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Births and Deaths: Preliminary Data for 1997

by Stephanie J. Ventura, M.A.; Robert N. Anderson, Ph.D.; Joyce A. Martin, M.P.H.;
and Betty L. Smith, B.S. Ed., Division of Vital Statistics

Abstract

Objectives—This report presents preliminary data on births and deaths in the United States from the National Center for Health Statistics (NCHS) for 1997. U.S. data on births are shown by age, race, and Hispanic origin of mother. National and State data on marital status, prenatal care, cesarean delivery, and low birthweight are also presented. Mortality data presented include life expectancy, leading causes of death, and infant mortality.

Methods—Data in this report are based on a 99 percent sample of births and more than an 85 percent sample of deaths in the United States in 1997. The records are weighted to independent control counts of births, infant deaths, and deaths 1 year and over received in State vital statistics offices in 1997.

Results—According to preliminary data for 1997, the birth rate for teenagers dropped to 52.9 births per 1,000 women aged 15–19 years, 3 percent lower compared with 1996. Birth rates for teenagers have been declining since 1991. Declines for younger teenagers (15–17 years) were greater than for older teenagers. Birth rates for women aged 25–44 years increased 1 to 2 percent; the rate for women aged 20–24 years rose very slightly. The number of births to unmarried women was essentially unchanged and the percent of all births to unmarried women remained at 32.4 percent; the birth rate for unmarried women declined 2 percent. The rate of prenatal care utilization continued to improve. The cesarean delivery rate increased slightly. The overall low birthweight rate increased to 7.5 percent.

The largest declines in estimated age-adjusted death rates among the leading causes of death were for Human immunodeficiency virus (HIV) infection (47 percent) and homicide (12 percent). Mortality also decreased for firearm injuries, drug-induced deaths, and alcohol-induced deaths. The age-adjusted death rate increased for Pneumonia and influenza, Chronic obstructive pulmonary diseases, kidney disease, and Septicemia. The preliminary infant mortality rate for 1997 was 7.1 infant deaths per 1,000 live births, down from a rate of 7.3 for 1996. The infant mortality rate for black infants declined 7 percent to 13.7; the white rate was 6.0. Life expectancy reached a record high of 76.5 years in 1997.

Keywords: births • deaths • vital statistics

Introduction

This report presents preliminary data on births and deaths based on a substantial proportion of vital records for births and deaths occurring in 1997. This series, which is published biannually by NCHS, includes detailed tabulations from the preliminary natality and mortality files. This report is the fifth in the series and shows preliminary data for 1997. Trends shown in the preliminary reports for 1995 and 1996 births and deaths for most measures were confirmed by the final statistics for each year (1–4).

NCHS also publishes monthly data on births, deaths, marriages, and divorces in the *National Vital Statistics Reports* (NVSR), formerly known as the *Monthly Vital Statistics Report* (MVSR). These provisional data include counts of births, deaths, marriages, and divorces reported by the States. Annual reports of final birth and death data, "Births: Final Data" and "Deaths: Final Data," are published in the NVSR.

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Sources and methods

The preliminary data in this series are based on records of births and deaths that occurred during 1997 and were received and processed by NCHS as of June 5, 1998. This represents about 99 percent of the births that occurred in the United States during 1997. Demographic information is available for about 91 percent of infant deaths and about 93 percent of deaths to persons aged 1 year and over. For these death records, medical or cause-of-death information is processed separately and is available for about 85 percent of infant deaths and about 87 percent of deaths to persons aged 1 year and over.

To produce the preliminary estimates shown in this report, records in each of the files were weighted using independent control counts of births, infant deaths, and deaths 1 year and over received in the State vital statistics offices during 1997. 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 data from the mortality demographic and medical tables (see [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 that come from the final mortality data. Sampling bias tends to affect certain causes of death where the cause is pending investigation, such as homicides, suicides, accidents, HIV infection, and Sudden infant death syndrome (SIDS). NCHS is currently exploring procedures for evaluating sampling bias in the preliminary data. These procedures will require several years of data from the preliminary files.

In addition to national and State estimates of total births and birth rates, this report includes preliminary statistics on births by maternal age, live-birth order, marital status, race, Hispanic origin, and selected maternal and infant health characteristics: receipt of prenatal care, cesarean delivery, and low birthweight. Mortality data in this report include life expectancy, infant mortality, and causes of death. Race and Hispanic origin are reported as separate items on the birth and death certificates. Data for Hispanic origin are also included in the data for each race group, according to the mother's reported race for births and the decedent's reported race for deaths (see [Technical notes](#)). Data shown for births to Hispanic women include all persons of Hispanic origin of any race. Data are not shown in this report for deaths to Hispanic persons because the number of death records processed for California, where more than one-quarter of Hispanic deaths occurred, was insufficient to produce reliable estimates of mortality for the Hispanic population.

All tabulations of birth data for this report have been redesigned to show data separately for the non-Hispanic white population. Although the overwhelming majority of Hispanic origin births (97 percent) are to white women, there are notable differences in childbearing patterns between Hispanic and non-Hispanic white women. About one in five white births are to Hispanic women. For this preliminary report, data are not shown separately for non-Hispanic black women because 97 percent of black births are to non-Hispanic women; therefore the differences in the statistics for the two groups are minimal (3). The report, "Births: Final Data for 1997," will show data for these groups separately.

State-specific preliminary data are shown only for those States and areas for which at least 75 percent of the records for 1997 have been

processed. The proportion of records processed is shown by State in [table I](#) in the [Technical notes](#). The number of death records processed for California was below the 75 percent criterion. Therefore, mortality data for California are not shown in the State-specific tabulations but are included in the U.S. totals. Detailed information on the nature, sources, and qualifications of the preliminary data is given in the [Technical notes](#).

Results

Nativity trends and patterns

The preliminary number of **births** in the United States during 1997 totaled 3,894,970, very slightly higher than the final number in 1996 (3,891,494) ([table A](#)). The **crude birth rate** declined 1 percent from 14.7 births per 1,000 population in 1996 to a preliminary rate of 14.6 in 1997, equal to the previous low rate recorded in 1976. The **fertility rate**—defined as the number of births per 1,000 women aged 15–44 years—was 65.3 for 1997, unchanged from 1996; this rate is the lowest reported since 1976 (65.0). (See [tables 1–4](#) for births, birth rates, and fertility rates.) Birth and fertility rates by State for 1996 and 1997 are shown in [table 4](#). Crude birth rates per 1,000 population declined in 27 States and the District of Columbia and increased in 11 States; there was no change in 12 States. In contrast, State-specific fertility rates per 1,000 women aged 15–44 years declined in only 17 States and the District of Columbia and increased in 32 States; there was no change in Maine.

Fertility rates for 1997 for white (64.2), black (70.8), and American Indian women (68.9) each changed less than 1 percent compared with 1996; the rate for non-Hispanic white women (57.3) was unchanged. The rate for Asian or Pacific Islander (API) women (66.5) increased 1 percent, while the rate for Hispanic women dropped 2 percent to 103.1, the lowest reported for any year for which national fertility rates can be computed for this population (since 1989) (3).

The **birth rate for teenagers** in 1997 was 52.9 births per 1,000 women aged 15–19 years, 3 percent lower than the rate in 1996 (54.4) ([table B](#) and [table 1](#)). Birth rates for teenagers have been declining steadily since 1991. Overall, the rate fell 15 percent from 1991 (62.1) to 1997 ([table B](#)). The rate for the youngest group, 10–14 years, was 1.2 per 1,000 for 1997, unchanged from 1996. **Rates for teenage subgroups 15–17 and 18–19 years** continued to fall in 1997. The rate for teenagers 15–17 years in 1997, 32.6 per 1,000, was 4 percent lower than the rate in 1996 (33.8). The rate for older teenagers 18–19 years declined 2 percent, from 86.0 to 84.4 per 1,000.

Birth rates for teenagers by race and Hispanic origin fell 2 percent for black teenagers (89.5 per 1,000 aged 15–19 years) and 3 percent for total white (46.8), non-Hispanic white (36.4), and Hispanic teenagers (99.1) between 1996 and 1997. The rate for American Indian teenagers (71.8) also declined, although not significantly. Rates for API teenagers (24.8) increased 1 percent. During the 1991–97 period, the birth rates for non-Hispanic white teenagers and black teenagers declined considerably, by 16 percent and 23 percent, respectively ([table B](#)).

Rates for teenage subgroups by race and Hispanic origin declined for all groups except API teenagers, with the declines generally larger for younger teenagers 15–17 years. Among API teenagers, the increase was confined to the younger teenagers.

Table A. Total births and percent of births with selected demographic and health characteristics, by race and Hispanic origin of mother: United States, final 1996 and preliminary 1997

Characteristic	All races ¹		White, total ²		White, non-Hispanic		Black, total ²		Hispanic ³	
	1997	1996	1997	1996	1997	1996	1997	1996	1997	1996
	Number									
Births	3,894,970	3,891,494	3,085,477	3,093,057	2,343,636	2,358,989	600,898	594,781	711,753	701,339
	Percent									
Births to mothers under 20 years	12.8	12.9	11.3	11.3	9.6	9.7	22.5	22.8	17.3	17.4
Births to unmarried mothers	32.4	32.4	25.8	25.7	21.5	21.5	69.1	69.8	40.9	40.7
Low birthweight ⁴	7.5	7.4	6.5	6.3	6.5	6.4	13.0	13.0	6.4	6.3
Very low birthweight ⁵	1.41	1.37	1.12	1.09	1.11	1.08	3.03	2.99	1.14	1.12
Births delivered by cesarean	20.8	20.7	20.7	20.6	20.9	20.8	21.8	21.7	20.2	20.0
Prenatal care beginning in first trimester	82.5	81.9	84.7	84.0	87.8	87.4	72.3	71.4	73.7	72.2
Prenatal care beginning in third trimester or no care	4.0	4.0	3.3	3.3	2.4	2.4	7.3	7.3	6.2	6.7

¹Includes races other than white and black.²Race and Hispanic origin are reported separately on the birth certificate. Data for persons of Hispanic origin are included in the data for each race group according to the mother's reported race; see [Technical notes](#).³Includes all persons of Hispanic origin of any race; see [Technical notes](#).⁴Birthweight of less than 2,500 grams (5 lb 8 oz).⁵Birthweight of less than 1,500 grams (3 lb 4 oz).**Table B. Birth rates for women 15–19 years, by age, race, and Hispanic origin: United States, final 1990–96 and preliminary 1997, and percent change in rates, 1991–97**

[Rates per 1,000 women in specified group]

Age and race and Hispanic origin of mother	1997	1996	1995	1994	1993	1992	1991	1990	Percent change, 1991–97
15–19 years									
All races ¹	52.9	54.4	56.8	58.9	59.6	60.7	62.1	59.9	-14.8
White, total ²	46.8	48.1	50.1	51.1	51.1	51.8	52.8	50.8	-11.4
White, non-Hispanic	36.4	37.6	39.3	40.4	40.7	41.7	43.4	42.5	-16.1
Black, total ²	89.5	91.4	96.1	104.5	108.6	112.4	115.5	112.8	-22.5
Hispanic ³	99.1	101.8	106.7	107.7	106.8	107.1	106.7	100.3	-7.1
15–17 years									
All races ¹	32.6	33.8	36.0	37.6	37.8	37.8	38.7	37.5	-15.8
White, total ²	27.4	28.4	30.0	30.7	30.3	30.1	30.7	29.5	-10.7
White, non-Hispanic	19.5	20.6	22.0	22.8	22.7	22.7	23.6	23.2	-17.4
Black, total ²	62.3	64.7	69.7	76.3	79.8	81.3	84.1	82.3	-25.9
Hispanic ³	68.2	69.0	72.9	74.0	71.7	71.4	70.6	65.9	-3.4
18–19 years									
All races ¹	84.4	86.0	89.1	91.5	92.1	94.5	94.4	88.6	-10.6
White, total ²	76.6	78.4	81.2	82.1	82.1	83.8	83.5	78.0	-8.3
White, non-Hispanic	62.5	63.7	66.1	67.4	67.7	69.8	70.5	66.6	-11.3
Black, total ²	131.2	132.5	137.1	148.3	151.9	157.9	158.6	152.9	-17.3
Hispanic ³	145.8	151.1	157.9	158.0	159.1	159.7	158.5	147.7	-8.0

¹Includes races other than white and black.²Race and Hispanic origin are reported separately on the birth certificate. Data for persons of Hispanic origin are included in the data for each race group according to the mother's reported race; see [Technical notes](#).³Includes all persons of Hispanic origin of any race; see [Technical notes](#).

Birth rates for women in their twenties, the principal child-bearing ages, changed little in 1997. The birth rate for women aged 20–24 years increased very slightly to 110.9 per 1,000 women, and the rate for women aged 25–29 increased 1 percent to 114.3. Rates for black and API women aged 20–24 years rose 2 percent, while the rate

for Hispanic women declined 3 percent. Rates by race and Hispanic origin for women aged 25–29 increased 1 to 2 percent for all groups ([table 1](#)).

Birth rates for women aged 30–34 and 35–39 years increased 2 percent each, to 85.4 and 36.0 per 1,000. Birth rates for women in

their thirties in 1997 were higher than any observed in about three decades (3,5). The **birth rate for women aged 40–44 years** increased from 6.8 to 6.9 per 1,000.

Concurrent with the declines in teenage birth rates and increases in birth rates for women aged 25 years and over, the proportion of all births occurring to women under age 20 years declined slightly from 12.9 to 12.8 percent (table A). The proportions of births to teenagers by State for 1996 and 1997 are shown in table 5.

The **first birth rate** declined 1 percent in 1997 to 26.6 first births per 1,000 women aged 15–44 years (table 3). This was the lowest rate ever recorded. The first birth rate for teenagers 15–19 years fell 3 percent in 1997 to 41.3 per 1,000, the lowest level reported since 1988.

The **total fertility rate** provides an estimate of lifetime child-bearing. It is computed by assuming that a hypothetical group of 1,000 women will experience throughout their childbearing ages the age-specific birth rates observed during a single calendar year. The rate for 1997 was 2,039.5, 1 percent higher than the rate for 1996, 2,027.0. Rates increased 1 percent each for total white (2,017.0), non-Hispanic white (1,810.0), black (2,158.0), American Indian (2,042.5), and API women (1,932.0). The rate for Hispanic women declined 1 percent (3,007.5) (tabular data not shown).

The **preliminary number of births to unmarried women** for 1997 was 1,260,593, essentially unchanged from 1996 (1,260,306). The **proportion of all births to unmarried women** was unchanged at 32.4 percent (table A). The proportion for all white births increased from 25.7 to 25.8 percent, and for Hispanic births, from 40.7 to 40.9 percent. The proportion for non-Hispanic white births was unchanged at 21.5 percent, while the proportion for black births fell from 69.8 to 69.1 percent (table A and table 6).

The **preliminary birth rate for unmarried women** in 1997 was 44.0 births per 1,000 unmarried women aged 15–44 years, 2 percent lower than the rate for 1996 (44.8).

The procedures for reporting marital status in California and New York City changed beginning January 1, 1997. Up to that date, the mother's marital status was inferred in California by comparing the surnames of the mother, father, and child. Beginning in 1997, two changes were implemented. First, a law went into effect mandating that the father's name could not be included on the birth certificate unless the parents were married or a paternity affidavit was filed. Second, a direct question on the mother's marital status, similar to the one in effect in most other States, was added to the California birth certificate (see [Technical notes](#)). Reporting procedures for marital status in California are now essentially the same as those in most other States.

The mother's marital status is inferred in New York City, but the procedures for inferring this information changed beginning in 1997. Beginning in 1997, the mother is assumed to be unmarried if the father's name is missing from the birth certificate, or if a paternity affidavit was filed; these are the same procedures that have been in effect in the balance of New York State for many years. Through 1996, the inferential criteria had also included a comparison of the surnames of the mother and father.

Because California and New York City together account for 17 percent of U.S. births, data by marital status for these areas were examined carefully to determine the effect of these reporting changes on the national data. The reporting changes had little impact on the total numbers and proportions of nonmarital births for the United States as

a whole, and relatively little impact on the overall data for California. The changes affected the overall data for New York State (including New York City) as well as the data by age. In general, there was a tendency for the proportion unmarried to increase between 1996 and 1997 for women aged 15–24 years and for the proportions to decrease for women aged 30–44 years; changes for women aged 25–29 years were not consistent. The contrasts by age were very pronounced in the data for California, but were found at only a modest level for the balance of all States (exclusive of California and New York). Large decreases in nonmarital births were found for all age groups for New York.

The tendency for considerable increases in the proportions of nonmarital births among teenagers and the concurrent decline for older women in California is a direct reflection of the changes in reporting procedures in that State. In many cases, especially among younger women, the inferential procedures identified these births as occurring to married women. Among older married women who have retained their birth surname after marriage, particularly well-educated white women, there was a tendency for their births to be considered nonmarital because the surnames did not match. These factors are discussed in more detail in the [Technical notes](#). For California, the changes in nonmarital birth patterns by age were compensating, so that the overall levels of nonmarital births for California in 1996 and 1997 are fairly similar. The declines in proportions of nonmarital births for all of New York State are also a direct consequence of the changes in reporting procedures in New York City. For New York City, the changes in inferential procedures affected all age groups, identifying fewer births as nonmarital in 1997; without these changes, levels of nonmarital births would have been unchanged.

The modest changes in nonmarital births in 1997 for the United States as a whole are substantiated by similarly modest changes in the total area excluding California and New York City, where the number and proportion of nonmarital births increased slightly (from 1,024,735 to 1,033,880 and from 31.7 to 31.8 percent). During the years 1995–97, all measures of nonmarital births have been fairly stable, following more than a decade of rapid and substantial increases (3,6).

The preliminary number of births to unmarried teenagers (under age 20 years) was 2 percent higher in 1997 than in 1996 (table C). Births to unmarried teenagers under age 15 years declined very slightly. Births to unmarried teenagers 15–17 years increased 1 percent, whereas births to unmarried teenagers 18–19 years increased 2 percent. The percent of all teenage births occurring to unmarried women was higher in 1997 (78.1 percent) than in 1996 (76.3 percent) because total births

Table C. Number and percent of births to unmarried women, all ages and women under 20 years: United States, final 1996 and preliminary 1997

[Figures for 1997 are based on weighted data rounded to the nearest individual, so categories may not add to totals]

Age of mother	Number		Percent	
	1997	1996	1997	1996
All ages	1,260,593	1,260,306	32.4	32.4
Under 20 years	390,382	383,749	78.1	76.3
Under 15 years	10,384	10,460	95.7	93.8
15–19 years	379,998	373,289	77.7	75.9
15–17 years	158,739	156,838	86.6	84.4
18–19 years	221,259	216,451	72.3	70.8

to teenagers declined 1 percent while births to unmarried teenagers increased 2 percent. As noted above, however, much of the change in births to unmarried teenagers is due to the changes in reporting procedures in California. Birth rates for unmarried teenagers for 1997 are not yet available; see [Technical notes](#).

The preliminary proportions of births to unmarried women in 30 States, Puerto Rico, the Virgin Islands, and Guam were higher for 1997 compared with 1996, while the proportions in 17 States and the District of Columbia were lower. There was no change in the proportions in two States ([table 6](#)). Data for Nevada for 1996 are not shown in this report; the levels of nonmarital births in 1996 previously published (3) were substantially overstated because of a recently discovered computer processing error (see [Technical notes](#)).

The **percent of low birthweight (LBW)** babies (less than 2,500 grams) rose from 7.4 to 7.5 between 1996 and 1997, the highest level reported since 1973, and 12 percent higher than the low of 6.7 percent in 1984. The percent of very low birthweight (VLBW) babies (less than 1,500 grams) increased slightly to 1.41 from 1.37 between 1996 and 1997. The VLBW rate has slowly risen during the 1980's and 1990's (from 1.15 percent in 1980). (See [table A](#) for 1996 and 1997 data.)

LBW among births to non-Hispanic white mothers rose for the fifth consecutive year from 6.4 to 6.5 percent between 1996 and 1997. The percent of LBW non-Hispanic white infants has risen 16 percent since 1990 (from 5.6). Increases in LBW for 1996–97 were observed for each age group (tabular data not shown). VLBW among non-Hispanic white births also rose for 1996–97 from 1.08 to 1.11 percent.

The percent LBW among births to black mothers was unchanged in the preliminary data for 1997 at 13.0. LBW among black births has declined from a high of 13.6 percent reported for 1991 but remains higher than levels reported in the early to mid 1980's (3). The percent VLBW among black births, however, rose slightly from 2.99 to 3.03 for 1996–97. State-specific LBW rates by race and Hispanic origin for 1996 and 1997 are shown in [table 7](#).

The **cesarean delivery rate** rose slightly from 20.7 to 20.8 percent between 1996 and 1997 ([table A](#)). The cesarean delivery rate had declined steadily since 1989 when these data first became available from birth certificates, and the slight rise for 1997 to the level reported for 1995 suggests a leveling off of this downward trend.

