

Deaths: Preliminary Data for 2003

Donna L. Hoyert, Ph.D.; Hsiang-Ching Kung, Ph.D.; and Betty L. Smith, B.S. Ed.
Division of Vital Statistics

Abstract

Objectives—This report presents preliminary U.S. data on deaths, death rates, life expectancy, leading causes of death, and infant mortality for the year 2003 by selected characteristics such as age, sex, race, and Hispanic origin.

Methods—Data in this report are based on a large number of deaths comprising approximately 93 percent of the demographic file and 91 percent of the medical file for all deaths in the United States in 2003. The records are weighted to independent control counts for 2003. For certain causes of death such as unintentional injuries, homicides, suicides, and respiratory diseases, preliminary and final data differ because of the truncated nature of the preliminary file. Comparisons are made with 2002 final data.

Results—The age-adjusted death rate for the United States decreased from 845.3 deaths per 100,000 population in 2002 to 831.2 deaths per 100,000 population in 2003. Age-adjusted death rates decreased between 2002 and 2003 for the following causes: Diseases of heart, Malignant neoplasms, Cerebrovascular diseases, Accidents (unintentional injuries), Influenza and pneumonia, Intentional self-harm (suicide), Chronic liver disease and cirrhosis, and Pneumonitis due to solids and liquids. They increased between 2002 and 2003 for the following: Alzheimer's disease, Nephritis, nephrotic syndrome and nephrosis, Essential (primary) hypertension and hypertensive renal disease, and Parkinson's disease. Life expectancy at birth rose by 0.3 years to a record high of 77.6 years.

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 2003. Trends shown in preliminary reports for 1995–2002 deaths, for most measures, were confirmed by final statistics for each year (1–8).

Sources and Methods

Data sources

Preliminary data in this report are based on records of deaths that occurred in calendar year 2003 and were received and processed by the Centers for Disease Control and Prevention's National Center for Health Statistics (NCHS) as of July 15, 2003. Compared with independent control counts of 2003 deaths received from State vital statistics offices, demographic information was available for an estimated 90 percent of infant deaths (under 1 year of age) and about 93 percent of deaths to persons aged 1 year and over (table 1). Medical or cause-of-death information was processed separately and was available for an estimated 88 percent of infant deaths and 91 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 2003 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

Acknowledgments

This report was prepared in the Division of Vital Statistics under the general direction of Charles Rothwell, Director, Division of Vital Statistics; Robert N. Anderson, Chief, Mortality Statistics Branch (MSB); Nicholas F. Pace, Chief, Systems, Programming, and Statistical Resources Branch (SPSRB); and Donna Glenn, Chief, Mortality Medical Classification Branch (MMCB). Jordan A. Sacks, Manju Sharma, Steven J. Steimel, David P. Johnson, Candace M. Cosgrove, and Gail A. Parr of SPSRB provided computer programming support and statistical tables. Thomas D. Dunn of SPSRB managed population data and provided content review. Staff of the Data Acquisition and Evaluation Branch carried out quality evaluation and acceptance procedures for the State data on which this report is based. MMCB staff was responsible for receipt and processing of the basic data files. This report was edited by Demarius V. Miller and typeset by Jacqueline M. Davis of the Office of Information Services, Information Design and Publishing Staff.

medical tables (see section “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 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 “Non-sampling error” in the “Technical Notes”).

In addition to national and State estimates of total deaths and death rates, this report includes preliminary statistics on life expectancy, infant mortality, and causes of death. Data are shown for the following race and ethnic groups: white, non-Hispanic white, black, non-Hispanic black, American Indian, 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. Race and Hispanic origin are reported as separate items on the death certificate. 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 “Race and Hispanic origin” in the “Technical Notes”).

Age-adjusted death rates are better indicators than crude death rates for showing changes in the risk of death over time when the age distribution of the population is changing and for comparing the mortality of subgroups of the population that have different age compositions. All age-adjusted death rates are standardized to the year 2000 population (see section “Computing rates and percents” in the “Technical Notes”). Two measures of infant mortality are shown: the infant death rate and the infant mortality rate (see section “Infant mortality” in the “Technical Notes”). These measures typically are similar although they can differ because the denominator of the infant death rate includes a combination of infants born the previous year who have not reached their first birthday and infants born before the reference date for the population estimate while the denominator of the infant mortality rate are all births occurring during the reference year. For example, the preliminary number of live births for 2003 is 2.2 percent greater than the infant population in 2003. An infant mortality rate is a better indicator of the risk of dying during the first year of life.

This report includes data for five areas (California, Idaho, Montana, New York City, and New York State), which implemented the 2003 revision of the U.S. Standard Certificate of Death in 2003, and the remaining States and the District of Columbia, which collected and reported death data in 2003 based on the 1989 revision of the U.S. Standard Certificate of Death. The 2003 revision is described in detail elsewhere (9,10). In this report, revised data are combined with unrevised but comparable data. More details on procedures used to combine revised with unrevised data on race are given in the “Technical Notes.”

The proportion of records processed by each State is shown in [table I](#) in the “Technical Notes.” Changes in death rates between 2002 and 2003 and differences in death rates across demographic groups for 2003 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. Except for 7 States (California, Hawaii, Idaho, Maine, Montana, New York, and Wisconsin), the death certificate data by race (the numerators for death rates) are currently incompatible with the population data collected in the 2000 census (the denominators for the rates). In order to produce national death rates for 2002 and 2003, it was necessary to “bridge” the reported population data to be consistent with the 1977 Office of Management and Budget (OMB) single race categories (11), 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 (12). The procedures used to produce the “bridged” populations are described in separate publications (13,14). As the remaining 43 States and the District of Columbia gradually begin to collect data on race according to the 1997 OMB guidelines (15), 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 (13). 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 2003 was 2,443,908, representing an increase of 521 from the 2002 total. The crude death rate of 840.4 per 100,000 population, was 0.8 percent less than the rate of 847.3 per 100,000 in 2002. The estimated age-adjusted death rate, which accounts for changes in the age distribution of the population, reached a record low of 831.2 per 100,000 U.S. standard population, 1.7 percent lower than the 2002 rate of 845.3 ([table A](#)) (1). 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 (16,17). The preliminary age-adjusted death rate for 2003 was 1.7 percent lower than the 2002 final rate despite an influenza outbreak at the end of the year (18,19).

From 2002 to 2003, age-adjusted death rates decreased by 2.2 percent for males and by 1.4 percent for females. Changes in the age-adjusted death rate between 2002 and 2003 by sex and race and Hispanic origin ([table 1](#)) are as follows:

Decreases in overall death rates:
 White males (2.1 percent)
 White females (1.2 percent)
 Non-Hispanic white males (1.9 percent)
 Non-Hispanic white females (1.1 percent)
 Black males (2.5 percent)
 Black females (2.4 percent)

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 2002 and preliminary 2003

[Data are based on a continuous file of records received from the States. Figures for 2003 are based on weighted data rounded to the nearest individual, so categories may not add to totals]

Measure and sex	All races ^{1,2}		White ²		Black ²	
	2003	2002	2003	2002	2003	2002
All deaths	2,443,908	2,443,387	2,101,860	2,102,589	289,202	290,051
Age-adjusted death rate ³	831.2	845.3	816.2	829.0	1,058.0	1,083.3
Male	991.7	1,013.7	972.2	992.9	1,308.3	1,341.4
Female	705.4	715.2	692.9	701.3	879.8	901.8
Life expectancy at birth ⁴	77.6	77.3	78.0	77.7	72.8	72.3
Male	74.8	74.5	75.4	75.1	69.2	68.8
Female	80.1	79.9	80.5	80.3	76.1	75.6
All infant deaths	28,428	28,034	18,768	18,369	8,437	8,524
Infant mortality rate ⁵	6.9	7.0	5.8	5.8	14.1	14.4

¹Includes races other than white and black.

²Race categories are consistent with the 1977 Office of Management and Budget standards. California, Hawaii, Idaho, Maine, Montana, New York, and Wisconsin reported multiple-race data in 2003. The multiple-race data for these States were bridged to the single race categories of the 1977 Office of Management and Budget standards for comparability with other States; see "Technical Notes."

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

⁴Life expectancy at birth stated in years.

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

Non-Hispanic black males (2.3 percent)
 Non-Hispanic black females (2.4 percent)
 API males (3.8 percent)
 Hispanic males (4.2 percent)
 Hispanic females (1.8 percent)

No statistically significant change in overall death rates:
 American Indian males
 American Indian females
 API females

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, 26 percent, and 17 percent lower than those for the non-Hispanic white population. In contrast, the age-adjusted death rate for the non-Hispanic black population was 30 percent higher than that for the non-Hispanic white population (table 1). However, mortality for races other than white and black may be seriously understated due to underreporting for some race groups and Hispanic origin on death certificates (20,21,22).

The general decrease in mortality between 2002 and 2003 resulted from decreases in the death rate for age groups 5–14 years, 35–44 years, 55–64 years, 65–74 years, 75–84 years, and 85 years and over. Only the infant death rate increased between 2002 and 2003 (see **infant mortality** rate).

The preliminary estimate of **life expectancy at birth** for the total population in 2003 reached a record high of 77.6 years. This represents an increase of 0.3 years relative to 2002 (see table A and table 6). The gap between male and female life expectancy was 5.3 years in 2003, down from 5.4 years in 2002. The difference between male and female life expectancy at birth has been generally decreasing since its peak of 7.8 years in 1979 (23). Life expectancy for males increased by 0.3 years, reaching a record 74.8 years. Female life expectancy increased by 0.2 years, increasing from 79.9 years to 80.1 years between 2002 and 2003. Record-high life expectancies were reached for white and

black males (75.4 years and 69.2 years, respectively), as well as for white and black females (80.5 years and 76.1 years, respectively).

By place of residence, Hawaii had the lowest mortality, with an age-adjusted death rate of 650.1 deaths per 100,000 U.S. standard population. Mortality was highest for Mississippi, with an age-adjusted death rate of 1,015.2 (table 3).

Causes of death

The 15 leading causes (table B) remained the same for 2002 and 2003 except that Assault (homicide) dropped out of the 15 leading causes in 2003 and Parkinson's disease entered the list as the 14th leading cause. The 15 leading causes of death in 2003 were as follows:

- 1) Diseases of heart;
- 2) Malignant neoplasms;
- 3) Cerebrovascular diseases;
- 4) Chronic lower respiratory diseases;
- 5) Accidents (unintentional injuries);
- 6) Diabetes mellitus;
- 7) 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) Parkinson's disease;
- 15) Pneumonitis due to solids and liquids.

The age-adjusted death rate declined for 8 of the 15 leading causes of death. From 2002 to 2003, the preliminary age-adjusted death rate for the leading cause of death, **Diseases of heart**, decreased by 3.6 percent. The age-adjusted death rate for **Malignant neoplasms** decreased by 2.2 percent (see tables B and 2). Deaths

Table B. Deaths and death rates for 2003 and age-adjusted death rates and percent changes in age-adjusted rates from 2002 to 2003 for the 15 leading causes of death in 2003: United States, final 2002 and preliminary 2003

[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 2003 are based on weighted data rounded to the nearest individual, so categories may not add to totals]

Rank ¹	Cause of death (Based on the <i>International Classification of Diseases, Tenth Revision, 1992</i>)	Number	Death rate	Age-adjusted death rate		
				2003	2002	Percent change
...	All causes	2,443,930	840.4	831.2	845.3	-1.7
1	Diseases of heart (I00-I09,I11,I13,I20-I51)	684,462	235.4	232.1	240.8	-3.6
2	Malignant neoplasms (C00-C97)	554,643	190.7	189.3	193.5	-2.2
3	Cerebrovascular diseases (I60-I69)	157,803	54.3	53.6	56.2	-4.6
4	Chronic lower respiratory diseases (J40-J47)	126,128	43.4	43.2	43.5	-0.7
5	Accidents (unintentional injuries) (V01-X59,Y85-Y86)	105,695	36.3	36.1	36.9	-2.2
6	Diabetes mellitus (E10-E14)	73,965	25.4	25.2	25.4	-0.8
7	Influenza and pneumonia (J10-J18)	64,847	22.3	21.9	22.6	-3.1
8	Alzheimer's disease (G30)	63,343	21.8	21.4	20.2	5.9
9	Nephritis, nephrotic syndrome and nephrosis (N00-N07,N17-N19,N25-N27)	42,536	14.6	14.5	14.2	2.1
10	Septicemia (A40-A41)	34,243	11.8	11.7	11.7	-
11	Intentional self-harm (suicide) (*U03,X60-X84,Y87.0)	30,642	10.5	10.5	10.9	-3.7
12	Chronic liver disease and cirrhosis (K70,K73-K74)	27,201	9.4	9.2	9.4	-2.1
13	Essential (primary) hypertension and hypertensive renal disease (I10,I12)	21,841	7.5	7.4	7.0	5.7
14	Parkinson's disease (G20-G21)	17,898	6.2	6.1	5.9	3.4
15	Pneumonitis due to solids and liquids (J69)	17,457	6.0	5.9	6.1	-3.3
...	All other causes	421,226	144.8	...	...	...

- Quantity zero.

... Category not applicable.

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

from these two diseases combined accounted for more than 1.2 million deaths, 51 percent of all deaths in 2003. While heart disease mortality has exhibited a downward trend since 1950, cancer mortality has declined only since 1990.

The preliminary age-adjusted death rate also decreased for **Cerebrovascular diseases** by an estimated 4.6 percent, **Intentional self-harm (suicide)** (3.7 percent), **Pneumonitis due to solids and liquids** (3.3 percent), **Influenza and pneumonia** (3.1 percent), **Chronic liver disease and cirrhosis** (2.1 percent), and **Accidents (unintentional injuries)** (2.2 percent). Influenza and pneumonia decreased despite an increase of 150 percent in the death rate for the influenza subcategory because the death rate for the much larger pneumonia subcategory decreased 4.5 percent.

The 4.9 percent decrease in the age-adjusted death rate for **Assault (homicide)** between 2002 and 2003 resulted in homicide exiting the 15 leading causes. Excluding deaths from the terrorist attacks in 2001, the age-adjusted death rate for homicide has been on a downward trend since 1991 (1-8). However, the decrease between 2002 and 2003 may be overstated because of the truncated nature of the preliminary file.

The preliminary age-adjusted death rate for **Human immunodeficiency virus (HIV) disease** declined by 4.1 percent between 2002 and 2003 (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 disease decreased an average of 33 percent from 1995 to 1998, and 3 percent from 1999-2002. HIV disease is currently the 6th leading cause of death for all races combined for the age group 25-44 years, 10th leading cause of death for the age group 15-24 years, and 9th leading cause of death for the age group 45-64 years (table 7).

Increases occurred for **Alzheimer's disease** (5.9 percent), **Essential (primary) hypertension and hypertensive renal disease** (5.7 percent), **Parkinson's disease** (3.3 percent), and **Nephritis, nephritic syndrome and nephrosis** (2.1 percent). Parkinson's disease has generally been increasing for more than two decades.

Between 2002 and 2003, the preliminary age-adjusted death rate declined by 4.3 percent for **Alcohol-induced deaths**; 3.3 percent for **Drug-induced deaths**, and 2.9 percent for **Firearm injuries** (table 2). The age-adjusted death rate for **Injury at work** decreased by 13.0 percent between 2002 and 2003.

Infant mortality

The preliminary **infant mortality rate** for 2003 was 6.9 infant deaths per 1,000 live births and was not statistically different from the rate in 2002 (see tables A and 4). The neonatal and postneonatal mortality rates for 2003 were unchanged from the rates in 2002. The infant mortality rate either decreased or remained level each successive year between 1958 and 2001 (1,2,24). The increase in 2002 was concentrated among neonates and most of the increase in the infant mortality rate was due to the change in the distribution of births by birthweight, particularly an increase in infants born weighing less than 750 grams (25).

According to the preliminary file, the rate for black infants was 14.1 infant deaths per 1,000 live births, more than double the rate for white infants (table A). Because of inconsistencies in the reporting of some race groups and Hispanic origin on birth and death certificates, infant mortality rates for some groups are likely to be underestimated (20,21). The linked birth/infant death data set provides a better source of data for infant deaths and mortality rates by maternal race and ethnicity (26).

The **leading causes of infant mortality** are the same in 2003 as in 2002 except that Neonatal hemorrhage replaced Intrauterine hypoxia and birth asphyxia as the 10th leading cause and ranking of the 6th to 9th leading causes shifted somewhat. The leading causes for 2003 are as follows:

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

Infant mortality rates (tables 5 and 8) did not change significantly for either of the two leading causes of infant mortality, **Congenital malformations, deformations and chromosomal abnormalities** or **Disorders related to short gestation and low birth weight, not elsewhere classified**, between 2002 and 2003. Deaths from these two conditions combined accounted for more than 10,000 deaths, 37 percent of infant deaths in 2003. The rate for the third leading cause of infant mortality, **Sudden infant death syndrome (SIDS)**, decreased by an estimated 14.7 percent from 2002. However, the magnitude of this decrease may be the result of error due to delayed reporting in the preliminary file (see section "Nonsampling error" in the "Technical Notes" and table III). For 2002 the preliminary weighted count of SIDS deaths was only 89 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).

References

1. Kochanek KD, Murphy SL, Anderson RN, Scott C. Deaths: Final data for 2002. National vital statistics reports; vol 53 no 5. Hyattsville, Maryland: National Center for Health Statistics. 2004.
2. Arias E, Anderson RN, Kung HC, et al. Deaths: Final data for 2001. National vital statistics reports; vol 52 no 3. Hyattsville, Maryland: National Center for Health Statistics. 2003.
3. Minino AM, Arias E, Kochanek KD, et al. Deaths: Final data for 2000. National vital statistics reports; vol 50 no 15. Hyattsville, Maryland: National Center for Health Statistics. 2002.
4. Hoyert DL, Arias E, Smith BL, et al. Deaths: Final data for 1999. National vital statistics reports; vol 49 no 8. Hyattsville, Maryland: National Center for Health Statistics. 2001.
5. Murphy SL. Deaths: Final data for 1998. National vital statistics reports; vol 48 no 11. Hyattsville, Maryland: National Center for Health Statistics. 2000.
6. Hoyert DL, Kochanek KD, Murphy SL. Deaths: Final data for 1997. National vital statistics reports; vol 47 no 19. Hyattsville, Maryland: National Center for Health Statistics. 1999.
7. Peters KD, Kochanek KD, Murphy SL. Deaths: Final data for 1996. National vital statistics reports; vol 47 no 9. Hyattsville, Maryland: National Center for Health Statistics. 1998.
8. Anderson RN, Kochanek KD, Murphy SL. Report of final mortality statistics, 1995. Monthly vital statistics report; vol 45 no 11, supp 2. Hyattsville, Maryland: National Center for Health Statistics. 1997.
9. National Center for Health Statistics. 2003 revision of the U.S. Standard Certificate of Death. 2003. Available at: <http://www.cdc.gov/nchs/data/dvs/DEATH11-03final-acc.pdf>.
10. National Center for Health Statistics. Report of the Panel to Evaluate the U.S. Standard Certificates. National Center for Health Statistics. 2000. Available at: http://www.cdc.gov/nchs/data/dvs/panelreport_acc.pdf.
11. Office of Management and Budget. Race and ethnic standards for Federal statistics and administrative reporting. Statistical policy directive 15. 1977.
12. U.S. Census Bureau. Age, sex, race and Hispanic origin information from the 1990 census: A comparison of census results with results where age and race have been modified, 1990. CPH-L-74. Washington: U.S. Department of Commerce. 1991.
13. Ingram DD, Parker JD, Schenker N, Weed JA, et al. United States census 2000 population with bridged race categories. National Center for Health Statistics. Vital Health Stat 2(135). 2003.
14. Schenker N, Parker JD. From single-race reporting to multiple-race reporting: Using imputation methods to bridge the transition. *Statistics in Medicine* 22:1571-87. 2003.
15. Office of Management and Budget. Revisions to the standards for the classification of Federal data on race and ethnicity. Federal Register 62FR58782-58790. October 30, 1997. Available at: <http://www.whitehouse.gov/omb/fedreg/ombdir15.html>.
16. Centers for Disease Control and Prevention. Update: Influenza activity—United States, 1998-99 season. *MMWR*; vol 48 no 9. Washington: Public Health Service. 1999.
17. Centers for Disease Control and Prevention. Update: Influenza activity—United States, 1999-2000 season. *MMWR*; vol 49 no 9. Washington: Public Health Service. 2000.
18. Centers for Disease Control and Prevention. Update: Influenza activity—United States, January 18-24, 2004. *MMWR*; vol 53 no 3. Washington: Public Health Service. 2004. Available at www.cdc.gov/mmwr/PDF/wk/mm5303.pdf.
19. Centers for Disease Control and Prevention. Update: Influenza-associated deaths reported among children aged <18 years—United States, 2003-04 influenza season. *MMWR*; vol 52 no 53. Washington: Public Health Service. 2002.
20. Rosenberg HM, Maurer JD, Sorlie PD, et al. Quality of death rates by race and Hispanic origin: A summary of current research, 1999. *Vital Health Stat* 2 (128). 1999.
21. Sorlie PD, Rogot E, Johnson NJ. Validity of demographic characteristics on the death certificate. *Epidemiology* 3(2):181-4. 1992.
22. Arias E. Quality of race and Hispanic origin reporting on death certificates in the United States. Presented at the 2004 NCHS Data Users Conference. Washington, DC, July 14, 2004. Available at: <http://www.cdc.gov/nchs/ppt/duc2004/arias.pps>.
23. Arias E. United States life tables, 2002. National vital statistics reports; vol 53 no 6. Hyattsville, Maryland: National Center for Health Statistics. 2004.
24. National Center for Health Statistics. Vital statistics of the United States, 1993, vol II, mortality, part A. Hyattsville, Maryland. 2002.
25. MacDorman MF, Martin JA, Mathews TJ, et al. Explaining the 2001-2002 infant mortality increase: Data from the linked birth/infant death data set. National vital statistics reports; vol 53 no 12. Hyattsville, Maryland: National Center for Health Statistics. 2005.
26. Mathews TJ, Menacker F, MacDorman MF. Infant mortality statistics from the 2002 period linked birth/infant death data set. National vital statistics reports; vol 53 no 10. Hyattsville, Maryland: National Center for Health Statistics. 2004.

