

Deaths: Final Data for 2000

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Technical Notes

Nature and sources of data

Data in this report are based on information from all death certificates filed in the 50 States and the District of Columbia. The U.S. Standard Certificate of Death—which is used as a model by the States—was last revised in 1989; for additional details see the 1989 revision of the U.S. standard certificates and reports (24) and Technical Appendix of *Vital Statistics of the United States, 1989*, Volume II, Mortality, part A (25). Data for Puerto Rico, the Virgin Islands, Guam, American Samoa, and the Northern Marianas are included in tables showing data by State, but are not included in U.S. totals.

Mortality statistics are based on information coded by the States and provided to the National Center for Health Statistics (NCHS) through the Vital Statistics Cooperative Program (VSCP) and from copies of the original certificates received by NCHS from the State registration offices. In 2000 all the States and the District of Columbia participated in this program and submitted part or all of the mortality data for 2000 in electronic data files to NCHS. All States provided precoded medical (cause-of-death) data to NCHS except Illinois, Kentucky, Missouri, New Jersey, Ohio, and West Virginia, and the District of Columbia. For 2000 all States submitted precoded demographic data for all deaths.

Data for the entire United States refer to events occurring within the United States. Data shown for geographic areas are by place of residence. Beginning with 1970 mortality statistics for the United States exclude deaths of nonresidents of the United States. All data exclude fetal deaths.

Mortality statistics for Puerto Rico, Virgin Islands, American Samoa, and Northern Marianas exclude deaths of nonresidents of Puerto Rico, Virgin Islands, American Samoa, and Northern Marianas, respectively. For Guam, however, mortality statistics exclude deaths that occurred to a resident of any place other than Guam or the United States.

Cause-of-death classification

The mortality statistics presented in this report were compiled in accordance with the World Health Organization (WHO) regulations, which 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*. The ICD provides the basic guidance used in virtually all countries to code and classify causes of death. Effective with deaths occurring in 1999, the United States began using the Tenth Revision of this classification, (ICD-10) (5). For earlier years causes of death were classified according to the revisions then in use—1979–98, Ninth Revision; 1968–78, Eighth Revision, adapted for use in the United States; 1958–67, Seventh Revision; and 1949–57, Sixth Revision.

Changes in classification of causes of death due to these revisions may result in discontinuities in cause-of-death trends. Consequently, cause-of-death comparisons among revisions require consideration of comparability ratios and, where available, estimates of their standard errors. Comparability ratios between the Ninth and Tenth Revisions, between the Eighth and Ninth Revisions, between the Seventh and

Eighth Revisions, and between the Sixth and Seventh Revisions may be found in other NCHS reports (18, 26–28).

The ICD not only details disease classification but also provides definitions, tabulation lists, the format of the death certificate, and the rules for coding cause of death. Cause-of-death data presented in this publication were coded by procedures outlined in annual issues of the *NCHS Instruction Manual* (29, 30). It includes rules for selecting the underlying cause of death for tabulation purposes, definitions, tabulation lists, and regulations on the use of the ICD.

Before data for 1968, mortality medical data were based on manual coding of an underlying cause of death for each certificate in accordance with WHO rules. Effective with data year 1968, NCHS converted to computerized coding of the underlying cause and manual coding of all causes (multiple causes) on the death certificate. In this system, called “Automated Classification of Medical Entities” (ACME) (31), multiple cause codes serve as inputs to the computer software that employs WHO rules to select the underlying cause. All cause-of-death data in this report are coded using ACME.

The ACME system is used to select the underlying cause of death for all death certificates in the United States. In addition, NCHS has developed two computer systems as inputs to ACME. Beginning with 1990 data, the Mortality Medical Indexing, Classification, and Retrieval system (MICAR) (32, 33), was introduced to automate coding multiple causes of death. In addition, MICAR provides more detailed information on the conditions reported on death certificates than is available through the International Classification of Diseases (ICD) code structure. Beginning with data year 1993, SuperMICAR, an enhancement of the MICAR system, was introduced. SuperMICAR allows for literal entry of the multiple cause-of-death text as reported by the certifier. This information is then automatically processed by the MICAR and ACME computer systems. Records that cannot be automatically processed by MICAR or SuperMICAR are manually multiple-cause coded and then further processed through ACME.

For 2000 approximately 44 percent of the Nation’s death records were multiple-cause coded using SuperMICAR and 56 percent, using MICAR only. This represents data from 31 States and New York City that were coded by SuperMICAR and data from 19 States and the District of Columbia that were coded by MICAR.

In this report tabulations of cause-of-death statistics are based solely on the underlying cause of death. The underlying cause is defined by WHO as “the disease or injury which initiated the train of events leading directly to death, or the circumstances of the accident or violence which produced the fatal injury” (5). It is selected from the conditions entered by the physician in the cause-of-death section of the death certificate. When more than one cause or condition is entered by the physician, the underlying cause is determined by the sequence of conditions on the certificate, provisions of the ICD, and associated selection rules and modifications. Generally, more medical information is reported on death certificates than is directly reflected in the underlying cause of death. This is captured in NCHS multiple cause-of-death statistics (34–36).

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, Effective 1999 (37). For this report, two tabulation lists are used, namely, the List of 113 Selected Causes of Death used

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

Leading cause-of-death trends, discussed in this report, are based on cause-of-death data according to ICD-10 for 1999-2000, and on data for the most comparable ICD-9 cause-of-death titles for 1979-98. Tables showing ICD-9 categories that are comparable to the ICD-10 titles in the list of 113 selected causes of death may be found in "Comparability of Cause of Death Between ICD-9 and ICD-10: Preliminary Estimates" (18) and "Deaths: Final Data for 1999" (19). Although in some cases categories from the list of 113 selected causes are identical to those in the old list of 72 selected causes of death used with ICD-9, it is important to note that many of these categories are not comparable with categories in the list of 72 selected causes even though the cause-of-death titles may be the same.

Trend data for 1978-99 that are classified by ICD-9 but are sorted into the list of 113 selected causes of death developed for ICD-10 can be found on the mortality Web site at <http://www.cdc.gov/nchs/data/hist001a.pdf>.

Revision of the ICD and resulting changes in classification and rules for selecting the underlying cause of death have important implications for the analysis of mortality trends by cause of death. For some causes of death the discontinuity in trend can be substantial (18). Therefore, considerable caution should be used in analyzing cause-of-death trends for periods of time that extend across more than one revision of the ICD.

Race and Hispanic origin

Race and Hispanic origin are reported separately on the death certificate. Therefore, data shown by race include persons of Hispanic and 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 for the Hispanic-origin population are based on deaths to residents of all 50 States and the District of Columbia. Data year 1997 was the first year that mortality data for the Hispanic population were available for the entire United States.

Quality of race and Hispanic origin data—Death rates for Hispanic, American Indian, and API persons should be interpreted with caution because of inconsistencies in reporting Hispanic origin or 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 (13, 38).

A number of studies have been conducted on the reliability of race reported on the death certificate by comparing race on the death certificate with that reported on another data collection instrument, such as the Census or a survey. Differences may arise because of differences in who provides race information on the compared records. Race information on the death certificate is reported by the funeral director as provided by an informant or in the absence of an informant, on the basis of observation. In contrast, race on the census or on the Current Population Survey (CPS) is obtained while the individual is alive and is self-reported or reported by another member of the household familiar with the individual and, therefore, may be considered more valid. A high level of agreement between the death certificate and the census or survey report is essential to assure unbiased death rates by race.

Studies (38, 39) show that a person self-reported as American Indian or Asian on census or survey records was sometimes reported as white on the death certificate. The net effect of misclassification is an underestimation of deaths and death rates for races other than white and black. In addition, undercoverage of minority groups in the census and resultant population estimates introduces biases into death rates by race (4, 13, 40). Estimates of the approximate effect of the combined bias due to race misclassification on death certificates and underenumeration on the 1990 census are as follows: white, -1.0 percent; black, -5.0; American Indian, +20.6; and Asian or Pacific Islander, +10.7 (13).