The current year rise in the total cesarean rate is the result of a slight increase in the rate of repeat cesareans, that is, in cesarean deliveries among women who have had a previous cesarean. Concomitantly, the rate of vaginal birth after previous cesarean (VBAC) declined from 28.3 to 27.4 percent for 1996–97. The primary cesarean rate (first cesarean per 100 live births to women who have not had a previous cesarean) was unchanged from the previous year at 14.6 percent. The rise in the total cesarean rate and the decline in VBACs for 1996–97 was observed among non-Hispanic white and black women and Hispanic women. See [table 8](#) for cesarean delivery rates for each State by race and Hispanic origin.

The proportion of women beginning **prenatal care in the first trimester** of pregnancy rose for the sixth straight year to 82.5 percent for 1997 from 81.9 percent for 1996. (See [table A](#).) This measure has risen steadily during the 1990's (from 75.5 percent in 1989) (3). No concurrent decline in the percent of women with late (care beginning in the 3rd trimester) or no care (4.0 percent) was observed for 1996–97. Since 1989 the percent of mothers with late or no care has fallen from 6.4 percent, however.

First trimester prenatal care rose among non-Hispanic white (from 87.4 to 87.8 percent), black (from 71.4 to 72.3 percent) and Hispanic mothers (from 72.2 to 73.7 percent). The percent of women with late or no care was unchanged among non-Hispanic white (2.4) and black women (7.3), but declined among Hispanic mothers from 6.7 to 6.2 percent. Since 1989 the proportion of black mothers with first trimester care has risen 21 percent (from 60.0), and late or no care has declined from 11.9 to 7.3 percent. Improvement in prenatal care utilization over this time period has been most pronounced among Hispanic women; first trimester care has climbed 24 percent (from 59.5 percent), and the percentage of mothers with late or no care has been more than halved, dropping from 13.0 to 6.2 percent. [Table 9](#) presents the percent of women with 1st trimester prenatal care for each State by race and Hispanic origin.

Mortality trends and patterns

The preliminary number of **deaths** in the United States for 1997 totaled 2,314,738, an increase of only 48 compared with the 1996 final total. The **crude death rate** of 864.9 per 100,000 population dropped slightly from the rate of 872.5 per 100,000 in 1996. The estimated age-adjusted death rate, which accounts for changes in the age distribution of the population, was 478.1 per 100,000 U.S. standard population, a record low for the United States, and 3 percent below the final rate for 1996. 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. The final age-adjusted death rate for 1996 was 491.6. (See [tables D, E, and 10–18](#) for mortality data.)

The decline in the U.S. age-adjusted death rate continues the long-term downward trend in mortality, and reflects statistically significant reductions in mortality for males and females of most race and ethnic groups. Age-adjusted death rates for black males declined by 7 percent, for Asian males by 3 percent, and for white males by 3 percent. In contrast, the age-adjusted death rate for American Indian males increased by 6 percent. The decline for black females was 4 percent and for white females 1 percent. Changes in the age-adjusted death rate for American Indian and Asian females from 1996 to 1997 were not statistically significant. Data for the Hispanic population are not shown due to incomplete reporting for California.

The reductions in mortality for all ages combined between 1996 and 1997 were the result of statistically significant declines for all age groups under age 85 years. The greatest declines occurred in the 25–34 and 35–44 year age groups where the age-specific death rate declined by 10 percent and 9 percent, respectively. For those 85 years of age and over, the death rate increased less than 1 percent.

Preliminary estimates of life expectancy at birth in 1997 increased to another record high of 76.5 years, surpassing the previous record high of 76.1 recorded in 1996 ([tables D and 16](#)). Record high life expectancies were reached for white and black males and for black females (74.3 years, 67.3 years, and 74.7 years respectively). For white females, 1997 life expectancy increased by 0.1 year to equal the record high of 79.8 years reached in 1992.

Although the 15 **leading causes of death** in 1997 were the same as in 1996, the order changed somewhat. Of particular note, Human

immunodeficiency virus infection (HIV) dropped from being the 8th leading cause of death in 1996 to the 14th leading cause in 1997. Nephritis, nephrotic syndrome, and nephrosis (kidney disease) rose from 11th to 9th. Homicide, Alzheimer's disease, Suicide, and Septicemia each rose one place in the rankings. The 15 leading causes of death in 1997 were Diseases of heart (heart disease); Malignant neoplasms, including neoplasms of lymphatic and hematopoietic tissues (cancer); Cerebrovascular diseases (stroke); Chronic obstructive pulmonary disease and allied conditions (COPD); Accidents and adverse effects; Pneumonia and influenza; Diabetes mellitus; Suicide; kidney disease; Chronic liver disease and cirrhosis; Septicemia (blood poisoning); Alzheimer's disease; Homicide and legal intervention (homicide); HIV infection; and Atherosclerosis (table E).

Reductions in mortality occurred for a number of the leading causes of death. From 1996 to 1997, the preliminary age-adjusted death rate for the leading cause of death, **heart disease**, declined by 3 percent, while the rate for **cancer** declined by 2 percent (tables E and 11). Together the deaths from these two diseases combined accounted for more than 1.2 million deaths, which is more than half of the total deaths that occurred in 1997. While heart disease mortality has followed a consistent downward trend since 1950, cancer mortality has declined only since 1990.

The preliminary age-adjusted death rate for **HIV infection** showed a very large decline of 47 percent from 1996 to 1997 (table E). While delays in reporting HIV deaths in a few States may have resulted in a slight overestimate of the decline, this decline is consistent with trends based on provisional data (7). In addition, the decline is consistent with trends based on final mortality data for 1996 and preliminary mortality data for the 12-month period July 1996 to June 1997, which show that the declines in HIV mortality were 29 percent and 44 percent, respectively, compared with the previous 12-month periods (4,8).

Preliminary age-adjusted death rates dropped for **homicide** by 12 percent and for **suicide** by 5 percent. The decline in mortality due to both homicide and suicide continues the downward trend reported for 1995 and 1996 (2,4). Rates declined for **accidents and adverse effects** by 5 percent following the general downward trend in accident mortality since the 1980's. Declines were also noted for deaths due to **stroke** (2 percent), **diabetes** (1 percent), **chronic liver disease and cirrhosis** (4 percent), and **atherosclerosis** (9 percent).

The 3 percent increase in the age-adjusted death rate from 1996 to 1997 for **pneumonia and influenza** reflected the effect of influenza epidemics during the 1996–97 and 1997–98 winter seasons (9,10). Age-adjusted death rates for **COPD** increased by 2 percent, **kidney disease** by 5 percent, and **blood poisoning** by 2 percent (table 11).

During 1997, preliminary age-adjusted death rates decreased appreciably for **firearm injuries** (8 percent), **drug-induced causes** (12 percent), and **alcohol-induced causes** (6 percent) (table 11). The final rates for these causes may change when 100 percent of death records are received for this period (see [Technical notes](#)).

Among the major race and ethnic groups, the lowest mortality was reported for the Asian and Pacific Islander population, which was 41 percent lower than for the white population. In contrast, the rate for the black population was 52 percent higher than that for the white population. Mortality for race (other than white and black) and ethnic groups may be substantially understated due to inconsistencies in reporting race on censuses, population surveys, and vital statistics (11).

The preliminary **infant mortality rate** in 1997 was 7.1 infant deaths per 1,000 live births, a 3 percent decline from 1996 (7.3) (tables D and 14). Declines occurred among neonates (infant deaths under 28 days of age) as well as for postneonates (aged 28 days–11 months). The black infant mortality rate declined 7 percent from 14.7 to 13.7. The change in the white infant mortality rate was not statistically significant. Delays in reporting in a few States may overstate the reduction in black infant mortality.

The rate for the leading cause of infant mortality, **Congenital anomalies**, which accounted for 22 percent of all infant deaths, declined by 5 percent from 1996 to 1997 (See table 18 for 1997 data.) (4). The infant mortality rate for Sudden infant death syndrome (**SIDS**), which accounted for 10 percent of all infant deaths, declined by almost 12 percent. While deaths due to SIDS have been declining since 1989, part of the decline in 1997 may be attributable to delays in receiving cause-of-death information for these deaths in the preliminary data file. **Disorders related to short gestation and unspecified low birth-weight**, the second leading cause of death for all infants, but the leading cause of death for black infants, declined by 5 percent in 1997.

By place of residence, **Hawaii** had the lowest mortality, with an age-adjusted death rate of 375.3 deaths per 100,000 U.S. standard population. Mortality in the **District of Columbia** was the highest in the

Table D. Deaths, age-adjusted death rates, and life expectancy at birth, by race and sex, and infant mortality rates, by race: United States, final 1996 and preliminary 1997

Measure and sex	All races ¹		White		Black	
	1997	1996	1997	1996	1997	1996
All deaths	2,314,738	2,314,690	2,000,792	1,992,966	272,972	282,089
Age-adjusted death rate ²	478.1	491.6	456.6	466.8	696.3	738.3
Male	601.6	623.7	573.8	591.4	900.3	967.0
Female	375.1	381.0	358.2	361.9	538.5	561.0
Life expectancy at birth ³	76.5	76.1	77.1	76.8	71.2	70.2
Male	73.6	73.1	74.3	73.9	67.3	66.1
Female	79.2	79.1	79.8	79.7	74.7	74.2
All infant deaths	27,691	28,487	18,462	18,761	8,241	8,730
Infant mortality rate ⁴	7.1	7.3	6.0	6.1	13.7	14.7

¹Includes races other than white and black.

²Age-adjusted death rates are per 100,000 U.S. standard population. For method of computation, see "Technical notes."

³Life expectancy at birth stated in years.

⁴Infant mortality rates are deaths under 1 year per 1,000 live births in specified group.

Table E. Deaths and death rates for 1997, and age-adjusted death rates and percent changes in age-adjusted rates from 1996 to 1997 for the 15 leading causes of death: United States, final 1996 and preliminary 1997

[Data are based on a continuous file of records received from the States. Rates per 100,000 population; age-adjusted rates per 100,000 U.S. standard population; see [Technical notes](#). For explanation of asterisks preceding cause-of-death categories, see [Technical notes](#). Figures for 1997 are based on weighted data rounded to the nearest individual, so categories may not add to the totals]

Rank ¹	Cause of death (Based on the <i>Ninth Revision, International Classification of Diseases, 1975</i>)	Number	Death rate	Age-adjusted death rate		
				1997	1996	Percent change
...	All causes	2,314,729	864.9	478.2	491.6	-2.7
1	Diseases of heart (390-398, 402, 404-429)	725,790	271.2	129.9	134.5	-3.4
2	Malignant neoplasms, including neoplasms of lymphatic and hematopoietic tissues (140-208)	537,390	200.8	125.0	127.9	-2.3
3	Cerebrovascular diseases (430-438)	159,877	59.7	25.9	26.4	-1.9
4	Chronic obstructive pulmonary diseases and allied conditions . . . (490-496)	110,637	41.3	21.4	21.0	1.9
5	Accidents and adverse effects (E800-E949)	92,191	34.4	28.9	30.4	-4.9
	Motor vehicle accidents (E810-E825)	42,420	15.8	15.5	16.2	-4.3
	All other accidents and adverse effects (E800-E807, E826-E949)	49,772	18.6	13.4	14.2	-5.6
6	Pneumonia and influenza (480-487)	88,383	33.0	13.2	12.8	3.1
7	Diabetes mellitus (250)	62,332	23.3	13.4	13.6	-1.5
8	Suicide (E950-E959)	29,725	11.1	10.3	10.8	-4.6
9	Nephritis, nephrotic syndrome, and nephrosis (580-589)	25,570	9.6	4.5	4.3	4.7
10	Chronic liver disease and cirrhosis (571)	24,765	9.3	7.2	7.5	-4.0
11	Septicemia (038)	22,604	8.4	4.2	4.1	2.4
12	Alzheimer's disease (331.0)	22,527	8.4	2.7	2.7	0.0
13	Homicide and legal intervention (E960-E978)	18,774	7.0	7.5	8.5	-11.8
14	Human immunodeficiency virus infection (*042-*044)	16,685	6.2	5.9	11.1	-46.8
15	Atherosclerosis (440)	15,844	5.9	2.0	2.2	-9.1
...	All other causes	361,635	135.1	---	---	---

... Category not applicable.

--- Data not available.

¹Rank based on number of deaths; see [Technical notes](#).

United States, with an age-adjusted death rate of 719.8 per 100,000 U.S. standard population ([table 13](#)).

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[Data for 1997 are based on a continuous file of records received from the States.
 Figures for 1997 are based on weighted data rounded to the nearest individual, so categories may not add to totals]

Age and race/Hispanic origin	1997		1996	
	Number	Rate	Number	Rate
All races				
15-44 years ¹	3,894,970	65.3	3,891,494	65.3
10-14 years	10,852	1.2	11,148	1.2
15-19 years	489,211	52.9	491,577	54.4
15-17 years	183,324	32.6	185,721	33.8
18-19 years	305,886	84.4	305,856	86.0
20-24 years	946,357	110.9	945,210	110.4
25-29 years	1,074,559	114.3	1,071,287	113.1
30-34 years	887,892	85.4	897,913	83.9
35-39 years	408,111	36.0	399,510	35.3
40-44 years	74,778	6.9	71,804	6.8
45-49 years	3,209	0.3	3,045	0.3
White, total²				
15-44 years ¹	3,085,477	64.2	3,093,057	64.3
10-14 years	5,388	0.7	5,526	0.8
15-19 years	342,029	46.8	344,685	48.1
15-17 years	121,864	27.4	123,376	28.4
18-19 years	220,164	76.6	221,309	78.4
20-24 years	724,288	107.3	726,669	107.2
25-29 years	876,178	117.2	878,449	116.1
30-34 years	737,416	88.0	747,436	86.3
35-39 years	336,982	36.3	329,782	35.6
40-44 years	60,646	6.8	58,062	6.7
45-49 years	2,549	0.3	2,448	0.3
White, non-Hispanic				
15-44 years ¹	2,343,636	57.3	2,358,989	57.3
10-14 years	2,286	0.4	2,532	0.4
15-19 years	221,777	36.4	225,197	37.6
15-17 years	72,417	19.5	75,069	20.6
18-19 years	149,360	62.5	150,128	63.7
20-24 years	504,003	90.4	508,056	90.1
25-29 years	678,532	107.9	683,376	107.0
30-34 years	605,148	85.4	616,224	83.5
35-39 years	280,414	34.9	274,431	34.0
40-44 years	49,397	6.3	47,215	6.2
45-49 years	2,078	0.3	1,958	0.3
Black, total²				
15-44 years ¹	600,898	70.8	594,781	70.7
10-14 years	5,074	3.5	5,193	3.6
15-19 years	130,401	89.5	130,596	91.4
15-17 years	54,883	62.3	56,026	64.7
18-19 years	75,518	131.2	74,570	132.5
20-24 years	182,630	139.1	179,361	136.8
25-29 years	135,939	99.8	133,204	98.2
30-34 years	93,641	63.9	94,295	63.3
35-39 years	44,316	29.3	43,716	29.1
40-44 years	8,572	6.2	8,124	6.1
45-49 years	325	0.3	292	0.3
American Indian, total^{2,3}				
15-44 years ¹	38,486	68.9	37,880	68.7
10-14 years	198	1.7	202	1.7
15-19 years	7,810	71.8	7,731	73.9
15-17 years	3,115	45.3	3,088	46.4
18-19 years	4,695	117.7	4,643	122.3
20-24 years	12,281	134.5	12,142	133.9
25-29 years	9,153	100.6	8,844	98.5
30-34 years	5,793	64.0	5,816	63.2
35-39 years	2,682	29.1	2,606	28.5
40-44 years	541	6.4	524	6.3
45-49 years	28	0.4	15	*

See footnotes at end of table.

Table 1. Births and birth rates, by age, race and Hispanic origin of mother: United States, final 1996 and preliminary 1997 -Con.

Age and race/Hispanic origin	1997		1996	
	Number	Rate	Number	Rate
Asian or Pacific Islander, total ²				
15-44 years ¹	170,110	66.5	165,776	65.9
10-14 years	191	0.5	227	0.6
15-19 years	8,972	24.8	8,565	24.6
15-17 years	3,462	15.3	3,231	14.9
18-19 years	5,509	40.4	5,334	40.4
20-24 years	27,159	72.0	27,038	70.7
25-29 years	53,289	113.6	50,790	111.2
30-34 years	51,042	109.8	50,366	109.2
35-39 years	24,131	53.3	23,406	52.2
40-44 years	5,019	11.6	5,094	12.2
45-49 years	307	0.8	290	0.8
Hispanic ⁴				
15-44 years ¹	711,753	103.1	701,339	104.9
10-14 years	3,210	2.6	3,056	2.6
15-19 years	120,220	99.1	118,878	101.8
15-17 years	49,779	68.2	48,344	69.0
18-19 years	70,442	145.8	70,534	151.1
20-24 years	216,675	184.7	214,173	189.5
25-29 years	188,943	161.9	185,478	161.0
30-34 years	121,152	97.6	119,690	98.1
35-39 years	51,025	44.5	49,812	45.1
40-44 years	10,116	10.5	9,819	10.8
45-49 years	411	0.6	433	0.6

* Figure does not meet standards of reliability or precision.

¹ Numbers include births to women of all ages. Fertility rates computed by relating total births, regardless of age of mother, to women aged 15-44 years.

² Race and Hispanic origin are reported separately on the birth certificate. Data for persons of Hispanic origin are also included in the data for each race group, according to the mother's reported race; see Technical notes.

³ Includes births to Aleuts and Eskimos.

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

NOTE: Data are subject to sampling and/or random variation. For information on the relative standard errors of the data and further discussion, see Technical notes.

Table 2. Live births by age of mother, live-birth order, and race and Hispanic origin of mother: United States, preliminary 1997

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

Live-birth order and race/Hispanic origin of mother	All ages	Age of mother							
		Under 15 years	15-19 years	20-24 years	25-29 years	30-34 years	35-39 years	40-44 years	45-49 years
All races	3,894,970	10,852	489,211	946,357	1,074,559	887,892	408,111	74,778	3,209
1st child	1,581,178	10,540	379,011	435,558	401,753	248,025	89,983	15,621	688
2d child	1,259,107	247	89,548	324,544	371,714	320,989	131,062	20,305	698
3d child	630,672	2	15,434	129,477	187,612	186,972	95,126	15,510	537
4th child and over	404,756	-	2,385	52,234	108,639	127,653	89,722	22,871	1,252
Not stated	19,257	63	2,832	4,545	4,841	4,254	2,218	471	33
White, total ¹	3,085,477	5,388	342,029	724,288	876,178	737,416	336,982	60,646	2,549
1st child	1,258,701	5,260	272,056	347,718	336,688	207,897	75,409	13,094	577
2d child	1,017,223	98	58,400	252,136	309,550	270,651	109,107	16,702	581
3d child	500,382	-	8,487	91,482	150,807	157,133	79,506	12,542	425
4th child and over	294,618	-	1,076	29,647	75,453	98,371	71,194	17,940	937
Not stated	14,553	30	2,010	3,306	3,680	3,365	1,766	368	29
White, non-Hispanic	2,343,636	2,286	221,777	504,003	678,532	605,148	280,414	49,397	2,078
1st child	979,975	2,248	181,909	253,163	282,405	181,559	66,630	11,549	512
2d child	792,250	28	34,179	173,980	242,392	231,143	95,375	14,647	505
3d child	367,751	-	4,359	58,375	105,361	123,450	65,648	10,211	348
4th child and over	195,019	-	427	16,787	46,086	66,709	51,552	12,763	695
Not stated	8,642	10	903	1,699	2,289	2,288	1,209	227	18
Black, total ¹	600,898	5,074	130,401	182,630	135,939	93,641	44,316	8,572	325
1st child	231,090	4,905	93,867	67,356	35,437	20,304	7,854	1,325	42
2d child	174,948	135	28,165	60,614	43,162	28,749	12,134	1,935	54
3d child	101,994	2	6,445	33,385	29,091	21,088	10,107	1,808	68
4th child and over	89,172	-	1,187	20,241	27,384	22,877	13,894	3,430	158
Not stated	3,694	32	736	1,034	866	623	327	74	2
American Indian, total ^{1,2}	38,486	198	7,810	12,281	9,153	5,793	2,682	541	28
1st child	13,716	194	5,964	4,495	1,843	867	293	52	6
2d child	10,576	4	1,549	4,480	2,644	1,309	498	88	5
3d child	6,554	-	219	2,194	2,188	1,315	547	89	2
4th child and over	7,429	-	27	1,041	2,440	2,273	1,325	308	15
Not stated	211	-	50	72	37	29	18	4	-
Asian or Pacific Islander, total ¹	170,110	191	8,972	27,159	53,289	51,042	24,131	5,019	307
1st child	77,672	180	7,124	15,989	27,784	18,957	6,427	1,149	62
2d child	56,360	10	1,435	7,314	16,359	20,280	9,323	1,582	58
3d child	21,742	-	283	2,417	5,527	7,436	4,966	1,072	42
4th child and over	13,537	-	95	1,305	3,361	4,132	3,309	1,192	143
Not stated	798	1	36	133	258	236	108	24	2
Hispanic ³	711,753	3,210	120,220	216,675	188,943	121,152	51,025	10,116	411
1st child	267,183	3,118	90,107	92,681	50,058	22,616	7,322	1,240	40
2d child	214,960	72	24,288	77,069	64,452	35,293	11,965	1,756	66
3d child	128,237	1	4,177	32,774	44,543	31,898	12,635	2,139	69
4th child and over	97,194	-	654	12,807	28,906	30,792	18,872	4,932	231
Not stated	4,179	19	995	1,343	984	553	232	50	4

- Quantity zero.