27. National Center for Health Statistics. Technical Appendix. Vital statistics of the United States: Mortality, 1999. Available at <http://www.cdc.gov/nchs/datawh/statab/pubd/ta.htm>.
28. National Center for Health Statistics. Vital statistics, instructions for classifying the underlying cause of death. NCHS instruction manual: part 2a. Hyattsville, Maryland: Public Health Service. Published annually.
29. World Health Organization. International Classification of Diseases and Related Health Problems, Tenth Revision. Geneva: World Health Organization. 1992.
30. World Health Organization. Manual of the International Statistical Classification of Diseases, Injuries, and Causes of Death, based on the recommendations of the Ninth Revision Conference, 1975. Geneva: World Health Organization. 1975.
31. National Center for Health Statistics. Updated comparability ratios. Available at: ftp://ftp.cdc.gov/pub/Health_Statistics/NCHS/Datasets/Comparability/icd9_icd10/.
32. National Center for Health Statistics. ICD-10 cause-of-death lists for tabulating mortality statistics, Updated October 2002. NCHS instruction manual: Part 9. Hyattsville, Maryland: Public Health Service. 2002.
33. Anderson RN, Smith BL. Deaths: Leading causes for 2002. National vital statistics reports; vol 53 no 17 (forthcoming). Hyattsville, Maryland: National Center for Health Statistics. 2005.
34. Hamilton BE, Martin JA, Sutton PD. Births: Preliminary data for 2003. National vital statistics reports; vol 53 no 9. Hyattsville, Maryland: National Center for Health Statistics. 2004.
35. Sirken MG. Comparison of two methods of constructing abridged life tables by reference to a "standard" table. National Center for Health Statistics. Vital Health Stat 2(4). 1966.
36. Anderson RN. Methodology for constructing complete annual U.S. life tables. National Center for Health Statistics. Vital Health Stat 2(129). 1999.
37. National Center for Health Statistics. U.S. decennial life tables for 1989-91, vol 1 no 2, methodology of the national and State life tables. Hyattsville, Maryland. 1998.
38. Kestenbaum B. A description of the extreme aged population based on improved Medicare enrollment data. Demography 29:565-80. 1992.
39. National Center for Health Statistics. Postcensal estimates of the resident population of the United States as of July 1, 2003, by year, State and county, age, bridged race, sex, and Hispanic origin (vintage 2003). File pcen_v2003_y03.txt (ASCII). Released September 14, 2004. Available at: <http://www.cdc.gov/nchs/about/major/dvs/popbridge/datadoc.htm>.
40. National Center for Health Statistics. Postcensal estimates of the resident population of the United States as of July 1, 2002, by year, State and county, age, bridged race, sex, and Hispanic origin (vintage 2002). File pcen_v2002.txt (ASCII). Released August 1, 2003. Available at: <http://www.cdc.gov/nchs/about/major/dvs/popbridge/datadoc.htm>.
41. Anderson RN, Rosenberg HM. Age standardization of death rates: Implementation of the year 2000 standard. National vital statistics reports; vol 47 no 3. Hyattsville, Maryland: National Center for Health Statistics. 1998.

List of Detailed Tables

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 2002 and preliminary 2003	7
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 2002 and preliminary 2003	15
3. Deaths, death rates, and age-adjusted death rates: United States, and each State and territory, final 2002 and preliminary 2003 . .	19
4. Infant deaths and infant mortality rates, by age and race and Hispanic origin: United States, final 2002 and preliminary 2003	20
5. Infant deaths and infant mortality rates for 130 selected causes: United States, final 2002 and preliminary 2003	21
6. Expectation of life by age, race, and sex: United States, final 2002 and preliminary 2003.	25
7. Deaths and death rates for the 10 leading causes of death in specified age groups: United States, preliminary 2003	27
8. Infant deaths and infant mortality rates for the 10 leading causes of infant death, by race and Hispanic origin: United States, preliminary 2003	30

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 2002 and preliminary 2003

[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 2003 are based on weighted data rounded to the nearest individual, so categories may not add to totals]

Age, race, and sex	2003		2002	
	Number	Rate	Number	Rate
All ages, both sexes				
All ages	2,443,908	840.4	2,443,387	847.3
Under 1 year ¹	28,428	710.1	28,034	695.0
1-4 years	4,905	31.1	4,858	31.2
5-14 years	6,903	16.8	7,150	17.4
15-24 years	33,050	80.2	33,046	81.4
25-34 years	40,731	102.2	41,355	103.6
35-44 years	88,433	199.3	91,140	202.9
45-54 years	175,591	430.3	172,385	430.1
55-64 years	261,505	937.3	253,342	952.4
65-74 years	413,227	2,253.5	422,990	2,314.7
75-84 years	702,641	5,460.1	707,654	5,556.9
85 years and over	687,959	14,595.6	681,076	14,828.3
Not stated	533	...	357	...
Age-adjusted rate ² . . . . .	...	831.2	...	845.3
All races, male				
All ages	1,198,454	837.9	1,199,264	846.6
Under 1 year ¹	16,131	788.6	15,717	761.5
1-4 years	2,807	34.8	2,806	35.2
5-14 years	4,116	19.6	4,198	20.0
15-24 years	24,232	114.4	24,416	117.3
25-34 years	28,216	139.5	28,736	142.2
35-44 years	55,839	252.3	57,593	257.5
45-54 years	109,830	548.0	107,722	547.5
55-64 years	155,748	1,160.2	151,363	1,184.0
65-74 years	231,375	2,771.2	237,021	2,855.3
75-84 years	341,875	6,632.9	343,504	6,760.5
85 years and over	227,932	15,774.7	225,906	16,254.5
Not stated	354	...	282	...
Age-adjusted rate ² . . . . .	...	991.7	...	1,013.7
All races, female				
All ages	1,245,454	842.8	1,244,123	848.0
Under 1 year ¹	12,297	628.0	12,317	625.3
1-4 years	2,098	27.2	2,052	27.0
5-14 years	2,787	13.9	2,952	14.7
15-24 years	8,818	44.0	8,630	43.7
25-34 years	12,516	63.7	12,619	64.0
35-44 years	32,594	146.6	33,547	148.8
45-54 years	65,762	316.8	64,663	316.9
55-64 years	105,757	730.6	101,979	738.0
65-74 years	181,852	1,820.8	185,969	1,864.7
75-84 years	360,766	4,676.5	364,150	4,757.9
85 years and over	460,027	14,074.4	455,170	14,209.6
Not stated	179	...	75	...
Age-adjusted rate ² . . . . .	...	705.4	...	715.2

See footnotes at end of table.

Table 1. Deaths and death rates by age, sex, and race and Hispanic origin and age-adjusted death rates, by sex and race and Hispanic origin: United States, final 2002 and preliminary 2003—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 2003 are based on weighted data rounded to the nearest individual, so categories may not add to totals]

Age, race, and sex	2003		2002	
	Number	Rate	Number	Rate
Total white³, both sexes				
All ages	2,101,860	889.3	2,102,589	895.7
Under 1 year ¹	18,768	601.8	18,369	586.7
1–4 years	3,458	28.1	3,406	28.1
5–14 years	4,975	15.6	5,138	16.1
15–24 years	24,590	75.9	24,641	77.1
25–34 years	29,293	93.1	29,571	93.5
35–44 years	65,948	183.5	68,093	186.6
45–54 years	133,702	395.1	131,816	395.3
55–64 years	212,254	889.8	205,414	902.5
65–74 years	350,587	2,207.2	360,047	2,267.6
75–84 years	627,597	5,459.1	632,353	5,544.2
85 years and over	630,297	14,806.5	623,455	15,015.9
Not stated	391	...	286	...
Age-adjusted rate ² . . . . .	...	816.2	...	829.0
White³ male				
All ages	1,023,610	875.8	1,025,196	884.0
Under 1 year ¹	10,670	669.4	10,433	650.9
1–4 years	1,967	31.2	1,958	31.5
5–14 years	2,989	18.3	3,005	18.4
15–24 years	17,905	107.0	18,082	109.7
25–34 years	20,531	127.1	20,798	128.3
35–44 years	42,616	235.1	43,955	239.3
45–54 years	85,031	505.9	83,651	505.4
55–64 years	127,302	1,098.4	123,551	1,118.6
65–74 years	197,937	2,708.5	203,735	2,795.4
75–84 years	306,964	6,618.7	308,654	6,738.8
85 years and over	209,425	16,026.4	207,144	16,473.2
Not stated	273	...	230	...
Age-adjusted rate ² . . . . .	...	972.2	...	992.9
White³ female				
All ages	1,078,250	902.5	1,077,393	907.0
Under 1 year ¹	8,098	531.1	7,936	519.4
1–4 years	1,491	24.9	1,448	24.5
5–14 years	1,986	12.8	2,133	13.7
15–24 years	6,685	42.7	6,559	42.4
25–34 years	8,762	57.2	8,773	56.9
35–44 years	23,332	131.0	24,138	133.2
45–54 years	48,671	285.7	48,165	286.8
55–64 years	84,951	692.7	81,863	698.7
65–74 years	152,650	1,780.1	156,312	1,819.7
75–84 years	320,633	4,674.9	323,699	4,742.5
85 years and over	420,872	14,266.1	416,311	14,382.8
Not stated	119	...	56	...
Age-adjusted rate ² . . . . .	...	692.9	...	701.3

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 2002 and preliminary 2003—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 2003 are based on weighted data rounded to the nearest individual, so categories may not add to totals]

Age, race, and sex	2003		2002	
	Number	Rate	Number	Rate
Non-Hispanic white, both sexes				
All ages	1,979,602	993.7	1,981,973	997.5
Under 1 year ¹	13,450	586.4	13,463	575.9
1–4 years	2,535	27.5	2,502	27.1
5–14 years	3,860	15.5	4,031	16.0
15–24 years	19,433	75.0	19,458	75.8
25–34 years	23,384	95.1	23,758	95.9
35–44 years	57,550	189.1	59,529	191.6
45–54 years	121,317	400.6	119,812	400.1
55–64 years	197,149	900.4	190,843	912.8
65–74 years	329,901	2,239.5	338,961	2,296.1
75–84 years	601,002	5,519.4	606,431	5,596.0
85 years and over	609,812	14,968.6	603,063	15,149.1
Not stated	211	...	122	...
Age-adjusted rate ² . . . . .	...	826.0	...	837.5
Non-Hispanic white male				
All ages	955,463	978.4	957,645	983.9
Under 1 year ¹	7,706	657.0	7,706	643.5
1–4 years	1,433	30.4	1,431	30.3
5–14 years	2,305	18.0	2,365	18.3
15–24 years	13,881	104.9	13,957	106.7
25–34 years	15,983	129.0	16,339	130.9
35–44 years	36,843	242.0	38,049	244.9
45–54 years	76,789	511.1	75,724	509.9
55–64 years	118,022	1,107.1	114,535	1,126.5
65–74 years	186,357	2,742.1	191,844	2,824.1
75–84 years	293,885	6,694.8	295,763	6,801.7
85 years and over	202,122	16,232.3	199,834	16,641.9
Not stated	138	...	98	...
Age-adjusted rate ² . . . . .	...	983.3	...	1,002.2
Non-Hispanic white female				
All ages	1,024,140	1,008.5	1,024,328	1,010.6
Under 1 year ¹	5,745	512.6	5,757	504.8
1–4 years	1,102	24.6	1,071	23.8
5–14 years	1,555	12.8	1,666	13.6
15–24 years	5,552	43.8	5,501	43.8
25–34 years	7,401	60.7	7,419	60.3
35–44 years	20,707	136.2	21,480	138.3
45–54 years	44,528	291.8	44,088	292.1
55–64 years	79,127	704.2	76,308	710.5
65–74 years	143,544	1,809.0	147,117	1,846.0
75–84 years	307,118	4,725.5	310,668	4,787.9
85 years and over	407,690	14,412.3	403,229	14,504.3
Not stated	73	...	24	...
Age-adjusted rate ² . . . . .	...	702.4	...	709.9

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 2002 and preliminary 2003—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 2003 are based on weighted data rounded to the nearest individual, so categories may not add to totals]

Age, race, and sex	2003		2002	
	Number	Rate	Number	Rate
Total black³, both sexes				
All ages	289,202	758.1	290,051	768.4
Under 1 year ¹	8,437	1,279.1	8,524	1,263.6
1–4 years	1,185	46.3	1,196	47.1
5–14 years	1,551	22.9	1,666	24.5
15–24 years	7,064	111.8	7,045	113.7
25–34 years	9,793	178.9	10,171	186.8
35–44 years	19,583	340.1	20,235	348.6
45–54 years	36,698	765.0	35,623	765.8
55–64 years	42,493	1,537.9	41,336	1,565.2
65–74 years	52,797	3,089.0	53,314	3,159.3
75–84 years	61,928	6,308.7	62,862	6,518.9
85 years and over	47,547	13,871.4	48,022	14,260.8
Not stated	125	...	57	...
Age-adjusted rate ² . . . . .	...	1,058.0	...	1,083.3
Black³ male				
All ages	146,818	807.1	146,835	816.7
Under 1 year ¹	4,772	1,419.5	4,652	1,351.5
1–4 years	691	53.1	702	54.4
5–14 years	907	26.3	998	28.9
15–24 years	5,351	168.3	5,364	172.6
25–34 years	6,604	252.7	6,848	264.5
35–44 years	11,424	422.3	11,849	434.7
45–54 years	21,745	980.5	21,122	983.0
55–64 years	24,605	1,997.8	24,000	2,039.2
65–74 years	28,151	3,961.6	28,198	4,024.5
75–84 years	28,278	7,976.1	28,478	8,169.6
85 years and over	14,219	14,825.2	14,584	15,635.5
Not stated	71	...	40	...
Age-adjusted rate ² . . . . .	...	1,308.3	...	1,341.4
Black³ female				
All ages	142,384	713.4	143,216	724.4
Under 1 year ¹	3,665	1,133.1	3,872	1,172.0
1–4 years	494	39.2	494	39.5
5–14 years	644	19.3	668	19.9
15–24 years	1,712	54.5	1,681	54.4
25–34 years	3,189	111.4	3,323	116.4
35–44 years	8,160	267.3	8,386	272.3
45–54 years	14,953	579.7	14,501	579.4
55–64 years	17,888	1,168.1	17,336	1,184.2
65–74 years	24,646	2,468.1	25,116	2,545.0
75–84 years	33,650	5,366.0	34,384	5,584.4
85 years and over	33,328	13,500.8	33,438	13,734.2
Not stated	55	...	17	...
Age-adjusted rate ² . . . . .	...	879.8	...	901.8

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 2002 and preliminary 2003—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 2003 are based on weighted data rounded to the nearest individual, so categories may not add to totals]

Age, race, and sex	2003		2002	
	Number	Rate	Number	Rate
Non-Hispanic black, both sexes				
All ages	285,777	782.8	286,573	792.8
Under 1 year ¹	8,185	1,294.1	8,284	1,280.3
1–4 years	1,157	47.5	1,163	48.4
5–14 years	1,533	23.9	1,634	25.3
15–24 years	6,947	115.3	6,904	116.9
25–34 years	9,645	186.0	10,009	193.9
35–44 years	19,354	350.5	19,955	357.8
45–54 years	36,274	781.6	35,211	782.0
55–64 years	42,000	1,565.3	40,878	1,592.9
65–74 years	52,234	3,137.8	52,748	3,204.8
75–84 years	61,321	6,386.3	62,183	6,584.8
85 years and over	47,069	14,001.5	47,565	14,386.7
Not stated	56	...	39	...
Age-adjusted rate ² . . . . .	...	1,074.9	...	1,099.2
Non-Hispanic black male				
All ages	144,881	833.4	144,802	842.3
Under 1 year ¹	4,626	1,435.5	4,520	1,369.3
1–4 years	676	54.7	681	55.8
5–14 years	896	27.5	977	29.8
15–24 years	5,253	173.5	5,248	177.4
25–34 years	6,498	262.8	6,723	274.3
35–44 years	11,282	435.2	11,661	445.7
45–54 years	21,465	1,001.4	20,839	1,002.9
55–64 years	24,281	2,032.0	23,706	2,074.5
65–74 years	27,810	4,019.9	27,859	4,078.9
75–84 years	27,980	8,074.2	28,137	8,246.2
85 years and over	14,086	15,007.6	14,422	15,776.9
Not stated	30	...	29	...
Age-adjusted rate ² . . . . .	...	1,329.9	...	1,360.6
Non-Hispanic black female				
All ages	140,895	736.7	141,771	748.0
Under 1 year ¹	3,559	1,147.2	3,764	1,187.5
1–4 years	482	40.2	482	40.8
5–14 years	637	20.1	657	20.7
15–24 years	1,694	56.5	1,656	56.1
25–34 years	3,148	116.0	3,286	121.3
35–44 years	8,072	275.5	8,294	280.1
45–54 years	14,809	593.0	14,372	592.7
55–64 years	17,719	1,190.6	17,172	1,206.3
65–74 years	24,424	2,510.5	24,889	2,584.8
75–84 years	33,341	5,433.1	34,046	5,644.9
85 years and over	32,983	13,611.8	33,143	13,855.4
Not stated	27	...	10	...
Age-adjusted rate ² . . . . .	...	893.7	...	915.3

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 2002 and preliminary 2003—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 2003 are based on weighted data rounded to the nearest individual, so categories may not add to totals]

Age, race, and sex	2003		2002	
	Number	Rate	Number	Rate
Total American Indian ^{3,4} , both sexes				
All ages	13,112	421.5	12,415	403.6
Under 1 year ¹	336	798.1	343	822.1
1–4 years	93	49.2	90	45.2
5–14 years	133	23.0	126	21.6
15–24 years	615	107.5	583	104.6
25–34 years	635	136.8	652	141.9
35–44 years	1,230	263.6	1,169	248.5
45–54 years	1,797	466.8	1,602	428.9
55–64 years	2,045	918.1	1,886	898.0
65–74 years	2,263	1,959.5	2,291	2,076.1
75–84 years	2,373	4,188.0	2,215	4,110.1
85 years and over	1,583	8,393.9	1,451	8,299.5
Not stated	9	...	7	...
Age-adjusted rate ² . . . . .	...	683.8	...	677.4
American Indian ^{3,4} male				
All ages	7,075	455.6	6,750	439.6
Under 1 year ¹	199	930.2	191	896.8
1–4 years	52	54.2	49	48.3
5–14 years	83	28.3	65	22.0
15–24 years	445	151.4	416	145.1
25–34 years	438	182.8	457	193.1
35–44 years	782	337.2	749	321.5
45–54 years	1,076	576.1	978	539.4
55–64 years	1,136	1,058.3	1,074	1,059.2
65–74 years	1,191	2,237.3	1,201	2,366.5
75–84 years	1,090	4,635.5	1,048	4,748.3
85 years and over	577	9,567.2	516	9,219.2
Not stated	6	...	6	...
Age-adjusted rate ² . . . . .	...	794.6	...	794.2
American Indian ^{3,4} female				
All ages	6,037	387.5	5,665	367.7
Under 1 year ¹	137	661.7	152	744.1
1–4 years	41	44.1	41	42.0
5–14 years	50	17.5	61	21.2
15–24 years	170	61.1	167	61.7
25–34 years	197	87.8	195	87.5
35–44 years	448	190.9	420	176.8
45–54 years	721	363.8	624	324.7
55–64 years	909	787.6	812	747.5
65–74 years	1,072	1,721.9	1,090	1,828.9
75–84 years	1,283	3,870.5	1,167	3,667.4
85 years and over	1,006	7,842.2	935	7,866.4
Not stated	3	...	1	...
Age-adjusted rate ² . . . . .	...	592.2	...	581.1

See footnotes at end of table.