The National Longitudinal Mortality Study (NLMS) examined the reliability of Hispanic origin reported on 43,520 death certificates with that reported on a total of 12 Current Population Surveys conducted by the U.S. Bureau of the Census for the years 1979-85 (13). In this study, agreement—on a record-by-record basis—was 89.7 percent for any report of Hispanic origin. The ratio of deaths for CPS divided by deaths for death certificate was 1.07, indicating net underreporting of Hispanic origin on death certificates by 7 percent as compared with self-reports on the surveys. Death rates for the Hispanic-origin population are also affected by undercoverage of this population group in the census and resultant population estimates; the estimated net correction, taking into account both sources of bias, is 1.6 percent (13, 40).

Other races and race not stated—Beginning in 1992 all records coded as "Other races" (0.03 percent of the total deaths in 2000) were assigned to the specified race of the previous record. Records for which race was unknown, not stated, or not classifiable (0.08 percent) were assigned the racial designation of the previous record.

Infant and maternal mortality rates—For 1989-2000, as in previous years, infant and maternal deaths continue to be tabulated by the race of the decedent. However, beginning with the 1989 data year, the method of tabulating live births by race was changed from race of parents to race of mother as stated on the birth certificate. This change affects infant and maternal mortality rates because live births are the denominators of these rates (41, 42). To improve continuity and ease of interpretation, trend data by race in this report have been retabulated by race of mother for all years beginning with the 1980 data year.

Quantitatively, the change in the basis for tabulating live births by race results in more white births and fewer black births and births of other races. Consequently, infant and maternal mortality rates under

the new tabulating procedure tend to be about 2 percent lower for white infants and about 5 percent higher for black infants than when they are computed by the previous method of tabulating live births by race of parents. Rates for most other minority races also are higher when computed by race of mother (25, 42).

Infant mortality rates for the Hispanic-origin population are based on numbers of resident infant deaths reported to be of Hispanic origin and numbers of resident live births by Hispanic origin of mother for the United States. In computing infant mortality rates, deaths and live births of unknown origin are not distributed among the specified Hispanic and non-Hispanic groups. In 2000 the percent of infant deaths of unknown origin was 1.3 and the percent of live births to mothers of unknown origin was 1.1 for the United States.

Small numbers of infant deaths for specific Hispanic-origin groups result in infant mortality rates subject to relatively large random variation (see "Random variation"). Infant mortality rates by Hispanic origin are less subject to reporting error when based on linked files of infant deaths and live births (23).

Infant mortality rates calculated from the general mortality file for specified race and/or Hispanic origin are in error because of reporting problems that affect the classification of race and Hispanic origin on the birth and death certificates for the same infant. Infant mortality rates by specified race and Hispanic origin are more accurate when based on the linked file of infant deaths and live births (23). The linked file computes infant mortality rates using the race and/or Hispanic origin of the mother from the birth certificate in both the numerator and denominator of the rate. In addition, mother's race and/or Hispanic origin from the birth certificate is considered to be more accurately reported than infant's race and/or Hispanic origin from the death certificate because, on the birth certificate, race is generally reported by the mother at the time of delivery whereas, on the death certificate, infant's race and/or Hispanic origin is reported by an informant, usually the mother but sometimes by the funeral director. Estimates of reporting errors have been made by comparing rates based on the linked files with those in which the race of infant death is based on information from the death certificate (13, 25).

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 (43). 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 (44) using a methodology similar to that of the decennial life tables (45). 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 (44). 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. To calculate the probability of dying at each age, the revised methodology uses vital statistics death rates for ages under 85 years and mortality data from the Medicare program for ages over 85 years. Medicare data were used to model the probability of dying at ages 85 and over because the data are shown to be significantly more reliable than vital statistics data at the oldest ages (46).

Causes of death contributing to changes in life expectancy

Causes of death contributing to changes in life expectancy were estimated using a life table partitioning technique. The method partitions changes into component additive parts. This method identifies the causes of death having the greatest influence, positive or negative, on changes in life expectancy (14, 47).

Codes for firearm deaths

Causes of death attributable to firearm mortality include ICD-10 codes W32-W34, Accidental discharge of firearms; X72-X74, Intentional self-harm (suicide) by discharge of firearms; X93-X95, Assault (homicide) by discharge of firearms; Y22-Y24, Discharge of firearms, undetermined intent; and Y35.0, Legal intervention involving firearm discharge. Deaths from injury by firearms exclude deaths due to explosives and other causes indirectly related to firearms.

Codes for drug-induced deaths

Causes of death attributable to drug-induced mortality include selected codes from the ICD-10 title Mental and behavioral disorders due to psychoactive substance use, specifically, ICD-10 codes 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, and F19.7-F19.9; Accidental poisoning by and exposure to drugs, medicaments and biological substances, X40-X44; Intentional self-poisoning (suicide) by and exposure to drugs, medicaments and biological substances, X60-X64; Assault (homicide) by drugs, medicaments and biological substances, X85; and Poisoning by and exposure to drugs, medicaments and biological substances, undetermined intent, Y10-Y14. Drug-induced causes exclude accidents, homicides, and other causes indirectly related to drug use. Also excluded are newborn deaths associated with mother's drug use.

Codes for alcohol-induced deaths

Causes of death attributable to alcohol-induced mortality include ICD-10 codes F10, Mental and behavioral disorders due to alcohol use; G31.2, Degeneration of nervous system due to alcohol; G62.1, Alcoholic polyneuropathy; I42.6, Alcoholic cardiomyopathy; K29.2, Alcoholic gastritis; K70, Alcoholic liver disease; R78.0, Finding of alcohol in blood; X45, Accidental poisoning by and exposure to alcohol; X65, Intentional self-poisoning by and exposure to alcohol; and Y15, Poisoning by and exposure to alcohol, undetermined intent. Alcohol-induced causes exclude accidents, homicides, and other causes indirectly related to alcohol use. This category also excludes newborn deaths associated with maternal alcohol use.

Marital status

Age-specific and age-adjusted death rates by marital status are shown in [table 28](#) by race and in [table 29](#) by Hispanic origin. Mortality data by marital status is generally of high quality. A study of death certificate data using the 1986 National Mortality Followback Survey showed a high level of consistency in reporting marital status (39). Age-adjusted death rates by marital status were computed based on the age-specific rates and the standard population for ages 25 years and over. While age-specific death rates by marital status are shown for the age group 15–24 years, they are not included in the computation of the age-adjusted rate because of their high variability, particularly among the widowed population. Also, the age groups 75–84 and 85 years and over are combined due to high variability in death rates in the 85 years and over age group, particularly for the never-married population.

Educational attainment

Beginning with the 1989 data year, an item indicating decedent's educational attainment was added to the certificates of numerous States. Mortality data on educational attainment for 2000 are based on deaths to residents of the 46 States and the District of Columbia whose data were approximately 80 percent or more complete on a place-of-occurrence basis. Data for Kentucky were excluded using this criterion. Data for Georgia, Rhode Island, and South Dakota were excluded because the item was not on their certificates.

Age-specific and age-adjusted death rates by educational attainment are shown in [table 30](#). Age-adjusted death rates by educational attainment were computed based on the age-specific rates and the standard population for ages 25–64 years. Data for age groups 65 years and over are not shown because reporting quality is poorer at older than younger ages (48).

Rates by educational attainment are affected by differences in measurement of education for the numerator and the denominator. The numerator is based on number of years of education completed as reported on the death certificate whereas the denominator is based on highest degree completed as reported on census surveys (49).

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, age-specific death rates, and age-adjusted death rates for injury at work are shown in [tables 31](#) and [32](#). Deaths, crude death rates, and age-adjusted death rates for injury at work are shown for ages 15 years and over. Age-adjusted death rates for injury at work were computed using age-specific death rates and the U.S. standard population based on year 2000 standard for ages 15 years and over. See section on *Computing Rates*.