¹ Race and Hispanic origin are reported separately on the birth certificate. Data for persons of Hispanic origin are included in the data for each race group according to the mother's reported race; see Technical notes.

² Includes births to Aleuts and Eskimos.

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

NOTE: Data are subject to sampling and/or random variation. For information on the relative standard errors of the data and further discussion, see Technical notes.

Table 3. Birth rates by age of mother, live-birth order, and race and Hispanic origin of mother: United States, preliminary 1997

[Data are based on a continuous file of records received from the States. Rates per 1,000 women in specified age and racial group]

Live-birth order and race/Hispanic origin of mother	Age of mother								
	15-44 years ¹	10-14 years	15-19 years	20-24 years	25-29 years	30-34 years	35-39 years	40-44 years	45-49 years
All races	65.3	1.2	52.9	110.9	114.3	85.4	36.0	6.9	0.3
1st child	26.6	1.1	41.3	51.3	42.9	24.0	8.0	1.5	0.1
2d child	21.2	0.0	9.7	38.2	39.7	31.0	11.6	1.9	0.1
3d child	10.6	*	1.7	15.2	20.1	18.1	8.4	1.4	0.1
4th child and over	6.8	*	0.3	6.2	11.6	12.3	8.0	2.1	0.1
White, total ²	64.2	0.7	46.8	107.3	117.2	88.0	36.3	6.8	0.3
1st child	26.3	0.7	37.4	51.7	45.2	24.9	8.2	1.5	0.1
2d child	21.3	0.0	8.0	37.5	41.6	32.4	11.8	1.9	0.1
3d child	10.5	*	1.2	13.6	20.3	18.8	8.6	1.4	0.1
4th child and over	6.2	*	0.1	4.4	10.1	11.8	7.7	2.0	0.1
White, non-Hispanic	57.3	0.4	36.4	90.4	107.9	85.4	34.9	6.3	0.3
1st child	24.0	0.4	29.9	45.5	45.1	25.8	8.3	1.5	0.1
2d child	19.4	0.0	5.6	31.3	38.6	32.8	11.9	1.9	0.1
3d child	9.0	*	0.7	10.5	16.8	17.5	8.2	1.3	0.1
4th child and over	4.8	*	0.1	3.0	7.4	9.5	6.4	1.6	0.1
Black, total ²	70.8	3.5	89.5	139.1	99.8	63.9	29.3	6.2	0.3
1st child	27.4	3.4	64.8	51.6	26.2	14.0	5.2	1.0	0.0
2d child	20.7	0.1	19.4	46.4	31.9	19.8	8.1	1.4	0.0
3d child	12.1	*	4.4	25.6	21.5	14.5	6.7	1.3	0.1
4th child and over	10.6	*	0.8	15.5	20.2	15.7	9.2	2.5	0.1
American Indian, total ^{2,3}	68.9	1.7	71.8	134.5	100.6	64.0	29.1	6.4	0.4
1st child	24.7	1.6	55.2	49.5	20.3	9.6	3.2	0.6	*
2d child	19.0	*	14.3	49.4	29.2	14.5	5.4	1.0	*
3d child	11.8	*	2.0	24.2	24.2	14.6	6.0	1.0	*
4th child and over	13.4	*	0.2	11.5	26.9	25.3	14.5	3.7	*
Asian or Pacific Islander, total ² ...	66.5	0.5	24.8	72.0	113.6	109.8	53.3	11.6	0.8
1st child	30.5	0.5	19.7	42.6	59.5	41.0	14.2	2.7	0.2
2d child	22.1	*	4.0	19.5	35.0	43.8	20.7	3.7	0.2
3d child	8.5	*	0.8	6.4	11.8	16.1	11.0	2.5	0.1
4th child and over	5.3	*	0.3	3.5	7.2	8.9	7.3	2.8	0.4
Hispanic ⁴	103.1	2.6	99.1	184.7	161.9	97.6	44.5	10.5	0.6
1st child	38.9	2.6	74.9	79.5	43.1	18.3	6.4	1.3	0.1
2d child	31.3	0.1	20.2	66.1	55.5	28.6	10.5	1.8	0.1
3d child	18.7	*	3.5	28.1	38.4	25.8	11.1	2.2	0.1
4th child and over	14.2	*	0.5	11.0	24.9	24.9	16.5	5.1	0.3

* Figure does not meet standards of reliability or precision.

0.0 Quantity more than zero but less than 0.05.

¹ Fertility rates computed by relating total births, regardless of age of mother, to women aged 15-44 years.² Race and Hispanic origin are reported separately on the birth certificate. Data for persons of Hispanic origin are included in the data for each race group according to the mother's reported race; see Technical notes.³ Includes births to Aleuts and Eskimos.⁴ Includes all persons of Hispanic origin of any race, see Technical notes.

NOTE: Data are subject to sampling and/or random variation. For information on the relative standard errors of the data and further discussion, see Technical notes.

Table 4. Live births by race and Hispanic origin of mother: United States, each State, Puerto Rico, Virgin Islands, and Guam, preliminary 1997, and birth and fertility rates, final 1996 and preliminary 1997

[By place of residence. Data are based on a continuous file of records received from the States. Birth rates per 1,000 total population; fertility rates per 1,000 women aged 15-44 years. Figures for 1997 are based on weighted data rounded to the nearest individual, so categories may not add to totals]

Area	Number							Birth rate		Fertility rate	
	All races	White, total ¹	White, non-Hispanic	Black ¹	American Indian ^{1,2}	Asian or Pacific Islander ¹	Hispanic ³	1997	1996	1997	1996
United States ⁴	3,894,970	3,085,477	2,343,636	600,898	38,486	170,110	711,753	14.6	14.7	65.3	65.3
Alabama	61,038	40,529	39,507	19,859	140	509	1,041	14.1	14.2	62.2	62.1
Alaska	9,705	6,473	6,001	453	2,293	486	598	15.9	16.5	70.6	71.7
Arizona	75,753	66,319	37,928	2,503	5,318	1,612	28,492	16.6	17.0	78.1	77.1
Arkansas	36,720	28,227	26,654	7,905	213	375	1,541	14.6	14.5	67.8	67.1
California	526,033	427,102	178,140	37,477	3,362	58,092	249,572	16.3	16.9	72.5	74.8
Colorado	56,539	51,717	38,691	2,585	590	1,647	13,217	14.5	14.6	64.2	63.6
Connecticut	42,977	36,213	28,487	5,238	108	1,418	5,640	13.1	13.6	60.1	61.7
Delaware	10,243	7,496	6,830	2,512	12	222	624	14.0	14.0	60.2	59.8
District of Columbia	7,905	1,973	1,283	5,795	2	134	701	14.9	15.4	61.5	62.3
Florida	192,556	144,174	107,854	43,579	717	4,087	37,402	13.1	13.2	65.0	64.5
Georgia	118,347	75,663	67,926	39,774	206	2,704	7,174	15.8	15.5	66.2	64.5
Hawaii	17,381	4,479	3,773	578	184	12,140	2,150	14.6	15.5	69.0	72.5
Idaho	18,594	18,012	15,398	68	277	237	2,366	15.4	15.7	70.3	71.3
Illinois	180,898	138,912	105,912	35,453	244	6,289	33,142	15.2	15.5	68.4	69.0
Indiana	83,447	74,764	70,964	7,633	121	928	3,407	14.2	14.3	62.9	62.8
Iowa	36,933	34,830	32,928	1,109	232	762	1,615	12.9	13.0	60.8	60.5
Kansas	37,446	33,403	29,551	2,817	331	895	3,568	14.4	14.2	66.0	65.1
Kentucky	53,228	47,950	47,250	4,652	91	535	728	13.6	13.6	60.0	59.4
Louisiana	66,012	37,643	36,440	27,126	288	955	1,263	15.2	15.0	65.7	65.1
Maine	13,670	13,324	12,656	81	103	162	121	11.0	11.1	49.5	49.5
Maryland	70,267	44,488	40,918	22,966	205	2,608	3,277	13.8	14.1	58.9	60.1
Massachusetts	82,448	70,389	62,974	7,922	177	3,960	8,408	13.5	13.2	59.3	57.1
Michigan	133,621	105,723	93,815	24,277	768	2,853	5,431	13.7	13.9	60.0	61.1
Minnesota	64,525	57,349	51,487	3,252	1,094	2,830	2,573	13.8	13.7	61.4	60.6
Mississippi	42,747	22,646	22,268	19,541	200	360	338	15.7	15.1	68.2	65.6
Missouri	74,747	62,149	60,359	11,144	269	1,186	1,775	13.8	13.8	62.8	62.2
Montana	10,851	9,431	8,820	31	1,294	95	302	12.3	12.3	59.1	58.5
Nebraska	23,327	21,315	18,822	1,253	363	396	1,980	14.1	14.1	64.6	64.2
Nevada	27,039	22,962	15,188	2,143	449	1,486	7,749	16.1	16.3	75.8	75.5
New Hampshire	14,433	14,117	13,464	105	30	181	229	12.3	12.5	52.8	53.3
New Jersey	113,141	84,620	66,352	20,846	178	7,497	19,531	14.0	14.3	64.0	64.9
New Mexico	26,874	22,733	9,545	506	3,245	390	13,326	15.5	15.9	70.5	71.6
New York	263,339	189,054	120,484	56,460	609	17,215	51,876	14.5	14.5	65.4	64.7
North Carolina	107,013	75,882	69,101	27,476	1,585	2,071	6,906	14.4	14.3	64.3	62.9
North Dakota	8,356	7,399	7,103	84	775	98	170	13.0	13.0	61.0	60.6
Ohio	152,265	127,230	123,676	22,659	284	2,092	3,437	13.6	13.6	60.8	60.3
Oklahoma	48,110	37,891	34,629	4,725	4,628	866	3,249	14.5	14.0	67.6	65.0
Oregon	43,895	40,314	34,437	939	747	1,895	5,866	13.5	13.6	62.8	62.7
Pennsylvania	144,235	120,222	113,310	20,408	275	3,329	6,623	12.0	12.3	55.9	57.0
Rhode Island	12,388	10,862	7,718	931	142	452	1,765	12.5	12.8	56.3	56.9
South Carolina	51,904	32,910	31,812	18,271	122	601	1,111	13.8	13.8	60.0	59.5
South Dakota	10,208	8,455	8,313	91	1,547	114	141	13.8	14.3	63.8	66.6
Tennessee	74,577	57,080	55,363	16,345	127	1,025	1,725	13.9	13.9	61.3	60.9
Texas	333,889	284,245	137,550	39,476	794	9,374	146,536	17.2	17.3	75.3	75.0
Utah	43,885	41,666	37,217	269	673	1,277	4,394	21.3	21.0	90.2	89.0
Vermont	6,667	6,581	6,364	24	5	57	22	11.3	11.5	50.0	50.2
Virginia	91,990	66,806	61,471	21,111	202	3,872	5,380	13.7	13.8	58.1	58.4
Washington	79,024	68,340	57,210	3,214	1,752	5,718	9,434	14.1	14.1	62.5	62.0
West Virginia	20,752	19,875	19,803	746	17	114	82	11.4	11.4	53.2	52.5
Wisconsin	66,602	57,439	54,328	6,421	879	1,863	3,210	12.9	13.0	58.2	58.3
Wyoming	6,424	6,099	5,562	63	217	45	542	13.4	13.1	62.1	59.8
Puerto Rico	63,668	58,982	---	4,686	---	---	---	16.6	16.7	70.6	70.8
Virgin Islands	2,005	359	83	1,586	56	3	373	17.5	16.8	79.9	76.1
Guam	4,307	415	373	65	2	3,824	40	29.5	29.4	138.8	134.9

--- Data not available.

¹ Race and Hispanic origin are reported separately on the birth certificate. Data for persons of Hispanic origin are included in the data for each race group according to the mother's reported race; see Technical notes.

² Includes births to Aleuts and Eskimos.

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

⁴ Excludes data for Puerto Rico, Virgin Islands, and Guam.

NOTE: Data are subject to sampling and/or random variation. For information on the relative standard errors of the data and further discussion, see Technical notes.

Table 5. Percent of live births to mothers under 20 years of age by race and Hispanic origin of mother: United States, each State, Puerto Rico, Virgin Islands, and Guam, final 1996 and preliminary 1997

[By place of residence. Data are based on a continuous file of records received from the States]

Area	All races ¹		White, total ²		White, non-Hispanic		Black, total ²		Hispanic ³	
	1997	1996	1997	1996	1997	1996	1997	1996	1997	1996
United States ⁴	12.8	12.9	11.3	11.3	9.5	9.7	22.5	22.8	17.3	17.4
Alabama	17.6	18.4	13.7	14.0	13.7	14.0	25.8	27.7	14.1	15.4
Alaska	11.1	11.1	9.0	9.2	8.8	9.0	16.1	14.2	12.4	12.1
Arizona	14.9	14.9	14.6	14.6	10.2	10.3	21.1	21.2	20.7	20.6
Arkansas	19.2	19.8	16.3	17.0	16.3	16.9	30.1	30.0	17.3	17.9
California	11.7	12.0	11.9	12.3	7.1	7.4	18.1	18.3	15.5	15.9
Colorado	11.9	11.9	11.6	11.5	8.3	8.2	19.7	20.4	21.8	22.3
Connecticut	8.2	8.2	6.9	6.9	4.2	4.3	18.5	18.7	22.3	22.3
Delaware	13.4	13.7	9.6	9.3	9.0	8.5	25.8	28.4	14.9	18.2
District of Columbia ...	15.6	16.7	5.8	6.8	2.1	2.6	19.2	20.3	13.4	13.9
Florida	13.4	13.4	10.9	10.9	10.4	10.3	22.3	22.7	12.7	13.1
Georgia	15.5	15.9	12.0	12.4	11.6	12.0	23.0	23.4	15.2	15.8
Hawaii	11.0	10.4	6.4	5.9	5.7	5.1	9.2	9.7	19.1	18.9
Idaho	12.7	13.5	12.7	13.4	11.5	12.5	*	*	20.0	20.5
Illinois	12.5	12.7	9.6	9.8	7.6	7.8	25.8	25.8	16.0	16.6
Indiana	14.2	14.5	13.2	13.1	13.0	12.8	25.7	27.2	18.0	19.4
Iowa	10.7	11.0	10.2	10.5	9.9	10.1	27.2	27.9	15.2	18.2
Kansas	13.0	13.1	12.0	12.1	11.2	11.2	26.4	26.1	19.0	20.5
Kentucky	16.3	17.0	15.5	16.1	15.4	16.1	26.0	27.1	16.8	16.8
Louisiana	18.6	18.9	13.5	13.5	13.5	13.4	26.0	27.0	13.0	14.6
Maine	10.1	9.7	10.1	9.7	9.9	9.5	*	*	*	*
Maryland	10.3	10.3	6.9	6.9	6.5	6.5	17.8	18.3	10.2	11.4
Massachusetts	7.4	7.3	6.6	6.6	4.8	4.9	14.8	14.8	22.0	22.2
Michigan	11.7	12.2	9.6	9.8	8.8	8.9	21.8	23.1	18.3	20.9
Minnesota	8.7	8.6	7.3	7.3	7.0	7.1	22.5	23.2	19.3	19.9
Mississippi	20.7	21.3	14.1	14.4	14.1	14.5	28.6	29.4	12.8	11.2
Missouri	13.9	14.1	12.1	12.1	12.0	12.0	24.4	26.0	16.9	18.4
Montana	12.2	12.4	10.5	10.9	10.1	10.3	*	*	20.9	24.2
Nebraska	10.5	10.6	9.4	9.6	8.6	8.8	26.8	25.8	16.8	17.6
Nevada	13.5	13.3	12.8	12.5	10.8	10.7	23.8	24.3	16.6	16.7
New Hampshire	7.8	7.4	7.8	7.4	7.4	7.1	*	*	15.4	20.8
New Jersey	7.8	7.7	5.7	5.7	3.3	3.3	18.3	18.6	15.0	14.6
New Mexico	17.9	17.8	17.9	17.8	11.8	11.6	22.3	22.1	22.5	22.6
New York	10.7	9.2	9.0	7.9	6.0	5.4	18.7	15.9	18.8	15.2
North Carolina	14.3	15.0	11.4	11.6	10.8	11.2	22.5	24.2	17.8	17.2
North Dakota	9.1	9.6	7.8	8.3	7.4	8.0	*	*	17.1	19.7
Ohio	13.3	13.3	11.4	11.4	11.2	11.2	25.1	25.1	19.3	23.1
Oklahoma	16.9	17.2	15.1	15.4	14.8	15.1	25.9	25.9	19.1	20.1
Oregon	12.5	13.2	12.3	13.0	11.1	12.1	21.7	26.1	19.5	19.2
Pennsylvania	10.4	10.6	8.4	8.6	7.5	7.7	23.0	23.3	24.4	25.4
Rhode Island	10.7	10.4	9.8	9.3	7.7	7.4	18.3	19.5	20.8	20.2
South Carolina	16.4	16.8	12.1	12.2	12.0	12.2	24.3	25.4	16.0	15.4
South Dakota	12.2	11.5	9.8	9.3	9.6	9.3	*	*	20.6	15.8
Tennessee	16.3	16.8	13.9	14.3	13.8	14.3	25.4	25.9	16.8	15.5
Texas	16.1	16.2	15.5	15.6	11.3	11.4	23.5	23.8	19.5	19.7
Utah	10.5	10.7	10.4	10.6	9.4	9.6	24.3	20.1	19.2	19.7
Vermont	8.4	8.9	8.5	8.9	8.3	8.9	*	*	*	*
Virginia	11.0	11.0	8.5	8.6	8.2	8.3	20.4	20.2	11.9	11.4
Washington	11.0	11.2	10.7	11.0	9.7	9.9	18.4	18.7	18.4	18.8
West Virginia	15.9	16.7	15.6	16.4	15.6	16.4	26.2	27.4	*	*
Wisconsin	10.7	10.6	8.3	8.2	7.7	7.4	28.9	29.5	20.4	21.6
Wyoming	14.1	14.3	13.9	13.9	13.3	13.2	*	*	20.4	22.0
Puerto Rico	20.8	20.6	20.7	20.6	---	---	22.5	21.2	---	---
Virgin Islands	17.0	14.9	18.1	17.7	*	*	17.0	14.7	20.1	19.0
Guam	13.8	15.4	5.7	8.0	5.7	7.5	*	*	*	*

* Figure does not meet standards of reliability or precision.

--- Data not available.

¹ Includes races other than white and black.² Race and Hispanic origin are reported separately on the birth certificate. Data for persons of Hispanic origin are included in the data for each race group according to the mother's reported race; see Technical notes.³ Includes all persons of Hispanic origin of any race; see Technical notes.⁴ Excludes data for Puerto Rico, Virgin Islands, and Guam.

NOTE: Data are subject to sampling and/or random variation. For information on the relative standard errors of the data and further discussion, see Technical notes.

