup> . . . . .	...	995.1	...	1,006.1
<b>White<sup>3</sup> female</b>				
All ages . . . . .	1,080,339	909.5	1,068,473	907.9
Under 1 year <sup>1</sup> . . . . .	7,946	520.1	7,856	511.5
1–4 years . . . . .	1,451	24.5	1,576	27.1
5–14 years . . . . .	2,140	13.8	2,156	13.9
15–24 years . . . . .	6,571	42.5	6,219	40.8
25–34 years . . . . .	8,777	56.9	9,016	58.6
35–44 years . . . . .	24,168	133.4	23,894	131.0
45–54 years . . . . .	48,159	286.8	47,296	286.8
55–64 years . . . . .	82,072	700.5	79,500	712.2
65–74 years . . . . .	156,887	1,826.4	159,335	1,840.2
75–84 years . . . . .	324,700	4,757.2	321,474	4,738.5
85 years and over . . . . .	417,405	14,420.6	410,086	14,597.6
Not stated . . . . .	63	...	65	...
Age-adjusted rate <sup>2</sup> . . . . .	...	703.2	...	706.7

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 2001 and preliminary 2002—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 2002 are based on weighted data rounded to the nearest individual, so categories may not add to totals]

Age, race, and sex	2002		2001	
	Number	Rate	Number	Rate
Non-Hispanic white, both sexes				
All ages . . . . .	1,987,280	1,000.2	1,962,810	991.1
Under 1 year <sup>1</sup> . . . . .	13,492	577.1	13,311	555.4
1–4 years . . . . .	2,518	27.3	2,772	30.1
5–14 years . . . . .	4,050	16.1	4,151	16.3
15–24 years . . . . .	19,521	76.1	18,730	74.1
25–34 years . . . . .	23,817	96.1	24,191	96.4
35–44 years . . . . .	59,520	191.6	59,546	188.3
45–54 years . . . . .	119,850	400.3	117,086	396.0
55–64 years . . . . .	191,321	915.1	184,109	924.0
65–74 years . . . . .	340,084	2,303.7	346,389	2,325.5
75–84 years . . . . .	608,243	5,612.7	603,143	5,604.4
85 years and over . . . . .	604,739	15,191.2	589,269	15,371.2
Not stated . . . . .	126	...	113	...
Age-adjusted rate <sup>2</sup> . . . . .	...	839.8	...	842.9
Non-Hispanic white male				
All ages . . . . .	959,958	986.3	945,967	975.6
Under 1 year <sup>1</sup> . . . . .	7,722	644.8	7,508	611.6
1–4 years . . . . .	1,437	30.4	1,592	33.7
5–14 years . . . . .	2,375	18.4	2,428	18.6
15–24 years . . . . .	14,009	107.1	13,542	105.1
25–34 years . . . . .	16,397	131.4	16,613	131.5
35–44 years . . . . .	38,018	244.7	38,213	241.6
45–54 years . . . . .	75,751	510.1	73,731	502.6
55–64 years . . . . .	114,758	1,128.6	109,993	1,136.3
65–74 years . . . . .	192,421	2,832.6	196,158	2,869.4
75–84 years . . . . .	296,544	6,819.7	294,013	6,851.5
85 years and over . . . . .	200,424	16,691.0	192,084	17,055.3
Not stated . . . . .	102	...	92	...
Age-adjusted rate <sup>2</sup> . . . . .	...	1,004.7	...	1,012.8
Non-Hispanic white female				
All ages . . . . .	1,027,322	1,013.5	1,016,843	1,006.1
Under 1 year <sup>1</sup> . . . . .	5,770	506.0	5,803	496.4
1–4 years . . . . .	1,081	24.0	1,180	26.3
5–14 years . . . . .	1,675	13.7	1,723	13.9
15–24 years . . . . .	5,512	43.9	5,188	41.9
25–34 years . . . . .	7,420	60.3	7,578	60.9
35–44 years . . . . .	21,502	138.4	21,333	134.9
45–54 years . . . . .	44,099	292.2	43,355	291.0
55–64 years . . . . .	76,563	712.9	74,116	723.5
65–74 years . . . . .	147,663	1,852.8	150,231	1,864.1
75–84 years . . . . .	311,699	4,803.8	309,130	4,777.3
85 years and over . . . . .	404,315	14,543.3	397,185	14,670.6
Not stated . . . . .	24	...	21	...
Age-adjusted rate <sup>2</sup> . . . . .	...	712.0	...	713.5

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 2001 and preliminary 2002—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 2002 are based on weighted data rounded to the nearest individual, so categories may not add to totals]

Age, race, and sex	2002		2001	
	Number	Rate	Number	Rate
<b>Total black<sup>3</sup>, both sexes</b>				
All ages . . . . .	289,431	766.8	287,709	773.5
Under 1 year <sup>1</sup> . . . . .	8,446	1,252.0	8,498	1,304.5
1–4 years . . . . .	1,192	46.9	1,181	47.5
5–14 years . . . . .	1,678	24.7	1,587	23.3
15–24 years . . . . .	7,040	113.6	7,147	117.7
25–34 years . . . . .	10,144	186.3	10,028	185.0
35–44 years . . . . .	20,190	347.8	20,687	356.5
45–54 years . . . . .	35,516	763.5	34,518	771.9
55–64 years . . . . .	41,264	1,562.5	39,976	1,576.8
65–74 years . . . . .	53,213	3,153.3	54,379	3,257.6
75–84 years . . . . .	62,785	6,510.9	62,233	6,585.6
85 years and over . . . . .	47,911	14,227.8	47,387	14,550.8
Not stated . . . . .	53	...	88	...
Age-adjusted rate <sup>2</sup> . . . . .	...	1,081.2	...	1,101.2
<b>Black<sup>3</sup> male</b>				
All ages . . . . .	146,447	814.6	145,908	823.9
Under 1 year <sup>1</sup> . . . . .	4,595	1,334.9	4,764	1,426.4
1–4 years . . . . .	701	54.3	672	53.2
5–14 years . . . . .	1,006	29.1	960	27.7
15–24 years . . . . .	5,361	172.5	5,479	180.7
25–34 years . . . . .	6,818	263.3	6,673	259.2
35–44 years . . . . .	11,804	433.1	12,135	445.0
45–54 years . . . . .	21,055	979.9	20,594	996.1
55–64 years . . . . .	23,969	2,036.6	22,905	2,025.3
65–74 years . . . . .	28,106	4,011.4	28,775	4,166.6
75–84 years . . . . .	28,426	8,154.7	28,395	8,355.9
85 years and over . . . . .	14,572	15,622.6	14,489	16,439.9
Not stated . . . . .	35	...	67	...
Age-adjusted rate <sup>2</sup> . . . . .	...	1,338.4	...	1,375.0
<b>Black<sup>3</sup> female</b>				
All ages . . . . .	142,984	723.3	141,801	727.7
Under 1 year <sup>1</sup> . . . . .	3,851	1,165.7	3,734	1,176.3
1–4 years . . . . .	491	39.3	509	41.7
5–14 years . . . . .	672	20.1	627	18.7
15–24 years . . . . .	1,679	54.3	1,668	54.9
25–34 years . . . . .	3,326	116.5	3,355	117.9
35–44 years . . . . .	8,386	272.3	8,552	278.0
45–54 years . . . . .	14,461	577.8	13,924	579.1
55–64 years . . . . .	17,295	1,181.4	17,071	1,215.5
65–74 years . . . . .	25,107	2,544.1	25,604	2,616.1
75–84 years . . . . .	34,359	5,580.3	33,838	5,591.6
85 years and over . . . . .	33,339	13,693.5	32,898	13,849.9
Not stated . . . . .	18	...	21	...
Age-adjusted rate <sup>2</sup> . . . . .	...	900.4	...	912.5

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 2001 and preliminary 2002—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 2002 are based on weighted data rounded to the nearest individual, so categories may not add to totals]

Age, race, and sex	2002		2001	
	Number	Rate	Number	Rate
<b>Non-Hispanic black, both sexes</b>				
All ages . . . . .	285,941	791.1	284,343	798.1
Under 1 year <sup>1</sup> . . . . .	8,213	1,269.3	8,277	1,354.4
1–4 years . . . . .	1,155	48.1	1,156	49.5
5–14 years . . . . .	1,648	25.5	1,557	24.0
15–24 years . . . . .	6,899	116.8	7,024	121.4
25–34 years . . . . .	9,982	193.4	9,859	191.5
35–44 years . . . . .	19,905	356.9	20,436	365.8
45–54 years . . . . .	35,096	779.4	34,098	786.9
55–64 years . . . . .	40,808	1,590.2	39,523	1,602.5
65–74 years . . . . .	52,646	3,198.6	53,803	3,300.7
75–84 years . . . . .	62,099	6,575.9	61,592	6,645.3
85 years and over . . . . .	47,452	14,352.5	46,968	14,660.8
Not stated . . . . .	39	...	50	...
Age-adjusted rate <sup>2</sup> . . . . .	...	1,096.9	...	1,116.5
<b>Non-Hispanic black male</b>				
All ages . . . . .	144,426	840.1	143,971	849.7
Under 1 year <sup>1</sup> . . . . .	4,468	1,353.6	4,651	1,484.2
1–4 years . . . . .	678	55.6	655	55.1
5–14 years . . . . .	986	30.1	941	28.6
15–24 years . . . . .	5,248	177.4	5,377	186.2
25–34 years . . . . .	6,696	273.2	6,548	267.9
35–44 years . . . . .	11,613	443.9	11,971	456.3
45–54 years . . . . .	20,768	999.5	20,307	1,014.6
55–64 years . . . . .	23,680	2,072.2	22,600	2,055.4
65–74 years . . . . .	27,770	4,065.8	28,446	4,218.9
75–84 years . . . . .	28,084	8,230.7	28,083	8,426.8
85 years and over . . . . .	14,408	15,761.6	14,352	16,576.2
Not stated . . . . .	27	...	40	...
Age-adjusted rate <sup>2</sup> . . . . .	...	1,357.5	...	1,393.7
<b>Non-Hispanic black female</b>				
All ages . . . . .	141,515	746.6	140,372	751.2
Under 1 year <sup>1</sup> . . . . .	3,745	1,181.6	3,626	1,217.8
1–4 years . . . . .	477	40.4	501	43.6
5–14 years . . . . .	662	20.8	616	19.3
15–24 years . . . . .	1,651	56.0	1,647	56.8
25–34 years . . . . .	3,286	121.3	3,311	122.4
35–44 years . . . . .	8,292	280.1	8,465	285.7
45–54 years . . . . .	14,328	590.9	13,791	591.5
55–64 years . . . . .	17,128	1,203.2	16,923	1,238.2
65–74 years . . . . .	24,876	2,583.4	25,357	2,653.0
75–84 years . . . . .	34,014	5,639.6	33,509	5,645.1
85 years and over . . . . .	33,045	13,814.5	32,616	13,951.4
Not stated . . . . .	11	...	10	...
Age-adjusted rate <sup>2</sup> . . . . .	...	913.7	...	925.5

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 2001 and preliminary 2002—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 2002 are based on weighted data rounded to the nearest individual, so categories may not add to totals]

Age, race, and sex	2002		2001	
	Number	Rate	Number	Rate
<b>Total American Indian<sup>3,4</sup>, both sexes</b>				
All ages . . . . .	12,403	403.2	11,977	392.1
Under 1 year <sup>1</sup> . . . . .	338	810.1	373	650.4
1–4 years . . . . .	92	46.2	103	48.0
5–14 years . . . . .	126	21.6	129	22.0
15–24 years . . . . .	582	104.4	557	102.5
25–34 years . . . . .	650	141.4	596	132.0
35–44 years . . . . .	1,154	245.3	1,132	241.2
45–54 years . . . . .	1,596	427.3	1,559	432.8
55–64 years . . . . .	1,886	898.0	1,768	896.2
65–74 years . . . . .	2,298	2,082.5	2,206	2,072.3
75–84 years . . . . .	2,219	4,117.5	2,146	4,218.3
85 years and over . . . . .	1,455	8,322.4	1,402	8,897.1
Not stated . . . . .	7	...	6	...
Age-adjusted rate <sup>2</sup> . . . . .	...	677.6	...	686.7
<b>American Indian<sup>3,4</sup> male</b>				
All ages . . . . .	6,747	439.4	6,466	424.2
Under 1 year <sup>1</sup> . . . . .	187	878.1	211	720.2
1–4 years . . . . .	50	49.3	52	47.6
5–14 years . . . . .	65	22.0	75	25.2
15–24 years . . . . .	414	144.4	400	142.9
25–34 years . . . . .	458	193.5	417	180.0
35–44 years . . . . .	738	316.8	722	311.4
45–54 years . . . . .	975	537.7	940	536.9
55–64 years . . . . .	1,075	1,060.2	1,004	1,053.4
65–74 years . . . . .	1,207	2,378.3	1,165	2,393.5
75–84 years . . . . .	1,047	4,743.8	983	4,775.3
85 years and over . . . . .	525	9,380.0	492	9,758.0
Not stated . . . . .	6	...	5	...
Age-adjusted rate <sup>2</sup> . . . . .	...	796.1	...	798.9
<b>American Indian<sup>3,4</sup> female</b>				
All ages . . . . .	5,656	367.1	5,511	360.2
Under 1 year <sup>1</sup> . . . . .	151	739.2	162	577.5
1–4 years . . . . .	42	43.0	51	48.5
5–14 years . . . . .	62	21.6	54	18.6
15–24 years . . . . .	168	62.1	157	59.6
25–34 years . . . . .	192	86.1	179	81.4
35–44 years . . . . .	416	175.1	410	172.6
45–54 years . . . . .	621	323.1	619	334.3
55–64 years . . . . .	811	746.6	764	749.4
65–74 years . . . . .	1,091	1,830.6	1,041	1,801.7
75–84 years . . . . .	1,172	3,683.1	1,163	3,839.7
85 years and over . . . . .	931	7,832.7	910	8,492.0
Not stated . . . . .	1	...	1	...
Age-adjusted rate <sup>2</sup> . . . . .	...	580.7	...	594.0

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 2001 and preliminary 2002—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 2002 are based on weighted data rounded to the nearest individual, so categories may not add to totals]

Age, race, and sex	2002		2001	
	Number	Rate	Number	Rate
Total Asian or Pacific Islander <sup>3</sup> , both sexes				
All ages . . . . .	38,300	299.3	37,048	303.8
Under 1 year <sup>1</sup> . . . . .	803	430.1	742	412.5
1–4 years . . . . .	166	23.4	153	22.3
5–14 years . . . . .	215	12.2	209	12.2
15–24 years . . . . .	778	41.4	800	43.0
25–34 years . . . . .	963	40.2	1,065	47.4
35–44 years . . . . .	1,625	75.3	1,718	84.2
45–54 years . . . . .	3,345	195.4	3,289	202.7
55–64 years . . . . .	4,736	478.6	4,542	495.3
65–74 years . . . . .	7,319	1,223.6	7,247	1,275.9
75–84 years . . . . .	10,203	3,283.6	9,798	3,385.3
85 years and over . . . . .	8,139	9,368.2	7,477	9,714.8
Not stated . . . . .	9	...	8	...
Age-adjusted rate <sup>2</sup> . . . . .	...	473.9	...	492.1
Asian or Pacific Islander <sup>3</sup> male				
All ages . . . . .	20,424	330.5	19,829	335.0
Under 1 year <sup>1</sup> . . . . .	433	453.5	403	438.8
1–4 years . . . . .	98	27.4	81	23.5
5–14 years . . . . .	127	14.1	119	13.6
15–24 years . . . . .	550	58.2	555	59.2
25–34 years . . . . .	635	54.6	689	62.4
35–44 years . . . . .	1,031	99.1	1,064	108.2
45–54 years . . . . .	1,956	246.6	1,911	253.6
55–64 years . . . . .	2,762	599.7	2,696	625.5
65–74 years . . . . .	3,886	1,486.7	3,848	1,556.0
75–84 years . . . . .	5,288	4,063.1	5,086	4,168.9
85 years and over . . . . .	3,652	10,908.7	3,373	11,308.9
Not stated . . . . .	6	...	4	...
Age-adjusted rate <sup>2</sup> . . . . .	...	576.5	...	597.4
Asian or Pacific Islander <sup>3</sup> female				
All ages . . . . .	17,875	270.1	17,219	274.4
Under 1 year <sup>1</sup> . . . . .	370	405.6	339	385.0
1–4 years . . . . .	68	19.3	72	21.1
5–14 years . . . . .	88	10.1	90	10.8
15–24 years . . . . .	227	24.3	245	26.6
25–34 years . . . . .	328	26.6	376	32.9
35–44 years . . . . .	594	53.1	654	61.9
45–54 years . . . . .	1,389	151.2	1,378	158.5
55–64 years . . . . .	1,973	372.9	1,846	379.9
65–74 years . . . . .	3,434	1,019.7	3,399	1,059.9
75–84 years . . . . .	4,915	2,721.9	4,712	2,814.4
85 years and over . . . . .	4,487	8,402.5	4,104	8,706.2
Not stated . . . . .	2	...	4	...
Age-adjusted rate <sup>2</sup> . . . . .	...	396.4	...	412.0

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 2001 and preliminary 2002—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 2002 are based on weighted data rounded to the nearest individual, so categories may not add to totals]

Age, race, and sex	2002		2001	
	Number	Rate	Number	Rate
Hispanic <sup>5</sup> , both sexes				
All ages . . . . .	116,878	301.5	113,413	306.8
Under 1 year <sup>1</sup> . . . . .	4,928	590.9	4,680	572.7
1–4 years . . . . .	927	29.6	917	30.6
5–14 years . . . . .	1,113	15.3	1,038	14.7
15–24 years . . . . .	5,225	76.8	5,058	75.6
25–34 years . . . . .	5,800	79.1	5,797	84.5
35–44 years . . . . .	8,424	145.0	8,441	154.8
45–54 years . . . . .	11,639	318.4	11,362	334.4
55–64 years . . . . .	14,160	717.0	13,337	722.2
65–74 years . . . . .	20,561	1,741.3	20,172	1,776.0
75–84 years . . . . .	24,798	4,136.4	23,637	4,262.6
85 years and over . . . . .	19,249	10,670.1	18,907	11,821.8
Not stated . . . . .	55	...	67	...
Age-adjusted rate <sup>2</sup> . . . . .	...	628.4	...	658.7
Hispanic <sup>5</sup> male				
All ages . . . . .	65,537	327.8	63,317	332.9
Under 1 year <sup>1</sup> . . . . .	2,743	643.3	2,601	624.4
1–4 years . . . . .	545	34.1	518	33.8
5–14 years . . . . .	640	17.2	600	16.6
15–24 years . . . . .	4,151	113.5	4,019	111.5
25–34 years . . . . .	4,455	112.0	4,366	118.0
35–44 years . . . . .	5,775	190.8	5,895	208.5
45–54 years . . . . .	7,633	418.6	7,477	443.9
55–64 years . . . . .	8,752	936.3	8,026	923.9
65–74 years . . . . .	11,538	2,205.2	11,231	2,242.6
75–84 years . . . . .	12,291	5,043.5	11,759	5,258.0
85 years and over . . . . .	6,962	11,649.0	6,767	12,888.3
Not stated . . . . .	52	...	58	...
Age-adjusted rate <sup>2</sup> . . . . .	...	765.8	...	802.5
Hispanic <sup>5</sup> female				
All ages . . . . .	51,342	273.5	50,096	279.0
Under 1 year <sup>1</sup> . . . . .	2,185	536.1	2,079	518.9
1–4 years . . . . .	381	24.9	399	27.2
5–14 years . . . . .	473	13.3	438	12.7
15–24 years . . . . .	1,074	34.1	1,039	33.7
25–34 years . . . . .	1,345	40.1	1,431	45.2
35–44 years . . . . .	2,649	95.2	2,546	97.0
45–54 years . . . . .	4,006	218.7	3,885	226.7
55–64 years . . . . .	5,408	520.0	5,311	543.0
65–74 years . . . . .	9,023	1,372.2	8,941	1,408.0
75–84 years . . . . .	12,507	3,515.1	11,878	3,589.8
85 years and over . . . . .	12,287	10,185.2	12,140	11,300.5
Not stated . . . . .	3	...	9	...
Age-adjusted rate <sup>2</sup> . . . . .	...	517.4	...	544.2

... Category not applicable.