Infant mortality

Infant mortality rates are the most commonly used index for measuring the risk of dying during the first year of life. The rates presented in this report are calculated by dividing the number of infant deaths in a calendar year by the number of live births

registered for the same period and are presented as rates per 1,000 or per 100,000 live births. For final birth figures used in the denominator for infant mortality rates, see *Births: Final Data for 2000* (50). In contrast to infant mortality rates based on live births, infant death rates are based on the estimated population under 1 year of age. Infant death rates that appear in tabulations of age-specific death rates in this report are calculated by dividing the number of infant deaths by the July 1, 2000 population estimate of persons under 1 year of age, based on 1990 census populations. These rates 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.

Maternal mortality

Maternal mortality rates are also computed on the basis of the number of live births. The maternal mortality rate indicates the likelihood of a pregnant woman dying of maternal causes. They are calculated by dividing the number of maternal deaths in a calendar year by the number of live births registered for the same period and are presented as rates per 100,000 live births. The number of live births used in the denominator is an approximation of the population of pregnant women who are at risk of a maternal death.

“Maternal deaths” are defined by the World Health Organization as “the death of a woman while pregnant or within 42 days of termination of pregnancy, irrespective of the duration and the site of the pregnancy, from any cause related to or aggravated by the pregnancy or its management, but not from accidental or incidental causes” (5). Included in these deaths are ICD–10 codes A34, O00–O95, and O98–O99.

Some State death certificates include a separate question regarding pregnancy status. A positive response to the question is interpreted as if “pregnant” was reported in Part II of the cause-of-death section of the death certificate. If a specified length of time is not provided by the medical certifier, it is assumed that the pregnancy terminated 42 days or less prior to death. Further, if only indirect maternal causes of death (that is, a previously existing disease or a disease that developed during pregnancy that was not due to direct obstetric causes but was aggravated by physiologic effects of pregnancy) are reported in Part I and pregnancy is reported in either Part I or Part II, the death is classified as a maternal death.

Quality of reporting and processing cause of death

One index of the quality of reporting causes of death is the proportion of death certificates coded to Chapter XVIII; Symptoms, signs and abnormal clinical and laboratory findings, not elsewhere classified (ICD–10 codes R00–R99). Although deaths occur for which the underlying causes are impossible to determine, this proportion indicates the care and consideration given to the cause-of-death statement by the medical certifier. This proportion also may be used as a rough measure of the specificity of the medical diagnoses made by the certifier in various areas. The percent of all reported deaths in the United States assigned to Symptoms, signs and abnormal clinical and laboratory findings, not elsewhere classified, increased from 1.12 percent in 1999 to 1.33 percent in 2000. From 1990 though 1999, the percent of deaths from this cause for all ages combined generally was fairly stable, between 1.08 and 1.18 percent.

Rare causes of death

Selected causes of death considered to be of public health concern are routinely confirmed by the States according to agreed upon procedures between the State vital statistics programs and the National Center for Health Statistics. These causes, termed “Infrequent and rare causes of death,” are listed in the NCHS instruction manuals Parts 2a, 11, and 20 (29, 51, 52).

For data year 2000, complete confirmation of deaths from infrequent and rare causes were not provided by the District of Columbia and the following States: Alabama, California, Florida, Illinois, Iowa, Kentucky, Maine, Massachusetts, New York, North Carolina, Ohio, Oklahoma, Pennsylvania, and West Virginia.

Population bases for computing rates

Populations used for computing death rates in trend [tables 1, 2, 9, 22–27](#), and [32](#) represent the population residing in the United States, enumerated as of April 1 for census years prior to 2000 and estimated as of July 1 for all other years.

The populations used for computing death rates for 2000 in [tables 1–5, 9, 11, 14–17, 20–27, 31](#), and [32](#) are postcensal estimates based on the 1990 census, estimated as of July 1, 2000. These populations are shown by race for 10-year age groups in [table I](#) and are available by 5-year age groups on the mortality Web site at <http://www.cdc.gov/nchs> (6). Similarly, population estimates for all origins, Hispanic, non-Hispanic, non-Hispanic white, and non-Hispanic black, shown in [table II](#), are postcensal estimates based on the 1990 census and are estimated as of July 1, 2000.

Detailed populations from the 2000 census were not available when this report was prepared. A comparison of summary 2000 census results and the estimates for 2000 used in this report indicates that the total U.S. Hispanic population used for this report is 8 percent lower than the population based on the 2000 census (6–8). Similar, but less pronounced, differences were indicated in other population groups. Differences between the 2000 enumerated population and the population estimates for 2000 used in this report could result in underestimation or overestimation of death rates.

The U.S. Census Bureau provided all population estimates used in this report. Population estimates for 1991–2000 are based on the 1990 census counts, modified to be consistent with U.S. Office of Management and Budget categories and historical categories for death data (53). When the necessary population estimates based on the 2000 census and intercensal estimates become available, population-based rates for the 1990s and 2000 will be recalculated and presented in an upcoming report. Meanwhile, considerable caution should be used in interpreting the rates and trends for the Nation and States.

Population estimates in [table II](#) for Mexicans, Puerto Ricans, Cubans, and Other Hispanics, and population estimates by marital status in [tables III](#) and [IV](#), are based on the Current Population Survey adjusted to resident population control totals for the United States (54) and, as such, are subject to sampling variation (see “Random variation”). The control totals used are 1990-based population estimates for the United States for July 1, 2000 (6).

Population estimates by educational attainment, shown in [table V](#), are also based on the Current Population Survey (54) adjusted to resident population control totals, and are also subject to sampling

variation (see “Random variation”). The control totals used are 1990-based population estimates for 46 States and the District of Columbia for July 1, 2000 (6).

Population estimates for each State, shown in [table VI](#), were estimated from State-level postcensal population estimates based on the 1990 census and are consistent with the U.S. populations (55). Population estimates for Puerto Rico, Virgin Islands, Guam, American Samoa, and Northern Marianas, also shown in [table VI](#), are based on the 1990 census as well (56). These State and territory populations are based on demographic analysis and, therefore, are not subject to sampling variation.

Computing rates

Except for infant and maternal mortality rates, rates are on an annual basis per 100,000 estimated population residing in the specified area. Infant and maternal mortality rates are per 1,000 or per 100,000 live births. Comparisons made in the text among rates, unless otherwise specified, are statistically significant at the 0.05 level of significance. Lack of comment in the text about any two rates does not mean that the difference was tested and found not to be significant at this level.

Age-adjusted 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.

Beginning with the 1999 data year, a new population standard was adopted by NCHS for use in age-adjusting death rates. Based on the projected year 2000 population of the United States, the new standard replaces the 1940 standard population that had been used for over 50 years. 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* (12).

All age-adjusted rates shown in this report are based on the year 2000 standard population. The year 2000 standard population and corresponding weights used for computing age-adjusted rates and relative standard errors (RSE), excluding those by marital status, education, injury at work, and the U.S. territories, are shown in [table VII](#).

Age-adjusted rates by marital status were computed by applying the age-specific death rates to the U.S. standard population for ages 25 years and over. Although age-specific death rates by marital status are shown for the age group 15–24 years, they are not included in the calculation of age-adjusted rates because of their high variability, particularly among the widowed population. Also, the age groups 75–84 and 85 years and over are combined because of high variability in death rates in the 85 years and over age group, particularly for the never-married population. The year 2000 standard population and corresponding weights used for computing age-adjusted rates and relative standard errors by marital status are shown in [table VIII](#).