Table 6. Percent of live births to unmarried mothers by race and Hispanic origin of mother: United States, each State, Puerto Rico, Virgin Islands, and Guam, final 1996 and preliminary 1997

[By place of residence. Data are based on a continuous file of records received from the States]

Area	All races ¹		White, total ²		White, non-Hispanic		Black, total ²		Hispanic ³	
	1997	1996	1997	1996	1997	1996	1997	1996	1997	1996
United States ⁴	32.4	32.4	25.8	25.7	21.5	21.5	69.1	69.8	40.9	40.7
Alabama	33.9	33.7	16.9	16.4	16.8	16.2	69.0	69.7	23.0	24.8
Alaska	30.3	31.0	21.4	22.4	21.0	21.8	42.5	40.3	28.1	31.8
Arizona	37.7	38.8	34.7	36.0	24.7	26.0	64.7	64.2	48.4	50.4
Arkansas	34.2	33.9	23.1	22.7	22.6	22.2	74.6	74.1	33.0	33.2
California	32.8	31.4	32.5	31.2	21.6	22.6	62.3	60.5	40.5	37.6
Colorado	25.2	24.8	23.9	23.2	18.3	17.8	55.1	58.1	40.6	40.5
Connecticut	32.4	31.3	26.7	25.6	19.5	18.9	70.3	70.7	66.2	64.7
Delaware	36.0	35.5	25.1	24.4	22.7	21.8	71.2	73.0	51.1	52.4
District of Columbia ...	63.6	66.1	24.1	27.9	8.7	12.0	77.9	79.8	55.4	55.3
Florida	36.0	35.9	27.1	27.0	24.9	24.8	67.3	67.8	34.4	34.8
Georgia	35.4	35.0	19.6	19.1	18.6	18.4	67.2	66.6	29.8	26.1
Hawaii	29.8	30.3	17.1	17.0	16.0	15.3	21.1	21.6	44.5	45.3
Idaho	20.7	21.3	20.2	20.8	18.8	19.6	45.6	32.0	29.0	29.0
Illinois	33.4	33.7	23.5	23.5	18.8	18.7	77.0	77.8	38.6	39.5
Indiana	32.2	32.3	27.9	27.2	27.3	26.6	76.3	77.1	40.7	41.5
Iowa	26.2	26.3	24.6	24.9	24.1	24.2	75.3	71.9	35.6	38.1
Kansas	27.6	26.9	24.1	23.4	22.6	21.9	69.5	68.3	38.2	38.1
Kentucky	29.5	29.8	25.5	25.4	25.4	25.3	71.9	73.7	31.6	28.6
Louisiana	43.9	43.4	23.5	22.9	23.4	22.6	73.2	73.4	27.3	31.2
Maine	29.7	28.7	29.5	28.6	29.2	28.4	42.0	43.5	29.7	25.2
Maryland	33.5	33.5	20.5	20.3	19.2	18.9	61.3	62.8	36.7	38.2
Massachusetts	26.0	25.5	22.6	22.2	18.4	18.2	59.3	58.9	60.7	60.2
Michigan	33.3	33.8	24.1	24.4	22.6	22.9	75.3	76.5	40.5	41.8
Minnesota	24.7	24.8	21.2	21.4	20.7	21.1	65.8	67.7	46.2	46.8
Mississippi	45.5	45.0	19.7	18.6	19.6	18.5	75.8	75.2	27.7	30.2
Missouri	33.1	33.2	25.4	25.2	25.0	24.9	77.7	78.1	37.9	37.1
Montana	28.8	27.9	23.2	22.9	22.6	22.2	*	*	41.7	35.6
Nebraska	25.8	24.8	22.5	21.5	20.6	19.8	72.4	71.5	39.9	39.7
Nevada ⁵	35.5	*	32.7	*	28.2	*	68.6	*	41.4	*
New Hampshire	23.8	23.4	23.7	23.4	23.1	22.7	51.0	39.3	38.3	44.6
New Jersey	27.8	28.0	20.3	20.4	12.8	12.6	66.2	66.8	48.6	49.5
New Mexico	43.5	42.1	39.6	38.1	26.2	24.1	56.7	61.2	49.5	49.0
New York	35.0	39.6	27.5	31.3	18.3	21.1	66.1	71.3	57.0	63.2
North Carolina	32.2	32.0	19.9	19.1	18.0	17.8	66.6	67.3	39.3	35.7
North Dakota	26.0	25.1	21.3	20.6	20.9	20.1	28.6	24.7	26.5	33.6
Ohio	33.9	33.1	26.6	26.0	26.1	25.4	77.2	76.5	46.5	50.2
Oklahoma	32.3	30.9	26.1	24.8	25.5	24.1	71.3	69.3	32.9	33.1
Oregon	28.8	29.7	27.9	28.7	26.4	27.6	66.7	69.8	37.4	36.8
Pennsylvania	32.8	32.3	25.6	25.1	23.4	23.0	77.8	78.5	63.5	62.5
Rhode Island	33.0	33.3	29.8	29.7	25.1	24.6	64.5	68.4	56.4	60.0
South Carolina	38.0	37.3	20.8	20.1	20.3	19.8	69.9	69.2	32.6	29.3
South Dakota	31.1	29.5	22.8	21.2	22.6	21.0	39.6	30.1	31.9	40.4
Tennessee	34.1	33.4	23.1	22.3	22.8	22.1	73.5	73.5	32.8	31.1
Texas	30.7	30.4	26.9	26.5	19.6	19.1	63.1	63.3	33.8	33.8
Utah	16.5	16.2	15.7	15.3	13.4	13.1	55.3	48.1	36.4	36.0
Vermont	26.1	26.4	26.2	26.3	25.9	25.9	*	*	*	*
Virginia	29.3	28.8	19.6	19.2	18.3	17.7	63.5	63.4	35.7	37.7
Washington	27.1	27.3	25.6	25.8	23.9	24.1	54.4	56.0	37.2	37.4
West Virginia	31.3	31.3	29.8	29.9	29.8	29.9	76.1	74.0	30.5	24.0
Wisconsin	28.1	27.4	22.0	21.2	20.7	19.9	82.4	82.8	44.4	45.4
Wyoming	27.3	27.0	26.2	25.6	24.6	24.1	41.9	44.9	44.0	41.5
Puerto Rico	45.7	44.2	44.4	42.7	---	---	62.3	61.1	---	---
Virgin Islands	67.9	64.2	57.4	48.7	30.1	35.7	71.7	69.5	64.6	58.6
Guam	49.1	48.5	16.5	16.9	16.3	16.7	*	*	*	*

* Figure does not meet standards of reliability or precision.

--- Data not available.

¹ Includes races other than white and black.² Race and Hispanic origin are reported separately on the birth certificate. Data for persons of Hispanic origin are included in the data for each race group according to the mother's reported race; see Technical notes.³ Includes all persons of Hispanic origin of any race; see Technical notes.⁴ Excludes data for Puerto Rico, Virgin Islands, and Guam.⁵ Data previously published for Nevada for 1996(3) are incorrect. The percent of births to unmarried mothers was substantially overstated; see Technical notes.

NOTE: Data are subject to sampling and/or random variation. For information on the relative standard errors of the data and further discussion, see Technical notes.

Table 7. Percent low birthweight by race and Hispanic origin of mother: United States, each State, Puerto Rico, Virgin Islands, and Guam, final 1996 and preliminary 1997

[By place of residence. Data are based on a continuous file of records received from the States. Low birthweight is less than 2,500 grams]

Area	All races ¹		White, total ²		White, non-Hispanic		Black, total ²		Hispanic ³	
	1997	1996	1997	1996	1997	1996	1997	1996	1997	1996
United States ⁴	7.5	7.4	6.5	6.3	6.5	6.4	13.0	13.0	6.4	6.3
Alabama	9.3	9.3	7.4	7.2	7.4	7.2	13.1	13.6	7.2	6.4
Alaska	5.9	5.5	5.5	5.0	5.3	5.1	11.9	12.1	6.8	6.0
Arizona	6.9	6.7	6.6	6.5	6.7	6.6	13.6	12.4	6.6	6.3
Arkansas	8.3	8.5	7.2	7.0	7.2	7.1	12.6	13.6	6.3	5.9
California	6.2	6.1	5.6	5.5	5.5	5.6	12.1	11.8	5.6	5.4
Colorado	8.8	8.8	8.5	8.5	8.3	8.4	15.1	15.0	9.1	8.6
Connecticut	7.1	7.2	6.4	6.4	6.0	5.9	12.1	12.9	8.3	8.7
Delaware	8.8	8.5	6.9	6.7	6.8	6.7	14.1	14.1	8.2	7.6
District of Columbia ...	13.3	14.3	5.9	7.2	5.7	7.1	16.0	16.7	6.2	8.0
Florida	8.0	7.9	6.8	6.6	6.8	6.6	12.2	12.2	6.7	6.4
Georgia	8.8	8.5	6.6	6.4	6.7	6.5	13.0	12.7	5.3	5.4
Hawaii	7.0	7.3	4.9	4.9	4.9	4.9	9.8	8.6	6.8	6.1
Idaho	6.3	5.8	6.3	5.7	6.1	5.5	*	*	7.4	6.7
Illinois	7.9	8.0	6.4	6.3	6.4	6.4	13.9	14.5	6.2	5.8
Indiana	7.3	7.6	6.7	6.9	6.7	6.9	13.2	13.9	6.7	7.1
Iowa	6.4	6.4	6.2	6.0	6.1	6.0	10.4	14.7	6.6	5.9
Kansas	6.9	6.9	6.4	6.4	6.4	6.5	12.9	13.4	5.9	6.0
Kentucky	7.8	7.9	7.4	7.4	7.4	7.4	12.0	12.7	7.2	7.4
Louisiana	10.1	9.9	7.0	6.9	7.0	6.9	14.6	14.3	5.6	5.2
Maine	5.9	5.9	5.9	5.8	6.0	5.9	*	*	*	*
Maryland	8.8	8.6	6.4	6.3	6.4	6.4	13.6	13.4	6.6	6.2
Massachusetts	7.0	6.4	6.6	6.0	6.4	5.7	10.6	10.4	8.3	8.0
Michigan	7.7	7.7	6.5	6.4	6.4	6.4	13.2	13.6	6.7	6.1
Minnesota	5.8	5.8	5.5	5.4	5.6	5.7	10.9	12.0	6.7	5.9
Mississippi	10.1	9.9	7.3	7.3	7.4	7.4	13.4	12.9	6.1	*
Missouri	7.7	7.5	6.7	6.5	6.7	6.5	13.5	12.8	6.1	6.3
Montana	6.3	6.4	6.1	6.2	6.0	6.1	*	*	7.6	8.1
Nebraska	7.0	6.3	6.7	6.0	6.8	6.0	11.7	10.7	5.2	6.4
Nevada	7.7	7.5	7.1	6.8	7.4	7.2	13.7	14.0	6.3	6.2
New Hampshire	5.8	4.8	5.9	4.7	5.8	4.6	*	*	8.9	*
New Jersey	7.8	7.7	6.4	6.4	6.1	6.2	13.7	13.1	7.3	7.1
New Mexico	7.8	7.5	7.8	7.5	7.7	7.3	15.6	13.5	7.9	7.7
New York	7.8	7.7	6.7	6.5	6.2	6.1	11.8	11.9	7.6	7.5
North Carolina	8.8	8.7	7.1	6.8	7.2	6.9	13.6	13.9	6.1	6.2
North Dakota	6.2	5.7	6.2	5.7	6.2	5.8	*	*	*	*
Ohio	7.7	7.5	6.7	6.5	6.7	6.5	13.6	13.2	7.5	6.8
Oklahoma	7.3	7.4	6.8	6.8	6.9	6.8	12.3	13.1	5.7	6.8
Oregon	5.5	5.3	5.3	5.2	5.3	5.1	11.1	11.2	5.4	5.9
Pennsylvania	7.6	7.5	6.5	6.5	6.4	6.3	13.9	14.1	9.2	9.5
Rhode Island	7.4	6.9	6.9	6.5	6.5	6.1	11.9	12.0	7.8	7.4
South Carolina	9.1	9.2	6.7	7.0	6.8	7.0	13.5	13.2	5.9	6.4
South Dakota	5.5	5.8	5.6	5.8	5.6	5.8	*	*	*	*
Tennessee	8.8	8.8	7.4	7.3	7.4	7.3	13.7	14.2	6.3	7.0
Texas	7.3	7.2	6.5	6.5	6.5	6.4	12.4	12.4	6.6	6.6
Utah	6.6	6.6	6.5	6.6	6.4	6.4	13.7	12.0	7.4	8.2
Vermont	6.3	6.2	6.3	6.2	6.1	6.0	*	*	*	*
Virginia	7.7	7.7	6.2	6.3	6.2	6.2	12.6	12.2	6.3	7.2
Washington	5.6	5.6	5.3	5.3	5.3	5.2	10.2	10.8	5.4	5.5
West Virginia	8.3	8.0	8.1	7.8	8.1	7.8	12.8	12.4	*	*
Wisconsin	6.4	6.3	5.7	5.6	5.6	5.5	13.3	12.7	6.7	6.5
Wyoming	9.0	8.4	9.1	8.3	9.1	8.1	*	*	7.8	9.6
Puerto Rico	10.7	10.4	10.7	10.4	---	---	9.9	10.7	---	---
Virgin Islands	8.2	7.5	*	*	*	*	9.3	7.9	5.9	*
Guam	7.1	7.2	5.1	*	*	*	*	*	*	*

* Figure does not meet standards of reliability or precision.

--- Data not available.

¹ Includes races other than white and black.² Race and Hispanic origin are reported separately on the birth certificate. Data for persons of Hispanic origin are included in the data for each race group according to the mother's reported race; see Technical notes.³ Includes all persons of Hispanic origin of any race; see Technical notes.⁴ Excludes data for Puerto Rico, Virgin Islands, and Guam.

NOTE: Data are subject to sampling and/or random variation. For information on the relative standard errors of the data and further discussion, see Technical notes.

Table 8. Percent of live births by cesarean delivery by race and Hispanic origin of mother: United States, each State, Puerto Rico, Virgin Islands, and Guam, final 1996 and preliminary 1997

[By place of residence. Data are based on a continuous file of records received from the States]

Area	All races ¹		White, total ²		White, non-Hispanic		Black, total ²		Hispanic ³	
	1997	1996	1997	1996	1997	1996	1997	1996	1997	1996
United States ⁴	20.8	20.7	20.7	20.6	20.9	20.8	21.8	21.7	20.2	20.0
Alabama	23.9	23.3	24.6	23.7	24.7	23.8	22.6	22.7	21.0	22.3
Alaska	17.0	16.7	19.4	19.2	19.2	19.2	23.7	19.7	21.5	20.0
Arizona	16.8	16.1	16.8	16.2	18.1	16.8	19.9	19.3	15.1	15.4
Arkansas	24.5	25.3	24.3	25.0	24.6	25.1	25.6	26.5	18.7	22.4
California	21.0	20.6	21.0	20.6	22.0	21.6	23.3	22.9	20.3	19.8
Colorado	15.3	15.1	15.2	15.1	15.4	15.3	17.8	16.6	14.4	14.4
Connecticut	19.6	19.8	19.6	19.8	20.0	20.1	20.2	20.5	16.8	18.3
Delaware	21.1	21.0	21.0	21.3	21.4	21.6	21.0	20.5	15.7	17.6
District of Columbia ...	21.1	21.3	20.1	19.2	22.1	23.3	21.7	22.1	16.5	13.6
Florida	22.2	21.6	22.6	22.1	21.9	21.4	20.9	20.3	24.5	24.0
Georgia	20.8	20.9	20.6	20.7	21.1	21.2	21.2	21.7	16.3	15.6
Hawaii	16.3	17.5	19.6	19.3	19.6	19.3	20.9	20.4	17.4	16.5
Idaho	16.4	16.0	16.4	15.9	16.2	15.8	*	29.3	17.7	16.6
Illinois	19.1	19.3	19.2	19.3	19.9	20.1	19.0	19.4	16.8	16.7
Indiana	19.7	20.3	19.7	20.2	19.7	20.2	19.9	21.1	20.0	21.2
Iowa	18.9	18.6	19.0	18.6	19.2	18.7	17.7	19.6	16.2	17.4
Kansas	18.5	19.2	18.6	19.3	18.8	19.4	18.5	19.8	16.4	19.0
Kentucky	22.4	21.3	22.4	21.4	22.5	21.4	22.0	21.0	17.5	16.7
Louisiana	25.4	26.4	26.4	27.9	26.5	28.0	24.2	24.6	24.4	23.4
Maine	20.8	20.8	20.8	20.9	20.8	20.8	*	*	20.7	23.5
Maryland	21.0	21.6	20.6	21.0	21.0	21.3	21.9	23.2	16.7	17.8
Massachusetts	19.7	19.8	19.8	20.0	20.2	20.3	21.0	20.2	17.7	17.1
Michigan	20.1	20.2	20.2	20.5	20.3	20.6	19.8	18.9	19.9	19.1
Minnesota	17.1	16.9	17.5	17.2	17.6	17.3	16.1	16.9	17.5	16.5
Mississippi	26.7	26.6	27.8	28.0	27.9	28.1	25.5	25.2	22.2	27.0
Missouri	20.1	20.4	20.4	20.7	20.5	20.7	18.0	18.8	19.9	18.3
Montana	19.0	19.1	18.5	18.8	18.5	18.7	*	*	18.6	20.2
Nebraska	20.2	19.8	20.3	20.0	20.5	20.1	18.9	18.5	18.6	19.2
Nevada	20.1	19.3	19.6	19.0	21.0	20.6	23.2	22.1	17.0	15.7
New Hampshire	19.3	20.3	19.3	20.2	19.5	20.2	19.4	21.6	15.8	22.9
New Jersey	24.9	24.0	25.0	24.2	25.0	24.1	24.3	23.5	25.2	24.8
New Mexico	16.6	17.2	17.2	17.5	17.5	18.0	21.9	22.2	16.9	17.1
New York	23.0	22.9	23.0	22.9	23.5	23.6	23.4	23.2	22.2	21.8
North Carolina	21.2	21.1	21.2	21.1	21.6	21.5	21.6	21.4	16.6	15.9
North Dakota	18.4	18.9	18.2	18.2	18.2	18.2	*	24.7	21.2	20.4
Ohio	19.0	19.0	19.1	19.2	19.1	19.2	18.9	18.6	20.1	18.3
Oklahoma	22.3	22.5	22.1	22.2	22.3	22.3	23.0	24.0	21.0	21.0
Oregon	16.9	16.9	16.9	16.8	17.1	17.1	19.3	21.2	15.5	15.4
Pennsylvania	19.4	19.4	19.5	19.5	19.7	19.7	18.9	19.0	17.1	17.5
Rhode Island	18.6	17.7	18.8	18.1	19.5	18.8	19.5	18.0	16.3	16.7
South Carolina	22.8	22.6	22.9	22.8	23.1	22.8	22.5	22.3	17.8	23.1
South Dakota	20.0	20.8	19.8	21.4	19.8	21.3	22.2	*	20.6	24.7
Tennessee	21.9	21.7	21.9	21.9	22.0	21.9	21.7	21.3	19.1	22.1
Texas	23.1	23.1	23.0	23.1	23.7	23.7	24.8	24.5	22.3	22.4
Utah	15.8	15.9	15.7	15.8	15.6	15.7	19.2	22.5	17.1	17.4
Vermont	15.6	16.5	15.6	16.4	15.6	16.1	*	*	*	*
Virginia	21.5	21.1	21.1	20.8	21.1	21.0	22.9	22.2	20.3	18.3
Washington	17.1	16.8	17.0	16.5	17.0	16.6	21.5	21.1	17.0	16.6
West Virginia	24.4	22.8	24.2	22.8	24.3	22.8	28.8	23.9	*	20.2
Wisconsin	15.7	15.6	16.2	16.2	16.3	16.3	13.1	12.0	15.3	13.7
Wyoming	18.6	18.3	18.5	18.4	18.3	18.6	*	*	20.3	16.3
Puerto Rico	33.3	31.5	33.6	32.1	---	---	28.4	24.2	---	---
Virgin Islands	23.0	22.4	24.6	26.3	26.8	26.8	22.7	21.6	21.9	25.9
Guam	15.6	15.1	15.7	13.7	16.1	14.4	*	*	*	*

* Figure does not meet standards of reliability or precision.

--- Data not available.

¹ Includes races other than white and black.² Race and Hispanic origin are reported separately on the birth certificate. Data for persons of Hispanic origin are included in the data for each race group according to the mother's reported race; see Technical notes.³ Includes all persons of Hispanic origin of any race; see Technical notes.⁴ Excludes data for Puerto Rico, Virgin Islands, and Guam.

NOTE: Data are subject to sampling and/or random variation. For information on the relative standard errors of the data and further discussion, see Technical notes.