Table 1. Deaths and death rates by age, sex, and race and Hispanic origin and age-adjusted death rates, by sex and race and Hispanic origin: United States, final 2002 and preliminary 2003—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 2003 are based on weighted data rounded to the nearest individual, so categories may not add to totals]

Age, race, and sex	2003		2002	
	Number	Rate	Number	Rate
Total Asian or Pacific Islander ³ , both sexes				
All ages	39,734	301.0	38,332	299.5
Under 1 year ¹	887	484.4	798	427.4
1–4 years	169	23.4	166	23.4
5–14 years	243	13.5	220	12.4
15–24 years	781	40.5	777	41.3
25–34 years	1,010	41.0	961	40.1
35–44 years	1,672	75.9	1,643	76.1
45–54 years	3,394	190.5	3,344	195.3
55–64 years	4,714	444.4	4,706	475.5
65–74 years	7,581	1,205.7	7,338	1,226.7
75–84 years	10,743	3,216.6	10,224	3,290.4
85 years and over	8,532	8,986.7	8,148	9,378.6
Not stated	8	...	7	...
Age-adjusted rate ² . . . . .	...	461.2	...	474.4
Asian or Pacific Islander ³ male				
All ages	20,951	326.4	20,483	331.4
Under 1 year ¹	490	521.4	441	461.9
1–4 years	96	26.1	97	27.1
5–14 years	137	14.9	130	14.4
15–24 years	531	54.0	554	58.6
25–34 years	642	53.0	633	54.5
35–44 years	1,018	95.4	1,040	100.0
45–54 years	1,977	237.5	1,971	248.4
55–64 years	2,705	545.7	2,738	594.5
65–74 years	4,096	1,476.4	3,887	1,487.1
75–84 years	5,544	4,007.7	5,324	4,090.8
85 years and over	3,711	10,242.6	3,662	10,938.5
Not stated	5	...	6	...
Age-adjusted rate ² . . . . .	...	556.7	...	578.4
Asian or Pacific Islander ³ female				
All ages	18,783	276.9	17,849	269.7
Under 1 year ¹	396	444.3	357	391.4
1–4 years	73	20.6	69	19.6
5–14 years	107	12.1	90	10.4
15–24 years	250	26.4	223	23.8
25–34 years	368	29.3	328	26.6
35–44 years	655	57.6	603	53.9
45–54 years	1,417	149.2	1,373	149.5
55–64 years	2,009	355.5	1,968	372.0
65–74 years	3,485	991.9	3,451	1,024.7
75–84 years	5,200	2,657.8	4,900	2,713.6
85 years and over	4,821	8,211.7	4,486	8,400.6
Not stated	3	...	1	...
Age-adjusted rate ² . . . . .	...	389.2	...	395.9

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 2002 and preliminary 2003—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 2003 are based on weighted data rounded to the nearest individual, so categories may not add to totals]

Age, race, and sex	2003		2002	
	Number	Rate	Number	Rate
Hispanic ⁵ , both sexes				
All ages	119,964	300.7	117,135	302.2
Under 1 year ¹	5,389	622.6	4,943	592.7
1–4 years	940	28.6	933	29.8
5–14 years	1,138	15.2	1,124	15.5
15–24 years	5,202	74.4	5,255	77.2
25–34 years	5,968	80.9	5,816	79.3
35–44 years	8,321	140.6	8,467	145.8
45–54 years	12,203	319.6	11,745	321.3
55–64 years	14,795	708.7	14,215	719.8
65–74 years	20,322	1,663.2	20,476	1,734.1
75–84 years	25,896	4,043.1	24,838	4,143.1
85 years and over	19,739	10,229.4	19,265	10,679.0
Not stated	50	...	58	...
Age-adjusted rate ² . . . . .	...	611.2	...	629.3
Hispanic ⁵ male				
All ages	66,783	324.2	65,703	328.7
Under 1 year ¹	3,002	679.5	2,746	644.0
1–4 years	540	32.1	546	34.2
5–14 years	700	18.3	647	17.4
15–24 years	4,056	107.9	4,182	114.4
25–34 years	4,581	114.1	4,474	112.5
35–44 years	5,706	184.0	5,828	192.5
45–54 years	8,075	422.7	7,719	423.4
55–64 years	9,040	912.6	8,762	937.4
65–74 years	11,328	2,090.4	11,476	2,193.4
75–84 years	12,688	4,865.6	12,291	5,043.5
85 years and over	7,027	10,816.8	6,977	11,674.1
Not stated	40	...	55	...
Age-adjusted rate ² . . . . .	...	734.8	...	766.7
Hispanic ⁵ female				
All ages	53,181	275.5	51,432	274.0
Under 1 year ¹	2,387	563.2	2,197	539.1
1–4 years	400	24.8	387	25.3
5–14 years	438	12.0	477	13.5
15–24 years	1,146	35.4	1,073	34.1
25–34 years	1,387	41.2	1,342	40.0
35–44 years	2,616	92.9	2,639	94.9
45–54 years	4,128	216.4	4,026	219.8
55–64 years	5,755	524.6	5,453	524.3
65–74 years	8,993	1,322.6	9,000	1,368.7
75–84 years	13,208	3,478.2	12,547	3,526.4
85 years and over	12,712	9,931.3	12,288	10,186.0
Not stated	11	...	3	...
Age-adjusted rate ² . . . . .	...	508.8	...	518.3

... Category not applicable.

¹Death rates for "Under 1 year" (based on population estimates) differ from infant mortality rates (based on live births). See text for additional information on the infant mortality rate.

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

³Race and Hispanic origin are reported separately on the death certificate. Race categories are consistent with the 1977 Office of Management and Budget standards. California, Hawaii, Idaho, Maine, Montana, New York, and Wisconsin reported multiple-race data in 2003. The multiple-race data for these States were bridged to the single race categories of the 1977 Office of Management and Budget standards for comparability with other States; see "Technical Notes." Data for persons of Hispanic origin are included in the data for each race group, according to the decedent's reported race; see "Technical Notes."

⁴Includes deaths among Aleuts and Eskimos.

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

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

Table 2. Deaths, death rates, and age-adjusted death rates for 113 selected causes, Injury by firearms, Drug-induced deaths, Alcohol-induced deaths, and Injury at work: United States, final 2002 and preliminary 2003

[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 2003 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>)	2003			2002		
	Number	Rate	Age-adjusted rate	Number	Rate	Age-adjusted rate
All causes	2,443,930	840.4	831.2	2,443,387	847.3	845.3
Salmonella infections (A01–A02)	42	0.0	0.0	21	0.0	0.0
Shigellosis and amebiasis (A03,A06)	11	*	*	8	*	*
Certain other intestinal infections (A04,A07–A09)	3,028	1.0	1.0	2,465	0.9	0.8
Tuberculosis (A16–A19)	704	0.2	0.2	784	0.3	0.3
Respiratory tuberculosis (A16)	564	0.2	0.2	626	0.2	0.2
Other tuberculosis (A17–A19)	140	0.0	0.0	158	0.1	0.0
Whooping cough (A37)	10	*	*	18	*	*
Scarlet fever and erysipelas (A38,A46)	1	*	*	2	*	*
Meningococcal infection (A39)	152	0.1	0.0	161	0.1	0.0
Septicemia (A40–A41)	34,243	11.8	11.7	33,865	11.7	11.7
Syphilis (A50–A53)	32	0.0	0.0	41	0.0	0.0
Acute poliomyelitis (A80)	5	*	*	–	*	*
Arthropod-borne viral encephalitis (A83–A84,A85.2)	12	*	*	9	*	*
Measles (B05)	1	*	*	–	*	*
Viral hepatitis (B15–B19)	5,345	1.8	1.8	5,793	2.0	2.0
Human immunodeficiency virus (HIV) disease (B20–B24)	13,544	4.7	4.7	14,095	4.9	4.9
Malaria (B50–B54)	5	*	*	12	*	*
Other and unspecified infectious and parasitic diseases and their sequelae (A00,A05,A20–A36, A42–A44, A48–A49,A54–A79,A81–A82,A85.0–A85.1,A85.8,A86–B04,B06–B09,B25–B49,B55–B99)	7,430	2.6	2.5	6,707	2.3	2.3
Malignant neoplasms (C00–C97)	554,643	190.7	189.3	557,271	193.2	193.5
Malignant neoplasms of lip, oral cavity and pharynx (C00–C14)	7,712	2.7	2.6	7,737	2.7	2.7
Malignant neoplasm of esophagus (C15)	12,768	4.4	4.4	12,701	4.4	4.4
Malignant neoplasm of stomach (C16)	12,025	4.1	4.1	12,198	4.2	4.2
Malignant neoplasms of colon, rectum and anus (C18–C21)	55,616	19.1	18.9	56,741	19.7	19.7
Malignant neoplasms of liver and intrahepatic bile ducts (C22)	14,572	5.0	5.0	14,047	4.9	4.9
Malignant neoplasm of pancreas (C25)	30,566	10.5	10.4	30,264	10.5	10.5
Malignant neoplasm of larynx (C32)	3,783	1.3	1.3	3,723	1.3	1.3
Malignant neoplasms of trachea, bronchus and lung (C33–C34)	157,521	54.2	53.9	157,713	54.7	54.9
Malignant melanoma of skin (C43)	7,762	2.7	2.6	7,514	2.6	2.6
Malignant neoplasm of breast (C50)	41,941	14.4	14.2	41,883	14.5	14.5
Malignant neoplasm of cervix uteri (C53)	3,899	1.3	1.3	3,952	1.4	1.3
Malignant neoplasms of corpus uteri and uterus, part unspecified (C54–C55)	6,852	2.4	2.3	6,853	2.4	2.4
Malignant neoplasm of ovary (C56)	14,644	5.0	5.0	14,682	5.1	5.1
Malignant neoplasm of prostate (C61)	29,578	10.2	10.1	30,446	10.6	10.6
Malignant neoplasms of kidney and renal pelvis (C64–C65)	12,179	4.2	4.1	12,165	4.2	4.2
Malignant neoplasm of bladder (C67)	12,390	4.3	4.2	12,628	4.4	4.4
Malignant neoplasms of meninges, brain and other parts of central nervous system (C70–C72)	12,804	4.4	4.4	12,830	4.4	4.4
Malignant neoplasms of lymphoid, hematopoietic and related tissue (C81–C96)	55,571	19.1	19.0	56,225	19.5	19.5
Hodgkin's disease (C81)	1,340	0.5	0.5	1,352	0.5	0.5
Non-Hodgkin's lymphoma (C82–C85)	21,443	7.4	7.3	21,910	7.6	7.6
Leukemia (C91–C95)	21,446	7.4	7.3	21,498	7.5	7.5
Multiple myeloma and immunoproliferative neoplasms (C88,C90)	11,288	3.9	3.9	11,392	4.0	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 2002 and preliminary 2003—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 2003 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>)	2003			2002		
	Number	Rate	Age-adjusted rate	Number	Rate	Age-adjusted rate
Other and unspecified malignant neoplasms of lymphoid, hematopoietic and related tissue (C96)	54	0.0	0.0	73	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)	62,458	21.5	21.3	62,969	21.8	21.8
In situ neoplasms, benign neoplasms and neoplasms of uncertain or unknown behavior (D00–D48)	13,495	4.6	4.6	13,299	4.6	4.6
Anemias (D50–D64)	4,599	1.6	1.6	4,614	1.6	1.6
Diabetes mellitus (E10–E14)	73,965	25.4	25.2	73,249	25.4	25.4
Nutritional deficiencies (E40–E64)	3,358	1.2	1.1	3,779	1.3	1.3
Malnutrition (E40–E46)	3,170	1.1	1.1	3,510	1.2	1.2
Other nutritional deficiencies (E50–E64)	188	0.1	0.1	269	0.1	0.1
Meningitis. (G00,G03)	708	0.2	0.2	700	0.2	0.2
Parkinson's disease. (G20–G21)	17,898	6.2	6.1	16,959	5.9	5.9
Alzheimer's disease. (G30)	63,343	21.8	21.4	58,866	20.4	20.2
Major cardiovascular diseases. (I00–I78)	901,753	310.1	305.8	918,628	318.6	317.4
Diseases of heart. (I00–I09,I11,I13,I20–I51)	684,462	235.4	232.1	696,947	241.7	240.8
Acute rheumatic fever and chronic rheumatic heart diseases. (I00–I09)	3,554	1.2	1.2	3,579	1.2	1.2
Hypertensive heart disease (I11)	27,653	9.5	9.3	26,551	9.2	9.1
Hypertensive heart and renal disease (I13)	3,110	1.1	1.1	2,895	1.0	1.0
Ischemic heart diseases (I20–I25)	479,304	164.8	162.6	494,382	171.4	170.8
Acute myocardial infarction (I21–I22)	170,960	58.8	58.0	179,514	62.3	62.1
Other acute ischemic heart diseases (I24)	3,182	1.1	1.1	3,407	1.2	1.2
Other forms of chronic ischemic heart disease (I20,I25)	305,163	104.9	103.5	311,461	108.0	107.6
Atherosclerotic cardiovascular disease, so described (I25.0)	65,678	22.6	22.2	68,129	23.6	23.5
All other forms of chronic ischemic heart disease (I20,I25.1–I25.9)	239,485	82.4	81.2	243,332	84.4	84.1
Other heart diseases (I26–I51)	170,841	58.7	57.9	169,540	58.8	58.5
Acute and subacute endocarditis (I33)	1,214	0.4	0.4	1,154	0.4	0.4
Diseases of pericardium and acute myocarditis (I30–I31,I40)	826	0.3	0.3	848	0.3	0.3
Heart failure. (I50)	57,218	19.7	19.3	56,494	19.6	19.5
All other forms of heart disease (I26–I28,I34–I38,I42–I49,I51)	111,583	38.4	37.9	111,044	38.5	38.4
Essential (primary) hypertension and hypertensive renal disease. (I10,I12)	21,841	7.5	7.4	20,261	7.0	7.0
Cerebrovascular diseases. (I60–I69)	157,803	54.3	53.6	162,672	56.4	56.2
Atherosclerosis (I70)	13,030	4.5	4.4	13,821	4.8	4.7
Other diseases of circulatory system (I71–I78)	24,617	8.5	8.4	24,927	8.6	8.7
Aortic aneurysm and dissection (I71)	14,751	5.1	5.1	14,818	5.1	5.2
Other diseases of arteries, arterioles and capillaries (I72–I78)	9,867	3.4	3.4	10,109	3.5	3.5
Other disorders of circulatory system (I80–I99)	4,683	1.6	1.6	4,711	1.6	1.6
Influenza and pneumonia (J10–J18)	64,847	22.3	21.9	65,681	22.8	22.6
Influenza (J10–J11)	1,605	0.6	0.5	727	0.3	0.2
Pneumonia (J12–J18)	63,241	21.7	21.4	64,954	22.5	22.4
Other acute lower respiratory infections (J20–J22)	406	0.1	0.1	386	0.1	0.1
Acute bronchitis and bronchiolitis (J20–J21)	292	0.1	0.1	279	0.1	0.1
Unspecified acute lower respiratory infection. (J22)	114	0.0	0.0	107	0.0	0.0
Chronic lower respiratory diseases (J40–J47)	126,128	43.4	43.2	124,816	43.3	43.5