<sup>1</sup>Death 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.

<sup>2</sup>For method of computation, see "Technical Notes."

<sup>3</sup>Race and Hispanic origin are reported separately on the death certificate. 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."

<sup>4</sup>Includes deaths among Aleuts and Eskimos.

<sup>5</sup>Includes all persons of Hispanic origin of any race; see "Technical Notes."

NOTE: 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."

**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 2001 and preliminary 2002**

[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 2002 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> )	2002			2001		
	Number	Rate	Age-adjusted rate	Number	Rate	Age-adjusted rate
All causes . . . . .	2,447,862	848.9	846.8	2,416,425	848.5	854.5
Salmonella infections . . . . . (A01-A02)	22	0.0	0.0	41	0.0	0.0
Shigellosis and amebiasis . . . . . (A03,A06)	7	*	*	7	*	*
Certain other intestinal infections . . . . . (A04,A07-A09)	2,183	0.8	0.7	1,537	0.5	0.5
Tuberculosis . . . . . (A16-A19)	802	0.3	0.3	764	0.3	0.3
Respiratory tuberculosis . . . . . (A16)	642	0.2	0.2	600	0.2	0.2
Other tuberculosis . . . . . (A17-A19)	160	0.1	0.0	164	0.1	0.1
Whooping cough . . . . . (A37)	17	*	*	17	*	*
Scarlet fever and erysipelas . . . . . (A38,A46)	2	*	*	3	*	*
Meningococcal infection . . . . . (A39)	155	0.1	0.0	199	0.1	0.1
Septicemia . . . . . (A40-A41)	33,881	11.7	11.7	32,238	11.3	11.4
Syphilis . . . . . (A50-A53)	42	0.0	0.0	36	0.0	0.0
Acute poliomyelitis . . . . . (A80)	-	*	*	-	*	*
Arthropod-borne viral encephalitis . . . . . (A83-A84,A85.2)	69	0.0	0.0	9	*	*
Measles . . . . . (B05)	1	*	*	1	*	*
Viral hepatitis . . . . . (B15-B19)	5,706	2.0	2.0	5,585	2.0	2.0
Human immunodeficiency virus (HIV) disease . . . . . (B20-B24)	13,991	4.9	4.9	14,175	5.0	5.0
Malaria . . . . . (B50-B54)	13	*	*	9	*	*
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)	6,641	2.3	2.3	5,715	2.0	2.0
Malignant neoplasms . . . . . (C00-C97)	558,847	193.8	194.0	553,768	194.4	196.0
Malignant neoplasms of lip, oral cavity and pharynx . . . . . (C00-C14)	7,732	2.7	2.7	7,702	2.7	2.7
Malignant neoplasm of esophagus . . . . . (C15)	12,766	4.4	4.4	12,530	4.4	4.4
Malignant neoplasm of stomach . . . . . (C16)	12,265	4.3	4.3	12,319	4.3	4.4
Malignant neoplasms of colon, rectum and anus . . . . . (C18-C21)	56,866	19.7	19.7	56,887	20.0	20.1
Malignant neoplasms of liver and intrahepatic bile ducts . . . . . (C22)	14,046	4.9	4.9	13,351	4.7	4.7
Malignant neoplasm of pancreas . . . . . (C25)	30,323	10.5	10.5	29,803	10.5	10.5
Malignant neoplasm of larynx . . . . . (C32)	3,731	1.3	1.3	3,797	1.3	1.3
Malignant neoplasms of trachea, bronchus and lung . . . . . (C33-C34)	158,258	54.9	55.1	156,058	54.8	55.3
Malignant melanoma of skin . . . . . (C43)	7,563	2.6	2.6	7,542	2.6	2.7
Malignant neoplasm of breast . . . . . (C50)	41,989	14.6	14.5	41,809	14.7	14.8
Malignant neoplasm of cervix uteri . . . . . (C53)	3,965	1.4	1.4	4,092	1.4	1.4
Malignant neoplasms of corpus uteri and uterus, part unspecified . . . . . (C54-C55)	6,876	2.4	2.4	6,784	2.4	2.4
Malignant neoplasm of ovary . . . . . (C56)	14,678	5.1	5.1	14,414	5.1	5.1
Malignant neoplasm of prostate . . . . . (C61)	30,571	10.6	10.6	30,719	10.8	10.9
Malignant neoplasms of kidney and renal pelvis . . . . . (C64-C65)	12,184	4.2	4.2	12,078	4.2	4.3
Malignant neoplasm of bladder . . . . . (C67)	12,670	4.4	4.4	12,225	4.3	4.3
Malignant neoplasms of meninges, brain and other parts of central nervous system . . . . . (C70-C72)	12,777	4.4	4.4	12,609	4.4	4.5
Malignant neoplasms of lymphoid, hematopoietic and related tissue . . . . . (C81-C96)	56,377	19.6	19.6	56,341	19.8	20.0
Hodgkin's disease . . . . . (C81)	1,356	0.5	0.5	1,323	0.5	0.5
Non-Hodgkin's lymphoma . . . . . (C82-C85)	21,998	7.6	7.6	22,305	7.8	7.9
Leukemia . . . . . (C91-C95)	21,575	7.5	7.5	21,451	7.5	7.6
Multiple myeloma and immunoproliferative neoplasms . . . . . (C88,C90)	11,374	3.9	4.0	11,172	3.9	4.0

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 2001 and preliminary 2002—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 2002 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> )	2002			2001		
	Number	Rate	Age-adjusted rate	Number	Rate	Age-adjusted rate
Other and unspecified malignant neoplasms of lymphoid, hematopoietic and related tissue . . . . . (C96)	74	0.0	0.0	90	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)	63,209	21.9	21.9	62,708	22.0	22.2
In situ neoplasms, benign neoplasms and neoplasms of uncertain or unknown behavior . . . . . (D00–D48)	13,370	4.6	4.6	13,676	4.8	4.9
Anemias . . . . . (D50–D64)	4,601	1.6	1.6	4,627	1.6	1.6
Diabetes mellitus . . . . . (E10–E14)	73,119	25.4	25.4	71,372	25.1	25.3
Nutritional deficiencies . . . . . (E40–E64)	3,785	1.3	1.3	3,704	1.3	1.3
Malnutrition . . . . . (E40–E46)	3,515	1.2	1.2	3,454	1.2	1.2
Other nutritional deficiencies . . . . . (E50–E64)	270	0.1	0.1	250	0.1	0.1
Meningitis . . . . . (G00,G03)	694	0.2	0.2	727	0.3	0.3
Parkinson's disease . . . . . (G20–G21)	16,961	5.9	5.9	16,544	5.8	5.9
Alzheimer's disease . . . . . (G30)	58,785	20.4	20.2	53,852	18.9	19.1
Major cardiovascular diseases . . . . . (I00–I78)	917,839	318.3	317.1	922,334	323.9	326.5
Diseases of heart . . . . . (I00–I09,I11,I13,I20–I51)	695,754	241.3	240.4	700,142	245.8	247.8
Acute rheumatic fever and chronic rheumatic heart diseases . . . . . (I00–I09)	3,743	1.3	1.3	3,489	1.2	1.2
Hypertensive heart disease . . . . . (I11)	25,938	9.0	8.9	24,689	8.7	8.7
Hypertensive heart and renal disease . . . . . (I13)	2,888	1.0	1.0	2,826	1.0	1.0
Ischemic heart diseases . . . . . (I20–I25)	493,542	171.1	170.6	502,189	176.3	177.8
Acute myocardial infarction . . . . . (I21–I22)	179,869	62.4	62.2	184,757	64.9	65.4
Other acute ischemic heart diseases . . . . . (I24)	3,416	1.2	1.2	3,351	1.2	1.2
Other forms of chronic ischemic heart disease . . . . . (I20,I25)	310,257	107.6	107.2	314,081	110.3	111.2
Atherosclerotic cardiovascular disease, so described . . . . . (I25.0)	67,104	23.3	23.1	68,103	23.9	24.1
All other forms of chronic ischemic heart disease . . . . . (I20,I25.1–I25.9)	243,153	84.3	84.0	245,978	86.4	87.1
Other heart diseases . . . . . (I26–I51)	169,643	58.8	58.6	166,949	58.6	59.1
Acute and subacute endocarditis . . . . . (I33)	1,149	0.4	0.4	1,178	0.4	0.4
Diseases of pericardium and acute myocarditis . . . . . (I30–I31,I40)	802	0.3	0.3	839	0.3	0.3
Heart failure . . . . . (I50)	56,790	19.7	19.6	56,934	20.0	20.2
All other forms of heart disease . . . . . (I26–I28,I34–I38,I42–I49,I51)	110,902	38.5	38.3	107,998	37.9	38.2
Essential (primary) hypertension and hypertensive renal disease . . . . . (I10,I12)	20,241	7.0	7.0	19,250	6.8	6.8
Cerebrovascular diseases . . . . . (I60–I69)	163,010	56.5	56.3	163,538	57.4	57.9
Atherosclerosis . . . . . (I70)	13,942	4.8	4.8	14,086	4.9	5.0
Other diseases of circulatory system . . . . . (I71–I78)	24,891	8.6	8.6	25,318	8.9	9.0
Aortic aneurysm and dissection . . . . . (I71)	14,746	5.1	5.1	15,234	5.3	5.4
Other diseases of arteries, arterioles and capillaries . . . . . (I72–I78)	10,146	3.5	3.5	10,084	3.5	3.6
Other disorders of circulatory system . . . . . (I80–I99)	4,679	1.6	1.6	4,665	1.6	1.6
Influenza and pneumonia . . . . . (J10–J18)	65,984	22.9	22.7	62,034	21.8	22.0
Influenza . . . . . (J10–J11)	753	0.3	0.2	257	0.1	0.1
Pneumonia . . . . . (J12–J18)	65,231	22.6	22.5	61,777	21.7	21.9
Other acute lower respiratory infections . . . . . (J20–J22)	361	0.1	0.1	347	0.1	0.1
Acute bronchitis and bronchiolitis . . . . . (J20–J21)	257	0.1	0.1	263	0.1	0.1
Unspecified acute lower respiratory infection . . . . . (J22)	103	0.0	0.0	84	0.0	0.0
Chronic lower respiratory diseases . . . . . (J40–J47)	125,500	43.5	43.7	123,013	43.2	43.7

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 2001 and preliminary 2002—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 2002 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> )	2002			2001		
	Number	Rate	Age-adjusted rate	Number	Rate	Age-adjusted rate
Bronchitis, chronic and unspecified . . . . . (J40–J42)	961	0.3	0.3	959	0.3	0.3
Emphysema . . . . . (J43)	15,568	5.4	5.4	16,242	5.7	5.8
Asthma . . . . . (J45–J46)	4,157	1.4	1.5	4,269	1.5	1.5
Other chronic lower respiratory diseases . . . . . (J44, J47)	104,814	36.3	36.5	101,543	35.7	36.1
Pneumoconioses and chemical effects . . . . . (J60–J66, J68)	1,139	0.4	0.4	1,136	0.4	0.4
Pneumonitis due to solids and liquids . . . . . (J69)	17,693	6.1	6.1	17,301	6.1	6.1
Other diseases of respiratory system . . . . . (J00–J06, J30–J39, J67, J70–J98)	25,194	8.7	8.8	26,178	9.2	9.3
Peptic ulcer . . . . . (K25–K28)	4,081	1.4	1.4	4,491	1.6	1.6
Diseases of appendix . . . . . (K35–K38)	474	0.2	0.2	428	0.2	0.1
Hernia . . . . . (K40–K46)	1,595	0.6	0.5	1,522	0.5	0.5
Chronic liver disease and cirrhosis . . . . . (K70, K73–K74)	27,045	9.4	9.3	27,035	9.5	9.5
Alcoholic liver disease . . . . . (K70)	11,965	4.1	4.1	12,207	4.3	4.3
Other chronic liver disease and cirrhosis . . . . . (K73–K74)	15,079	5.2	5.2	14,828	5.2	5.2
Cholelithiasis and other disorders of gallbladder . . . . . (K80–K82)	2,965	1.0	1.0	2,965	1.0	1.0
Nephritis, nephrotic syndrome and nephrosis . . . . . (N00–N07, N17–N19, N25–N27)	41,018	14.2	14.2	39,480	13.9	14.0
Acute and rapidly progressive nephritic and nephrotic syndrome . . . . . (N00–N01, N04)	168	0.1	0.1	156	0.1	0.0
Chronic glomerulonephritis, nephrosis and nephropathy not specified as acute or chronic, and renal sclerosis unspecified . . . . . (N02–N03, N05–N07, N26)	545	0.2	0.2	511	0.2	0.2
Renal failure . . . . . (N17–N19)	40,272	14.0	13.9	38,784	13.6	13.7
Other disorders of kidney . . . . . (N25, N27)	34	0.0	0.0	29	0.0	0.0
Infections of kidney . . . . . (N10–N12, N13.6, N15.1)	792	0.3	0.3	748	0.3	0.3
Hyperplasia of prostate . . . . . (N40)	431	0.1	0.1	439	0.2	0.1
Inflammatory diseases of female pelvic organs . . . . . (N70–N76)	110	0.0	0.0	127	0.0	0.0
Pregnancy, childbirth and the puerperium . . . . . (O00–O99)	358	0.1	0.1	416	0.1	0.1
Pregnancy with abortive outcome . . . . . (O00–O07)	22	0.0	0.0	38	0.0	0.0
Other complications of pregnancy, childbirth and the puerperium . . . . . (O10–O99)	336	0.1	0.1	378	0.1	0.1
Certain conditions originating in the perinatal period . . . . . (P00–P96)	14,148	4.9	4.8	13,887	4.9	4.7
Congenital malformations, deformations and chromosomal abnormalities . . . . . (Q00–Q99)	10,635	3.7	3.7	10,442	3.7	3.6
Symptoms, signs and abnormal clinical and laboratory findings, not elsewhere classified . . . . . (R00–R99)	40,532	14.1	13.9	32,326	11.4	11.3
All other diseases . . . . . (Residual)	193,974	67.3	66.9	186,406	65.5	65.9
Accidents (unintentional injuries) . . . . . (V01–X59, Y85–Y86)	102,303	35.5	35.3	101,537	35.7	35.7
Transport accidents . . . . . (V01–V99, Y85)	47,478	16.5	16.4	47,288	16.6	16.6
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)	44,572	15.5	15.4	43,788	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)	1,064	0.4	0.4	1,405	0.5	0.5
Water, air and space, and other and unspecified transport accidents and their sequelae . . . . . (V90–V99, Y85)	1,842	0.6	0.6	2,095	0.7	0.7
Nontransport accidents . . . . . (W00–X59, Y86)	54,825	19.0	19.0	54,249	19.0	19.1
Falls . . . . . (W00–W19)	15,848	5.5	5.5	15,019	5.3	5.3
Accidental discharge of firearms . . . . . (W32–W34)	813	0.3	0.3	802	0.3	0.3

