
Vital and Health Statistics

Supplements to the Monthly Vital Statistics Report: Advance Reports, 1989 and 1990

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Mortality, Marriage, Divorce, and
Induced Terminations of Pregnancy
No. 6

These supplements to the *Monthly Vital Statistics Report* present summary tabulations from final natality, mortality, marriage, and divorce statistics for 1989 and 1990. Natality and mortality data are based on information from the standard certificates filed in all States and the District of Columbia. Marriage and divorce data are based on information from the marriage- and divorce-registration areas. These reports were originally published in 1991-93 and 1995. More detailed tabulations are published in *Vital Statistics of the United States* annual volumes.

U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES
Public Health Service
Centers for Disease Control and Prevention
National Center for Health Statistics

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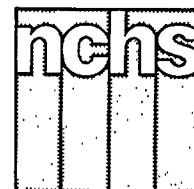
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Monthly Vital Statistics Report



Final Data From the National Center for Health Statistics

Advance Report of Final Natality Statistics, 1989

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The U.S. Standard Certificate of Live Birth was revised effective with the 1989 data year. This report describes characteristics of births that have been available on previous versions of the birth certificate. Data on all the new topics included on the new certificate are now being tabulated and evaluated. A second Monthly Vital Statistics Report supplement for 1989 birth data will soon be published and will present summary data on all the new topics; these topics are listed in the Technical notes.

Births and birth rates

The number of babies born in the United States in 1989 totaled 4,040,958, the highest number reported since 1963 (4,098,020) (table 1). The 1989 total was 3 percent higher than the number reported for 1988 (3,909,510). Another 3-percent increase in the number of births is expected for 1990, according to provisional statistics.

The birth rate for 1989 was 16.3 live births per 1,000 population, 3 per-

cent above the level for 1988 (15.9), and higher than in any year since 1971 (17.2). A 2-percent increase in the birth rate is indicated for 1990 according to provisional data.

The fertility rate, which relates the number of births to women of child-bearing age, was 69.2 live births per 1,000 women aged 15-44 years in 1989, 3 percent higher than the rate reported in 1988 (67.2). (See table 1 and figure 1.) Provisional data for 1990 also indicate another 3-percent rise over the 1989 rate.

Age-specific birth rates for women 15-44 years increased by 3 to 8 percent between 1988 and 1989. The largest increases, 6-8 percent, were observed in rates for teenagers and for women 35-44 years. (See tables 2-4 for births and birth rates by age of mother and figure 2 for birth rates by age of mother.)

Birth rates for teenagers increased in 1989 to levels not observed for 15 years. The rate for young teenagers in 1989 was 36.5 per 1,000 women aged 15-17, 8 percent higher than in 1988 (33.8) and 19 percent higher than in 1986 (30.6). To put it another way, if

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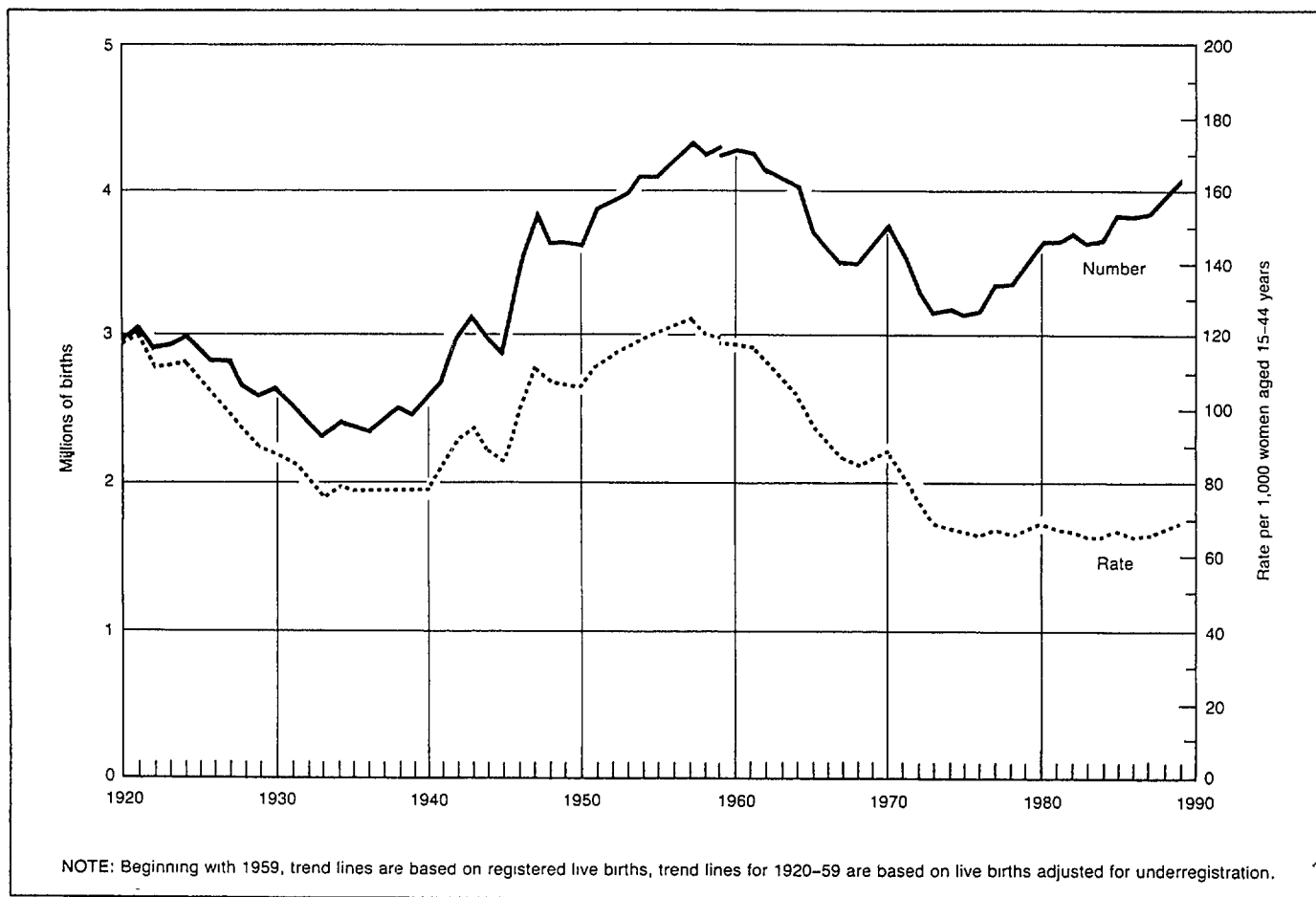


Figure 1. Live births and fertility rates: United States, 1920-89

the 1989 birth rate had been 30.6 instead of 36.5, there would have been about 30,000 fewer births to women aged 15-17.

The birth rate for older teenagers also increased in 1989, by 6 percent, to 86.4 births per 1,000 women aged 18-19. This rate was higher than it has been since 1974 (88.7). From 1976 to 1988, the birth rate for older teenagers had been relatively stable, ranging from 78 to 82 births per 1,000.

The birth rates for women aged 20-24 (115.4) and for women aged 25-29 (116.6) were each higher than in any year since the early 1970's.

The birth rate for women 30-34 continued to increase in 1989, to 76.2 per 1,000. This rate has risen steadily since the mid-1970's (except in 1981), from a low of 52.3 in 1975 to the 1989 level which is the highest observed since 1967 (78.7). Because the increase in this rate has occurred simultaneously with a sustained growth in the

number of women in their early thirties, the number of births in 1989 to women in this age group, 842,395, was the highest ever reported in the United States. Prior to 1988 (803,547) and 1989, the peak year for the number of births to women aged 30-34 years was 1957 (730,818), but as recently as 1975, births totaled just 375,500 for this age group.

Birth rates for women in age groups 35-39 and 40-44 years increased by 6-8 percent between 1988 and 1989. For both groups, the increases brought the rates to levels not observed for 15 years or more. During the 1980's the rate for women aged 35-39 increased 50 percent, from 19.8 births per 1,000 in 1980 to 29.7 in 1989. The birth rate for women aged 40-44, although still comparatively low, increased to 5.2 births per 1,000 in 1989, 8 percent higher than in 1988 and a third higher than in 1980 (3.9).

The impact of the increasing birth rates for women 35-44 years has been similar to that for women aged 30-34. The rise in the rates has been coupled with a sharp increase in the number of women in these age groups; nearly all of these women were born during the baby-boom years following World War II. The effect of these concurrent patterns has been a substantial increase in the number of births to women 35-44. Births to women 35-39 totaled 293,878 in 1989 compared with a low of 115,409 in 1975. The number for this age group was previously as high in 1964 (309,814). Births to women aged 40-44 totaled 44,401 in 1989 compared with a low of 22,627 in 1978 and the previous high level of 49,952 in 1970.

Increases in birth rates in 1989 appear to reflect some changes in fertility patterns. In recent years, the only groups for whom birth rates were steadily increasing were women aged

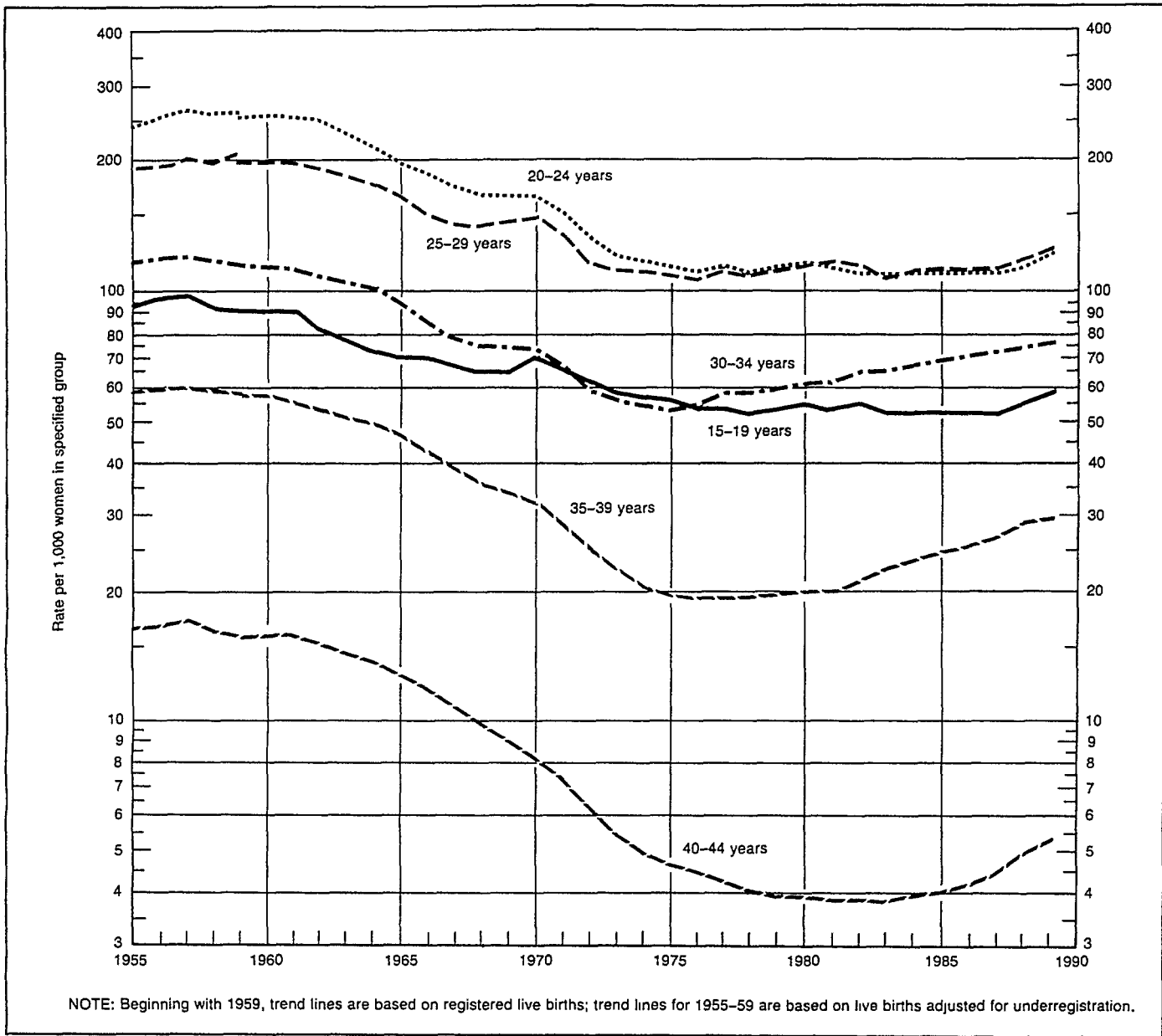


Figure 2. Birth rates by age of mother: United States 1955-89

30 and older. Rates for women aged 18-29 were relatively stable. These patterns reflected the continued trend of postponed childbearing (1). In 1989 as in 1988, birth rates increased for women in all age groups, but the greatest increases were at the youngest and oldest ages. Because birth rates for women in their twenties, the peak years of childbearing, increased much less, the overall increase in the fertility rate was small.

Since 1986 the continued rise in birth rates for women under 20 years of age is associated with the rise in

the proportion of teenagers, especially young teenagers, who are sexually experienced. Data from the 1988 National Survey of Family Growth indicate a considerable rise in these proportions during the 1980's (2). For example, among women aged 15 years, the proportion rose from 17 percent in 1980 to 26 percent in 1988. Similarly, among those aged 17 years, the proportion rose from 36 percent to 51 percent. An increasing proportion of young teenagers is clearly at risk of becoming pregnant. Data recently reported on abortion rates

indicate little change in these rates among teenagers during the 1980's (3), suggesting their pregnancy rates have risen.

The trend among older, well-educated women to make up previously delayed childbearing has continued to intensify among women aged 35-39 and 40-44, but it has slowed down among those aged 30-34. The first-birth rate for women aged 30-34 increased just 4 percent in 1989, while the first-birth rates for women aged 35-39 and 40-44 increased by 9 and 13 percent, respectively.

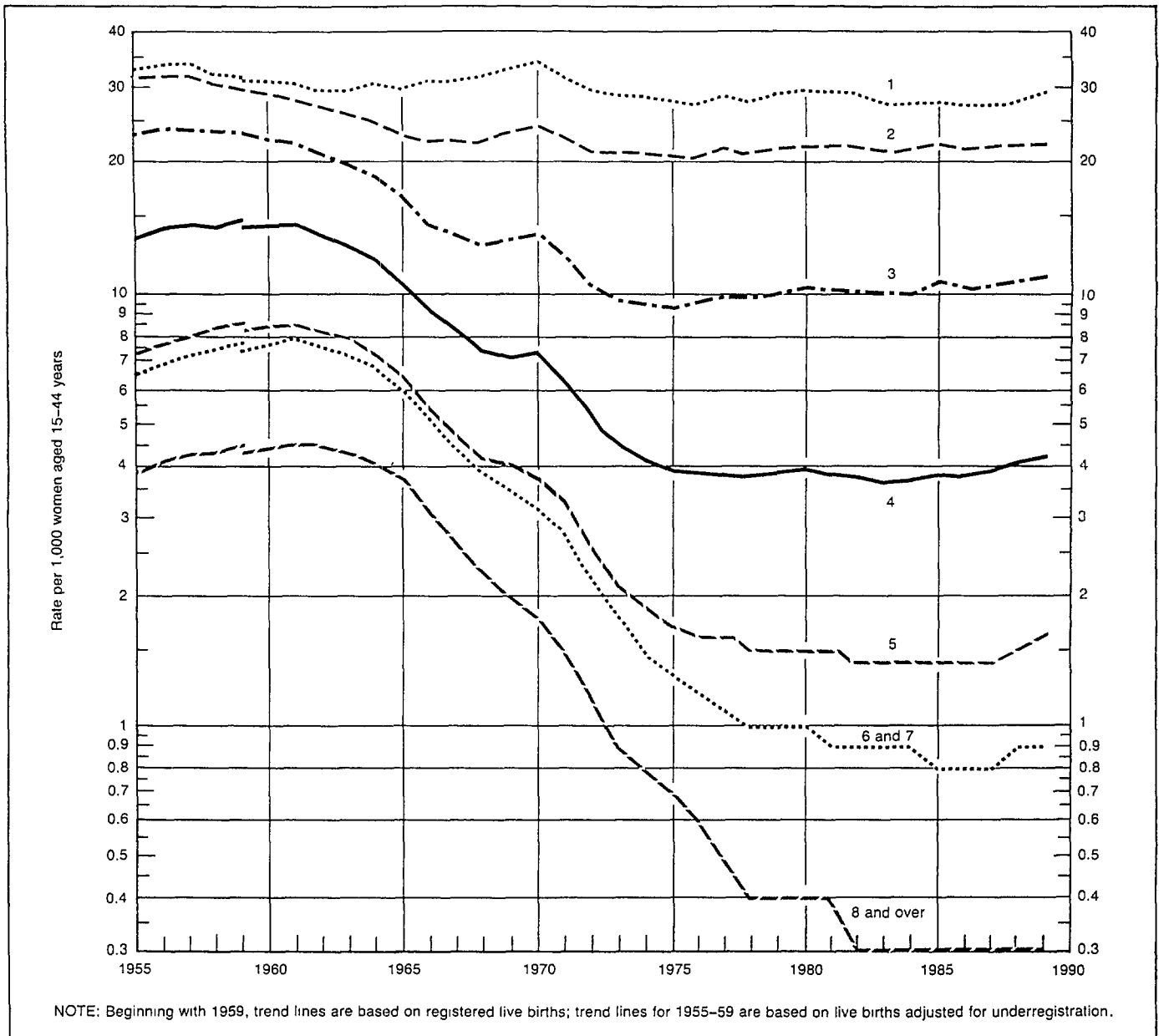


Figure 3. Birth rates by live-birth order: United States, 1955-89

The incidence of childlessness among women in their thirties has increased sharply over the past two decades. For example, among women reaching age 35 by the end of 1989, 20 percent had not had any children compared with just 9 percent of women aged 35 in 1970. Surveys show, however, that half of childless wives aged 30-34 expect to have at least one child (4). Some couples will probably remain childless because of fertility impairments. Although the proportion of older couples with impaired fertility actually declined somewhat during the

1980's (from 48 percent of childless wives aged 35-44 in 1982 to 36 percent in 1988) (5), these proportions applied to a much larger group of women in 1988 than in 1982 (the baby-boom generation), so the number of women with impaired fertility was higher in 1988. It appears that more childless couples with impaired fertility are seeking medical treatment, but it may be more difficult to treat some fertility-impairing conditions among older women (6).

Women delaying childbearing continue to be disproportionately well edu-

cated. Among those aged 30-34 having their first child in 1989, 46 percent were college graduates, compared with 7 percent of women aged 20-24 and 33 percent of women aged 25-29. Previously published reports showed sharp increases between 1975 and 1985 in first-birth rates for well-educated women in their thirties, concurrent with declines in these rates for younger well-educated women (1,7). These patterns corroborate the widely held view that young well-educated women have been delaying childbearing while their older counterparts have been making up for

the childbearing they had previously postponed.

The proportion of all births occurring to teenagers was 13 percent in 1989, as in 1988. Teenage mothers accounted for 19 percent of all births in 1975. Sixty-one percent of mothers giving birth in 1989 were aged 25 and older, a sizable increase compared with the 46-percent level measured in 1975. These shifts in the age distribution of mothers reflect the varying trends in age-specific birth rates as well as the widely varying patterns of change in these population groups. Women aged 15–24 in 1989 were born between 1965 and 1974, a period when the annual number of births fell rapidly. Women aged 25–44 in 1989 are members of the large baby-boom generation. As the smaller group of women under age 25 reaches the peak childbearing years and replaces the large number of women now aged 25–44, the total number of births is likely to stabilize or perhaps decline, unless birth rates for women in their twenties rise substantially. Although a 3-percent rise in the annual number of births is anticipated in 1990 according to provisional statistics, data for the first half of 1991 show a 2-percent decline in the number of births.

Birth rates increased for birth orders from the first through the fifth child. Rates for higher order births were unchanged. The rate for first births increased 3 percent and the rate for second-order births rose 2 percent. Rates for third- through fifth-order births rose by 4, 5, and 7 percent, respectively (tables 3 and 5). This pattern was observed in 1988 as well. Rates by live-birth order had changed little from 1983 to 1987. (See table 5 and figure 3.) The 3-percent rise in the first-birth rate brought the number of first births to a new record level in the United States, 1,648,303.

First-birth rates increased the most for teenagers (5–8 percent) and for women aged 35–44 (9–13 percent). This variation by age was also observed for second-order rates, the second year of such increases. Between 1988 and 1989, first- and second-order rates rose sharply for teenagers 15–17, by 8 and 12 percent, respectively. From 1986

to 1989, these rates increased by 17 and 34 percent, respectively. A comparison of the birth-order specific rates for 1989 with those for 1980 confirms that most of the variation in fertility during the 1980's is attributable to the sizable increases in first- through third-order rates for women aged 30 and older.

Births by race—Beginning with the 1989 data year, the tabulation of births by race has changed. In previous years, birth tabulations were by race of child, as determined statistically by an algorithm based on information reported for the mother and father. Briefly, in cases of mixed parentage where only one parent was white, the child was assigned to the other parent's race. When neither parent was white, the child was assigned the race of the father, except if either parent was Hawaiian, the child was assigned to Hawaiian. If race was not reported for one parent, the child was assigned the race of the parent for whom race was given.

Beginning with the 1989 data year, the National Center for Health Statistics (NCHS) is tabulating data on births primarily by race of mother, as reported directly on the birth certificate. This change reflects three significant changes over the past two decades: the topical content of the birth certificate to include considerable health and demographic information related to the mother; the increasing incidence of interracial parentage; and the growing proportion of births for whom no information on the father is reported. These considerations are discussed in greater detail in the Technical notes.

In general, changing the basis for tabulating birth data from race of child to race of mother results in more white births and fewer black births and births of other races. Therefore, population-based rates under the new classification will tend to be higher for births to white mothers and lower for births to black mothers and mothers of other races than they are when computed by race of child.

In order to facilitate continuity with past years' data and analysis of current patterns, key tabulations and text analysis in this and other NCHS reports for

1989 and 1990 births will show data for both race of mother and race of child. This will make it possible to distinguish the effects of this change in tabulation from real changes in the data. In this report, the discussions of changes in various measures between 1989 and previous years are based on measures computed by race of child. Text references to white births and black births refer to births tabulated by race of child. When reference is made to white mothers and black mothers, the basis for tabulation is the race of the mother.

In 1989 the fertility rate for white women was 66.0 live births per 1,000 women aged 15–44 and for black women it was 85.8. These rates are those computed by race of mother. The comparable rates for births classified by race of child were 64.7 for white births and 90.4 for black births. The rate for white births was 3 percent higher than in 1988 (63.0) and the highest it has been since 1980 (also 64.7). The rate for black births was 4 percent above the 1988 level (86.6) and higher than in any year since 1973 (93.6).

All rates by race of child for white and black women in age groups 10–14 through 40–44 increased. The rates rose more for black than for white women aged 18–34; the reverse was true for women aged 17 and under and 35–44 years (tables 3–4).

Birth rates by race of child increased for white women by 1–8 percent in birth orders one through five and for black women by 3–11 percent in birth orders one through seven. Except for fifth-order births, increases in rates for black births were greater than for white births.

Birth rates for first- through third-order births for teenagers increased considerably between 1988 and 1989. Other sizable increases were measured in first-birth rates for women aged 30–34 and 35–39. These patterns were observed for white and black births.

Total fertility rate—The total fertility rate indicates the number of births that 1,000 women would have if they experienced during their childbearing years the age-specific birth rates observed in a given calendar year. It is

a hypothetical measure that shows the potential impact of current fertility levels on completed family size. Because the total fertility rate is computed from age-specific birth rates and assumes the same number of women in each age group, it is age-adjusted.

The total fertility rate increased in 1989 to 2,014.0, 4 percent higher than in 1988 (1,932.0) and higher than it has been since 1971 (2,266.5) (table 4). This increase directly reflects the 3–8 percent increases in birth rates for women in 5-year age groups 15–19 through 40–44. The rate of 2,014.0 is 4 percent below the level considered necessary for a given generation to exactly replace itself in the population over the long run (about 2,100). The total fertility rate has been below replacement level since 1972.

The total fertility rate by race of mother for white women was 1,921.5, and for black women it was 2,414.0. Rates for births classified by race of child were 1,885.0, white, and 2,544.5, black. The latter rates were 4 and 6 percent higher, respectively, than the rates in 1988 (1,814.0 and 2,402.0, respectively). In each case the 1989 rates were higher than in any year since the early 1970's.

Geographic division and State

The number of births increased in all nine geographic divisions in 1989. The largest increases were measured in the Pacific Division (6 percent); the South Atlantic Division (4 percent); and the New England, Middle Atlantic, East North Central, and East South Central Divisions (3 percent each). The numbers rose by just 1 percent in the West North Central, West South Central, and Mountain Divisions. (See table 6 for 1989 data.) Births increased in all but nine States. These nine States were located in the three divisions experiencing the smallest gains in the number of births.

The birth rate per 1,000 population increased 1 percent in the West North Central and West South Central Divisions and increased 3 percent in the New England, Middle Atlantic, East North Central, South Atlantic, East South Central, and Pacific Divi-

sions. There was a 1-percent decline in the Mountain Division. Birth rates rose in 38 States and the District of Columbia, fell in 7 States, and were unchanged in 5 States. Twenty States experienced increases of 1–2 percent and 15 States experienced a 3-percent rise in their rates. Rates rose by 4–6 percent in California, Kentucky, and Michigan and by 14 percent in the District of Columbia.

Changes in the fertility rates (births per 1,000 women aged 15–44 years) were generally similar to those in the birth rates. Fertility rates increased 3 percent in the New England, East North Central, and East South Central Divisions and by 4 percent in the Middle Atlantic, South Atlantic, and Pacific Divisions. An increase of less than 1 percent was measured for the Mountain Division. There were increases of up to 2 percent in 21 States, 3 percent in 9 States, and 4–7 percent in 12 States. The rate increased 17 percent in the District of Columbia. Declines of up to 3 percent were reported for seven States. The rate for North Dakota fell 5 percent.