Table 9. Percent of mothers receiving prenatal care in first trimester of pregnancy by race and Hispanic origin of mother: United States, each State, Puerto Rico, Virgin Islands, and Guam, final 1996 and preliminary 1997

[By place of residence. Data are based on a continuous file of records received from the States]

Area	All races ¹		White, total ²		White, non-Hispanic		Black, total ²		Hispanic ³	
	1997	1996	1997	1996	1997	1996	1997	1996	1997	1996
United States ⁴	82.5	81.9	84.7	84.0	87.9	87.4	72.3	71.4	73.7	72.2
Alabama	82.3	81.6	88.1	87.8	88.7	88.3	70.3	68.8	62.5	62.1
Alaska	80.9	80.8	83.0	83.2	83.4	83.8	81.9	81.8	77.4	75.5
Arizona	75.3	73.7	76.5	74.8	84.9	83.5	70.8	69.6	65.1	62.5
Arkansas	75.7	74.8	79.4	78.7	80.5	79.8	62.8	61.0	59.9	56.9
California	81.8	80.6	81.8	80.4	87.9	87.1	78.6	78.8	77.3	75.5
Colorado	82.9	81.4	83.3	81.9	87.9	86.7	77.3	75.5	69.7	66.8
Connecticut	89.3	88.2	90.7	89.7	92.8	91.8	80.0	77.1	79.1	77.1
Delaware	82.6	83.6	86.4	87.0	87.7	88.8	71.4	72.8	69.8	67.1
District of Columbia ...	66.7	64.6	81.0	77.4	89.3	87.5	61.5	60.0	63.1	60.8
Florida	83.9	83.3	87.1	86.5	88.9	88.3	72.8	72.3	81.7	80.5
Georgia	85.8	85.2	89.5	89.0	91.0	90.5	78.5	78.0	75.8	73.3
Hawaii	83.4	84.2	88.9	89.3	89.8	89.6	89.2	86.4	81.9	83.6
Idaho	78.6	78.9	78.9	79.2	81.4	81.7	71.4	75.7	62.1	60.0
Illinois	82.5	81.5	85.6	84.7	89.5	88.6	69.7	68.8	72.8	71.4
Indiana	78.7	80.4	80.1	82.2	81.0	82.8	64.4	64.7	63.4	66.8
Iowa	87.5	87.1	88.1	87.7	88.9	88.5	73.5	75.0	70.6	69.1
Kansas	85.6	85.5	86.6	86.4	89.2	88.8	75.9	76.4	64.6	64.7
Kentucky	85.8	84.7	86.9	85.8	87.1	85.9	75.3	74.3	72.9	75.5
Louisiana	81.3	81.1	88.7	88.7	88.8	88.9	71.1	70.4	84.1	81.9
Maine	88.9	89.9	89.3	90.1	89.4	90.4	79.0	85.5	83.9	78.9
Maryland	88.8	88.3	92.6	92.4	93.3	93.2	80.3	78.5	80.7	81.0
Massachusetts	88.9	83.7	90.4	85.6	91.8	87.1	78.1	70.6	77.8	70.2
Michigan	84.2	84.2	87.2	87.0	88.4	88.1	70.6	71.5	73.8	73.1
Minnesota	84.2	83.5	86.8	86.0	87.6	86.7	64.4	64.5	61.7	59.8
Mississippi	80.0	78.6	89.1	88.0	89.3	88.1	69.4	68.0	78.5	80.2
Missouri	86.0	85.5	88.2	87.9	88.6	88.2	73.6	72.2	74.8	77.9
Montana	82.6	82.7	84.7	84.4	84.9	84.7	74.2	81.6	77.3	73.9
Nebraska	83.9	84.5	85.0	85.4	87.0	87.3	72.0	73.2	67.1	66.6
Nevada	76.1	77.6	76.9	78.5	83.3	84.2	66.6	67.4	64.3	65.7
New Hampshire	89.6	89.1	89.8	89.3	90.2	89.6	78.0	76.4	78.3	75.5
New Jersey	81.4	81.8	85.6	85.5	89.5	89.4	64.1	65.5	71.2	70.9
New Mexico	70.2	69.7	72.5	71.9	79.1	78.9	64.2	60.9	67.6	66.4
New York	80.6	79.1	84.0	82.6	87.8	87.0	69.8	68.4	71.1	68.4
North Carolina	83.9	83.5	88.2	88.1	90.0	89.6	73.2	71.8	69.3	67.8
North Dakota	84.8	84.7	86.7	86.3	87.0	86.6	75.0	78.7	75.7	71.5
Ohio	85.1	85.4	87.4	87.6	87.7	87.9	72.2	72.5	76.6	76.4
Oklahoma	78.6	78.7	81.2	81.1	82.1	81.8	67.7	67.1	67.8	70.1
Oregon	81.1	79.9	81.4	80.3	83.9	82.6	79.3	76.6	66.8	65.6
Pennsylvania	83.8	84.2	86.6	87.1	87.5	88.0	68.0	67.1	71.5	70.6
Rhode Island	89.5	89.6	90.6	90.8	92.2	91.8	79.7	78.6	81.4	84.1
South Carolina	80.8	79.4	87.1	86.2	87.8	86.9	69.2	67.1	67.1	63.9
South Dakota	82.1	81.7	85.2	85.5	85.5	85.7	69.2	63.9	70.8	71.3
Tennessee	83.7	83.3	87.1	86.7	87.9	87.2	71.8	71.5	63.3	65.5
Texas	78.5	78.1	78.8	78.4	86.8	86.6	74.6	74.0	71.2	70.2
Utah	83.8	83.8	84.6	84.7	87.1	86.8	70.3	64.5	63.8	64.9
Vermont	88.1	87.4	88.3	87.5	88.4	87.6	*	*	*	89.5
Virginia	85.1	84.5	88.8	88.4	90.2	89.7	73.5	72.1	72.6	72.6
Washington	83.4	83.2	84.1	84.1	86.2	86.1	77.0	76.7	70.8	70.7
West Virginia	82.0	81.9	82.6	82.5	82.7	82.6	65.4	65.9	72.6	73.7
Wisconsin	84.6	84.1	87.3	87.0	88.1	88.0	68.9	66.2	72.6	69.5
Wyoming	82.6	81.9	83.4	82.5	84.2	83.8	75.8	64.6	73.9	69.3
Puerto Rico	78.4	77.3	79.1	78.3	---	---	69.6	66.2	---	---
Virgin Islands	56.8	55.4	60.9	60.1	79.5	76.3	55.6	54.5	53.2	52.6
Guam	64.3	66.6	84.9	79.7	85.2	80.1	87.5	80.5	73.3	78.0

* Figure does not meet standards of reliability or precision.

--- Data not available.

¹ Includes races other than white and black.² Race and Hispanic origin are reported separately on the birth certificate. Data for persons of Hispanic origin are included in the data for each race group according to the mother's reported race; see Technical notes.³ Includes all persons of Hispanic origin of any race; see Technical notes.⁴ Excludes data for Puerto Rico, Virgin Islands, and Guam.

NOTE: Data are subject to sampling and/or random variation. For information on the relative standard errors of the data and further discussion, see Technical notes.

Table 10. Deaths and death rates, by age, sex, and race and age-adjusted death rates, by sex and race: United States, final 1996 and preliminary 1997

[Data are based on a continuous file of records received from the States. Age-specific rates per 100,000 population in specified group; age-adjusted rates per 100,000 U.S. standard population. The number of deaths and death rates for specified races other than white and black should be interpreted with caution because of inconsistencies between reporting race on death certificates and censuses and surveys; see Technical notes. Figures for 1997 are based on weighted data rounded to the nearest individual, so categories may not add to totals]

Age, race, and sex	1997		1996	
	Number	Rate	Number	Rate
All races, both sexes				
All ages	2,314,738	864.9	2,314,690	872.5
Under 1 year ¹	27,691	729.4	28,487	755.7
1-4 years	5,480	35.7	5,948	38.3
5-14 years	8,044	20.7	8,330	21.7
15-24 years	30,962	84.6	32,443	89.6
25-34 years	44,931	113.4	51,147	126.7
35-44 years	88,827	201.9	96,033	221.3
45-54 years	144,093	428.4	144,329	445.9
55-64 years	231,253	1,060.2	233,725	1,094.1
65-74 years	464,577	2,511.4	473,894	2,538.4
75-84 years	672,221	5,742.7	663,290	5,803.1
85 years and over	596,193	15,400.1	576,541	15,327.2
Not stated	467	...	523	...
Age-adjusted rate ² .....	...	478.1	...	491.6
All races, male				
All ages	1,154,010	880.8	1,163,569	896.4
Under 1 year ¹	15,683	807.4	15,965	828.0
1-4 years	3,093	39.4	3,349	42.2
5-14 years	4,732	23.8	5,003	25.4
15-24 years	22,876	121.6	24,313	130.6
25-34 years	31,255	157.8	36,070	178.6
35-44 years	57,786	264.1	64,304	298.1
45-54 years	89,877	546.1	90,871	573.8
55-64 years	138,399	1,332.0	141,170	1,388.7
65-74 years	264,205	3,195.2	269,173	3,233.4
75-84 years	330,519	7,140.5	325,259	7,249.8
85 years and over	195,237	17,558.7	187,719	17,547.7
Not stated	348	...	373	...
Age-adjusted rate ² .....	...	601.6	...	623.7
All races, female				
All ages	1,160,728	849.6	1,151,121	849.7
Under 1 year ¹	12,008	647.7	12,522	680.0
1-4 years	2,387	31.8	2,599	34.3
5-14 years	3,312	17.5	3,327	17.8
15-24 years	8,086	45.5	8,130	46.2
25-34 years	13,676	69.1	15,077	74.7
35-44 years	31,041	140.4	31,729	145.4
45-54 years	54,215	315.6	53,458	323.3
55-64 years	92,853	812.9	92,555	826.7
65-74 years	200,372	1,958.7	204,721	1,979.0
75-84 years	341,702	4,828.4	338,031	4,868.3
85 years and over	400,957	14,530.4	388,822	14,444.7
Not stated	119	...	150	...
Age-adjusted rate ² .....	...	375.1	...	381.0

See footnotes at end of table.

Table 10. Deaths and death rates by age, sex, and race and age-adjusted death rates, by sex and race: United States, final 1996 and preliminary 1997 - Con.

[Data are based on a continuous file of records received from the States. Age-specific rates per 100,000 population in specified group; age-adjusted rates per 100,000 U.S. standard population. The number of deaths and death rates for specified races other than white and black should be interpreted with caution because of inconsistencies between reporting race on death certificates and censuses and surveys; see Technical notes. Figures for 1997 are based on weighted data rounded to the nearest individual, so categories may not add to totals]

Age, race, and sex	1997		1996	
	Number	Rate	Number	Rate
White, total, both sexes				
All ages	2,000,792	904.0	1,992,966	906.9
Under 1 year ¹	18,462	611.2	18,761	622.2
1-4 years	3,828	31.5	4,041	32.9
5-14 years	5,795	18.9	6,045	19.9
15-24 years	22,166	76.1	22,943	79.5
25-34 years	31,921	99.5	35,846	109.2
35-44 years	64,858	177.6	68,898	191.0
45-54 years	111,040	388.1	110,879	401.8
55-64 years	187,672	999.6	190,141	1,032.5
65-74 years	400,621	2,456.3	408,874	2,476.3
75-84 years	606,157	5,723.1	596,418	5,763.4
85 years and over	547,938	15,636.0	529,736	15,552.0
Not stated	334	...	384	...
Age-adjusted rate ² .....	...	456.6	...	466.8
White, male				
All ages	988,800	908.0	991,984	918.1
Under 1 year ¹	10,569	682.4	10,561	683.3
1-4 years	2,161	34.6	2,335	37.1
5-14 years	3,468	22.1	3,621	23.2
15-24 years	16,104	107.0	16,989	113.9
25-34 years	22,449	138.5	25,671	154.8
35-44 years	42,991	234.2	47,062	259.6
45-54 years	69,733	492.5	70,359	515.5
55-64 years	113,211	1,251.3	115,688	1,305.2
65-74 years	230,031	3,129.9	234,310	3,158.3
75-84 years	299,370	7,121.5	293,662	7,205.5
85 years and over	178,452	17,889.9	171,449	17,870.5
Not stated	261	...	277	...
Age-adjusted rate ² .....	...	573.8	...	591.4
White, female				
All ages	1,011,992	900.0	1,000,982	896.2
Under 1 year ¹	7,894	536.4	8,200	558.0
1-4 years	1,667	28.1	1,706	28.5
5-14 years	2,327	15.6	2,424	16.4
15-24 years	6,062	43.1	5,954	42.7
25-34 years	9,472	59.7	10,175	62.7
35-44 years	21,867	120.4	21,836	121.6
45-54 years	41,307	285.8	40,520	290.5
55-64 years	74,461	765.5	74,453	779.5
65-74 years	170,590	1,903.8	174,564	1,919.8
75-84 years	306,787	4,802.8	302,756	4,826.5
85 years and over	369,487	14,739.2	358,287	14,642.9
Not stated	73	...	107	...
Age-adjusted rate ² .....	...	358.2	...	361.9

See footnotes at end of table.

Table 10. Deaths and death rates by age, sex, and race and age-adjusted death rates, by sex and race: United States, final 1996 and preliminary 1997 - Con.

[Data are based on a continuous file of records received from the States. Age-specific rates per 100,000 population in specified group; age-adjusted rates per 100,000 U.S. standard population. The number of deaths and death rates for specified races other than white and black should be interpreted with caution because of inconsistencies between reporting race on death certificates and censuses and surveys; see Technical notes. Figures for 1997 are based on weighted data rounded to the nearest individual, so categories may not add to totals]

Age, race, and sex	1997		1996	
	Number	Rate	Number	Rate
Black, total, both sexes				
All ages	272,972	804.1	282,089	842.0
Under 1 year ¹	8,241	1,483.9	8,730	1,598.1
1-4 years	1,383	59.2	1,623	67.6
5-14 years	1,888	31.0	1,924	32.1
15-24 years	7,569	136.1	8,252	150.1
25-34 years	11,478	213.4	13,638	252.0
35-44 years	21,398	393.3	24,590	462.6
45-54 years	29,257	817.8	29,771	873.1
55-64 years	38,148	1,724.1	38,459	1,782.0
65-74 years	55,430	3,363.8	56,749	3,474.0
75-84 years	56,526	6,547.6	57,698	6,819.5
85 years and over	41,533	14,199.8	40,534	14,157.6
Not stated	121	...	121	...
Age-adjusted rate ² .....	...	696.3	...	738.3
Black, male				
All ages	142,291	882.6	149,472	939.9
Under 1 year ¹	4,548	1,614.1	4,837	1,748.2
1-4 years	793	66.9	869	71.4
5-14 years	1,070	34.6	1,160	38.1
15-24 years	5,895	211.3	6,422	233.0
25-34 years	7,760	304.2	9,259	361.0
35-44 years	13,206	518.3	15,635	629.2
45-54 years	17,847	1,100.6	18,397	1,190.6
55-64 years	21,928	2,284.8	22,438	2,395.1
65-74 years	29,474	4,271.4	30,241	4,431.5
75-84 years	26,093	8,178.3	26,793	8,614.9
85 years and over	13,599	15,887.2	13,340	16,006.3
Not stated	79	...	81	...
Age-adjusted rate ² .....	...	900.3	...	967.0
Black, female				
All ages	130,680	733.1	132,617	753.5
Under 1 year ¹	3,693	1,349.9	3,893	1,444.0
1-4 years	590	51.2	754	63.7
5-14 years	817	27.3	764	25.9
15-24 years	1,674	60.4	1,830	66.8
25-34 years	3,718	131.5	4,379	153.8
35-44 years	8,192	283.3	8,955	316.4
45-54 years	11,410	583.4	11,374	610.1
55-64 years	16,220	1,294.6	16,021	1,311.7
65-74 years	25,956	2,709.9	26,508	2,787.0
75-84 years	30,433	5,591.6	30,905	5,775.9
85 years and over	27,934	13,501.6	27,194	13,398.5
Not stated	42	...	40	...
Age-adjusted rate ² .....	...	538.5	...	561.0

See footnotes at end of table.

Table 10. Deaths and death rates by age, sex, and race and age-adjusted death rates, by sex and race: United States, final 1996 and preliminary 1997 - Con.

[Data are based on a continuous file of records received from the States. Age-specific rates per 100,000 population in specified group; age-adjusted rates per 100,000 U.S. standard population. The number of deaths and death rates for specified races other than white and black should be interpreted with caution because of inconsistencies between reporting race on death certificates and censuses and surveys; see Technical notes. Figures for 1997 are based on weighted data rounded to the nearest individual, so categories may not add to totals]

Age, race, and sex	1997		1996	
	Number	Rate	Number	Rate
American Indian, total ³ , both sexes				
All ages	10,601	456.5	10,127	442.6
Under 1 year ¹	308	753.5	317	796.7
1-4 years	93	57.9	114	70.1
5-14 years	120	25.8	143	30.8
15-24 years	485	119.5	476	119.6
25-34 years	680	181.7	696	186.4
35-44 years	1,015	291.1	964	281.6
45-54 years	1,252	526.9	1,154	505.5
55-64 years	1,551	1,126.0	1,458	1,091.2
65-74 years	2,049	2,360.0	1,908	2,223.4
75-84 years	1,853	4,052.3	1,775	4,055.4
85 years and over	1,191	6,539.3	1,118	6,679.8
Not stated	4	...	4	...
Age-adjusted rate ² .....	...	466.4	...	456.7
American Indian ³ , male				
All ages	6,034	523.4	5,563	489.8
Under 1 year ¹	187	907.8	175	874.4
1-4 years	44	54.1	60	72.9
5-14 years	69	29.2	89	37.8
15-24 years	364	176.9	354	174.7
25-34 years	464	240.8	498	260.0
35-44 years	681	396.2	622	370.0
45-54 years	779	676.0	641	580.2
55-64 years	930	1,434.3	849	1,348.0
65-74 years	1,132	2,893.2	1,025	2,640.7
75-84 years	911	4,838.8	827	4,633.8
85 years and over	473	7,972.4	419	7,686.7
Not stated	1	...	4	...
Age-adjusted rate ² .....	...	589.5	...	555.9
American Indian ³ , female				
All ages	4,567	390.6	4,564	396.0
Under 1 year ¹	122	601.7	142	718.2
1-4 years	49	61.8	54	67.1
5-14 years	50	21.8	54	23.7
15-24 years	120	60.0	122	62.5
25-34 years	216	119.0	198	108.9
35-44 years	334	188.9	342	196.3
45-54 years	473	386.6	513	435.4
55-64 years	621	851.8	609	862.2
65-74 years	917	1,922.6	883	1,878.8
75-84 years	942	3,501.9	948	3,657.1
85 years and over	718	5,846.9	699	6,193.5
Not stated	3	...	-	...
Age-adjusted rate ² .....	...	357.3	...	367.7

See footnotes at end of table.

Table 10. Deaths and death rates by age, sex, and race and age-adjusted death rates, by sex and race: United States, final 1996 and preliminary 1997 - Con.

[Data are based on a continuous file of records received from the States. Age-specific rates per 100,000 population in specified group; age-adjusted rates per 100,000 U.S. standard population. The number of deaths and death rates for specified races other than white and black should be interpreted with caution because of inconsistencies between reporting race on death certificates and censuses and surveys; see Technical notes. Figures for 1997 are based on weighted data rounded to the nearest individual, so categories may not add to totals]

Age, race, and sex	1997		1996	
	Number	Rate	Number	Rate
Asian or Pacific Islander, total, both sexes				
All ages	30,373	302.7	29,508	302.8
Under 1 year ¹	679	377.9	679	403.5
1-4 years	176	25.4	170	25.1
5-14 years	242	15.4	218	14.3
15-24 years	742	49.7	772	52.2
25-34 years	852	47.5	967	54.7
35-44 years	1,556	91.9	1,581	95.5
45-54 years	2,543	211.2	2,525	222.1
55-64 years	3,881	564.3	3,667	560.2
65-74 years	6,477	1,427.3	6,363	1,452.1
75-84 years	7,685	3,742.7	7,399	3,857.3
85 years and over	5,530	9,820.3	5,153	9,852.6
Not stated	8	...	14	...
Age-adjusted rate ² .....	...	270.9	...	277.4
Asian or Pacific Islander, male				
All ages	16,884	348.0	16,550	350.7
Under 1 year ¹	380	416.5	392	457.6
1-4 years	95	27.0	85	24.6
5-14 years	125	15.5	133	17.1
15-24 years	513	68.1	548	73.2
25-34 years	582	67.8	642	75.6
35-44 years	908	112.4	985	125.0
45-54 years	1,518	270.1	1,474	277.0
55-64 years	2,330	730.7	2,195	726.3
65-74 years	3,568	1,875.8	3,597	1,948.4
75-84 years	4,145	4,752.5	3,977	4,844.3
85 years and over	2,713	11,857.5	2,511	11,637.4
Not stated	7	...	11	...
Age-adjusted rate ² .....	...	346.2	...	355.8
Asian or Pacific Islander, female				
All ages	13,489	260.3	12,958	257.9
Under 1 year ¹	299	338.0	287	347.4
1-4 years	81	23.8	85	25.6
5-14 years	117	15.2	85	11.4
15-24 years	230	31.1	224	30.6
25-34 years	270	28.9	325	35.4
35-44 years	648	73.2	596	68.7
45-54 years	1,025	159.6	1,051	173.8
55-64 years	1,551	420.4	1,472	417.7
65-74 years	2,909	1,103.6	2,766	1,090.8
75-84 years	3,540	2,997.1	3,422	3,118.8
85 years and over	2,817	8,426.1	2,642	8,599.1
Not stated	1	...	3	...
Age-adjusted rate ² .....	...	211.0	...	214.4

... Category not applicable.

- Quantity zero.

¹ Death rates are based on population estimates; they differ from infant mortality rates, which are based on live births and are shown separately for "Under 1 year."

² For method of computation, see Technical notes.

³ Includes deaths among Aleuts and Eskimos.