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 2001 and preliminary 2002—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 2002 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> )	2002			2001		
	Number	Rate	Age-adjusted rate	Number	Rate	Age-adjusted rate
Accidental drowning and submersion . . . . . (W65–W74)	3,399	1.2	1.2	3,281	1.2	1.1
Accidental exposure to smoke, fire and flames . . . . . (X00–X09)	3,024	1.0	1.1	3,309	1.2	1.2
Accidental poisoning and exposure to noxious substances . . . . . (X40–X49)	14,670	5.1	5.1	14,078	4.9	4.9
Other and unspecified nontransport accidents and their sequelae . . . . . (W20–W31,W35–W64,W75–W99,X10–X39,X50–X59,Y86)	17,070	5.9	5.9	17,760	6.2	6.3
Intentional self-harm (suicide) . . . . . (*U03,X60–X84,Y87.0) <sup>1</sup>	30,646	10.6	10.6	30,622	10.8	10.7
Intentional self-harm (suicide) by discharge of firearms . . . . . (X72–X74)	16,882	5.9	5.8	16,869	5.9	5.9
Intentional self-harm (suicide) by other and unspecified means and their sequelae . . . . . (*U03,X60–X71,X75–X84,Y87.0) <sup>1</sup>	13,763	4.8	4.8	13,753	4.8	4.8
Assault (homicide) . . . . . (*U01–*U02,X85–Y09,Y87.1) <sup>1</sup>	17,045	5.9	5.9	20,308	7.1	7.1
Assault (homicide) by discharge of firearms . . . . . (*U01.4,X93–X95)	11,546	4.0	4.0	11,348	4.0	3.9
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) <sup>1</sup>	5,500	1.9	1.9	8,960	3.1	3.1
Legal intervention . . . . . (Y35,Y89.0)	365	0.1	0.1	396	0.1	0.1
Events of undetermined intent . . . . . (Y10–Y34,Y87.2,Y89.9)	4,423	1.5	1.5	4,198	1.5	1.5
Discharge of firearms, undetermined intent . . . . . (Y22–Y24)	214	0.1	0.1	231	0.1	0.1
Other and unspecified events of undetermined intent and their sequelae . . . . . (Y10–Y21,Y25–Y34,Y87.2,Y89.9)	4,209	1.5	1.4	3,967	1.4	1.4
Operations of war and their sequelae . . . . . (Y36,Y89.1)	21	0.0	0.0	17	*	*
Complications of medical and surgical care . . . . . (Y40–Y84,Y88)	2,820	1.0	1.0	3,021	1.1	1.1
<b>Injury by firearms<sup>2</sup> . . . . . (W32–W34,X72–X74,X93–X95,Y22–Y24,Y35.0)</b>	<b>29,737</b>	<b>10.3</b>	<b>10.3</b>	<b>29,573</b>	<b>10.4</b>	<b>10.3</b>
<b>Drug-induced deaths<sup>2</sup> . . . . . (F11.0–F11.5,F11.7–F11.9,F12.0–F12.5,F12.7–F12.9,F13.0–F13.5,F13.7–F13.9,F14.0–F14.5,F14.7–F14.9,F15.0–F15.5,F15.7–F15.9,F16.0–F16.5,F16.7–F16.9,F17.0,F17.3–F17.5,F17.7–F17.9,F18.0–F18.5,F18.7–F18.9,F19.0–F19.5,F19.7–F19.9,X40–X44,X60–X64,X85,Y10–Y14)</b>	<b>22,296</b>	<b>7.7</b>	<b>7.7</b>	<b>21,683</b>	<b>7.6</b>	<b>7.6</b>
<b>Alcohol-induced deaths<sup>2</sup> . . . . . (F10,G31.2,G62.1,I42.6,K29.2,K70,R78.0,X45,X65,Y15)</b>	<b>19,344</b>	<b>6.7</b>	<b>6.6</b>	<b>19,817</b>	<b>7.0</b>	<b>6.9</b>
<b>Injury at work<sup>3</sup> . . . . .</b>	<b>5,252</b>	<b>2.3</b>	<b>2.3</b>	<b>8,303</b>	<b>3.7</b>	<b>3.7</b>

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

– Quantity zero.

<sup>1</sup>Figures include September 11, 2001, related deaths for which death certificates were filed as of October 24, 2002; see "Technical Notes."

<sup>2</sup>Included in selected categories.

<sup>3</sup>Injury at work described in "Technical Notes."

NOTE: 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."

**Table 3. Deaths, death rates, and age-adjusted death rates: United States, and each State and territory, final 2001 and preliminary 2002**

[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 2002 are based on weighted data rounded to the nearest individual, so categories may not add to totals]

Area	2002			2001		
	Number	Rate	Age-adjusted rate	Number	Rate <sup>1</sup>	Age-adjusted rate <sup>1</sup>
United States <sup>2</sup>	2,447,864	848.9	846.8	2,416,425	848.5	854.5
Alabama	46,055	1,026.5	997.8	45,316	1,014.0	992.9
Alaska	3,033	471.1	790.5	2,974	469.4	825.8
Arizona	42,807	784.5	795.5	41,058	773.7	787.4
Arkansas	28,517	1,052.3	964.6	27,759	1,030.1	948.1
California	234,660	668.2	758.4	234,044	676.4	775.1
Colorado	29,209	648.1	790.2	28,294	638.5	787.8
Connecticut	30,129	870.7	762.5	29,827	868.4	767.8
Delaware	6,858	849.4	837.7	7,112	892.8	891.9
District of Columbia	5,844	1,023.7	1,021.1	5,951	1,037.1	1,038.2
Florida	167,812	1,004.1	786.4	167,269	1,021.6	799.7
Georgia	65,463	764.7	949.3	64,485	767.2	956.5
Hawaii	8,802	707.0	660.5	8,394	684.1	652.6
Idaho	9,928	740.3	793.3	9,753	738.5	798.0
Illinois <sup>3</sup>	---	---	---	105,430	842.1	857.3
Indiana	55,352	898.7	898.8	55,198	900.9	908.3
Iowa	27,978	952.7	774.5	27,791	947.9	777.4
Kansas	25,015	921.1	843.3	24,647	912.1	839.8
Kentucky	41,218	1,007.1	1,006.6	39,861	979.7	987.7
Louisiana	42,055	938.2	1,002.2	41,757	934.1	1,005.9
Maine	12,695	980.7	846.6	12,421	967.0	843.2
Maryland	43,959	805.4	863.9	43,839	813.9	881.4
Massachusetts	56,949	886.0	792.2	56,754	886.6	801.4
Michigan	87,798	873.6	876.2	86,424	863.7	877.6
Minnesota	38,557	768.1	748.3	37,735	757.0	744.9
Mississippi	28,852	1,004.7	1,036.2	28,259	988.2	1,023.2
Missouri	55,952	986.4	916.9	54,982	975.3	909.5
Montana	8,514	936.2	850.5	8,265	912.9	840.3
Nebraska	15,737	910.1	814.7	15,174	882.2	793.5
Nevada	16,924	778.7	916.3	16,285	776.3	922.6
New Hampshire	9,847	772.3	781.2	9,815	779.4	798.5
New Jersey	73,971	861.1	808.3	74,710	877.8	831.9
New Mexico	14,365	774.4	816.2	14,129	771.7	825.4
New York	158,110	825.3	783.2	159,240	834.4	800.9
North Carolina	72,103	866.6	907.0	70,934	864.4	911.0
North Dakota	5,890	928.9	749.4	6,048	950.1	775.9
Ohio	109,547	959.1	906.4	108,027	948.5	905.7
Oklahoma	35,548	1,017.5	974.4	34,682	999.6	959.7
Oregon	31,128	883.9	834.4	30,158	868.2	825.6
Pennsylvania	130,235	1,055.8	862.1	129,729	1,054.4	869.9
Rhode Island	10,250	958.2	809.7	10,021	945.7	806.4
South Carolina	37,732	918.7	946.7	36,612	901.3	939.1
South Dakota	6,900	906.6	771.6	6,923	912.9	784.8
Tennessee	56,606	976.4	981.5	55,151	959.2	972.9
Texas	159,273	731.3	891.5	152,779	714.9	877.8
Utah	13,117	566.3	781.8	12,662	555.7	776.8
Vermont	5,075	823.1	774.9	5,201	848.5	811.2
Virginia	57,197	784.2	856.6	56,280	782.0	862.2
Washington	45,318	746.7	785.0	44,642	744.9	792.9
West Virginia	21,014	1,166.2	991.7	20,967	1,164.2	994.9
Wisconsin	46,990	863.6	800.0	46,628	862.5	806.5
Wyoming	4,171	836.4	863.6	4,029	816.0	851.7
Puerto Rico	27,927	723.7	791.7	29,082	757.7	841.7
Virgin Islands	623	572.6	743.0	605	556.3	751.6
Guam	639	396.8	738.7	663	418.7	789.9
American Samoa	294	509.4	1,471.4	239	415.4	1,229.5
Northern Marianas	163	220.3	1,058.4	148	205.9	1,015.4

--- Data not available.

<sup>1</sup>Populations used for computing death rates by State are explained in the section on Population denominators in the "Technical Notes."

<sup>2</sup>Excludes data for U.S. territories.

<sup>3</sup>Illinois data are not shown separately but are included in U.S. totals; see "Technical Notes."

NOTE: 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."

**Table 4. Infant deaths and infant mortality rates, by age and race and Hispanic origin: United States, final 2001 and preliminary 2002**

[Data are based on the continuous file of records received from the States. Rates per 1,000 live births. Figures for 2002 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/Hispanic origin	2002 <sup>1</sup>		2001	
	Number	Rate	Number	Rate
All races <sup>2</sup>				
Under 1 year . . . . .	27,977	7.0	27,568	6.8
Under 28 days . . . . .	18,749	4.7	18,265	4.5
28 days–11 months. . . . .	9,229	2.3	9,303	2.3
Total white <sup>3</sup>				
Under 1 year . . . . .	18,390	5.8	17,955	5.7
Under 28 days . . . . .	12,419	3.9	12,013	3.8
28 days–11 months. . . . .	5,971	1.9	5,942	1.9
Non-Hispanic white				
Under 1 year . . . . .	13,492	5.9	13,311	5.7
Under 28 days . . . . .	9,064	3.9	8,888	3.8
28 days–11 months. . . . .	4,428	1.9	4,423	1.9
Total black <sup>3</sup>				
Under 1 year . . . . .	8,446	14.3	8,498	14.0
Under 28 days . . . . .	5,580	9.4	5,585	9.2
28 days–11 months. . . . .	2,866	4.9	2,913	4.8
Hispanic <sup>4</sup>				
Under 1 year . . . . .	4,928	5.6	4,680	5.5
Under 28 days . . . . .	3,345	3.8	3,112	3.7
28 days–11 months. . . . .	1,583	1.8	1,568	1.8

<sup>1</sup>See text and Health E-Stats report at <http://www.cdc.gov/nchs> for additional information on the increase in the infant mortality rate.

<sup>2</sup>Includes races other than white or black.

<sup>3</sup>Race and Hispanic origin are reported separately on both the birth and death certificates. 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."

<sup>4</sup>Includes all persons of Hispanic origin of any race; see "Technical Notes."

NOTE: 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."



**Table 5. Infant deaths and infant mortality rates for 130 selected causes: United States, final 2001 and preliminary 2002**

[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 2002 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> )	2002 <sup>1</sup>		2001	
	Number	Rate	Number	Rate
All causes . . . . .	27,974	696.0	27,568	684.8
Certain infectious and parasitic diseases . . . . . (A00–B99)	573	14.3	563	14.0
Certain intestinal infectious diseases . . . . . (A00–A08)	10	*	12	*
Diarrhea and gastroenteritis of infectious origin . . . . . (A09)	3	*	2	*
Tuberculosis . . . . . (A16–A19)	1	*	2	*
Tetanus . . . . . (A33,A35)	–	*	–	*
Diphtheria . . . . . (A36)	–	*	–	*
Whooping cough . . . . . (A37)	17	*	16	*
Meningococcal infection . . . . . (A39)	16	*	16	*
Septicemia . . . . . (A40–A41)	295	7.3	312	7.7
Congenital syphilis . . . . . (A50)	1	*	1	*
Gonococcal infection . . . . . (A54)	1	*	–	*
Viral diseases . . . . . (A80–B34)	159	4.0	121	3.0
Acute poliomyelitis . . . . . (A80)	–	*	–	*
Varicella (chickenpox) . . . . . (B01)	1	*	1	*
Measles . . . . . (B05)	–	*	–	*
Human immunodeficiency virus (HIV) disease . . . . . (B20–B24)	8	*	10	*
Mumps . . . . . (B26)	–	*	–	*
Other and unspecified viral diseases . . . . . (A81–B00,B02–B04,B06–B19,B25,B27–B34)	149	3.7	110	2.7
Candidiasis . . . . . (B37)	21	0.5	21	0.5
Malaria . . . . . (B50–B54)	–	*	–	*
Pneumocystosis . . . . . (B59)	2	*	2	*
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)	47	1.2	58	1.4
Neoplasms . . . . . (C00–D48)	150	3.7	117	2.9
Malignant neoplasms . . . . . (C00–C97)	81	2.0	66	1.6
Hodgkin's disease and non-Hodgkin's lymphomas . . . . . (C81–C85)	2	*	1	*
Leukemia . . . . . (C91–C95)	20	0.5	25	0.6
Other and unspecified malignant neoplasms . . . . . (C00–C80,C88–C90,C96–C97)	58	1.4	40	1.0
In situ neoplasms, benign neoplasms and neoplasms of uncertain or unknown behavior . . . . . (D00–D48)	69	1.7	51	1.3
Diseases of the blood and blood-forming organs and certain disorders involving the immune mechanism . . . . . (D50–D89)	86	2.1	106	2.6
Anemias . . . . . (D50–D64)	18	*	16	*
Hemorrhagic conditions and other diseases of blood and blood-forming organs . . . . . (D65–D76)	45	1.1	59	1.5
Certain disorders involving the immune mechanism . . . . . (D80–D89)	22	0.5	31	0.8
Endocrine, nutritional and metabolic diseases . . . . . (E00–E88)	255	6.3	292	7.3
Short stature, not elsewhere classified . . . . . (E34.3)	26	0.6	26	0.6
Nutritional deficiencies . . . . . (E40–E64)	4	*	4	*
Cystic fibrosis . . . . . (E84)	9	*	6	*
Volume depletion, disorders of fluid, electrolyte and acid-base balance . . . . . (E86–E87)	74	1.8	90	2.2
All other endocrine, nutritional and metabolic diseases . . . . . (E00–E32,E34.0–E34.2,E34.4–E34.9,E65–E83,E85,E88)	142	3.5	166	4.1
Diseases of the nervous system . . . . . (G00–G98)	376	9.4	360	8.9
Meningitis . . . . . (G00,G03)	71	1.8	78	1.9
Infantile spinal muscular atrophy, type I (Werdnig-Hoffman) . . . . . (G12.0)	24	0.6	21	0.5

See footnotes at end of table.

**Table 5. Infant deaths and infant mortality rates for 130 selected causes: United States, final 2001 and preliminary 2002—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 2002 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> )	2002 <sup>1</sup>		2001	
	Number	Rate	Number	Rate
Infantile cerebral palsy . . . . . (G80)	9	*	19	*
Anoxic brain damage, not elsewhere classified . . . . . (G93.1)	41	1.0	26	0.6
Other diseases of nervous system . . . . . (G04,G06–G11,G12.1–G12.9,G20–G72,G81–G92,G93.0, G93.2–G93.9,G95–G98)	231	5.7	216	5.4
Diseases of the ear and mastoid process . . . . . (H60–H93)	4	*	3	*
Diseases of the circulatory system . . . . . (I00–I99)	649	16.1	622	15.4
Pulmonary heart disease and diseases of pulmonary circulation . . . . . (I26–I28)	177	4.4	170	4.2
Pericarditis, endocarditis and myocarditis . . . . . (I30,I33,I40)	19	*	21	0.5
Cardiomyopathy . . . . . (I42)	115	2.9	137	3.4
Cardiac arrest . . . . . (I46)	36	0.9	24	0.6
Cerebrovascular diseases . . . . . (I60–I69)	121	3.0	108	2.7
All other diseases of circulatory system . . . . . (I00–I25,I31,I34–I38,I44–I45,I47–I51,I70–I99)	181	4.5	162	4.0
Diseases of the respiratory system . . . . . (J00–J98)	586	14.6	696	17.3
Acute upper respiratory infections . . . . . (J00–J06)	8	*	9	*
Influenza and pneumonia . . . . . (J10–J18)	232	5.8	299	7.4
Influenza . . . . . (J10–J11)	7	*	7	*
Pneumonia . . . . . (J12–J18)	226	5.6	292	7.3
Acute bronchitis and acute bronchiolitis . . . . . (J20–J21)	45	1.1	49	1.2
Bronchitis, chronic and unspecified . . . . . (J40–J42)	20	0.5	21	0.5
Asthma . . . . . (J45–J46)	2	*	10	*
Pneumonitis due to solids and liquids . . . . . (J69)	2	*	12	*
Other and unspecified diseases of respiratory system . . . . . (J22,J30–J39,J43–J44,J47–J68,J70–J98)	276	6.9	296	7.4
Diseases of the digestive system . . . . . (K00–K92)	482	12.0	478	11.9
Gastritis, duodenitis, and noninfective enteritis and colitis . . . . . (K29,K50–K55)	251	6.2	246	6.1
Hernia of abdominal cavity and intestinal obstruction without hernia . . . . . (K40–K46,K56)	46	1.1	62	1.5
All other and unspecified diseases of digestive system . . . . . (K00–K28,K30–K38,K57–K92)	185	4.6	170	4.2
Diseases of the genitourinary system . . . . . (N00–N98)	183	4.6	157	3.9
Renal failure and other disorders of kidney . . . . . (N17–N19,N25,N27)	162	4.0	125	3.1
Other and unspecified diseases of genitourinary system . . . . . (N00–N15,N20–N23,N26,N28–N98)	21	0.5	32	0.8
Certain conditions originating in the perinatal period . . . . . (P00–P96)	13,987	348.0	13,734	341.1
Newborn affected by maternal factors and by complications of pregnancy, labor and delivery . . . . . (P00–P04)	3,058	76.1	2,832	70.3
Newborn affected by maternal hypertensive disorders . . . . . (P00.0)	68	1.7	60	1.5
Newborn affected by other maternal conditions which may be unrelated to present pregnancy . . . . . (P00.1–P00.9)	68	1.7	70	1.7
Newborn affected by maternal complications of pregnancy . . . . . (P01)	1,723	42.9	1,499	37.2
Newborn affected by incompetent cervix . . . . . (P01.0)	486	12.1	403	10.0
Newborn affected by premature rupture of membranes . . . . . (P01.1)	764	19.0	663	16.5
Newborn affected by multiple pregnancy . . . . . (P01.5)	254	6.3	270	6.7
Newborn affected by other maternal complications of pregnancy . . . . . (P01.2–P01.4,P01.6–P01.9)	219	5.4	163	4.0
Newborn affected by complications of placenta, cord and membranes . . . . . (P02)	1,017	25.3	1,018	25.3
Newborn affected by complications involving placenta . . . . . (P02.0–P02.3)	508	12.6	520	12.9
Newborn affected by complications involving cord . . . . . (P02.4–P02.6)	54	1.3	51	1.3
Newborn affected by chorioamnionitis . . . . . (P02.7)	453	11.3	447	11.1
Newborn affected by other and unspecified abnormalities of membranes . . . . . (P02.8–P02.9)	1	*	–	*
Newborn affected by other complications of labor and delivery . . . . . (P03)	151	3.8	148	3.7
Newborn affected by noxious influences transmitted via placenta or breast milk . . . . . (P04)	31	0.8	37	0.9

See footnotes at end of table.