Sex ratio

In 1989 the sex ratio at birth was 1,050 males per 1,000 females, the same as in 1987–88. (See table 7.) The ratio has shown very little variation since 1980, ranging from 1,050 to 1,053. The ratio for births to white mothers was 1,053 and for births to black mothers, it was 1,031. Ratios by race of child in 1989 were identical to those by race of mother.

Month of birth

Monthly birth and fertility rates were higher in every month of 1989 compared with the same month in 1988. The peak months of occurrence were August and September, a pattern that has been observed for many years. The birth and fertility rates for these months were 3–15 percent higher than for any other month in 1989 (table 8).

Removal of the seasonal component from the monthly birth and fertility rates makes it possible to examine the underlying trends. Generally, the seasonally adjusted rates were stable

at a slightly higher level in the second half of 1989 compared with the first half of the year.

Day of week

The tendency for births to occur more frequently on weekdays than on Saturdays and Sundays continued in 1989. Deliveries were increasingly concentrated on Tuesdays–Fridays with correspondingly fewer occurring on Saturdays and Sundays. (See table 9 for 1989 data.) Births also occur with less frequency on holidays. (Data are not shown in this report.) The index of occurrence of births, defined as the ratio of the average number of births occurring on a given day of the week to the average daily number of births for the year multiplied by 100, can be used to examine the daily pattern of occurrence of births. In 1989, as in previous years, the peak day of occurrence was Tuesday, with an index of 108.9. By contrast, the index for Sunday occurrences was 81.2. In 1989 as in 1988 and 1987, the disparity between Tuesday and Sunday occurrences was 34 percent. From 1980, when this information first became available, to 1987, this differential had increased from 22 percent to 34 percent.

In accounting for this pattern, most attention has focused on the relatively high level of cesarean section deliveries (23.8 percent in 1989) (8). The overall proportion of cesarean sections changed very little during the last few years and the proportion of these that are repeat cesareans has remained high (36 percent in 1989). Physicians would be unlikely to schedule repeat procedures or planned primary cesarean deliveries on weekends or holidays. (More detailed information on 1989 births according to method of delivery will be published in another supplement to the Monthly Vital Statistics Report.)

Place of delivery

With the revision in the U.S. Standard Certificate of Live Birth in 1989, the item that identifies the type of facility where the birth occurred was modified to provide more detail. Information is now reported to distinguish

among births occurring in freestanding birthing centers, clinics or doctors' offices, residences or other places, as well as hospitals. As a result of the more detailed classification as well as greater effort to more precisely differentiate among the various delivery sites, the proportion of births reported to have occurred in hospitals was slightly smaller in 1989 (98.8 percent) than in previous years, (99.1 percent in 1987 and 1988). Births occurring outside of hospitals totaled 47,214 in 1989 (table 10) compared with 36,258 in 1988.

More than half of out-of-hospital deliveries occurred in residences; nearly a third occurred in freestanding birthing centers. White mothers were more likely than black mothers to have had an out-of-hospital delivery in 1989, 1.2 percent compared with 0.9 percent. However, black mothers with nonhospital deliveries were much more likely than their white counterparts to give birth at home (71 percent compared with 57 percent). Conversely, birthing centers were relatively much more utilized by white mothers, 34 percent of nonhospital deliveries compared with 9 percent for black mothers.

Attendant at birth

The 1989 revision of the U.S. Standard Certificate of Live Birth also provides more detail on the person attending the birth. Doctors of medicine (M.D.'s) and doctors of osteopathy (D.O.'s) are separately identified, and midwives are categorized as certified nurse midwives and "other" midwives. Other midwives may include both lay midwives and nurse midwives who are not certified.

The proportion of deliveries attended by physicians (M.D.'s and D.O.'s) in 1989 was 95.7 percent, slightly below the 1988 level, 96.0 percent. (See table 10.) Of the 3,856,842 physician-attended births in 1989, only 3 percent were attended by osteopathic physicians. Midwives delivered 147,293 babies in 1989, 3.7 percent of all births compared with 3.4 percent in 1988. The 1980's has seen a substantial growth in the number of midwife-attended births: The number in 1989

was nearly three times the number reported in 1980 (51,576).

The vast majority (90 percent) of midwife-attended births in 1989 were attended by certified nurse midwives. As would be expected, midwife-attended births in hospitals are almost exclusively attended by certified nurse midwives (98 percent). Although just 43 percent of midwives attending all nonhospital births in 1989 were certified nurse midwives, midwives attending births in birthing centers were much more likely to be certified (63 percent). Mothers giving birth in residences with midwife attendants were much less likely to be attended by certified nurse midwives (30 percent). Midwives attended 47 percent of all nonhospital deliveries in 1989 and in 1988.

Black mothers giving birth in hospitals were more likely than their white counterparts to have been attended by midwives, 3.9 percent compared with 2.9 percent. Conversely, white mothers giving birth in nonhospital settings were far more likely to have a midwife attendant (53 percent) than were black mothers (8 percent). These relationships have been observed for several years. Moreover, white mothers attended by midwives were much more likely to be giving birth in a nonhospital setting (19 percent) than were black mothers (2 percent).

Age of father

The birth rate for men in 1989 was 57.3 live births per 1,000 men aged 15-54 years, 3 percent higher than in 1988, 55.9. This rate has changed relatively little since the early 1970's, ranging from 53.2 to 59.1. Basic data are shown in tables 11 and 12.

Birth rates by age of father rose for men in all age groups 15-19 through 55 years and over. Increases of 1-3 percent were measured for men aged 25-44 years. Rates for men 20-24 and 45-54 years increased by 4 percent. The increase for men aged 15-19 was especially large, 12 percent. This coincides with an 8-percent rise in the birth rate for women aged 15-19.

Weight at birth

The rate of low birth weight increased slightly between 1988 and 1989, from 6.9 to 7.0 percent, the highest level observed since 1978 (7.1). The racial differential in low birth weight (births weighing less than 2,500 grams or 5 pounds 8 ounces) remained substantial in 1989: The rate for white babies rose from 5.6 to 5.7 percent and the rate for black babies increased from 13.0 to 13.2 percent. The rate of low birth weight for black births has increased steadily since 1984 (12.4 percent). According to the new tabulations of births by race of mother, the rate of low birth weight for births to white mothers was also 5.7 percent and for births to black mothers it was 13.5 percent. (See table 13 for basic data.)

An important factor accounting for the persistent high level of low birth weight during the 1980's continues to be the steady rise in the incidence of preterm births (those born before 37 completed weeks of gestation). The proportion of babies born preterm rose in 1989 to 10.6 percent compared with 10.2 percent in 1988 and 9.4 percent in 1981. Forty-one percent of preterm births in 1989 weighed less than 2,500 grams compared with 39 percent in 1988. In contrast just 2.1-3.2 percent of term and postterm births were of low birth weight.

The racial differential in low birth weight reflects the much higher incidence of preterm births among black babies and the disparity in low birth weight for term and postterm births. In 1989, 18.9 percent of births to black mothers and 8.8 percent of births to white mothers were preterm. Among preterm births, infants born to white and black mothers were at a similar risk of low birth weight, 39.0 and 45.3 percent, respectively. For term and postterm births, however, babies born to black women were more than twice as likely as babies born to white women to be of low birth weight, 6.2 percent (term) and 4.7 percent (postterm) compared with 2.6 percent and 1.7 percent, respectively, for babies born to white women.

The incidence of low birth weight increased for mothers in most age

groups by 1–3 percent. Rates for mothers aged 15 and under, 17 years, and 20–24 years declined or were unchanged. The rate for births to mothers aged 45–49 rose from 9.8 to 10.5 percent. The risk of a low-birth-weight outcome is lowest for births to mothers aged 25–29 and 30–34. Rates rose by 2–3 percent for births to these mothers, to 6.2 percent and 6.5 percent, respectively. The greatest risk of a low-birth-weight outcome continues to be for births to teenage mothers (8.5–13.4 percent) and to mothers aged 40 and older (8.4–10.5 percent).

The median birth weight for babies born in 1989 was 3,370 grams (equivalent to 7 pounds 7 ounces). For births to white mothers, the median was 3,410 grams (7 pounds 8 ounces), and for births to black mothers, the median was 3,160 grams (6 pounds 15 ounces).

The numbers and proportions of low-birth-weight infants in 1989 are shown for each State in table 14. Between 1988 and 1989, the incidence of low birth weight rose in 32 States and the District of Columbia, declined in 8 States, and was unchanged in 10 States. The increases were especially large (8–15 percent) in the District of Columbia, Idaho, Mississippi, South Dakota, and Vermont. There was an 8-percent decline in Montana.

Figures by race of mother for births to white mothers are about the same as those for white births. In contrast, there are considerable differences in the figures for births to black mothers compared with the figures for black births, as shown in table 14.

Multiple births

The number of babies born in multiple deliveries increased 6 percent in 1989, to 92,916, compared with 87,700 in 1988. The vast majority (97.0 percent) of multiple births are twins, 90,118 in 1989 (table 15). This proportion has declined in recent years.

The ratio of multiple births per 1,000 total live births was 23.0 in 1989, compared with 22.4 in 1988 and 22.0 in 1987. The 1989 ratio is the highest reported in more than 30 years. Ratios generally declined from 1958 (20.6) to 1973 (18.4) and have increased steadily

thereafter. Over the past several decades, multiple birth ratios for black births have consistently been higher than for white births. In 1989 the ratio for births to black mothers was 26.9, and for births to white mothers it was 22.5.

Multiple birth ratios by age of mother vary in a predictable pattern. The ratios peak for mothers aged 35–39 years: The ratio in 1989 was 30.5. The ratios for other age groups varied from 11.2 for births to mothers under age 15, to 28.5 for births to mothers aged 30–34. These relationships by age of mother are observed for births to white and black mothers, and with few exceptions, the ratios for births to black mothers were higher than ratios for births to white mothers in each age group.

The number of births in triplet and higher order plural deliveries continued to rise substantially in 1989, to a total of 2,798, a 17-percent increase over the 1988 level (2,385). These births accounted for 3.0 percent of all plural births in 1989 compared with 2.7 percent in 1988.

In 1989 births in quadruplet and quintuplet and higher order plural deliveries were separately identified for the first time in more than a decade. There were 229 births in quadruplet deliveries and 40 births in quintuplet and higher order deliveries in 1989 (data not shown in table 15).

The steady rise in the number of multiple births in recent years has been associated in part with the shift in childbearing to older ages and with the growing use of fertility-enhancing drugs to enable previously childless couples to have children (9).

Births to unmarried mothers

The number of births to unmarried mothers in 1989 totaled 1,094,169, a 9-percent increase compared with 1988 (1,005,299), and 64 percent more than in 1980 (665,747). The nonmarital birth rate rose to 41.8 births per 1,000 unmarried women aged 15–44 years in 1989, 8 percent higher than in 1988 (38.6) and 42 percent greater than in 1980 (29.4). This is the fifth consecutive year of increases of 5 percent or

more in these key measures of nonmarital childbearing.

During this period of substantial increases in nonmarital childbearing, childbearing by married women has changed relatively little overall. The number of births to married women in 1989, 2,946,789, is virtually unchanged from the number reported in 1980 (2,946,511). The birth rate for married women in 1989 was 91.3 births per 1,000 women aged 15–44, up 1 percent from the 1988 level (90.3) but still 6 percent below the rate for 1980 (97.0). As a consequence of the divergent trends during the 1980's in marital and nonmarital childbearing, the proportion of births occurring to unmarried women has risen rapidly, from 18.4 percent in 1980 to 27.1 percent in 1989. (Basic data are shown in tables 16 and 17.)

Births and birth rates rose considerably for white and black births to unmarried women between 1988 and 1989 and, as in the past several years, the increases were somewhat greater for white than for black births. The number of births increased 10 percent and 7 percent, respectively, to 593,911 white births and 457,480 black births. The nonmarital birth rates rose 10 percent for white births and 5 percent for black births. The 1989 rates were 30.1 per 1,000 unmarried white women aged 15–44 years and 90.0 for black women.

In the case of nonmarital births, the change in the tabulation of births by race to the mother's race resulted in 3 percent more white nonmarital births (613,543 compared with 593,911) and 3 percent fewer black nonmarital births (442,395 compared with 457,480), than when the births are tabulated by race of child. Analysis of year-to-year changes in nonmarital childbearing by race of mother will be possible beginning with the 1990 data year.

Increases in birth rates were substantial for unmarried mothers in all age groups, 9–10 percent for mothers under 35 and 6–7 percent for mothers aged 35 and older. Birth rates continue to be highest for unmarried mothers aged 18–24 years, with rates of 57–62 per 1,000. In recent years, the number of unmarried teenagers has declined,

reflecting the sharp reduction in births that occurred during the 1970's when today's teenagers were born. Thus, if the nonmarital birth rate had not increased in 1989 by 9 percent but had remained at its 1988 level, there would have been a reduction of about 7,000 nonmarital births to women aged 15-19 rather than the increase of nearly 25,000 births that actually occurred.

Although the number of teenaged women declined during the 1980's (by 16 percent), the number of women aged 20 and older rose (by 17 percent), particularly those aged 25-44 who are members of the baby-boom generation (up 26 percent). Increasing proportions of these relatively older women are unmarried. The convergence of these population changes with the rising rates of nonmarital childbearing among these women has resulted in even sharper increases in the number of nonmarital births to women in their twenties and older. Between 1980 and 1989, this number rose from 393,946 to 746,289, an increase of 89 percent.

Rates for white births rose in all age groups by 8-12 percent and for black births by 3-9 percent (except the rate for women aged 40-44 which did not change). The pattern of increases was such that while increases in rates for white and black teenage births were fairly similar, the increases for white births to women in age groups 20 and older were about twice the increases for black births to women in the same age groups (table 17). This pattern of much greater increase in rates for white than for black women has been repeated over the past several years. Overall, the rate for white births rose 66 percent while the rate for black births rose 12 percent between 1980 and 1989.

The incidence of nonmarital childbearing varies greatly from State to State. The number and ratio of births to unmarried women for each State are presented in table 18. Figures are shown by race of mother and by race of child. With only three exceptions, the ratios per 1,000 total live births were higher in each State in 1989 than in 1988.

Interval since last live birth

Intervals between successive births are calculated from the date of the last live birth and the date of the present birth. Beginning with the 1989 data year, this information is available for the entire United States. Intervals between births are calculated for all second and higher order births (table 19).

The proportions of births occurring after various intervals following the mother's previous live birth in 1989 were unchanged from the 1988 levels. Thirteen percent of all second and higher order births occurred within 18 months of the mother's previous live birth, 27 percent within 2 years, and 51 percent within 3 years.

The racial disparity in the occurrence of births at very short intervals is substantial. In 1989, 12 percent of births to white mothers compared with 19 percent of births to black mothers were born within 18 months of the previous birth.

Closely spaced births are at much greater risk of low birth weight and other health complications (10). The increased health risks for these infants are in part associated with the greater tendency for them to occur among young mothers and black mothers whose babies are at greater risk of low birth weight. For example, although teenage mothers accounted for just 8 percent of all second births in 1989, they accounted for 24 percent of second births occurring within 1 1/2 years of the mother's previous birth. Similarly, black women accounted for a larger fraction of closely spaced second births (19 percent) than of all second births (15 percent).

Educational attainment of mother and father

In 1989 educational attainment of the parents was reported on the birth certificates of 48 States, the District of Columbia, and New York City. California and Texas provided this information for the first time in 1989. The reporting area for 1989 is therefore substantially different from that for 1988 and earlier years. California and

Texas, which together accounted for 22 percent of U.S. births in 1989, include sizable proportions of recent immigrants (11) whose educational attainment in many cases is less than that of the U.S.-born population. As a consequence of this compositional change between 1988 and 1989, the overall educational attainment of mothers giving birth in the United States was less than that reported for those giving birth in 1988 and previous years.

In 1989, 77 percent of mothers and 82 percent of fathers were reported to be high school graduates. (Basic data are presented in tables 20 and 21.) The educational attainment of fathers is overstated to the extent that the information was available mainly for married parents. When the mother is unmarried, information on the father is often not reported. Because nonmarital births are disproportionately to teenage mothers, it may be assumed that the fathers of such births are also relatively young and have had less opportunity to advance their education.

Seventeen percent of women giving birth in 1989 were college graduates compared with 18 percent in 1988. Among mothers aged 30 and older, 33-39 percent were college graduates in 1989. First-time mothers are even more likely to be college graduates. This pattern was described earlier in the section, "Births and birth rates," and in a previously published report (7). In 1989, 46 percent of first-time mothers aged 30-34 and 52 percent of those aged 35-39 were college graduates.

Among white mothers giving birth in 1989, 78 percent were high school graduates and 19 percent were college graduates. The comparable proportions for black mothers were 70 percent and 7 percent.

The median years of school completed by mothers aged 20 and older increased from 12.5 years for mothers aged 20-24 to 14.5 for mothers aged 35-39, and then fell slightly to 14.1 for mothers aged 40 and older.

Births to Hispanic mothers

Hispanic origin of the parents was reported on the birth certificates of 47

States and the District of Columbia in 1989, an increase of 17 States compared with 1988. Only Louisiana, New Hampshire, and Oklahoma did not report this information in 1989. Based on data published by the U.S. Bureau of the Census (12) and related unpublished tabulations, it is estimated that 99 percent of the Hispanic population resides in the 1989 reporting area.

The tabulations in this report show births classified by the Hispanic origin of the mother. The terms "births to mothers of Hispanic origin" and "Hispanic origin births" are used interchangeably in the text.

The fertility of the Hispanic population remained at a very high level in 1989. The estimated fertility rate for U.S. Hispanic women aged 15–44 years was 104.9, 60 percent above the rate of 65.7 for non-Hispanic women. (See tables 22–25 for births by Hispanic origin by State, by age of mother, by race, and estimated birth and fertility rates and age-specific birth rates.) As in previous years, Mexican women had the highest fertility of any Hispanic group, with a rate of 106.6 compared with 86.6 for Puerto Rican women, 49.8 for Cuban women, and 95.8 for Central and South American women.

Of the 532,249 Hispanic origin births in 1989, 327,233 (61 percent) were to Mexican women, 56,229 (11 percent) were to Puerto Rican women, 10,842 (2 percent) were to Cuban women, and 72,443 (14 percent) were to Central and South American women.

The Hispanic population is concentrated, as are the births, in a relatively small number of States. California and Texas accounted for 40 and 20 percent of the U.S. Hispanic births, respectively. Other States with large numbers of Hispanic births were New York (9 percent), Florida (5 percent), Illinois (4 percent), New Jersey and Arizona (3 percent each), and New Mexico (2 percent).

The racial composition of Hispanic births has changed very little since the data first became available in 1978. In 1989, 96.6 percent of Hispanic births were to white mothers, 2.2 percent were to black mothers, and 1.3 percent were to mothers of other races. There are variations in the racial dis-

tribution of the individual Hispanic groups, as shown in table 23.

Birth rates for 1989 by age of mother for the Hispanic population are shown in table 24. Rates by age have not previously been available except for the 1980 data year (coinciding with the decennial census). These rates show clearly that the fertility of Hispanic women is higher than that of non-Hispanic women at every age. The differential is generally greatest for teenagers and for women aged 40 and older.

Because the necessary population data are not available, it is not possible to compute birth and fertility rates for the non-Hispanic population by race, but some comparisons can be made of rates for Hispanic women with the rates for all black women shown in table 3; as noted earlier, very few Hispanic mothers are black. If rates for Hispanic women are compared with those for black women (tables 3 and 24), it is evident that although black teenagers have higher fertility than Hispanic women aged 20 and older are higher than for black women and the gap between them increases as age of mother advances. As a consequence, the total fertility rate for Hispanic women (2,903.5) is considerably higher than for black women (2,414.0). (See section above for more discussion of the total fertility rate.)

Birth rates by age for the individual Hispanic groups vary widely. The rates for Mexican women are generally comparable to those for all Hispanic women, although the rate for Mexican teenagers is slightly below that of all Hispanic teenagers. The total fertility rate for Mexican women was 2,916.5 in 1989.

The pattern of rates for Puerto Rican women by age is quite similar to that for black women (tables 3 and 24). Fertility is very high for teenagers in both groups, considerably higher than for any other group. Childbearing for both groups is very highly concentrated at ages 15–29 years. At ages 30 and older the rates begin to drop sharply for Puerto Rican and black women. The total fertility rate for Puerto Rican women in 1989 was 2,421.0, nearly the

same as the rate for black women (2,414.0).

Birth rates by age for Cuban women under age 25 were substantially below the rates for any other group. For example, the rate for teenagers was 25.1 per 1,000 compared with 53.4 for non-Hispanic teenagers and a range of 66.4–112.7 for other Hispanic groups. Rates for women 25 and older were comparable to those for Puerto Rican and non-Hispanic women. Because rates for Cuban women under 25 are so low, however, their total fertility rate is correspondingly very low (1,479.0).

Birth rates for women of Central and South American origin were particularly high for women in their twenties and for women aged 35 and older. In contrast, rates for teenage women were relatively low. Because the rates were so high for women in the peak childbearing ages, the total fertility rate for these women was high as well (2,683.0).

Large proportions of Hispanic births are to teenage mothers. (See table 25 for 1989 data.) This reflects the relatively high levels of birth rates for Hispanic teenagers as well as the relatively youthful composition of the Hispanic population. For example, the median age of the Mexican population in 1989 was 23.6 years, compared with a median of 33.2 years for the non-Hispanic population (12).

In 1989, 17 percent of all Hispanic births were to mothers under 20 years of age, but there were wide variations in these proportions among the various Hispanic groups—17–22 percent for Mexican and Puerto Rican births compared with 7–9 percent for Cuban and Central and South American births. These proportions have been about the same for many years.

As a consequence of very high birth rates throughout the childbearing years, Hispanic women (except Cubans) are much more likely than white non-Hispanic women to be giving birth to their fourth or higher order child, 16 percent compared with 8 percent (table 26).

A summary of various childbearing characteristics by Hispanic origin of the mother is presented in table 26. There

was little change in these characteristics during the 1980's. As was the case with birth and fertility rates by Hispanic origin, there is considerable variation among the Hispanic groups for most variables. Thirty-six percent of all Hispanic births were nonmarital (ranging from 18 to 55 percent) compared with 16 percent of births to white non-Hispanic mothers and 66 percent of births to black non-Hispanic mothers. Only 47 percent of Hispanic women giving birth in 1989 were high school graduates (range of 39–82 percent) compared with 85 percent of white non-Hispanic and 70 percent of black non-Hispanic mothers. Forty-one percent of Hispanic women giving birth in 1989 were born in the United States and 59 percent were foreign- or Puerto Rican-born. There are important differentials in childbearing characteristics of native and foreign-born Hispanic mothers (13,14).

Hispanic mothers (except Cubans) giving birth in 1989 were much less likely to begin prenatal care early and much more likely to receive late or no care than white non-Hispanic mothers. The incidence of low birth weight among Hispanic origin infants continues to be remarkably low (6.2 percent overall), given that Hispanic women (except for Cuban women) have limited educational attainment and are unlikely to receive prenatal care early in pregnancy, both factors that usually have direct impact on the levels of low birth weight. The levels of preterm birth (babies born prior to 37 weeks of gestation) among Hispanic infants are not as favorable as those of low birth weight.

The 1- and 5-minute Apgar scores are an additional measure of birth outcome. (See section on Apgar scores.) Babies born to Hispanic mothers were generally less likely than babies born to white or black non-Hispanic mothers to have low 1-minute Apgar scores (scores below 7), but they were about as likely as babies born to white non-Hispanic mothers to have low 5-minute Apgar scores.

Births of other racial and national origin groups

The change in 1989 to tabulating births according to the race of the

mother rather than the race of the child has had its greatest impact on the number and distribution of births of races other than white and black. As noted earlier, the change has resulted in an increase in the number of white births and a decrease in the number of births in every other racial group. The extent of the difference varies according to the frequency of interracial parentage in each group. As shown in table 27, the greatest numerical impact was on the number of American Indian births. Nearly 10,000 fewer births occurred to American Indian mothers than the number of births tabulated as American Indian on the basis of the race of the child, a 20-percent difference. The difference for Chinese, Filipino, and other Asian births ranged from 6 to 8 percent; for Japanese births the difference was 18 percent. The largest percent difference was noted for Hawaiian births, 31 percent. This was greater than for other groups because all interracial births with one Hawaiian parent were previously classified as Hawaiian, regardless of the other parent's race. This "Hawaiian preference" resulted in an elevated number of births.

A comparison of 1988 and 1989 births tabulated by race of child indicates increases of 6–7 percent for American Indian, Hawaiian, and Filipino births and 4 percent for other Asian births. The number of Japanese births increased very slightly and the number of Chinese births declined by a small amount. These changes are all relatively modest compared with those observed between 1987 and 1988.

Even with the tabulation of births by race of mother, certain childbearing patterns persist. Teenage childbearing as measured by the proportion of births to mothers under 20 continues to be uncommon for Chinese (1 percent), Japanese (3 percent), and Filipino and other Asian mothers (6 percent each). In contrast, 17 percent of Hawaiian mothers and 20 percent of American Indian mothers were teenaged in 1989. These levels can be compared with 11 percent for white mothers and 23 percent for black mothers.

Births to mothers aged 30 and older are very common among Chinese

(57 percent), Japanese (59 percent), Filipino (46 percent), and other Asian women (38 percent) compared with 20–21 percent of black, American Indian, and Hawaiian women and 31 percent of white women.

The incidence of low birth weight for births to mothers of races other than white and black ranged from 4.9 percent for Chinese births to 7.3 percent for Hawaiian and Filipino births. (See table 28.) These levels can be compared with the percent for births to white mothers, 5.7 percent, and for births to black mothers, 13.5 percent. Except for births to American Indian and Hawaiian mothers, the low incidence of low birth weight among other racial groups is directly associated with the relatively low proportions of teenage births, which are at much greater risk of low birth weight.