Age-adjusted rates by educational attainment were computed by applying the age-specific death rates to the U.S. standard population for ages 25–64 years. Data for age groups 65 years and over are not shown because reporting quality is poorer for older than for younger ages (48). The year 2000 standard population and corresponding

Table I. Estimated population by 10-year age groups, specified race and sex: United States, 2000

Age	All races			White			Black			American Indian			Asian or Pacific Islander		
	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female
Total	275,264,999	134,625,673	140,639,326	226,251,833	111,196,305	115,055,528	35,303,751	16,776,358	18,527,393	2,436,153	1,206,143	1,230,010	11,273,262	5,446,867	5,826,395
Under 1 year	3,847,481	1,965,047	1,882,434	3,032,117	1,550,984	1,481,133	582,544	296,448	286,096	44,200	22,256	21,944	188,620	95,359	93,261
1-4 years	15,149,281	7,742,402	7,406,879	12,024,272	6,157,583	5,866,689	2,225,263	1,130,514	1,094,749	163,129	82,529	80,600	736,617	371,776	364,841
5-14 years	39,674,197	20,309,453	19,364,744	31,199,571	15,992,582	15,206,989	6,259,593	3,180,853	3,078,740	465,929	236,655	229,274	1,749,104	899,363	849,741
15-24 years	38,367,211	19,635,939	18,731,272	30,464,911	15,671,789	14,793,122	5,834,972	2,931,385	2,903,587	440,234	220,933	219,301	1,627,094	811,832	815,262
25-34 years	37,430,950	18,600,126	18,830,824	29,865,789	14,986,261	14,879,528	5,236,905	2,483,464	2,753,441	376,205	192,948	183,257	1,952,051	937,453	1,014,598
35-44 years	44,892,363	22,307,460	22,584,903	36,889,613	18,514,881	18,374,732	5,706,323	2,682,784	3,023,539	361,212	179,931	181,281	1,935,215	929,864	1,005,351
45-54 years	37,153,085	18,170,795	18,982,290	31,309,493	15,488,417	15,821,076	4,129,660	1,878,101	2,251,559	266,056	128,629	137,427	1,447,876	675,648	772,228
55-64 years	23,973,674	11,434,023	12,539,651	20,607,678	9,944,021	10,663,657	2,411,998	1,043,664	1,368,334	152,495	71,551	80,944	801,503	374,787	426,716
65-74 years	18,167,533	8,203,957	9,963,576	15,872,188	7,233,733	8,638,455	1,697,548	715,063	982,485	92,495	41,583	50,912	505,302	213,578	291,724
75-84 years	12,313,503	4,963,264	7,350,239	11,105,554	4,493,714	6,611,840	900,089	340,114	559,975	52,526	22,264	30,262	255,334	107,172	148,162
85 years and over	4,295,721	1,293,207	3,002,514	3,880,647	1,162,340	2,718,307	318,856	93,968	224,888	21,672	6,864	14,808	74,546	30,035	44,511

SOURCE: U.S. Census Bureau. Unpublished estimates of the July 1, 2000 United States population by age, sex, race, and Hispanic origin. Washington, DC: U.S. Census Bureau. 1990-based estimates.2002.

Table II. Estimated population by 10-year age groups, according to specified Hispanic origin, race for non-Hispanic population, and sex: United States, 2000

Hispanic origin, race for non-Hispanic population, and sex	Total	Under 1 year	1-4 years	5-14 years	15-24 years	25-34 years	35-44 years	45-54 years	55-64 years	65-74 years	75-84 years	85 years and over
All origins	275,264,999	3,847,481	15,149,281	39,674,197	38,367,211	37,430,950	44,892,363	37,153,085	23,973,674	18,167,533	12,313,503	4,295,721
Male	134,625,673	1,965,047	7,742,402	20,309,453	19,635,939	18,600,126	22,307,460	18,170,795	11,434,023	8,203,957	4,963,264	1,293,207
Female	140,639,326	1,882,434	7,406,879	19,364,744	18,731,272	18,830,824	22,584,903	18,982,290	12,539,651	9,963,576	7,350,239	3,002,514
Hispanic	32,463,770	739,604	2,812,565	6,227,705	5,636,903	5,283,770	4,937,962	3,109,319	1,765,285	1,153,588	592,616	204,453
Male	16,311,713	377,149	1,434,784	3,180,846	2,924,776	2,708,110	2,521,844	1,521,981	818,003	509,569	245,468	69,183
Female	16,152,057	362,455	1,377,781	3,046,859	2,712,127	2,575,660	2,416,118	1,587,338	947,282	644,019	347,148	135,270
Mexican	21,514,568	556,136	2,086,028	4,367,083	3,940,516	3,597,836	3,050,377	1,905,399	972,784	625,596	309,133	103,680
Male	11,041,222	297,804	1,044,656	2,274,101	2,060,220	1,857,225	1,613,090	971,805	465,116	284,181	141,951	31,073
Female	10,473,346	258,332	1,041,372	2,092,982	1,880,296	1,740,611	1,437,287	933,594	507,668	341,415	167,182	72,607
Puerto Rican	2,869,658	49,747	210,205	559,174	460,952	434,759	435,068	316,175	202,830	130,065	60,980	9,703
Male	1,401,428	26,755	114,889	295,630	238,476	201,356	201,150	143,907	95,877	54,048	25,224	4,116
Female	1,468,230	22,992	95,316	263,544	222,476	233,403	233,918	172,268	106,953	76,017	35,756	5,587
Cuban	1,289,218	7,479	50,047	119,612	141,721	150,805	208,360	171,070	141,930	154,466	104,739	38,989
Male	631,172	2,592	22,950	62,551	71,790	78,885	115,896	81,005	70,997	77,264	36,137	11,105
Female	658,046	4,887	27,097	57,061	69,931	71,920	92,464	90,065	70,933	77,202	68,602	27,884
Other Hispanic	6,790,334	126,243	466,275	1,181,841	1,093,724	1,100,367	1,244,154	716,671	447,747	243,472	117,763	52,077
Male	3,237,885	49,995	252,280	548,561	554,294	570,641	591,707	325,264	186,020	94,081	42,155	22,887
Female	3,552,449	76,248	213,995	633,280	539,430	529,726	652,447	391,407	261,727	149,391	75,608	29,190
Non-Hispanic ²	242,801,229	3,107,877	12,336,716	33,446,492	32,730,308	32,147,180	39,954,401	34,043,766	22,208,389	17,013,945	11,720,887	4,091,268
Male	118,313,960	1,587,898	6,307,618	17,128,607	16,711,163	15,892,016	19,785,616	16,648,814	10,616,020	7,694,388	4,717,796	1,224,024
Female	124,487,269	1,519,979	6,029,098	16,317,885	16,019,145	16,255,164	20,168,785	17,394,952	11,592,369	9,319,557	7,003,091	2,867,244
White	196,654,437	2,354,791	9,449,719	25,540,911	25,319,085	25,048,030	32,407,297	28,485,192	18,994,289	14,811,733	10,554,882	3,688,508
Male	96,316,320	1,205,571	4,844,420	13,104,216	12,997,482	12,511,578	16,224,471	14,105,998	9,195,650	6,764,447	4,264,924	1,097,559
Female	100,338,117	1,149,220	4,605,299	12,436,695	12,321,603	12,536,452	16,182,826	14,379,194	9,798,639	8,047,286	6,289,958	2,590,949
Black	33,474,968	542,033	2,070,138	5,900,328	5,531,509	4,948,429	5,410,093	3,945,405	2,311,081	1,633,468	871,640	310,844
Male	15,864,171	275,688	1,050,975	2,995,639	2,776,415	2,340,965	2,531,648	1,787,545	997,738	687,322	328,890	91,346
Female	17,610,797	266,345	1,019,163	2,904,689	2,755,094	2,607,464	2,878,445	2,157,860	1,313,343	946,146	542,750	219,498

¹Includes Central and South American and Other and unknown Hispanic.

²Includes races other than white and black.

SOURCE: Population estimates for specified Hispanic subgroups based on unpublished tabulations prepared by the Housing and Household Economic Statistics Division, U.S. Bureau of the Census. Population estimates for all other groups are postcensal estimates.