**Table 5. Infant deaths and infant mortality rates for 130 selected causes: United States, final 2001 and preliminary 2002—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 2002 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> )	2002 <sup>1</sup>		2001	
	Number	Rate	Number	Rate
Disorders related to length of gestation and fetal malnutrition . . . . . (P05–P08)	4,673	116.3	4,473	111.1
Slow fetal growth and fetal malnutrition . . . . . (P05)	75	1.9	63	1.6
Disorders related to short gestation and low birth weight, not elsewhere classified . . . . . (P07)	4,598	114.4	4,410	109.5
Extremely low birth weight or extreme immaturity . . . . . (P07.0,P07.2)	3,531	87.9	3,316	82.4
Other low birth weight or preterm . . . . . (P07.1,P07.3)	1,067	26.5	1,094	27.2
Disorders related to long gestation and high birth weight . . . . . (P08)	–	*	–	*
Birth trauma . . . . . (P10–P15)	348	8.7	145	3.6
Intrauterine hypoxia and birth asphyxia . . . . . (P20–P21)	578	14.4	534	13.3
Intrauterine hypoxia . . . . . (P20)	106	2.6	120	3.0
Birth asphyxia . . . . . (P21)	472	11.7	414	10.3
Respiratory distress of newborn . . . . . (P22)	958	23.8	1,011	25.1
Other respiratory conditions originating in the perinatal period . . . . . (P23–P28)	1,205	30.0	1,503	37.3
Congenital pneumonia . . . . . (P23)	71	1.8	72	1.8
Neonatal aspiration syndromes . . . . . (P24)	50	1.2	71	1.8
Interstitial emphysema and related conditions originating in the perinatal period . . . . . (P25)	157	3.9	204	5.1
Pulmonary hemorrhage originating in the perinatal period . . . . . (P26)	189	4.7	279	6.9
Chronic respiratory disease originating in the perinatal period . . . . . (P27)	311	7.7	310	7.7
Atelectasis . . . . . (P28.0–P28.1)	387	9.6	501	12.4
All other respiratory conditions originating in the perinatal period . . . . . (P28.2–P28.9)	40	1.0	66	1.6
Infections specific to the perinatal period . . . . . (P35–P39)	927	23.1	869	21.6
Bacterial sepsis of newborn . . . . . (P36)	734	18.3	696	17.3
Omphalitis of newborn with or without mild hemorrhage . . . . . (P38)	1	*	3	*
All other infections specific to the perinatal period . . . . . (P35,P37,P39)	192	4.8	170	4.2
Hemorrhagic and hematological disorders of newborn . . . . . (P50–P61)	492	12.2	600	14.9
Neonatal hemorrhage . . . . . (P50–P52,P54)	374	9.3	453	11.3
Hemorrhagic disease of newborn . . . . . (P53)	–	*	–	*
Hemolytic disease of newborn due to isoimmunization and other perinatal jaundice . . . . . (P55–P59)	18	*	14	*
Hematological disorders . . . . . (P60–P61)	100	2.5	133	3.3
Syndrome of infant of a diabetic mother and neonatal diabetes mellitus . . . . . (P70.0–P70.2)	8	*	7	*
Necrotizing enterocolitis of newborn . . . . . (P77)	348	8.7	380	9.4
Hydrops fetalis not due to hemolytic disease . . . . . (P83.2)	187	4.7	166	4.1
Other perinatal conditions . . . . . (P29,P70.3–P76,P78–P81,P83.0–P83.1,P83.3–P96)	1,205	30.0	1,214	30.2
Congenital malformations, deformations and chromosomal abnormalities . . . . . (Q00–Q99)	5,655	140.7	5,513	136.9
Anencephaly and similar malformations . . . . . (Q00)	304	7.6	263	6.5
Congenital hydrocephalus . . . . . (Q03)	90	2.2	105	2.6
Spina bifida . . . . . (Q05)	20	0.5	19	*
Other congenital malformations of nervous system . . . . . (Q01–Q02,Q04,Q06–Q07)	293	7.3	286	7.1
Congenital malformations of heart . . . . . (Q20–Q24)	1,508	37.5	1,556	38.6
Other congenital malformations of circulatory system . . . . . (Q25–Q28)	217	5.4	192	4.8
Congenital malformations of respiratory system . . . . . (Q30–Q34)	639	15.9	594	14.8
Congenital malformations of digestive system . . . . . (Q35–Q45)	99	2.5	106	2.6
Congenital malformations of genitourinary system . . . . . (Q50–Q64)	354	8.8	356	8.8
Congenital malformations and deformations of musculoskeletal system, limbs and integument . . . . . (Q65–Q85)	472	11.7	477	11.8
Down's syndrome . . . . . (Q90)	119	3.0	119	3.0

See footnotes at end of table.

**Table 5. Infant deaths and infant mortality rates for 130 selected causes: United States, final 2001 and preliminary 2002—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 2002 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> )	2002 <sup>1</sup>		2001	
	Number	Rate	Number	Rate
Edward's syndrome . . . . . (Q91.0–Q91.3)	505	12.6	446	11.1
Patau's syndrome . . . . . (Q91.4–Q91.7)	306	7.6	276	6.9
Other congenital malformations and deformations . . . . . (Q10–Q18, Q86–Q89)	542	13.5	526	13.1
Other chromosomal abnormalities, not elsewhere classified . . . . . (Q92–Q99)	189	4.7	192	4.8
Symptoms, signs and abnormal clinical and laboratory findings, not elsewhere classified . . . . . (R00–R99)	3,702	92.1	3,491	86.7
Sudden infant death syndrome . . . . . (R95)	2,035	50.6	2,234	55.5
Other symptoms, signs and abnormal clinical and laboratory findings, not elsewhere classified . . . . . (R00–R53, R55–R94, R96–R99)	1,667	41.5	1,257	31.2
All other diseases . . . . . (Residual)	26	0.6	19	*
External causes of mortality . . . . . (*U01, V01–Y84)	1,261	31.4	1,417	35.2
Accidents (unintentional injuries) . . . . . (V01–X59)	893	22.2	976	24.2
Transport accidents . . . . . (V01–V99)	129	3.2	151	3.8
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)	124	3.1	144	3.6
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)	5	*	7	*
Falls . . . . . (W00–W19)	24	0.6	23	0.6
Accidental discharge of firearms . . . . . (W32–W34)	1	*	–	*
Accidental drowning and submersion . . . . . (W65–W74)	61	1.5	68	1.7
Accidental suffocation and strangulation in bed . . . . . (W75)	380	9.5	390	9.7
Other accidental suffocation and strangulation . . . . . (W76–W77, W81–W84)	147	3.7	162	4.0
Accidental inhalation and ingestion of food or other objects causing obstruction of respiratory tract . . . . . (W78–W80)	51	1.3	62	1.5
Accidents caused by exposure to smoke, fire and flames . . . . . (X00–X09)	35	0.9	50	1.2
Accidental poisoning and exposure to noxious substances . . . . . (X40–X49)	27	0.7	15	*
Other and unspecified accidents . . . . . (W20–W31, W35–W64, W85–W99, X10–X39, X50–X59)	38	0.9	55	1.4
Assault (homicide) . . . . . (*U01, X85–Y09)	274	6.8	332	8.2
Assault (homicide) by hanging, strangulation and suffocation . . . . . (X91)	28	0.7	40	1.0
Assault (homicide) by discharge of firearms . . . . . (*U01.4, X93–X95)	9	*	11	*
Neglect, abandonment and other maltreatment syndromes . . . . . (Y06–Y07)	85	2.1	116	2.9
Assault (homicide) by other and unspecified means . . . . . (*U01.0–*U01.3, *U01.5–*U01.9, X85–X90, X92, X96–X99, Y00–Y05, Y08–Y09)	152	3.8	165	4.1
Complications of medical and surgical care . . . . . (Y40–Y84)	14	*	26	0.6
Other external causes and their sequelae . . . . . (X60–X84, Y10–Y36)	80	2.0	83	2.1

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

– Quantity zero.

<sup>1</sup>See text and Health E-Stats report at <http://www.cdc.gov/nchs> for additional information on the increase in the infant mortality rate.

NOTE: 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."

**Table 6. Expectation of life by age, race, and sex: United States, final 2001 and preliminary 2002**

[Data are based on a continuous file of records from the States. Calculations of life expectancy employ populations estimated as of July 1 for 2001, and 2002; see "Technical Notes." Race categories are consistent with the 1977 Office of Management and Budget guidelines]

Age (years) and race	Both sexes		Male		Female	
	2002	2001	2002	2001	2002	2001
<b>All races<sup>1</sup></b>						
0 . . . . .	77.4	77.2	74.7	74.4	79.9	79.8
1 . . . . .	76.9	76.7	74.3	74.0	79.4	79.3
5 . . . . .	73.0	72.8	70.4	70.1	75.5	75.4
10 . . . . .	68.1	67.9	65.4	65.2	70.6	70.4
15 . . . . .	63.1	62.9	60.5	60.2	65.6	65.5
20 . . . . .	58.3	58.1	55.8	55.5	60.7	60.6
25 . . . . .	53.6	53.4	51.1	50.9	55.9	55.7
30 . . . . .	48.8	48.6	46.5	46.2	51.0	50.9
35 . . . . .	44.1	43.9	41.8	41.5	46.2	46.0
40 . . . . .	39.4	39.2	37.2	37.0	41.5	41.3
45 . . . . .	34.9	34.7	32.7	32.5	36.8	36.6
50 . . . . .	30.4	30.3	28.4	28.2	32.2	32.1
55 . . . . .	26.2	26.0	24.2	24.0	27.8	27.7
60 . . . . .	22.0	21.9	20.3	20.1	23.5	23.4
65 . . . . .	18.2	18.1	16.6	16.4	19.5	19.4
70 . . . . .	14.7	14.6	13.3	13.1	15.8	15.7
75 . . . . .	11.6	11.5	10.4	10.2	12.5	12.4
80 . . . . .	8.9	8.8	8.0	7.7	9.5	9.4
85 . . . . .	6.7	6.5	5.9	5.7	7.0	6.9
90 . . . . .	4.9	4.8	4.4	4.2	5.1	5.0
95 . . . . .	3.7	3.6	3.3	3.2	3.8	3.7
100 . . . . .	2.8	2.7	2.6	2.5	2.8	2.8
<b>White</b>						
0 . . . . .	77.8	77.7	75.3	75.0	80.3	80.2
1 . . . . .	77.3	77.1	74.7	74.5	79.8	79.6
5 . . . . .	73.4	73.2	70.8	70.6	75.8	75.7
10 . . . . .	68.4	68.3	65.9	65.6	70.9	70.8
15 . . . . .	63.5	63.3	60.9	60.7	65.9	65.8
20 . . . . .	58.7	58.5	56.2	56.0	61.1	60.9
25 . . . . .	53.9	53.8	51.5	51.3	56.2	56.1
30 . . . . .	49.1	49.0	46.8	46.6	51.3	51.2
35 . . . . .	44.4	44.2	42.1	41.9	46.5	46.3
40 . . . . .	39.7	39.5	37.5	37.3	41.7	41.6
45 . . . . .	35.1	34.9	33.0	32.8	37.0	36.9
50 . . . . .	30.6	30.5	28.6	28.4	32.4	32.3
55 . . . . .	26.3	26.1	24.4	24.2	27.9	27.8
60 . . . . .	22.1	22.0	20.4	20.2	23.6	23.5
65 . . . . .	18.2	18.2	16.6	16.5	19.5	19.5
70 . . . . .	14.7	14.6	13.3	13.2	15.8	15.7
75 . . . . .	11.6	11.5	10.4	10.2	12.4	12.3
80 . . . . .	8.9	8.7	7.9	7.7	9.4	9.3
85 . . . . .	6.5	6.4	5.8	5.6	6.8	6.7
90 . . . . .	4.8	4.6	4.3	4.1	4.9	4.8
95 . . . . .	3.5	3.4	3.2	3.0	3.5	3.4
100 . . . . .	2.5	2.4	2.4	2.3	2.5	2.5

See footnotes at end of table.

**Table 6. Expectation of life by age, race, and sex: United States, final 2001 and preliminary 2002—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 2001, and 2002; see "Technical Notes." Race categories are consistent with the 1977 Office of Management and Budget guidelines]

Age (years) and race	Both sexes		Male		Female	
	2002	2001	2002	2001	2002	2001
Black						
0 . . . . .	72.5	72.2	68.9	68.6	75.7	75.5
1 . . . . .	72.5	72.2	69.0	68.6	75.7	75.4
5 . . . . .	68.6	68.3	65.2	64.8	71.8	71.5
10 . . . . .	63.7	63.4	60.2	59.8	66.9	66.6
15 . . . . .	58.8	58.5	55.3	54.9	61.9	61.7
20 . . . . .	54.0	53.7	50.7	50.3	57.1	56.8
25 . . . . .	49.4	49.1	46.2	45.8	52.2	52.0
30 . . . . .	44.8	44.5	41.8	41.4	47.5	47.2
35 . . . . .	40.2	39.9	37.3	36.9	42.8	42.5
40 . . . . .	35.8	35.5	32.9	32.5	38.2	38.0
45 . . . . .	31.5	31.2	28.7	28.4	33.8	33.6
50 . . . . .	27.4	27.1	24.8	24.4	29.6	29.3
55 . . . . .	23.5	23.3	21.1	20.8	25.5	25.3
60 . . . . .	19.9	19.7	17.7	17.5	21.6	21.5
65 . . . . .	16.6	16.4	14.6	14.4	18.0	17.9
70 . . . . .	13.6	13.5	11.9	11.7	14.8	14.7
75 . . . . .	11.0	10.8	9.5	9.3	11.8	11.7
80 . . . . .	8.7	8.6	7.6	7.3	9.3	9.2
85 . . . . .	6.7	6.7	6.0	5.7	7.0	7.0
90 . . . . .	5.2	5.1	4.7	4.5	5.3	5.3
95 . . . . .	4.0	3.9	3.7	3.6	4.0	4.0
100 . . . . .	3.1	3.0	3.0	2.9	3.0	3.0

<sup>1</sup>Includes races other than white and black.

NOTE: Data are subject to sampling and/or random variation.