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 2002 and preliminary 2003—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 2003 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>)	2003			2002		
	Number	Rate	Age-adjusted rate	Number	Rate	Age-adjusted rate
Bronchitis, chronic and unspecified (J40–J42)	851	0.3	0.3	955	0.3	0.3
Emphysema (J43)	14,793	5.1	5.1	15,489	5.4	5.4
Asthma (J45–J46)	3,964	1.4	1.3	4,261	1.5	1.5
Other chronic lower respiratory diseases (J44,J47)	106,520	36.6	36.5	104,111	36.1	36.2
Pneumoconioses and chemical effects (J60–J66,J68)	1,107	0.4	0.4	1,114	0.4	0.4
Pneumonitis due to solids and liquids (J69)	17,457	6.0	5.9	17,593	6.1	6.1
Other diseases of respiratory system (J00–J06,J30–J39,J67,J70–J98)	25,304	8.7	8.6	25,039	8.7	8.7
Peptic ulcer (K25–K28)	3,888	1.3	1.3	4,079	1.4	1.4
Diseases of appendix (K35–K38)	432	0.1	0.1	480	0.2	0.2
Hernia (K40–K46)	1,617	0.6	0.6	1,595	0.6	0.5
Chronic liver disease and cirrhosis (K70,K73–K74)	27,201	9.4	9.2	27,257	9.5	9.4
Alcoholic liver disease (K70)	12,064	4.1	4.1	12,121	4.2	4.2
Other chronic liver disease and cirrhosis (K73–K74)	15,137	5.2	5.1	15,136	5.2	5.2
Cholelithiasis and other disorders of gallbladder (K80–K82)	2,934	1.0	1.0	2,979	1.0	1.0
Nephritis, nephrotic syndrome and nephrosis (N00–N07,N17–N19,N25–N27)	42,536	14.6	14.5	40,974	14.2	14.2
Acute and rapidly progressive nephritic and nephrotic syndrome (N00–N01,N04)	149	0.1	0.1	166	0.1	0.0
Chronic glomerulonephritis, nephrosis and nephropathy not specified as acute or chronic, and renal sclerosis unspecified (N02–N03,N05–N07,N26)	542	0.2	0.2	553	0.2	0.2
Renal failure (N17–N19)	41,818	14.4	14.2	40,222	13.9	13.9
Other disorders of kidney (N25,N27)	27	0.0	0.0	33	0.0	0.0
Infections of kidney (N10–N12,N13.6,N15.1)	821	0.3	0.3	788	0.3	0.3
Hyperplasia of prostate (N40)	487	0.2	0.2	437	0.2	0.1
Inflammatory diseases of female pelvic organs (N70–N76)	131	0.0	0.0	114	0.0	0.0
Pregnancy, childbirth and the puerperium (O00–O99)	515	0.2	0.2	379	0.1	0.1
Pregnancy with abortive outcome (O00–O07)	42	0.0	0.0	22	0.0	0.0
Other complications of pregnancy, childbirth and the puerperium (O10–O99)	473	0.2	0.2	357	0.1	0.1
Certain conditions originating in the perinatal period (P00–P96)	14,352	4.9	4.9	14,254	4.9	4.9
Congenital malformations, deformations and chromosomal abnormalities (Q00–Q99)	10,430	3.6	3.6	10,687	3.7	3.7
Symptoms, signs and abnormal clinical and laboratory findings, not elsewhere classified (R00–R99)	38,795	13.3	13.1	29,975	10.4	10.3
All other diseases (Residual)	200,322	68.9	67.9	194,591	67.5	67.1
Accidents (unintentional injuries) (V01–X59,Y85–Y86)	105,695	36.3	36.1	106,742	37.0	36.9
Transport accidents (V01–V99,Y85)	47,325	16.3	16.1	48,366	16.8	16.7
Motor vehicle accidents (V02–V04,V09.0,V09.2,V12–V14,V19.0–V19.2,V19.4–V19.6,V20–V79,V80.3–V80.5,V81.0–V81.1,V82.0–V82.1,V83–V86,V87.0–V87.8,V88.0–V88.8,V89.0,V89.2)	44,059	15.2	15.0	45,380	15.7	15.7
Other land transport accidents (V01,V05–V06,V09.1,V09.3–V09.9,V10–V11,V15–V18,V19.3,V19.8–V19.9,V80.0–V80.2,V80.6–V80.9,V81.2–V81.9,V82.2–V82.9,V87.9,V88.9,V89.1,V89.3,V89.9)	1,352	0.5	0.4	1,086	0.4	0.4
Water, air and space, and other and unspecified transport accidents and their sequelae (V90–V99,Y85)	1,913	0.7	0.7	1,900	0.7	0.6
Nontransport accidents (W00–X59,Y86)	58,371	20.1	19.9	58,376	20.2	20.2
Falls (W00–W19)	16,926	5.8	5.7	16,257	5.6	5.6
Accidental discharge of firearms (W32–W34)	752	0.3	0.2	762	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 2002 and preliminary 2003—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 2003 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>)	2003			2002		
	Number	Rate	Age-adjusted rate	Number	Rate	Age-adjusted rate
Accidental drowning and submersion (W65–W74)	3,222	1.1	1.1	3,447	1.2	1.2
Accidental exposure to smoke, fire and flames (X00–X09)	3,363	1.2	1.1	3,159	1.1	1.1
Accidental poisoning and exposure to noxious substances (X40–X49)	16,969	5.8	5.8	17,550	6.1	6.1
Other and unspecified nontransport accidents and their sequelae (W20–W31, W35–W64, W75–W99, X10–X39, X50–X59, Y86)	17,138	5.9	5.8	17,201	6.0	5.9
Intentional self-harm (suicide) (*U03, X60–X84, Y87.0)	30,642	10.5	10.5	31,655	11.0	10.9
Intentional self-harm (suicide) by discharge of firearms (X72–X74)	16,859	5.8	5.7	17,108	5.9	5.9
Intentional self-harm (suicide) by other and unspecified means and their sequelae (*U03, X60–X71, X75–X84, Y87.0)	13,782	4.7	4.7	14,547	5.0	5.0
Assault (homicide) (*U01–*U02, X85–Y09, Y87.1)	17,096	5.9	5.8	17,638	6.1	6.1
Assault (homicide) by discharge of firearms (*U01.4, X93–X95)	11,599	4.0	4.0	11,829	4.1	4.1
Assault (homicide) by other and unspecified means and their sequelae (*U01.0–*U01.3, *U01.5–*U01.9, *U02, X85–X92, X96–Y09, Y87.1)	5,498	1.9	1.9	5,809	2.0	2.0
Legal intervention (Y35, Y89.0)	394	0.1	0.1	384	0.1	0.1
Events of undetermined intent (Y10–Y34, Y87.2, Y89.9)	4,602	1.6	1.6	4,830	1.7	1.7
Discharge of firearms, undetermined intent (Y22–Y24)	197	0.1	0.1	243	0.1	0.1
Other and unspecified events of undetermined intent and their sequelae (Y10–Y21, Y25–Y34, Y87.2, Y89.9)	4,405	1.5	1.5	4,587	1.6	1.6
Operations of war and their sequelae (Y36, Y89.1)	16	*	*	20	0.0	0.0
Complications of medical and surgical care (Y40–Y84, Y88)	2,766	1.0	0.9	2,843	1.0	1.0
Injury by firearms ¹ (*U01.4, W32–W34, X72–X74, X93–X95, Y22–Y24, Y35.0)	29,730	10.2	10.1	30,242	10.5	10.4
Drug-induced deaths ¹ (F11.0–F11.5, F11.7–F11.9, F12.0–F12.5, F12.7–F12.9, F13.0–F13.5, F13.7–F13.9, F14.0–F14.5, F14.7–F14.9, F15.0–F15.5, 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)	25,162	8.7	8.7	26,018	9.0	9.0
Alcohol-induced deaths ¹ (F10, G31.2, G62.1, I42.6, K29.2, K70, R78.0, X45, X65, Y15)	19,699	6.8	6.6	19,928	6.9	6.9
Injury at work ²	4,735	2.1	2.0	5,305	2.3	2.3

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

– Quantity zero.

¹Included in selected categories.

²Injury at work described in "Technical Notes."

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

Table 3. Deaths, death rates, and age-adjusted death rates: United States, and each State and territory, final 2002 and preliminary 2003

[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 2003 are based on weighted data rounded to the nearest individual, so categories may not add to totals]

Area	2003			2002		
	Number	Rate	Age-adjusted rate	Number	Rate	Age-adjusted rate
United States ¹	2,443,908	840.4	831.2	2,443,387	847.3	845.3
Alabama	46,726	1,038.2	1,001.9	46,069	1,026.8	998.1
Alaska	3,185	490.9	831.3	3,030	470.7	789.1
Arizona	43,496	779.4	788.9	42,816	784.7	795.7
Arkansas	27,924	1,024.5	937.6	28,513	1,052.1	964.4
California ²	---	---	---	234,565	668.0	757.8
Colorado	29,542	649.2	785.3	29,210	648.2	790.2
Connecticut	29,432	844.9	729.5	30,122	870.5	762.4
Delaware	7,070	864.8	844.3	6,861	849.8	838.2
District of Columbia	5,513	976.9	968.2	5,851	1,024.9	1,021.4
Florida	168,607	990.7	775.7	167,814	1,004.1	786.4
Georgia	66,473	765.4	946.4	65,449	764.6	949.1
Hawaii	8,987	714.6	650.1	8,801	707.0	660.6
Idaho	10,385	760.1	797.5	9,923	739.9	793.0
Illinois ²	---	---	---	106,667	846.5	856.0
Indiana	56,193	907.0	898.1	55,396	899.4	899.6
Iowa	28,080	953.8	769.0	27,978	952.7	774.5
Kansas	24,596	903.1	824.0	25,021	921.3	843.5
Kentucky	40,236	977.1	976.9	40,697	994.3	993.9
Louisiana	42,893	954.0	1,007.4	41,984	936.6	1,000.5
Maine	12,534	959.9	821.9	12,694	980.6	846.5
Maryland	44,500	807.8	852.9	43,970	805.6	864.1
Massachusetts	56,297	875.1	778.8	56,928	885.7	791.9
Michigan	86,710	860.2	850.3	87,795	873.5	876.2
Minnesota	37,636	743.9	713.4	38,510	767.2	747.5
Mississippi	28,535	990.4	1,015.2	28,853	1,004.7	1,036.3
Missouri	55,569	974.1	902.4	55,940	986.1	916.7
Montana	8,467	922.7	828.3	8,506	935.3	849.7
Nebraska	15,466	889.2	790.6	15,738	910.1	814.8
Nevada	17,864	797.1	925.0	16,927	778.8	916.5
New Hampshire	9,691	752.6	748.4	9,853	772.8	781.7
New Jersey	73,683	853.0	794.7	74,009	861.5	808.7
New Mexico	14,877	793.6	827.7	14,344	773.2	815.0
New York	155,852	812.1	759.8	158,118	825.4	783.3
North Carolina	73,548	874.8	906.8	72,027	865.7	906.1
North Dakota	6,095	961.6	767.5	5,892	929.2	749.8
Ohio	108,660	950.2	886.2	109,766	961.1	908.2
Oklahoma	35,733	1,017.6	973.9	35,502	1,016.2	973.2
Oregon	30,934	869.0	808.9	31,119	883.7	834.2
Pennsylvania	129,767	1,049.4	849.1	130,223	1,055.7	862.1
Rhode Island	10,038	932.8	786.6	10,246	957.8	809.5
South Carolina	38,111	919.0	934.8	37,736	918.8	946.9
South Dakota	7,133	933.3	790.5	6,898	906.4	771.2
Tennessee	57,306	981.0	982.1	56,606	976.4	981.5
Texas	155,171	701.5	857.2	155,524	714.1	870.0
Utah	13,408	570.2	782.1	13,116	566.3	782.0
Vermont	5,112	825.7	764.1	5,075	823.1	775.0
Virginia	58,415	790.9	852.8	57,196	784.2	856.6
Washington	45,964	749.6	776.6	45,338	747.0	785.3
West Virginia	21,299	1,176.5	994.5	21,016	1,166.3	991.7
Wisconsin	46,174	843.8	772.3	46,981	863.4	799.8
Wyoming	4,173	832.5	850.6	4,174	837.0	864.3
Puerto Rico	28,243	728.2	782.0	27,924	723.6	790.8
Virgin Islands	628	577.1	712.8	617	567.0	734.3
Guam	672	410.8	748.3	638	396.1	736.6
American Samoa	---	---	---	290	502.5	1,467.9
Northern Marianas	143	187.8	808.5	161	217.6	1,057.4

--- Data not available.

¹Excludes data for U.S. territories.

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

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

Table 4. Infant deaths and infant mortality rates, by age and race and Hispanic origin: United States, final 2002 and preliminary 2003

[Data are based on the continuous file of records received from the States. Rates per 1,000 live births. Figures for 2003 are based on weighted data rounded to the nearest individual, so categories may not add to totals. Rates for Hispanic origin should be interpreted with caution because of the inconsistencies between reporting Hispanic origin on birth and death certificates; see "Technical Notes." Race categories are consistent with the 1977 Office of Management and Budget guidelines]

Age and race and Hispanic origin	2003		2002	
	Number	Rate	Number	Rate
All races¹				
Under 1 year	28,428	6.9	28,034	7.0
Under 28 days	19,108	4.7	18,747	4.7
28 days–11 months.	9,320	2.3	9,287	2.3
Total white²				
Under 1 year	18,768	5.8	18,369	5.8
Under 28 days	12,698	3.9	12,354	3.9
28 days–11 months.	6,070	1.9	6,015	1.9
Non-Hispanic white				
Under 1 year	13,450	5.8	13,463	5.9
Under 28 days	9,048	3.9	9,014	3.9
28 days–11 months.	4,402	1.9	4,449	1.9
Total black²				
Under 1 year	8,437	14.1	8,524	14.4
Under 28 days	5,626	9.4	5,646	9.5
28 days–11 months.	2,812	4.7	2,878	4.8
Hispanic³				
Under 1 year	5,389	5.9	4,943	5.6
Under 28 days	3,676	4.0	3,331	3.8
28 days–11 months.	1,712	1.9	1,612	1.8

¹Includes races other than white or black.

²Race and Hispanic origin are reported separately on both the birth and death certificate. Race categories are consistent with the 1977 Office of Management and Budget standards. California, Hawaii, Idaho, Maine, Montana, New York, and Wisconsin reported multiple-race data in 2003. The multiple-race data for these States were bridged to the single race categories of the 1977 Office of Management and Budget standards for comparability with other States; see "Technical Notes." Data for persons of Hispanic origin are included in the data for each race group, according to the decedent's reported race; see "Technical Notes."

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

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

Table 5. Infant deaths and infant mortality rates for 130 selected causes: United States, final 2002 and preliminary 2003

[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 2003 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>)	2003		2002	
	Number	Rate	Number	Rate
All causes	28,422	694.7	28,034	697.1
Certain infectious and parasitic diseases (A00–B99)	495	12.1	582	14.5
Certain intestinal infectious diseases (A00–A08)	9	*	13	*
Diarrhea and gastroenteritis of infectious origin (A09)	1	*	3	*
Tuberculosis (A16–A19)	–	*	1	*
Tetanus (A33,A35)	–	*	–	*
Diphtheria (A36)	–	*	–	*
Whooping cough (A37)	9	*	18	*
Meningococcal infection (A39)	10	*	17	*
Septicemia (A40–A41)	279	6.8	296	7.4
Congenital syphilis (A50)	–	*	1	*
Gonococcal infection (A54)	–	*	1	*
Viral diseases (A80–B34)	117	2.9	164	4.1
Acute poliomyelitis (A80)	–	*	–	*
Varicella (chickenpox) (B01)	1	*	1	*
Measles (B05)	–	*	–	*
Human immunodeficiency virus (HIV) disease (B20–B24)	5	*	7	*
Mumps (B26)	–	*	–	*
Other and unspecified viral diseases (A81–B00,B02–B04,B06–B19,B25,B27–B34)	110	2.7	156	3.9
Candidiasis (B37)	23	0.6	19	*
Malaria (B50–B54)	–	*	–	*
Pneumocystosis (B59)	3	*	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)	43	1.1	47	1.2
Neoplasms (C00–D48)	152	3.7	143	3.6
Malignant neoplasms (C00–C97)	83	2.0	74	1.8
Hodgkin's disease and non-Hodgkin's lymphomas (C81–C85)	–	*	2	*
Leukemia (C91–C95)	33	0.8	21	0.5
Other and unspecified malignant neoplasms (C00–C80,C88–C90,C96–C97)	50	1.2	51	1.3
In situ neoplasms, benign neoplasms and neoplasms of uncertain or unknown behavior (D00–D48)	70	1.7	69	1.7
Diseases of the blood and blood-forming organs and certain disorders involving the immune mechanism (D50–D89)	105	2.6	82	2.0
Anemias (D50–D64)	21	0.5	18	*
Hemorrhagic conditions and other diseases of blood and blood-forming organs (D65–D76)	66	1.6	43	1.1
Certain disorders involving the immune mechanism (D80–D89)	17	*	21	0.5
Endocrine, nutritional and metabolic diseases (E00–E88)	264	6.5	266	6.6
Short stature, not elsewhere classified (E34.3)	10	*	26	0.6
Nutritional deficiencies (E40–E64)	10	*	4	*
Cystic fibrosis (E84)	5	*	10	*
Volume depletion, disorders of fluid, electrolyte and acid-base balance (E86–E87)	86	2.1	74	1.8
All other endocrine, nutritional and metabolic diseases (E00–E32,E34.0–E34.2, E34.4–E34.9,E65–E83,E85,E88)	152	3.7	152	3.8
Diseases of the nervous system (G00–G98)	424	10.4	382	9.5
Meningitis (G00,G03)	69	1.7	74	1.8
Infantile spinal muscular atrophy, type I (Werdnig-Hoffman) (G12.0)	21	0.5	25	0.6

See footnotes at end of table.

Table 5. Infant deaths and infant mortality rates for 130 selected causes: United States, final 2002 and preliminary 2003—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 2003 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>)	2003		2002	
	Number	Rate	Number	Rate
Infantile cerebral palsy (G80)	14	*	9	*
Anoxic brain damage, not elsewhere classified (G93.1)	51	1.2	39	1.0
Other diseases of nervous system. (G04,G06–G11,G12.1–G12.9,G20–G72,G81–G92,G93.0, G93.2–G93.9,G95–G98)	268	6.6	235	5.8
Diseases of the ear and mastoid process (H60–H93)	5	*	6	*
Diseases of the circulatory system (I00–I99)	834	20.4	667	16.6
Pulmonary heart disease and diseases of pulmonary circulation (I26–I28)	361	8.8	186	4.6
Pericarditis, endocarditis and myocarditis (I30,I33,I40)	22	0.5	22	0.5
Cardiomyopathy. (I42)	129	3.2	118	2.9
Cardiac arrest. (I46)	21	0.5	34	0.8
Cerebrovascular diseases (I60–I69)	111	2.7	117	2.9
All other diseases of circulatory system. (I00–I25,I31,I34–I38,I44–I45,I47–I51,I70–I99)	189	4.6	190	4.7
Diseases of the respiratory system (J00–J98)	671	16.4	636	15.8
Acute upper respiratory infections (J00–J06)	8	*	9	*
Influenza and pneumonia (J10–J18)	314	7.7	263	6.5
Influenza (J10–J11)	30	0.7	7	*
Pneumonia (J12–J18)	284	6.9	256	6.4
Acute bronchitis and acute bronchiolitis (J20–J21)	51	1.2	49	1.2
Bronchitis, chronic and unspecified (J40–J42)	19	*	24	0.6
Asthma (J45–J46)	6	*	4	*
Pneumonitis due to solids and liquids (J69)	12	*	2	*
Other and unspecified diseases of respiratory system (J22,J30–J39,J43–J44,J47–J68,J70–J98)	260	6.4	285	7.1
Diseases of the digestive system (K00–K92)	567	13.9	509	12.7
Gastritis, duodenitis, and noninfective enteritis and colitis (K29,K50–K55)	317	7.7	268	6.7
Hernia of abdominal cavity and intestinal obstruction without hernia (K40–K46,K56)	68	1.7	50	1.2
All other and unspecified diseases of digestive system. (K00–K28,K30–K38,K57–K92)	182	4.4	191	4.7
Diseases of the genitourinary system (N00–N98)	185	4.5	187	4.6
Renal failure and other disorders of kidney (N17–N19,N25,N27)	151	3.7	165	4.1
Other and unspecified diseases of genitourinary system (N00–N15,N20–N23,N26,N28–N98)	34	0.8	22	0.5
Certain conditions originating in the perinatal period. (P00–P96)	14,173	346.4	14,106	350.7
Newborn affected by maternal factors and by complications of pregnancy, labor and delivery (P00–P04)	3,186	77.9	3,063	76.2
Newborn affected by maternal hypertensive disorders (P00.0)	69	1.7	71	1.8
Newborn affected by other maternal conditions which may be unrelated to present pregnancy (P00.1–P00.9)	80	2.0	76	1.9
Newborn affected by maternal complications of pregnancy (P01)	1,734	42.4	1,708	42.5
Newborn affected by incompetent cervix (P01.0)	437	10.7	475	11.8
Newborn affected by premature rupture of membranes (P01.1)	744	18.2	764	19.0
Newborn affected by multiple pregnancy (P01.5)	319	7.8	252	6.3
Newborn affected by other maternal complications of pregnancy. (P01.2–P01.4, P01.6–P01.9)	233	5.7	217	5.4
Newborn affected by complications of placenta, cord and membranes (P02)	1,112	27.2	1,028	25.6
Newborn affected by complications involving placenta (P02.0–P02.3)	610	14.9	512	12.7
Newborn affected by complications involving cord (P02.4–P02.6)	42	1.0	55	1.4
Newborn affected by chorioamnionitis. (P02.7)	457	11.2	460	11.4
Newborn affected by other and unspecified abnormalities of membranes. (P02.8–P02.9)	3	*	1	*
Newborn affected by other complications of labor and delivery. (P03)	161	3.9	144	3.6

See footnotes at end of table.