Month of pregnancy prenatal care began

The proportion of mothers beginning prenatal care in the critical first trimester of pregnancy declined slightly from 76 percent in 1988 to 75 percent in 1989. (See table 29 for basic data for 1989.) There has been essentially no change in this proportion since 1979 (except for 1984 when it was 77 percent). Prior to 1979, there were annual increases in this proportion, from 68 percent in 1969 to 75 percent in 1978. The proportion of mothers who received late care beginning in the third trimester or no care at all remained at 6 percent as it has since 1983.

The racial disparity in the timely receipt of prenatal care remained substantial in 1989: 79 percent of white mothers compared with 60 percent of black mothers began care in the first trimester. The proportions receiving late or no care were 5 percent for white mothers and 12 percent for black mothers. The proportions for births by race of child were the same as by race of mother. The 12-percent level of late or no care for black mothers was the highest reported since 1973.

In 1989 as in the last several years, gains in the early receipt of prenatal care were limited to the youngest and

oldest mothers. Some deterioration was noted for mothers aged 20–39 years. In 1989 only 54 percent of mothers under 20 began care in the first trimester. This proportion rose to a peak of 85 percent for women aged 30–34 years and then fell to 78 percent for women aged 40–49 years. Young teenage mothers continue to be at particularly great risk of receiving late or no care, 14 percent of mothers aged 17 and under in 1989.

There is a strong association between the mother's educational attainment and the timing of the first visit for prenatal care (15). In 1989, 93 percent of college graduates began care in the first trimester compared with just 51 percent of mothers with only a grade school education. In each educational attainment category, white mothers were more likely than black mothers to get care early in pregnancy. (Data are not shown in this report.)

Number of prenatal visits

The number of visits made to obtain prenatal care was reported by every State and the District of Columbia in 1989. In 1988 and earlier years, this information was not available for California. The median number of visits made by women who had any prenatal care was 12.0 in 1989 as it was in 1987–88. For white mothers, the median was 12.2 and for black mothers, it was 10.6 visits. (Basic data for 1989 are presented in table 30.)

As would be expected, the earlier in pregnancy that prenatal care is begun, the more visits a woman is likely to make. Mothers beginning care in the first trimester made 2 1/2 times as many visits as those beginning care in the third trimester, 12.5 compared with 5.0 visits. This pattern is observed for both white and black mothers. Black mothers have fewer visits overall primarily because they are much more likely to begin care in the second or third trimester and consequently to make fewer visits.

Period of gestation

The proportion of babies born preterm, that is, at less than 37 weeks of gestation, increased from 10.2 percent

in 1988 to 10.6 percent in 1989, the largest annual increase in 5 years. Since 1981, this proportion has risen steadily (except for a decline between 1983 and 1984) from 9.4 percent. (Data for 1989 are shown in table 31.)

The period of gestation is measured as the interval from the first day of the mother's last normal menstrual period (LMP) and the date of birth. With the revision of the birth certificate in 1989, an additional item of information, the "clinical estimate of gestation" in weeks, may be used if the length of gestation computed from the LMP date is inconsistent with the reported birth weight or is not reported. These procedures are described in more detail in the Technical notes.

The effect of the editing procedure is to decrease slightly the proportion of preterm births. If only records with gestations based on the LMP date are considered, the proportion of preterm births would have been 10.7 percent rather than the 10.6 percent level based on LMP and clinical estimate date combined. Thus, the increase in the incidence of preterm births reflects a real change and is not associated with the editing procedure.

The racial disparity in length of gestation is substantial; in 1989, 8.8 percent of white mothers and 18.9 percent of black mothers were reported to have preterm births. The comparable proportions for births by race of child were 8.8 percent for white births and 18.5 percent for black births. The incidence of preterm births rose for both white and black infants in 1989.

Apgar score

The Apgar score is a summary measure developed by the late physician, Virginia Apgar, to evaluate the newborn infant's overall physical condition at birth. The score is a composite evaluation of five factors—the infant's heart rate, respiratory effort, muscle tone, irritability, and color—each of which is assigned a value of 0 to 2, with a total maximum score of 10 being optimum. The scores at 1 and 5 minutes after birth were reported by 47 States and the District of Columbia

in 1989. Information was not available for California, Oklahoma, and Texas.

The proportion of babies with high 1-minute Apgar scores (9–10) increased in 1989 to 42.3 percent, the third consecutive year of increase. (Data for 1989 are shown in table 32.) Although babies born to black mothers were more likely than babies born to white mothers to have high 1-minute Apgar scores, 44.0 percent compared with 41.8 percent, babies born to black mothers were also more likely to have very low scores (less than 7), 11.5 percent compared with 8.2 percent.

The 5-minute Apgar score is considered to have better long-term predictive value concerning the infant's health and survival chances. In 1989, 1.6 percent of all babies were reported to have depressed 5-minute scores (less than 7). The figures by race were 1.3 percent for births to white mothers and 2.9 percent for births to black mothers (table 33).

In 1989 as in previous years, there was a predictable pattern of scores by age of mother. Low scores were more prevalent for births to teenage mothers and mothers in their forties (2.0–3.2 percent) than among births to mothers in age groups 25–29 and 30–34 (1.4 percent). This pattern was repeated for births to white and black women, but in each age group low scores were relatively more frequent among births to black women.

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Symbols

- Data not available
 - . . . Category not applicable
 - Quantity zero
 - 0.0 Quantity more than zero but less than 0.05
 - * Figure does not meet standard of reliability or precision (estimate is based on fewer than 20 births in numerator or denominator)
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Table 1. Live births, birth rates, and fertility rates, by race: United States, specified years 1940–55 and each year 1960–89

[Birth rates are live births per 1,000 population in specified group. Fertility rates per 1,000 women aged 15–44 years in specified group. Population enumerated as of April 1 for census years and estimated as of July 1 for all other years. Beginning with 1970, excludes births to nonresidents of the United States]

Year	Number				Birth rate				Fertility rate			
	All races	White	All other		All races	White	All other		All races	White	All other	
			Total	Black			Total	Black			Total	Black
Registered births												
Race of mother:												
1989	4,040,958	3,192,355	848,603	673,124	16.3	15.3	21.6	22.0	69.2	66.0	84.6	85.8
Race of child:												
1989	4,040,958	3,131,991	908,967	709,395	16.3	15.0	23.1	23.1	69.2	64.7	90.6	90.4
1988	3,909,510	3,046,162	863,348	671,976	15.9	14.7	22.5	22.2	67.2	63.0	87.5	86.6
1987	3,809,394	2,992,488	816,906	641,567	15.7	14.5	21.7	21.6	65.7	62.0	84.4	83.8
1986	3,756,547	2,970,439	786,108	621,221	15.6	14.5	21.4	21.2	65.4	61.9	83.0	82.4
1985	3,760,561	2,991,373	769,188	608,193	15.8	14.8	21.4	21.1	66.2	63.0	83.2	82.2
1984 ¹	3,669,141	2,923,502	745,639	592,745	15.5	14.5	21.2	20.8	65.4	62.2	82.5	81.4
1983 ¹	3,638,933	2,904,250	734,683	586,027	15.5	14.6	21.3	20.9	65.8	62.4	83.2	81.7
1982 ¹	3,680,537	2,942,054	738,483	592,641	15.9	14.9	21.9	21.4	67.3	63.9	85.5	84.1
1981 ¹	3,629,238	2,908,669	720,569	587,797	15.8	14.8	22.0	21.6	67.4	63.9	86.4	85.4
1980 ¹	3,612,258	2,898,732	713,526	589,616	15.9	14.9	22.5	22.1	68.4	64.7	88.6	88.1
1979 ¹	3,494,398	2,808,420	685,978	577,855	15.6	14.5	22.2	22.0	67.2	63.4	88.5	88.3
1978 ¹	3,333,279	2,681,116	652,163	551,540	15.0	14.0	21.6	21.3	65.5	61.7	87.0	86.7
1977 ¹	3,326,632	2,691,070	635,562	544,221	15.1	14.1	21.6	21.4	66.8	63.2	87.7	88.1
1976 ¹	3,167,788	2,567,614	600,174	514,479	14.6	13.6	20.8	20.5	65.0	61.5	85.8	85.8
1975 ¹	3,144,198	2,551,996	592,202	511,581	14.6	13.6	21.0	20.7	66.0	62.5	87.7	87.9
1974 ¹	3,159,958	2,575,792	584,166	507,162	14.8	13.9	21.2	20.8	67.8	64.2	89.8	89.7
1973 ¹	3,136,965	2,551,030	585,935	512,597	14.8	13.8	21.7	21.4	68.8	64.9	93.4	93.6
1972 ¹	3,258,411	2,655,558	602,853	531,329	15.6	14.5	22.8	22.5	73.1	68.9	99.5	99.9
1971 ²	3,555,970	2,919,746	636,224	564,960	17.2	16.1	24.6	24.4	81.6	77.3	109.1	109.7
1970 ²	3,731,386	3,091,264	640,122	572,362	18.4	17.4	25.1	25.3	87.9	84.1	113.0	115.4
1969 ²	3,600,206	2,993,614	606,592	543,132	17.9	16.9	24.5	24.4	86.1	82.2	111.6	112.1
1968 ²	3,501,564	2,912,224	589,340	531,152	17.6	16.6	24.2	24.2	85.2	81.3	111.9	112.7
1967 ³	3,520,959	2,922,502	598,457	543,976	17.8	16.8	25.0	25.1	87.2	82.8	117.1	118.5
1966 ²	3,606,274	2,993,230	613,044	558,244	18.4	17.4	26.1	26.2	90.8	86.2	123.5	124.7
1965 ²	3,760,358	3,123,860	636,498	581,126	19.4	18.3	27.6	27.7	96.3	91.3	131.9	133.2
1964 ^{2,4}	4,027,490	3,369,160	658,330	607,556	21.1	20.0	29.2	29.5	104.7	99.8	140.0	142.6
1963 ^{2,4}	4,098,020	3,326,344	638,928	580,658	21.7	20.7	29.7	---	108.3	103.6	143.7	---
1962 ^{2,4}	4,167,362	3,394,068	641,580	584,610	22.4	21.4	30.5	---	112.0	107.5	147.8	---
1961 ²	4,268,326	3,600,864	667,462	611,072	23.3	22.2	31.6	---	117.1	112.3	153.0	---
1960 ²	4,257,850	3,600,744	657,106	602,264	23.7	22.7	32.1	31.9	118.0	113.2	153.6	153.5
Births adjusted for underregistration												
Race of child:												
1955	4,097,000	3,485,000	613,000	---	25.0	23.8	34.5	---	118.3	113.7	154.3	---
1950	3,632,000	3,108,000	524,000	---	24.1	23.0	33.3	---	106.2	102.3	137.3	---
1945	2,858,000	2,471,000	388,000	---	20.4	19.7	26.5	---	85.9	83.4	106.0	---
1940	2,559,000	2,199,000	360,000	---	19.4	18.6	26.7	---	79.9	77.1	102.4	---

¹Based on 100 percent of births in selected States and on a 50-percent sample of births in all other States; see Technical notes.

²Based on a 50-percent sample of births.

³Based on a 20- to 50-percent sample of births.

⁴Figures by race exclude data for New Jersey.

Table 2. Live births by age of mother, live-birth order, and race of mother and of child: United States, 1989

[Live-birth order refers to number of children born alive to mother]

Live-birth order and race	Age of mother													
	All ages	Under 15 years	15-19 years						20-24 years	25-29 years	30-34 years	35-39 years	40-44 years	45-49 years
			Total	15 years	16 years	17 years	18 years	19 years						
All races	4,040,958	11,486	506,503	26,730	57,279	97,035	144,350	181,109	1,077,598	1,263,098	842,395	293,878	44,401	1,599
First child	1,648,303	11,006	383,113	24,794	50,310	79,140	107,441	121,428	508,864	457,357	218,432	61,328	7,981	222
Second child	1,300,371	369	97,760	1,729	6,116	15,163	29,568	45,184	360,064	446,506	296,521	88,942	10,015	194
Third child	657,558	19	19,815	99	567	2,095	5,775	11,279	144,126	227,443	188,144	68,599	9,177	235
Fourth child	249,785	3	3,176	7	35	200	835	2,099	43,633	82,142	78,736	35,807	6,096	192
Fifth child	91,415	-	417	2	6	22	85	302	11,734	27,511	30,834	16,923	3,821	175
Sixth child	37,393	-	50	-	4	2	10	34	2,859	9,835	13,332	8,858	2,323	136
Seventh child	16,740	-	18	-	1	1	6	10	677	3,479	6,010	4,914	1,543	99
Eighth child and over	16,980	-	8	-	2	1	5	287	1,908	5,061	6,386	3,016	314	
Not stated	22,413	89	2,146	99	240	410	629	768	5,354	6,917	5,325	2,121	429	32
Race of mother														
White	3,192,355	4,630	340,472	13,869	34,133	63,734	99,302	129,434	824,189	1,040,659	702,963	242,467	35,795	1,180
First child	1,322,149	4,432	268,824	13,166	31,090	54,593	78,137	91,838	411,453	390,939	187,239	52,470	6,622	170
Second child	1,049,754	139	59,374	628	2,717	8,009	17,819	30,201	277,801	375,981	252,831	75,082	8,387	159
Third child	513,250	7	9,562	29	172	798	2,618	5,945	99,074	182,137	157,523	57,220	7,543	184
Fourth child	183,430	1	1,200	3	8	65	288	836	25,266	60,424	62,672	28,784	4,923	160
Fifth child	62,289	-	132	1	2	12	27	90	5,538	17,825	22,800	12,894	2,965	135
Sixth child	24,370	-	24	-	1	1	4	18	1,113	5,700	9,156	6,533	1,746	98
Seventh child	10,538	-	8	-	1	-	3	4	240	1,717	3,858	3,525	1,125	65
Eighth child and over	10,564	-	5	-	1	-	4	4	133	824	2,860	4,385	2,171	186
Not stated	16,011	51	1,343	42	142	255	406	498	3,571	5,112	4,024	1,574	313	23
All other	848,603	6,856	166,031	12,861	23,146	33,301	45,048	51,675	253,409	222,439	139,432	51,411	8,606	419
First child	326,154	6,574	114,289	11,628	19,220	24,547	29,304	29,590	97,411	66,418	31,193	8,858	1,359	52
Second child	250,617	230	38,386	1,101	3,399	7,154	11,749	14,983	82,263	70,525	43,690	13,860	1,628	35
Third child	144,308	12	10,253	70	395	1,297	3,157	5,334	45,052	45,306	30,621	11,379	1,634	51
Fourth child	66,355	2	1,976	4	27	135	547	1,263	18,367	21,718	16,064	7,023	1,173	32
Fifth child	29,126	-	285	1	4	10	58	212	6,196	9,686	8,034	4,029	856	40
Sixth child	13,023	-	26	-	3	1	6	16	1,746	4,135	4,176	2,325	577	38
Seventh child	6,202	-	10	-	-	1	3	6	437	1,762	2,152	1,389	418	34
Eighth child and over	6,416	-	3	-	-	1	1	1	154	1,084	2,201	2,001	845	128
Not stated	6,402	38	803	57	98	155	223	270	1,783	1,805	1,301	547	116	9
Black ¹	673,124	6,560	150,699	12,048	21,412	30,372	40,868	45,999	215,557	167,260	94,766	32,845	5,236	201
First child	254,855	6,294	103,023	10,890	17,725	22,229	26,277	25,902	79,508	43,053	17,524	4,740	685	28
Second child	197,083	216	35,307	1,040	3,203	6,647	10,866	13,551	70,975	53,884	27,850	7,961	870	20
Third child	118,206	10	9,488	62	360	1,216	2,943	4,907	39,791	37,369	22,891	7,582	1,047	28
Fourth child	54,862	2	1,841	3	25	130	511	1,172	16,260	18,005	12,760	5,184	791	19
Fifth child	23,529	-	253	1	3	7	50	192	5,442	7,917	6,292	3,019	580	26
Sixth child	10,066	-	25	-	3	1	6	15	1,494	3,282	3,176	1,695	379	15
Seventh child	4,601	-	8	-	-	-	3	5	378	1,377	1,582	953	292	11
Eighth child and over	4,341	-	2	-	-	-	1	1	120	831	1,590	1,253	497	48
Not stated	5,581	38	752	52	93	142	211	254	1,589	1,542	1,101	458	95	6

Race of child														
White	3,131,991	4,527	331,204	13,517	33,236	62,080	96,567	125,804	806,056	1,024,006	691,735	238,202	35,111	1,150
First child	1,296,452	4,332	261,747	12,833	30,274	53,210	76,055	89,375	402,836	385,236	184,244	51,420	6,471	166
Second child	1,031,252	136	57,562	609	2,643	7,765	17,278	29,267	271,698	370,432	249,240	73,821	8,215	148
Third child	503,570	7	9,257	29	168	780	2,523	5,757	96,608	178,854	155,030	56,244	7,391	179
Fourth child	179,568	1	1,160	3	8	62	281	806	24,591	59,067	61,443	28,308	4,841	157
Fifth child	60,922	-	128	1	2	12	27	86	5,391	17,401	22,316	12,651	2,904	131
Sixth child	23,808	-	23	-	1	1	4	17	1,076	5,533	8,936	6,420	1,725	95
Seventh child	10,327	-	7	-	1	-	3	3	238	1,673	3,771	3,463	1,110	65
Eighth child and over	10,403	-	5	-	-	1	-	4	132	805	2,804	4,326	2,145	186
Not stated	15,689	51	1,315	42	139	249	396	489	3,486	5,005	3,951	1,549	309	23
All other	908,967	6,959	175,299	13,213	24,043	34,955	47,783	55,305	271,542	239,092	150,660	55,676	9,290	449
First child	351,851	6,674	121,366	11,961	20,036	25,930	31,386	32,053	106,028	72,121	34,188	9,908	1,510	56
Second child	269,119	233	40,198	1,120	3,473	7,398	12,290	15,917	88,366	76,074	47,281	15,121	1,800	46
Third child	153,988	12	10,558	70	399	1,315	3,252	5,522	47,518	48,589	33,114	12,355	1,786	56
Fourth child	70,217	2	2,016	4	27	138	554	1,293	19,042	23,075	17,293	7,499	1,255	35
Fifth child	30,493	-	289	1	4	10	58	216	6,343	10,110	8,518	4,272	917	44
Sixth child	13,585	-	27	-	3	1	6	17	1,783	4,302	4,396	2,438	598	41
Seventh child	6,413	-	11	-	-	1	3	7	439	1,806	2,239	1,451	433	34
Eighth child and over	6,577	-	3	-	-	1	1	1	155	1,103	2,257	2,060	871	128
Not stated	6,724	38	831	57	101	161	233	279	1,868	1,912	1,374	572	120	9
Black ¹	709,395	6,640	156,969	12,294	22,015	31,476	42,702	48,482	227,099	176,748	100,906	35,191	5,633	209
First child	270,439	6,374	107,768	11,121	18,277	23,152	27,639	27,579	85,002	46,131	19,062	5,301	773	28
Second child	207,902	216	36,573	1,055	3,250	6,813	11,259	14,196	74,765	56,988	29,746	8,629	962	23
Third child	123,951	10	9,687	62	362	1,222	3,008	5,033	41,407	39,300	24,266	8,115	1,137	29
Fourth child	57,291	2	1,877	3	25	134	516	1,199	16,707	18,862	13,512	5,465	847	19
Fifth child	24,345	-	253	1	3	7	50	192	5,542	8,183	6,576	3,151	612	28
Sixth child	10,448	-	25	-	3	1	6	15	1,516	3,402	3,325	1,772	391	17
Seventh child	4,719	-	9	-	-	-	3	6	379	1,402	1,628	990	300	11
Eighth child and over	4,454	-	2	-	-	-	1	1	122	849	1,627	1,292	514	48
Not stated	5,846	38	775	52	95	147	220	261	1,659	1,631	1,164	476	97	6

¹Included in All other

Table 3. Birth rates by age of mother, live-birth order, and race of mother and of child: United States, 1989

[Rates are live births per 1,000 women in specified age and racial group. Live-birth order refers to number of children born alive to mother]

Live-birth order and race	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
			Total	15-17 years	18-19 years						
All races	69.2	1.4	58.1	36.5	86.4	115.4	116.6	76.2	29.7	5.2	0.2
First child	28.4	1.3	44.1	31.3	61.0	54.8	42.4	19.9	6.2	0.9	0.0
Second child	22.4	0.0	11.3	4.7	19.9	38.8	41.4	27.0	9.1	1.2	0.0
Third child	11.3	*	2.3	0.6	4.5	15.5	21.1	17.1	7.0	1.1	0.0
Fourth child	4.3	*	0.4	0.0	0.8	4.7	7.6	7.2	3.6	0.7	0.0
Fifth child	1.6	*	0.0	0.0	0.1	1.3	2.6	2.8	1.7	0.4	0.0
Sixth and seventh child	0.9	*	0.0	*	0.0	0.4	1.2	1.8	1.4	0.5	0.0
Eighth child and over	0.3	*	*	*	*	0.0	0.2	0.5	0.7	0.4	0.0
Race of mother											
White	66.0	0.7	48.5	28.3	74.7	108.0	116.1	76.6	29.3	4.9	0.2
First child	27.5	0.7	38.5	25.1	55.7	54.2	43.8	20.5	6.4	0.9	0.0
Second child	21.8	0.0	8.5	2.9	15.7	36.6	42.2	27.7	9.1	1.2	0.0
Third child	10.7	*	1.4	0.3	2.8	13.0	20.4	17.3	7.0	1.0	0.0
Fourth child	3.8	*	0.2	0.0	0.4	3.3	6.8	6.9	3.5	0.7	0.0
Fifth child	1.3	*	0.0	*	0.0	0.7	2.0	2.5	1.6	0.4	0.0
Sixth and seventh child	0.7	*	0.0	*	0.0	0.2	0.8	1.4	1.2	0.4	0.0
Eighth child and over	0.2	*	*	*	*	0.0	0.1	0.3	0.5	0.3	0.0
All other	84.6	4.1	97.4	69.2	137.4	148.5	118.7	74.4	32.0	6.8	0.4
First child	32.7	4.0	67.4	55.6	84.1	57.5	35.7	16.8	5.6	1.1	0.1
Second child	25.2	0.1	22.6	11.7	38.2	48.6	37.9	23.5	8.7	1.3	0.0
Third child	14.5	*	6.0	1.8	12.1	26.6	24.4	16.5	7.2	1.3	0.1
Fourth child	6.7	*	1.2	0.2	2.6	10.8	11.7	8.6	4.4	0.9	0.0
Fifth child	2.9	*	0.2	*	0.4	3.7	5.2	4.3	2.5	0.7	0.0
Sixth and seventh child	1.9	*	0.0	*	0.0	1.3	3.2	3.4	2.3	0.8	0.1
Eighth child and over	0.6	*	*	*	*	0.1	0.6	1.2	1.3	0.7	0.1
Black ²	85.8	5.0	110.4	80.0	153.2	157.1	112.6	65.1	26.8	5.5	0.3
First child	32.7	4.8	75.8	64.0	92.5	58.4	29.3	12.2	3.9	0.7	0.0
Second child	25.3	0.2	26.0	13.7	43.3	52.1	36.6	19.4	6.6	0.9	0.0
Third child	15.2	*	7.0	2.1	13.9	29.2	25.4	15.9	6.3	1.1	0.0
Fourth child	7.1	*	1.4	0.2	3.0	11.9	12.2	8.9	4.3	0.9	0.0
Fifth child	3.0	*	0.2	*	0.4	4.0	5.4	4.4	2.5	0.6	0.0
Sixth and seventh child	1.9	*	0.0	*	0.1	1.4	3.2	3.3	2.2	0.7	0.0
Eighth child and over	0.6	*	*	*	*	0.1	0.6	1.1	1.0	0.5	0.1
Race of child											
White	64.7	0.7	47.2	27.5	72.6	105.7	114.3	75.3	28.8	4.8	0.2
First child	26.9	0.7	37.5	24.4	54.2	53.0	43.2	20.2	6.2	0.9	0.0
Second child	21.4	0.0	8.2	2.8	15.3	35.8	41.5	27.3	9.0	1.1	0.0
Third child	10.5	*	1.3	0.2	2.7	12.7	20.1	17.0	6.8	1.0	0.0
Fourth child	3.7	*	0.2	0.0	0.4	3.2	6.6	6.7	3.4	0.7	0.0
Fifth child	1.3	*	0.0	*	0.0	0.7	2.0	2.4	1.5	0.4	0.0
Sixth and seventh child	0.7	*	0.0	*	0.0	0.2	0.8	1.4	1.2	0.4	0.0
Eighth child and over	0.2	*	*	*	*	0.0	0.1	0.3	0.5	0.3	0.0
All other	90.6	4.2	102.8	72.1	146.4	159.2	127.6	80.4	34.7	7.3	0.4
First child	35.3	4.0	71.5	58.1	90.6	62.6	38.8	18.4	6.2	1.2	0.1
Second child	27.0	0.1	23.7	12.0	40.3	52.2	40.9	25.4	9.5	1.4	0.0
Third child	15.5	*	6.2	1.8	12.5	28.0	26.1	17.8	7.8	1.4	0.1
Fourth child	7.1	*	1.2	0.2	2.6	11.2	12.4	9.3	4.7	1.0	0.0
Fifth child	3.1	*	0.2	*	0.4	3.7	5.4	4.6	2.7	0.7	0.0
Sixth and seventh child	2.0	*	0.0	*	0.0	1.3	3.3	3.6	2.4	0.8	0.1
Eighth child and over	0.7	*	*	*	*	0.1	0.6	1.2	1.3	0.7	0.1

See footnotes at end of table.

Table 3. Birth rates by age of mother, live-birth order, and race of mother and of child: United States, 1989—Con.