**Table 7. Deaths and death rates for the 10 leading causes of death in specified age groups: United States, preliminary 2002**

[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 <sup>1</sup>	Cause of death and age (Based on the <i>International Classification of Diseases, Tenth Revision, 1992</i> )	Number	Rate
All ages <sup>2</sup>			
...	All causes . . . . .	2,447,862	848.9
1	Diseases of heart . . . . . (I00–I09,I11,I13,I20–I51)	695,754	241.3
2	Malignant neoplasms . . . . . (C00–C97)	558,847	193.8
3	Cerebrovascular diseases . . . . . (I60–I69)	163,010	56.5
4	Chronic lower respiratory diseases . . . . . (J40–J47)	125,500	43.5
5	Accidents (unintentional injuries) . . . . . (V01–X59,Y85–Y86)	102,303	35.5
...	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)	44,572	15.5
...	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)	57,731	20.0
6	Diabetes mellitus . . . . . (E10–E14)	73,119	25.4
7	Influenza and pneumonia . . . . . (J10–J18)	65,984	22.9
8	Alzheimer's disease . . . . . (G30)	58,785	20.4
9	Nephritis, nephrotic syndrome and nephrosis . . . . . (N00–N07,N17–N19,N25–N27)	41,018	14.2
10	Septicemia . . . . . (A40–A41)	33,881	11.7
...	All other causes . . . . . (Residual)	529,661	183.7
1–4 years			
...	All causes . . . . .	4,838	31.1
1	Accidents (unintentional injuries) . . . . . (V01–X59,Y85–Y86)	1,609	10.3
...	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)	602	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)	1,007	6.5
2	Congenital malformations, deformations and chromosomal abnormalities . . . . . (Q00–Q99)	521	3.3
3	Malignant neoplasms . . . . . (C00–C97)	401	2.6
4	Assault (homicide) . . . . . (*U01–*U02,X85–Y09,Y87.1)	384	2.5
5	Diseases of heart . . . . . (I00–I09,I11,I13,I20–I51)	164	1.1
6	Influenza and pneumonia . . . . . (J10–J18)	107	0.7
7	Septicemia . . . . . (A40–A41)	82	0.5
8	Certain conditions originating in the perinatal period . . . . . (P00–P96)	63	0.4
9	Chronic lower respiratory diseases . . . . . (J40–J47)	62	0.4
10	In situ neoplasms, benign neoplasms and neoplasms of uncertain or unknown behavior . . . . . (D00–D48)	58	0.4
...	All other causes . . . . . (Residual)	1,387	8.9
5–14 years			
...	All causes . . . . .	7,152	17.4
1	Accidents (unintentional injuries) . . . . . (V01–X59,Y85–Y86)	2,692	6.6
...	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)	1,603	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)	1,089	2.7
2	Malignant neoplasms . . . . . (C00–C97)	1,061	2.6
3	Congenital malformations, deformations and chromosomal abnormalities . . . . . (Q00–Q99)	395	1.0
4	Assault (homicide) . . . . . (*U01–*U02,X85–Y09,Y87.1)	342	0.8
5	Intentional self-harm (suicide) . . . . . (*U03,X60–X84,Y87.0)	259	0.6
6	Diseases of heart . . . . . (I00–I09,I11,I13,I20–I51)	237	0.6
7	Chronic lower respiratory diseases . . . . . (J40–J47)	118	0.3
8	Septicemia . . . . . (A40–A41)	100	0.2
9	Influenza and pneumonia . . . . . (J10–J18)	92	0.2
10	In situ neoplasms, benign neoplasms and neoplasms of uncertain or unknown behavior . . . . . (D00–D48)	86	0.2
...	All other causes . . . . . (Residual)	1,770	4.3

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 2002—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 <sup>1</sup>	Cause of death and age (Based on the <i>International Classification of Diseases, Tenth Revision, 1992</i> )	Number	Rate
15–24 years			
...	All causes . . . . .	33,009	81.3
1	Accidents (unintentional injuries) . . . . . (V01–X59, Y85–Y86)	15,026	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)	11,303	27.8
...	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)	3,722	9.2
2	Assault (homicide) . . . . . (*U01–*U02, X85–Y09, Y87.1)	5,070	12.5
3	Intentional self-harm (suicide) . . . . . (*U03, X60–X84, Y87.0)	3,932	9.7
4	Malignant neoplasms . . . . . (C00–C97)	1,728	4.3
5	Diseases of heart . . . . . (I00–I09, I11, I13, I20–I51)	948	2.3
6	Congenital malformations, deformations and chromosomal abnormalities . . . . . (Q00–Q99)	472	1.2
7	Human immunodeficiency virus (HIV) disease . . . . . (B20–B24)	175	0.4
8	Chronic lower respiratory diseases . . . . . (J40–J47)	172	0.4
9	Cerebrovascular diseases . . . . . (I60–I69)	163	0.4
9	Diabetes mellitus . . . . . (E10–E14)	163	0.4
...	All other causes . . . . . (Residual)	5,160	12.7
25–44 years			
...	All causes . . . . .	132,052	155.6
1	Accidents (unintentional injuries) . . . . . (V01–X59, Y85–Y86)	27,454	32.4
...	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)	13,902	16.4
...	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)	13,552	16.0
2	Malignant neoplasms . . . . . (C00–C97)	20,008	23.6
3	Diseases of heart . . . . . (I00–I09, I11, I13, I20–I51)	16,155	19.0
4	Intentional self-harm (suicide) . . . . . (*U03, X60–X84, Y87.0)	11,501	13.6
5	Human immunodeficiency virus (HIV) disease . . . . . (B20–B24)	7,531	8.9
6	Assault (homicide) . . . . . (*U01–*U02, X85–Y09, Y87.1)	7,505	8.8
7	Chronic liver disease and cirrhosis . . . . . (K70, K73–K74)	3,476	4.1
8	Cerebrovascular diseases . . . . . (I60–I69)	2,934	3.5
9	Diabetes mellitus . . . . . (E10–E14)	2,747	3.2
10	Influenza and pneumonia . . . . . (J10–J18)	1,294	1.5
...	All other causes . . . . . (Residual)	31,447	37.1
45–64 years			
...	All causes . . . . .	425,412	637.9
1	Malignant neoplasms . . . . . (C00–C97)	143,416	215.1
2	Diseases of heart . . . . . (I00–I09, I11, I13, I20–I51)	100,378	150.5
3	Accidents (unintentional injuries) . . . . . (V01–X59, Y85–Y86)	21,578	32.4
...	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)	9,522	14.3
...	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)	12,056	18.1
4	Cerebrovascular diseases . . . . . (I60–I69)	15,869	23.8
5	Diabetes mellitus . . . . . (E10–E14)	15,452	23.2
6	Chronic lower respiratory diseases . . . . . (J40–J47)	14,720	22.1
7	Chronic liver disease and cirrhosis . . . . . (K70, K73–K74)	13,131	19.7
8	Intentional self-harm (suicide) . . . . . (*U03, X60–X84, Y87.0)	9,517	14.3
9	Human immunodeficiency virus (HIV) disease . . . . . (B20–B24)	5,729	8.6
10	Septicemia . . . . . (A40–A41)	5,416	8.1
...	All other causes . . . . . (Residual)	80,206	120.3

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 2002—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 <sup>1</sup>	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 . . . . .	1,817,095	5,103.9
1	Diseases of heart . . . . . (I00–I09,I11,I13,I20–I51)	577,353	1,621.7
2	Malignant neoplasms . . . . . (C00–C97)	392,145	1,101.5
3	Cerebrovascular diseases . . . . . (I60–I69)	143,780	403.9
4	Chronic lower respiratory diseases . . . . . (J40–J47)	109,158	306.6
5	Influenza and pneumonia . . . . . (J10–J18)	59,235	166.4
6	Alzheimer's disease . . . . . (G30)	58,205	163.5
7	Diabetes mellitus . . . . . (E10–E14)	54,717	153.7
8	Nephritis, nephrotic syndrome and nephrosis . . . . . (N00–N07,N17–N19,N25–N27)	34,389	96.6
9	Accidents (unintentional injuries) . . . . . (V01–X59,Y85–Y86)	32,973	92.6
	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)	7,479	21.0
...	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)	25,493	71.6
10	Septicemia . . . . . (A40–A41)	26,688	75.0
...	All other causes . . . . . (Residual)	328,452	922.6

... Category not applicable.

<sup>1</sup>Rank based on number of deaths; see "Technical Notes."

<sup>2</sup>Includes deaths under 1 year of age.

NOTE: 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."

**Table 8. Infant deaths and infant mortality rates for the 10 leading causes of infant death, by race and Hispanic origin: United States, preliminary 2002**

[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 <sup>1</sup>	Cause of death and age (Based on the <i>International Classification of Diseases, Tenth Revision, 1992</i> )	Number	Rate <sup>2</sup>
All races <sup>3</sup>			
...	All causes . . . . .	27,974	696.0
1	Congenital malformations, deformations and chromosomal abnormalities . . . . . (Q00–Q99)	5,655	140.7
2	Disorders related to short gestation and low birth weight, not elsewhere classified . . . . . (P07)	4,598	114.4
3	Sudden infant death syndrome . . . . . (R95)	2,035	50.6
4	Newborn affected by maternal complications of pregnancy . . . . . (P01)	1,723	42.9
5	Newborn affected by complications of placenta, cord and membranes . . . . . (P02)	1,017	25.3
6	Respiratory distress of newborn . . . . . (P22)	958	23.8
7	Accidents (unintentional injuries) . . . . . (V01–X59)	893	22.2
8	Bacterial sepsis of newborn . . . . . (P36)	734	18.3
9	Diseases of the circulatory system . . . . . (I00–I99)	649	16.1
10	Intrauterine hypoxia and birth asphyxia . . . . . (P20–P21)	578	14.4
...	All other causes . . . . . (Residual)	9,134	227.2
Total white <sup>4</sup>			
...	All causes . . . . .	18,447	580.8
1	Congenital malformations, deformations and chromosomal abnormalities . . . . . (Q00–Q99)	4,384	138.0
2	Disorders related to short gestation and low birth weight, not elsewhere classified . . . . . (P07)	2,573	81.0
3	Sudden infant death syndrome . . . . . (R95)	1,343	42.3
4	Newborn affected by maternal complications of pregnancy . . . . . (P01)	1,070	33.7
5	Newborn affected by complications of placenta, cord and membranes . . . . . (P02)	672	21.2
6	Respiratory distress of newborn . . . . . (P22)	598	18.8
7	Accidents (unintentional injuries) . . . . . (V01–X59)	558	17.6
8	Bacterial sepsis of newborn . . . . . (P36)	485	15.3
9	Diseases of the circulatory system . . . . . (I00–I99)	426	13.4
10	Intrauterine hypoxia and birth asphyxia . . . . . (P20–P21)	411	12.9
...	All other causes . . . . . (Residual)	5,927	186.6
Non-Hispanic white			
...	All causes . . . . .	13,542	587.9
1	Congenital malformations, deformations and chromosomal abnormalities . . . . . (Q00–Q99)	3,110	135.0
2	Disorders related to short gestation and low birth weight, not elsewhere classified . . . . . (P07)	1,811	78.6
3	Sudden infant death syndrome . . . . . (R95)	1,112	48.3
4	Newborn affected by maternal complications of pregnancy . . . . . (P01)	821	35.6
5	Newborn affected by complications of placenta, cord and membranes . . . . . (P02)	493	21.4
6	Respiratory distress of newborn . . . . . (P22)	446	19.4
7	Accidents (unintentional injuries) . . . . . (V01–X59)	437	19.0
8	Bacterial sepsis of newborn . . . . . (P36)	361	15.7
9	Diseases of the circulatory system . . . . . (I00–I99)	320	13.9
10	Intrauterine hypoxia and birth asphyxia . . . . . (P20–P21)	311	13.5
...	All other causes . . . . . (Residual)	4,321	187.6
Total black <sup>4</sup>			
...	All causes . . . . .	8,380	1,419.0
1	Disorders related to short gestation and low birth weight, not elsewhere classified . . . . . (P07)	1,836	310.9
2	Congenital malformations, deformations and chromosomal abnormalities . . . . . (Q00–Q99)	1,023	173.2
3	Sudden infant death syndrome . . . . . (R95)	603	102.1
4	Newborn affected by maternal complications of pregnancy . . . . . (P01)	575	97.3
5	Respiratory distress of newborn . . . . . (P22)	336	57.0
6	Newborn affected by complications of placenta, cord and membranes . . . . . (P02)	315	53.3
7	Accidents (unintentional injuries) . . . . . (V01–X59)	303	51.4
8	Bacterial sepsis of newborn . . . . . (P36)	231	39.1
9	Diseases of the circulatory system . . . . . (I00–I99)	189	32.1
10	Intrauterine hypoxia and birth asphyxia . . . . . (P20–P21)	147	24.8
...	All other causes . . . . . (Residual)	2,822	477.8

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 2002—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 <sup>1</sup>	Cause of death and age (Based on the <i>International Classification of Diseases, Tenth Revision, 1992</i> )	Number	Rate <sup>2</sup>
	Hispanic <sup>5</sup>		
...	All causes	4,933	565.5
1	Congenital malformations, deformations and chromosomal abnormalities . . . . . (Q00–Q99)	1,269	145.5
2	Disorders related to short gestation and low birth weight, not elsewhere classified . . . . . (P07)	769	88.1
3	Newborn affected by maternal complications of pregnancy . . . . . (P01)	246	28.2
4	Sudden infant death syndrome . . . . . (R95)	241	27.7
5	Newborn affected by complications of placenta, cord and membranes . . . . . (P02)	186	21.3
6	Respiratory distress of newborn . . . . . (P22)	156	17.9
7	Accidents (unintentional injuries) . . . . . (V01–X59)	128	14.6
8	Bacterial sepsis of newborn . . . . . (P36)	126	14.5
9	Diseases of the circulatory system . . . . . (I00–I99)	106	12.1
10	Intrauterine hypoxia and birth asphyxia . . . . . (P20–P21)	98	11.2
...	All other causes . . . . . (Residual)	1,610	184.6

... Category not applicable.

<sup>1</sup>Rank based on number of deaths; see "Technical Notes."

<sup>2</sup>See text and Health E–Stats report at <http://www.cdc.gov/nchs> for additional information on the increase in the infant mortality rate.

<sup>3</sup>Includes races other than white and black.

<sup>4</sup>Race and Hispanic origin are reported separately on both the birth and death certificate. 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."

<sup>5</sup>Includes all persons of Hispanic origin of any race; see "Technical Notes."

NOTE: 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."

## Technical Notes

### Nature and sources of data

Preliminary mortality data for 2002 are based on a substantial proportion of death records for that year. The data for 2002 are based on a continuous receipt and processing of statistical records through July 10, 2003, 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 2002 individual records of infant deaths (deaths under 1 year of age) and deaths of persons 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. [Table I](#) shows the percent completeness of the preliminary file by place of occurrence. The percent 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 files, unknown or not-stated values are imputed. The percent not stated was less than 1.5 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, 1995* (23).

### 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. Effective with deaths occurring in 1999, the United States began use of the Tenth Revision of this classification, (ICD-10) (24). During the period 1979–98 causes were coded and classified according to the Ninth Revision (ICD-9) (25).

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 described in the "Technical Notes" of the preliminary report for 1999 (26) under the section "Comparability between ICD-9 and ICD-10 for mortality." 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* (27).

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 can be found at [http://www.cdc.gov/nchs/about/otheract/icd9/terrorism\\_code.htm](http://www.cdc.gov/nchs/about/otheract/icd9/terrorism_code.htm).

### Bias estimation

Causes of death in this report are subject to nonsampling bias because of the nature of the preliminary file. Inasmuch as the preliminary file is processed before a full year of data is 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 months, and that fatal respiratory conditions are more prevalent during the winter months. Accordingly, the truncated nature of the preliminary file may systematically overemphasize or underemphasize causes with pronounced seasonality.

Further, 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 these biases 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 1999–2001, indicates that preliminary estimates for some causes of death are sometimes underestimated and sometimes overestimated in the preliminary file (see [table II](#)). Thus for 1999, when, unlike for most years, the preliminary file was essentially complete, the number of deaths for unintentional injuries was underestimated by only 0.6 percent, but for 2000 and 2001 the numbers of deaths for this cause were underestimated by 4.4 percent and 3.8 percent respectively.



**Table I. Total count of records and percent completeness of preliminary files of infant deaths and deaths 1 year and over: United States, each State and territory, preliminary 2002**

[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 <sup>1</sup>	28,031	95.9	92.4	2,423,231	96.7	93.4
Alabama	546	96.3	96.3	44,767	100.0	100.0
Alaska	50	98.0	98.0	2,919	99.7	99.2
Arizona	560	100.0	98.0	43,278	100.0	99.5
Arkansas	304	100.0	99.7	27,594	100.0	100.0
California	2,965	77.7	77.7	232,250	81.3	81.3
Colorado	441	100.0	100.0	29,210	100.0	100.0
Connecticut	251	100.0	100.0	29,950	99.9	99.9
Delaware	132	100.0	100.0	6,781	100.0	100.0
District of Columbia	167	94.6	94.6	6,687	98.7	98.7
Florida	1,577	99.9	99.9	167,538	100.0	100.0
Georgia	1,170	99.8	99.8	65,222	100.0	100.0
Hawaii	120	89.2	89.2	8,862	98.0	98.0
Idaho	102	100.0	100.0	9,499	100.0	100.0
Illinois	1,229	73.1	67.0	102,677	73.8	69.7
Indiana	633	99.2	99.1	55,235	100.0	99.9
Iowa	183	97.8	97.8	27,557	100.0	100.0
Kansas	251	100.0	100.0	24,312	100.0	100.0
Kentucky	351	92.9	58.7	40,426	98.8	66.6
Louisiana	695	100.0	99.9	41,719	100.0	100.0
Maine	61	100.0	98.4	12,548	100.0	100.0
Maryland	470	99.6	99.6	43,441	100.0	100.0
Massachusetts	424	100.0	100.0	57,129	100.0	100.0
Michigan	1,062	100.0	100.0	85,588	100.0	100.0
Minnesota	377	100.0	99.2	38,304	100.0	100.0
Mississippi	381	100.0	97.9	27,777	100.0	99.9
Missouri	743	100.0	100.0	56,663	100.0	100.0
Montana	76	98.7	98.7	8,409	99.9	99.9
Nebraska	192	100.0	100.0	15,639	100.0	100.0
Nevada	193	100.0	88.1	17,302	100.0	91.1
New Hampshire	61	100.0	100.0	9,831	100.0	100.0
New Jersey	564	99.1	94.0	71,798	99.7	89.4
New Mexico	159	100.0	91.2	14,016	99.9	96.5
New York	1,538	98.9	95.1	155,552	99.9	96.6
New York excluding New York City	792	100.0	100.0	96,628	100.0	99.9
New York City	746	97.7	89.9	58,924	99.8	91.2
North Carolina	982	100.0	99.9	71,750	100.0	100.0
North Dakota	53	100.0	100.0	6,238	100.0	100.0
Ohio	1,212	99.8	65.1	108,052	100.0	70.1
Oklahoma	405	100.0	100.0	34,184	100.0	100.0
Oregon	287	100.0	99.7	30,834	100.0	100.0
Pennsylvania	1,150	97.0	84.5	130,077	98.7	89.5
Rhode Island	97	100.0	100.0	10,355	100.0	99.8
South Carolina	482	99.4	99.4	36,310	99.9	99.9
South Dakota	77	100.0	100.0	7,141	100.0	100.0
Tennessee	837	100.0	100.0	58,826	100.0	100.0
Texas	2,275	99.7	98.2	158,883	96.7	95.8
Utah	302	100.0	100.0	13,243	100.0	100.0
Vermont	23	100.0	100.0	5,034	100.0	100.0
Virginia	708	100.0	100.0	56,027	100.0	100.0
Washington	443	100.0	100.0	44,993	99.0	99.0
West Virginia	182	100.0	81.3	20,599	100.0	91.1
Wisconsin	460	98.9	95.9	46,260	100.0	95.9
Wyoming	28	100.0	100.0	3,945	100.0	100.0
Puerto Rico	505	91.3	91.3	27,595	92.1	92.1
Virgin Islands	5	100.0	100.0	608	98.8	98.8
Guam	20	100.0	100.0	639	100.0	100.0
American Samoa	25	88.0	88.0	269	100.0	99.6
Northern Marianas	9	88.9	88.9	154	99.4	99.4

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

NOTE: Percent completeness = 100 \* (Number of records in preliminary file / count of records).