Table 5. Infant deaths and infant mortality rates for 130 selected causes: United States, final 2002 and preliminary 2003—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 2003 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>)	2003		2002	
	Number	Rate	Number	Rate
Newborn affected by noxious influences transmitted via placenta or breast milk (P04)	31	0.8	36	0.9
Disorders related to length of gestation and fetal malnutrition (P05–P08)	4,905	119.9	4,714	117.2
Slow fetal growth and fetal malnutrition (P05)	60	1.5	77	1.9
Disorders related to short gestation and low birth weight, not elsewhere classified (P07)	4,844	118.4	4,637	115.3
Extremely low birth weight or extreme immaturity (P07.0,P07.2)	3,668	89.7	3,543	88.1
Other low birth weight or preterm (P07.1,P07.3)	1,177	28.8	1,094	27.2
Disorders related to long gestation and high birth weight (P08)	–	*	–	*
Birth trauma (P10–P15)	28	0.7	345	8.6
Intrauterine hypoxia and birth asphyxia (P20–P21)	567	13.9	583	14.5
Intrauterine hypoxia (P20)	113	2.8	110	2.7
Birth asphyxia (P21)	454	11.1	473	11.8
Respiratory distress of newborn (P22)	819	20.0	943	23.4
Other respiratory conditions originating in the perinatal period (P23–P28)	1,221	29.8	1,245	31.0
Congenital pneumonia (P23)	76	1.9	78	1.9
Neonatal aspiration syndromes (P24)	54	1.3	54	1.3
Interstitial emphysema and related conditions originating in the perinatal period (P25)	160	3.9	164	4.1
Pulmonary hemorrhage originating in the perinatal period (P26)	168	4.1	191	4.7
Chronic respiratory disease originating in the perinatal period (P27)	252	6.2	314	7.8
Atelectasis (P28.0–P28.1)	450	11.0	400	9.9
All other respiratory conditions originating in the perinatal period (P28.2–P28.9)	62	1.5	44	1.1
Infections specific to the perinatal period (P35–P39)	958	23.4	948	23.6
Bacterial sepsis of newborn (P36)	766	18.7	749	18.6
Omphalitis of newborn with or without mild hemorrhage (P38)	4	*	1	*
All other infections specific to the perinatal period (P35,P37,P39)	188	4.6	198	4.9
Hemorrhagic and hematological disorders of newborn (P50–P61)	745	18.2	509	12.7
Neonatal hemorrhage (P50–P52,P54)	648	15.8	387	9.6
Hemorrhagic disease of newborn (P53)	–	*	1	*
Hemolytic disease of newborn due to isoimmunization and other perinatal jaundice (P55–P59)	10	*	19	*
Hematological disorders (P60–P61)	87	2.1	102	2.5
Syndrome of infant of a diabetic mother and neonatal diabetes mellitus (P70.0–P70.2)	5	*	10	*
Necrotizing enterocolitis of newborn (P77)	397	9.7	352	8.8
Hydrops fetalis not due to hemolytic disease (P83.2)	190	4.6	192	4.8
Other perinatal conditions (P29,P70.3–P76,P78–P81,P83.0–P83.1,P83.3–P96)	1,153	28.2	1,202	29.9
Congenital malformations, deformations and chromosomal abnormalities (Q00–Q99)	5,714	139.7	5,623	139.8
Anencephaly and similar malformations (Q00)	330	8.1	297	7.4
Congenital hydrocephalus (Q03)	97	2.4	90	2.2
Spina bifida (Q05)	10	*	20	0.5
Other congenital malformations of nervous system (Q01–Q02,Q04,Q06–Q07)	334	8.2	286	7.1
Congenital malformations of heart (Q20–Q24)	1,507	36.8	1,510	37.5
Other congenital malformations of circulatory system (Q25–Q28)	239	5.8	223	5.5
Congenital malformations of respiratory system (Q30–Q34)	641	15.7	638	15.9
Congenital malformations of digestive system (Q35–Q45)	92	2.2	103	2.6
Congenital malformations of genitourinary system (Q50–Q64)	338	8.3	351	8.7
Congenital malformations and deformations of musculoskeletal system, limbs and integument (Q65–Q85)	509	12.4	460	11.4
Down's syndrome (Q90)	115	2.8	118	2.9

See footnotes at end of table.

Table 5. Infant deaths and infant mortality rates for 130 selected causes: United States, final 2002 and preliminary 2003—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 2003 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>)	2003		2002	
	Number	Rate	Number	Rate
Edward's syndrome (Q91.0–Q91.3)	474	11.6	494	12.3
Patau's syndrome (Q91.4–Q91.7)	284	6.9	295	7.3
Other congenital malformations and deformations (Q10–Q18, Q86–Q89)	547	13.4	548	13.6
Other chromosomal abnormalities, not elsewhere classified (Q92–Q99)	197	4.8	190	4.7
Symptoms, signs and abnormal clinical and laboratory findings, not elsewhere classified (R00–R99)	3,477	85.0	3,456	85.9
Sudden infant death syndrome (R95)	1,994	48.7	2,295	57.1
Other symptoms, signs and abnormal clinical and laboratory findings, not elsewhere classified (R00–R53, R55–R94, R96–R99)	1,483	36.2	1,161	28.9
All other diseases (Residual)	32	0.8	24	0.6
External causes of mortality (*U01, V01–Y84)	1,324	32.4	1,365	33.9
Accidents (unintentional injuries) (V01–X59)	928	22.7	946	23.5
Transport accidents (V01–V99)	150	3.7	127	3.2
Motor vehicle accidents (V02–V04, V09.0, V09.2, V12–V14, V19.0–V19.2, V19.4–V19.6, V20–V79, V80.3–V80.5, V81.0–V81.1, V82.0–V82.1, V83–V86, V87.0–V87.8, V88.0–V88.8, V89.0, V89.2)	147	3.6	123	3.1
Other and unspecified transport accidents (V01, V05–V06, V09.1, V09.3–V09.9, V10–V11, V15–V18, V19.3, V19.8, V19.9, V80.0–V80.2, V80.6–V80.9, V81.2–V81.9, V82.2–V82.9, V87.9, V88.9, V89.1, V89.3, V89.9, V90–V99)	3	*	4	*
Falls (W00–W19)	13	*	16	*
Accidental discharge of firearms (W32–W34)	–	*	1	*
Accidental drowning and submersion (W65–W74)	57	1.4	63	1.6
Accidental suffocation and strangulation in bed (W75)	409	10.0	425	10.6
Other accidental suffocation and strangulation (W76–W77, W81–W84)	138	3.4	150	3.7
Accidental inhalation and ingestion of food or other objects causing obstruction of respiratory tract (W78–W80)	56	1.4	61	1.5
Accidents caused by exposure to smoke, fire and flames (X00–X09)	32	0.8	36	0.9
Accidental poisoning and exposure to noxious substances (X40–X49)	16	*	26	0.6
Other and unspecified accidents (W20–W31, W35–W64, W85–W99, X10–X39, X50–X59)	56	1.4	41	1.0
Assault (homicide) (*U01, X85–Y09)	318	7.8	303	7.5
Assault (homicide) by hanging, strangulation and suffocation (X91)	41	1.0	32	0.8
Assault (homicide) by discharge of firearms (*U01.4, X93–X95)	7	*	9	*
Neglect, abandonment and other maltreatment syndromes (Y06–Y07)	94	2.3	98	2.4
Assault (homicide) by other and unspecified means (*U01.0–*U01.3, *U01.5–*U01.9, X85–X90, X92, X96–X99, Y00–Y05, Y08–Y09)	176	4.3	164	4.1
Complications of medical and surgical care (Y40–Y84)	12	*	15	*
Other external causes and their sequelae (X60–X84, Y10–Y36)	65	1.6	101	2.5

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

– Quantity zero.

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

Table 6. Expectation of life by age, race, and sex: United States, final 2002 and preliminary 2003

[Data are based on a continuous file of records from the States. Calculations of life expectancy employ populations estimated as of July 1 for 2002, and 2003; see "Technical Notes." Race categories are consistent with the 1977 Office of Management and Budget guidelines]

Age (years) and race	Both sexes		Male		Female	
	2003	2002	2003	2002	2003	2002
All races^{1,2}						
0	77.6	77.3	74.8	74.5	80.1	79.9
1	77.1	76.8	74.4	74.1	79.6	79.4
5	73.2	72.9	70.5	70.2	75.7	75.4
10	68.2	67.9	65.6	65.3	70.8	70.5
15	63.3	63.0	60.7	60.3	65.8	65.5
20	58.5	58.2	55.9	55.6	60.9	60.7
25	53.8	53.5	51.3	51.0	56.1	55.8
30	49.0	48.7	46.6	46.3	51.2	51.0
35	44.3	44.0	41.9	41.6	46.4	46.1
40	39.6	39.3	37.3	37.0	41.7	41.4
45	35.0	34.8	32.8	32.6	37.0	36.7
50	30.6	30.3	28.5	28.3	32.5	32.2
55	26.4	26.1	24.4	24.1	28.0	27.7
60	22.3	22.0	20.5	20.2	23.8	23.5
65	18.5	18.2	16.8	16.6	19.8	19.5
70	15.0	14.7	13.5	13.2	16.1	15.8
75	11.8	11.5	10.6	10.3	12.7	12.4
80	9.1	8.8	8.1	7.8	9.7	9.4
85	6.9	6.5	6.1	5.7	7.2	6.9
90	5.1	4.8	4.5	4.2	5.3	5.0
95	3.8	3.6	3.4	3.2	4.0	3.7
100	2.9	2.7	2.7	2.5	3.0	2.8
White²						
0	78.0	77.7	75.4	75.1	80.5	80.3
1	77.5	77.2	74.9	74.6	79.9	79.7
5	73.5	73.3	71.0	70.7	76.0	75.8
10	68.6	68.3	66.0	65.7	71.1	70.8
15	63.6	63.4	61.1	60.8	66.1	65.9
20	58.8	58.6	56.3	56.1	61.2	61.0
25	54.1	53.8	51.7	51.4	56.4	56.1
30	49.3	49.0	47.0	46.7	51.5	51.2
35	44.5	44.3	42.3	42.0	46.7	46.4
40	39.8	39.6	37.6	37.4	41.9	41.6
45	35.3	35.0	33.1	32.9	37.2	36.9
50	30.8	30.5	28.8	28.5	32.6	32.4
55	26.5	26.2	24.6	24.3	28.1	27.9
60	22.3	22.1	20.6	20.3	23.8	23.6
65	18.5	18.2	16.9	16.6	19.8	19.5
70	14.9	14.7	13.5	13.3	16.0	15.8
75	11.8	11.5	10.5	10.3	12.6	12.3
80	9.0	8.7	8.0	7.7	9.6	9.3
85	6.7	6.4	6.0	5.7	7.1	6.8
90	4.9	4.7	4.4	4.1	5.1	4.9
95	3.6	3.4	3.2	3.0	3.7	3.5
100	2.6	2.4	2.4	2.3	2.7	2.5

See footnotes at end of table.

Table 6. Expectation of life by age, race, and sex: United States, final 2002 and preliminary 2003—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 2002, and 2003; see "Technical Notes." Race categories are consistent with the 1977 Office of Management and Budget guidelines]

Age (years) and race	Both sexes		Male		Female	
	2003	2002	2003	2002	2003	2002
Black ²						
0	72.8	72.3	69.2	68.8	76.1	75.6
1	72.8	72.4	69.3	68.8	76.1	75.6
5	69.0	68.5	65.4	65.0	72.2	71.7
10	64.0	63.6	60.5	60.1	67.3	66.8
15	59.1	58.7	55.6	55.2	62.3	61.8
20	54.3	53.9	50.9	50.5	57.4	57.0
25	49.7	49.3	46.4	46.0	52.6	52.1
30	45.1	44.7	41.9	41.6	47.9	47.4
35	40.5	40.1	37.5	37.1	43.2	42.7
40	36.0	35.6	33.1	32.8	38.6	38.1
45	31.7	31.3	28.8	28.5	34.2	33.7
50	27.7	27.3	24.9	24.6	30.0	29.5
55	23.9	23.4	21.3	21.0	25.9	25.4
60	20.3	19.9	18.0	17.6	22.1	21.6
65	17.0	16.6	15.0	14.6	18.5	18.0
70	14.0	13.5	12.2	11.8	15.3	14.7
75	11.4	10.9	9.9	9.5	12.3	11.7
80	9.2	8.6	8.0	7.5	9.8	9.2
85	7.4	6.6	6.5	5.8	7.7	7.0
90	5.7	5.1	5.2	4.5	5.9	5.3
95	4.4	3.9	4.2	3.6	4.5	4.0
100	3.4	3.0	3.4	2.9	3.4	3.0

¹Includes races other than white and black.

²Race categories are consistent with the 1977 Office of Management and Budget standards. California, Hawaii, Idaho, Maine, Montana, New York, and Wisconsin reported multiple-race data in 2003. The multiple-race data for these States were bridged to the single race categories of the 1977 Office of Management and Budget standards for comparability with other States; see "Technical Notes."

NOTE: Data are subject to sampling or random variation.

Table 7. Deaths and death rates for the 10 leading causes of death in specified age groups: United States, preliminary 2003—Con.

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

Rank ¹	Cause of death and age (Based on the <i>International Classification of Diseases, Tenth Revision, 1992</i>)	Number	Rate
15–24 years			
..	All causes	33,022	80.1
1	Accidents (unintentional injuries) (V01–X59, Y85–Y86)	14,966	36.3
...	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)	10,857	26.3
...	All other 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, W00–X59, Y85–Y86)	4,109	10.0
2	Assault (homicide) (*U01–*U02, X85–Y09, Y87.1)	5,148	12.5
3	Intentional self-harm (suicide) (*U03, X60–X84, Y87.0)	3,921	9.5
4	Malignant neoplasms (C00–C97)	1,628	4.0
5	Diseases of heart (I00–I09, I11, I13, I20–I51)	1,083	2.6
6	Congenital malformations, deformations and chromosomal abnormalities (Q00–Q99)	425	1.0
7	Influenza and pneumonia (J10–J18)	216	0.5
8	Cerebrovascular diseases (I60–I69)	204	0.5
9	Chronic lower respiratory diseases (J40–J47)	172	0.4
10	Human immunodeficiency virus (HIV) disease (B20–B24)	171	0.4
...	All other causes (Residual)	5,088	12.3
25–44 years			
..	All causes	128,924	153.0
1	Accidents (unintentional injuries) (V01–X59, Y85–Y86)	27,844	33.1
...	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)	13,582	16.1
...	All other 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, W00–X59, Y85–Y86)	14,261	16.9
2	Malignant neoplasms (C00–C97)	19,041	22.6
3	Diseases of heart (I00–I09, I11, I13, I20–I51)	16,283	19.3
4	Intentional self-harm (suicide) (*U03, X60–X84, Y87.0)	11,251	13.4
5	Assault (homicide) (*U01–*U02, X85–Y09, Y87.1)	7,367	8.7
6	Human immunodeficiency virus (HIV) disease (B20–B24)	6,879	8.2
7	Chronic liver disease and cirrhosis (K70, K73–K74)	3,288	3.9
8	Cerebrovascular diseases (I60–I69)	3,004	3.6
9	Diabetes mellitus (E10–E14)	2,662	3.2
10	Influenza and pneumonia (J10–J18)	1,337	1.6
...	All other causes (Residual)	29,968	35.6
45–64 years			
...	All causes	437,058	636.1
1	Malignant neoplasms (C00–C97)	144,936	211.0
2	Diseases of heart (I00–I09, I11, I13, I20–I51)	101,713	148.0
3	Accidents (unintentional injuries) (V01–X59, Y85–Y86)	23,669	34.5
...	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)	9,891	14.4
...	All other 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, W00–X59, Y85–Y86)	13,778	20.1
4	Diabetes mellitus (E10–E14)	16,326	23.8
5	Cerebrovascular diseases (I60–I69)	15,971	23.2
6	Chronic lower respiratory diseases (J40–J47)	15,409	22.4
7	Chronic liver disease and cirrhosis (K70, K73–K74)	13,649	19.9
8	Intentional self-harm (suicide) (*U03, X60–X84, Y87.0)	10,057	14.6
9	Human immunodeficiency virus (HIV) disease (B20–B24)	5,917	8.6
10	Septicemia (A40–A41)	5,827	8.5
...	All other causes (Residual)	83,584	121.7

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 2003—Con.

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

Rank ¹	Cause of death and age (Based on the <i>International Classification of Diseases, Tenth Revision, 1992</i>)	Number	Rate
65 years and over			
...	All causes	1,804,131	5,022.8
1	Diseases of heart (I00–I09,I11,I13,I20–I51)	564,204	1,570.8
2	Malignant neoplasms (C00–C97)	387,475	1,078.7
3	Cerebrovascular diseases (I60–I69)	138,397	385.3
4	Chronic lower respiratory diseases (J40–J47)	109,199	304.0
5	Alzheimer's disease (G30)	62,707	174.6
6	Influenza and pneumonia (J10–J18)	57,507	160.1
7	Diabetes mellitus (E10–E14)	54,770	152.5
8	Nephritis, nephrotic syndrome and nephrosis (N00–N07,N17–N19,N25–N27)	35,392	98.5
9	Accidents (unintentional injuries) (V01–X59,Y85–Y86)	33,976	94.6
...	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)	7,379	20.5
...	All other 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,W00–X59,Y85–Y86)	26,597	74.0
10	Septicemia (A40–A41)	26,609	74.1
...	All other causes (Residual)	333,895	929.6

... Category not applicable.

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

²Includes deaths under 1 year of age.

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

Table 8. Infant deaths and infant mortality rates for the 10 leading causes of infant death, by race and Hispanic origin: United States, preliminary 2003

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

Rank ¹	Cause of death and age (Based on the <i>International Classification of Diseases, Tenth Revision, 1992</i>)	Number	Rate
All races ²			
...	All causes	28,422	694.7
1	Congenital malformations, deformations and chromosomal abnormalities (Q00–Q99)	5,714	139.7
2	Disorders related to short gestation and low birth weight, not elsewhere classified (P07)	4,844	118.4
3	Sudden infant death syndrome (R95)	1,994	48.7
4	Newborn affected by maternal complications of pregnancy (P01)	1,734	42.4
5	Newborn affected by complications of placenta, cord and membranes (P02)	1,112	27.2
6	Accidents (unintentional injuries) (V01–X59)	928	22.7
7	Diseases of the circulatory system (I00–I99)	834	20.4
8	Respiratory distress of newborn (P22)	819	20.0
9	Bacterial sepsis of newborn (P36)	766	18.7
10	Neonatal hemorrhage (P50–P52,P54)	648	15.8
...	All other causes (Residual)	9,029	220.7
Total white ³			
...	All causes	18,800	582.4
1	Congenital malformations, deformations and chromosomal abnormalities (Q00–Q99)	4,378	135.6
2	Disorders related to short gestation and low birth weight, not elsewhere classified (P07)	2,769	85.8
3	Sudden infant death syndrome (R95)	1,246	38.6
4	Newborn affected by maternal complications of pregnancy (P01)	1,117	34.6
5	Newborn affected by complications of placenta, cord and membranes (P02)	756	23.4
6	Accidents (unintentional injuries) (V01–X59)	621	19.2
7	Diseases of the circulatory system (I00–I99)	539	16.7
8	Respiratory distress of newborn (P22)	537	16.6
9	Neonatal hemorrhage (P50–P52,P54)	476	14.8
10	Bacterial sepsis of newborn (P36)	465	14.4
...	All other causes (Residual)	5,896	182.7
Non-Hispanic white			
...	All causes	13,454	579.7
1	Congenital malformations, deformations and chromosomal abnormalities (Q00–Q99)	3,002	129.3
2	Disorders related to short gestation and low birth weight, not elsewhere classified (P07)	1,894	81.6
3	Sudden infant death syndrome (R95)	1,025	44.2
4	Newborn affected by maternal complications of pregnancy (P01)	803	34.6
5	Newborn affected by complications of placenta, cord and membranes (P02)	559	24.1
6	Accidents (unintentional injuries) (V01–X59)	501	21.6
7	Diseases of the circulatory system (I00–I99)	398	17.1
8	Respiratory distress of newborn (P22)	388	16.7
9	Neonatal hemorrhage (P50–P52,P54)	359	15.5
10	Bacterial sepsis of newborn (P36)	346	14.9
...	All other causes (Residual)	4,179	180.1
Total black ³			
...	All causes	8,400	1,401.4
1	Disorders related to short gestation and low birth weight, not elsewhere classified (P07)	1,903	317.4
2	Congenital malformations, deformations and chromosomal abnormalities (Q00–Q99)	1,041	173.7
3	Sudden infant death syndrome (R95)	656	109.5
4	Newborn affected by maternal complications of pregnancy (P01)	563	93.9
5	Newborn affected by complications of placenta, cord and membranes (P02)	311	51.9
6	Bacterial sepsis of newborn (P36)	279	46.6
7	Accidents (unintentional injuries) (V01–X59)	272	45.4
8	Respiratory distress of newborn (P22)	255	42.6
9	Diseases of the circulatory system (I00–I99)	241	40.3
10	Necrotizing enterocolitis of newborn (P77)	158	26.4
...	All other causes (Residual)	2,721	453.9

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 2003—Con.