[Rates are live births per 1,000 women in specified age and racial group. Live-birth order refers to number of children born alive to mother]

Live-birth order and race	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
			Total	15-17 years	18-19 years						
Black ²	90.4	5.0	115.0	82.4	160.8	165.5	119.0	69.4	28.7	6.0	0.3
First child	34.7	4.9	79.3	66.1	97.9	62.4	31.4	13.3	4.4	0.8	0.0
Second child	26.7	0.2	26.9	14.0	45.1	54.9	38.7	20.7	7.1	1.0	0.0
Third child	15.9	*	7.1	2.1	14.3	30.4	26.7	16.9	6.7	1.2	0.0
Fourth child	7.4	*	1.4	0.2	3.0	12.3	12.8	9.4	4.5	0.9	0.0
Fifth child	3.1	*	0.2	*	0.4	4.1	5.6	4.6	2.6	0.7	0.0
Sixth and seventh child	2.0	*	0.0	*	0.1	1.4	3.3	3.4	2.3	0.7	0.0
Eighth child and over	0.6	*	*	*	*	0.1	0.6	1.1	1.1	0.6	0.1

¹Rates computed by relating total births, regardless of age of mother, to women aged 15-44 years.

²Included in All other.

Table 4. Total fertility rates and birth rates by age of mother and race: United States, 1970–89

[Total fertility rates are sums of birth rates for 5-year age groups multiplied by 5. Birth rates are live births per 1,000 women in specified group, enumerated as of April 1 for 1970 and 1980 and estimated as of July 1 for all other years]

Year and race	Total fertility rate	Age of mother									
		10–14 years	15–19 years			20–24 years	25–29 years	30–34 years	35–39 years	40–44 years	45–49 years
			Total	15–17 years	18–19 years						
All races											
1989	2,014.0	1.4	58.1	36.5	86.4	115.4	116.6	76.2	29.7	5.2	0.2
1988	1,932.0	1.3	53.6	33.8	81.7	111.5	113.4	73.7	27.9	4.8	0.2
1987	1,871.0	1.3	51.1	31.8	80.2	108.9	110.8	71.3	26.2	4.4	0.2
1986	1,836.0	1.3	50.6	30.6	81.0	108.2	109.2	69.3	24.3	4.1	0.2
1985	1,842.5	1.2	51.3	31.1	80.8	108.9	110.5	68.5	23.9	4.0	0.2
1984 ¹	1,805.5	1.2	50.9	31.1	78.3	107.3	108.3	66.5	22.8	3.9	0.2
1983 ¹	1,802.5	1.1	51.7	32.0	78.1	108.3	108.7	64.6	22.1	3.8	0.2
1982 ¹	1,828.5	1.1	52.9	32.4	80.7	111.3	111.0	64.2	21.1	3.9	0.2
1981 ¹	1,815.0	1.1	52.7	32.1	81.7	111.8	112.0	61.4	20.0	3.8	0.2
1980 ¹	1,839.5	1.1	53.0	32.5	82.1	115.1	112.9	61.9	19.8	3.9	0.2
1979 ¹	1,808.0	1.2	52.3	32.3	81.3	112.8	111.4	60.3	19.5	3.9	0.2
1978 ¹	1,760.0	1.2	51.5	32.2	79.8	109.9	108.5	57.8	19.0	3.9	0.2
1977 ¹	1,789.5	1.2	52.8	33.9	80.9	112.9	111.0	56.4	19.2	4.2	0.2
1976 ¹	1,738.0	1.2	52.8	34.1	80.5	110.3	106.2	53.6	19.0	4.3	0.2
1975 ¹	1,774.0	1.3	55.6	36.1	85.0	113.0	108.2	52.3	19.5	4.6	0.3
1974 ¹	1,835.0	1.2	57.5	37.3	88.7	117.7	111.5	53.8	20.2	4.8	0.3
1973 ¹	1,879.0	1.2	59.3	38.5	91.2	119.7	112.2	55.6	22.1	5.4	0.3
1972 ¹	2,010.0	1.2	61.7	39.0	96.9	130.2	117.7	59.8	24.8	6.2	0.4
1971 ²	2,266.5	1.1	64.5	38.2	105.3	150.1	134.1	67.3	28.7	7.1	0.4
1970 ²	2,480.0	1.2	68.3	38.8	114.7	167.8	145.1	73.3	31.7	8.1	0.5
White											
Race of mother:											
1989	1,921.5	0.7	48.5	28.3	74.7	108.0	116.1	76.6	29.3	4.9	0.2
Race of child:											
1989	1,885.0	0.7	47.2	27.5	72.6	105.7	114.3	75.3	28.8	4.8	0.2
1988	1,814.0	0.6	43.7	25.5	69.2	102.5	111.6	72.9	26.9	4.4	0.2
1987	1,766.5	0.6	41.9	24.1	68.6	101.1	109.5	70.8	25.2	4.0	0.2
1986	1,741.5	0.6	41.8	23.4	69.8	101.5	108.3	68.9	23.3	3.7	0.2
1985	1,754.0	0.6	42.8	24.0	70.1	102.8	110.0	68.1	22.7	3.6	0.2
1984 ¹	1,718.5	0.6	42.5	23.9	68.1	101.4	107.7	66.1	21.7	3.5	0.2
1983 ¹	1,717.5	0.6	43.6	24.8	68.3	102.6	108.0	64.0	21.0	3.5	0.2
1982 ¹	1,742.0	0.6	44.6	25.2	70.8	105.9	110.3	63.3	20.0	3.5	0.2
1981 ¹	1,726.0	0.5	44.6	25.1	71.9	106.3	111.3	60.2	18.7	3.4	0.2
1980 ¹	1,748.5	0.6	44.7	25.2	72.1	109.5	112.4	60.4	18.5	3.4	0.2
1979 ¹	1,715.5	0.6	43.7	24.7	71.0	107.0	110.8	59.0	18.3	3.5	0.2
1978 ¹	1,667.5	0.6	42.9	24.9	69.4	104.1	107.9	56.6	17.7	3.5	0.2
1977 ¹	1,703.0	0.6	44.1	26.1	70.5	107.7	110.9	55.3	18.0	3.8	0.2
1976 ¹	1,652.0	0.6	44.1	26.3	70.2	105.3	105.9	52.6	17.8	3.9	0.2
1975 ¹	1,686.0	0.6	46.4	28.0	74.0	108.2	108.1	51.3	18.2	4.2	0.2
1974 ¹	1,748.5	0.6	47.9	28.7	77.3	113.0	111.8	52.9	18.9	4.4	0.2
1973 ¹	1,783.0	0.6	49.0	29.2	79.3	114.4	112.3	54.4	20.7	4.9	0.3
1972 ¹	1,906.5	0.5	51.0	29.3	84.3	124.8	117.4	58.4	23.3	5.6	0.3
1971 ²	2,160.5	0.5	53.6	28.5	92.3	144.9	134.0	65.4	26.9	6.4	0.4
1970 ²	2,385.0	0.5	57.4	29.2	101.5	163.4	145.9	71.9	30.0	7.5	0.4

See footnotes at end of table.

Table 4. Total fertility rates and birth rates by age of mother and race: United States, 1970–89—Con.

[Total fertility rates are sums of birth rates for 5-year age groups multiplied by 5. Birth rates are live births per 1,000 women in specified group, enumerated as of April 1 for 1970 and 1980 and estimated as of July 1 for all other years]

Year and race	Total fertility rate	Age of mother									
		10–14 years	15–19 years			20–24 years	25–29 years	30–34 years	35–39 years	40–44 years	45–49 years
			Total	15–17 years	18–19 years						
All other											
Race of mother:											
1989	2,411.5	4.1	97.4	69.2	137.4	148.5	118.7	74.4	32.0	6.8	0.4
Race of child:											
1989	2,583.0	4.2	102.8	72.1	146.4	159.2	127.6	80.4	34.7	7.3	0.4
1988	2,462.5	4.0	95.3	67.6	137.4	152.3	122.3	77.8	33.4	7.0	0.4
1987	2,349.0	4.0	90.9	64.7	131.2	145.4	117.3	73.8	31.5	6.5	0.4
1986	2,281.5	3.9	89.7	62.7	130.9	140.4	113.8	71.5	30.3	6.3	0.4
1985	2,263.0	3.8	89.7	62.9	128.7	138.5	113.5	70.3	30.5	5.9	0.4
1984 ¹	2,223.5	3.7	89.0	63.3	124.8	136.4	111.5	68.5	29.2	6.0	0.4
1983	2,225.0	3.5	89.3	64.2	123.9	136.8	112.1	68.4	28.6	5.9	0.4
1982 ¹	2,265.0	3.6	91.5	65.6	128.2	139.3	114.9	69.0	28.0	6.2	0.5
1981 ¹	2,274.5	3.6	91.8	65.2	130.8	140.8	115.9	68.5	27.6	6.3	0.4
1980	2,323.0	3.9	94.9	68.3	133.2	145.0	115.5	70.8	27.9	6.5	0.4
1979 ¹	2,309.5	4.1	96.5	70.5	134.9	144.3	114.6	68.3	27.3	6.4	0.4
1978 ¹	2,264.5	4.0	96.0	70.4	134.4	142.1	111.9	65.2	26.9	6.4	0.4
1977 ¹	2,278.5	4.3	99.5	74.8	136.8	142.3	111.5	63.4	27.3	6.9	0.5
1976 ¹	2,222.5	4.3	99.9	75.5	137.2	138.9	107.6	59.5	26.9	6.9	0.5
1975 ¹	2,276.0	4.7	106.4	80.5	146.1	141.0	108.7	58.8	27.6	7.5	0.5
1974 ¹	2,338.5	4.6	111.3	84.9	153.1	145.5	109.5	59.9	28.8	7.6	0.5
1973 ¹	2,443.0	5.0	117.5	90.5	160.9	151.6	111.2	63.2	30.9	8.6	0.6
1972 ¹	2,627.5	4.7	123.8	93.8	173.3	163.4	119.3	68.9	34.8	9.9	0.7
1971 ²	2,919.5	4.7	128.5	94.0	185.6	184.0	134.6	79.3	40.2	11.7	0.9
1970 ²	3,066.7	4.8	133.4	95.2	195.4	196.8	140.1	82.5	42.2	12.6	0.9
Black ³											
Race of mother:											
1989	2,414.0	5.0	110.4	80.0	153.2	157.1	112.6	65.1	26.8	5.5	0.3
Race of child:											
1989	2,544.5	5.0	115.0	82.4	160.8	165.5	119.0	69.4	28.7	6.0	0.3
1988	2,402.0	4.8	105.9	76.6	150.5	157.5	112.8	66.0	27.5	5.6	0.3
1987	2,294.0	4.7	100.3	72.9	142.2	149.5	109.0	63.5	26.3	5.3	0.2
1986	2,227.0	4.6	98.1	70.0	141.0	143.7	105.9	62.2	25.5	5.1	0.3
1985	2,196.0	4.5	97.4	69.8	137.1	140.8	105.1	60.7	25.5	4.9	0.3
1984 ¹	2,153.5	4.3	95.7	69.7	132.0	137.9	103.2	59.5	24.8	5.1	0.2
1983	2,150.5	4.1	95.5	70.1	130.4	137.7	103.4	59.2	24.7	5.2	0.3
1982 ¹	2,188.5	4.1	97.0	71.2	133.3	139.1	106.9	60.4	24.4	5.4	0.4
1981 ¹	2,206.0	4.1	97.1	70.6	135.9	141.2	108.3	60.4	24.2	5.6	0.3
1980	2,266.0	4.3	100.0	73.6	138.8	146.3	109.1	62.9	24.5	5.8	0.3
1979 ¹	2,263.2	4.6	101.7	75.7	140.4	146.3	108.2	60.7	24.7	6.1	0.4
1978 ¹	2,218.0	4.4	100.9	75.0	139.7	143.8	105.4	58.3	24.3	6.1	0.4
1977 ¹	2,251.0	4.7	104.7	79.6	142.9	144.4	106.4	57.5	25.4	6.6	0.5
1976 ¹	2,187.0	4.7	104.9	80.3	142.5	140.5	101.6	53.6	24.8	6.8	0.5
1975 ¹	2,243.0	5.1	111.8	85.6	152.4	142.8	102.2	53.1	25.6	7.5	0.5
1974 ¹	2,298.5	5.0	116.5	90.0	158.7	146.7	102.2	54.1	27.0	7.6	0.6
1973 ¹	2,411.0	5.4	123.1	96.0	166.6	153.1	103.9	58.1	29.4	8.6	0.6
1972 ¹	2,601.0	5.1	129.8	99.5	179.5	165.0	112.4	64.0	33.4	9.8	0.7
1971 ²	2,902.0	5.1	134.5	99.4	192.6	186.6	128.0	74.8	38.9	11.6	0.9
1970 ²	3,098.7	5.2	140.7	101.4	204.9	202.7	136.3	79.6	41.9	12.5	1.0

¹Based on 100 percent of births in selected States and on a 50-percent sample of births in all other States; see Technical notes.

²Based on a 50-percent sample of births.

³Included in All other.

Table 5. Birth rates by live-birth order and race: United States, 1970 and 1980–89

[Rates are live births per 1,000 women aged 15–44 years, enumerated as of April 1 for 1970 and 1980 and estimated as of July 1 for all other years. Figures for live-birth order not stated are distributed]

Year and race	Total	Live-birth order						
		1	2	3	4	5	6 and 7	8 and over
All races								
1989	69.2	28.4	22.4	11.3	4.3	1.6	0.9	0.3
1988	67.2	27.6	22.0	10.9	4.1	1.5	0.9	0.3
1987	65.7	27.2	21.6	10.5	3.9	1.4	0.8	0.3
1986	65.4	27.2	21.6	10.3	3.8	1.4	0.8	0.3
1985	66.2	27.6	22.0	10.4	3.8	1.4	0.8	0.3
1984 ¹	65.4	27.4	21.7	10.1	3.7	1.4	0.9	0.3
1983 ¹	65.8	27.8	21.5	10.1	3.7	1.4	0.9	0.3
1982 ¹	67.3	28.6	22.0	10.2	3.8	1.4	0.9	0.3
1981 ¹	67.4	29.0	21.6	10.2	3.8	1.5	0.9	0.4
1980 ¹	68.4	29.5	21.8	10.3	3.9	1.5	1.0	0.4
1970 ²	87.9	34.2	24.2	13.6	7.2	3.8	3.2	1.8
White								
Race of mother:								
1989	66.0	27.5	21.8	10.7	3.8	1.3	0.7	0.2
Race of child:								
1989	64.7	26.9	21.4	10.5	3.7	1.3	0.7	0.2
1988	63.0	26.2	21.1	10.1	3.6	1.2	0.7	0.2
1987	62.0	25.9	20.9	9.8	3.4	1.1	0.6	0.2
1986	61.9	26.0	20.9	9.6	3.3	1.1	0.6	0.2
1985	63.0	26.5	21.4	9.7	3.3	1.1	0.7	0.2
1984 ¹	62.2	26.4	21.1	9.4	3.2	1.1	0.7	0.2
1983 ¹	62.4	26.8	20.9	9.4	3.3	1.2	0.7	0.2
1982 ¹	63.9	27.7	21.3	9.5	3.3	1.2	0.7	0.3
1981 ¹	63.9	28.1	20.9	9.4	3.3	1.2	0.8	0.3
1980 ¹	64.7	28.4	21.0	9.5	3.4	1.3	0.8	0.3
1970 ²	84.1	32.9	23.7	13.3	6.8	3.4	2.7	1.2
All other								
Race of mother:								
1989	84.6	32.7	25.2	14.5	6.7	2.9	1.9	0.6
Race of child:								
1989	90.6	35.3	27.0	15.5	7.1	3.1	2.0	0.7
1988	87.5	34.3	26.3	14.8	6.7	2.9	1.9	0.6
1987	84.4	33.4	25.4	14.2	6.4	2.7	1.8	0.6
1986	83.0	33.0	24.9	13.8	6.2	2.7	1.8	0.6
1985	83.2	32.9	25.1	13.8	6.2	2.7	1.8	0.6
1984 ¹	82.5	32.8	24.7	13.7	6.2	2.7	1.8	0.6
1983 ¹	83.2	33.0	24.8	13.8	6.2	2.7	1.9	0.7
1982 ¹	85.5	33.8	25.6	14.2	6.4	2.8	1.9	0.7
1981 ¹	86.4	34.3	25.9	14.2	6.4	2.8	2.0	0.8
1980 ¹	88.6	35.6	26.2	14.4	6.5	2.9	2.1	0.9
1970 ²	113.0	42.4	26.9	15.9	9.7	6.1	6.7	5.3
Black³								
Race of mother:								
1989	85.8	32.7	25.3	15.2	7.1	3.0	1.9	0.6
Race of child:								
1989	90.4	34.7	26.7	15.9	7.4	3.1	2.0	0.6
1988	86.6	33.5	25.8	15.1	6.9	2.9	1.8	0.5
1987	83.8	32.8	24.9	14.5	6.5	2.8	1.7	0.5
1986	82.4	32.5	24.5	14.1	6.3	2.7	1.7	0.5
1985	82.2	32.4	24.5	13.9	6.3	2.7	1.8	0.6
1984 ¹	81.4	32.2	24.1	13.7	6.3	2.7	1.8	0.6
1983 ¹	81.7	32.3	24.1	13.7	6.3	2.8	1.8	0.6
1982 ¹	84.1	33.0	24.9	14.2	6.5	2.8	1.9	0.7
1981 ¹	85.4	33.8	25.2	14.3	6.6	2.9	2.0	0.8
1980 ¹	88.1	35.2	25.7	14.5	6.7	3.0	2.1	0.9
1970 ²	115.4	43.3	27.1	16.1	10.0	6.4	7.0	5.6

¹Based on 100 percent of births in selected States and on a 50-percent sample of births in all other States; see Technical notes.

²Based on a 50-percent sample of births.

³Included in All other.

Table 6. Live births by race of mother and of child, birth rates, and fertility rates: United States, each division and State, 1989

[By place of residence. Birth rates per 1,000 estimated population in each area; fertility rates per 1,000 women aged 15–44 years estimated in each area]

Division and State	Number					Birth rate	Fertility rate
	All races ¹	Race of mother		Race of child			
		White	Black	White	Black		
United States	4,040,958	3,192,355	673,124	3,131,991	709,395	16.3	69.2
New England	199,524	177,871	16,120	175,065	18,142	15.3	63.8
Maine	17,466	17,197	78	17,080	124	14.3	60.9
New Hampshire	17,809	17,542	120	17,432	184	16.1	65.5
Vermont	8,494	8,413	27	8,388	40	15.0	59.8
Massachusetts	91,523	79,689	8,356	78,089	9,513	15.5	63.5
Rhode Island	14,768	13,062	1,098	12,825	1,275	14.8	62.8
Connecticut	49,464	41,968	6,441	41,251	7,006	15.3	65.9
Middle Atlantic	582,093	449,917	112,440	442,021	118,758	15.4	66.4
New York	291,449	215,781	63,257	211,904	66,286	16.2	69.0
New Jersey	121,841	93,199	23,997	91,675	25,164	15.7	67.4
Pennsylvania	168,803	140,937	25,186	138,442	27,308	14.0	61.7
East North Central	658,251	531,198	114,516	523,947	119,613	15.6	66.0
Ohio	163,952	137,188	25,216	135,177	26,836	15.0	64.4
Indiana	83,469	73,700	8,990	72,807	9,620	14.9	63.0
Illinois	190,308	141,652	43,418	139,435	45,085	16.3	69.2
Michigan	148,520	116,005	29,968	114,493	30,856	16.0	66.8
Wisconsin	72,002	62,653	6,924	62,035	7,216	14.8	63.8
West North Central	268,017	237,345	21,106	233,886	23,093	15.0	65.4
Minnesota	67,518	61,599	2,452	60,638	2,951	15.5	65.9
Iowa	39,018	37,350	1,057	37,032	1,260	13.7	60.8
Missouri	77,872	64,006	12,830	63,185	13,360	15.1	65.7
North Dakota	9,570	8,508	70	8,303	112	14.5	63.8
South Dakota	11,086	9,168	73	9,001	130	15.5	70.6
Nebraska	24,216	22,217	1,381	21,941	1,546	15.0	66.0
Kansas	38,737	34,497	3,243	33,786	3,734	15.4	68.1
South Atlantic	682,583	472,191	196,501	465,074	201,681	15.8	67.8
Delaware	10,730	8,023	2,538	7,955	2,589	15.9	66.2
Maryland	78,265	51,525	23,889	50,209	24,885	16.7	68.1
District of Columbia	11,789	1,810	9,199	1,705	9,269	19.5	77.6
Virginia	96,798	70,675	23,342	69,636	24,104	15.9	64.5
West Virginia	22,163	21,242	828	21,113	928	11.9	51.5
North Carolina	102,105	69,643	29,941	68,449	30,703	15.5	65.0
South Carolina	57,330	34,576	22,232	34,214	22,516	16.3	67.4
Georgia	110,272	69,367	39,398	68,484	40,070	17.1	70.0
Florida	193,131	145,330	45,134	143,309	46,617	15.2	72.3
East South Central	232,217	165,477	64,694	164,248	65,623	15.1	63.8
Kentucky	53,424	47,934	5,105	47,614	5,362	14.3	60.5
Tennessee	73,178	55,100	17,430	54,539	17,867	14.8	62.3
Alabama	62,568	40,360	21,696	40,125	21,850	15.2	64.2
Mississippi	43,047	22,083	20,463	21,970	20,544	16.4	70.6
West South Central	463,712	364,524	86,293	358,702	89,266	17.2	72.2
Arkansas	35,911	27,104	8,446	26,787	8,588	14.9	66.9
Louisiana	72,752	41,655	29,797	41,256	29,995	16.6	69.2
Oklahoma	47,385	37,649	5,081	35,589	5,523	14.7	63.3
Texas	307,664	258,116	42,969	255,070	45,160	18.1	75.3
Mountain	236,895	210,619	8,019	206,790	9,749	17.5	74.2
Montana	11,678	10,178	34	9,871	70	14.5	63.8
Idaho	15,883	15,336	50	15,157	93	15.7	68.2
Wyoming	6,901	6,532	75	6,447	99	14.5	58.5
Colorado	52,711	48,302	2,754	47,476	3,252	15.9	63.1
New Mexico	27,353	22,488	526	22,068	731	17.9	76.4
Arizona	67,196	57,264	2,537	56,208	3,097	18.9	83.4
Utah	35,567	33,747	214	33,250	372	20.8	89.8
Nevada	19,606	16,772	1,829	16,313	2,035	17.6	74.3
Pacific	717,666	583,213	53,435	562,258	63,470	18.7	78.4
Washington	75,360	66,541	2,909	64,337	3,994	15.8	65.5
Oregon	41,281	38,405	906	37,498	1,204	14.6	61.0
California	569,992	464,348	48,406	448,489	56,631	19.6	82.2
Alaska	11,666	7,945	533	7,457	705	22.1	89.7
Hawaii	19,367	5,974	681	4,477	936	17.4	74.2

¹Includes races other than white and black.

Table 7. Live births by sex and sex ratio, by race: United States, 1980–89

Year	All races			White			All other					
	Male	Female	Males per 1,000 females	Male	Female	Males per 1,000 females	Total			Black		
							Male	Female	Males per 1,000 females	Male	Female	Males per 1,000 females
Race of mother												
1989	2,069,490	1,971,468	1,050	1,637,594	1,554,761	1,053	431,896	416,707	1,036	341,716	331,408	1,031
Race of child												
1989	2,069,490	1,971,468	1,050	1,606,757	1,525,234	1,053	462,733	446,234	1,037	360,131	349,264	1,031
1988	2,002,424	1,907,086	1,050	1,562,675	1,483,487	1,053	439,749	423,599	1,038	341,441	330,535	1,033
1987	1,951,153	1,858,241	1,050	1,535,517	1,456,971	1,054	415,636	401,270	1,036	325,259	316,308	1,028
1986	1,924,868	1,831,679	1,051	1,523,914	1,446,525	1,053	400,954	385,154	1,041	315,788	305,433	1,034
1985	1,927,983	1,832,578	1,052	1,536,646	1,454,727	1,056	391,337	377,851	1,036	308,575	299,618	1,030
1984 ¹	1,879,490	1,789,651	1,050	1,500,326	1,423,176	1,054	379,164	366,475	1,031	300,951	291,794	1,031
1983 ¹	1,865,553	1,773,380	1,052	1,492,385	1,411,865	1,057	373,168	361,515	1,032	297,011	289,016	1,028
1982	1,885,676	1,794,861	1,051	1,509,704	1,432,350	1,054	375,972	362,511	1,037	301,121	291,520	1,033
1981 ¹	1,860,272	1,768,966	1,052	1,494,437	1,414,232	1,057	365,835	354,734	1,031	297,864	289,933	1,027
1980 ¹	1,852,616	1,759,642	1,053	1,490,140	1,408,592	1,058	362,476	351,050	1,033	299,033	290,583	1,029

¹Based on 100 percent of births in selected States and on a 50-percent sample of births in all other States; see Technical notes.

Table 8. Live births by race of mother and observed and seasonally adjusted birth and fertility rates, by month: United States, 1989

[Rates on an annual basis per 1,000 population for specified month. Birth rates based on the total population. Fertility rates based on women aged 15–44 years]

Month	Number				Observed		Seasonally adjusted ¹	
	All races	White	Total	Black	Birth rate	Fertility rate	Birth rate	Fertility rate
Total	4,040,958	3,192,355	848,603	673,124	16.3	69.2	...	...
January	320,422	250,194	70,228	55,675	15.3	64.7	16.1	68.1
February	300,391	236,248	64,143	50,948	15.8	67.1	16.2	68.7
March	339,912	269,993	69,919	55,423	16.2	68.6	16.5	69.9
April	318,779	254,933	63,846	50,245	15.7	66.4	16.0	68.0
May	336,320	269,947	66,373	51,959	16.0	67.8	16.2	68.7
June	338,973	269,889	69,084	54,736	16.6	70.6	16.4	69.5
July	356,716	280,398	76,318	61,304	16.9	71.8	16.2	69.0
August	366,579	288,345	78,234	62,522	17.4	73.8	16.4	69.7
September	357,344	281,757	75,587	60,326	17.5	74.3	16.4	69.5
October	344,161	271,320	72,841	57,646	16.3	69.2	16.3	69.4
November	325,543	256,423	69,120	54,622	15.9	67.6	16.4	69.6
December	335,818	262,908	72,910	57,718	15.9	67.5	16.3	69.2

¹The method of seasonal adjustment, developed by the U.S. Bureau of the Census, is described in the X-11 Variant of the Census Method II Seasonal Adjustment Program, Technical Paper No. 15 (1967 revision).