Similar bias occurred for suicide with underestimates of only 0.5 percent in 1999, 3.5 percent in 2000, and 3.9 percent in 2001. Likewise, homicide showed only a 0.3 percent underestimate in 1999, but 3.8 percent in 2000 and 2.9 percent in 2001. The bias occurring for Chronic lower respiratory diseases was expressed as an underestimate of 0.02 percent for 1999, and in overestimates of 1.3 percent for 2000 and 0.8 percent for 2001. The comparisons upon which these estimates of nonsampling bias are made are shown in [table II](#).

Comparisons showing bias in estimates for causes of infant death are shown in [table III](#), where Congenital malformations, deformations, and chromosomal abnormalities are underestimated by 0.04 percent in 1999, but overestimated by 0.6 percent in 2000 and 1.7 percent in 2001. Unintentional injuries are underestimated in the preliminary data by 1.4 percent in 1999 but by 6.2 percent in 2000 and 6.6 percent in 2001. SIDS deaths are underestimated by 2.5 percent in 1999, 14.7 percent in 2000, and 11.7 percent in 2001 ([table III](#)).

### Tabulation lists and cause-of-death ranking

Tabulation lists for ICD-10 were developed to maximize continuity with ICD-9 lists to facilitate trend analysis, and to separately identify causes of death of public health importance. The lists are published in the *NCHS Instruction Manual*, Part 9, ICD-10 Cause-of-Death Lists for Tabulating Mortality Statistics, Updated October 2002 (28). 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. 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.

### Race and Hispanic origin

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, American Indian, and Asian or Pacific Islander (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, American Indian, 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 American Indians, API, and Hispanic decedents; and undercounts of these groups in the censuses (17,18).

### Infant mortality

Infant mortality rates are 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 number of infant deaths that occurred in a 12-month period by the preliminary 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 2002" (1). 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 the 12-month period by the estimated population of persons under 1 year of age on July 1, 2002, 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 (22).

### 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 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. 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 percents."

**Table II. Ratios of preliminary to final reported numbers of deaths from 113 selected causes: United States, 1999–2001**

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

Cause of death ( <i>International Classification of Diseases, Tenth Revision, 1992</i> )	Preliminary number of deaths 2001	Final number of deaths 2001	Ratio of preliminary to final 2001	Preliminary number of deaths 2000	Final number of deaths 2000	Ratio of preliminary to final 2000	Preliminary number of deaths 1999	Final number of deaths 1999	Ratio of preliminary to final 1999
All causes . . . . .	2,417,798	2,416,425	1.0006	2,404,624	2,403,351	1.0005	2,391,630	2,391,399	1.0001
Salmonella infections . . . . . (A01–A02)	38	41	0.9268	26	28	0.9286	37	38	0.9737
Shigellosis and amebiasis . . . . . (A03,A06)	7	7	1.0000	11	12	0.9167	10	10	1.0000
Certain other intestinal infections . . . . . (A04,A07–A09)	1,539	1,537	1.0013	1,352	1,328	1.0181	1,108	1,108	1.0000
Tuberculosis . . . . . (A16–A19)	749	764	0.9804	751	776	0.9678	856	930	0.9204
Respiratory tuberculosis . . . . . (A16)	585	600	0.9750	595	615	0.9675	692	764	0.9058
Other tuberculosis . . . . . (A17–A19)	164	164	1.0000	156	161	0.9689	164	166	0.9880
Whooping cough . . . . . (A37)	14	17	0.8235	12	12	1.0000	7	7	1.0000
Scarlet fever and erysipelas . . . . . (A38,A46)	2	3	0.6667	–	2	–	5	5	1.0000
Meningococcal infection . . . . . (A39)	204	199	1.0251	200	211	0.9479	225	227	0.9912
Septicemia . . . . . (A40–A41)	32,275	32,238	1.0011	31,613	31,224	1.0125	30,670	30,680	0.9997
Syphilis . . . . . (A50–A53)	33	36	0.9167	41	41	1.0000	33	33	1.0000
Acute poliomyelitis . . . . . (A80)	–	–	–	–	–	–	–	–	–
Arthropod-borne viral encephalitis . . . . . (A83–A84,A85.2)	9	9	1.0000	2	2	1.0000	3	3	1.0000
Measles . . . . . (B05)	1	1	1.0000	3	1	3.0000	2	2	1.0000
Viral hepatitis . . . . . (B15–B19)	5,094	5,585	0.9121	4,544	5,357	0.8482	3,228	4,853	0.6652
Human immunodeficiency virus (HIV) disease . . . . . (B20–B24)	14,132	14,175	0.9970	14,370	14,478	0.9925	14,681	14,802	0.9918
Malaria . . . . . (B50–B54)	9	9	1.0000	3	3	1.0000	7	7	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)	6,266	5,715	1.0964	6,266	5,532	1.1327	9,088	7,279	1.2485
Malignant neoplasms . . . . . (C00–C97)	553,251	553,768	0.9991	551,833	553,091	0.9977	549,787	549,838	0.9999
Malignant neoplasms of lip, oral cavity and pharynx . . . . . (C00–C14)	7,638	7,702	0.9917	7,436	7,492	0.9925	7,485	7,486	0.9999
Malignant neoplasm of esophagus . . . . . (C15)	12,509	12,530	0.9983	12,212	12,232	0.9984	11,913	11,918	0.9996
Malignant neoplasm of stomach . . . . . (C16)	12,340	12,319	1.0017	12,620	12,645	0.9980	12,708	12,711	0.9998
Malignant neoplasms of colon, rectum and anus . . . . . (C18–C21)	56,799	56,887	0.9985	57,344	57,477	0.9977	57,152	57,155	0.9999
Malignant neoplasms of liver and intrahepatic bile ducts . . . . . (C22)	13,263	13,351	0.9934	12,736	12,916	0.9861	12,382	12,382	1.0000
Malignant neoplasm of pancreas . . . . . (C25)	29,723	29,803	0.9973	29,139	29,332	0.9934	29,083	29,082	1.0000
Malignant neoplasm of larynx . . . . . (C32)	3,826	3,797	1.0076	3,785	3,861	0.9803	3,816	3,815	1.0003
Malignant neoplasms of trachea, bronchus and lung . . . . . (C33–C34)	156,005	156,058	0.9997	154,981	155,521	0.9965	152,176	152,156	1.0001
Malignant melanoma of skin . . . . . (C43)	7,543	7,542	1.0001	7,432	7,420	1.0016	7,214	7,215	0.9999
Malignant neoplasm of breast . . . . . (C50)	41,844	41,809	1.0008	42,290	42,300	0.9998	41,524	41,528	0.9999
Malignant neoplasm of cervix uteri . . . . . (C53)	4,064	4,092	0.9932	4,142	4,200	0.9862	4,204	4,205	0.9998
Malignant neoplasms of corpus uteri and uterus, part unspecified . . . . . (C54–C55)	6,835	6,784	1.0075	6,499	6,586	0.9868	6,461	6,468	0.9989
Malignant neoplasm of ovary . . . . . (C56)	14,361	14,414	0.9963	14,044	14,060	0.9989	13,618	13,627	0.9993
Malignant neoplasm of prostate . . . . . (C61)	30,714	30,719	0.9998	31,225	31,078	1.0047	31,696	31,729	0.9990
Malignant neoplasms of kidney and renal pelvis . . . . . (C64–C65)	12,084	12,078	1.0005	11,751	11,736	1.0013	11,115	11,116	0.9999
Malignant neoplasm of bladder . . . . . (C67)	12,115	12,225	0.9910	11,965	12,002	0.9969	11,912	11,911	1.0001
Malignant neoplasms of meninges, brain and other parts of central nervous system . . . . . (C70–C72)	12,567	12,609	0.9967	12,574	12,655	0.9936	12,767	12,765	1.0002
Malignant neoplasms of lymphoid, hematopoietic and related tissue . . . . . (C81–C96)	56,350	56,341	1.0002	56,262	56,518	0.9955	56,312	56,318	0.9999
Hodgkin's disease . . . . . (C81)	1,315	1,323	0.9940	1,254	1,287	0.9744	1,402	1,403	0.9993
Non-Hodgkin's lymphoma . . . . . (C82–C85)	22,340	22,305	1.0016	22,548	22,729	0.9920	22,799	22,802	0.9999
Leukemia . . . . . (C91–C95)	21,518	21,451	1.0031	21,298	21,339	0.9981	21,014	21,014	1.0000
Multiple myeloma and immunoproliferative neoplasms . . . . . (C88,C90)	11,088	11,172	0.9925	11,053	11,063	0.9991	11,014	11,016	0.9998

See footnotes at end of table.

**Table II. Ratios of preliminary to final reported numbers of deaths from 113 selected causes: United States, 1999–2001—Con.**

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

Cause of death ( <i>International Classification of Diseases, Tenth Revision, 1992</i> )	Preliminary number of deaths 2001	Final number of deaths 2001	Ratio of preliminary to final 2001	Preliminary number of deaths 2000	Final number of deaths 2000	Ratio of preliminary to final 2000	Preliminary number of deaths 1999	Final number of deaths 1999	Ratio of preliminary to final 1999
Other and unspecified malignant neoplasms of lymphoid, hematopoietic and related tissue . . . . . (C96)	89	90	0.9889	108	100	1.0800	83	83	1.0000
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)	62,669	62,708	0.9994	63,397	63,060	1.0053	66,246	66,251	0.9999
In situ neoplasms, benign neoplasms and neoplasms of uncertain or unknown behavior . . . . . (D00–D48)	13,673	13,676	0.9998	13,657	13,546	1.0082	13,221	13,227	0.9995
Anemias . . . . . (D50–D64)	4,611	4,627	0.9965	4,450	4,494	0.9902	4,496	4,503	0.9984
Diabetes mellitus . . . . . (E10–E14)	71,252	71,372	0.9983	68,662	69,301	0.9908	68,379	68,399	0.9997
Nutritional deficiencies . . . . . (E40–E64)	3,725	3,704	1.0057	4,342	4,242	1.0236	4,608	4,289	1.0744
Malnutrition . . . . . (E40–E46)	3,433	3,454	0.9939	3,922	3,926	0.9990	3,773	3,985	0.9468
Other nutritional deficiencies . . . . . (E50–E64)	293	250	1.1720	421	316	1.3323	835	304	2.7467
Meningitis . . . . . (G00,G03)	718	727	0.9876	770	758	1.0158	850	850	1.0000
Parkinson's disease . . . . . (G20–G21)	16,576	16,544	1.0019	15,690	15,682	1.0005	14,591	14,593	0.9999
Alzheimer's disease . . . . . (G30)	53,679	53,852	0.9968	49,044	49,558	0.9896	44,507	44,536	0.9993
Major cardiovascular diseases . . . . . (I00–I78)	921,819	922,334	0.9994	934,110	936,923	0.9970	949,998	950,314	0.9997
Diseases of heart . . . . . (I00–I09,I11,I13,I20–I51)	699,697	700,142	0.9994	709,894	710,760	0.9988	724,915	725,192	0.9996
Acute rheumatic fever and chronic rheumatic heart diseases . . . . . (I00–I09)	3,475	3,489	0.9960	3,585	3,582	1.0008	3,676	3,676	1.0000
Hypertensive heart disease . . . . . (I11)	24,496	24,689	0.9922	23,330	23,761	0.9819	22,675	22,702	0.9988
Hypertensive heart and renal disease . . . . . (I13)	2,797	2,826	0.9897	2,707	2,785	0.9720	3,324	3,327	0.9991
Ischemic heart diseases . . . . . (I20–I25)	501,691	502,189	0.9990	513,758	515,204	0.9972	529,544	529,659	0.9998
Acute myocardial infarction . . . . . (I21–I22)	184,697	184,757	0.9997	192,811	192,898	0.9995	199,440	199,454	0.9999
Other acute ischemic heart diseases . . . . . (I24)	3,356	3,351	1.0015	3,390	3,363	1.0080	3,229	3,232	0.9991
Other forms of chronic ischemic heart disease . . . . . (I20,I25)	313,638	314,081	0.9986	317,558	318,943	0.9957	326,875	326,973	0.9997
Atherosclerotic cardiovascular disease, so described . . . . . (I25.0)	67,531	68,103	0.9916	68,652	69,554	0.9870	71,846	71,926	0.9989
All other forms of chronic ischemic heart disease . . . . . (I20,I25.1–I25.9)	246,107	245,978	1.0005	248,906	249,389	0.9981	255,029	255,047	0.9999
Other heart diseases . . . . . (I26–I51)	167,237	166,949	1.0017	166,515	165,428	1.0066	165,696	165,828	0.9992
Acute and subacute endocarditis . . . . . (I33)	1,175	1,178	0.9975	1,162	1,172	0.9915	1,116	1,116	1.0000
Diseases of pericardium and acute myocarditis . . . . . (I30–I31,I40)	832	839	0.9917	698	767	0.9100	883	890	0.9921
Heart failure . . . . . (I50)	57,345	56,934	1.0072	56,863	55,704	1.0208	54,920	54,913	1.0001
All other forms of heart disease . . . . . (I26–I28,I34–I38,I42–I49,I51)	107,885	107,998	0.9990	107,792	107,785	1.0001	108,777	108,909	0.9988
Essential (primary) hypertension and hypertensive renal disease . . . . . (I10,I12)	19,054	19,250	0.9898	17,964	18,073	0.9940	16,964	16,968	0.9998
Cerebrovascular diseases . . . . . (I60–I69)	163,601	163,538	1.0004	166,028	167,661	0.9903	167,340	167,366	0.9998
Atherosclerosis . . . . . (I70)	14,111	14,086	1.0018	14,413	14,393	1.0014	14,977	14,979	0.9999
Other diseases of circulatory system . . . . . (I71–I78)	25,356	25,318	1.0015	25,812	26,036	0.9914	25,801	25,809	0.9997
Aortic aneurysm and dissection . . . . . (I71)	15,218	15,234	0.9989	15,659	15,810	0.9904	15,806	15,807	0.9999
Other diseases of arteries, arterioles and capillaries . . . . . (I72–I78)	10,137	10,084	1.0053	10,153	10,226	0.9929	9,994	10,002	0.9992
Other disorders of circulatory system . . . . . (I80–I99)	4,632	4,665	0.9929	4,564	4,603	0.9915	4,022	4,025	0.9993
Influenza and pneumonia . . . . . (J10–J18)	62,123	62,034	1.0014	67,024	65,313	1.0262	63,686	63,730	0.9993
Influenza . . . . . (J10–J11)	267	257	1.0389	2,175	1,765	1.2323	1,663	1,665	0.9988
Pneumonia . . . . . (J12–J18)	61,856	61,777	1.0013	64,849	63,548	1.0205	62,023	62,065	0.9993
Other acute lower respiratory infections . . . . . (J20–J22)	359	347	1.0346	453	425	1.0659	538	540	0.9963
Acute bronchitis and bronchiolitis . . . . . (J20–J21)	269	263	1.0228	318	290	1.0966	386	388	0.9948
Unspecified acute lower respiratory infection . . . . . (J22)	91	84	1.0833	136	135	1.0074	152	152	1.0000
Chronic lower respiratory diseases . . . . . (J40–J47)	123,974	123,013	1.0078	123,550	122,009	1.0126	124,153	124,181	0.9998
Bronchitis, chronic and unspecified . . . . . (J40–J42)	980	959	1.0219	1,188	1,167	1.0180	1,171	1,172	0.9991
Emphysema . . . . . (J43)	16,407	16,242	1.0102	16,936	16,700	1.0141	17,776	17,787	0.9994
Asthma . . . . . (J45–J46)	4,222	4,269	0.9890	4,426	4,487	0.9864	4,650	4,657	0.9985

See footnotes at end of table.