Table III. Estimated population for ages 15 years and over by marital status, 10-year age groups, race, and sex: United States, 2000

Race, sex, and marital status	15 years and over	15-24 years	25-34 years	35-44 years	45-54 years	55-64 years	65-74 years	75 years and over
All races ¹	216,594,108	38,367,204	37,430,965	44,892,380	37,153,119	23,973,677	18,167,530	16,609,233
Never married	60,146,587	33,850,393	13,332,255	7,010,407	3,308,079	1,289,191	718,528	637,734
Ever married	156,447,521	4,516,811	24,098,710	37,881,973	33,845,040	22,684,486	17,449,002	15,971,499
Married	121,350,626	4,162,222	21,460,595	31,613,263	27,233,060	17,474,825	12,088,113	7,318,548
Widowed	14,910,427	24,874	115,883	404,234	893,752	1,786,297	3,787,235	7,898,152
Divorced	20,186,468	329,715	2,522,232	5,864,476	5,718,228	3,423,364	1,573,654	754,799
All races ¹ , male	104,608,794	19,635,933	18,600,123	22,307,451	18,170,813	11,434,029	8,203,969	6,256,476
Never married	32,693,284	17,989,552	7,625,773	4,101,454	1,702,450	659,506	356,078	258,471
Ever married	71,915,510	1,646,381	10,974,350	18,205,997	16,468,363	10,774,523	7,847,891	5,998,005
Married	60,495,479	1,514,998	9,906,923	15,390,563	13,864,551	9,013,797	6,516,909	4,287,738
Widowed	2,749,715	6,139	23,043	89,246	155,389	330,223	696,321	1,449,354
Divorced	8,670,316	125,244	1,044,384	2,726,188	2,448,423	1,430,503	634,661	260,913
All races ¹ , female	111,985,314	18,731,271	18,830,842	22,584,929	18,982,306	12,539,648	9,963,561	10,352,757
Never married	27,453,303	15,860,841	5,706,482	2,908,953	1,605,629	629,685	362,450	379,263
Ever married	84,532,011	2,870,430	13,124,360	19,675,976	17,376,677	11,909,963	9,601,111	9,973,494
Married	60,855,147	2,647,224	11,553,672	16,222,700	13,368,509	8,461,028	5,571,204	3,030,810
Widowed	12,160,712	18,735	92,840	314,988	738,363	1,456,074	3,090,914	6,448,798
Divorced	11,516,152	204,471	1,477,848	3,138,288	3,269,805	1,992,861	938,993	493,886
White	179,995,906	30,464,914	29,865,791	36,889,611	31,309,505	20,607,682	15,872,197	14,986,206
Never married	45,492,209	26,512,444	9,553,220	4,949,290	2,342,124	998,891	573,743	562,497
Ever married	134,503,697	3,952,470	20,312,571	31,940,321	28,967,381	19,608,791	15,298,454	14,423,709
Married	105,055,315	3,656,749	18,149,196	26,798,959	23,580,915	15,346,385	10,796,642	6,726,469
Widowed	12,654,648	12,276	85,578	312,548	669,977	1,404,936	3,146,065	7,023,268
Divorced	16,793,734	283,445	2,077,797	4,828,814	4,716,489	2,857,470	1,355,747	673,972
White male	87,495,174	15,671,792	14,986,265	18,514,873	15,488,415	9,944,029	7,233,743	5,656,057
Never married	25,377,673	14,241,612	5,717,351	3,092,967	1,278,466	543,134	283,542	220,601
Ever married	62,117,501	1,430,180	9,268,914	15,421,906	14,209,949	9,400,895	6,950,201	5,435,456
Married	52,471,435	1,315,461	8,395,968	13,055,896	12,028,513	7,926,778	5,817,512	3,931,307
Widowed	2,327,273	3,931	21,758	67,055	120,427	252,363	588,955	1,272,784
Divorced	7,318,793	110,788	851,188	2,298,955	2,061,009	1,221,754	543,734	231,365
White female	92,500,732	14,793,122	14,879,526	18,374,738	15,821,090	10,663,653	8,638,454	9,330,149
Never married	20,114,536	12,270,832	3,835,869	1,856,323	1,063,658	455,757	290,201	341,896
Ever married	72,386,196	2,522,290	11,043,657	16,518,415	14,757,432	10,207,896	8,348,253	8,988,253
Married	52,583,880	2,341,288	9,753,228	13,743,063	11,552,402	7,419,607	4,979,130	2,795,162
Widowed	10,327,375	8,345	63,820	245,493	549,550	1,152,573	2,557,110	5,750,484
Divorced	9,474,941	172,657	1,226,609	2,529,859	2,655,480	1,635,716	812,013	442,607
Black	26,236,334	5,834,960	5,236,912	5,706,317	4,129,669	2,411,988	1,697,538	1,218,950
Never married	11,357,649	5,475,348	2,864,488	1,727,127	841,602	256,489	132,836	59,759
Ever married	14,878,685	359,612	2,372,424	3,979,190	3,288,067	2,155,499	1,564,702	1,159,191
Married	10,272,321	324,745	1,994,327	3,056,597	2,252,018	1,369,211	880,232	395,191
Widowed	1,778,524	5,409	26,699	74,403	175,898	300,363	498,349	697,403
Divorced	2,827,840	29,458	351,398	848,190	860,151	485,925	186,121	66,597
Black male	12,168,533	2,931,380	2,483,461	2,682,777	1,878,108	1,043,656	715,064	434,087
Never married	5,527,649	2,783,770	1,384,290	795,386	371,211	100,748	64,627	27,617
Ever married	6,640,884	147,610	1,099,171	1,887,391	1,506,897	942,908	650,437	406,470
Married	5,170,214	137,366	941,257	1,518,287	1,136,172	712,390	485,389	239,353
Widowed	343,706	807	0	18,281	30,482	58,976	91,673	143,487
Divorced	1,126,964	9,437	157,914	350,823	340,243	171,542	73,375	23,630
Black female	14,067,801	2,903,580	2,753,451	3,023,540	2,251,561	1,368,332	982,474	784,863
Never married	5,830,000	2,691,578	1,480,198	931,741	470,391	155,741	68,209	32,142
Ever married	8,237,801	212,002	1,273,253	2,091,799	1,781,170	1,212,591	914,265	752,721
Married	5,102,107	187,379	1,053,070	1,538,310	1,115,846	656,821	394,843	155,838
Widowed	1,434,818	4,602	26,699	56,122	145,416	241,387	406,676	553,916
Divorced	1,700,876	20,021	193,484	497,367	519,908	314,383	112,746	42,967

¹Includes races other than white and black.

SOURCE: Population estimates based on unpublished tabulations prepared by the Housing and Household Economic Statistics Division of the U.S. Bureau of th

weights used for computing age-adjusted rates and relative standard errors by education are shown in [table IX](#).

Age-adjusted rates for injury at work were computed by applying the age-specific death rates to the U.S. standard population for ages 15 years and over. The year 2000 standard population and corresponding weights used for computing age-adjusted rates and relative standard errors for injury at work are shown in [table X](#).

Age-adjusted rates for Puerto Rico, Virgin Islands, Guam, American Samoa, and Northern Marianas were computed by applying the age-specific death rates to the U.S. standard population. Age groups for 75 years and over were combined because population counts were unavailable by age group for ages over 75 years. The year 2000 standard population and corresponding weights used for computing age-adjusted rates and relative standard errors for the territories are shown in [table XI](#).