Table 9. Average number of live births and index of occurrence, by day of week: United States, 1989

Day of week	Average number of births	Index of occurrence ¹
Total	11,071	100.0
Sunday	8,984	81.2
Monday	11,272	101.8
Tuesday	12,052	108.9
Wednesday	11,899	107.5
Thursday	11,844	107.0
Friday	11,964	108.1
Saturday	9,522	86.0

¹Index is the ratio of the average number of births on a given day of the week to the average daily number of births for the year, multiplied by 100.

Table 10. Live births by attendant, place of delivery, and race of mother and of child: United States, 1989

Place of delivery and race	All births	Attendant							
		Physician				Midwife			
		Total	Doctor of medicine	Doctor of osteopathy	Total	Certified nurse midwife	Other midwife	Other	Un-specified
All races ¹	4,040,958	3,856,842	3,742,315	114,527	147,293	132,286	15,007	26,737	10,086
In hospital ²	3,991,448	3,842,313	3,729,345	112,968	125,451	122,892	2,559	14,983	8,701
Not in hospital	47,214	12,970	11,450	1,520	21,766	9,366	12,400	11,707	771
Freestanding birthing center	14,273	5,016	4,388	628	8,990	5,678	3,312	235	32
Clinic or doctor's office	1,111	769	553	216	173	107	66	168	1
Residence	27,748	5,790	5,170	620	11,383	3,412	7,971	9,919	656
Other	4,082	1,395	1,339	56	1,220	169	1,051	1,385	82
Not specified	2,296	1,559	1,520	39	76	28	48	47	614
Race of mother									
White	3,192,355	3,055,680	2,959,315	96,365	111,543	97,921	13,622	18,941	6,191
In hospital ²	3,150,804	3,044,933	2,949,993	94,940	90,612	89,067	1,545	10,092	5,167
Not in hospital	39,566	9,346	7,952	1,394	20,860	8,828	12,032	8,819	541
Freestanding birthing center	13,432	4,520	3,934	586	8,658	5,404	3,254	223	31
Clinic or doctor's office	890	646	436	210	154	99	55	90	-
Residence	22,443	3,437	2,883	554	10,883	3,181	7,702	7,664	459
Other	2,801	743	699	44	1,165	144	1,021	842	51
Not specified	1,985	1,401	1,370	31	71	26	45	30	483
Black	673,124	636,536	622,168	14,368	26,776	25,711	1,065	6,492	3,320
In hospital ²	666,968	633,315	619,043	14,272	26,285	25,381	904	4,312	3,056
Not in hospital	5,890	3,085	2,994	91	489	329	160	2,164	152
Freestanding birthing center	541	355	321	34	180	162	18	5	1
Clinic or doctor's office	113	64	63	1	9	4	5	39	1
Residence	4,189	2,104	2,054	50	265	144	121	1,691	129
Other	1,047	562	556	6	35	19	16	429	21
Not specified	266	136	131	5	2	1	1	16	112
Race of child									
White	3,131,991	2,998,649	2,904,308	94,341	108,738	95,322	13,416	18,540	6,064
In hospital ²	3,091,172	2,988,073	2,895,144	92,929	88,156	86,644	1,512	9,887	5,056
Not in hospital	38,850	9,187	7,805	1,382	20,511	8,652	11,859	8,624	528
Freestanding birthing center	13,245	4,456	3,875	581	8,540	5,308	3,232	218	31
Clinic or doctor's office	874	635	427	208	149	95	54	90	-
Residence	21,974	3,364	2,815	549	10,666	3,108	7,558	7,496	448
Other	2,757	732	688	44	1,156	141	1,015	820	49
Not specified	1,969	1,389	1,359	30	71	26	45	29	480
Black	709,395	670,786	655,151	15,635	28,469	27,321	1,148	6,748	3,392
In hospital ²	702,869	667,466	651,933	15,533	27,827	26,899	928	4,461	3,115
Not in hospital	6,247	3,174	3,077	97	640	421	219	2,270	163
Freestanding birthing center	629	376	339	37	244	211	33	8	1
Clinic or doctor's office	115	66	65	1	9	4	5	39	1
Residence	4,425	2,159	2,106	53	347	185	162	1,780	139
Other	1,078	573	567	6	40	21	19	443	22
Not specified	279	146	141	5	2	1	1	17	114

¹Includes races other than white and black.

²Includes births occurring en route to or on arrival at hospital.

Table 11. Live births by age of father and mother and race of father and of child: United States, 1989

Age of mother and race	Total	Age of father										Not stated
		Under 15 years	15-19 years	20-24 years	25-29 years	30-34 years	35-39 years	40-44 years	45-49 years	50-54 years	55 years and over	
All races ¹	4,040,958	547	119,279	613,296	1,055,660	921,519	450,521	154,522	43,256	12,808	10,664	658,886
Under 15 years	11,486	113	2,220	762	154	32	13	3	-	1	41	8,147
15-19 years	506,503	269	92,175	155,337	35,918	7,476	1,959	675	248	86	1,069	211,291
20-24 years	1,077,598	93	22,349	369,166	341,851	84,159	21,198	6,731	2,229	819	1,603	227,400
25-29 years	1,263,098	42	2,031	73,403	562,002	373,683	90,577	24,415	7,056	2,249	2,102	125,538
30-34 years	842,395	20	380	11,978	99,904	399,347	200,313	50,679	12,936	3,778	2,502	60,558
35-39 years	293,878	8	94	2,342	14,353	52,794	127,315	55,280	13,856	3,860	2,251	21,725
40-44 years	44,401	2	27	294	1,433	3,941	8,997	16,484	6,424	1,814	997	3,988
45-49 years	1,599	-	3	14	45	87	149	255	507	201	99	239
Race of father												
White	2,878,619	230	87,245	494,956	901,956	789,284	377,593	126,231	33,751	9,363	5,787	52,223
Under 15 years	2,126	42	1,136	513	108	24	9	3	-	1	1	289
15-19 years	238,338	125	66,906	121,643	28,503	5,819	1,523	519	177	70	124	12,929
20-24 years	714,367	34	17,192	300,785	286,339	68,027	16,576	5,192	1,678	582	560	17,402
25-29 years	981,866	19	1,596	60,047	488,458	318,468	73,877	19,423	5,394	1,587	1,149	11,848
30-34 years	674,981	7	307	9,747	85,318	348,427	168,957	41,254	10,064	2,711	1,655	6,534
35-39 years	232,156	1	81	1,957	12,007	45,191	109,026	45,881	10,921	2,926	1,542	2,623
40-44 years	33,747	2	26	253	1,186	3,261	7,510	13,770	5,132	1,352	699	556
45-49 years	1,038	-	1	11	37	67	115	189	385	134	57	42
Black	419,523	150	26,440	95,074	110,717	82,319	42,940	17,466	6,428	2,426	1,907	33,656
Under 15 years	1,815	64	978	194	37	6	4	-	-	-	1	531
15-19 years	64,770	72	20,999	27,141	5,362	1,168	307	111	55	14	40	9,501
20-24 years	127,430	5	4,069	55,302	41,252	10,800	3,177	1,121	441	198	194	10,871
25-29 years	120,865	4	330	10,471	52,169	34,411	10,403	3,519	1,292	531	442	7,293
30-34 years	73,973	3	56	1,687	10,153	30,855	18,073	5,930	2,032	778	546	3,860
35-39 years	26,258	2	6	253	1,597	4,671	10,149	5,267	1,864	615	463	1,371
40-44 years	4,265	-	1	24	143	398	815	1,490	699	270	203	222
45-49 years	147	-	1	2	4	10	12	28	45	20	18	7
Race of child												
White	3,131,991	316	86,757	490,688	894,040	783,135	374,326	124,812	33,161	9,118	6,928	328,710
Under 15 years	4,527	44	1,130	513	107	24	8	3	-	-	20	2,678
15-19 years	331,204	158	66,610	121,204	28,390	5,807	1,508	514	182	69	667	106,095
20-24 years	806,056	65	17,030	298,324	284,260	67,450	16,397	5,079	1,647	560	988	114,256
25-29 years	1,024,006	31	1,584	59,013	484,614	316,393	73,106	19,128	5,253	1,540	1,321	62,023
30-34 years	691,735	12	297	9,479	83,830	345,851	167,595	40,688	9,850	2,617	1,664	29,852
35-39 years	238,202	4	80	1,900	11,664	44,398	108,210	45,487	10,744	2,865	1,512	11,338
40-44 years	35,111	2	24	244	1,141	3,151	7,386	13,717	5,089	1,329	699	2,329
45-49 years	1,150	-	2	11	34	61	116	196	396	138	57	139
Black	709,395	210	27,827	99,243	115,208	85,544	44,579	18,219	6,707	2,569	2,988	306,301
Under 15 years	6,640	67	1,019	203	39	7	5	-	-	1	21	5,278
15-19 years	156,969	96	22,047	28,297	5,611	1,240	326	119	58	15	393	98,767
20-24 years	227,099	28	4,343	57,591	42,886	11,339	3,350	1,197	470	213	567	105,115
25-29 years	176,748	11	350	11,050	54,150	35,622	10,854	3,674	1,349	558	633	58,497
30-34 years	100,906	6	59	1,800	10,645	31,972	18,653	6,173	2,126	828	641	28,003
35-39 years	35,191	2	7	274	1,714	4,918	10,518	5,474	1,939	645	503	9,197
40-44 years	5,633	-	1	26	159	434	860	1,554	718	287	211	1,383
45-49 years	209	-	1	2	4	12	13	28	47	22	19	61

¹Includes races other than white and black, and births with race of father not stated.

Table 12. Birth rates by age of father and race: United States, 1985-89

[Rates are live births per 1,000 men in specified group, estimated as of July 1. Figures for age of father not stated are distributed]

Year and race	Age of father									
	15-54 years ¹	15-19 years ²	20-24 years	25-29 years	30-34 years	35-39 years	40-44 years	45-49 years	50-54 years	55 years and over
All races										
1989	57.3	22.4	89.2	113.8	92.3	50.8	20.6	7.4	2.7	0.6
1988	55.9	20.0	85.5	111.1	91.0	49.5	20.0	7.1	2.6	0.4
1987	55.0	18.6	83.0	109.4	89.3	48.2	19.1	6.9	2.5	0.4
1986	54.9	18.1	82.3	109.1	88.7	46.5	18.4	6.7	2.5	0.4
1985	55.7	18.2	82.8	111.9	89.7	47.0	18.1	6.6	2.5	0.4
White										
Race of father:										
1989	53.2	17.1	79.1	109.8	90.2	48.2	18.7	6.3	2.1	0.4
Race of child:										
1989	52.5	16.8	77.9	108.3	89.0	47.5	18.3	6.1	2.0	0.4
1988	51.4	14.9	75.2	106.1	87.6	46.1	17.7	5.9	2.0	0.2
1987	50.9	13.9	73.9	105.0	86.3	44.9	17.0	5.7	1.9	0.2
1986	50.9	13.7	74.0	105.2	85.9	43.3	16.3	5.5	1.9	0.3
1985	51.9	14.0	75.1	108.2	87.0	43.7	16.0	5.4	1.9	0.3
All other										
Race of father:										
1989	79.7	44.5	137.2	135.3	104.1	66.7	33.6	14.6	6.3	2.2
Race of child:										
1989	83.9	45.8	142.8	143.1	110.4	71.0	36.1	15.8	6.8	2.3
1988	81.3	41.7	134.9	137.8	109.7	69.7	35.6	15.5	7.0	1.4
1987	78.6	39.0	127.8	133.7	106.0	68.5	34.3	14.9	6.6	1.3
1986	77.5	37.7	124.2	131.2	105.0	67.5	32.9	14.6	6.8	1.3
1985	77.9	37.4	122.8	132.9	105.7	69.1	33.1	14.4	6.7	1.3
Black ³										
Race of father:										
1989	84.2	52.2	157.3	141.8	98.6	61.4	32.7	15.1	6.6	2.5
Race of child:										
1989	85.6	52.9	159.5	144.1	100.3	62.4	33.4	15.4	6.8	2.5
1988	82.0	48.1	149.2	138.5	99.0	60.2	32.6	14.7	6.8	1.3
1987	79.5	44.6	140.4	134.6	96.7	60.0	31.9	14.2	6.5	1.3
1986	78.3	42.8	135.2	132.2	96.9	59.8	30.6	14.0	6.7	1.2
1985	78.2	42.0	132.7	133.3	96.9	61.1	30.8	13.7	6.5	1.2

¹Rates computed by relating total births, regardless of age of father, to men aged 15-54 years.

²Rates computed by relating births of fathers under 20 years of age to men aged 15-19 years.

³Included in All other.

Table 13. Number and percent low birth weight and live births by birth weight, age of mother, and race of mother and of child: United States, 1989

Age of mother and race	Birth weight ²														
	Low birth weight ¹		Total	Less than 500 grams	500-999 grams	1,000-1,499 grams	1,500-1,999 grams	2,000-2,499 grams	2,500-2,999 grams	3,000-3,499 grams	3,500-3,999 grams	4,000-4,499 grams	4,500-4,999 grams	5,000 grams or more	Not stated
	Number	Percent													
All races	284,391	7.0	4,040,958	5,465	19,880	26,444	54,301	178,301	649,004	1,477,630	1,183,050	368,154	65,196	8,300	5,233
Under 15 years	1,539	13.4	11,486	32	139	182	317	869	2,809	4,496	2,134	438	37	8	25
15-19 years	46,938	9.3	506,503	850	3,385	4,690	9,043	28,970	103,900	198,537	122,954	29,071	3,922	477	704
15 years	3,019	11.3	26,730	72	266	303	584	1,794	6,224	10,682	5,560	1,059	127	13	46
16 years	6,055	10.6	57,279	114	494	629	1,205	3,613	12,576	22,634	12,822	2,752	322	33	85
17 years	9,343	9.6	97,035	155	656	977	1,808	5,747	20,584	38,230	22,850	5,175	650	78	125
18 years	13,119	9.1	144,350	220	957	1,312	2,568	8,062	29,497	56,553	35,369	8,359	1,111	144	198
19 years	15,402	8.5	181,109	289	1,012	1,469	2,878	9,754	35,019	70,438	46,353	11,726	1,712	209	250
20-24 years	77,649	7.2	1,077,598	1,499	5,265	7,064	14,339	49,482	187,364	409,332	301,276	85,182	13,932	1,559	1,304
25-29 years	78,731	6.2	1,263,098	1,510	5,406	7,030	14,773	50,012	188,362	457,895	387,911	123,782	22,036	2,810	1,571
30-34 years	54,532	6.5	842,395	1,098	3,890	5,090	10,541	33,913	118,189	292,761	265,034	91,305	17,227	2,227	1,120
35-39 years	21,098	7.2	293,878	421	1,543	2,015	4,402	12,717	41,483	99,536	90,330	33,149	6,857	1,019	406
40-44 years	3,737	8.4	44,401	52	239	353	854	2,239	6,626	14,540	12,992	5,081	1,138	192	95
45-49 years	167	10.5	1,599	3	13	20	32	99	271	533	419	146	47	8	8
Race of mother															
White	182,335	5.7	3,192,355	2,950	11,346	16,042	34,600	117,397	455,048	1,152,663	1,005,114	327,570	58,747	7,224	3,654
Under 15 years	470	10.2	4,630	9	46	55	97	263	936	1,836	1,080	272	22	5	9
15-19 years	25,545	7.5	340,472	385	1,696	2,465	4,823	16,176	61,406	132,699	92,945	23,765	3,330	386	396
15 years	1,190	8.6	13,869	24	109	124	236	697	2,743	5,589	3,456	762	93	9	27
16 years	2,925	8.6	34,133	45	239	316	575	1,750	6,499	13,467	8,860	2,070	248	22	42
17 years	5,029	7.9	63,734	71	309	493	961	3,195	11,983	24,886	16,989	4,180	538	62	67
18 years	7,475	7.5	99,302	114	503	724	1,448	4,686	17,972	38,726	27,021	6,908	972	123	105
19 years	8,926	6.9	129,434	131	536	808	1,603	5,848	22,209	50,031	36,619	9,845	1,479	170	155
20-24 years	47,527	5.8	824,189	736	2,809	4,076	8,743	31,163	127,264	310,416	250,168	74,281	12,357	1,326	850
25-29 years	53,000	5.1	1,040,659	833	3,184	4,448	9,849	34,686	139,964	373,430	338,701	111,877	20,077	2,473	1,137
30-34 years	38,059	5.4	702,963	675	2,446	3,388	7,361	24,189	89,142	241,401	232,835	82,964	15,721	1,978	863
35-39 years	14,949	6.2	242,467	276	987	1,364	3,099	9,223	31,240	81,007	78,086	29,817	6,174	881	313
40-44 years	2,659	7.4	35,795	34	167	232	602	1,624	4,921	11,494	10,973	4,476	1,024	168	80
45-49 years	126	10.7	1,180	2	11	14	26	73	175	380	326	118	42	7	6
Black	90,720	13.5	673,124	2,376	7,976	9,462	17,741	53,165	159,423	253,468	133,422	29,383	4,578	752	1,378
Under 15 years	1,037	15.8	6,560	21	89	126	217	584	1,797	2,543	1,002	149	13	3	16
15-19 years	20,148	13.4	150,699	456	1,614	2,116	3,988	11,974	39,182	59,763	26,343	4,426	470	77	290
15 years	1,749	14.5	12,048	47	151	169	331	1,051	3,289	4,773	1,929	258	28	4	18
16 years	2,963	13.9	21,412	69	242	302	596	1,754	5,691	8,472	3,590	587	59	9	41
17 years	4,068	13.4	30,372	79	331	461	806	2,391	7,957	12,188	5,164	833	94	14	54
18 years	5,336	13.1	40,868	104	437	558	1,066	3,171	10,637	16,180	7,308	1,199	105	16	87
19 years	6,032	13.1	45,999	157	453	626	1,189	3,607	11,608	18,150	8,352	1,549	184	34	90
20-24 years	27,659	12.9	215,557	735	2,348	2,782	5,210	16,584	52,302	83,504	41,810	8,520	1,184	174	404
25-29 years	22,544	13.5	167,260	638	2,087	2,327	4,387	13,105	37,598	61,479	35,151	8,477	1,402	235	374
30-34 years	13,706	14.5	94,766	385	1,315	1,487	2,704	7,815	20,660	33,148	20,446	5,418	1,009	167	212
35-39 years	4,821	14.7	32,845	126	468	531	1,042	2,654	6,789	11,189	7,434	2,036	428	77	71
40-44 years	774	14.8	5,236	15	53	88	190	428	1,052	1,779	1,189	346	69	18	9
45-49 years	31	15.6	201	-	2	5	3	21	43	63	47	11	3	1	2

Race of child															
White	178,152	5.7	3,131,991	2,891	11,057	15,669	33,778	114,757	445,323	1,130,410	987,398	322,238	57,772	7,104	3,594
Under 15 years	459	10.2	4,527	8	46	55	93	257	915	1,798	1,055	264	22	5	9
15-19 years	24,841	7.5	331,204	371	1,636	2,394	4,688	15,752	59,709	129,050	90,469	23,129	3,241	377	388
15 years	1,159	8.6	13,517	24	103	121	228	683	2,671	5,437	3,382	742	91	8	27
16 years	2,844	8.6	33,236	44	230	307	563	1,700	6,344	13,111	8,626	2,012	238	20	41
17 years	4,898	7.9	62,080	67	302	480	934	3,115	11,637	24,252	16,558	4,074	536	58	67
18 years	7,271	7.5	96,567	109	483	703	1,414	4,562	17,498	37,630	26,281	6,722	939	122	104
19 years	8,669	6.9	125,804	127	518	783	1,549	5,692	21,559	48,620	35,622	9,579	1,437	169	149
20-24 years	46,334	5.8	806,056	725	2,726	3,980	8,502	30,401	124,324	303,564	244,832	72,766	12,105	1,303	828
25-29 years	51,930	5.1	1,024,006	826	3,115	4,367	9,655	33,967	137,354	367,425	333,649	110,312	19,780	2,435	1,121
30-34 years	37,238	5.4	691,735	663	2,398	3,297	7,184	23,696	87,434	237,401	229,512	81,860	15,490	1,946	854
35-39 years	14,622	6.1	238,202	265	962	1,335	3,035	9,025	30,596	79,520	76,808	29,394	6,083	870	309
40-44 years	2,607	7.4	35,111	31	164	228	595	1,589	4,821	11,282	10,753	4,396	1,010	163	79
45-49 years	121	10.6	1,150	2	10	13	26	70	170	370	320	117	41	5	6
Black	93,377	13.2	709,395	2,409	8,174	9,703	18,261	54,830	165,275	266,554	144,059	32,687	5,184	836	1,423
Under 15 years	1,044	15.8	6,640	21	89	126	220	588	1,814	2,574	1,020	156	13	3	16
15-19 years	20,639	13.2	156,969	467	1,657	2,165	4,081	12,269	40,317	62,212	28,023	4,858	536	84	300
15 years	1,772	14.4	12,294	47	155	172	338	1,060	3,343	4,875	1,982	272	28	4	18
16 years	3,020	13.7	22,015	70	247	308	600	1,795	5,792	8,711	3,750	622	67	11	42
17 years	4,156	13.2	31,476	82	337	472	823	2,442	8,176	12,623	5,448	906	95	17	55
18 years	5,469	12.8	42,702	108	450	572	1,090	3,249	10,928	16,937	7,809	1,324	130	17	88
19 years	6,222	12.9	48,482	160	468	641	1,230	3,723	12,078	19,066	9,034	1,734	216	35	97
20-24 years	28,454	12.6	227,099	741	2,415	2,845	5,361	17,092	54,181	87,756	45,244	9,514	1,339	190	421
25-29 years	23,197	13.2	176,748	640	2,130	2,379	4,503	13,545	39,075	64,813	38,035	9,416	1,566	261	385
30-34 years	14,194	14.1	100,906	391	1,342	1,542	2,817	8,102	21,594	35,281	22,216	6,056	1,160	189	216
35-39 years	5,010	14.3	35,191	133	483	549	1,081	2,764	7,135	11,962	8,144	2,293	488	86	73
40-44 years	806	14.3	5,633	16	56	92	195	447	1,115	1,892	1,327	383	79	21	10
45-49 years	33	15.9	209	-	2	5	3	23	44	64	50	11	3	2	2

¹Less than 2,500 grams (5 lb 8 oz).

²Equivalents of gram weights in terms of pounds and ounces are shown in Technical notes

Table 14. Number and percent of births of low birth weight, by race of mother and of child: United States and each State, 1989

[By place of residence]

State	Number ¹					Percent ¹				
	All races ²	Race of mother		Race of child		All races ²	Race of mother		Race of child	
		White	Black	White	Black		White	Black	White	Black
United States	284,391	182,335	90,720	178,152	93,377	7.0	5.7	13.5	5.7	13.2
Alabama	5,169	2,481	2,657	2,469	2,666	8.3	6.2	12.3	6.2	12.2
Alaska	572	358	46	335	60	4.9	4.5	8.7	4.5	8.5
Arizona	4,262	3,471	355	3,409	377	6.3	6.1	14.0	6.1	12.2
Arkansas	2,973	1,784	1,164	1,760	1,176	8.3	6.6	13.8	6.6	13.7
California	34,764	24,622	6,624	23,572	7,190	6.1	5.3	13.7	5.3	12.7
Colorado	4,088	3,565	392	3,503	426	7.8	7.4	14.2	7.4	13.1
Connecticut	3,414	2,395	938	2,331	992	6.9	5.7	14.6	5.7	14.2
Delaware	801	460	331	453	338	7.5	5.7	13.1	5.7	13.1
District of Columbia	1,867	116	1,687	108	1,693	15.9	6.4	18.4	6.3	18.3
Florida	14,808	8,743	5,841	8,599	5,944	7.7	6.0	13.0	6.0	12.8
Georgia	9,202	4,047	5,075	3,993	5,114	8.4	5.8	12.9	5.8	12.8
Hawaii	1,378	335	74	258	87	7.1	5.6	10.9	5.8	9.3
Idaho	879	836	3	819	7	5.5	5.5	*	5.4	*
Illinois	14,645	7,963	6,284	7,797	6,416	7.7	5.6	14.5	5.6	14.3
Indiana	5,488	4,307	1,135	4,225	1,193	6.6	5.9	12.7	5.8	12.4
Iowa	2,116	1,960	116	1,933	134	5.4	5.3	11.0	5.2	10.6
Kansas	2,370	1,887	417	1,845	447	6.1	5.5	12.9	5.5	12.0
Kentucky	3,657	3,031	607	3,013	621	6.9	6.3	11.9	6.3	11.6
Louisiana	6,626	2,549	3,994	2,523	4,001	9.1	6.1	13.4	6.1	13.4
Maine	851	840	5	835	5	4.9	4.9	*	4.9	*
Maryland	6,260	2,956	3,118	2,862	3,187	8.0	5.8	13.1	5.7	12.9
Massachusetts	5,388	4,246	916	4,133	998	5.9	5.3	11.0	5.3	10.5
Michigan	11,275	6,505	4,592	6,418	4,647	7.6	5.6	15.4	5.6	15.1
Minnesota	3,309	2,761	325	2,707	357	4.9	4.5	13.3	4.5	12.1
Mississippi	4,043	1,437	2,570	1,427	2,575	9.4	6.5	12.6	6.5	12.5
Missouri	5,386	3,648	1,678	3,580	1,723	6.9	5.7	13.1	5.7	12.9
Montana	647	553	2	537	3	5.5	5.4	*	5.4	*
Nebraska	1,402	1,164	193	1,142	206	5.8	5.2	14.0	5.2	13.3
Nevada	1,410	1,055	287	1,034	296	7.2	6.3	15.7	6.3	14.6
New Hampshire	909	893	11	888	15	5.1	5.1	*	5.1	*
New Jersey	8,902	5,243	3,334	5,109	3,437	7.3	5.6	13.9	5.6	13.7
New Mexico	1,896	1,557	60	1,524	73	7.0	6.9	11.5	6.9	10.1
New York	22,282	12,868	8,638	12,581	8,869	7.7	6.0	13.7	6.0	13.4
North Carolina	8,270	4,180	3,897	4,086	3,953	8.1	6.0	13.0	6.0	12.9
North Dakota	481	416	3	406	5	5.0	4.9	*	4.9	*
Ohio	11,512	8,022	3,417	7,854	3,553	7.0	5.9	13.6	5.8	13.3
Oklahoma	3,068	2,230	596	2,103	623	6.5	5.9	11.7	5.9	11.3
Oregon	2,151	1,914	113	1,866	132	5.2	5.0	12.5	5.0	11.0
Pennsylvania	11,943	7,976	3,744	7,743	3,955	7.1	5.7	14.9	5.6	14.5
Rhode Island	909	729	130	711	146	6.2	5.6	12.0	5.6	11.6
South Carolina	5,268	2,248	2,983	2,219	3,008	9.2	6.5	13.4	6.5	13.4
South Dakota	594	467	6	455	11	5.4	5.1	*	5.1	*
Tennessee	6,011	3,589	2,386	3,541	2,428	8.2	6.5	13.7	6.5	13.6
Texas	21,462	15,406	5,612	15,200	5,765	7.0	6.0	13.1	6.0	12.8
Utah	2,014	1,894	31	1,868	40	5.7	5.6	14.5	5.6	10.8
Vermont	462	456	1	456	1	5.5	5.4	*	5.5	*
Virginia	6,872	3,835	2,870	3,778	2,910	7.1	5.4	12.3	5.4	12.1
Washington	4,219	3,489	362	3,351	439	5.6	5.3	12.5	5.2	11.0
West Virginia	1,472	1,353	114	1,346	121	6.6	6.4	13.8	6.4	13.0
Wisconsin	4,141	3,025	973	2,982	999	5.8	4.8	14.1	4.8	13.8
Wyoming	503	470	13	465	15	7.3	7.2	*	7.2	*

¹Less than 2,500 grams (5 lb 8 oz).²Includes races other than white and black.