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

Rank ¹	Cause of death and age (Based on the <i>International Classification of Diseases, Tenth Revision, 1992</i>)	Number	Rate
	Hispanic ⁴		
...	All causes	5,425	594.7
1	Congenital malformations, deformations and chromosomal abnormalities (Q00–Q99)	1,381	151.4
2	Disorders related to short gestation and low birth weight, not elsewhere classified (P07)	888	97.4
3	Newborn affected by maternal complications of pregnancy (P01)	319	35.0
4	Sudden infant death syndrome (R95)	245	26.9
5	Newborn affected by complications of placenta, cord and membranes (P02)	201	22.1
6	Respiratory distress of newborn (P22)	152	16.6
7	Diseases of the circulatory system (I00–I99)	142	15.5
8	Accidents (unintentional injuries) (V01–X59)	123	13.5
9	Bacterial sepsis of newborn (P36)	120	13.1
10	Neonatal hemorrhage (P50–P52,P54)	120	13.1
...	All other causes (Residual)	1,734	190.1

... Category not applicable.

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

²Includes races other than white and black.

³Race and Hispanic origin are reported separately on both the birth and death certificate. Race categories are consistent with the 1977 Office of Management and Budget standards. California, Hawaii, Idaho, Maine, Montana, New York, and Wisconsin reported multiple-race data in 2003. The multiple-race data for these States were bridged to the single race categories of the 1977 Office of Management and Budget standards for comparability with other States; see "Technical Notes." Data for persons of Hispanic origin are included in the data for each race group, according to the decedent's reported race; see "Technical Notes."

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

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

Technical Notes

Nature and sources of data

Preliminary mortality data for 2003 are based on a substantial proportion of death records for that year. The data for 2003 are based on a continuous receipt and processing of statistical records through July 15, 2004, 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 2003 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 file, unknown or not-stated values are imputed. The percentage 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, 1999* (27).

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

This report includes data for five areas (California, Idaho, Montana, New York City, and New York State), which implemented the 2003 revision of the U.S. Standard Certificate of Death in 2003 and for the remaining 46 States and the District of Columbia that collected and reported death data in 2003 based on the 1989 revision of the U.S. Standard Certificate of Death. The 2003 revision is described in detail elsewhere (9,10). Since the items presented in this report appear largely comparable despite changes to item wording

and format in the 2003 revision, data from both groups of States are combined.

Race and Hispanic origin

The 2003 revision of the U.S. Standard Certificate of Death allows the reporting of more than one race (multiple races) (9). This change was implemented to reflect the increasing diversity of the population of the United States and to be consistent with the decennial census. The race and ethnicity items on the revised certificate are compliant with the revisions to the 1977 Race and Ethnic Standards for Federal Statistics and Administrative Reporting, which were issued by the Office of Management and Budget (OMB) in 1997. The new standards mandate the collection of more than one race for Federal data (see "Population denominators") (15). In addition, the new certificate is compliant with the OMB-mandated minimum set of five races to be reported for Federal data. These are White, Black or African American, American Indian or Alaskan Native (AIAN), Asian, and Native Hawaiian or Other Pacific Islander.

In 2003 multiple race was reported on the revised death certificates of California, Idaho, Montana, and New York, as well as on the unrevised certificates of Hawaii, Maine, and Wisconsin. Data from the vital records of the remaining 43 States and the District of Columbia are based on the 1989 revision of the U.S. Standard Certificate of Death, which follows the 1977 OMB standard, allowing only a single race to be reported (10,11). In addition, these States report a minimum set of four races as stipulated in the 1977 standard. These are White, Black or African American, American Indian or Alaskan Native (AIAN), and Asian or Pacific Islander (API).

In order to provide uniformity and comparability of the data during the transition period, before all or most of the data are available in the new multiple-race format, it was necessary to "bridge" the responses of those who reported more than one race (multiple race) to one, single race (see "Population denominators"). The bridging procedure is similar to the procedure used to bridge multiracial population estimates (13,14). Multiracial decedents are imputed to a single race (either white, black, AIAN, or API) according to their combination of races, Hispanic origin, sex, and age indicated on the death certificate. The imputation procedure is described in detail at http://www.cdc.gov/nchs/data/dvs/Multiple_race_docu_5-10-04.pdf.

Race and Hispanic origin are reported separately on the death certificate. Therefore, data shown by race include persons of Hispanic or non-Hispanic origin, and data for Hispanic origin include persons of any race. In this report, unless otherwise specified, deaths of Hispanic origin are included in the totals for each race group—white, black, 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 (20,21,22).

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 2003

[By place of occurrence]

Area	Infant deaths (under 1 year)			Deaths 1 year and over		
	Count of records	Percent completeness		Count of records	Percent completeness	
		Demographic file	Medical file		Demographic file	Medical file
United States ¹	28,479	90.4	87.9	2,419,295	93.0	90.8
Alabama	519	100.0	100.0	45,470	100.0	100.0
Alaska	62	98.4	96.8	3,044	100.0	100.0
Arizona	597	99.7	99.5	43,963	99.7	99.7
Arkansas	310	100.0	100.0	27,049	100.0	100.0
California	3,045	48.8	48.8	231,700	56.9	56.9
Colorado	439	99.5	99.5	29,483	99.9	99.9
Connecticut	219	100.0	100.0	29,203	100.0	100.0
Delaware	129	100.0	100.0	6,920	100.0	99.9
District of Columbia	181	82.3	82.3	6,481	99.6	99.2
Florida	1,608	100.0	99.8	168,166	100.0	100.0
Georgia	1,160	100.0	100.0	66,025	100.0	100.0
Hawaii	139	99.3	99.3	9,040	100.0	100.0
Idaho	124	100.0	96.0	10,094	100.0	93.3
Illinois	1,294	32.5	32.5	101,487	33.8	33.8
Indiana	654	98.9	98.9	56,223	99.5	99.5
Iowa	188	100.0	100.0	27,639	100.0	100.0
Kansas	218	100.0	99.1	23,926	100.0	99.9
Kentucky	312	100.0	96.8	39,590	99.6	99.0
Louisiana	635	100.0	100.0	42,528	99.8	99.8
Maine	69	100.0	100.0	12,422	100.0	100.0
Maryland	527	99.8	99.8	43,921	100.0	100.0
Massachusetts	398	100.0	90.2	56,500	100.0	86.4
Michigan	1,130	100.0	100.0	84,383	100.0	100.0
Minnesota	342	99.7	99.7	37,386	100.0	100.0
Mississippi	403	100.0	83.6	27,540	100.0	85.1
Missouri	720	98.9	98.1	56,183	100.0	99.8
Montana	73	100.0	100.0	8,389	100.0	99.9
Nebraska	159	100.0	100.0	15,459	100.0	100.0
Nevada	195	100.0	100.0	18,308	100.0	100.0
New Hampshire	42	100.0	100.0	9,658	100.0	99.8
New Jersey	594	100.0	98.8	71,400	100.0	99.9
New Mexico	148	100.0	98.6	14,478	100.0	99.7
New York	1,571	99.9	66.0	153,872	100.0	76.4
New York excluding New York City	765	100.0	99.7	95,462	100.0	99.8
New York City	806	99.9	34.0	58,410	100.0	38.0
North Carolina	970	99.8	99.8	73,208	99.9	99.9
North Dakota	60	100.0	100.0	6,440	100.0	100.0
Ohio	1,350	87.3	87.3	107,150	99.8	99.8
Oklahoma	381	96.6	96.6	34,539	98.3	98.3
Oregon	290	100.0	100.0	30,671	100.0	100.0
Pennsylvania	1,128	100.0	100.0	129,708	100.0	100.0
Rhode Island	98	100.0	100.0	10,121	100.0	100.0
South Carolina	427	100.0	100.0	36,813	100.0	100.0
South Dakota	82	100.0	100.0	7,256	100.0	100.0
Tennessee	839	99.9	99.9	59,448	100.0	100.0
Texas	2,550	97.6	97.6	154,536	100.0	100.0
Utah	280	100.0	100.0	13,520	100.0	100.0
Vermont	32	100.0	100.0	5,017	100.0	99.9
Virginia	735	100.0	100.0	57,037	99.7	99.7
Washington	428	100.0	100.0	45,501	100.0	100.0
West Virginia	155	100.0	81.3	20,877	100.0	84.7
Wisconsin	447	100.0	100.0	45,559	100.0	100.0
Wyoming	23	100.0	100.0	3,964	100.0	100.0
Puerto Rico	451	96.2	96.2	27,934	92.8	92.7
Virgin Islands	8	100.0	37.5	607	100.0	70.0
Guam	37	100.0	100.0	663	100.0	100.0
American Samoa	---	---	---	---	---	---
Northern Marianas	7	100.0	100.0	140	100.0	100.0

--- Data not available.

¹ 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).

Injury at work

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

Cause-of-death classification

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

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

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.

Nonsampling error

Causes of death in this report are subject to nonsampling error because of the nature of the preliminary file. Inasmuch as the preliminary file is processed before a full year of data 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 dispropor-

tionately 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 the nonsampling error can be made by comparing final data and preliminary data for the same year. A comparison for the leading causes of death for the total U.S. population from 2000–2002 indicates that preliminary estimates for some causes of death are sometimes underestimated and sometimes overestimated in the preliminary file (see [table II](#)). Thus, for 2000–2002, the number of deaths for unintentional injuries was underestimated by 4.4 percent, 3.8 percent, and 4.2 percent, respectively. Similar error occurred for suicide with underestimates of 3.5 percent in 2000, 3.9 percent in 2001, and 3.2 percent in 2002. Likewise, homicide showed a 3.8 percent underestimate in 2000, 2.9 percent in 2001, and 3.4 percent in 2002. Chronic lower respiratory disease was overestimated by 1.3 percent, 0.8 percent, and 0.6 percent in 2000, 2001, and 2002, respectively ([table II](#)).

Comparisons showing nonsampling error in estimates for causes of infant death are shown in [table III](#), where Congenital malformations, deformations, and chromosomal abnormalities are overestimated by 0.6 percent in 2000, 1.7 percent in 2001, and 0.6 percent in 2002. Unintentional injuries and SIDS are underestimated in the preliminary data for each of the 3 years with unintentional injuries being underestimated between 5.6 percent and 6.6 percent and SIDS between 11.3 percent and 14.7 percent ([table III](#)).

Tabulation lists and cause-of-death ranking

Tabulation lists for ICD–10 are published in the *NCHS Instruction Manual, Part 9*, ICD–10 Cause-of-Death Lists for Tabulating Mortality Statistics, Updated October 2002 (32). 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 (33). 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

Table II. Ratios of preliminary to final reported numbers of deaths from 113 selected causes: United States, 2000–2002

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

Cause of death (Based on the <i>International Classification of Diseases, Tenth Revision, 1992</i>)	Preliminary number of deaths 2002	Final number of deaths 2002	Ratio of preliminary to final 2002	Preliminary number of deaths 2001	Final number of deaths 2001	Ratio of preliminary to final 2001	Preliminary number of deaths 2000	Final number of deaths 2000	Ratio of preliminary to final 2000
All causes	2,447,862	2,443,387	1.0018	2,417,798	2,416,425	1.0006	2,404,624	2,403,351	1.0005
Salmonella infections (A01–A02)	22	21	1.0476	38	41	0.9268	26	28	0.9286
Shigellosis and amebiasis (A03,A06)	7	8	0.8750	7	7	1.0000	11	12	0.9167
Certain other intestinal infections (A04,A07–A09)	2,183	2,465	0.8856	1,539	1,537	1.0013	1,352	1,328	1.0181
Tuberculosis (A16–A19)	802	784	1.0230	749	764	0.9804	751	776	0.9678
Respiratory tuberculosis (A16)	642	626	1.0256	585	600	0.9750	595	615	0.9675
Other tuberculosis (A17–A19)	160	158	1.0127	164	164	1.0000	156	161	0.9689
Whooping cough (A37)	17	18	0.9444	14	17	0.8235	12	12	1.0000
Scarlet fever and erysipelas (A38,A46)	2	2	1.0000	2	3	0.6667	–	2	–
Meningococcal infection (A39)	155	161	0.9627	204	199	1.0251	200	211	0.9479
Septicemia (A40–A41)	33,881	33,865	1.0005	32,275	32,238	1.0011	31,613	31,224	1.0125
Syphilis (A50–A53)	42	41	1.0244	33	36	0.9167	41	41	1.0000
Acute poliomyelitis (A80)	–	–	–	–	–	–	–	–	–
Arthropod-borne viral encephalitis (A83–A84,A85.2)	69	9	7.6667	9	9	1.0000	2	2	1.0000
Measles (B05)	1	–	–	1	1	1.0000	3	1	3.0000
Viral hepatitis (B15–B19)	5,706	5,793	0.9850	5,094	5,585	0.9121	4,544	5,357	0.8482
Human immunodeficiency virus (HIV) disease (B20–B24)	13,991	14,095	0.9926	14,132	14,175	0.9970	14,370	14,478	0.9925
Malaria (B50–B54)	13	12	1.0833	9	9	1.0000	3	3	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)	6,641	6,707	0.9902	6,266	5,715	1.0964	6,266	5,532	1.1327
Malignant neoplasms (C00–C97)	558,847	557,271	1.0028	553,251	553,768	0.9991	551,833	553,091	0.9977
Malignant neoplasms of lip, oral cavity and pharynx (C00–C14)	7,732	7,737	0.9994	7,638	7,702	0.9917	7,436	7,492	0.9925
Malignant neoplasm of esophagus (C15)	12,766	12,701	1.0051	12,509	12,530	0.9983	12,212	12,232	0.9984
Malignant neoplasm of stomach (C16)	12,265	12,198	1.0055	12,340	12,319	1.0017	12,620	12,645	0.9980
Malignant neoplasms of colon, rectum and anus (C18–C21)	56,866	56,741	1.0022	56,799	56,887	0.9985	57,344	57,477	0.9977
Malignant neoplasms of liver and intrahepatic bile ducts (C22)	14,046	14,047	0.9999	13,263	13,351	0.9934	12,736	12,916	0.9861
Malignant neoplasm of pancreas (C25)	30,323	30,264	1.0019	29,723	29,803	0.9973	29,139	29,332	0.9934
Malignant neoplasm of larynx (C32)	3,731	3,723	1.0021	3,826	3,797	1.0076	3,785	3,861	0.9803
Malignant neoplasms of trachea, bronchus and lung (C33–C34)	158,258	157,713	1.0035	156,005	156,058	0.9997	154,981	155,521	0.9965
Malignant melanoma of skin (C43)	7,563	7,514	1.0065	7,543	7,542	1.0001	7,432	7,420	1.0016
Malignant neoplasm of breast (C50)	41,989	41,883	1.0025	41,844	41,809	1.0008	42,290	42,300	0.9998
Malignant neoplasm of cervix uteri (C53)	3,965	3,952	1.0033	4,064	4,092	0.9932	4,142	4,200	0.9862
Malignant neoplasms of corpus uteri and uterus, part unspecified (C54–C55)	6,876	6,853	1.0034	6,835	6,784	1.0075	6,499	6,586	0.9868
Malignant neoplasm of ovary (C56)	14,678	14,682	0.9997	14,361	14,414	0.9963	14,044	14,060	0.9989
Malignant neoplasm of prostate (C61)	30,571	30,446	1.0041	30,714	30,719	0.9998	31,225	31,078	1.0047
Malignant neoplasms of kidney and renal pelvis (C64–C65)	12,184	12,165	1.0016	12,084	12,078	1.0005	11,751	11,736	1.0013
Malignant neoplasm of bladder (C67)	12,670	12,628	1.0033	12,115	12,225	0.9910	11,965	12,002	0.9969
Malignant neoplasms of meninges, brain and other parts of central nervous system (C70–C72)	12,777	12,830	0.9959	12,567	12,609	0.9967	12,574	12,655	0.9936
Malignant neoplasms of lymphoid, hematopoietic and related tissue (C81–C96)	56,377	56,225	1.0027	56,350	56,341	1.0002	56,262	56,518	0.9955
Hodgkin's disease (C81)	1,356	1,352	1.0030	1,315	1,323	0.9940	1,254	1,287	0.9744
Non-Hodgkin's lymphoma (C82–C85)	21,998	21,910	1.0040	22,340	22,305	1.0016	22,548	22,729	0.9920
Leukemia (C91–C95)	21,575	21,498	1.0036	21,518	21,451	1.0031	21,298	21,339	0.9981
Multiple myeloma and immunoproliferative neoplasms (C88,C90)	11,374	11,392	0.9984	11,088	11,172	0.9925	11,053	11,063	0.9991

See footnotes at end of table.

Table II. Ratios of preliminary to final reported numbers of deaths from 113 selected causes: United States, 2000–2002—Con.