Table IV. Estimated population for ages 15 years and over, by marital status, 10-year age groups, Hispanic origin, race, and sex; race for non-Hispanic population, and sex: United States, 2000

Race, sex, and marital status	15 years and over	15-24 years	25-34 years	35-44 years	45-54 years	55-64 years	65-74 years	75 years and over
All origins	216,594,108	38,367,204	37,430,965	44,892,380	37,153,119	23,973,677	18,167,530	16,609,233
Never married	60,146,587	33,850,393	13,332,255	7,010,407	3,308,079	1,289,191	718,528	637,734
Ever married	156,447,521	4,516,811	24,098,710	37,881,973	33,845,040	22,684,486	17,449,002	15,971,499
Married	121,350,626	4,162,222	21,460,595	31,613,263	27,233,060	17,474,825	12,088,113	7,318,548
Widowed	14,910,427	24,874	115,883	404,234	893,752	1,786,297	3,787,235	7,898,152
Divorced	20,186,468	329,715	2,522,232	5,864,476	5,718,228	3,423,364	1,573,654	754,799
All origins, male	104,608,794	19,635,933	18,600,123	22,307,451	18,170,813	11,434,029	8,203,969	6,256,476
Never married	32,693,284	17,989,552	7,625,773	4,101,454	1,702,450	659,506	356,078	258,471
Ever married	71,915,510	1,646,381	10,974,350	18,205,997	16,468,363	10,774,523	7,847,891	5,998,005
Married	60,495,479	1,514,998	9,906,923	15,390,563	13,864,551	9,013,797	6,516,909	4,287,738
Widowed	2,749,715	6,139	23,043	89,246	155,389	330,223	696,321	1,449,354
Divorced	8,670,316	125,244	1,044,384	2,726,188	2,448,423	1,430,503	634,661	260,913
All origins, female	111,985,314	18,731,271	18,830,842	22,584,929	18,982,306	12,539,648	9,963,561	10,352,757
Never married	27,453,303	15,860,841	5,706,482	2,908,953	1,605,629	629,685	362,450	379,263
Ever married	84,532,011	2,870,430	13,124,360	19,675,976	17,376,677	11,909,963	9,601,111	9,973,494
Married	60,855,147	2,647,224	11,553,672	16,222,700	13,368,509	8,461,028	5,571,204	3,030,810
Widowed	12,160,712	18,735	92,840	314,988	738,363	1,456,074	3,090,914	6,448,798
Divorced	11,516,152	204,471	1,477,848	3,138,288	3,269,805	1,992,861	938,993	493,886
Hispanic	22,683,905	5,636,889	5,283,774	4,937,968	3,109,325	1,765,281	1,153,594	797,074
Never married	7,519,307	4,587,448	1,637,745	747,632	322,775	122,303	69,184	32,220
Ever married	15,164,598	1,049,441	3,646,029	4,190,336	2,786,550	1,642,978	1,084,410	764,854
Married	12,586,748	1,010,353	3,384,427	3,634,295	2,267,697	1,232,433	696,274	361,269
Widowed	965,360	5,498	18,997	57,305	93,966	178,354	251,247	359,993
Divorced	1,612,490	33,590	242,605	498,736	424,887	232,191	136,889	43,592
Hispanic male	11,318,934	2,924,768	2,708,116	2,521,841	1,521,985	818,000	509,568	314,656
Never married	4,193,389	2,546,790	960,697	439,939	158,274	55,307	24,592	7,790
Ever married	7,125,545	377,978	1,747,419	2,081,902	1,363,711	762,693	484,976	306,866
Married	6,278,493	367,718	1,645,033	1,860,761	1,186,862	616,719	383,996	217,404
Widowed	187,377	382	3,816	8,664	9,372	39,777	48,423	76,943
Divorced	659,675	9,878	98,570	212,477	167,477	106,197	52,557	12,519
Hispanic female	11,364,971	2,712,121	2,575,658	2,416,127	1,587,340	947,281	644,026	482,418
Never married	3,325,918	2,040,658	677,048	307,693	164,501	66,996	44,592	24,430
Ever married	8,039,053	671,463	1,898,610	2,108,434	1,422,839	880,285	599,434	457,988
Married	6,308,255	642,635	1,739,394	1,773,534	1,080,835	615,714	312,278	143,865
Widowed	777,983	5,116	15,181	48,641	84,594	138,577	202,824	283,050
Divorced	952,815	23,712	144,035	286,259	257,410	125,994	84,332	31,073
Non-Hispanic ¹	193,910,212	32,730,293	32,147,202	39,954,420	34,043,808	22,208,375	17,013,951	15,812,163
Never married	52,563,184	29,254,543	11,681,510	6,234,206	2,975,878	1,163,964	647,318	605,765
Ever married	141,347,028	3,475,750	20,465,692	33,720,214	31,067,930	21,044,411	16,366,633	15,206,398
Married	108,805,228	3,159,929	18,077,014	27,997,880	24,973,853	16,244,648	11,398,965	6,952,939
Widowed	13,937,237	19,169	96,379	346,037	799,235	1,605,545	3,529,331	7,541,541
Divorced	18,604,563	296,652	2,292,299	5,376,297	5,294,842	3,194,218	1,438,337	711,918
Non-Hispanic male ¹	93,289,875	16,711,168	15,892,018	19,785,619	16,648,836	10,616,019	7,694,392	5,941,823
Never married	28,477,161	15,443,266	6,662,740	3,648,068	1,540,232	602,331	330,855	249,669
Ever married	64,812,714	1,267,902	9,229,278	16,137,551	15,108,604	10,013,688	7,363,537	5,692,154
Married	54,227,715	1,146,314	8,260,793	13,537,564	12,682,705	8,397,152	6,131,519	4,071,668
Widowed	2,562,698	5,697	19,332	80,137	145,811	291,017	648,339	1,372,365
Divorced	8,022,301	115,891	949,153	2,519,850	2,280,088	1,325,519	583,679	248,121
Non-Hispanic female ¹	100,620,337	16,019,125	16,255,184	20,168,801	17,394,972	11,592,356	9,319,559	9,870,340
Never married	24,086,023	13,811,277	5,018,770	2,586,138	1,435,646	561,633	316,463	356,096
Ever married	76,534,314	2,207,848	11,236,414	17,582,663	15,959,326	11,030,723	9,003,096	9,514,244
Married	54,577,513	2,013,615	9,816,221	14,460,316	12,291,148	7,847,496	5,267,446	2,881,271
Widowed	11,374,539	13,472	77,047	265,900	653,424	1,314,528	2,880,992	6,169,176
Divorced	10,582,262	180,761	1,343,146	2,856,447	3,014,754	1,868,699	854,658	463,797

See footnotes at end of table.

Table IV. Estimated population for ages 15 years and over, by marital status, 10-year age groups, Hispanic origin, race, and sex: race for non-Hispanic population, and sex: United States, 2000—Con.

Race, sex, and marital status	15 years and over	15–24 years	25–34 years	35–44 years	45–54 years	55–64 years	65–74 years	75 years and over
Non-Hispanic white	159,309,069	25,319,072	25,048,049	32,407,301	28,485,209	18,994,292	14,811,747	14,243,399
Never married	38,692,094	22,345,574	8,083,458	4,288,421	2,050,827	883,037	508,882	531,895
Ever married	120,616,975	2,973,498	16,964,591	28,118,880	26,434,382	18,111,255	14,302,865	13,711,504
Married	93,507,119	2,708,452	15,032,422	23,461,687	21,524,287	14,225,602	10,164,105	6,390,564
Widowed	11,750,552	9,816	66,650	262,408	580,598	1,238,530	2,907,429	6,685,121
Divorced	15,359,304	255,230	1,865,519	4,394,785	4,329,497	2,647,123	1,231,331	635,819
Non-Hispanic white male	77,162,150	12,997,487	12,511,583	16,224,470	14,106,009	9,195,652	6,764,454	5,362,495
Never married	21,581,313	11,919,785	4,856,099	2,706,773	1,135,073	490,428	260,480	212,675
Ever married	55,580,837	1,077,702	7,655,484	13,517,697	12,970,936	8,705,224	6,503,974	5,149,820
Married	46,698,429	971,524	6,874,723	11,342,896	10,947,140	7,368,725	5,464,625	3,728,796
Widowed	2,149,460	3,586	18,083	58,507	111,699	213,167	542,894	1,201,524
Divorced	6,732,948	102,592	762,678	2,116,294	1,912,097	1,123,332	496,455	219,500
Non-Hispanic white female	82,146,919	12,321,585	12,536,466	16,182,831	14,379,200	9,798,640	8,047,293	8,880,904
Never Married	17,110,781	10,425,789	3,227,359	1,581,648	915,754	392,609	248,402	319,220
Ever Married	65,036,138	1,895,796	9,309,107	14,601,183	13,463,446	9,406,031	7,798,891	8,561,684
Married	46,808,690	1,736,928	8,157,699	12,118,791	10,577,147	6,856,877	4,699,480	2,661,768
Widowed	9,601,092	6,230	48,567	203,901	468,899	1,025,363	2,364,535	5,483,597
Divorced	8,626,356	152,638	1,102,841	2,278,491	2,417,400	1,523,791	734,876	416,319
Non-Hispanic black	24,962,464	5,531,508	4,948,436	5,410,099	3,945,410	2,311,065	1,633,464	1,182,482
Never married	10,834,805	5,203,812	2,746,277	1,642,198	807,968	249,104	126,736	58,710
Ever married	14,127,659	327,696	2,202,159	3,767,901	3,137,442	2,061,961	1,506,728	1,123,772
Married	9,685,180	294,891	1,836,998	2,892,208	2,132,544	1,302,901	845,659	379,979
Widowed	1,728,076	5,277	26,322	67,978	171,396	290,267	486,089	680,747
Divorced	2,714,403	27,528	338,839	807,715	833,502	468,793	174,980	63,046
Non-Hispanic black male	11,541,849	2,776,411	2,340,963	2,531,646	1,787,545	997,732	687,322	420,230
Never married	5,261,832	2,643,797	1,321,547	751,707	356,933	98,228	62,622	26,998
Ever married	6,280,017	132,614	1,019,416	1,779,939	1,430,612	899,504	624,700	393,232
Married	4,865,912	123,102	865,010	1,430,117	1,074,965	675,595	466,187	230,936
Widowed	333,768	789	0	17,862	29,680	56,865	89,237	139,335
Divorced	1,080,337	8,723	154,406	331,960	325,967	167,044	69,276	22,961
Non-Hispanic black female	13,420,615	2,755,097	2,607,473	2,878,453	2,157,865	1,313,333	946,142	762,252
Never married	5,572,973	2,560,015	1,424,730	890,491	451,035	150,876	64,114	31,712
Ever married	7,847,642	195,082	1,182,743	1,987,962	1,706,830	1,162,457	882,028	730,540
Married	4,819,268	171,789	971,988	1,462,091	1,057,579	627,306	379,472	149,043
Widowed	1,394,308	4,488	26,322	50,116	141,716	233,402	396,852	541,412
Divorced	1,634,066	18,805	184,433	475,755	507,535	301,749	105,704	40,085