Table 15. Live births by plurality of birth, age of mother, and race of mother: United States, 1989

Age of mother	All live births									Live births in triplet and other plural deliveries		
	All live births			Single live births			Live births in twin deliveries			All races ¹		
	All races ¹	White	Black	All races ¹	White	Black	All races ¹	White	Black	All races ¹	White	Black
All ages	4,040,958	3,192,355	673,124	3,948,042	3,120,499	655,018	90,118	69,373	17,844	2,798	2,483	262
Under 15 years	11,486	4,630	6,560	11,357	4,568	6,495	129	62	65	-	-	-
15-19 years	506,503	340,472	150,699	499,474	336,307	148,030	6,953	4,114	2,644	76	51	25
15 years	26,730	13,869	12,048	26,437	13,729	11,909	290	137	139	3	3	-
16 years	57,279	34,133	21,412	56,573	33,782	21,073	699	347	336	7	4	3
17 years	97,035	63,734	30,372	95,867	63,069	29,913	1,161	661	456	7	4	3
18 years	144,350	99,302	40,868	142,328	98,072	40,122	1,993	1,206	741	29	24	5
19 years	181,109	129,434	45,999	178,269	127,655	45,013	2,810	1,763	972	30	16	14
20-24 years	1,077,598	824,189	215,557	1,056,371	809,201	209,912	20,928	14,754	5,585	299	234	60
25-29 years	1,263,098	1,040,659	167,260	1,232,596	1,016,382	162,001	29,564	23,456	5,169	938	821	90
30-34 years	842,395	702,963	94,766	818,415	682,969	91,601	22,891	18,975	3,113	1,089	1,019	52
35-39 years	293,878	242,467	32,845	284,953	235,022	31,678	8,572	7,127	1,135	353	318	32
40-44 years	44,401	35,795	5,236	43,298	34,887	5,104	1,067	875	129	36	33	3
45-49 years	1,599	1,180	201	1,578	1,163	197	14	10	4	7	7	-

¹Includes races other than white and black.

Table 16. Numbers, rates, and ratios of births to unmarried women, by age of mother and race of mother and of child: United States, 1989

Age of mother	Number				Rate per 1,000 unmarried women in specified group				Ratio per 1,000 live births			
	All races	White	All other		All races	White	All other		All races	White	All other	
			Total	Black			Total	Black			Total	Black
Race of mother												
All ages	1,094,169	613,543	480,626	442,395	¹ 41.8	¹ 30.1	¹ 82.3	¹ 90.0	270.8	192.2	566.4	657.2
Under 15 years	10,612	3,920	6,692	6,458	---	---	---	---	923.9	846.7	976.1	984.5
15-19 years	337,268	188,253	149,015	138,718	40.6	28.4	89.1	103.4	665.9	552.9	897.5	920.5
15 years	23,358	10,904	12,454	11,797	28.8	19.3	65.7	77.0	873.8	786.2	968.4	979.2
16 years	46,194	24,094	22,100	20,735					806.5	705.9	954.8	968.4
17 years	71,134	40,110	31,024	28,840					733.1	629.3	931.6	949.6
18 years	94,815	54,599	40,216	37,398					656.8	549.8	892.7	915.1
19 years	101,767	58,546	43,221	39,948					57.4	41.2	123.8	141.9	561.9	452.3	836.4	868.5
20-24 years	378,122	211,815	166,307	153,551	62.0	44.2	127.0	142.0	350.9	257.0	656.3	712.3
25-29 years	215,477	120,640	94,837	86,846	52.3	38.5	96.0	100.9	170.6	115.9	426.4	519.2
30-34 years	106,344	60,344	46,000	41,468	34.4	26.3	58.2	59.3	126.2	85.8	329.9	437.6
35-39 years	39,030	23,730	15,300	13,333	16.0	13.0	25.0	25.0	132.8	97.9	297.6	405.9
40 years and over	7,316	4,841	2,475	2,021	² 3.4	² 2.9	² 5.3	² 5.1	159.0	130.9	274.2	371.7
Race of child												
All ages	1,094,169	593,911	500,258	457,480	¹ 41.8	¹ 29.2	¹ 85.6	¹ 93.1	270.8	189.6	550.4	644.9
Under 15 years	10,612	3,830	6,782	6,532	---	---	---	---	923.9	846.0	974.6	983.7
15-19 years	337,268	182,370	154,898	143,207	40.6	27.5	92.6	106.7	665.9	550.6	883.6	912.3
15 years	23,358	10,612	12,746	12,016	28.8	18.8	67.9	79.0	873.8	785.1	964.7	977.4
16 years	46,194	23,397	22,797	21,244					806.5	704.0	948.2	965.0
17 years	71,134	38,962	32,172	29,694					733.1	627.6	920.4	943.4
18 years	94,815	52,846	41,969	38,729					656.8	547.2	878.3	907.0
19 years	101,767	56,553	45,214	41,524					57.4	39.8	129.4	147.3	561.9	449.5	817.5	856.5
20-24 years	378,122	205,008	173,114	158,868	62.0	42.8	132.2	147.0	350.9	254.3	637.5	699.6
25-29 years	215,477	116,758	98,719	89,811	52.3	37.3	99.9	104.3	170.6	114.0	412.9	508.1
30-34 years	106,344	58,281	48,063	43,044	34.4	25.4	60.8	61.6	126.2	84.3	319.0	426.6
35-39 years	39,030	22,976	16,054	13,885	16.0	12.5	26.2	26.1	132.8	96.5	288.3	394.6
40 years and over	7,316	4,688	2,628	2,133	² 3.4	² 2.8	² 5.6	² 5.3	159.0	129.3	269.8	365.1

¹Rates computed by relating total births to unmarried mothers, regardless of age of mother, to unmarried women aged 15-44 years.

²Rates computed by relating births to unmarried mothers aged 40 years and over to unmarried women aged 40-44 years.

NOTE: For 44 States and the District of Columbia, marital status of mother is reported on the birth certificate; for 6 States, mother's marital status is inferred; see Technical notes.

Table 17. Birth rates for unmarried women by age of mother and race: United States, 1970, 1975, and 1980–89

[Rates are live births to unmarried women per 1,000 unmarried women in specified group, estimated as of July 1]

Year and race	Age of mother								
	15–44 years ¹	15–19 years			20–24 years	25–29 years	30–34 years	35–39 years	40–44 years ²
		Total	15–17 years	18–19 years					
All races									
1989 ³	41.8	40.6	28.8	57.4	62.0	52.3	34.4	16.0	3.4
1988 ³	38.6	36.8	26.5	52.7	56.7	48.1	31.7	14.9	3.2
1987 ³	36.1	34.1	24.5	49.9	53.1	44.3	29.3	13.5	2.9
1986 ³	34.3	32.6	22.9	48.9	49.7	42.0	26.9	12.2	2.7
1985 ³	32.8	31.6	22.5	46.6	46.8	39.8	25.0	11.6	2.5
1984 ^{3,4}	31.0	30.2	21.9	43.0	43.2	37.0	23.2	10.9	2.5
1983 ^{3,4}	30.4	29.7	22.1	41.0	42.0	35.6	22.3	10.3	2.5
1982 ^{3,4}	30.0	28.9	21.5	40.2	41.4	35.1	21.9	10.0	2.7
1981 ^{3,4}	29.6	28.2	20.9	39.9	40.9	34.7	20.8	9.8	2.6
1980 ^{3,4}	29.4	27.6	20.6	39.0	40.9	34.0	21.1	9.7	2.6
1980 ^{4,5}	28.4	27.5	20.7	38.7	39.7	31.4	18.5	8.4	2.3
1975 ^{4,5}	24.5	23.9	19.3	32.5	31.2	27.5	17.9	9.1	2.6
1970 ^{5,6}	26.4	22.4	17.1	32.9	38.4	37.0	27.1	13.6	3.5
White									
Race of mother:									
1989 ³	30.1	28.4	19.3	41.2	44.2	38.5	26.3	13.0	2.9
Race of child:									
1989 ³	29.2	27.5	18.8	39.8	42.8	37.3	25.4	12.5	2.8
1988 ³	26.6	24.8	17.1	36.4	38.3	33.8	22.9	11.5	2.6
1987 ³	24.6	22.8	15.8	34.2	35.8	30.7	21.2	10.3	2.3
1986 ³	23.2	21.5	14.6	33.2	33.5	29.2	19.2	9.3	2.1
1985 ³	21.8	20.5	14.2	30.9	30.9	27.3	17.5	8.6	1.9
1984 ^{3,4}	20.1	19.0	13.5	27.6	27.8	24.5	16.1	8.0	1.9
1983 ^{3,4}	19.3	18.5	13.5	26.1	26.4	22.9	15.3	7.5	1.9
1982 ^{3,4}	18.8	17.7	12.9	25.1	25.7	22.2	14.7	7.1	2.0
1981 ^{3,4}	18.2	17.1	12.4	24.6	24.9	21.6	13.6	6.9	1.8
1980 ^{3,4}	17.6	16.2	11.8	23.6	24.4	20.7	13.6	6.8	1.8
1980 ^{4,5}	16.2	15.9	11.7	22.8	22.4	17.3	10.5	5.3	1.4
1975 ^{4,5}	12.4	12.0	9.6	16.5	15.5	14.8	9.8	5.4	1.5
1970 ^{5,6}	13.9	10.9	7.5	17.6	22.5	21.1	14.2	7.6	2.0
All other									
Race of mother:									
1989 ³	82.3	89.1	65.7	123.8	127.0	96.0	58.2	25.0	5.3
Race of child:									
1989 ³	85.6	92.6	67.9	129.4	132.2	99.9	60.8	26.2	5.6
1988 ³	81.8	85.9	64.1	120.3	124.3	94.6	57.9	25.4	5.5
1987 ³	78.3	81.6	61.3	114.1	116.6	89.2	54.2	23.9	5.4
1986 ³	74.8	79.7	59.1	112.3	109.5	82.3	50.8	21.6	4.9
1985 ³	73.2	79.4	59.1	109.9	105.7	77.9	48.8	21.4	4.7
1984 ^{3,4}	71.4	78.3	59.3	106.1	101.3	75.8	45.0	20.5	4.7
1983 ^{3,4}	72.3	78.3	60.2	104.6	101.1	77.3	44.7	20.1	4.9
1982 ^{3,4}	73.9	79.2	60.7	107.0	102.1	78.9	44.4	20.0	5.4
1981 ^{3,4}	75.4	79.2	60.3	109.0	104.5	80.1	45.6	19.7	5.7
1980 ^{3,4}	77.2	81.7	63.1	111.6	106.6	79.1	46.9	19.2	5.6
1980 ^{4,5}	78.0	83.0	64.0	113.4	108.2	79.1	46.2	18.5	5.3
1975 ^{4,5}	79.0	86.3	70.7	114.3	102.1	73.2	47.9	20.0	6.9
1970 ^{5,6}	89.9	90.8	73.3	126.5	121.0	93.8	69.8	32.0	10.7

See footnotes at end of table.

Table 17. Birth rates for unmarried women by age of mother and race: United States, 1970, 1975, and 1980–89—Con.
 [Rates are live births to unmarried women per 1,000 unmarried women in specified group, estimated as of July 1]

Year and race	Age of mother								
	15–44 years ¹	15–19 years			20–24 years	25–29 years	30–34 years	35–39 years	40–44 years ²
		Total	15–17 years	18–19 years					
Black⁷									
Race of mother:									
1989 ³	90.0	103.4	77.0	141.9	142.0	100.9	59.3	25.0	5.1
Race of child:									
1989 ³	93.1	106.7	79.0	147.3	147.0	104.3	61.6	26.1	5.3
1988 ³	88.9	98.3	74.1	136.1	138.2	99.2	58.7	25.3	5.3
1987 ³	84.7	92.6	70.4	127.5	129.9	93.6	54.2	23.5	5.1
1986 ³	80.9	89.9	67.4	125.0	121.4	86.7	51.1	21.6	4.7
1985 ³	78.8	88.8	67.0	121.1	116.1	81.4	48.8	21.3	4.5
1984 ^{3,4}	76.8	87.1	66.8	116.2	110.7	80.0	45.0	20.3	4.5
1983 ^{3,4}	77.7	86.4	67.1	114.0	110.0	82.0	45.3	20.3	4.9
1982 ^{3,4}	79.6	87.0	67.6	115.8	110.2	85.5	45.8	20.1	5.4
1981 ^{3,4}	81.4	86.8	66.9	117.6	112.5	86.4	47.2	20.4	5.8
1980 ^{3,4}	82.9	89.2	69.6	120.2	115.1	83.9	48.2	19.6	5.6
1980 ^{4,5}	83.2	90.3	70.6	121.8	116.0	82.9	47.0	18.5	5.5
1975 ^{4,5}	84.2	93.5	76.8	123.8	108.0	75.7	50.0	20.5	7.2
1970 ^{5,6}	95.5	96.9	77.9	136.4	131.5	100.9	71.8	32.9	10.4

¹Rates computed by relating total births to unmarried mothers, regardless of age of mother, to unmarried women aged 15–44 years.

²Rates computed by relating births to unmarried mothers aged 40 years and over to unmarried women aged 40–44 years.

³Data for States in which marital status was not reported have been inferred and included with data from the remaining States; see Technical notes.

⁴Based on 100 percent of births in selected States and on a 50-percent sample of births in all other States; see Technical notes.

⁵Births to unmarried women are estimated for the United States from data for registration areas in which marital status of mother was reported; see Technical notes.

⁶Based on a 50-percent sample of births.

⁷Included in All other.

Table 18. Number and ratio of births to unmarried women, by race of mother and of child: United States and each State, 1989

[By place of residence]

State	Number					Ratio per 1,000 live births				
	All races ¹	Race of mother		Race of child		All races ¹	Race of mother		Race of child	
		White	Black	White	Black		White	Black	White	Black
United States	1,094,169	613,543	442,395	593,911	457,480	270.8	192.2	657.2	189.6	644.9
Alabama	18,640	4,659	13,929	4,657	13,931	297.9	115.4	642.0	116.1	637.6
Alaska	2,869	1,256	158	1,130	225	245.9	158.1	296.4	151.5	319.1
Arizona	20,708	15,313	1,554	15,096	1,697	308.2	267.4	612.5	268.6	547.9
Arkansas	9,944	4,136	5,761	4,040	5,830	276.9	152.6	682.1	150.8	678.9
California ²	171,189	133,398	30,071	127,331	34,133	300.3	287.3	621.2	283.9	602.7
Colorado	10,787	8,987	1,465	8,943	1,499	204.6	186.1	532.0	188.4	460.9
Connecticut ²	13,005	8,461	4,260	8,117	4,571	262.9	201.6	661.4	196.8	652.4
Delaware	3,125	1,297	1,813	1,291	1,819	291.2	161.7	714.3	162.3	702.6
District of Columbia	7,580	235	6,985	228	6,993	643.0	129.8	759.3	133.7	754.5
Florida	58,305	27,815	30,047	27,121	30,661	301.9	191.4	665.7	189.2	657.7
Georgia	34,926	9,713	25,084	9,389	25,373	316.7	140.0	636.7	137.1	633.2
Hawaii	4,609	865	103	575	144	238.0	144.8	151.2	128.4	153.8
Idaho	2,561	2,386	15	2,348	26	161.2	155.6	*	154.9	279.6
Illinois	58,867	25,514	32,836	24,391	33,866	309.3	180.1	756.3	174.9	751.2
Indiana	19,898	13,379	6,410	13,090	6,662	238.4	181.5	713.0	179.8	692.5
Iowa	7,575	6,613	811	6,517	878	194.1	177.1	767.3	176.0	696.8
Kansas	7,577	5,424	1,967	5,189	2,164	195.6	157.2	606.5	153.6	579.5
Kentucky	12,048	8,563	3,441	8,532	3,468	225.5	178.6	674.0	179.2	646.8
Louisiana	25,692	5,946	19,525	5,879	19,568	353.1	142.7	655.3	142.5	652.4
Maine	3,806	3,717	25	3,697	33	217.9	216.1	320.5	216.5	266.1
Maryland	22,607	7,916	14,356	7,339	14,885	288.9	153.6	600.9	146.2	598.2
Massachusetts	21,798	15,896	5,082	15,251	5,638	238.2	199.5	608.2	195.3	592.7
Michigan ²	36,441	15,685	20,365	15,654	20,390	245.4	135.2	679.6	136.7	660.8
Minnesota	13,142	9,994	1,766	9,646	1,999	194.6	162.2	720.2	159.1	677.4
Mississippi	16,958	2,734	14,077	2,689	14,116	393.9	123.8	687.9	122.4	687.1
Missouri	21,123	11,336	9,620	11,062	9,867	271.3	177.1	749.8	175.1	738.5
Montana	2,539	1,644	11	1,575	17	217.4	161.5	*	159.6	*
Nebraska	4,662	3,412	969	3,315	1,039	192.5	153.6	701.7	151.1	672.1
Nevada ²	4,607	3,191	1,164	3,139	1,191	235.0	190.3	636.4	192.4	585.3
New Hampshire	2,797	2,750	34	2,720	52	157.1	156.8	283.3	156.0	282.6
New Jersey	29,364	13,933	15,125	13,351	15,649	241.0	149.5	630.3	145.6	621.9
New Mexico	9,447	6,586	294	6,493	351	345.4	292.9	558.9	294.2	480.2
New York ²	92,996	49,887	41,615	48,287	43,045	319.1	231.2	657.9	227.9	649.4
North Carolina	28,315	8,925	18,614	8,557	18,895	277.3	128.2	621.7	125.0	615.4
North Dakota	1,615	1,079	9	1,040	20	168.8	126.8	*	125.3	178.6
Ohio	45,921	27,039	18,671	26,068	19,559	280.1	197.1	740.4	192.8	728.8
Oklahoma	11,258	6,390	3,262	6,095	3,398	237.6	169.7	642.0	171.3	615.2
Oregon	10,436	9,226	631	8,987	764	252.8	240.2	696.5	239.7	634.6
Pennsylvania	47,093	27,273	19,446	25,637	20,959	279.0	193.5	772.1	185.2	767.5
Rhode Island	3,684	2,787	711	2,692	784	249.5	213.4	647.5	209.9	614.9
South Carolina	18,116	4,723	13,345	4,637	13,417	316.0	136.6	600.3	135.5	595.9
South Dakota	2,415	1,224	18	1,174	47	217.8	133.5	*	130.4	361.5
Tennessee	21,281	8,994	12,217	8,799	12,391	290.8	163.2	700.9	161.3	693.5
Texas ²	60,303	36,938	22,869	36,935	22,872	196.0	143.1	532.2	144.8	506.5
Utah	4,504	3,935	103	3,843	158	126.6	116.6	481.3	115.6	424.7
Vermont	1,685	1,667	8	1,659	10	198.4	198.1	*	197.8	*
Virginia	24,410	10,061	14,094	9,936	14,210	252.2	142.4	603.8	142.7	589.5
Washington	17,638	14,187	1,543	13,450	2,008	234.0	213.2	530.4	209.1	502.8
West Virginia	5,212	4,653	551	4,622	580	235.2	219.0	665.5	218.9	625.0
Wisconsin	16,815	10,662	5,534	10,580	5,589	233.5	170.2	799.2	170.5	774.5
Wyoming	1,276	1,139	31	1,118	39	184.9	174.4	413.3	173.4	393.9

¹Includes races other than white and black.²Marital status of mother is inferred; see Technical notes.

Table 19. Live births by interval since last live birth, live-birth order, and race of mother: United States, 1989
 [Refers only to second and higher order births. Live-birth order refers to number of children born alive to mother]

Interval since last live birth and race of mother	Total, second and higher order births ¹	Live-birth order						
		2	3	4	5	6	7	8 and over
All races²								
All intervals	2,370,242	1,300,371	657,558	249,785	91,415	37,393	16,740	16,980
0 months (plural deliveries)	37,657	13,907	12,349	6,583	2,859	1,047	490	422
1-11 months	36,378	15,950	10,369	5,390	2,550	1,139	472	508
12-17 months	248,480	119,801	68,565	33,308	14,212	6,369	2,948	3,277
18-23 months	301,979	161,696	80,602	34,905	13,266	5,830	2,664	3,016
24-35 months	506,308	294,185	129,308	50,003	17,976	7,638	3,528	3,670
36-47 months	338,290	200,608	90,125	30,153	10,005	3,985	1,722	1,692
48-59 months	217,554	122,087	63,810	20,455	6,751	2,494	1,039	918
60-71 months	142,376	77,331	43,574	14,042	4,539	1,652	654	584
72 months or more	362,121	194,552	113,012	36,110	11,683	3,973	1,626	1,165
Not stated	179,099	100,254	45,844	18,836	7,574	3,266	1,597	1,728
White								
All intervals	1,854,195	1,049,754	513,250	183,430	62,289	24,370	10,538	10,564
0 months (plural deliveries)	29,010	11,325	9,764	4,800	1,965	648	276	232
1-11 months	21,918	10,874	6,154	2,833	1,221	473	183	180
12-17 months	175,812	91,630	48,137	21,460	8,120	3,379	1,498	1,588
18-23 months	238,522	133,132	62,868	25,785	9,154	3,902	1,712	1,969
24-35 months	417,236	250,284	104,756	38,740	13,063	5,430	2,445	2,518
36-47 months	280,145	169,994	73,919	23,655	7,361	2,833	1,185	1,198
48-59 months	176,219	100,356	52,011	15,797	4,921	1,764	724	646
60-71 months	112,318	61,487	34,839	10,670	3,301	1,168	455	398
72 months or more	271,450	145,658	86,613	26,434	8,188	2,708	1,096	753
Not stated	131,565	75,014	34,189	13,256	4,995	2,065	964	1,082
Black								
All intervals	412,688	197,083	118,206	54,862	23,529	10,066	4,601	4,341
0 months (plural deliveries)	7,366	2,113	2,187	1,581	787	352	186	160
1-11 months	12,215	4,188	3,676	2,228	1,133	540	233	217
12-17 months	58,610	21,960	17,169	9,968	5,049	2,323	1,051	1,090
18-23 months	49,462	21,591	14,407	7,449	3,249	1,436	665	665
24-35 months	68,578	32,909	19,635	9,051	3,822	1,626	760	775
36-47 months	45,062	23,136	12,962	5,286	2,073	882	391	332
48-59 months	32,408	16,813	9,429	3,786	1,400	553	238	189
60-71 months	23,774	12,471	6,945	2,708	976	371	161	142
72 months or more	75,517	41,105	21,831	7,991	2,851	1,001	422	316
Not stated	39,696	20,797	9,965	4,814	2,189	982	494	455

¹Excludes not stated birth order.
²Includes races other than white and black.