NOTE: Data are subject to sampling and/or random variation. For information on the relative standard errors of the data and further discussion, see Technical notes.

Table 11. Deaths, death rates, and age-adjusted death rates for 72 selected causes, Human immunodeficiency virus infection, Alzheimer's disease, Injury by firearms, Drug-induced deaths, Alcohol-induced deaths, and Injury at work: United States, final 1996 and preliminary 1997

[Data are based on a continuous file of records received from the States. Rates per 100,000 population; age-adjusted rates per 100,000 U.S. standard population; see Technical notes. For explanation of asterisks preceding cause-of-death categories, see Technical notes. Figures for 1997 are based on weighted data rounded to the nearest individual, so categories may not add to totals]

Cause of death (Based on the Ninth Revision, International Classification of Diseases, 1975)	1997			1996		
	Number	Rate	Age-adjusted rate	Number	Rate	Age-adjusted rate
All causes	2,314,729	864.9	478.2	2,314,690	872.5	491.6
Shigellosis and amebiasis (004,006)	6	*	*	9	*	*
Certain other intestinal infections (007-009)	1,012	0.4	0.2	824	0.3	0.2
Tuberculosis (010-018)	1,165	0.4	0.3	1,202	0.5	0.3
Tuberculosis of respiratory system (010-012)	872	0.3	0.2	912	0.3	0.2
Other tuberculosis (013-018)	293	0.1	0.1	290	0.1	0.1
Whooping cough (033)	6	*	*	4	*	*
Streptococcal sore throat, scarlatina, and erysipelas (034-035)	5	*	*	13	*	*
Meningococcal infection (036)	327	0.1	0.2	290	0.1	0.1
Septicemia (038)	22,604	8.4	4.2	21,423	8.1	4.1
Acute poliomyelitis (045)	1	*	*	-	*	*
Measles (055)	3	*	*	1	*	*
Viral hepatitis (070)	3,908	1.5	1.1	3,780	1.4	1.1
Syphilis (090-097)	60	0.0	0.0	73	0.0	0.0
All other infectious and parasitic diseases (001-003,005,020-032,037,039-041,*042-*044,046-054,056-066,071-088,098-139)	23,441	8.8	7.7	38,172	14.4	13.0
Malignant neoplasms, including neoplasms of lymphatic and hematopoietic tissues (140-208)	537,390	200.8	125.0	539,533	203.4	127.9
Malignant neoplasms of lip, oral cavity, and pharynx (140-149)	7,823	2.9	2.0	7,854	3.0	2.1
Malignant neoplasms of digestive organs and peritoneum (150-159)	126,109	47.1	27.9	126,495	47.7	28.5
Malignant neoplasms of respiratory and intrathoracic organs (160-165)	158,234	59.1	38.6	157,271	59.3	39.3
Malignant neoplasm of breast (174-175)	42,181	15.8	10.5	43,448	16.4	11.0
Malignant neoplasms of genital organs (179-187)	58,539	21.9	11.9	60,080	22.6	12.5
Malignant neoplasms of urinary organs (188-189)	23,271	8.7	5.0	23,004	8.7	5.1
Malignant neoplasms of all other and unspecified sites (170-173,190-199)	65,616	24.5	16.1	66,451	25.0	16.6
Leukemia (204-208)	20,197	7.5	4.7	20,340	7.7	4.8
Other malignant neoplasms of lymphatic and hematopoietic tissues (200-203)	35,421	13.2	8.2	34,590	13.0	8.2
Benign neoplasms, carcinoma in situ, and neoplasms of uncertain behavior and of unspecified nature (210-239)	7,784	2.9	1.7	7,647	2.9	1.7
Diabetes mellitus (250)	62,332	23.3	13.4	61,767	23.3	13.6
Nutritional deficiencies (260-269)	3,946	1.5	0.5	3,706	1.4	0.5
Anemias (280-285)	4,477	1.7	0.8	4,332	1.6	0.8
Meningitis (320-322)	797	0.3	0.3	758	0.3	0.3
Major cardiovascular diseases (390-448)	942,680	352.2	165.4	950,164	358.2	170.7
Diseases of heart (390-398,402,404-429)	725,790	271.2	129.9	733,361	276.4	134.5
Rheumatic fever and rheumatic heart disease (390-398)	4,922	1.8	1.0	5,006	1.9	1.1
Hypertensive heart disease (402)	26,088	9.7	5.0	26,188	9.9	5.2
Hypertensive heart and renal disease (404)	2,403	0.9	0.4	2,501	0.9	0.4
Ischemic heart disease (410-414)	465,651	174.0	82.7	476,124	179.5	86.7
Acute myocardial infarction (410)	205,933	76.9	39.6	213,532	80.5	42.0
Other acute and subacute forms of ischemic heart disease (411)	3,031	1.1	0.6	2,889	1.1	0.6
Angina pectoris (413)	726	0.3	0.1	829	0.3	0.1
Old myocardial infarction and other forms of chronic ischemic heart disease (412,414)	255,961	95.6	42.3	258,874	97.6	44.0
Other diseases of endocardium (424)	17,683	6.6	2.7	17,181	6.5	2.7
All other forms of heart disease (415-423,425-429)	209,043	78.1	38.0	206,361	77.8	38.4
Hypertension with or without renal disease (401,403)	13,344	5.0	2.3	12,945	4.9	2.3
Cerebrovascular diseases (430-438)	159,877	59.7	25.9	159,942	60.3	26.4
Intracerebral and other intracranial hemorrhage (431-432)	25,675	9.6	5.5	23,573	8.9	5.2
Cerebral thrombosis and unspecified occlusion of cerebral arteries (434.0,434.9) Cerebral embolism (434.1)	12,040	4.5	1.8	13,022	4.9	2.0
All other and late effects of cerebrovascular diseases (430,433,435-438)	608	0.2	0.1	672	0.3	0.1
Atherosclerosis (440)	121,553	45.4	18.4	122,675	46.2	19.1
Other diseases of arteries, arterioles, and capillaries (441-448)	15,844	5.9	2.0	16,740	6.3	2.2
Acute bronchitis and bronchiolitis (466)	27,824	10.4	5.3	27,176	10.2	5.3
Pneumonia and influenza (480-487)	481	0.2	0.1	486	0.2	0.1
Pneumonia (480-486)	88,383	33.0	13.2	83,727	31.6	12.8
Influenza (487)	87,526	32.7	13.0	82,982	31.3	12.7
All other forms of pneumonia and influenza (480-487)	857	0.3	0.1	745	0.3	0.1
Chronic obstructive pulmonary diseases and allied conditions (490-496)	110,637	41.3	21.4	106,027	40.0	21.0
Bronchitis, chronic and unspecified (490-491)	3,061	1.1	0.6	3,151	1.2	0.6
Emphysema (492)	17,827	6.7	3.7	17,286	6.5	3.6
Asthma (493)	5,338	2.0	1.4	5,667	2.1	1.5
Other chronic obstructive pulmonary diseases and allied conditions (494-496)	84,411	31.5	15.7	79,923	30.1	15.2
Ulcer of stomach and duodenum (531-533)	5,114	1.9	0.9	5,105	1.9	0.9

See footnotes at end of table.

Table 11. Deaths, death rates, and age-adjusted death rates for 72 selected causes, Human immunodeficiency virus infection, Alzheimer's disease, Injury by firearms, Drug-induced deaths, Alcohol-induced deaths, and Injury at work: United States, final 1996 and preliminary 1997 - Con.

[Data are based on a continuous file of records received from the States. Rates per 100,000 population; age-adjusted rates per 100,000 U.S. standard population; see Technical notes. For explanation of asterisks preceding cause-of-death categories, see Technical notes. Figures for 1997 are based on weighted data rounded to the nearest individual, so categories may not add to totals]

Cause of death (Based on the Ninth Revision, International Classification of Diseases, 1975)	1997			1996		
	Number	Rate	Age-adjusted rate	Number	Rate	Age-adjusted rate
Appendicitis (540-543)	421	0.2	0.1	424	0.2	0.1
Hernia of abdominal cavity and intestinal obstruction without mention of hernia (550-553,560)	6,475	2.4	1.0	6,476	2.4	1.0
Chronic liver disease and cirrhosis (571)	24,765	9.3	7.2	25,047	9.4	7.5
Cholelithiasis and other disorders of gallbladder (574-575)	2,721	1.0	0.5	2,816	1.1	0.5
Nephritis, nephrotic syndrome, and nephrosis (580-589)	25,570	9.6	4.5	24,304	9.2	4.3
Acute glomerulonephritis and nephrotic syndrome (580-581)	307	0.1	0.0	321	0.1	0.0
Chronic glomerulonephritis, nephritis and nephropathy, not specified as acute or chronic, and renal sclerosis, unspecified (582-583,587)	1,635	0.6	0.3	1,638	0.6	0.3
Renal failure, disorders resulting from impaired renal function, and small kidney of unknown cause (584-586,588-589)	23,628	8.8	4.1	22,345	8.4	3.9
Infections of kidney (590)	811	0.3	0.1	896	0.3	0.2
Hyperplasia of prostate (600)	413	0.2	0.1	457	0.2	0.1
Complications of pregnancy, childbirth, and the puerperium (630-676)	291	0.1	0.1	294	0.1	0.1
Pregnancy with abortive outcome (630-638)	39	0.0	0.0	39	0.0	0.0
Other complications of pregnancy, childbirth, and the puerperium (640-676)	252	0.1	0.1	255	0.1	0.1
Congenital anomalies (740-759)	11,733	4.4	4.1	11,836	4.5	4.3
Certain conditions originating in the perinatal period (760-779)	12,764	4.8	5.1	13,069	4.9	5.3
Birth trauma, intrauterine hypoxia, birth asphyxia, and respiratory distress syndrome (767-769)	1,983	0.7	0.8	1,993	0.8	0.8
Other conditions originating in the perinatal period (760-766,770-779)	10,781	4.0	4.3	11,076	4.2	4.5
Symptoms, signs, and ill-defined conditions (780-799)	33,569	12.5	9.0	26,190	9.9	6.6
All other diseases (Residual)	234,690	87.7	42.2	223,540	84.3	41.5
Accidents and adverse effects (E800-E949)	92,191	34.4	28.9	94,948	35.8	30.4
Motor vehicle accidents (E810-E825)	42,420	15.8	15.5	43,649	16.5	16.2
All other accidents and adverse effects (E800-E807,E826-E949)	49,772	18.6	13.4	51,299	19.3	14.2
Suicide (E950-E959)	29,725	11.1	10.3	30,903	11.6	10.8
Homicide and legal intervention (E960-E978)	18,774	7.0	7.5	20,971	7.9	8.5
All other external causes (E980-E999)	3,255	1.2	1.2	3,476	1.3	1.2
Human immunodeficiency virus infection ¹ (*042-*044)	16,685	6.2	5.9	31,130	11.7	11.1
Alzheimer's disease ² (331.0)	22,527	8.4	2.7	21,397	8.1	2.7
Injury by firearms ³ (E922,E955.0-E955.4,E965.0-E965.4,E970,E985.0-E985.4)	31,636	11.8	11.9	34,040	12.8	12.9
Drug-induced deaths ³ (292,304,305.2-305.9,E850-E858,E950.0-E950.5,E962.0,E980.0-E980.5)	13,231	4.9	4.6	14,843	5.6	5.2
Alcohol-induced deaths ³ (291,303,305.0,357.5,425.5,535.3,571.0-571.3,790.3,E860)	18,824	7.0	6.0	19,770	7.5	6.4
Injury at work ⁴	5,606	2.1	2.0	5,801	2.2	2.1

- Quantity zero.

* Figure does not meet standards of reliability or precision (see Technical notes).

¹ Included in All other infectious and parasitic diseases.

² Included in All other diseases.

³ Included in selected categories.

⁴ Injury at work described in Technical notes.

NOTE: Data are subject to sampling and/or random variation. For information on the relative standard errors of the data and further discussion, see Technical notes.

Table 12. Deaths, death rates, and age-adjusted death rates for 16 selected subcategories of Malignant neoplasms, including neoplasms of lymphatic and hematopoietic tissues: United States, final 1996 and preliminary 1997

[Data are based on a continuous file of records received from the States. Rates per 100,000 population; age-adjusted rates per 100,000 U.S. standard population; see Technical notes. Figures for 1997 are based on weighted data rounded to the nearest individual]

<i>Cause of death (Based on the Ninth Revision, International Classification of Diseases, 1975)</i>	1997			1996		
	<i>Number</i>	<i>Rate</i>	<i>Age-adjusted rate</i>	<i>Number</i>	<i>Rate</i>	<i>Age-adjusted rate</i>
Malignant neoplasms, including neoplasms of lymphatic and hematopoietic tissues ¹ (140-208)	537,390	200.8	125.0	539,533	203.4	127.9
Malignant neoplasm of esophagus (150)	11,216	4.2	2.8	11,231	4.2	2.9
Malignant neoplasm of stomach (151)	12,868	4.8	2.8	13,336	5.0	3.0
Malignant neoplasms of colon, rectum, rectosigmoid junction, and anus (153,154)	56,239	21.0	11.9	56,497	21.3	12.2
Malignant neoplasm of pancreas (157)	27,501	10.3	6.1	27,260	10.3	6.2
Malignant neoplasms of trachea, bronchus, and lung (162)	153,151	57.2	37.3	152,015	57.3	37.9
Malignant neoplasm of skin (172)	7,224	2.7	1.9	7,279	2.7	1.9
Malignant neoplasm of cervix uteri (180)	4,441	1.7	1.3	4,542	1.7	1.3
Malignant neoplasms of body of uterus and of uterus, part unspecified (179,182)	6,138	2.3	1.4	6,311	2.4	1.4
Malignant neoplasm of ovary (183.0)	13,334	5.0	3.2	13,161	5.0	3.2
Malignant neoplasm of prostate (185)	32,742	12.2	5.7	34,123	12.9	6.1
Malignant neoplasm of bladder (188)	11,498	4.3	2.2	11,452	4.3	2.2
Malignant neoplasms of kidney and other and unspecified urinary organs (189)	11,774	4.4	2.9	11,552	4.4	2.9
Malignant neoplasms of brain and other and unspecified parts of nervous system (191,192)	12,345	4.6	3.5	12,376	4.7	3.6
Hodgkin's disease (201)	1,437	0.5	0.4	1,408	0.5	0.4
Malignant lymphoma other than Hodgkin's disease (200,202)	23,481	8.8	5.4	22,934	8.6	5.4
Multiple myeloma and other immunoproliferative neoplasms (203)	10,503	3.9	2.3	10,248	3.9	2.3

¹ Includes figures for subcategories not shown.

NOTE: Data are subject to sampling and/or random variation. For information on the relative standard errors of the data and further discussion, see Technical notes.

Table 13. Deaths, death rates, and age-adjusted death rates: United States, each State, Puerto Rico, Virgin Islands, and Guam, final 1996 and preliminary 1997

[By place of residence. Data are based on a continuous file of records received from the States. Rates per 100,000 population; age-adjusted rates per 100,000 U.S. standard population; see Technical notes. Figures for 1997 are based on weighted data rounded to the nearest individual, so categories may not add to totals]

Area	1997			1996		
	Number	Rate	Age-adjusted rate	Number	Rate	Age-adjusted rate
United States ¹	2,314,738	864.9	478.1	2,314,690	872.5	491.6
Alabama	42,971	994.9	564.1	42,827	1,002.3	580.9
Alaska	2,491	408.8	445.6	2,582	425.4	473.5
Arizona	37,215	817.0	468.4	36,592	826.4	475.2
Arkansas	27,850	1,103.9	572.1	26,534	1,057.2	550.0
California ²	*	*	*	223,447	700.9	447.4
Colorado	25,709	660.5	417.9	25,723	672.9	432.0
Connecticut	29,076	889.2	423.1	29,560	902.8	443.2
Delaware	6,499	888.4	508.1	6,503	897.2	526.2
District of Columbia	6,166	1,165.7	719.8	6,624	1,219.4	780.1
Florida	154,878	1,056.9	464.0	153,443	1,065.6	478.4
Georgia	59,349	792.8	547.1	58,754	799.0	560.9
Hawaii	7,897	665.5	375.3	7,948	671.4	390.1
Idaho	9,013	744.7	433.1	8,714	732.7	431.7
Illinois	102,916	865.1	486.2	106,092	895.6	508.2
Indiana	48,645	829.5	456.6	52,969	906.9	506.8
Iowa	27,709	971.4	422.1	27,840	976.2	430.9
Kansas	23,981	924.2	455.9	23,902	929.3	464.2
Kentucky	38,157	976.4	547.0	37,272	959.7	547.0
Louisiana	40,023	919.7	582.9	39,586	909.9	587.8
Maine	11,922	959.9	461.7	11,741	944.3	463.0
Maryland	41,810	820.7	503.4	41,955	827.3	520.1
Massachusetts	54,582	892.2	423.8	55,331	908.2	440.5
Michigan	83,620	855.5	486.4	83,622	871.6	502.4
Minnesota	37,191	793.7	402.8	37,184	798.3	413.2
Mississippi	27,502	1,007.2	609.7	26,682	982.4	603.5
Missouri	54,589	1,010.5	518.0	53,910	1,006.0	517.9
Montana	7,780	885.3	457.4	7,707	876.4	458.1
Nebraska	15,254	920.7	438.5	15,484	937.2	445.7
Nevada	13,361	796.8	525.8	13,185	822.4	550.5
New Hampshire	9,518	811.6	443.5	9,395	808.2	449.4
New Jersey	72,056	894.8	460.5	73,205	916.4	482.2
New Mexico	12,723	735.5	468.4	12,481	728.4	470.7
New York	161,155	888.5	467.0	164,395	904.0	488.4
North Carolina	66,062	889.7	520.9	66,293	905.3	537.4
North Dakota	6,106	952.7	426.7	6,011	934.1	421.4
Ohio	105,474	942.9	497.1	105,202	941.6	503.9
Oklahoma	33,602	1,013.0	537.4	33,119	1,003.3	536.2
Oregon	28,830	888.9	450.7	28,913	902.5	464.9
Pennsylvania	127,989	1,064.8	492.2	129,280	1,072.3	502.6
Rhode Island	9,817	994.2	450.1	9,546	964.0	437.5
South Carolina	32,986	877.2	546.1	34,053	920.7	580.6
South Dakota	7,013	950.3	446.0	6,797	928.0	449.8
Tennessee	52,725	982.2	562.9	51,419	966.6	559.4
Texas	142,739	734.3	489.9	139,962	731.7	492.5
Utah	11,421	554.6	399.0	11,112	555.5	406.5
Vermont	5,248	891.0	465.4	4,870	827.3	450.0
Virginia	53,885	800.2	489.6	53,505	801.5	499.5
Washington	42,916	764.9	438.7	42,256	763.7	442.2
West Virginia	20,981	1,155.5	553.7	20,420	1,118.4	548.2
Wisconsin	45,124	872.9	434.8	45,141	874.9	442.6
Wyoming	3,744	780.4	463.9	3,602	748.2	454.7
Puerto Rico ³	26,484	692.0	499.2	29,731	785.9	582.6
Virgin Islands ³	623	544.2	476.7	575	507.7	458.4
Guam ³	632	433.5	499.1	599	413.7	489.6

¹ Excludes data for Puerto Rico, Virgin Islands, and Guam.

² Due to data processing problems, California data are not shown separately but are included in U.S. totals, see Technical notes.

³ Age-adjusted death rates for Puerto Rico, Virgin Islands, and Guam are calculated using different age groups in the weighting procedure; see Technical notes.

NOTE: Data are subject to sampling and/or random variation. For information on the relative standard errors of the data and further discussion, see Technical notes.

Table 14. Infant deaths and infant mortality rates, by age and race: United States, final 1996 and preliminary 1997

[Data are based on a continuous file of records received from the States. Rates per 1,000 live births. Figures for 1997 are based on weighted data rounded to the nearest individual, so categories may not add to totals]

<i>Age and race</i>	<i>1997</i>		<i>1996</i>	
	<i>Number</i>	<i>Rate</i>	<i>Number</i>	<i>Rate</i>
All races ¹				
Under 1 year	27,691	7.1	28,487	7.3
Under 28 days	18,153	4.7	18,572	4.8
28 days-11 months	9,538	2.4	9,915	2.5
White, total				
Under 1 year	18,462	6.0	18,761	6.1
Under 28 days	12,144	3.9	12,293	4.0
28 days-11 months	6,318	2.0	6,468	2.1
Black, total				
Under 1 year	8,241	13.7	8,730	14.7
Under 28 days	5,396	9.0	5,688	9.6
28 days-11 months	2,846	4.7	3,042	5.1

¹ Includes races other than white and black.

NOTE: Data are subject to sampling and/or random variation. For information on the relative standard errors of the data and further discussion, see Technical notes.