¹Includes races other than white and black.

SOURCE: Population estimates based on unpublished tabulations prepared by the Housing and Household Economic Statistics Division of the U.S. Bureau of the Census.

Table V. Estimated population for ages 25–64 years, by educational attainment and sex: Total of 46 reporting States and the District of Columbia, 2000

Years of school completed and sex	25–64 years	25–34 years	35–44 years	45–54 years	55–64 years
All races					
Both sexes	136,194,721	35,475,114	42,579,834	35,293,913	22,845,860
Under 12 years	16,920,099	4,261,471	4,826,325	3,794,391	4,037,912
12 years	43,881,113	10,645,855	14,229,804	10,903,550	8,101,904
13 or more years	75,393,509	20,567,788	23,523,705	20,595,972	10,706,044
Male	66,960,498	17,644,393	21,127,471	17,289,611	10,899,023
Under 12 years	8,489,615	2,269,765	2,489,210	1,853,764	1,876,876
12 years	21,417,138	5,639,149	7,272,099	5,007,347	3,498,543
13 or more years	37,053,745	9,735,479	11,366,162	10,428,500	5,523,604
Female	69,234,223	17,830,721	21,452,363	18,004,302	11,946,837
Under 12 years	8,430,484	1,991,706	2,337,115	1,940,627	2,161,036
12 years	22,463,975	5,006,706	6,957,705	5,896,203	4,603,361
13 or more years	38,339,764	10,832,309	12,157,543	10,167,472	5,182,440

SOURCE: Population estimates based on unpublished tabulations prepared by the Housing and Household Economic Statistics.

Table VI. Estimated population for the United States, each division, each State, Puerto Rico, Virgin Islands, Guam, American Samoa, and Northern Marianas, 2000

Area	Total	Area	Total
United States	275,264,999	Nevada	1,880,291
Alabama	4,387,710	New Hampshire	1,215,870
Alaska	622,138	New Jersey	8,204,652
Arizona	4,882,330	New Mexico	1,747,813
Arkansas	2,576,516	New York	18,277,971
California	33,631,461	North Carolina	7,747,514
Colorado	4,136,615	North Dakota	629,305
Connecticut	3,297,288	Ohio	11,270,414
Delaware	762,236	Oklahoma	3,380,073
District of Columbia	518,358	Oregon	3,341,110
Florida	15,332,103	Pennsylvania	11,984,599
Georgia	7,942,865	Rhode Island	996,088
Hawaii	1,179,178	South Carolina	3,924,402
Idaho	1,273,257	South Dakota	737,302
Illinois	12,185,560	Tennessee	5,533,229
Indiana	5,976,390	Texas	20,389,067
Iowa	2,877,296	Utah	2,164,606
Kansas	2,665,890	Vermont	597,855
Kentucky	3,985,662	Virginia	6,970,356
Louisiana	4,374,770	Washington	5,811,090
Maine	1,258,614	West Virginia	1,802,371
Maryland	5,218,918	Wisconsin	5,295,350
Massachusetts	6,203,848	Wyoming	480,900
Michigan	9,918,687		
Minnesota	4,827,670	Puerto Rico	3,915,798
Mississippi	2,786,989	Virgin Islands	120,917
Missouri	5,502,189	Guam	154,623
Montana	887,875	American Samoa	65,446
Nebraska	1,670,358	Northern Marianas	71,912

SOURCES: U.S. Census Bureau. Unpublished estimates of the July 1, 2000 population for States by age and sex. Washington, DC: U.S. Census Bureau. 1990-based estimates, 2002. U.S. Census Bureau, International Programs Center. Unpublished tabulations. May 2001.

Table VII. United States standard population: Numbers and proportions (weights)

Age	Number	Weights (w_i)
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

Using the same standard population, death rates for the total population and for each race-sex group were adjusted separately. The age-adjusted rates were based on 10-year age groups. It is important not to compare age-adjusted death rates with crude rates.

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

Table VIII. United States standard population for ages 25 years and over: Numbers and proportions (weights)

Age	Number	Weights (w_i)
25 years and over	646,654	1.000000
25-34 years	135,573	0.209653
35-44 years	162,613	0.251468
45-54 years	134,834	0.208510
55-64 years	87,247	0.134921
65-74 years	66,037	0.102121
75 years and over	60,350	0.093327

Table IX. United States standard population for ages 25-64 years: Numbers and proportions (weights)

Age	Number	Weights (w_i)
25-64 years	520,267	1.000000
25-34 years	135,573	0.260584
35-44 years	162,613	0.312557
45-54 years	134,834	0.259163
55-64 years	87,247	0.167697

Table X. United States standard population for ages 15 years and over: Numbers and proportions (weights)

Age	Number	Weights (w_i)
15 years and over	785,300	1.000000
15–24 years	138,646	0.176552
25–34 years	135,573	0.172638
35–44 years	162,613	0.207071
45–54 years	134,834	0.171697
55–64 years	87,247	0.111100
65 years and over	126,387	0.160941

Table XI. United States standard population: Numbers and proportions (weights)

Age	Number	Weights (w_i)
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

non-Hispanic and white decedents with origin not stated. Hispanic origin is not imputed if it is not reported.

Random variation

The mortality data in this report, with the exception of data for 1972, are not subject to sampling error. In 1972 mortality data were based on a 50-percent sample of deaths because of resource constraints. Mortality data, even based on complete counts, may be affected by random variation. Random variation is discussed for demographic data and cause-of-death data separately because of problems in comparing cause-of-death between ICD revisions.

Demographic data—When the number of events is small (perhaps less than 100) 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. For computing relative standard errors (RSEs), a useful measure of relative variation, formula 1 may be used for all tables except for the death rates shown in tables 5, 28, 29, and 30 (see subsection below).

$$1. RSE(D) = RSE(R) = 100 \sqrt{\frac{1}{D}}$$

where

- D = number of deaths
- R = rate

Beginning with 1989 data, an asterisk is shown in place of a rate based on fewer than 20 deaths, the equivalent of an RSE of 23 percent or more. An RSE of 23 percent is considered statistically unreliable. For age-adjusted death rates, this criterion was based on the sum of the age-specific deaths. This same procedure is used in

this report except for the death rates shown in tables 5, 28, 29, and 30 (see subsection below).