Table 20. Live births by educational attainment and race of mother and of father: Total of 48 reporting States, the District of Columbia, and New York City, 1989

Years of school completed	Education and race of mother			Education and race of father		
	All races ¹	White	Black	All races ²	White	Black
Total	3,806,986	2,986,888	653,779	3,806,986	2,693,746	406,903
0-5 years	59,349	46,310	3,756	66,362	45,732	2,978
6 years	57,204	52,781	2,411	52,190	49,102	1,033
7 years	24,889	18,905	4,585	14,906	12,912	1,033
8 years	75,547	59,406	13,148	46,069	41,402	2,687
9 years	150,057	115,745	29,242	80,608	72,005	5,773
10 years	213,254	152,124	52,993	118,923	99,317	14,851
11 years	271,845	177,057	85,537	164,704	128,733	30,134
12 years	1,436,452	1,112,071	273,113	1,234,077	995,176	195,702
13 years	284,377	227,515	48,154	182,924	152,034	24,462
14 years	343,268	274,797	53,041	290,225	242,258	34,710
15 years	118,775	93,377	19,062	99,602	81,277	12,887
16 years	418,888	363,567	32,019	414,641	365,703	28,074
17 years or more	215,632	186,537	13,088	318,872	279,874	14,647
Not stated	137,449	106,696	23,630	722,883	128,221	37,932

¹Includes races other than white and black.
²Includes births with race of father not stated.

NOTE: Excludes data for Washington and New York State (exclusive of New York City), which did not require reporting of educational attainment of mother and father.

Table 21. Live births by educational attainment of mother, age of mother, and race of mother and of child: Total of 48 reporting States, the District of Columbia, and New York City, 1989

Age of mother and race	Total	Years of school completed by mother					
		0-8 years	9-11 years	12 years	13-15 years	16 years or more	Not stated
All races ¹	3,806,986	216,989	635,156	1,436,452	746,420	634,520	137,449
Under 15 years	11,159	8,108	2,212	-	-	-	839
15-19 years	485,602	45,076	252,429	151,730	16,937	-	19,430
15 years	25,822	8,644	15,734	-	-	-	1,444
16 years	55,241	8,204	43,243	1,367	-	-	2,427
17 years	93,165	8,498	68,116	12,563	209	-	3,779
18 years	138,234	9,451	66,712	53,780	2,972	-	5,319
19 years	173,140	10,279	58,624	84,020	13,756	-	6,461
20-24 years	1,023,536	56,780	203,662	497,432	190,073	38,627	36,962
25-29 years	1,185,533	50,920	112,069	464,261	286,970	229,842	41,471
30-34 years	784,633	34,778	46,799	242,067	184,852	248,884	27,253
35-39 years	273,599	16,726	15,036	70,255	59,549	102,354	9,679
40 years and over	42,924	4,601	2,949	10,707	8,039	14,813	1,815
Race of mother							
White	2,986,888	177,402	444,926	1,112,071	595,689	550,104	106,696
Under 15 years	4,470	3,218	816	-	-	-	436
15-19 years	324,281	34,955	163,903	100,724	11,118	-	13,581
15 years	13,304	4,764	7,716	-	-	-	824
16 years	32,713	5,902	24,411	806	-	-	1,594
17 years	60,800	7,084	43,245	7,696	140	-	2,635
18 years	94,461	8,202	45,797	34,773	1,839	-	3,850
19 years	123,003	9,003	42,734	57,449	9,139	-	4,678
20-24 years	778,220	49,880	152,419	373,712	142,650	31,357	28,202
25-29 years	971,162	43,520	83,130	377,872	233,926	199,401	33,313
30-34 years	650,367	28,801	32,659	196,590	152,681	217,514	22,122
35-39 years	224,146	13,449	10,014	54,978	48,867	89,155	7,683
40 years and over	34,242	3,579	1,985	8,195	6,447	12,677	1,359
Black	653,779	23,900	167,772	273,113	120,257	45,107	23,630
Under 15 years	6,410	4,692	1,330	-	-	-	388
15-19 years	146,843	8,540	81,264	46,561	5,244	-	5,234
15 years	11,744	3,636	7,533	-	-	-	575
16 years	20,897	2,043	17,580	511	-	-	763
17 years	29,607	1,146	22,894	4,482	59	-	1,026
18 years	39,815	905	19,063	17,502	1,027	-	1,318
19 years	44,780	810	14,194	24,066	4,158	-	1,552
20-24 years	209,496	3,410	44,857	108,363	40,581	5,025	7,260
25-29 years	162,083	3,004	24,078	70,161	42,028	16,806	6,006
30-34 years	91,883	2,488	11,488	34,846	23,846	15,835	3,380
35-39 years	31,812	1,375	3,971	11,375	7,485	6,452	1,154
40 years and over	5,252	391	784	1,807	1,073	989	208
Race of child							
White	2,930,557	175,833	433,976	1,089,280	583,652	542,438	105,378
Under 15 years	4,378	3,158	789	-	-	-	431
15-19 years	315,573	34,493	159,260	97,645	10,778	-	13,397
15 years	12,971	4,686	7,471	-	-	-	814
16 years	31,882	5,812	23,716	783	-	-	1,571
17 years	59,247	6,992	42,062	7,448	137	-	2,608
18 years	91,877	8,106	44,470	33,710	1,788	-	3,803
19 years	119,596	8,897	41,541	55,704	8,853	-	4,601
20-24 years	761,238	49,480	148,954	365,107	139,120	30,762	27,815
25-29 years	955,656	43,191	81,375	371,487	229,781	196,904	32,918
30-34 years	639,955	28,592	31,866	193,064	149,879	214,678	21,876
35-39 years	220,176	13,357	9,796	53,924	47,836	87,669	7,594
40 years and over	33,581	3,562	1,936	8,053	6,258	12,425	1,347

See footnotes at end of table.

Table 21. Live births by educational attainment of mother, age of mother, and race of mother and of child: Total of 48 reporting States, the District of Columbia, and New York City, 1989 – Con.

Age of mother and race	Total	Years of school completed by mother					Not stated
		0-8 years	9-11 years	12 years	13-15 years	16 years or more	
Black	687,633	24,932	175,044	287,353	127,185	48,559	24,560
Under 15 years	6,479	4,742	1,344	-	-	-	393
15-19 years	152,750	8,823	84,466	48,616	5,467	-	5,378
15 years	11,978	3,697	7,698	-	-	-	583
16 years	21,464	2,099	18,058	527	-	-	780
17 years	30,646	1,192	23,709	4,635	62	-	1,048
18 years	41,548	973	19,969	18,192	1,060	-	1,354
19 years	47,114	862	15,032	25,262	4,345	-	1,613
20-24 years	220,281	3,667	47,098	113,818	42,835	5,330	7,533
25-29 years	170,925	3,232	25,181	73,942	44,307	17,978	6,285
30-34 years	97,586	2,637	12,009	37,031	25,339	17,020	3,550
35-39 years	33,983	1,428	4,124	12,033	8,063	7,128	1,207
40 years and over	5,629	403	822	1,913	1,174	1,103	214

¹Includes races other than white and black.

NOTE: Excludes data for Washington and New York State (exclusive of New York City), which did not require reporting of educational attainment of mother.

Table 22. Live births by Hispanic origin of mother and by race of mother for mothers of non-Hispanic origin: 47 reporting States and the District of Columbia, 1989

[By place of residence]

State	Origin of mother										
	All origins	Hispanic						Non-Hispanic			Not stated
		Total	Mexican	Puerto Rican	Cuban	Central and South American	Other and unknown Hispanic	Total ¹	White	Black	
All reporting States	3,903,012	532,249	327,233	56,229	10,842	72,443	65,502	3,297,493	2,526,367	611,269	73,270
Alabama	62,568	330	140	45	14	49	82	62,111	39,991	21,628	127
Alaska	11,666	319	165	47	4	22	81	11,334	7,649	527	13
Arizona	67,196	18,017	17,263	137	23	232	362	48,898	39,367	2,464	281
Arkansas	35,911	321	227	10	3	13	68	35,299	26,595	8,413	291
California	569,992	211,836	163,349	1,883	832	24,599	21,173	355,386	252,452	47,343	2,770
Colorado	52,711	8,466	3,823	101	14	100	4,428	44,187	39,873	2,714	58
Connecticut	49,464	4,809	120	3,528	51	433	677	40,009	34,028	5,097	4,646
Delaware	10,730	319	74	190	7	18	30	10,404	7,726	2,514	7
District of Columbia	11,789	734	36	17	13	602	66	11,003	1,598	9,168	52
Florida	193,131	25,313	4,430	3,685	7,100	7,940	2,158	167,221	120,558	44,177	597
Georgia	110,272	1,793	933	262	70	308	220	107,779	67,115	39,193	700
Hawaii	19,367	1,951	272	540	14	52	1,073	17,411	5,407	663	5
Idaho	15,883	1,177	961	11	1	15	189	14,664	14,155	49	42
Illinois	190,308	21,777	14,638	3,234	170	1,282	2,453	165,528	120,912	39,862	3,003
Indiana	83,469	1,590	1,185	190	8	67	140	81,538	71,925	8,927	341
Iowa	39,018	572	300	21	5	25	221	38,421	36,797	1,041	25
Kansas	38,737	1,704	1,288	63	18	91	244	36,540	32,396	3,210	493
Kentucky	53,424	283	145	49	6	4	79	52,705	47,345	5,009	436
Maine	17,466	115	22	8	6	9	70	16,338	16,093	65	1,013
Maryland	78,265	2,092	483	196	59	1,195	159	73,776	48,763	22,655	2,397
Massachusetts	91,523	7,762	218	4,684	114	2,542	204	82,784	72,244	7,104	977
Michigan	148,520	4,161	2,414	369	77	198	1,103	137,204	105,509	29,299	7,155
Minnesota	67,518	1,041	678	86	16	51	210	60,707	55,801	1,953	5,770
Mississippi	43,047	111	41	7	6	12	45	42,498	21,590	20,414	438
Missouri	77,872	920	683	59	16	80	82	76,804	63,037	12,795	148
Montana	11,678	265	121	10	3	5	126	10,928	9,472	30	485
Nebraska	24,216	752	568	17	4	7	156	23,180	21,206	1,379	284
Nevada	19,606	2,425	1,784	60	85	217	279	17,165	14,401	1,819	16
New Jersey	121,841	17,528	636	7,335	938	4,141	4,478	104,043	77,391	22,372	270
New Mexico	27,353	11,898	2,501	33	16	52	9,296	15,444	10,683	510	11
New York	291,449	49,964	2,931	22,031	619	20,773	3,610	231,255	162,813	56,538	10,230
North Carolina	102,105	1,498	793	283	50	166	206	100,433	68,115	29,865	174
North Dakota	9,570	88	42	5	3	8	30	9,423	8,370	69	59
Ohio	163,952	2,232	1,000	836	34	113	249	161,534	134,941	25,084	186
Oregon	41,281	2,230	1,989	25	10	97	109	39,005	36,254	897	46
Pennsylvania	168,803	5,262	344	4,032	83	355	448	163,351	135,972	24,819	190
Rhode Island	14,768	1,091	45	366	3	509	168	10,843	9,525	829	2,834
South Carolina	57,330	507	227	102	22	6	150	56,749	34,082	22,164	74
South Dakota	11,086	93	70	8	1	-	14	10,983	9,081	73	10
Tennessee	73,178	389	187	63	15	46	78	72,753	54,710	17,411	36
Texas	307,664	107,197	94,334	738	192	4,294	7,639	199,778	150,746	42,630	689
Utah	35,567	1,890	1,084	40	11	121	634	33,644	31,886	210	33
Vermont	8,494	45	7	4	1	3	30	7,375	7,322	19	1,074
Virginia	96,798	2,456	435	271	60	1,397	293	71,780	52,059	17,728	22,562
Washington	75,360	4,821	2,848	133	28	130	1,682	68,620	60,258	2,783	1,919
West Virginia	22,163	61	19	6	2	2	32	21,896	21,009	819	206
Wisconsin	72,002	1,636	1,066	406	13	56	95	70,296	61,030	6,864	70
Wyoming	6,901	408	314	3	2	6	83	6,466	6,115	73	27

¹Includes races other than white and black.

Table 23. Number and percent distribution of live births by race of mother and of child, according to Hispanic origin of mother: Total of 47 reporting States and the District of Columbia, 1989

Race	Origin of mother									
	Hispanic								Non-Hispanic	Not stated
	All origins	Total	Mexican	Puerto Rican	Cuban	Central and South American	Other and unknown Hispanic			
Race of mother		Number								
All races	3,903,012	532,249	327,233	56,229	10,842	72,443	65,502	3,297,493	73,270	
White	3,095,509	513,998	323,504	53,499	10,529	65,777	60,689	2,526,367	55,144	
Black	638,126	11,549	2,016	2,011	263	5,273	1,986	611,269	15,308	
Other	169,377	6,702	1,713	719	50	1,393	2,827	159,857	2,818	
Race of mother		Percent distribution								
All races	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	
White	79.3	96.6	98.9	95.1	97.1	90.8	92.7	76.6	75.3	
Black	16.3	2.2	0.6	3.6	2.4	7.3	3.0	18.5	20.9	
Other	4.3	1.3	0.5	1.3	0.5	1.9	4.3	4.8	3.8	
Race of child		Number								
All races	3,903,012	532,249	327,233	56,229	10,842	72,443	65,502	3,297,493	73,270	
White	3,037,714	501,750	318,217	50,212	10,351	64,538	58,432	2,481,695	54,269	
Black	673,693	19,891	5,071	4,936	382	6,125	3,377	637,922	15,880	
Other	191,605	10,608	3,945	1,081	109	1,780	3,693	177,876	3,121	
Race of child		Percent distribution								
All races	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	
White	77.8	94.3	97.2	89.3	95.5	89.1	89.2	75.3	74.1	
Black	17.3	3.7	1.5	8.8	3.5	8.5	5.2	19.3	21.7	
Other	4.9	2.0	1.2	1.9	1.0	2.5	5.6	5.4	4.3	

NOTE: Excludes Louisiana, New Hampshire, and Oklahoma, which did not report Hispanic origin of mother on the birth certificate.

Table 24. Estimated birth and fertility rates and birth rates by age and Hispanic origin of mother: United States, 1989

[Birth rates by age of mother are live births per 1,000 women in specified group, estimated as of July 1]

Measure	Hispanic						
	All origins	Total ¹	Mexican	Puerto Rican	Cuban	Central and South American	Non-Hispanic ²
Birth rate ³	16.3	26.2	25.7	23.7	10.0	28.3	15.4
Fertility rate ⁴	69.2	104.9	106.6	86.6	49.8	95.8	65.7
Birth rates by age of mother							
10-14 years	1.4	2.3	2.0	3.8	0.5	1.7	1.3
15-19 years	58.1	100.8	94.5	112.7	25.1	66.4	53.4
20-24 years	115.4	184.4	184.3	171.0	64.2	159.2	107.8
25-29 years	116.6	146.6	153.7	98.0	101.8	150.4	113.4
30-34 years	76.2	92.1	96.1	65.2	73.7	85.1	74.7
35-39 years	29.7	43.5	41.0	26.9	27.2	60.3	28.6
40-44 years	5.2	10.4	11.1	6.3	3.0	12.7	4.8
45-49 years	0.2	0.6	0.6	0.3	0.3	0.8	0.2

¹Includes other and unknown Hispanic origin not shown separately.

²Includes origin not stated.

³Rate per 1,000 total population.

⁴Rate per 1,000 women aged 15-44 years.

NOTE: Rates by Hispanic origin computed on the basis of births which include estimates for Louisiana, New Hampshire, and Oklahoma, which did not report Hispanic origin of mother on the birth certificate. These three States account for less than 1 percent of all Hispanic births in the United States (see Technical notes). Rates for "All origins" are computed on the basis of all U.S. births, regardless of origin; these rates are not estimated.

Table 25. Live births by age and Hispanic origin of mother and by race of mother for mothers of non-Hispanic origin: Total of 47 reporting States and the District of Columbia, 1989

Age of mother	Origin of mother									
	All origins ¹	Total	Hispanic					Non-Hispanic		
			Mexican	Puerto Rican	Cuban	Central and South American	Other and unknown Hispanic	Total ²	White	Black
All ages	3,903,012	532,249	327,233	56,229	10,842	72,443	65,502	3,297,493	2,526,367	611,269
Under 15 years	10,948	2,125	1,345	345	10	127	298	8,616	2,375	5,993
15-19 years	485,434	86,755	55,666	11,993	747	6,079	12,270	389,662	239,303	137,505
15 years	25,560	5,194	3,209	842	43	266	834	19,891	8,216	10,992
16 years	54,905	10,719	6,845	1,559	85	619	1,611	43,169	22,132	19,565
17 years	93,042	17,487	11,202	2,528	154	1,137	2,466	73,806	43,642	27,715
18 years	138,387	23,952	15,408	3,299	186	1,713	3,346	111,853	71,036	37,318
19 years	173,540	29,403	19,002	3,765	279	2,344	4,013	140,943	94,277	41,915
20-24 years	1,036,156	169,687	108,016	19,391	2,415	19,757	20,108	847,694	619,006	195,348
25-29 years	1,221,366	149,488	89,453	14,136	4,233	23,548	18,118	1,049,740	847,236	151,770
30-34 years	818,011	85,127	49,940	7,266	2,409	15,256	10,256	716,968	589,117	86,008
35-39 years	286,296	32,595	19,004	2,592	889	6,359	3,751	247,570	200,338	29,744
40-44 years	43,235	6,203	3,642	489	133	1,262	677	35,991	28,129	4,721
45-49 years	1,566	269	167	17	6	55	24	1,252	863	180

¹Includes origin not stated.

²Includes races other than white and black.

NOTE: Excludes Louisiana, New Hampshire, and Oklahoma, which did not report Hispanic origin of mother on the birth certificate.

Table 26. Percent of births with selected characteristics, by Hispanic origin of mother and by race of mother for mothers of non-Hispanic origin: Total of 47 reporting States and the District of Columbia, 1989

Characteristic	Origin of mother									
	All origins ¹	Total	Hispanic					Non-Hispanic		
			Mexican	Puerto Rican	Cuban	Central and South American	Other and unknown Hispanic	Total ²	White	Black
Fourth and higher-order births	10.2	15.5	17.7	12.6	5.8	12.0	12.4	9.4	7.9	14.5
Births to unmarried mothers	27.0	35.5	31.7	55.2	17.5	38.9	37.0	25.6	16.1	66.0
Mothers completing 12 years or more of school ³	76.8	47.2	38.7	56.2	82.1	56.3	65.5	81.5	84.7	70.1
Mothers born in the United States	85.2	41.3	40.0	55.3	19.2	4.0	80.7	92.2	95.9	93.0
Mothers who began prenatal care in the first trimester	75.5	59.5	56.7	62.7	83.2	60.8	66.0	78.0	82.7	59.9
Mothers who had late or no prenatal care	6.5	13.0	14.6	11.3	4.0	11.9	9.3	5.4	3.7	12.0
Births of low birth weight ⁴	7.0	6.2	5.6	9.5	5.8	5.8	6.7	7.1	5.6	13.6
Preterm births ⁵	10.6	11.1	10.7	13.8	9.3	10.7	11.3	10.5	8.4	19.0
1-minute Apgar score less than 7 ⁶	8.8	7.6	8.3	7.3	4.9	6.4	8.6	8.9	8.3	11.6
5-minute Apgar score less than 7 ⁶	1.6	1.4	1.4	1.7	1.0	1.3	1.5	1.6	1.3	2.9

¹Includes origin not stated.

²Includes races other than white and black.

³Excludes data for New York State (exclusive of New York City) and Washington, which did not require reporting of educational attainment of mother.

⁴Birth weight of less than 2,500 grams (5 lb 8 oz).

⁵Born prior to 37 completed weeks of gestation.

⁶Excludes data for California and Texas, which did not require reporting of either 1- or 5-minute Apgar score.

NOTE: Excludes Louisiana, New Hampshire, and Oklahoma, which did not report Hispanic origin of mother on the birth certificate.

Table 27. Live births by age of mother and specified race of mother and of child: United States, 1989

Age of mother	All races ¹	White	Black	American Indian ²	Asian or Pacific Islander				
					Chinese	Japanese	Hawaiian	Filipino	Other
Race of mother									
All ages	4,040,958	3,192,355	673,124	39,478	20,982	8,689	5,609	24,585	73,210
Under 15 years	11,486	4,630	6,560	138	2	3	15	16	114
15-19 years	506,503	340,472	150,699	7,608	206	230	950	1,420	4,604
15 years	26,730	13,869	12,048	405	9	16	27	63	272
16 years	57,279	34,133	21,412	900	17	16	108	128	534
17 years	97,035	63,734	30,372	1,534	37	45	182	252	819
18 years	144,350	99,302	40,868	2,133	63	56	290	354	1,199
19 years	181,109	129,434	45,999	2,636	80	97	343	623	1,780
20-24 years	1,077,598	824,189	215,557	13,106	1,650	829	1,931	4,499	14,974
25-29 years	1,263,098	1,040,659	167,260	10,394	7,150	2,538	1,559	7,226	25,417
30-34 years	842,395	702,963	94,766	5,636	8,136	3,378	808	7,248	18,895
35-39 years	293,878	242,467	32,845	2,162	3,365	1,459	291	3,454	7,606
40-44 years	44,401	35,795	5,236	417	456	247	53	696	1,452
45-49 years	1,599	1,180	201	17	17	5	2	26	148
Race of child									
All ages	4,040,958	3,131,991	709,395	49,267	22,507	10,567	8,130	26,078	79,472
Under 15 years	11,486	4,527	6,640	144	3	4	22	22	116
15-19 years	506,503	331,204	156,969	9,139	271	303	1,309	1,642	5,285
15 years	26,730	13,517	12,294	459	11	13	40	77	297
16 years	57,279	33,236	22,015	1,041	18	25	139	156	610
17 years	97,035	62,080	31,476	1,813	51	59	258	279	948
18 years	144,350	96,567	42,702	2,594	78	86	397	422	1,402
19 years	181,109	125,804	48,482	3,232	113	120	475	708	2,028
20-24 years	1,077,598	806,056	227,099	16,343	1,866	1,065	2,612	5,016	16,506
25-29 years	1,263,098	1,024,006	176,748	13,198	7,543	3,134	2,325	7,731	27,325
30-34 years	842,395	691,735	100,906	7,219	8,709	4,024	1,286	7,464	20,367
35-39 years	293,878	238,202	35,191	2,702	3,609	1,728	491	3,488	8,178
40-44 years	44,401	35,111	5,633	500	488	299	83	685	1,541
45-49 years	1,599	1,150	209	22	18	10	2	30	154

¹Includes births of other races not shown separately.

²Includes births to Aleuts and Eskimos.

Table 28. Live births by birth weight and percent low birth weight, by specified race of mother and of child: United States, 1989

Birth weight ¹	All races ²	White	Black	American Indian ³	Asian or Pacific Islander				
					Chinese	Japanese	Hawaiian	Filipino	Other
Race of mother									
Total	4,040,958	3,192,355	673,124	39,478	20,982	8,689	5,609	24,585	73,210
Less than 2,500 grams	284,391	182,335	90,720	2,469	1,026	579	408	1,806	4,836
Less than 500 grams	5,465	2,950	2,376	34	10	5	10	21	56
500-999 grams	19,880	11,346	7,976	151	49	28	22	83	213
1,000-1,499 grams	26,444	16,042	9,462	211	68	42	31	171	385
1,500-1,999 grams	54,301	34,600	17,741	476	151	117	73	313	801
2,000-2,499 grams	178,301	117,397	53,165	1,597	748	387	272	1,218	3,381
2,500-2,999 grams	649,004	455,048	159,423	5,825	3,968	1,925	1,100	5,447	15,726
3,000-3,499 grams	1,477,630	1,152,663	253,468	14,132	9,311	3,680	2,084	10,064	31,026
3,500-3,999 grams	1,183,050	1,005,114	133,422	12,026	5,442	2,014	1,524	5,699	17,057
4,000-4,499 grams	368,154	327,570	29,383	3,990	1,060	434	418	1,341	3,768
4,500-4,999 grams	65,196	58,747	4,578	832	130	46	55	192	597
5,000 grams or more	8,300	7,224	752	138	28	6	10	25	111
Not stated	5,233	3,654	1,378	66	17	5	10	11	89
Percent									
Less than 2,500 grams	7.0	5.7	13.5	6.3	4.9	6.7	7.3	7.3	6.6
Race of child									
Total	4,040,958	3,131,991	709,395	49,267	22,507	10,567	8,130	26,078	79,472
Less than 2,500 grams	284,391	178,152	93,377	3,129	1,115	679	587	1,907	5,187
Less than 500 grams	5,465	2,891	2,409	43	18	6	11	21	63
500-999 grams	19,880	11,057	8,174	185	58	40	32	83	237
1,000-1,499 grams	26,444	15,669	9,703	275	76	46	49	178	413
1,500-1,999 grams	54,301	33,778	18,261	614	167	134	103	333	871
2,000-2,499 grams	178,301	114,757	54,830	2,012	796	453	392	1,292	3,603
2,500-2,999 grams	649,004	445,323	165,275	7,319	4,258	2,147	1,580	5,680	16,780
3,000-3,499 grams	1,477,630	1,130,410	266,554	17,639	9,867	4,393	3,045	10,744	33,529
3,500-3,999 grams	1,183,050	987,398	144,059	15,014	5,910	2,672	2,190	6,079	18,815
4,000-4,499 grams	368,154	322,238	32,687	4,914	1,167	591	606	1,422	4,282
4,500-4,999 grams	65,196	57,772	5,184	1,021	142	74	92	208	671
5,000 grams or more	8,300	7,104	836	162	31	5	14	28	113
Not stated	5,233	3,594	1,423	69	17	6	16	10	95
Percent									
Less than 2,500 grams	7.0	5.7	13.2	6.4	5.0	6.4	7.2	7.3	6.5

¹Equivalents of the gram weights in pounds and ounces are shown in the Technical notes.

²Includes births of other races not shown separately.

³Includes births to Aleuts and Eskimos.