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

Cause of death (Based on the <i>International Classification of Diseases, Tenth Revision, 1992</i>)	Preliminary number of deaths 2002	Final number of deaths 2002	Ratio of preliminary to final 2002	Preliminary number of deaths 2001	Final number of deaths 2001	Ratio of preliminary to final 2001	Preliminary number of deaths 2000	Final number of deaths 2000	Ratio of preliminary to final 2000
Other and unspecified malignant neoplasms of lymphoid, hematopoietic and related tissue (C96)	74	73	1.0137	89	90	0.9889	108	100	1.0800
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	62,969	1.0038	62,669	62,708	0.9994	63,397	63,060	1.0053
In situ neoplasms, benign neoplasms and neoplasms of uncertain or unknown behavior (D00–D48)	13,370	13,299	1.0053	13,673	13,676	0.9998	13,657	13,546	1.0082
Anemias (D50–D64)	4,601	4,614	0.9972	4,611	4,627	0.9965	4,450	4,494	0.9902
Diabetes mellitus (E10–E14)	73,119	73,249	0.9982	71,252	71,372	0.9983	68,662	69,301	0.9908
Nutritional deficiencies (E40–E64)	3,785	3,779	1.0016	3,725	3,704	1.0057	4,342	4,242	1.0236
Malnutrition (E40–E46)	3,515	3,510	1.0014	3,433	3,454	0.9939	3,922	3,926	0.9990
Other nutritional deficiencies (E50–E64)	270	269	1.0037	293	250	1.1720	421	316	1.3323
Meningitis (G00,G03)	694	700	0.9914	718	727	0.9876	770	758	1.0158
Parkinson’s disease (G20–G21)	16,961	16,959	1.0001	16,576	16,544	1.0019	15,690	15,682	1.0005
Alzheimer’s disease (G30)	58,785	58,866	0.9986	53,679	53,852	0.9968	49,044	49,558	0.9896
Major cardiovascular diseases (I00–I78)	917,839	918,628	0.9991	921,819	922,334	0.9994	934,110	936,923	0.9970
Diseases of heart (I00–I09,I11,I13,I20–I51)	695,754	696,947	0.9983	699,697	700,142	0.9994	709,894	710,760	0.9988
Acute rheumatic fever and chronic rheumatic heart diseases (I00–I09)	3,743	3,579	1.0458	3,475	3,489	0.9960	3,585	3,582	1.0008
Hypertensive heart disease (I11)	25,938	26,551	0.9769	24,496	24,689	0.9922	23,330	23,761	0.9819
Hypertensive heart and renal disease (I13)	2,888	2,895	0.9976	2,797	2,826	0.9897	2,707	2,785	0.9720
Ischemic heart diseases (I20–I25)	493,542	494,382	0.9983	501,691	502,189	0.9990	513,758	515,204	0.9972
Acute myocardial infarction (I21–I22)	179,869	179,514	1.0020	184,697	184,757	0.9997	192,811	192,898	0.9995
Other acute ischemic heart diseases (I24)	3,416	3,407	1.0026	3,356	3,351	1.0015	3,390	3,363	1.0080
Other forms of chronic ischemic heart disease (I20,I25)	310,257	311,461	0.9961	313,638	314,081	0.9986	317,558	318,943	0.9957
Atherosclerotic cardiovascular disease, so described (I25.0)	67,104	68,129	0.9850	67,531	68,103	0.9916	68,652	69,554	0.9870
All other forms of chronic ischemic heart disease (I20,I25.1–I25.9)	243,153	243,332	0.9993	246,107	245,978	1.0005	248,906	249,389	0.9981
Other heart diseases (I26–I51)	169,643	169,540	1.0006	167,237	166,949	1.0017	166,515	165,428	1.0066
Acute and subacute endocarditis (I33)	1,149	1,154	0.9957	1,175	1,178	0.9975	1,162	1,172	0.9915
Diseases of pericardium and acute myocarditis (I30–I31,I40)	802	848	0.9458	832	839	0.9917	698	767	0.9100
Heart failure (I50)	56,790	56,494	1.0052	57,345	56,934	1.0072	56,863	55,704	1.0208
All other forms of heart disease (I26–I28,I34–I38,I42–I49,I51)	110,902	111,044	0.9987	107,885	107,998	0.9990	107,792	107,785	1.0001
Essential (primary) hypertension and hypertensive renal disease (I10,I12)	20,241	20,261	0.9990	19,054	19,250	0.9898	17,964	18,073	0.9940
Cerebrovascular diseases (I60–I69)	163,010	162,672	1.0021	163,601	163,538	1.0004	166,028	167,661	0.9903
Atherosclerosis (I70)	13,942	13,821	1.0088	14,111	14,086	1.0018	14,413	14,393	1.0014
Other diseases of circulatory system (I71–I78)	24,891	24,927	0.9986	25,356	25,318	1.0015	25,812	26,036	0.9914
Aortic aneurysm and dissection (I71)	14,746	14,818	0.9951	15,218	15,234	0.9989	15,659	15,810	0.9904
Other diseases of arteries, arterioles and capillaries (I72–I78)	10,146	10,109	1.0037	10,137	10,084	1.0053	10,153	10,226	0.9929
Other disorders of circulatory system (I80–I99)	4,679	4,711	0.9932	4,632	4,665	0.9929	4,564	4,603	0.9915
Influenza and pneumonia (J10–J18)	65,984	65,681	1.0046	62,123	62,034	1.0014	67,024	65,313	1.0262
Influenza (J10–J11)	753	727	1.0358	267	257	1.0389	2,175	1,765	1.2323
Pneumonia (J12–J18)	65,231	64,954	1.0043	61,856	61,777	1.0013	64,849	63,548	1.0205
Other acute lower respiratory infections (J20–J22)	361	386	0.9352	359	347	1.0346	453	425	1.0659
Acute bronchitis and bronchiolitis (J20–J21)	257	279	0.9211	269	263	1.0228	318	290	1.0966
Unspecified acute lower respiratory infection (J22)	103	107	0.9626	91	84	1.0833	136	135	1.0074
Chronic lower respiratory diseases (J40–J47)	125,500	124,816	1.0055	123,974	123,013	1.0078	123,550	122,009	1.0126
Bronchitis, chronic and unspecified (J40–J42)	961	955	1.0063	980	959	1.0219	1,188	1,167	1.0180
Emphysema (J43)	15,568	15,489	1.0051	16,407	16,242	1.0102	16,936	16,700	1.0141
Asthma (J45–J46)	4,157	4,261	0.9756	4,222	4,269	0.9890	4,426	4,487	0.9864

See footnotes at end of table.

Table II. Ratios of preliminary to final reported numbers of deaths from 113 selected causes: United States, 2000–2002—Con.

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

Cause of death (Based on the <i>International Classification of Diseases, Tenth Revision, 1992</i>)	Preliminary number of deaths 2002	Final number of deaths 2002	Ratio of preliminary to final 2002	Preliminary number of deaths 2001	Final number of deaths 2001	Ratio of preliminary to final 2001	Preliminary number of deaths 2000	Final number of deaths 2000	Ratio of preliminary to final 2000
Other chronic lower respiratory diseases (J44,J47)	104,814	104,111	1.0068	102,365	101,543	1.0081	100,999	99,655	1.0135
Pneumoconioses and chemical effects (J60–J66,J68)	1,139	1,114	1.0224	1,155	1,136	1.0167	1,143	1,161	0.9845
Pneumonitis due to solids and liquids (J69)	17,693	17,593	1.0057	17,392	17,301	1.0053	16,659	16,636	1.0014
Other diseases of respiratory system (J00–J06,J30–J39,J67,J70–J98)	25,194	25,039	1.0062	26,225	26,178	1.0018	25,608	25,535	1.0029
Peptic ulcer (K25–K28)	4,081	4,079	1.0005	4,462	4,491	0.9935	4,507	4,558	0.9888
Diseases of appendix (K35–K38)	474	480	0.9875	425	428	0.9930	422	435	0.9701
Hernia (K40–K46)	1,595	1,595	1.0000	1,529	1,522	1.0046	1,510	1,522	0.9921
Chronic liver disease and cirrhosis (K70,K73–K74)	27,045	27,257	0.9922	26,751	27,035	0.9895	26,219	26,552	0.9875
Alcoholic liver disease (K70)	11,965	12,121	0.9871	12,000	12,207	0.9830	11,755	12,109	0.9708
Other chronic liver disease and cirrhosis (K73–K74)	15,079	15,136	0.9962	14,751	14,828	0.9948	14,464	14,443	1.0015
Cholelithiasis and other disorders of gallbladder (K80–K82)	2,965	2,979	0.9953	2,960	2,965	0.9983	2,769	2,810	0.9854
Nephritis, nephrotic syndrome and nephrosis (N00–N07,N17–N19,N25–N27)	41,018	40,974	1.0011	39,661	39,480	1.0046	37,672	37,251	1.0113
Acute and rapidly progressive nephritic and nephrotic syndrome (N00–N01,N04)	168	166	1.0120	165	156	1.0577	176	177	0.9944
Chronic glomerulonephritis, nephrosis and nephropathy not specified as acute or chronic, and renal sclerosis unspecified (N02–N03,N05–N07,N26)	545	553	0.9855	512	511	1.0020	546	556	0.9820
Renal failure (N17–N19)	40,272	40,222	1.0012	38,957	38,784	1.0045	36,904	36,471	1.0119
Other disorders of kidney (N25,N27)	34	33	1.0303	28	29	0.9655	47	47	1.0000
Infections of kidney (N10–N12,N13.6,N15.1)	792	788	1.0051	750	748	1.0027	781	813	0.9606
Hyperplasia of prostate (N40)	431	437	0.9863	426	439	0.9704	441	433	1.0185
Inflammatory diseases of female pelvic organs (N70–N76)	110	114	0.9649	128	127	1.0079	113	120	0.9417
Pregnancy, childbirth and the puerperium (O00–O99)	358	379	0.9446	401	416	0.9639	370	404	0.9158
Pregnancy with abortive outcome (O00–O07)	22	22	1.0000	38	38	1.0000	37	37	1.0000
Other complications of pregnancy, childbirth and the puerperium (O10–O99)	336	357	0.9412	363	378	0.9603	333	367	0.9074
Certain conditions originating in the perinatal period (P00–P96)	14,148	14,254	0.9926	13,925	13,887	1.0027	13,831	14,069	0.9831
Congenital malformations, deformations and chromosomal abnormalities (Q00–Q99)	10,635	10,687	0.9951	10,490	10,442	1.0046	10,472	10,578	0.9900
Symptoms, signs and abnormal clinical and laboratory findings, not elsewhere classified (R00–R99)	40,532	29,975	1.3522	39,689	32,326	1.2278	42,049	31,876	1.3191
All other diseases (Residual)	193,974	194,591	0.9968	186,446	186,406	1.0002	177,980	178,378	0.9978
Accidents (unintentional injuries) (V01–X59,Y85–Y86)	102,303	106,742	0.9584	97,707	101,537	0.9623	93,592	97,900	0.9560
Transport accidents (V01–V99,Y85)	47,478	48,366	0.9816	45,911	47,288	0.9709	45,103	46,749	0.9648
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	45,380	0.9822	41,967	43,293	0.9694	41,804	43,354	0.9642
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	1,086	0.9797	1,885	1,900	0.9921	1,513	1,492	1.0141
Water, air and space, and other and unspecified transport accidents and their sequelae (V90–V99,Y85)	1,842	1,900	0.9695	2,059	2,095	0.9828	1,786	1,903	0.9385
Nontransport accidents (W00–X59,Y86)	54,825	58,376	0.9392	51,796	54,249	0.9548	48,489	51,151	0.9480
Falls (W00–W19)	15,848	16,257	0.9748	14,543	15,019	0.9683	12,604	13,322	0.9461
Accidental discharge of firearms (W32–W34)	813	762	1.0669	924	802	1.1521	808	776	1.0412
Accidental drowning and submersion (W65–W74)	3,399	3,447	0.9861	3,247	3,281	0.9896	3,343	3,482	0.9601
Accidental exposure to smoke, fire and flames (X00–X09)	3,024	3,159	0.9573	3,223	3,309	0.9740	3,265	3,377	0.9668
Accidental poisoning and exposure to noxious substances (X40–X49)	14,670	17,550	0.8359	12,030	14,078	0.8545	9,893	12,757	0.7755
Other and unspecified nontransport accidents and their sequelae (W20–W31,W35–W64,W75–W99,X10–X39,X50–X59,Y86)	17,070	17,201	0.9924	17,829	17,760	1.0039	18,575	17,437	1.0653

See footnotes at end of table.

Table II. Ratios of preliminary to final reported numbers of deaths from 113 selected causes: United States, 2000–2002—Con.

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

Cause of death (Based on the <i>International Classification of Diseases, Tenth Revision, 1992</i>)	Preliminary number of deaths 2002	Final number of deaths 2002	Ratio of preliminary to final 2002	Preliminary number of deaths 2001	Final number of deaths 2001	Ratio of preliminary to final 2001	Preliminary number of deaths 2000	Final number of deaths 2000	Ratio of preliminary to final 2000
Intentional self-harm (suicide) (*U03,X60–X84,Y87.0)	30,646	31,655	0.9681	29,423	30,622	0.9608	28,332	29,350	0.9653
Intentional self-harm (suicide) by discharge of firearms. (X72–X74)	16,882	17,108	0.9868	16,455	16,869	0.9755	16,418	16,586	0.9899
Intentional self-harm (suicide) by other and unspecified means and their sequelae (*U03,X60–X71,X75–X84,Y87.0)	13,763	14,547	0.9461	12,968	13,749	0.9432	11,914	12,764	0.9334
Assault (homicide). (*U01–*U02,X85–Y09,Y87.1)	17,045	17,638	0.9664	19,727	20,308	0.9714	16,137	16,765	0.9625
Assault (homicide) by discharge of firearms (*U01.4,X93–X95)	11,546	11,829	0.9761	11,001	11,348	0.9694	10,417	10,801	0.9644
Assault (homicide) by other and unspecified means and their sequelae (*U01.0–*U01.3,*U01.5–*U01.9,*U02,X85–X92,X96–Y09,Y87.1)	5,500	5,809	0.9468	8,726	8,960	0.9739	5,719	5,964	0.9589
Legal intervention (Y35,Y89.0)	365	384	0.9505	387	396	0.9773	345	359	0.9610
Events of undetermined intent. (Y10–Y34,Y87.2,Y89.9)	4,423	4,830	0.9157	3,868	4,198	0.9214	3,422	3,819	0.8960
Discharge of firearms, undetermined intent. (Y22–Y24)	214	243	0.8807	222	231	0.9610	214	230	0.9304
Other and unspecified events of undetermined intent and their sequelae (Y10–Y21,Y25–Y34,Y87.2,Y89.9)	4,209	4,587	0.9176	3,646	3,967	0.9191	3,208	3,589	0.8938
Operations of war and their sequelae (Y36,Y89.1)	21	20	1.0500	17	17	1.0000	17	16	1.0625
Complications of medical and surgical care. (Y40–Y84,Y88)	2,820	2,843	0.9919	3,089	3,021	1.0225	2,886	3,059	0.9434

– Quantity zero.

. . . Category not applicable.

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

Table III. Ratios of preliminary to final reported numbers of deaths from 130 selected causes of infant death: United States, 2000–2002

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

Cause of death (Based on the <i>International Classification of Diseases, Tenth Revision, 1992</i>)	Preliminary number of deaths 2002	Final number of deaths 2002	Ratio of preliminary to final 2002	Preliminary number of deaths 2001	Final number of deaths 2001	Ratio of preliminary to final 2001	Preliminary number of deaths 2000	Final number of deaths 2000	Ratio of preliminary to final 2000
All causes	27,974	28,034	0.9979	27,798	27,568	1.0083	27,983	28,035	0.9981
Certain infectious and parasitic diseases (A00–B99)	573	582	0.9845	576	563	1.0231	528	510	1.0353
Certain intestinal infectious diseases (A00–A08)	10	13	0.7692	10	12	0.8333	8	16	0.5000
Diarrhea and gastroenteritis of infectious origin (A09)	3	3	1.0000	1	2	0.5000	1	1	1.0000
Tuberculosis (A16–A19)	1	1	1.0000	1	2	0.5000	1	1	1.0000
Tetanus (A33,A35)	–	–	...	–	–	...	–	–	...
Diphtheria (A36)	–	–	...	–	–	...	–	–	...
Whooping cough (A37)	17	18	0.9444	13	16	0.8125	12	12	1.0000
Meningococcal infection (A39)	16	17	0.9412	18	16	1.1250	20	22	0.9091
Septicemia (A40–A41)	295	296	0.9966	334	312	1.0705	289	274	1.0547
Congenital syphilis (A50)	1	1	1.0000	1	1	1.0000	1	1	1.0000
Gonococcal infection (A54)	1	1	1.0000	–	–	...	–	–	...
Viral diseases (A80–B34)	159	164	0.9695	114	121	0.9421	108	111	0.9730
Acute poliomyelitis (A80)	–	–	...	–	–	...	–	–	...
Varicella (chickenpox) (B01)	1	1	1.0000	1	1	1.0000	1	1	1.0000
Measles (B05)	–	–	...	–	–	...	1	1	1.0000
Human immunodeficiency virus (HIV) disease (B20–B24)	8	7	1.1429	8	10	0.8000	8	10	0.8000
Mumps (B26)	–	–	...	–	–	...	–	–	...
Other and unspecified viral diseases (A81–B00,B02–B04,B06–B19,B25,B27–B34)	149	156	0.9551	104	110	0.9455	98	99	0.9899
Candidiasis (B37)	21	19	1.1053	21	21	1.0000	32	24	1.3333
Malaria (B50–B54)	–	–	...	–	–	...	–	–	...
Pneumocystosis (B59)	2	2	1.0000	2	2	1.0000	3	3	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)	47	47	1.0000	61	58	1.0517	53	45	1.1778
Neoplasms (C00–D48)	150	143	1.0490	122	117	1.0427	156	152	1.0263
Malignant neoplasms (C00–C97)	81	74	1.0946	69	66	1.0455	98	92	1.0652
Hodgkin's disease and non-Hodgkin's lymphomas (C81–C85)	2	2	1.0000	1	1	1.0000	1	1	1.0000
Leukemia (C91–C95)	20	21	0.9524	26	25	1.0400	46	38	1.2105
Other and unspecified malignant neoplasms (C00–C80,C88–C90,C96–C97)	58	51	1.1373	42	40	1.0500	51	53	0.9623
In situ neoplasms, benign neoplasms and neoplasms of uncertain or unknown behavior (D00–D48)	69	69	1.0000	53	51	1.0392	58	60	0.9667
Diseases of the blood and blood-forming organs and certain disorders involving the immune mechanism (D50–D89)	86	82	1.0488	106	106	1.0000	71	70	1.0143
Anemias (D50–D64)	18	18	1.0000	16	16	1.0000	11	10	1.1000
Hemorrhagic conditions and other diseases of blood and blood-forming organs (D65–D76)	45	43	1.0465	61	59	1.0339	41	41	1.0000
Certain disorders involving the immune mechanism (D80–D89)	22	21	1.0476	29	31	0.9355	18	19	0.9474
Endocrine, nutritional and metabolic diseases (E00–E88)	255	266	0.9586	284	292	0.9726	268	260	1.0308
Short stature, not elsewhere classified (E34.3)	26	26	1.0000	30	26	1.1538	23	23	1.0000
Nutritional deficiencies (E40–E64)	4	4	1.0000	3	4	0.7500	11	14	0.7857
Cystic fibrosis (E84)	9	10	0.9000	6	6	1.0000	4	4	1.0000
Volume depletion, disorders of fluid, electrolyte and acid-base balance (E86–E87)	74	74	1.0000	81	90	0.9000	81	73	1.1096
All other endocrine, nutritional and metabolic diseases (E00–E32,E34.0–E34.2, E34.4–E34.9,E65–E83,E85,E88)	142	152	0.9342	164	166	0.9880	149	146	1.0205
Diseases of the nervous system (G00–G98)	376	382	0.9843	356	360	0.9889	393	389	1.0103

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, 2000–2002—Con.

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

Cause of death (Based on the <i>International Classification of Diseases, Tenth Revision, 1992</i>)	Preliminary number of deaths 2002	Final number of deaths 2002	Ratio of preliminary to final 2002	Preliminary number of deaths 2001	Final number of deaths 2001	Ratio of preliminary to final 2001	Preliminary number of deaths 2000	Final number of deaths 2000	Ratio of preliminary to final 2000
Meningitis (G00,G03)	71	74	0.9595	72	78	0.9231	96	91	1.0549
Infantile spinal muscular atrophy, type I (Werdnig-Hoffman) (G12.0)	24	25	0.9600	19	21	0.9048	36	33	1.0909
Infantile cerebral palsy (G80)	9	9	1.0000	19	19	1.0000	6	10	0.6000
Anoxic brain damage, not elsewhere classified (G93.1)	41	39	1.0513	27	26	1.0385	38	34	1.1176
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	235	0.9830	219	216	1.0139	218	221	0.9864
Diseases of the ear and mastoid process (H60–H93)	4	6	0.6667	1	3	0.3333	4	6	0.6667
Diseases of the circulatory system (I00–I99)	649	667	0.9730	637	622	1.0241	632	663	0.9532
Pulmonary heart disease and diseases of pulmonary circulation (I26–I28)	177	186	0.9516	173	170	1.0176	182	185	0.9838
Pericarditis, endocarditis and myocarditis (I30,I33,I40)	19	22	0.8636	23	21	1.0952	13	15	0.8667
Cardiomyopathy (I42)	115	118	0.9746	128	137	0.9343	96	118	0.8136
Cardiac arrest (I46)	36	34	1.0588	27	24	1.1250	31	29	1.0690
Cerebrovascular diseases (I60–I69)	121	117	1.0342	121	108	1.1204	125	124	1.0081
All other diseases of circulatory system (I00–I25,I31,I34–I38,I44–I45,I47–I51,I70–I99)	181	190	0.9526	165	162	1.0185	185	192	0.9635
Diseases of the respiratory system (J00–J98)	586	636	0.9214	692	696	0.9943	613	651	0.9416
Acute upper respiratory infections (J00–J06)	8	9	0.8889	8	9	0.8889	6	6	1.0000
Influenza and pneumonia (J10–J18)	232	263	0.8821	290	299	0.9699	261	289	0.9031
Influenza (J10–J11)	7	7	1.0000	9	7	1.2857	10	9	1.1111
Pneumonia (J12–J18)	226	256	0.8828	281	292	0.9623	252	280	0.9000
Acute bronchitis and acute bronchiolitis (J20–J21)	45	49	0.9184	54	49	1.1020	51	42	1.2143
Bronchitis, chronic and unspecified (J40–J42)	20	24	0.8333	27	21	1.2857	14	18	0.7778
Asthma (J45–J46)	2	4	0.5000	9	10	0.9000	8	8	1.0000
Pneumonitis due to solids and liquids (J69)	2	2	1.0000	11	12	0.9167	7	10	0.7000
Other and unspecified diseases of respiratory system (J22,J30–J39,J43–J44,J47–J68,J70–J98)	276	285	0.9684	292	296	0.9865	265	278	0.9532
Diseases of the digestive system (K00–K92)	482	509	0.9470	488	478	1.0209	503	499	1.0080
Gastritis, duodenitis, and noninfective enteritis and colitis (K29,K50–K55)	251	268	0.9366	250	246	1.0163	244	239	1.0209
Hernia of abdominal cavity and intestinal obstruction without hernia (K40–K46,K56)	46	50	0.9200	63	62	1.0161	80	72	1.1111
All other and unspecified diseases of digestive system (K00–K28,K30–K38,K57–K92)	185	191	0.9686	175	170	1.0294	179	188	0.9521
Diseases of the genitourinary system (N00–N98)	183	187	0.9786	166	157	1.0573	199	191	1.0419
Renal failure and other disorders of kidney (N17–N19,N25,N27)	162	165	0.9818	132	125	1.0560	152	153	0.9935
Other and unspecified diseases of genitourinary system (N00–N15,N20–N23,N26,N28–N98)	21	22	0.9545	34	32	1.0625	47	38	1.2368
Certain conditions originating in the perinatal period (P00–P96)	13,987	14,106	0.9916	13,748	13,734	1.0010	13,602	13,918	0.9773
Newborn affected by maternal factors and by complications of pregnancy, labor and delivery (P00–P04)	3,058	3,063	0.9984	2,768	2,832	0.9774	2,688	2,768	0.9711
Newborn affected by maternal hypertensive disorders (P00.0)	68	71	0.9577	61	60	1.0167	58	59	0.9831
Newborn affected by other maternal conditions which may be unrelated to present pregnancy (P00.1–P00.9)	68	76	0.8947	61	70	0.8714	70	73	0.9589
Newborn affected by maternal complications of pregnancy (P01)	1,723	1,708	1.0088	1,451	1,499	0.9680	1,372	1,404	0.9772
Newborn affected by incompetent cervix (P01.0)	486	475	1.0232	396	403	0.9826	402	406	0.9901
Newborn affected by premature rupture of membranes (P01.1)	764	764	1.0000	642	663	0.9683	588	606	0.9703
Newborn affected by multiple pregnancy (P01.5)	254	252	1.0079	256	270	0.9481	215	228	0.9430
Newborn affected by other maternal complications of pregnancy (P01.2–P01.4,P01.6–P01.9)	219	217	1.0092	156	163	0.9571	167	164	1.0183

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, 2000–2002—Con.