Table 15. Infant deaths and infant mortality rates for 61 selected causes and Human immunodeficiency virus infection: United States, final 1996 and preliminary 1997

[Data are based on a continuous file of records received from the States. Rates per 100,000 live births. For explanation of asterisks preceding cause-of-death categories, see Technical notes. Figures for 1997 are based on weighted data rounded to the nearest individual, so categories may not add to totals]

Cause of death (Based on the Ninth Revision, International Classification of Diseases, 1975)	1997		1996	
	Number	Rate	Number	Rate
All causes	27,692	711.0	28,487	732.0
Certain intestinal infections (008-009)	195	5.0	207	5.3
Whooping cough (033)	6	*	4	*
Meningococcal infection (036)	52	1.3	39	1.0
Septicemia (038)	186	4.8	199	5.1
Viral diseases (045-079)	98	2.5	91	2.3
Congenital syphilis (090)	6	*	6	*
Remainder of infectious and parasitic diseases (001,007,010-032,034-035,037,039-041,*042-*044,080-088,091-139)	141	3.6	162	4.2
Malignant neoplasms, including neoplasms of lymphatic and hematopoietic tissues (140-208)	81	2.1	87	2.2
Benign neoplasms, carcinoma in situ, and neoplasms of uncertain behavior and of unspecified nature (210-239)	67	1.7	60	1.5
Diseases of thymus gland (254)	2	*	2	*
Cystic fibrosis (277.0)	10	*	8	*
Diseases of blood and blood-forming organs (280-289)	84	2.2	79	2.0
Meningitis (320-322)	109	2.8	103	2.6
Other diseases of nervous system and sense organs (323-389)	337	8.7	371	9.5
Acute upper respiratory infections (460-465)	14	*	18	*
Bronchitis and bronchiolitis (466,490-491)	95	2.4	92	2.4
Pneumonia and influenza (480-487)	397	10.2	496	12.7
Pneumonia (480-486)	383	9.8	481	12.4
Influenza (487)	14	*	15	*
Remainder of diseases of respiratory system (470-478,492-519)	244	6.3	263	6.8
Hernia of abdominal cavity and intestinal obstruction without mention of hernia (550-553,560)	76	2.0	69	1.8
Gastritis, duodenitis, and noninfective enteritis and colitis (535,555-558)	77	2.0	82	2.1
Remainder of diseases of digestive system (520-534,536-543,562-579)	187	4.8	202	5.2
Congenital anomalies (740-759)	6,063	155.7	6,381	164.0
Anencephalus and similar anomalies (740)	334	8.6	352	9.0
Spina bifida (741)	37	0.9	63	1.6
Congenital hydrocephalus (742.3)	130	3.3	145	3.7
Other congenital anomalies of central nervous system and eye (742.0-742.2,742.4-742.9,743)	275	7.1	300	7.7
Congenital anomalies of heart (745-746)	1,731	44.4	1,921	49.4
Other congenital anomalies of circulatory system (747)	327	8.4	350	9.0
Congenital anomalies of respiratory system (748)	995	25.5	951	24.4
Congenital anomalies of digestive system (749-751)	92	2.4	83	2.1
Congenital anomalies of genitourinary system (752-753)	290	7.4	341	8.8
Congenital anomalies of musculoskeletal system (754-756)	412	10.6	464	11.9
Down's syndrome (758.0)	98	2.5	106	2.7
Other chromosomal anomalies (758.1-758.9)	810	20.8	749	19.2
All other and unspecified congenital anomalies (744,757,759)	531	13.6	556	14.3
Certain conditions originating in the perinatal period (760-779)	12,565	322.6	12,955	332.9
Newborn affected by maternal conditions which may be unrelated to present pregnancy (760)	157	4.0	161	4.1
Newborn affected by maternal complications of pregnancy (761)	1,242	31.9	1,249	32.1
Newborn affected by complications of placenta, cord, and membranes (762)	927	23.8	949	24.4
Newborn affected by other complications of labor and delivery (763)	66	1.7	82	2.1
Slow fetal growth and fetal malnutrition (764)	41	1.1	45	1.2
Disorders relating to short gestation and unspecified low birthweight (765)	3,727	95.7	3,902	100.3
Disorders relating to long gestation and high birthweight (766)	-	*	-	*
Birth trauma (767)	201	5.2	166	4.3
Intrauterine hypoxia and birth asphyxia (768)	456	11.7	428	11.0
Fetal distress in liveborn infant (768.2-768.4)	125	3.2	111	2.9
Birth asphyxia (768.5-768.9)	330	8.5	317	8.1
Respiratory distress syndrome (769)	1,262	32.4	1,362	35.0
Other respiratory conditions of newborn (770)	1,694	43.5	1,817	46.7
Infections specific to the perinatal period (771)	756	19.4	756	19.4
Neonatal hemorrhage (772)	354	9.1	301	7.7
Hemolytic disease of newborn, due to isoimmunization, and other perinatal jaundice (773-774)	19	*	23	0.6
Syndrome of "infant of a diabetic mother" and neonatal diabetes mellitus (775.0-775.1)	10	*	10	*
Hemorrhagic disease of newborn (776.0)	1	*	2	*
All other and ill-defined conditions originating in the perinatal period (775.2-775.9,776.1-779)	1,653	42.4	1,702	43.7
Symptoms, signs, and ill-defined conditions (780-799)	4,046	103.9	3,883	99.8
Sudden infant death syndrome (798.0)	2,705	69.4	3,050	78.4
Symptoms, signs, and all other ill-defined conditions (780-797,798.1-799)	1,341	34.4	833	21.4
Accidents and adverse effects (E800-E949)	753	19.3	804	20.7
Inhalation and ingestion of food or other object causing obstruction of respiratory tract or suffocation (E911-E912)	78	2.0	73	1.9
Accidental mechanical suffocation (E913)	275	7.1	285	7.3
Other accidental causes and adverse effects (E800-E910,E914-E949)	401	10.3	446	11.5
Homicide (E960-E969)	305	7.8	332	8.5

See footnotes at end of table.

Table 15. Infant deaths and infant mortality rates for 61 selected causes and Human immunodeficiency virus infection: United States, final 1996 and preliminary 1997 - Con.

[Data are based on a continuous file of records received from the States. Rates per 100,000 live births. For explanation of asterisks preceding cause-of-death categories, see Technical notes. Figures for 1997 are based on weighted data rounded to the nearest individual, so categories may not add to totals]

Cause of death (Based on the Ninth Revision, International Classification of Diseases, 1975)	1997		1996	
	Number	Rate	Number	Rate
Child battering and other maltreatment (E967)	96	2.5	112	2.9
Other homicide (E960-E966,E968-E969)	209	5.4	220	5.7
All other causes (Residual)	1,495	38.4	1,492	38.3
Human immunodeficiency virus infection ¹ (*042-*044)	19	*	40	1.0

* Figure does not meet standards of reliability or precision (see Technical notes).

- Quantity zero.

¹ Included in Remainder of infectious and parasitic diseases.

NOTE: Data are subject to sampling and/or random variation. For information on the relative standard errors of the data and further discussion, see Technical notes.

Table 16. Expectation of life by age, race, and sex: United States, final 1996 and preliminary 1997

[Data are based on a continuous file of records received from the States]

Age (Years) and race	Both sexes		Male		Female	
	1997	1996	1997	1996	1997	1996
All races ¹						
0	76.5	76.1	73.6	73.1	79.2	79.1
1	76.0	75.7	73.2	72.6	78.7	78.6
5	72.1	71.8	69.3	68.8	74.8	74.7
10	67.2	66.9	64.3	63.8	69.9	69.8
15	62.3	61.9	59.4	58.9	65.0	64.8
20	57.5	57.2	54.7	54.2	60.1	60.0
25	52.7	52.4	50.1	49.6	55.2	55.1
30	48.0	47.7	45.4	45.0	50.4	50.3
35	43.3	43.0	40.8	40.4	45.6	45.5
40	38.6	38.4	36.2	35.9	40.8	40.7
45	34.1	33.9	31.7	31.5	36.1	36.1
50	29.6	29.5	27.4	27.2	31.6	31.5
55	25.3	25.2	23.2	23.1	27.1	27.1
60	21.3	21.2	19.3	19.2	22.9	22.9
65	17.6	17.5	15.8	15.7	19.0	19.0
70	14.2	14.1	12.6	12.6	15.3	15.3
75	11.1	11.1	9.8	9.8	12.0	12.0
80	8.3	8.4	7.4	7.3	8.9	8.9
85	6.0	6.1	5.4	5.4	6.3	6.4
White						
0	77.1	76.8	74.3	73.9	79.8	79.7
1	76.5	76.3	73.8	73.4	79.2	79.1
5	72.6	72.4	69.9	69.5	75.3	75.2
10	67.7	67.4	64.9	64.5	70.3	70.2
15	62.8	62.5	60.0	59.6	65.4	65.3
20	58.0	57.7	55.3	54.9	60.5	60.4
25	53.2	53.0	50.6	50.2	55.6	55.6
30	48.4	48.2	45.9	45.6	50.8	50.7
35	43.7	43.5	41.2	40.9	45.9	45.9
40	39.0	38.8	36.6	36.4	41.1	41.1
45	34.4	34.2	32.1	31.9	36.4	36.4
50	29.9	29.7	27.7	27.5	31.8	31.7
55	25.5	25.4	23.5	23.3	27.3	27.3
60	21.4	21.4	19.5	19.4	23.1	23.0
65	17.6	17.6	15.9	15.8	19.1	19.1
70	14.2	14.2	12.7	12.6	15.4	15.4
75	11.1	11.1	9.8	9.8	12.0	12.0
80	8.3	8.3	7.3	7.3	8.9	8.9
85	6.0	6.0	5.3	5.3	6.3	6.3
Black						
0	71.2	70.2	67.3	66.1	74.7	74.2
1	71.1	70.3	67.3	66.2	74.7	74.2
5	67.3	66.5	63.5	62.4	70.8	70.3
10	62.4	61.6	58.6	57.5	65.9	65.4
15	57.5	56.7	53.7	52.6	61.0	60.5
20	52.8	52.0	49.1	48.0	56.1	55.7
25	48.2	47.4	44.8	43.7	51.3	50.9
30	43.7	42.9	40.4	39.4	46.6	46.2
35	39.1	38.5	36.0	35.1	41.9	41.6
40	34.8	34.2	31.7	31.0	37.4	37.1
45	30.5	30.1	27.6	27.1	33.0	32.8
50	26.5	26.2	23.8	23.4	28.8	28.5
55	22.7	22.4	20.3	19.9	24.7	24.5
60	19.2	18.9	17.0	16.7	20.9	20.7
65	16.0	15.8	14.2	13.9	17.4	17.2
70	13.0	12.8	11.4	11.2	14.1	13.9
75	10.5	10.3	9.2	9.0	11.3	11.2
80	8.0	8.0	7.1	7.0	8.5	8.5
85	6.0	6.0	5.4	5.3	6.2	6.2

¹ Includes races other than white and black.

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

Table 17. Deaths and death rates for the 10 leading causes of death in specified age groups: United States, preliminary 1997

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

Rank ¹	Cause of death and age (Based on the Ninth Revision, International Classification of Diseases, 1975)	Number	Rate
All ages ²			
...	All causes	2,314,729	864.9
1	Diseases of heart (390-398, 402, 404-429)	725,790	271.2
2	Malignant neoplasms, including neoplasms of lymphatic and hematopoietic tissues (140-208)	537,390	200.8
3	Cerebrovascular diseases (430-438)	159,877	59.7
4	Chronic obstructive pulmonary diseases and allied conditions (490-496)	110,637	41.3
5	Accidents and adverse effects (E800-E949)	92,191	34.4
...	Motor vehicle accidents (E810-E825)	42,420	15.8
...	All other accidents and adverse effects (E800-E807, E826-E949)	49,772	18.6
6	Pneumonia and influenza (480-487)	88,383	33.0
7	Diabetes mellitus (250)	62,332	23.3
8	Suicide (E950-E959)	29,725	11.1
9	Nephritis, nephrotic syndrome, and nephrosis (580-589)	25,570	9.6
10	Chronic liver disease and cirrhosis (571)	24,765	9.3
...	All other causes (Residual)	458,069	171.2
1-4 years			
...	All causes	5,471	35.6
1	Accidents and adverse effects (E800-E949)	1,958	12.8
...	Motor vehicle accidents (E810-E825)	756	4.9
...	All other accidents and adverse effects (E800-E807, E826-E949)	1,202	7.8
2	Congenital anomalies (740-759)	596	3.9
3	Malignant neoplasms, including neoplasms of lymphatic and hematopoietic tissues (140-208)	458	3.0
4	Homicide and legal intervention (E960-E978)	345	2.2
5	Diseases of heart (390-398, 402, 404-429)	195	1.3
6	Pneumonia and influenza (480-487)	168	1.1
7	Certain conditions originating in the perinatal period (760-779)	90	0.6
8	Septicemia (038)	66	0.4
9	Benign neoplasms, carcinoma in situ, and neoplasms of uncertain behavior and of unspecified nature (210-239)	60	0.4
10	Cerebrovascular diseases (430-438)	50	0.3
...	All other causes (Residual)	1,485	9.7
5-14 years			
...	All causes	8,044	20.7
1	Accidents and adverse effects (E800-E949)	3,330	8.6
...	Motor vehicle accidents (E810-E825)	1,934	5.0
...	All other accidents and adverse effects (E800-E807, E826-E949)	1,396	3.6
2	Malignant neoplasms, including neoplasms of lymphatic and hematopoietic tissues (140-208)	996	2.6
3	Homicide and legal intervention (E960-E978)	437	1.1
4	Congenital anomalies (740-759)	424	1.1
5	Diseases of heart (390-398, 402, 404-429)	313	0.8
5	Suicide (E950-E959)	313	0.8
7	Pneumonia and influenza (480-487)	139	0.4
8	Chronic obstructive pulmonary diseases and allied conditions (490-496)	127	0.3
9	Human immunodeficiency virus infection (*042-*044)	102	0.3
10	Benign neoplasms, carcinoma in situ, and neoplasms of uncertain behavior and of unspecified nature (210-239)	76	0.2
...	All other causes (Residual)	1,787	4.6
15-24 years			
...	All causes	30,945	84.6
1	Accidents and adverse effects (E800-E949)	12,958	35.4
...	Motor vehicle accidents (E810-E825)	9,929	27.1
...	All other accidents and adverse effects (E800-E807, E826-E949)	3,029	8.3
2	Homicide and legal intervention (E960-E978)	5,793	15.8
3	Suicide (E950-E959)	4,146	11.3
4	Malignant neoplasms, including neoplasms of lymphatic and hematopoietic tissues (140-208)	1,583	4.3
5	Diseases of heart (390-398, 402, 404-429)	1,013	2.8
6	Congenital anomalies (740-759)	383	1.0
7	Human immunodeficiency virus infection (*042-*044)	276	0.8
8	Pneumonia and influenza (480-487)	223	0.6
9	Chronic obstructive pulmonary diseases and allied conditions (490-496)	190	0.5
10	Cerebrovascular diseases (430-438)	167	0.5
...	All other causes (Residual)	4,213	11.5

See footnotes at end of table.

Table 17. Deaths and death rates for the 10 leading causes of death in specified age groups: United States, preliminary 1997 - Con.

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

Rank ¹	Cause of death and age (Based on the Ninth Revision, International Classification of Diseases, 1975)	Number	Rate
25-44 years			
...	All causes	133,612	159.8
1	Accidents and adverse effects (E800-E949)	25,477	30.5
...	Motor vehicle accidents (E810-E825)	13,837	16.5
...	All other accidents and adverse effects (E800-E807, E826-E949)	11,640	13.9
2	Malignant neoplasms, including neoplasms of lymphatic and hematopoietic tissues (140-208)	21,555	25.8
3	Diseases of heart (390-398, 402, 404-429)	15,800	18.9
4	Suicide (E950-E959)	12,008	14.4
5	Human immunodeficiency virus infection (*042-*044)	11,166	13.4
6	Homicide and legal intervention (E960-E978)	8,287	9.9
7	Chronic liver disease and cirrhosis (571)	3,890	4.7
8	Cerebrovascular diseases (430-438)	3,358	4.0
9	Diabetes mellitus (250)	2,405	2.9
10	Pneumonia and influenza (480-487)	1,933	2.3
...	All other causes (Residual)	27,733	33.2
45-64 years			
...	All causes	375,454	677.2
1	Malignant neoplasms, including neoplasms of lymphatic and hematopoietic tissues (140-208)	130,894	236.1
2	Diseases of heart (390-398, 402, 404-429)	100,051	180.4
3	Accidents and adverse effects (E800-E949)	16,689	30.1
...	Motor vehicle accidents (E810-E825)	7,985	14.4
...	All other accidents and adverse effects (E800-E807, E826-E949)	8,704	15.7
4	Cerebrovascular diseases (430-438)	15,267	27.5
5	Chronic obstructive pulmonary diseases and allied conditions (490-496)	13,057	23.5
6	Diabetes mellitus (250)	12,652	22.8
7	Chronic liver disease and cirrhosis (571)	10,653	19.2
8	Suicide (E950-E959)	7,656	13.8
9	Pneumonia and influenza (480-487)	6,120	11.0
10	Human immunodeficiency virus infection (*042-*044)	4,632	8.4
...	All other causes (Residual)	57,783	104.2
65 years and over			
...	All causes	1,733,070	5,086.0
1	Diseases of heart (390-398, 402, 404-429)	607,703	1,783.4
2	Malignant neoplasms, including neoplasms of lymphatic and hematopoietic tissues (140-208)	381,810	1,120.5
3	Cerebrovascular diseases (430-438)	140,693	412.9
4	Chronic obstructive pulmonary diseases and allied conditions (490-496)	95,997	281.7
5	Pneumonia and influenza (480-487)	79,395	233.0
6	Diabetes mellitus (250)	47,109	138.2
7	Accidents and adverse effects (E800-E949)	30,933	90.8
...	Motor vehicle accidents (E810-E825)	7,786	22.8
...	All other accidents and adverse effects (E800-E807, E826-E949)	23,148	67.9
8	Alzheimer's disease (331.0)	22,209	65.2
9	Nephritis, nephrotic syndrome, and nephrosis (580-589)	21,962	64.5
10	Septicemia (038)	18,263	53.6
...	All other causes (Residual)	286,996	842.2

... Category not applicable.

¹ Rank based on number of deaths; see Technical notes.

² Includes deaths under 1 year of age.

NOTE: Data are subject to sampling and/or random variation. For information on the relative standard errors of the data and further discussion, see Technical notes.

Table 18. Infant deaths and infant mortality rates for the 10 leading causes of infant death, by race: United States, preliminary 1997

[Data are based on a continuous file of records received from the States. Rates per 100,000 live births. Figures are based on weighted data rounded to the nearest individual, so categories may not add to totals]

Rank ¹	Cause of death and race (Based on the Ninth Revision, International Classification of Diseases, 1975)	Number	Rate
All races ²			
...	All causes	27,692	711.0
1	Congenital anomalies (740-759)	6,063	155.7
2	Disorders relating to short gestation and unspecified low birthweight (765)	3,727	95.7
3	Sudden infant death syndrome (798.0)	2,705	69.4
4	Respiratory distress syndrome (769)	1,262	32.4
5	Newborn affected by maternal complications of pregnancy (761)	1,242	31.9
6	Newborn affected by complications of placenta, cord, and membranes (762)	927	23.8
7	Infections specific to the perinatal period (771)	756	19.4
8	Accidents and adverse effects (E800-E949)	753	19.3
9	Intrauterine hypoxia and birth asphyxia (768)	456	11.7
10	Pneumonia and influenza (480-487)	397	10.2
...	All other causes (Residual)	9,404	241.4
White, total			
...	All causes	18,464	598.4
1	Congenital anomalies (740-759)	4,740	153.6
2	Disorders relating to short gestation and unspecified low birthweight (765)	2,011	65.2
3	Sudden infant death syndrome (798.0)	1,786	57.9
4	Respiratory distress syndrome (769)	806	26.1
5	Newborn affected by maternal complications of pregnancy (761)	800	25.9
6	Newborn affected by complications of placenta, cord, and membranes (762)	610	19.8
7	Accidents and adverse effects (E800-E949)	519	16.8
8	Infections specific to the perinatal period (771)	509	16.5
9	Intrauterine hypoxia and birth asphyxia (768)	326	10.6
10	Pneumonia and influenza (480-487)	252	8.2
...	All other causes (Residual)	6,105	197.9
Black, total			
...	All causes	8,247	1,372.4
1	Disorders relating to short gestation and unspecified low birthweight (765)	1,619	269.4
2	Congenital anomalies (740-759)	1,094	182.1
3	Sudden infant death syndrome (798.0)	826	137.5
4	Newborn affected by maternal complications of pregnancy (761)	420	69.9
5	Respiratory distress syndrome (769)	417	69.4
6	Newborn affected by complications of placenta, cord, and membranes (762)	287	47.8
7	Infections specific to the perinatal period (771)	216	35.9
8	Accidents and adverse effects (E800-E949)	208	34.6
9	Pneumonia and influenza (480-487)	133	22.1
10	Homicide (E960-E969)	112	18.6
...	All other causes (Residual)	2,915	485.1

... Category not applicable.