**Table II. Ratios of preliminary to final reported numbers of deaths from 113 selected causes: United States, 1999–2001—Con.**

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

Cause of death ( <i>International Classification of Diseases, Tenth Revision, 1992</i> )	Preliminary number of deaths 2001	Final number of deaths 2001	Ratio of preliminary to final 2001	Preliminary number of deaths 2000	Final number of deaths 2000	Ratio of preliminary to final 2000	Preliminary number of deaths 1999	Final number of deaths 1999	Ratio of preliminary to final 1999
Other chronic lower respiratory diseases . . . . . (J44,J47)	102,365	101,543	1.0081	100,999	99,655	1.0135	100,556	100,565	0.9999
Pneumoconioses and chemical effects . . . . . (J60–J66,J68)	1,155	1,136	1.0167	1,143	1,161	0.9845	1,111	1,113	0.9982
Pneumonitis due to solids and liquids . . . . . (J69)	17,392	17,301	1.0053	16,659	16,636	1.0014	15,265	15,268	0.9998
Other diseases of respiratory system . . . . . (J00–J06,J30–J39,J67,J70–J98)	26,225	26,178	1.0018	25,608	25,535	1.0029	25,011	25,031	0.9992
Peptic ulcer . . . . . (K25–K28)	4,462	4,491	0.9935	4,507	4,558	0.9888	4,602	4,604	0.9996
Diseases of appendix . . . . . (K35–K38)	425	428	0.9930	422	435	0.9701	390	390	1.0000
Hernia . . . . . (K40–K46)	1,529	1,522	1.0046	1,510	1,522	0.9921	1,463	1,464	0.9993
Chronic liver disease and cirrhosis . . . . . (K70,K73–K74)	26,751	27,035	0.9895	26,219	26,552	0.9875	26,225	26,259	0.9987
Alcoholic liver disease . . . . . (K70)	12,000	12,207	0.9830	11,755	12,109	0.9708	11,941	11,958	0.9986
Other chronic liver disease and cirrhosis . . . . . (K73–K74)	14,751	14,828	0.9948	14,464	14,443	1.0015	14,283	14,301	0.9987
Cholelithiasis and other disorders of gallbladder . . . . . (K80–K82)	2,960	2,965	0.9983	2,769	2,810	0.9854	2,829	2,830	0.9996
Nephritis, nephrotic syndrome and nephrosis . . . . . (N00–N07,N17–N19,N25–N27)	39,661	39,480	1.0046	37,672	37,251	1.0113	35,524	35,525	1.0000
Acute and rapidly progressive nephritic and nephrotic syndrome . . . . . (N00–N01,N04)	165	156	1.0577	176	177	0.9944	182	182	1.0000
Chronic glomerulonephritis, nephrosis and nephropathy not specified as acute or chronic, and renal sclerosis unspecified . . . . . (N02–N03,N05–N07,N26)	512	511	1.0020	546	556	0.9820	588	589	0.9983
Renal failure . . . . . (N17–N19)	38,957	38,784	1.0045	36,904	36,471	1.0119	34,719	34,719	1.0000
Other disorders of kidney . . . . . (N25,N27)	28	29	0.9655	47	47	1.0000	35	35	1.0000
Infections of kidney . . . . . (N10–N12,N13.6,N15.1)	750	748	1.0027	781	813	0.9606	844	846	0.9976
Hyperplasia of prostate . . . . . (N40)	426	439	0.9704	441	433	1.0185	429	430	0.9977
Inflammatory diseases of female pelvic organs . . . . . (N70–N76)	128	127	1.0079	113	120	0.9417	108	108	1.0000
Pregnancy, childbirth and the puerperium . . . . . (O00–O99)	401	416	0.9639	370	404	0.9158	399	406	0.9828
Pregnancy with abortive outcome . . . . . (O00–O07)	38	38	1.0000	37	37	1.0000	30	31	0.9677
Other complications of pregnancy, childbirth and the puerperium . . . . . (O10–O99)	363	378	0.9603	333	367	0.9074	369	375	0.9840
Certain conditions originating in the perinatal period . . . . . (P00–P96)	13,925	13,887	1.0027	13,831	14,069	0.9831	14,275	14,259	1.0011
Congenital malformations, deformations and chromosomal abnormalities . . . . . (Q00–Q99)	10,490	10,442	1.0046	10,472	10,578	0.9900	10,362	10,393	0.9970
Symptoms, signs and abnormal clinical and laboratory findings, not elsewhere classified . . . . . (R00–R99)	39,689	32,326	1.2278	42,049	31,876	1.3191	28,445	26,672	1.0665
All other diseases . . . . . (Residual)	186,446	186,406	1.0002	177,980	178,378	0.9978	171,382	171,683	0.9982
Accidents (unintentional injuries) . . . . . (V01–X59,Y85–Y86)	97,707	101,537	0.9623	93,592	97,900	0.9560	97,298	97,860	0.9943
Transport accidents . . . . . (V01–V99,Y85)	45,911	47,288	0.9709	45,103	46,749	0.9648	46,378	46,423	0.9990
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)	41,967	43,293	0.9694	41,804	43,354	0.9642	42,437	42,401	1.0008
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)	1,885	1,900	0.9921	1,513	1,492	1.0141	2,042	2,118	0.9641
Water, air and space, and other and unspecified transport accidents and their sequelae . . . . . (V90–V99,Y85)	2,059	2,095	0.9828	1,786	1,903	0.9385	1,899	1,904	0.9974
Nontransport accidents . . . . . (W00–X59,Y86)	51,796	54,249	0.9548	48,489	51,151	0.9480	50,921	51,437	0.9900
Falls . . . . . (W00–W19)	14,543	15,019	0.9683	12,604	13,322	0.9461	13,125	13,162	0.9972
Accidental discharge of firearms . . . . . (W32–W34)	924	802	1.1521	808	776	1.0412	832	824	1.0097
Accidental drowning and submersion . . . . . (W65–W74)	3,247	3,281	0.9896	3,343	3,482	0.9601	3,513	3,529	0.9955
Accidental exposure to smoke, fire and flames . . . . . (X00–X09)	3,223	3,309	0.9740	3,265	3,377	0.9668	3,338	3,348	0.9970
Accidental poisoning and exposure to noxious substances . . . . . (X40–X49)	12,030	14,078	0.8545	9,893	12,757	0.7755	11,758	12,186	0.9649
Other and unspecified nontransport accidents and their sequelae . . . . . (W20–W31,W35–W64,W75–W99,X10–X39,X50–X59,Y86)	17,829	17,760	1.0039	18,575	17,437	1.0653	18,354	18,388	0.9982

See footnotes at end of table.



**Table II. Ratios of preliminary to final reported numbers of deaths from 113 selected causes: United States, 1999–2001—Con.**

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

Cause of death ( <i>International Classification of Diseases, Tenth Revision, 1992</i> )	Preliminary number of deaths 2001	Final number of deaths 2001	Ratio of preliminary to final 2001	Preliminary number of deaths 2000	Final number of deaths 2000	Ratio of preliminary to final 2000	Preliminary number of deaths 1999	Final number of deaths 1999	Ratio of preliminary to final 1999
Intentional self-harm (suicide) . . . . . (*U03,X60–X84,Y87.0)	29,423	30,622	0.9608	28,332	29,350	0.9653	29,041	29,199	0.9946
Intentional self-harm (suicide) by discharge of firearms . . . . . (X72–X74)	16,455	16,869	0.9755	16,418	16,586	0.9899	16,573	16,599	0.9984
Intentional self-harm (suicide) by other and unspecified means and their sequelae . . . . . (*U03,X60–X71,X75–X84,Y87.0)	12,968	13,749	0.9432	11,914	12,764	0.9334	12,468	12,600	0.9895
Assault (homicide) . . . . . (*U01–*U02,X85–Y09,Y87.1)	19,727	20,308	0.9714	16,137	16,765	0.9625	16,831	16,889	0.9966
Assault (homicide) by discharge of firearms . . . . . (*U01.4,X93–X95)	11,001	11,348	0.9694	10,417	10,801	0.9644	10,818	10,828	0.9991
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)	8,726	8,960	0.9739	5,719	5,964	0.9589	6,013	6,061	0.9921
Legal intervention . . . . . (Y35,Y89.0)	387	396	0.9773	345	359	0.9610	394	398	0.9899
Events of undetermined intent . . . . . (Y10–Y34,Y87.2,Y89.9)	3,868	4,198	0.9214	3,422	3,819	0.8960	3,764	3,917	0.9609
Discharge of firearms, undetermined intent . . . . . (Y22–Y24)	222	231	0.9610	214	230	0.9304	320	324	0.9877
Other and unspecified events of undetermined intent and their sequelae . . . . . (Y10–Y21,Y25–Y34,Y87.2,Y89.9)	3,646	3,967	0.9191	3,208	3,589	0.8938	3,444	3,593	0.9585
Operations of war and their sequelae . . . . . (Y36,Y89.1)	17	17	1.0000	17	16	1.0625	23	23	1.0000
Complications of medical and surgical care . . . . . (Y40–Y84,Y88)	3,089	3,021	1.0225	2,886	3,059	0.9434	2,813	2,823	0.9965

– Quantity zero.

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, 1999–2001**

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

Cause of death ( <i>International Classification of Diseases, Tenth Revision, 1992</i> )	Preliminary number of deaths 2001	Final number of deaths 2001	Ratio of preliminary to final 2001	Preliminary number of deaths 2000	Final number of deaths 2000	Ratio of preliminary to final 2000	Preliminary number of deaths 1999	Final number of deaths 1999	Ratio of preliminary to final 1999
All causes . . . . .	27,798	27,568	1.0083	27,983	28,035	0.9981	27,953	27,937	1.0006
Certain infectious and parasitic diseases . . . . . (A00–B99)	576	563	1.0231	528	510	1.0353	558	562	0.9929
Certain intestinal infectious diseases . . . . . (A00–A08)	10	12	0.8333	8	16	0.5000	20	21	0.9524
Diarrhea and gastroenteritis of infectious origin . . . . . (A09)	1	2	0.5000	1	1	1.0000	–	–	–
Tuberculosis . . . . . (A16–A19)	1	2	0.5000	1	1	1.0000	2	2	1.0000
Tetanus . . . . . (A33,A35)	–	–	–	–	–	–	–	–	–
Diphtheria . . . . . (A36)	–	–	–	–	–	–	–	–	–
Whooping cough . . . . . (A37)	13	16	0.8125	12	12	1.0000	7	7	1.0000
Meningococcal infection . . . . . (A39)	18	16	1.1250	20	22	0.9091	32	32	1.0000
Septicemia . . . . . (A40–A41)	334	312	1.0705	289	274	1.0547	281	283	0.9929
Congenital syphilis . . . . . (A50)	1	1	1.0000	1	1	1.0000	2	2	1.0000
Gonococcal infection . . . . . (A54)	–	–	–	–	–	–	–	–	–
Viral diseases . . . . . (A80–B34)	114	121	0.9421	108	111	0.9730	134	134	1.0000
Acute poliomyelitis . . . . . (A80)	–	–	–	–	–	–	–	–	–
Varicella (chickenpox) . . . . . (B01)	1	1	1.0000	1	1	1.0000	3	3	1.0000
Measles . . . . . (B05)	–	–	–	1	1	1.0000	1	1	1.0000
Human immunodeficiency virus (HIV) disease . . . . . (B20–B24)	8	10	0.8000	8	10	0.8000	14	14	1.0000
Mumps . . . . . (B26)	–	–	–	–	–	–	–	–	–
Other and unspecified viral diseases . . . . . (A81–B00,B02–B04,B06–B19,B25,B27–B34)	104	110	0.9455	98	99	0.9899	116	116	1.0000
Candidiasis . . . . . (B37)	21	21	1.0000	32	24	1.3333	27	27	1.0000
Malaria . . . . . (B50–B54)	–	–	–	–	–	–	1	1	1.0000
Pneumocystosis . . . . . (B59)	2	2	1.0000	3	3	1.0000	4	4	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)	61	58	1.0517	53	45	1.1778	47	49	0.9592
Neoplasms . . . . . (C00–D48)	122	117	1.0427	156	152	1.0263	125	126	0.9921
Malignant neoplasms . . . . . (C00–C97)	69	66	1.0455	98	92	1.0652	67	68	0.9853
Hodgkin’s disease and non-Hodgkin’s lymphomas . . . . . (C81–C85)	1	1	1.0000	1	1	1.0000	2	2	1.0000
Leukemia . . . . . (C91–C95)	26	25	1.0400	46	38	1.2105	27	27	1.0000
Other and unspecified malignant neoplasms . . . . . (C00–C80,C88–C90,C96–C97)	42	40	1.0500	51	53	0.9623	38	39	0.9744
In situ neoplasms, benign neoplasms and neoplasms of uncertain or unknown behavior . . . . . (D00–D48)	53	51	1.0392	58	60	0.9667	58	58	1.0000
Diseases of the blood and blood-forming organs and certain disorders involving the immune mechanism . . . . . (D50–D89)	106	106	1.0000	71	70	1.0143	93	94	0.9894
Anemias . . . . . (D50–D64)	16	16	1.0000	11	10	1.1000	12	12	1.0000
Hemorrhagic conditions and other diseases of blood and blood-forming organs . . . . . (D65–D76)	61	59	1.0339	41	41	1.0000	63	64	0.9844
Certain disorders involving the immune mechanism . . . . . (D80–D89)	29	31	0.9355	18	19	0.9474	18	18	1.0000
Endocrine, nutritional and metabolic diseases . . . . . (E00–E88)	284	292	0.9726	268	260	1.0308	241	261	0.9234
Short stature, not elsewhere classified . . . . . (E34.3)	30	26	1.1538	23	23	1.0000	24	24	1.0000
Nutritional deficiencies . . . . . (E40–E64)	3	4	0.7500	11	14	0.7857	9	9	1.0000
Cystic fibrosis . . . . . (E84)	6	6	1.0000	4	4	1.0000	12	12	1.0000
Volume depletion, disorders of fluid, electrolyte and acid-base balance . . . . . (E86–E87)	81	90	0.9000	81	73	1.1096	53	73	0.7260
All other endocrine, nutritional and metabolic diseases . . . . . (E00–E32,E34.0–E34.2, E34.4–E34.9,E65–E83,E85,E88)	164	166	0.9880	149	146	1.0205	143	143	1.0000
Diseases of the nervous system . . . . . (G00–G98)	356	360	0.9889	393	389	1.0103	439	441	0.9955

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, 1999–2001—Con.**

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

Cause of death ( <i>International Classification of Diseases, Tenth Revision, 1992</i> )	Preliminary number of deaths 2001	Final number of deaths 2001	Ratio of preliminary to final 2001	Preliminary number of deaths 2000	Final number of deaths 2000	Ratio of preliminary to final 2000	Preliminary number of deaths 1999	Final number of deaths 1999	Ratio of preliminary to final 1999
Meningitis . . . . . (G00,G03)	72	78	0.9231	96	91	1.0549	116	116	1.0000
Infantile spinal muscular atrophy, type I (Werdnig-Hoffman) . . . . . (G12.0)	19	21	0.9048	36	33	1.0909	41	42	0.9762
Infantile cerebral palsy . . . . . (G80)	19	19	1.0000	6	10	0.6000	13	13	1.0000
Anoxic brain damage, not elsewhere classified . . . . . (G93.1)	27	26	1.0385	38	34	1.1176	35	39	0.8974
Other diseases of nervous system . . . . . (G04,G06–G11,G12.1–G12.9,G20–G72,G81–G92,G93.0,G93.2–G93.9,G95–G98)	219	216	1.0139	218	221	0.9864	234	231	1.0130
Diseases of the ear and mastoid process . . . . . (H60–H93)	1	3	0.3333	4	6	0.6667	4	4	1.0000
Diseases of the circulatory system . . . . . (I00–I99)	637	622	1.0241	632	663	0.9532	667	667	1.0000
Pulmonary heart disease and diseases of pulmonary circulation . . . . . (I26–I28)	173	170	1.0176	182	185	0.9838	219	218	1.0046
Pericarditis, endocarditis and myocarditis . . . . . (I30,I33,I40)	23	21	1.0952	13	15	0.8667	20	20	1.0000
Cardiomyopathy . . . . . (I42)	128	137	0.9343	96	118	0.8136	131	132	0.9924
Cardiac arrest . . . . . (I46)	27	24	1.1250	31	29	1.0690	27	27	1.0000
Cerebrovascular diseases . . . . . (I60–I69)	121	108	1.1204	125	124	1.0081	104	103	1.0097
All other diseases of circulatory system . . . . . (I00–I25,I31,I34–I38,I44–I45,I47–I51,I70–I99)	165	162	1.0185	185	192	0.9635	165	167	0.9880
Diseases of the respiratory system . . . . . (J00–J98)	692	696	0.9943	613	651	0.9416	673	687	0.9796
Acute upper respiratory infections . . . . . (J00–J06)	8	9	0.8889	6	6	1.0000	10	10	1.0000
Influenza and pneumonia . . . . . (J10–J18)	290	299	0.9699	261	289	0.9031	312	320	0.9750
Influenza . . . . . (J10–J11)	9	7	1.2857	10	9	1.1111	13	13	1.0000
Pneumonia . . . . . (J12–J18)	281	292	0.9623	252	280	0.9000	299	307	0.9739
Acute bronchitis and acute bronchiolitis . . . . . (J20–J21)	54	49	1.1020	51	42	1.2143	62	62	1.0000
Bronchitis, chronic and unspecified . . . . . (J40–J42)	27	21	1.2857	14	18	0.7778	19	20	0.9500
Asthma . . . . . (J45–J46)	9	10	0.9000	8	8	1.0000	5	5	1.0000
Pneumonitis due to solids and liquids . . . . . (J69)	11	12	0.9167	7	10	0.7000	15	16	0.9375
Other and unspecified diseases of respiratory system . . . . . (J22,J30–J39,J43–J44,J47–J68,J70–J98)	292	296	0.9865	265	278	0.9532	249	254	0.9803
Diseases of the digestive system . . . . . (K00–K92)	488	478	1.0209	503	499	1.0080	499	500	0.9980
Gastritis, duodenitis, and noninfective enteritis and colitis . . . . . (K29,K50–K55)	250	246	1.0163	244	239	1.0209	242	242	1.0000
Hernia of abdominal cavity and intestinal obstruction without hernia . . . . . (K40–K46,K56)	63	62	1.0161	80	72	1.1111	65	66	0.9848
All other and unspecified diseases of digestive system . . . . . (K00–K28,K30–K38,K57–K92)	175	170	1.0294	179	188	0.9521	191	192	0.9948
Diseases of the genitourinary system . . . . . (N00–N98)	166	157	1.0573	199	191	1.0419	191	192	0.9948
Renal failure and other disorders of kidney . . . . . (N17–N19,N25,N27)	132	125	1.0560	152	153	0.9935	163	163	1.0000
Other and unspecified diseases of genitourinary system . . . . . (N00–N15,N20–N23,N26,N28–N98)	34	32	1.0625	47	38	1.2368	28	29	0.9655
Certain conditions originating in the perinatal period . . . . . (P00–P96)	13,748	13,734	1.0010	13,602	13,918	0.9773	14,097	14,084	1.0009
Newborn affected by maternal factors and by complications of pregnancy, labor and delivery . . . . . (P00–P04)	2,768	2,832	0.9774	2,688	2,768	0.9711	2,741	2,738	1.0011
Newborn affected by maternal hypertensive disorders . . . . . (P00.0)	61	60	1.0167	58	59	0.9831	71	71	1.0000
Newborn affected by other maternal conditions which may be unrelated to present pregnancy . . . . . (P00.1–P00.9)	61	70	0.8714	70	73	0.9589	68	68	1.0000
Newborn affected by maternal complications of pregnancy . . . . . (P01)	1,451	1,499	0.9680	1,372	1,404	0.9772	1,402	1,399	1.0021
Newborn affected by incompetent cervix . . . . . (P01.0)	396	403	0.9826	402	406	0.9901	385	384	1.0026
Newborn affected by premature rupture of membranes . . . . . (P01.1)	642	663	0.9683	588	606	0.9703	648	647	1.0015
Newborn affected by multiple pregnancy . . . . . (P01.5)	256	270	0.9481	215	228	0.9430	225	225	1.0000
Newborn affected by other maternal complications of pregnancy . . . . . (P01.2–P01.4,P01.6–P01.9)	156	163	0.9571	167	164	1.0183	143	143	1.0000