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

Cause of death (Based on the <i>International Classification of Diseases, Tenth Revision, 1992</i>)	Preliminary number of deaths 2002	Final number of deaths 2002	Ratio of preliminary to final 2002	Preliminary number of deaths 2001	Final number of deaths 2001	Ratio of preliminary to final 2001	Preliminary number of deaths 2000	Final number of deaths 2000	Ratio of preliminary to final 2000
Newborn affected by complications of placenta, cord and membranes (P02)	1,017	1,028	0.9893	1,012	1,018	0.9941	1,028	1,062	0.9680
Newborn affected by complications involving placenta (P02.0–P02.3)	508	512	0.9922	525	520	1.0096	550	549	1.0018
Newborn affected by complications involving cord (P02.4–P02.6)	54	55	0.9818	53	51	1.0392	56	55	1.0182
Newborn affected by chorioamnionitis (P02.7)	453	460	0.9848	434	447	0.9709	420	455	0.9231
Newborn affected by other and unspecified abnormalities of membranes (P02.8–P02.9)	1	1	1.0000	–	–	...	2	3	0.6667
Newborn affected by other complications of labor and delivery (P03)	151	144	1.0486	148	148	1.0000	131	130	1.0077
Newborn affected by noxious influences transmitted via placenta or breast milk (P04)	31	36	0.8611	37	37	1.0000	29	40	0.7250
Disorders related to length of gestation and fetal malnutrition (P05–P08)	4,673	4,714	0.9913	4,496	4,473	1.0051	4,369	4,471	0.9772
Slow fetal growth and fetal malnutrition (P05)	75	77	0.9740	62	63	0.9841	67	72	0.9306
Disorders related to short gestation and low birth weight, not elsewhere classified (P07)	4,598	4,637	0.9916	4,434	4,410	1.0054	4,299	4,397	0.9777
Extremely low birth weight or extreme immaturity (P07.0,P07.2)	3,531	3,543	0.9966	3,331	3,316	1.0045	3,221	3,281	0.9817
Other low birth weight or preterm (P07.1,P07.3)	1,067	1,094	0.9753	1,103	1,094	1.0082	1,078	1,116	0.9659
Disorders related to long gestation and high birth weight (P08)	–	–	...	–	–	...	2	2	1.0000
Birth trauma (P10–P15)	348	345	1.0087	138	145	0.9517	32	31	1.0323
Intrauterine hypoxia and birth asphyxia (P20–P21)	578	583	0.9914	548	534	1.0262	642	630	1.0190
Intrauterine hypoxia (P20)	106	110	0.9636	124	120	1.0333	117	109	1.0734
Birth asphyxia (P21)	472	473	0.9979	424	414	1.0242	524	521	1.0058
Respiratory distress of newborn (P22)	958	943	1.0159	1,016	1,011	1.0049	1,018	999	1.0190
Other respiratory conditions originating in the perinatal period (P23–P28)	1,205	1,245	0.9679	1,523	1,503	1.0133	1,485	1,529	0.9712
Congenital pneumonia (P23)	71	78	0.9103	73	72	1.0139	87	90	0.9667
Neonatal aspiration syndromes (P24)	50	54	0.9259	72	71	1.0141	58	63	0.9206
Interstitial emphysema and related conditions originating in the perinatal period (P25)	157	164	0.9573	210	204	1.0294	235	229	1.0262
Pulmonary hemorrhage originating in the perinatal period (P26)	189	191	0.9895	277	279	0.9928	269	284	0.9472
Chronic respiratory disease originating in the perinatal period (P27)	311	314	0.9904	332	310	1.0710	304	294	1.0340
Atelectasis (P28.0–P28.1)	387	400	0.9675	495	501	0.9880	465	496	0.9375
All other respiratory conditions originating in the perinatal period (P28.2–P28.9)	40	44	0.9091	64	66	0.9697	66	73	0.9041
Infections specific to the perinatal period (P35–P39)	927	948	0.9778	865	869	0.9954	876	927	0.9450
Bacterial sepsis of newborn (P36)	734	749	0.9800	694	696	0.9971	723	768	0.9414
Omphalitis of newborn with or without mild hemorrhage (P38)	1	1	1.0000	3	3	1.0000	1	3	0.3333
All other infections specific to the perinatal period (P35,P37,P39)	192	198	0.9697	168	170	0.9882	152	156	0.9744
Hemorrhagic and hematological disorders of newborn (P50–P61)	492	509	0.9666	603	600	1.0050	694	704	0.9858
Neonatal hemorrhage (P50–P52,P54)	374	387	0.9664	455	453	1.0044	574	578	0.9931
Hemorrhagic disease of newborn (P53)	–	1	–	–	–	...	–	1	–
Hemolytic disease of newborn due to isoimmunization and other perinatal jaundice (P55–P59)	18	19	0.9474	14	14	1.0000	20	18	1.1111
Hematological disorders (P60–P61)	100	102	0.9804	134	133	1.0075	101	107	0.9439
Syndrome of infant of a diabetic mother and neonatal diabetes mellitus (P70.0–P70.2)	8	10	0.8000	7	7	1.0000	8	9	0.8889
Necrotizing enterocolitis of newborn (P77)	348	352	0.9886	389	380	1.0237	366	368	0.9946
Hydrops fetalis not due to hemolytic disease (P83.2)	187	192	0.9740	165	166	0.9940	159	161	0.9876
Other perinatal conditions (P29,P70.3–P76,P78–P81,P83.0–P83.1,P83.3–P96)	1,205	1,202	1.0025	1,230	1,214	1.0132	1,265	1,321	0.9576
Congenital malformations, deformations and chromosomal abnormalities (Q00–Q99)	5,655	5,623	1.0057	5,608	5,513	1.0172	5,779	5,743	1.0063
Anencephaly and similar malformations (Q00)	304	297	1.0236	269	263	1.0228	328	324	1.0123

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, 2000–2002—Con.

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

Cause of death (Based on the <i>International Classification of Diseases, Tenth Revision, 1992</i>)	Preliminary number of deaths 2002	Final number of deaths 2002	Ratio of preliminary to final 2002	Preliminary number of deaths 2001	Final number of deaths 2001	Ratio of preliminary to final 2001	Preliminary number of deaths 2000	Final number of deaths 2000	Ratio of preliminary to final 2000
Congenital hydrocephalus (Q03)	90	90	1.0000	106	105	1.0095	97	95	1.0211
Spina bifida (Q05)	20	20	1.0000	20	19	1.0526	28	26	1.0769
Other congenital malformations of nervous system (Q01–Q02,Q04,Q06–Q07)	293	286	1.0245	292	286	1.0210	314	313	1.0032
Congenital malformations of heart (Q20–Q24)	1,508	1,510	0.9987	1,570	1,556	1.0090	1,660	1,634	1.0159
Other congenital malformations of circulatory system (Q25–Q28)	217	223	0.9731	188	192	0.9792	187	208	0.8990
Congenital malformations of respiratory system (Q30–Q34)	639	638	1.0016	602	594	1.0135	681	685	0.9942
Congenital malformations of digestive system (Q35–Q45)	99	103	0.9612	106	106	1.0000	82	85	0.9647
Congenital malformations of genitourinary system (Q50–Q64)	354	351	1.0085	363	356	1.0197	326	329	0.9909
Congenital malformations and deformations of musculoskeletal system, limbs and integument (Q65–Q85)	472	460	1.0261	488	477	1.0231	437	446	0.9798
Down's syndrome (Q90)	119	118	1.0085	126	119	1.0588	88	93	0.9462
Edward's syndrome (Q91.0–Q91.3)	505	494	1.0223	460	446	1.0314	523	478	1.0941
Patau's syndrome (Q91.4–Q91.7)	306	295	1.0373	284	276	1.0290	301	290	1.0379
Other congenital malformations and deformations (Q10–Q18,Q86–Q89)	542	548	0.9891	540	526	1.0266	568	583	0.9743
Other chromosomal abnormalities, not elsewhere classified (Q92–Q99)	189	190	0.9947	192	192	1.0000	159	154	1.0325
Symptoms, signs and abnormal clinical and laboratory findings, not elsewhere classified (R00–R99)	3,702	3,456	1.0712	3,675	3,491	1.0527	3,997	3,639	1.0984
Sudden infant death syndrome (R95)	2,035	2,295	0.8867	1,972	2,234	0.8827	2,151	2,523	0.8526
Other symptoms, signs and abnormal clinical and laboratory findings, not elsewhere classified (R00–R53,R55–594,R96–R99)	1,667	1,161	1.4358	1,703	1,257	1.3548	1,846	1,116	1.6541
All other diseases (Residual)	26	24	1.0833	20	19	1.0526	32	30	1.0667
External causes of mortality (*U01,V01–Y84)	1,261	1,365	0.9238	1,320	1,417	0.9315	1,205	1,314	0.9170
Accidents (unintentional injuries) (V01–X59)	893	946	0.9440	912	976	0.9344	826	881	0.9376
Transport accidents (V01–V99)	129	127	1.0157	142	151	0.9404	171	174	0.9828
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	123	1.0081	134	142	0.9437	167	168	0.9940
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	4	1.2500	7	9	0.7778	4	6	0.6667
Falls (W00–W19)	24	16	1.5000	23	23	1.0000	7	8	0.8750
Accidental discharge of firearms (W32–W34)	1	1	1.0000	–	–	–	–	1	–
Accidental drowning and submersion (W65–W74)	61	63	0.9683	69	68	1.0147	77	75	1.0267
Accidental suffocation and strangulation in bed (W75)	380	425	0.8941	347	390	0.8897	235	266	0.8835
Other accidental suffocation and strangulation (W76–W77,W81–W84)	147	150	0.9800	151	162	0.9321	167	183	0.9126
Accidental inhalation and ingestion of food or other objects causing obstruction of respiratory tract (W78–W80)	51	61	0.8361	56	62	0.9032	66	77	0.8571
Accidents caused by exposure to smoke, fire and flames (X00–X09)	35	36	0.9722	52	50	1.0400	36	37	0.9730
Accidental poisoning and exposure to noxious substances (X40–X49)	27	26	1.0385	15	15	1.0000	10	14	0.7143
Other and unspecified accidents (W20–W31,W35–W64,W85–W99,X10–X39,X50–X59)	38	41	0.9268	59	55	1.0727	57	46	1.2391

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, 2000–2002—Con.

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

Cause of death (Based on the <i>International Classification of Diseases, Tenth Revision, 1992</i>)	Preliminary number of deaths 2002	Final number of deaths 2002	Ratio of preliminary to final 2002	Preliminary number of deaths 2001	Final number of deaths 2001	Ratio of preliminary to final 2001	Preliminary number of deaths 2000	Final number of deaths 2000	Ratio of preliminary to final 2000
Assault (homicide). (*U01,X85–Y09)	274	303	0.9043	310	332	0.9337	304	349	0.8711
Assault (homicide) by hanging, strangulation and suffocation (X91)	28	32	0.8750	30	40	0.7500	21	26	0.8077
Assault (homicide) by discharge of firearms (*U01.4,X93–X95)	9	9	1.0000	11	11	1.0000	13	12	1.0833
Neglect, abandonment and other maltreatment syndromes (Y06–Y07)	85	98	0.8673	115	116	0.9914	105	129	0.8140
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	164	0.9268	154	165	0.9333	165	182	0.9066
Complications of medical and surgical care (Y40–Y84)	14	15	0.9333	24	26	0.9231	24	19	1.2632
Other external causes and their sequelae (X60–X84,Y10–Y36)	80	101	0.7921	74	83	0.8916	51	65	0.7846

– Quantity zero.

. . . Category not applicable.

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

Causes of Infant Death, the same ranking procedures are used, except that the category Major cardiovascular diseases is not in the list.

Infant mortality

The infant mortality rate is the most commonly used index for measuring the risk of dying during the first year of life. The rates presented in this report are calculated by dividing the preliminary number of infant deaths that occurred during 2003 by the number of live births for the same period and are presented as rates per 1,000 or per 100,000 live births. For preliminary birth figures used in the denominator for infant mortality rates, see “Births: Preliminary Data for 2003” (34). 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 I). 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 2003 by the estimated population of persons under 1 year of age on July 1, 2003, 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, since 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 (26).

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 (35). 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 (36) using a methodology similar to that of the

decennial life tables (37). 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 (36). Although the new method produces complete life tables, that is, life tables by single years of age, life table data shown in this report are summarized in 5-year age groupings. Life expectancy by age is shown in table 6. To calculate the probability of dying at each age, the revised methodology uses vital statistics death rates for ages under 85 years and mortality data from the Medicare program for ages over 85 years. Medicare data were used to model the probability of dying at ages 85 years and over because the data are shown to be significantly more reliable than vital statistics data at the oldest ages (38).

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 2002 and 2003 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 (36). Accordingly, Medicare data were used to estimate the probability of dying by single years of age for ages up to “100 years and over.”

Population denominators

The rates in this report use population estimates based on the 2000 census and estimated as of July 1, 2002, and July 1, 2003. National rates for 2003 and State rates for 2002 and 2003 are based on population estimates published in 2003, which incorporate information not included in the earlier (2001 and 2002) estimates. These population estimates are available on the NCHS Web page (39,40).

The population estimates have been produced under a collaborative arrangement with the U.S. Census Bureau and are based on the 2000 census counts. Reflecting the new guidelines issued in 1997 by OMB, the 2000 census included an option for individuals to report more than one race as appropriate for themselves and household members (15). In addition, the 1997 OMB guidelines called for reporting of Asian persons separately from Native Hawaiians or Other Pacific Islanders. In the 1977 OMB guidelines, data for Asian or Pacific Islander persons were collected as a single group (11). Death certificates for 43 States and the District of Columbia currently collect only one race in the same categories as specified in the 1977 OMB guidelines (see section “2003 revision of the U.S. Standard Certificate of Death” in the “Technical Notes”). In addition, death certificate data do not report Asians separately from Native Hawaiians or Other Pacific Islanders. The death certificate data by race (the numerators for death rates) are thus incompatible for most States with the population data collected in the 2000 census (the denominators for the rates).

In order to produce national death rates for 2002 and 2003, it was necessary to “bridge” the reported population data for multiple-race persons back to single race categories. In addition, the census counts were modified to be consistent with the 1977 OMB racial categories; that is, to report the data for Asian persons and Native Hawaiians or other Pacific Islanders as a combined category, Asian or Pacific Islanders, and to reflect age as of the census reference date. The procedures used to produce the “bridged” populations are described

in separate publications (13,14). It is anticipated that “bridged” data will be used over the next few years for computing population-based rates. As more States collect data on race according to the 1997 OMB guidelines (15), it is expected that use of the “bridged” populations can be discontinued.

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)
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)
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 (41). 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* (41).

Death rates for the Hispanic population are based only on events to persons reported as Hispanic. Rates for non-Hispanic white persons are based on the sum of all events to white decedents reported as non-Hispanic and white decedents with origin not stated. Likewise, rates for non-Hispanic black persons are based on the sum of all events to black decedents reported as non-Hispanic and black decedents with

origin not stated. Hispanic origin is not imputed if it is not reported. For calculating death rates, deaths with age not stated are not distributed. The number of deaths with age not stated was 533, or less than 0.03 percent of all deaths.

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

- The State-specific sample is complete enough to provide reliable estimates. For this report, a criterion of at least 75 percent of a State’s records (demographic file) for the 12-month period is used as a basis for providing State-specific estimates (see table I). There were no American Samoa records in the 2003 preliminary file. The Illinois and California demographic mortality files contained 32.5 percent and 48.8 percent of all records for 2003 respectively (see table I). Data for Illinois and California 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 nonsampling error.

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

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

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

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:

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

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

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:

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

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

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

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

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

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

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

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

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

where

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

where

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

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

w_i = i^{th} age-specific U.S. standard population such that $\sum w_i = 1.000000$ (see “Computing rates and percents”).

X_i = the estimated number of deaths for the i^{th} age group.

N_i = the total count of deaths from [table I](#) for each i^{th} age group (for infant deaths, use the count of records as shown; for all age groups 1–4 through 85 years and over, use the count of records as shown for deaths 1 year and over).

f_i = 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:

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

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

As a hypothetical example, assume R_1 is the same as the above example for the current 12-month period and that R_2 , 15.0, is based

on 50 deaths occurring in the prior 12-month period (which implies that the file is approximately 100 percent complete for R_2). The z-test may be determined as follows:

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

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

For rates or 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:

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

where

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

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

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

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

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

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

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

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

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

This means 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.

Contents

Abstract	1
Introduction	1
Sources and Methods	1
Data sources	1
Results	2
Trends in numbers and rates	2
Causes of death	3
Infant mortality	4
References	5
List of Detailed Tables	6
Technical Notes	32

Suggested citation

Hoyert DL, Kung HC, Smith BL. Deaths: Preliminary data for 2003. National vital statistics reports; vol 53 no 15. Hyattsville, Maryland: National Center for Health Statistics. 2005.

National Center for Health Statistics

Director, Edward J. Sondik, Ph.D.
Deputy Director, Jack R. Anderson

Division of Vital Statistics

Director, Charles J. Rothwell

To receive this publication regularly, contact the National Center for Health Statistics by calling 1-866-441-6247. E-mail: nchsquery@cdc.gov
Internet: www.cdc.gov/nchs

Copyright information

All material appearing in this report is in the public domain and may be reproduced or copied without permission; citation as to source, however, is appreciated.

**U.S. DEPARTMENT OF
HEALTH & HUMAN SERVICES**

Centers for Disease Control and Prevention
National Center for Health Statistics
3311 Toledo Road
Hyattsville, Maryland 20782

DHHS Publication No. (PHS) 2005-1120
PRS 05-0162 (2/2005)

OFFICIAL BUSINESS
PENALTY FOR PRIVATE USE, \$300

MEDIA MAIL POSTAGE & FEES PAID CDC/NCHS PERMIT NO. G-284