¹ Rank based on number of deaths; see Technical notes.

² Includes races other than white and black.

NOTE: Data are subject to sampling and/or random variation. For information on the relative standard errors of the data and further discussion, see Technical notes.

Technical notes

Nature and sources of data

Preliminary data for 1997 are based on a substantial proportion of vital records for that year. The data for 1997 are based on a continuous receipt of statistical records through June 5, 1998, by the 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, and Guam are included in tables showing data by State, but are not included in U.S. totals.

For 1997 individual records of births, infant deaths (deaths under 1 year of age), and deaths of persons 1 year and over are weighted to independent counts of vital events received 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.

Each birth record has one weight specific to the State where the birth occurred. For deaths, two separate files are processed: the medical, or cause-of-death, file contains records which include demographic and medical information and is used to generate tables showing cause of death. The demographic file includes records in the medical file as well as additional records that contain demographic information only, and is used to generate tables showing mortality by demographic characteristics. 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, there will be slight inconsistencies between the demographic and medical tables. [Table I](#) shows the percent completeness of the preliminary file for each event 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 natality and mortality files, unknown or not-stated values are imputed. The percent not stated in the natality files was less than 1 percent for birthweight and method of delivery and 2.6 percent for month prenatal care began. The percent not stated in the mortality files was less than 1 percent for all variables discussed in this report. Detailed information on reporting completeness and imputation procedures may be found in the technical appendixes of the annual volumes, *Vital Statistics of the United States, 1992, Volume I, Natality* (5), and *Vital Statistics of the United States, 1992, Volume II, Mortality, Part A* (12).

Race and Hispanic origin are reported independently on the birth and death certificates. In this report, births and deaths of Hispanic origin are also included in the totals for each race group—white, black, American Indian, and Asian or Pacific Islander—according to the mother's race as reported on the birth certificate or the decedent's race as reported on the death certificate. Birth data shown for Hispanic persons include all persons of Hispanic origin of any race. Data are not shown in this report for deaths to Hispanic persons because the number of death records processed for California, where more than one-quarter of Hispanic deaths occurred, was insufficient to produce reliable estimates of mortality for the Hispanic population.

Natality

As noted above, race and Hispanic origin of the mother are reported separately on the birth certificate. In 1997, 97 percent of Hispanic-origin births were to white women. Data are shown separately for non-Hispanic white women because there are substantial differences in childbearing patterns between Hispanic and non-Hispanic white women. About 1 in 5 white births were to Hispanic women in 1997.

National estimates of births to unmarried women are based on two methods of determining marital status. For 1994–96, birth certificates in 45 States and the District of Columbia included a question about mother's marital status. The mother's marital status was inferred in five States (California, Connecticut, Michigan, Nevada, and New York) by comparing the parents' and child's surnames and other information concerning the father.

A birth is inferred as nonmarital if any of these factors, listed in priority-of-use order, is present: A paternity acknowledgment was received, the father's name is missing, or the father's and mother's current surnames are different. In addition, criteria that are particularly applicable for a given State are also applied as necessary. For example, prior to 1997, special procedures were used in California to compare the parents' surnames when they were hyphenated if the parents were born in countries where naming practices can identify the parents' marital status, including Asian and Hispanic mothers.

Beginning January 1, 1997, the marital status of women giving birth in California is determined by a direct question on the birth certificate, "Mother married at any time during this pregnancy?"—similar to the question asked in most other States.

Procedures for inferring marital status for births in New York City changed effective in 1997; New York City is a separate registration area. Beginning in 1997, the mother is assumed to be unmarried if the father's name is missing from the birth certificate, or if a paternity affidavit was filed; these are the same procedures that have been in effect in the balance of New York State for many years. Through 1996, the inferential criteria had included a comparison of the surnames of the mother and father.

The numbers and proportions of nonmarital births for the United States as a whole, California, and New York City were affected in different ways. The reporting changes had little impact on the total numbers and proportions of nonmarital births for the entire United States, and relatively little impact on the overall data for California. The changes did affect the overall data as well as the data by age for New York. There was a tendency for the proportion unmarried to increase between 1996 and 1997 for women aged 15–24, and for the proportions to decrease for women aged 30–44 years. Changes were not consistent for ages 25–29 years. This pattern was found for the balance of all States (exclusive of California and New York), but it was fairly modest. The pattern was much more pronounced in the age-specific data for California. Large decreases in nonmarital births were found for all age groups for New York.

The tendency for considerable increases in the proportions of nonmarital births among teenagers and the concurrent decline for older women in California is a direct reflection of the changes in reporting procedures in that State. Previously, unmarried women were frequently listing the father's name on the birth certificate. In many cases, especially among younger Hispanic and Asian or Pacific Islander women, the inferential procedures identified these births, incorrectly, as

Table I. Total count of records and percent completeness of preliminary files of live births, infant deaths, and deaths 1 year and over: United States, each State, Puerto Rico, Virgin Islands, and Guam, preliminary 1997

[By place of occurrence]

Area	Live births		Infant deaths (under 1 year)			Deaths 1 year and over		
	Count of records	Percent completeness	Count of records	Percent completeness		Count of records	Percent completeness	
				Demographic file	Medical file		Demographic file	Medical file
United States ¹	3,898,418	98.8	27,740	90.6	84.8	2,290,318	92.5	87.4
Alabama	60,193	99.7	572	97.0	97.0	41,823	100.0	100.0
Alaska	9,594	96.0	53	84.9	84.9	2,413	77.7	77.6
Arizona	75,783	100.0	545	100.0	72.7	37,704	99.5	74.9
Arkansas	35,565	99.6	298	100.0	95.0	26,872	100.0	99.4
California	526,453	100.0	3,116	31.1	31.1	222,146	36.2	36.2
Colorado	56,875	100.0	420	100.0	99.5	25,734	99.8	99.7
Connecticut	42,789	91.2	294	99.7	99.7	28,889	100.0	100.0
Delaware	10,720	100.0	84	100.0	91.7	6,427	100.0	92.0
District of Columbia	14,996	98.9	208	100.0	82.2	7,182	100.0	87.7
Florida	192,772	99.9	1,397	99.3	99.2	154,624	99.8	99.8
Georgia	119,260	99.9	915	100.0	99.9	59,083	99.6	99.6
Hawaii	17,407	100.0	112	100.0	100.0	7,898	100.0	100.0
Idaho	18,255	100.0	93	98.9	98.9	8,638	99.7	99.7
Illinois	177,733	100.0	1,450	100.0	82.3	98,628	100.0	83.5
Indiana	83,558	75.3	554	100.0	96.4	48,468	100.0	96.9
Iowa	37,095	99.2	198	99.0	99.0	27,160	100.0	100.0
Kansas	36,208	99.6	244	100.0	100.0	23,054	99.0	99.0
Kentucky	51,611	100.0	390	91.3	73.6	37,312	99.4	83.2
Louisiana	66,146	100.0	648	100.0	100.0	39,781	100.0	100.0
Maine	13,474	100.0	67	100.0	86.6	11,762	100.0	92.9
Maryland	66,025	100.0	515	100.0	100.0	41,001	100.0	100.0
Massachusetts	83,406	97.6	432	100.0	97.2	54,989	100.0	98.7
Michigan	132,381	100.0	1,093	100.0	92.0	81,296	99.7	93.4
Minnesota	64,478	97.7	400	98.2	98.2	36,897	99.3	99.3
Mississippi	41,873	97.0	413	95.6	95.2	26,333	100.0	100.0
Missouri	77,403	99.0	652	99.1	76.2	55,527	99.3	81.4
Montana	10,733	100.0	68	100.0	98.5	7,686	100.0	99.9
Nebraska	23,631	100.0	196	93.4	93.4	15,210	90.8	90.8
Nevada	26,637	99.4	168	100.0	100.0	13,846	100.0	99.9
New Hampshire	13,934	99.2	55	100.0	67.3	9,378	99.4	78.3
New Jersey	110,226	96.3	636	97.6	68.7	69,815	100.0	76.0
New Mexico	26,389	100.0	169	95.9	95.3	12,558	100.0	99.6
New York	264,724	97.2	1,743	100.0	93.2	158,265	98.4	94.1
New York excluding New York City	138,645	96.7	864	100.0	100.0	96,581	97.5	97.4
New York City	126,079	97.8	879	100.0	86.6	61,684	99.9	89.0
North Carolina	108,036	100.0	1,018	96.6	96.6	65,703	100.0	100.0
North Dakota	9,556	100.0	63	85.7	85.7	6,420	96.5	96.5
Ohio	152,826	99.8	1,122	85.4	76.6	104,082	80.5	72.5
Oklahoma	47,034	99.5	364	91.5	91.5	32,326	100.0	100.0
Oregon	45,199	99.8	270	97.8	97.8	28,586	100.0	100.0
Pennsylvania	144,956	100.0	1,151	100.0	100.0	127,642	99.9	99.9
Rhode Island	13,240	100.0	94	97.9	97.9	9,792	100.0	100.0
South Carolina	49,717	100.0	424	95.8	87.0	31,725	100.0	90.1
South Dakota	10,302	99.7	80	100.0	98.8	7,041	97.9	97.8
Tennessee	79,518	99.9	736	98.4	75.5	55,210	100.0	78.8
Texas	337,619	100.0	2,146	100.0	99.8	142,501	100.0	100.0
Utah	44,704	95.6	276	88.8	88.8	11,540	93.5	93.5
Vermont	6,392	98.7	40	100.0	100.0	5,271	94.1	94.1
Virginia	89,786	100.0	682	100.0	99.9	52,685	100.0	100.0
Washington	77,992	98.4	438	100.0	98.9	42,605	96.4	95.2
West Virginia	21,672	99.9	188	100.0	80.3	20,616	99.4	79.3
Wisconsin	65,521	99.9	429	100.0	72.7	44,611	99.5	72.0
Wyoming	6,021	98.5	21	81.0	81.0	3,563	90.6	90.6
Puerto Rico	63,769	97.9	615	100.0	73.3	26,001	98.1	70.3
Virgin Islands	2,117	100.0	33	66.7	66.7	586	100.0	99.5
Guam	4,317	80.4	54	63.0	63.0	826	100.0	100.0

¹ Excludes data for Puerto Rico, Virgin Islands, and Guam.NOTE: Percent completeness = $\frac{\text{Number of records in preliminary file} \times 100}{\text{Count of records}}$

occurring to married women, a result of variations in naming practices among these population groups. State laws now preclude the father's name from being listed unless the parents are married or a paternity affidavit has been filed. Among older married women who have retained their birth surname after marriage, particularly well-educated white women, there was a tendency for their births to be considered nonmarital because the surnames did not match. For California, the changes in nonmarital birth patterns by age were compensating, so that the overall levels of nonmarital births for California in 1996 and 1997 are fairly similar. For New York, the changes in inferential procedures affected all age groups, identifying fewer births as nonmarital in 1997; without these changes, levels of nonmarital births would have been unchanged.

Data on marital status for Nevada prior to 1995 are based on inferential procedures with the key criterion relying on a comparison of parental surnames. Because of a recently discovered computer processing error, the data reported by Nevada for 1995 and 1996 substantially overestimated the number of unmarried women. Nevada expects to provide the National Center for Health Statistics (NCHS) with corrected summary data based on the inferential procedures for 1995 and 1996 prior to the publication of "Births: Final Data for 1997." Beginning in 1997, Nevada is including a direct question on marital status in the electronic birth registration process.

The birth rates for unmarried women in this report are estimated on the basis of population distributions by marital status provided by the U.S. Bureau of the Census as of March 1997 (13), applied to the national population estimates as of July 1 (14). The birth rate shown here for 1997 thus differs from those regularly published by NCHS, which are based on populations estimated by 3-year averages of the marital status distributions, rather than a single year as shown here (3,6). These population estimates for a single year are not an adequate basis for computing comparable age-specific birth rates.

Mortality

Mortality statistics in this report were compiled in accordance with the World Health Organization (WHO) 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, Injuries, and Causes of Death*. The current revision in use is the Ninth Revision (ICD-9) (15). Causes of death for data presented in this publication were coded by procedures described in annual issues of part 2a of the *NCHS Instruction Manual* (16). Beginning with data for 1987, NCHS introduced categories *042-*044 for classifying and coding Human immunodeficiency virus (HIV) infection. The asterisks indicate that these codes are not part of ICD-9.

Cause of death is sometimes not available when preliminary data are sent to NCHS, but is available later when final data are processed. As a result, estimates based on the preliminary mortality file for certain causes may be underestimated. Causes that are reported unknown in the preliminary data are coded to Other unknown and unspecified cause (ICD-9, 799.9), a subcategory of Symptoms, signs, and ill-defined conditions (ICD-9, 780-799). In the final data, some of these are reallocated to specified causes after further information is provided. The preliminary cause-of-death data in this report have not been adjusted to correct for this type of sampling bias. In table II are a set of factors that may be used to estimate the impact of this bias on selected causes of death. These factors are illustrative and are constructed by comparing the 10-percent Current Mortality Sample data with the final data for 1990-96. The selected causes include Human immunodeficiency virus infection, Diseases of heart, Accidents and adverse effects, Suicide, Homicide and legal intervention, All other external causes, and Sudden infant death syndrome. Because in the preliminary data some deaths for these causes are coded as Symptoms, signs, and ill-defined conditions (ICD-9, 780-799), a factor for this category is included as well. When more years of data from the preliminary file are available, NCHS may have an adequate statistical basis for evaluating the effects of sampling bias in the preliminary data.

Cause-of-death ranking is based on the number of deaths classified according to the List of 72 Selected Causes of Death and the categories for HIV infection and for Alzheimer's disease. HIV infection was added to the list of rankable causes effective with the data year 1987, and Alzheimer's disease was added with final mortality data for 1994. For infant deaths, ranking is based on the List of 61 Selected Causes of Infant Death and HIV infection.

Table II. Bias correction factors for selected causes of death: United States, preliminary 1997

Cause and age	Bias correction factor	Preliminary		Corrected preliminary data			
		Age-adjusted rate	Infant mortality rate	Number	Death rate	Age-adjusted rate	Infant mortality rate
All ages							
Human immunodeficiency virus infection	1.0206	5.9	...	17,029	6.3	6.0	...
Diseases of heart	1.0037	129.9	...	728,475	272.2	130.4	...
Symptoms, signs, and ill-defined causes	0.7511	9.0	...	34,214	9.4	6.8	...
Accidents and adverse effects	1.0232	28.9	...	94,330	35.2	29.6	...
Motor vehicle accidents	1.0014	15.5	...	42,479	15.8	15.5	...
All other accidents and adverse effects	1.0422	13.4	...	51,872	19.4	14.0	...
Suicide	1.0079	10.3	...	29,960	11.2	10.4	...
Homicide and legal intervention	1.0137	7.5	...	19,031	7.1	7.6	...
All other external causes	1.1582	1.2	...	3,770	1.4	1.4	...
Under 1 year							
Sudden infant death syndrome	1.0607	...	69.4	2,869	...	...	73.6
Symptoms, signs, and all other ill-defined conditions	0.8775	...	34.4	1,177	...	...	30.2

... Category not applicable.

Death rates for American Indian and Asian or Pacific Islander 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 (11).

Infant mortality rates are the most commonly used index for measuring the risk of dying during the first year of life. The rates for this report are calculated by dividing the number of infant deaths that occurred in a 12-month period by the preliminary number of live births for the same period and are presented as rates per 1,000 or per 100,000 live births. 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 10). Infant death rates that appear in tabulations of age-specific death rates are calculated by dividing the number of infant deaths in the 12-month period by the estimated population of persons under 1 year of age on July 1, 1997, and are presented as rates per 100,000 population in this age group. Because of differences in the denominators, infant death rates differ from infant mortality rates.

Information on deaths attributed to injury 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.

U.S. abridged life tables are constructed by reference to a standard life table (18). For explanation of the columns of the life table and for references to life table construction, see the annual report, *Vital Statistics of the United States*, Volume II, Mortality, Part A, Section 6, Life tables (12).

Computing rates and percents

Rates are on an annual basis and, except for infant mortality rates, are per 1,000 or per 100,000 estimated population residing in the specified area as of July 1, 1997, and July 1, 1996, which were furnished by the U.S. Bureau of the Census (14,19). Infant mortality rates are per 1,000 or per 100,000 live births. Rates by State are computed on the basis of populations as of July 1, 1996, and July 1, 1997 (20,21).

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 (relative age distribution of 1940 enumerated population of the United States) using the following age groups:

Age	Number	Weights (<i>w</i>)
All ages	1,000,000	1.000000
Under 1 year	15,343	0.015343
1-4 years	64,718	0.064718
5-14 years	170,355	0.170355
15-24 years	181,677	0.181677
25-34 years	162,066	0.162066
35-44 years	139,237	0.139237
45-54 years	117,811	0.117811
55-64 years	80,294	0.080294
65-74 years	48,426	0.048426
75-84 years	17,303	0.017303
85 years and over	2,770	0.002770

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

Age	Number	Weights (<i>w</i>)
All ages	1,000,000	1.000000
Under 1 year	15,343	0.015343
1-4 years	64,718	0.064718
5-14 years	170,355	0.170355
15-24 years	181,677	0.181677
25-34 years	162,066	0.162066
35-44 years	139,237	0.139237
45-54 years	117,811	0.117811
55-64 years	80,294	0.080294
65-74 years	48,426	0.048426
75 years and over	20,073	0.020073

For calculating birth rates, age and race of mother are imputed if they are not stated (0.03 percent and 0.74 percent). In computing birth rates by live-birth order, births with live birth order not stated are distributed in proportion to stated data. Births with marital status not reported (0.09 percent) are included with births to married mothers. Percents were computed using only events for which the characteristic is reported. The "Not stated" category is subtracted from the total before the percent is computed for birthweight, prenatal care, and method of delivery. Birth rates for the Hispanic population are based only on events to persons reported as Hispanic. Birth rates for non-Hispanic white persons are based on the sum of all white births reported as non-Hispanic and white births 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.

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 example, a criterion of at least 75 percent of a State's records for the 12-month period is used as a basis for providing State-specific estimates. Due to processing problems, the California mortality file contained only 36.2 percent of all records (see table I) for 1997. Data for California are included in U.S. totals, but are not shown separately (see table 13).
- 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 births or deaths in the numerator or denominator. Rates based on fewer than 20 births or 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 birth and death rates (based on data files that are less than 100-percent complete and based on 20-31 births or deaths) may have RSE's of 23 percent or more and are 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 "Reliability of estimates."

Reliability of estimates

Because the preliminary estimates of births and deaths in this report are based on files that may not be complete, they are subject to sampling variability. The notion of the sample is reflected in the record weights that 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 live birth and death records.

In addition, the natality and mortality files are subject to nonsampling errors or biases. Records that were delayed and were not included in this report are assumed to have the same characteristics as the records that were included in this report. However, this assumption may be violated in the relatively small number of records where cause of death is pending investigation (for example, homicides, suicides, accidents, HIV infection, and SIDS) (see discussion of the bias in "Mortality") or in the causes of death that were rejected by the automated mortality coding systems for manual processing. Seasonal bias may occur because file completeness is greater during the early part than during the later part of the 12-month period for which the data are processed and tabulated.

Even if the number of vital events in this report were 100-percent complete and not subject to sampling variability, it may 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 III](#) shows the estimated RSE's of a file which is nearly 100 percent complete. The estimated RSE's of the 1996 data, the preliminary 1997 control totals, and the preliminary 1997 data (based on nearly 100 percent of a file) are shown in the first column of [Table III](#).

Data based on a sample, that is, where the file is less than 100-percent complete, are affected by sampling variation as well as by random variation. The estimated RSE's in columns 2-6 of [table III](#) for various levels of file completeness are measures of the sampling errors and the random errors of the estimates.

The estimated RSE's in [table III](#) were computed using this formula:

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

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 live births, infant deaths, or deaths.

N = the total count of live births, infant deaths, or deaths for the United States or any State. (NOTE: The RSE's shown in [table III](#) are based on $N = 4,000,000$. If N is smaller, the RSE's may be slightly smaller than those shown.)

RSE's 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 live births or deaths, the 95-percent confidence interval may be computed as follows:

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

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

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

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

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

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:

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

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

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

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

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

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:

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

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

where

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

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,

Table III. Relative standard errors for preliminary number of live births or deaths by percent of file completeness

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

Estimated number of live births or 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

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:

$$z = \frac{R_1 - R_2}{\sqrt{R_1^2 (RSE(R_1) / 100)^2 + R_2^2 (RSE(R_2) / 100)^2}}$$

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:

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

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:

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

where

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

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

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

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

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

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

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

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

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

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

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National Center for Health Statistics

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

Division of Vital Statistics

Director, Mary Anne Freedman

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National Center for Health Statistics
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