For tables showing the number of deaths (D) (where D is 100 or more) the chances are 95 in 100 that formula 2 covers the “true” number of deaths.

$$2. D - \left(1.96 \cdot D \cdot \frac{RSE(D)}{100}\right) \text{ and } D + \left(1.96 \cdot D \cdot \frac{RSE(D)}{100}\right)$$

This is referred to as a 95-percent confidence interval. For computing 95-percent confidence intervals when D is less than 100 deaths, see the NCHS Web site at <http://www.cdc.gov/nchs> and refer to “Technical Appendix from *Vital Statistics of United States: Mortality, 1995*” (4).

For tables showing a crude death rate (R) or an age-specific death rate (based on 100 or more deaths) for the i th age group (R_i) (except for rates in tables 5, 28, 29, and 30) the chances are 95 in 100 that the actual rate falls within the confidence interval as computed using formula 3.

$$3. R - \left(1.96 \cdot R \cdot \frac{RSE(R)}{100}\right) \text{ and } R + \left(1.96 \cdot R \cdot \frac{RSE(R)}{100}\right)$$

For computing 95-percent confidence intervals for R when D is less than 100 deaths, see the Web site mentioned above.

For testing the difference between two rates (R_1 and R_2 , each based on 100 or more deaths), formula 4 may be used to calculate a test statistic:

$$4. z = \frac{R_1 - R_2}{\sqrt{R_1^2 \left(\frac{RSE(R_1)}{100}\right)^2 + R_2^2 \left(\frac{RSE(R_2)}{100}\right)^2}}$$

If $|z| \geq 1.96$, then the difference is statistically significant at the 0.05 level and if $z < 1.96$, the difference is not statistically significant. For computing statistical tests when R_1 and/or R_2 are based on less than 100 deaths, see the Web site mentioned above.

For tables showing an age-adjusted death rate (R') (except for rates in tables 5, 28, 29, and 30) the RSEs in formulas 3 and 4 above would be replaced by an RSE calculated from formula 5.

$$5. RSE(R') = 100 \frac{\sqrt{\sum \left\{ w_i^2 R_i^2 \left(\frac{1}{D_i} \right) \right\}}}{R'}$$

where

- 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 table X and age-adjusted death rate under “Definition of terms”)
- D_i = number of deaths for the i th age group

For tables showing an infant mortality rate (IMR) based on live births in the denominator, the RSEs in formulas 3 and 4 would be replaced by an RSE calculated using formula 6.

$$6. RSE(IMR) = 100 \sqrt{\frac{1}{D} + \frac{1}{B}}$$

where

- B = number of live births

For tables showing a maternal mortality rate based on live births in the denominator, the RSEs in formulas 3 and 4 would also be replaced with an RSE calculated using formula 6.

Tables 5, 28, 29, and 30—Rates for Mexicans, Puerto Ricans, Cubans, and Other Hispanics in table 5, rates by marital status in tables 28 and 29, and rates by educational attainment in table 30 are based on population estimates derived from the U.S. Bureau of the Census' Current Population Survey and adjusted to resident population control totals. As a result, the rates are subject to the sampling variability in the denominator as well as random variability in the numerator. For tables 5, 28, 29, and 30 formulas 7 and 8 were used to determine whether the rate should be shown or replaced by an asterisk (when the RSE is 23 percent or more).

For crude, R , and age-specific death rates, R_i , formula 7 is used to calculate the RSE

$$7. \text{RSE}(R) = 100 \sqrt{\left(\frac{1}{D}\right) + 0.67 \left(a + \frac{b}{P}\right)}$$

and for age-adjusted death rates, R' , formula 8 is used

$$8. \text{RSE}(R') = 100 \frac{\sqrt{\sum \left\{ w_i^2 R_i^2 \left[\left(\frac{1}{D_i}\right) + 0.67 \left(a + \frac{b}{P_i}\right) \right] \right\}}}{R'}$$

where

D = number of deaths

P = population estimate used for computing the rate (see table II for population estimates used for computing rates in table 5; see tables III and IV for population estimates used for computing rates in tables 28 and 29; and see table V for population estimates used for computing rates in table 30)

D_i = number of deaths for the i th age group

P_i = population estimate used for computing the i th age-specific death rate (see table II for population estimates used for computing rates in table 5; see tables III and IV for population estimates used for computing rates in tables 28 and 29; and see table V for population estimates used for computing rates in table 30)

w_i = age-specific U.S. standard population such that $\sum(w_i) = 1.000000$ (see table VII for weights (w_i) used for computing age-adjusted rates in table 5; see table VIII for weights used for computing age-adjusted rates in tables 28 and 29; and see table IX for weights used for computing age-adjusted rates in table 30)

w_i^2 = the square of the age-specific U.S. standard population

In table 5, for all origins, total Hispanic, total non-Hispanic, non-Hispanic white, and non-Hispanic black populations,

$$a = 0.000000 \text{ and } b = 0$$

and for Mexican, Puerto Rican, Cuban, and Other Hispanic populations,

$$a = -0.000238 \text{ and } b = 7,486$$

In table 28, for all marital status groups combined for all races, white, and black populations,

$$a = 0.000000 \text{ and } b = 0,$$

for each marital status group for all races and the white population,

$$a = -0.000019 \text{ and } b = 5,211,$$

and for each marital status group for the black population,

$$a = -0.000213 \text{ and } b = 7,486$$

In table 29, for all marital status groups combined for all origins, Hispanic, non-Hispanic, non-Hispanic white, and non-Hispanic black populations,

$$a = 0.000000 \text{ and } b = 0,$$

for each marital status group for all origins, non-Hispanic, and non-Hispanic white populations,

$$a = -0.000019 \text{ and } b = 5,211,$$

for each marital status group for the non-Hispanic black population,

$$a = -0.000211 \text{ and } b = 7,486$$

and for each marital status group for the Hispanic population,

$$a = -0.000230 \text{ and } b = 7,486$$

In table 30, for all education groups combined,

$$a = 0.000000 \text{ and } b = 0$$

and for each education group,

$$a = -0.000011 \text{ and } b = 2,369$$

The "a" and "b" parameters are averages of the 2000 and 2001 CPS standard error parameters (57, 58).

To compute 95-percent confidence intervals and z-tests for the death rates (based on 100 or more deaths) shown in tables 5, 28, 29, and 30, the RSEs calculated from formulas 7 and 8 may replace, as appropriate, the RSEs in formulas 3 and 4.

Availability of mortality data

Mortality data are available in publications, unpublished tables, and electronic products as described on the mortality Web site at the following address: <http://www.cdc.gov/nchs>. More detailed analysis than provided in this report is possible by using the Mortality public-use data set issued each data year. Since 1991, the data set is available through NCHS in CD-ROM format. Data are also available in the *Vital Statistics of the United States*, Mortality, and *Vital and Health Statistics*, Series 20 reports, and the *National Vital Statistics Reports* through NCHS.

Definitions of terms

Infant deaths—Deaths of infants aged under 1 year.

Neonatal deaths—Deaths of infants aged 0–27 days.

Postneonatal deaths—Deaths of infants aged 28 days–1 year.

Crude death rate—Total deaths per 100,000 population for a specified period. The crude death rate represents the average chance of dying during a specified period for persons in the entire population.

Age-specific death rate—Deaths per 100,000 population in a specified age group, such as 1–4 years or 5–9 years for a specified period.

Age-adjusted death rate—The death rate used to make comparisons of relative mortality risks across groups and over time. This rate should be viewed as a construct or an index rather than as direct or actual measure of mortality risk. Statistically, it is a weighted average of the age-specific death rates, where the weights represent the fixed population proportions by age (59).