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, 1999–2001—Con.**

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

Cause of death ( <i>International Classification of Diseases, Tenth Revision, 1992</i> )	Preliminary number of deaths 2001	Final number of deaths 2001	Ratio of preliminary to final 2001	Preliminary number of deaths 2000	Final number of deaths 2000	Ratio of preliminary to final 2000	Preliminary number of deaths 1999	Final number of deaths 1999	Ratio of preliminary to final 1999
Newborn affected by complications of placenta, cord and membranes . . . . . (P02)	1,012	1,018	0.9941	1,028	1,062	0.9680	1,025	1,025	1.0000
Newborn affected by complications involving placenta . . . . . (P02.0–P02.3)	525	520	1.0096	550	549	1.0018	532	530	1.0038
Newborn affected by complications involving cord . . . . . (P02.4–P02.6)	53	51	1.0392	56	55	1.0182	64	64	1.0000
Newborn affected by chorioamnionitis . . . . . (P02.7)	434	447	0.9709	420	455	0.9231	429	430	0.9977
Newborn affected by other and unspecified abnormalities of membranes . . . . . (P02.8–P02.9)	–	–	–	2	3	0.6667	1	1	1.0000
Newborn affected by other complications of labor and delivery . . . . . (P03)	148	148	1.0000	131	130	1.0077	145	145	1.0000
Newborn affected by noxious influences transmitted via placenta or breast milk . . . . . (P04)	37	37	1.0000	29	40	0.7250	29	30	0.9667
Disorders related to length of gestation and fetal malnutrition . . . . . (P05–P08)	4,496	4,473	1.0051	4,369	4,471	0.9772	4,459	4,454	1.0011
Slow fetal growth and fetal malnutrition . . . . . (P05)	62	63	0.9841	67	72	0.9306	62	62	1.0000
Disorders related to short gestation and low birth weight, not elsewhere classified . . . . . (P07)	4,434	4,410	1.0054	4,299	4,397	0.9777	4,397	4,392	1.0011
Extremely low birth weight or extreme immaturity . . . . . (P07.0,P07.2)	3,331	3,316	1.0045	3,221	3,281	0.9817	3,327	3,324	1.0009
Other low birth weight or preterm . . . . . (P07.1,P07.3)	1,103	1,094	1.0082	1,078	1,116	0.9659	1,069	1,068	1.0009
Disorders related to long gestation and high birth weight . . . . . (P08)	–	–	–	2	2	1.0000	–	–	–
Birth trauma . . . . . (P10–P15)	138	145	0.9517	32	31	1.0323	20	20	1.0000
Intrauterine hypoxia and birth asphyxia . . . . . (P20–P21)	548	534	1.0262	642	630	1.0190	613	613	1.0000
Intrauterine hypoxia . . . . . (P20)	124	120	1.0333	117	109	1.0734	113	114	0.9912
Birth asphyxia . . . . . (P21)	424	414	1.0242	524	521	1.0058	500	499	1.0020
Respiratory distress of newborn . . . . . (P22)	1,016	1,011	1.0049	1,018	999	1.0190	1,111	1,110	1.0009
Other respiratory conditions originating in the perinatal period . . . . . (P23–P28)	1,523	1,503	1.0133	1,485	1,529	0.9712	1,722	1,718	1.0023
Congenital pneumonia . . . . . (P23)	73	72	1.0139	87	90	0.9667	82	82	1.0000
Neonatal aspiration syndromes . . . . . (P24)	72	71	1.0141	58	63	0.9206	84	84	1.0000
Interstitial emphysema and related conditions originating in the perinatal period . . . . . (P25)	210	204	1.0294	235	229	1.0262	230	230	1.0000
Pulmonary hemorrhage originating in the perinatal period . . . . . (P26)	277	279	0.9928	269	284	0.9472	269	269	1.0000
Chronic respiratory disease originating in the perinatal period . . . . . (P27)	332	310	1.0710	304	294	1.0340	336	336	1.0000
Atelectasis . . . . . (P28.0–P28.1)	495	501	0.9880	465	496	0.9375	649	647	1.0031
All other respiratory conditions originating in the perinatal period . . . . . (P28.2–P28.9)	64	66	0.9697	66	73	0.9041	70	70	1.0000
Infections specific to the perinatal period . . . . . (P35–P39)	865	869	0.9954	876	927	0.9450	869	871	0.9977
Bacterial sepsis of newborn . . . . . (P36)	694	696	0.9971	723	768	0.9414	689	691	0.9971
Omphalitis of newborn with or without mild hemorrhage . . . . . (P38)	3	3	1.0000	1	3	0.3333	–	–	–
All other infections specific to the perinatal period . . . . . (P35,P37,P39)	168	170	0.9882	152	156	0.9744	180	180	1.0000
Hemorrhagic and hematological disorders of newborn . . . . . (P50–P61)	603	600	1.0050	694	704	0.9858	620	619	1.0016
Neonatal hemorrhage . . . . . (P50–P52,P54)	455	453	1.0044	574	578	0.9931	508	506	1.0040
Hemorrhagic disease of newborn . . . . . (P53)	–	–	–	–	1	–	1	1	1.0000
Hemolytic disease of newborn due to isoimmunization and other perinatal jaundice . . . . . (P55–P59)	14	14	1.0000	20	18	1.1111	16	16	1.0000
Hematological disorders . . . . . (P60–P61)	134	133	1.0075	101	107	0.9439	95	96	0.9896
Syndrome of infant of a diabetic mother and neonatal diabetes mellitus . . . . . (P70.0–P70.2)	7	7	1.0000	8	9	0.8889	8	8	1.0000
Necrotizing enterocolitis of newborn . . . . . (P77)	389	380	1.0237	366	368	0.9946	405	404	1.0025
Hydrops fetalis not due to hemolytic disease . . . . . (P83.2)	165	166	0.9940	159	161	0.9876	189	189	1.0000
Other perinatal conditions . . . . . (P29,P70.3–P76,P78–P81,P83.0–P83.1,P83.3–P96)	1,230	1,214	1.0132	1,265	1,321	0.9576	1,342	1,340	1.0015
Congenital malformations, deformations and chromosomal abnormalities . . . . . (Q00–Q99)	5,608	5,513	1.0172	5,779	5,743	1.0063	5,471	5,473	0.9996
Anencephaly and similar malformations . . . . . (Q00)	269	263	1.0228	328	324	1.0123	311	311	1.0000

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, 1999–2001—Con.**

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

Cause of death ( <i>International Classification of Diseases, Tenth Revision, 1992</i> )	Preliminary number of deaths 2001	Final number of deaths 2001	Ratio of preliminary to final 2001	Preliminary number of deaths 2000	Final number of deaths 2000	Ratio of preliminary to final 2000	Preliminary number of deaths 1999	Final number of deaths 1999	Ratio of preliminary to final 1999
Congenital hydrocephalus . . . . .(Q03)	106	105	1.0095	97	95	1.0211	93	93	1.0000
Spina bifida . . . . .(Q05)	20	19	1.0526	28	26	1.0769	22	22	1.0000
Other congenital malformations of nervous system . . . . .(Q01–Q02,Q04,Q06–Q07)	292	286	1.0210	314	313	1.0032	263	264	0.9962
Congenital malformations of heart . . . . .(Q20–Q24)	1,570	1,556	1.0090	1,660	1,634	1.0159	1,593	1,598	0.9969
Other congenital malformations of circulatory system . . . . .(Q25–Q28)	188	192	0.9792	187	208	0.8990	220	220	1.0000
Congenital malformations of respiratory system . . . . .(Q30–Q34)	602	594	1.0135	681	685	0.9942	564	564	1.0000
Congenital malformations of digestive system . . . . .(Q35–Q45)	106	106	1.0000	82	85	0.9647	93	93	1.0000
Congenital malformations of genitourinary system . . . . .(Q50–Q64)	363	356	1.0197	326	329	0.9909	366	366	1.0000
Congenital malformations and deformations of musculoskeletal system, limbs and integument . . . . .(Q65–Q85)	488	477	1.0231	437	446	0.9798	487	486	1.0021
Down's syndrome . . . . .(Q90)	126	119	1.0588	88	93	0.9462	94	94	1.0000
Edward's syndrome . . . . .(Q91.0–Q91.3)	460	446	1.0314	523	478	1.0941	440	439	1.0023
Patau's syndrome . . . . .(Q91.4–Q91.7)	284	276	1.0290	301	290	1.0379	250	250	1.0000
Other congenital malformations and deformations . . . . .(Q10–Q18,Q86–Q89)	540	526	1.0266	568	583	0.9743	508	507	1.0020
Other chromosomal abnormalities, not elsewhere classified . . . . .(Q92–Q99)	192	192	1.0000	159	154	1.0325	166	166	1.0000
Symptoms, signs and abnormal clinical and laboratory findings, not elsewhere classified . . . . .(R00–R99)	3,675	3,491	1.0527	3,997	3,639	1.0984	3,612	3,538	1.0209
Sudden infant death syndrome . . . . .(R95)	1,972	2,234	0.8827	2,151	2,523	0.8526	2,583	2,648	0.9755
Other symptoms, signs and abnormal clinical and laboratory findings, not elsewhere classified . . . . .(R00–R53,R55–R94,R96–R99)	1,703	1,257	1.3548	1,846	1,116	1.6541	1,029	890	1.1562
All other diseases . . . . .(Residual)	20	19	1.0526	32	30	1.0667	23	23	1.0000
External causes of mortality . . . . .(*U01,V01–Y84)	1,320	1,417	0.9315	1,205	1,314	0.9170	1,259	1,285	0.9798
Accidents (unintentional injuries) . . . . .(V01–X59)	912	976	0.9344	826	881	0.9376	833	845	0.9858
Transport accidents . . . . .(V01–V99)	142	151	0.9404	171	174	0.9828	188	189	0.9947
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)	134	142	0.9437	167	168	0.9940	183	184	0.9946
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)	7	9	0.7778	4	6	0.6667	5	5	1.0000
Falls . . . . .(W00–W19)	23	23	1.0000	7	8	0.8750	12	12	1.0000
Accidental discharge of firearms . . . . .(W32–W34)	–	–	–	–	1	–	–	–	–
Accidental drowning and submersion . . . . .(W65–W74)	69	68	1.0147	77	75	1.0267	67	68	0.9853
Accidental suffocation and strangulation in bed . . . . .(W75)	347	390	0.8897	235	266	0.8835	246	255	0.9647
Other accidental suffocation and strangulation . . . . .(W76–W77,W81–W84)	151	162	0.9321	167	183	0.9126	153	154	0.9935
Accidental inhalation and ingestion of food or other objects causing obstruction of respiratory tract . . . . .(W78–W80)	56	62	0.9032	66	77	0.8571	62	63	0.9841
Accidents caused by exposure to smoke, fire and flames . . . . .(X00–X09)	52	50	1.0400	36	37	0.9730	40	41	0.9756
Accidental poisoning and exposure to noxious substances . . . . .(X40–X49)	15	15	1.0000	10	14	0.7143	12	12	1.0000
Other and unspecified accidents . . . . .(W20–W31,W35–W64,W85–W99, X10–X39,X50–X59)	59	55	1.0727	57	46	1.2391	52	51	1.0196

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, 1999–2001—Con.**

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

Cause of death ( <i>International Classification of Diseases, Tenth Revision, 1992</i> )	Preliminary number of deaths 2001	Final number of deaths 2001	Ratio of preliminary to final 2001	Preliminary number of deaths 2000	Final number of deaths 2000	Ratio of preliminary to final 2000	Preliminary number of deaths 1999	Final number of deaths 1999	Ratio of preliminary to final 1999
Assault (homicide) . . . . . (*U01,X85–Y09)	310	332	0.9337	304	349	0.8711	323	331	0.9758
Assault (homicide) by hanging, strangulation and suffocation . . . . . (X91)	30	40	0.7500	21	26	0.8077	33	34	0.9706
Assault (homicide) by discharge of firearms . . . . . (*U01.4,X93–X95)	11	11	1.0000	13	12	1.0833	8	8	1.0000
Neglect, abandonment and other maltreatment syndromes . . . . . (Y06–Y07)	115	116	0.9914	105	129	0.8140	122	125	0.9760
Assault (homicide) by other and unspecified means . . . . . (*U01.0–*U01.3, *U01.5–*U01.9,X85–X90,X92,X96–X99,Y00–Y05,Y08–Y09)	154	165	0.9333	165	182	0.9066	160	164	0.9756
Complications of medical and surgical care . . . . . (Y40–Y84)	24	26	0.9231	24	19	1.2632	52	54	0.9630
Other external causes and their sequelae . . . . . (X60–X84,Y10–Y36)	74	83	0.8916	51	65	0.7846	50	55	0.9091

– Quantity zero.

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

**Life tables**

The life table provides a comprehensive measure of the effect of 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 (29). 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 (30) using a methodology similar to that of the decennial life tables (31). 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 (30). 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 and over because the data are shown to be significantly more reliable than vital statistics data at the oldest ages (32).

The life tables presented in this report use a slight modification of the new life table method introduced in 1997 as a result of a change in the age detail of populations received from the U.S. Census Bureau. Populations for 2001 and 2002 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 (30). 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 are based on populations from the 2000 census and estimated as of July 1, 2001, and July 1, 2002. National rates for 2002 and State rates for 2001 and 2002 are based on population estimates published in 2002, which incorporate information not included in the earlier (2000 and 2001) estimates, and were provided by the U.S. Census Bureau (33,34). The population estimates have been produced under a collaborative arrangement with the U.S. Census Bureau and are based on the 2000 census counts by age, race, and sex, which were modified to be consistent with Office of Management and Budget race categories as of 1977. The modification procedures are described in detail elsewhere (11–13).

**Computing rates and percents**

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 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 to the U.S. standard population (relative age distribution of year 2000 projected population of the United States) using the following age groups:

Age	Number	Weights (w <sub>i</sub> )
All ages . . . . .	1,000,000	1.000000
Under 1 year . . . . .	13,818	0.013818
1–4 years . . . . .	55,317	0.055317
5–14 years . . . . .	145,565	0.145565
15–24 years . . . . .	138,646	0.138646
25–34 years . . . . .	135,573	0.135573
35–44 years . . . . .	162,613	0.162613
45–54 years . . . . .	134,834	0.134834
55–64 years . . . . .	87,247	0.087247
65–74 years . . . . .	66,037	0.066037
75–84 years . . . . .	44,842	0.044842
85 years and over . . . . .	15,508	0.015508

Age-adjusted death rates for Puerto Rico, the Virgin Islands, Guam, American Samoa, and Northern Marianas were computed using the following age groups:

Age	Number	Weights (w <sub>i</sub> )
All ages . . . . .	1,000,000	1.000000
Under 1 year . . . . .	13,818	0.013818
1–4 years . . . . .	55,317	0.055317
5–14 years . . . . .	145,565	0.145565
15–24 years . . . . .	138,646	0.138646
25–34 years . . . . .	135,573	0.135573
35–44 years . . . . .	162,613	0.162613
45–54 years . . . . .	134,834	0.134834
55–64 years . . . . .	87,247	0.087247
65–74 years . . . . .	66,037	0.066037
75 years and over . . . . .	60,350	0.060350

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 Health and Human Services in August 1998 (35). 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” (35).

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. 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 367, 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 number of records provided by each State yields a proportion of the total records that is large enough to provide reliable estimates. For example, 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. The Illinois demographic mortality file contained 73.8 percent of all records for 2002



(see [table I](#)). Data for Illinois 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 percent 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 20–31 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 20–31 events. Additional information on random variation in numbers of events, rates, ratios, and percents 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 error due to bias.

The estimated RSEs in [table IV](#) were computed using this formula:

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

where

$f$  = the sampling fraction or the percent 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 percent ( $P$ ) and to compute statistical tests concerning the equality of two rates ( $R_1$  and  $R_2$ ) or two percents ( $P_1$  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

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

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

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:

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

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

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:

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

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

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

[Relative standard errors are expressed as a percent 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

where

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

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  $i^{\text{th}}$  age group.
- $w_i$  =  $i^{\text{th}}$  age-specific U.S. standard population such that  $\sum w_i = 1.000000$  (see “Computing rates and percents”).
- $X_i$  = the estimated number of deaths for the  $i^{\text{th}}$  age group.
- $N_i$  = the total count of deaths from table I for each  $i^{\text{th}}$  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).
- $f_i$  = percent of file completeness/100 from table I (for infant deaths, use the percent 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 percent 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:

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

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 percents 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:

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

where

$RSE(D)$  = the RSE of the number of deaths,  $D$

$RSE(B)$  = the RSE of the number of births,  $B$

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

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

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

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

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

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

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

This means that 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 percent ( $P_1$ ) that has variation in both the numerator and denominator. To compare the equality of two infant mortality rates or two percents that have variation in both the numerator and denominator, the above-mentioned z-test may be used.

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