Table 29. Live births by month of pregnancy prenatal care began, age of mother, and race of mother and of child: United States, 1989

Age of mother and race	All births	Month of pregnancy prenatal care began					
		1st and 2d months	3d month	4th-6th months	7th-9th months	No prenatal care	Not stated
All races ¹	4,040,958	2,156,451	828,054	715,933	168,723	86,188	85,609
Under 15 years	11,486	2,215	1,911	4,619	1,573	758	410
15-19 years	506,503	154,932	110,790	165,589	42,886	18,992	13,314
15 years	26,730	6,090	5,285	10,282	2,950	1,307	816
16 years	57,279	14,708	11,895	21,036	5,549	2,487	1,604
17 years	97,035	27,552	21,426	32,997	8,621	3,749	2,690
18 years	144,350	44,275	31,961	46,978	12,035	5,363	3,738
19 years	181,109	62,307	40,223	54,296	13,731	6,086	4,466
20-24 years	1,077,598	492,412	232,945	239,149	59,128	29,252	24,712
25-29 years	1,263,098	757,654	252,486	170,764	37,226	20,650	24,318
30-34 years	842,395	539,640	163,261	93,677	18,914	11,094	15,809
35-39 years	293,878	183,995	57,404	34,859	7,320	4,360	5,940
40 years and over	46,000	25,603	9,257	7,276	1,676	1,082	1,106
Race of mother							
White	3,192,355	1,820,643	653,155	496,705	113,853	50,184	57,815
Under 15 years	4,630	991	797	1,744	632	317	149
15-19 years	340,472	111,405	77,965	105,809	26,819	10,590	7,884
15 years	13,869	3,417	2,921	5,066	1,477	624	364
16 years	34,133	9,333	7,473	12,051	3,136	1,279	861
17 years	63,734	19,189	14,865	20,701	5,428	2,015	1,536
18 years	99,302	32,241	22,960	31,112	7,629	3,061	2,299
19 years	129,434	47,225	29,746	36,879	9,149	3,611	2,824
20-24 years	824,189	401,875	180,340	167,889	40,706	17,185	16,194
25-29 years	1,040,659	656,209	205,971	123,256	26,006	12,044	17,173
30-34 years	702,963	469,833	134,309	67,644	13,245	6,544	11,388
35-39 years	242,467	158,737	46,435	25,059	5,219	2,761	4,256
40 years and over	36,975	21,593	7,338	5,304	1,226	743	771
Black	673,124	252,872	137,798	182,960	44,574	33,045	21,875
Under 15 years	6,560	1,174	1,066	2,768	892	415	245
15-19 years	150,699	39,522	29,756	54,375	14,377	7,907	4,762
15 years	12,048	2,533	2,216	4,877	1,350	656	416
16 years	21,412	4,995	4,101	8,359	2,174	1,139	644
17 years	30,372	7,640	5,972	11,219	2,880	1,632	1,029
18 years	40,868	10,949	8,177	14,338	3,960	2,158	1,286
19 years	45,999	13,405	9,290	15,582	4,013	2,322	1,387
20-24 years	215,557	76,320	44,491	61,218	15,330	11,206	6,992
25-29 years	167,260	73,660	34,712	37,245	8,389	7,801	5,453
30-34 years	94,766	44,886	19,496	19,214	3,959	4,074	3,137
35-39 years	32,845	15,049	7,104	6,856	1,360	1,370	1,106
40 years and over	5,437	2,261	1,173	1,284	267	272	180
Race of child							
White	3,131,991	1,790,848	640,151	484,333	111,112	49,084	56,463
Under 15 years	4,527	974	772	1,703	620	311	147
15-19 years	331,204	108,333	75,929	102,863	26,094	10,347	7,638
15 years	13,517	3,323	2,857	4,921	1,441	617	358
16 years	33,236	9,080	7,275	11,721	3,069	1,252	839
17 years	62,080	18,656	14,520	20,160	5,284	1,974	1,486
18 years	96,567	31,364	22,333	30,237	7,411	2,991	2,231
19 years	125,804	45,910	28,944	35,824	8,889	3,513	2,724
20-24 years	806,056	393,947	176,261	163,519	39,697	16,818	15,814
25-29 years	1,024,006	647,047	202,494	120,457	25,419	11,784	16,805
30-34 years	691,735	463,226	131,928	66,098	12,949	6,384	11,150
35-39 years	238,202	156,128	45,577	24,506	5,129	2,708	4,154
40 years and over	36,261	21,193	7,190	5,187	1,204	732	755

See footnotes at end of table.

Table 29. Live births by month of pregnancy prenatal care began, age of mother, and race of mother and of child: United States, 1989—Con.

Age of mother and race	All births	Month of pregnancy prenatal care began					
		1st and 2d months	3d month	4th–6th months	7th–9th months	No prenatal care	Not stated
Black	709,395	269,232	145,749	191,208	46,502	33,908	22,796
Under 15 years	6,640	1,183	1,087	2,799	903	422	246
15–19 years	156,969	41,521	31,106	56,426	14,891	8,098	4,927
15 years	12,294	2,599	2,260	4,978	1,377	660	420
16 years	22,015	5,155	4,223	8,597	2,222	1,158	660
17 years	31,476	7,980	6,190	11,587	2,987	1,668	1,064
18 years	42,702	11,496	8,596	14,954	4,109	2,213	1,334
19 years	48,482	14,291	9,837	16,310	4,196	2,399	1,449
20–24 years	227,099	81,123	47,043	64,127	16,051	11,492	7,263
25–29 years	176,748	78,399	36,758	39,069	8,810	8,003	5,709
30–34 years	100,906	48,164	20,896	20,216	4,140	4,201	3,289
35–39 years	35,191	16,377	7,608	7,202	1,420	1,411	1,173
40 years and over	5,842	2,465	1,251	1,369	287	281	189

¹Includes races other than white and black.

Table 30. Live births by month of pregnancy prenatal care began, number of prenatal visits, and race of mother and of child: United States, 1989

Number prenatal visits and race	All births	Month of pregnancy prenatal care began					No prenatal care	Not stated
		1st and 2d months	3d month	4th-6th months	7th-9th months			
All races ¹	4,040,958	2,156,451	828,054	715,933	168,723	86,188	85,609	
No visits	86,188	...	...	...	...	86,188	...
1-2 visits	74,982	8,800	6,586	19,495	37,154	...	2,947	
3-4 visits	132,074	16,174	14,599	53,208	45,234	...	2,859	
5-6 visits	243,428	45,300	41,768	112,692	40,151	...	3,517	
7-8 visits	392,788	118,535	90,619	156,595	23,107	...	3,932	
9-10 visits	763,620	350,514	212,359	183,514	11,499	...	5,734	
11-12 visits	1,031,619	676,145	243,195	103,153	4,228	...	4,898	
13-14 visits	595,756	444,117	111,079	36,684	1,453	...	2,423	
15-16 visits	391,661	301,327	62,534	24,810	1,140	...	1,850	
17-18 visits	85,342	65,878	14,165	4,669	211	...	419	
19 visits or more	131,426	100,191	19,989	9,919	594	...	733	
Not stated	112,074	29,470	11,161	11,194	3,952	...	56,297	
Race of mother								
White	3,192,355	1,820,643	653,155	496,705	113,853	50,184	57,815	
No visits	50,184	...	...	...	...	50,184	...
1-2 visits	44,869	5,418	3,870	10,545	23,510	...	1,526	
3-4 visits	82,686	10,198	9,053	31,930	29,937	...	1,568	
5-6 visits	164,788	31,865	28,756	74,446	27,607	...	2,114	
7-8 visits	289,299	92,605	68,161	109,603	16,381	...	2,549	
9-10 visits	597,801	288,235	166,390	131,124	8,172	...	3,880	
11-12 visits	869,330	585,382	200,499	76,540	3,132	...	3,777	
13-14 visits	511,880	389,021	91,941	27,900	1,095	...	1,923	
15-16 visits	325,590	255,472	50,084	17,777	853	...	1,404	
17-18 visits	72,218	56,747	11,512	3,479	163	...	317	
19 visits or more	105,904	83,195	15,170	6,619	396	...	524	
Not stated	77,806	22,505	7,719	6,742	2,607	...	38,233	
Black	673,124	252,872	137,798	182,960	44,574	33,045	21,875	
No visits	33,045	...	...	...	...	33,045	...
1-2 visits	25,937	2,964	2,439	7,978	11,320	...	1,236	
3-4 visits	41,193	5,059	4,722	17,985	12,389	...	1,038	
5-6 visits	64,101	10,887	10,461	31,603	10,027	...	1,123	
7-8 visits	81,766	19,463	17,328	38,481	5,372	...	1,122	
9-10 visits	129,131	45,994	35,560	43,406	2,698	...	1,473	
11-12 visits	123,865	66,879	32,997	22,196	901	...	892	
13-14 visits	63,231	40,304	15,000	7,236	290	...	401	
15-16 visits	51,954	35,231	10,016	6,110	240	...	357	
17-18 visits	10,079	6,800	2,147	1,004	39	...	89	
19 visits or more	21,160	13,641	4,179	2,973	179	...	188	
Not stated	27,662	5,650	2,949	3,988	1,119	...	13,956	
Race of child								
White	3,131,991	1,790,848	640,151	484,333	111,112	49,084	56,463	
No visits	49,084	...	...	...	...	49,084	...
1-2 visits	43,728	5,294	3,766	10,238	22,954	...	1,476	
3-4 visits	80,636	9,946	8,822	31,141	29,196	...	1,531	
5-6 visits	160,871	31,162	28,071	72,633	26,944	...	2,061	
7-8 visits	283,129	90,911	66,796	106,942	15,987	...	2,493	
9-10 visits	586,039	283,306	163,171	127,805	7,977	...	3,780	
11-12 visits	854,976	576,659	196,847	74,713	3,050	...	3,707	
13-14 visits	503,564	383,217	90,164	27,226	1,071	...	1,886	
15-16 visits	319,575	251,112	48,973	17,291	837	...	1,362	
17-18 visits	70,777	55,686	11,239	3,385	160	...	307	
19 visits or more	103,609	81,508	14,784	6,415	386	...	516	
Not stated	76,003	22,047	7,518	6,544	2,550	...	37,344	

See footnotes at end of table.

Table 30. Live births by month of pregnancy prenatal care began, number of prenatal visits, and race of mother and of child:
United States, 1989—Con.

Number prenatal visits and race	All births	Month of pregnancy prenatal care began					Not stated
		1st and 2d months	3d month	4th–6th months	7th–9th months	No prenatal care	
Black	709,395	269,232	145,749	191,208	46,502	33,908	22,796
No visits	33,908	...	...	...	...	33,908	...
1–2 visits	26,763	3,055	2,515	8,198	11,718	...	1,277
3–4 visits	42,637	5,223	4,890	18,545	12,912	...	1,067
5–6 visits	66,734	11,319	10,966	32,804	10,480	...	1,165
7–8 visits	85,718	20,478	18,193	40,235	5,654	...	1,158
9–10 visits	136,197	48,768	37,465	45,592	2,839	...	1,533
11–12 visits	132,093	71,673	35,135	23,402	955	...	928
13–14 visits	67,782	43,319	16,056	7,676	310	...	421
15–16 visits	55,329	37,570	10,686	6,439	246	...	388
17–18 visits	10,866	7,358	2,309	1,063	41	...	95
19 visits or more	22,489	14,551	4,445	3,114	186	...	193
Not stated	28,879	5,918	3,089	4,140	1,161	...	14,571

¹Includes races other than white and black.

Table 31. Live births by period of gestation, birth weight, and race of mother and of child: United States, 1989

Birth weight ¹ and race	Period of gestation									
	All births	Under 28 weeks	28-31 weeks	32-35 weeks	36 weeks	37-39 weeks	40 weeks	41 weeks	42 weeks and over	Not stated
All races ²	4,040,958	28,337	49,177	201,533	142,545	1,617,831	893,511	571,848	478,267	57,909
Less than 500 grams	5,465	4,957	201	15	1	1	5	1	4	280
500-999 grams	19,880	14,162	4,027	599	68	158	74	39	43	710
1,000-1,499 grams	26,444	4,322	12,941	5,731	628	1,327	292	195	299	709
1,500-1,999 grams	54,301	1,486	11,058	24,865	4,277	8,193	1,316	739	1,189	1,178
2,000-2,499 grams	178,301	1,103	5,394	51,743	23,161	65,026	13,197	6,798	8,705	3,174
2,500-2,999 grams	649,004	1,598	6,006	51,645	50,568	325,555	99,198	51,116	53,489	9,829
3,000-3,499 grams	1,477,630	-	6,407	42,213	42,198	672,559	335,926	191,604	166,792	19,931
3,500-3,999 grams	1,183,050	-	2,952	19,244	16,884	424,306	319,781	217,280	167,882	14,721
4,000-4,499 grams	368,154	-	-	4,437	3,875	102,149	103,900	84,749	64,465	4,579
4,500-4,999 grams	65,196	-	-	654	648	15,559	17,300	16,814	13,376	845
5,000 grams or more	8,300	-	-	129	122	2,047	1,994	2,130	1,726	152
Not stated	5,233	709	191	258	115	951	528	383	297	1,801
Race of mother										
White	3,192,355	15,248	29,001	132,324	101,572	1,263,365	735,950	482,819	389,020	43,056
Less than 500 grams	2,950	2,674	106	5	1	-	3	1	4	156
500-999 grams	11,346	7,948	2,375	369	38	107	51	31	31	396
1,000-1,499 grams	16,042	2,365	8,090	3,525	414	801	162	118	177	390
1,500-1,999 grams	34,600	641	6,952	16,190	2,798	5,286	848	462	726	697
2,000-2,499 grams	117,397	478	2,838	34,657	15,672	43,033	8,690	4,498	5,585	1,946
2,500-2,999 grams	455,048	774	2,951	33,399	35,801	229,685	71,237	37,419	37,332	6,450
3,000-3,499 grams	1,152,663	-	3,622	26,739	30,477	522,780	268,147	155,390	130,642	14,866
3,500-3,999 grams	1,005,114	-	1,964	13,346	12,614	356,472	275,547	190,006	143,073	12,092
4,000-4,499 grams	327,570	-	-	3,344	3,088	89,185	93,401	77,105	57,499	3,948
4,500-4,999 grams	58,747	-	-	493	514	13,626	15,714	15,507	12,160	733
5,000 grams or more	7,224	-	-	95	77	1,701	1,723	1,960	1,555	113
Not stated	3,654	368	103	162	78	689	427	322	236	1,269
Black	673,124	12,309	18,410	60,204	34,603	276,454	120,748	68,524	71,297	10,575
Less than 500 grams	2,376	2,160	89	10	-	1	2	-	-	114
500-999 grams	7,976	5,837	1,543	206	24	47	17	8	10	284
1,000-1,499 grams	9,462	1,830	4,416	1,983	193	464	117	70	112	277
1,500-1,999 grams	17,741	806	3,751	7,835	1,333	2,546	410	241	421	398
2,000-2,499 grams	53,165	592	2,392	15,133	6,546	18,868	3,860	2,001	2,782	991
2,500-2,999 grams	159,423	764	2,785	15,918	12,518	77,299	22,663	11,255	13,711	2,510
3,000-3,499 grams	253,468	-	2,484	13,146	9,739	115,352	51,972	28,149	29,228	3,398
3,500-3,999 grams	133,422	-	866	4,897	3,445	50,632	32,652	20,266	19,002	1,662
4,000-4,499 grams	29,383	-	-	846	630	9,402	7,603	5,453	5,062	387
4,500-4,999 grams	4,578	-	-	117	110	1,383	1,172	909	820	67
5,000 grams or more	752	-	-	27	31	245	196	121	102	30
Not stated	1,378	320	84	86	34	215	84	51	47	457
Race of child										
White	3,131,991	14,887	28,343	129,470	99,513	1,240,063	722,628	474,104	381,150	41,833
Less than 500 grams	2,891	2,622	103	5	1	-	3	1	4	152
500-999 grams	11,057	7,741	2,330	356	36	102	49	30	31	382
1,000-1,499 grams	15,669	2,306	7,903	3,437	405	787	159	116	174	382
1,500-1,999 grams	33,778	624	6,803	15,798	2,733	5,172	826	451	711	660
2,000-2,499 grams	114,757	468	2,764	33,892	15,333	42,111	8,475	4,398	5,444	1,872
2,500-2,999 grams	445,323	759	2,892	32,731	35,046	224,834	69,688	36,644	36,485	6,244
3,000-3,499 grams	1,130,410	-	3,536	26,178	29,901	513,084	262,974	152,415	127,859	14,463
3,500-3,999 grams	987,398	-	1,914	13,062	12,380	350,434	270,859	186,728	140,267	11,754
4,000-4,499 grams	322,238	-	-	3,278	3,020	87,771	92,002	75,834	56,482	3,851
4,500-4,999 grams	57,772	-	-	482	503	13,415	15,480	15,242	11,940	710
5,000 grams or more	7,104	-	-	92	77	1,674	1,699	1,928	1,522	112
Not stated	3,594	367	98	159	78	679	414	317	231	1,251

See footnotes at end of table.

Table 31. Live births by period of gestation, birth weight, and race of mother and of child: United States, 1989—Con.

Birth weight ¹ and race	All births	Period of gestation								
		Under 28 weeks	28–31 weeks	32–35 weeks	36 weeks	37–39 weeks	40 weeks	41 weeks	42 weeks and over	Not stated
Black	709,395	12,553	18,853	62,114	35,913	290,492	128,489	73,670	76,060	11,251
Less than 500 grams	2,409	2,192	90	10	—	1	2	—	—	11
4500–999 grams	8,174	5,974	1,579	214	26	50	18	8	10	295
1,000–1,499 grams	9,703	1,870	4,537	2,043	200	471	119	70	112	281
1,500–1,999 grams	18,261	820	3,844	8,086	1,368	2,623	422	249	428	421
2,000–2,499 grams	54,830	598	2,446	15,639	6,761	19,431	4,000	2,062	2,868	1,025
2,500–2,999 grams	165,275	777	2,835	16,368	13,000	80,196	23,512	11,711	14,244	2,632
3,000–3,499 grams	266,554	—	2,542	13,522	10,111	121,089	54,913	29,865	30,897	3,615
3,500–3,999 grams	144,059	—	892	5,095	3,600	54,313	35,390	22,205	20,718	1,846
4,000–4,499 grams	32,687	—	—	893	663	10,303	8,486	6,238	5,665	439
4,500–4,999 grams	5,184	—	—	128	118	1,529	1,323	1,069	941	76
5,000 grams or more	836	—	—	28	32	264	215	140	126	31
Not stated	1,423	322	88	88	34	222	89	53	51	476

¹Equivalents of the gram weights in pounds and ounces are shown in the Technical notes ²Includes races other than white and black.

Table 32. Live births by 1- and 5-minute Apgar scores and race of mother and of child: Total of 47 reporting States and the District of Columbia, 1989

1-minute score and race	Total	5-minute score										Not stated	
		0	1	2	3	4	5	6	7	8	9		10
All races ¹	3,115,917	2,542	6,765	3,248	3,274	4,978	9,218	19,850	50,351	235,236	2,272,165	480,760	27,530
0	2,514	1,056	351	217	179	158	114	80	80	68	117	42	52
1	20,675	724	4,979	1,111	1,398	1,625	2,015	2,389	2,230	2,080	1,879	80	165
2	20,620	153	784	1,255	740	1,439	2,129	3,092	3,440	3,886	3,460	133	109
3	26,551	60	254	266	499	801	2,101	3,924	5,350	6,520	6,444	239	93
4	38,439	21	74	125	128	421	1,289	4,264	7,902	11,397	12,310	444	64
5	59,644	16	45	57	81	111	720	3,381	11,136	19,782	23,332	908	75
6	104,176	21	31	50	61	100	196	1,638	11,549	39,240	49,064	2,128	98
7	285,103	59	36	56	63	99	248	491	6,120	82,481	187,892	7,420	138
8	1,225,521	191	79	55	65	131	248	367	1,766	67,273	1,104,802	50,198	346
9	1,274,835	223	88	33	35	66	122	170	671	2,202	881,846	388,984	395
10	30,246	9	4	-	1	3	1	4	9	39	293	29,830	53
Not stated	27,593	9	40	23	24	24	35	50	98	268	726	354	25,942
Race of mother													
White	2,432,242	1,490	3,870	1,900	1,957	3,165	6,011	13,573	36,685	181,536	1,767,932	395,303	18,820
0	1,465	550	232	134	109	101	75	50	45	40	71	25	33
1	12,981	442	2,800	674	834	1,031	1,263	1,535	1,512	1,430	1,304	64	92
2	13,858	89	448	713	453	930	1,385	2,062	2,364	2,741	2,520	97	56
3	18,428	36	141	146	273	503	1,423	2,640	3,714	4,613	4,697	191	51
4	27,534	11	38	67	85	268	862	2,925	5,578	8,253	9,046	367	34
5	44,305	5	24	32	52	66	457	2,411	8,103	14,701	17,644	760	50
6	80,466	4	14	29	38	67	119	1,173	8,765	30,149	38,270	1,772	66
7	227,309	45	28	31	37	63	165	366	4,754	64,649	150,661	6,423	87
8	978,201	143	55	42	36	79	154	267	1,328	53,086	878,913	43,843	255
9	984,109	157	61	22	23	40	83	116	461	1,697	664,120	317,060	269
10	24,793	5	4	-	1	1	1	3	6	31	248	24,463	30
Not stated	18,793	3	25	10	16	16	24	25	55	146	438	238	17,797
Black	576,668	974	2,713	1,255	1,204	1,672	2,948	5,728	12,283	46,265	424,696	69,410	7,520
0	959	468	112	73	64	48	36	26	33	24	43	15	17
1	7,077	266	2,050	410	513	555	695	777	658	575	496	14	68
2	6,142	62	318	504	258	471	681	933	967	1,035	835	35	43
3	7,357	23	105	111	208	271	615	1,187	1,502	1,707	1,542	45	41
4	9,748	10	34	53	43	144	400	1,220	2,103	2,804	2,840	68	29
5	13,582	9	20	24	28	43	245	885	2,731	4,496	4,953	125	23
6	20,720	16	16	21	22	30	73	424	2,489	7,960	9,339	305	25
7	48,867	13	7	25	22	34	75	116	1,187	15,223	31,312	809	44
8	204,318	43	15	12	27	46	85	88	378	11,889	186,564	5,090	81
9	245,535	54	21	11	11	21	34	48	195	435	186,482	58,113	110
10	4,762	4	-	-	-	2	-	1	2	8	38	4,687	20
Not stated	7,601	6	15	11	8	7	9	23	38	109	252	104	7,019
Race of child													
White	2,392,843	1,465	3,796	1,867	1,927	3,100	5,895	13,300	36,042	178,461	1,738,336	390,221	18,433
0	1,442	539	229	133	106	100	75	50	44	37	71	25	33
1	12,719	437	2,751	661	816	1,012	1,228	1,503	1,478	1,405	1,274	64	90
2	13,584	89	435	700	449	909	1,358	2,015	2,311	2,691	2,475	96	56
3	18,066	36	137	144	273	491	1,403	2,585	3,646	4,519	4,594	188	50
4	27,027	11	37	66	83	267	844	2,870	5,479	8,102	8,877	357	34
5	43,573	5	22	31	49	63	451	2,373	7,975	14,453	17,347	754	50
6	79,165	4	14	29	38	66	114	1,141	8,625	29,639	37,679	1,750	66
7	223,600	44	28	31	37	60	162	361	4,671	63,558	148,216	6,346	86
8	962,213	139	55	42	36	77	154	261	1,303	52,215	864,346	43,334	251
9	968,551	153	61	21	23	39	82	113	450	1,668	652,783	312,891	267
10	24,512	5	4	-	1	1	1	3	6	30	245	24,186	30
Not stated	18,391	3	23	9	16	15	23	25	54	144	429	230	17,420

See footnotes at end of table.

Table 32. Live births by 1- and 5-minute Apgar scores and race of mother and of child: Total of 47 reporting States and the District of Columbia, 1989—Con.

1-minute score and race	Total	5-minute score										Not stated	
		0	1	2	3	4	5	6	7	8	9		10
Black	602,081	993	2,764	1,281	1,223	1,716	3,035	5,924	12,692	48,236	443,800	72,652	7,765
0	977	478	114	74	66	49	35	26	34	26	43	15	17
1	7,269	270	2,087	418	523	566	727	801	681	590	522	14	70
2	6,339	61	325	516	261	487	699	969	1,011	1,071	861	35	43
3	7,597	23	108	112	208	280	628	1,228	1,544	1,760	1,616	48	42
4	10,101	10	35	54	44	143	412	1,259	2,171	2,907	2,961	76	29
5	14,065	10	21	25	31	47	250	914	2,821	4,656	5,138	129	23
6	21,517	16	16	21	22	30	77	440	2,562	8,280	9,712	316	25
7	51,180	15	7	25	22	35	77	119	1,234	15,915	32,824	862	45
8	214,468	45	15	12	27	47	85	93	392	12,450	195,827	5,391	84
9	255,788	55	21	12	11	22	35	51	201	461	193,995	60,812	112
10	4,926	4	—	—	—	2	—	1	2	9	39	4,848	21
Not stated	7,854	6	15	12	8	8	10	23	39	111	262	106	7,254

¹Includes races other than white and black.

NOTE: Excludes data for California, Oklahoma, and Texas, which did not require reporting of either 1- or 5-minute Apgar score.

Table 33. Live births by 5-minute Apgar score, age of mother, and race of mother and of child: Total of 47 reporting States and the District of Columbia, 1989

Age of mother and race	Total	5-minute score										Not stated	
		0	1	2	3	4	5	6	7	8	9		10
All races ¹	3,115,917	2,542	6,765	3,248	3,274	4,978	9,218	19,850	50,351	235,236	2,272,165	480,760	27,530
Under 15 years	8,842	14	38	20	20	26	54	105	229	843	6,294	1,040	159
15-19 years	388,484	390	1,125	542	563	872	1,510	3,392	7,874	33,015	281,553	53,968	3,680
15 years	20,283	22	90	38	28	53	115	227	460	1,829	14,564	2,593	264
16 years	43,672	54	153	66	75	104	175	428	965	3,843	31,611	5,765	433
17 years	74,744	80	212	99	113	180	302	650	1,552	6,395	54,115	10,342	704
18 years	111,094	112	313	135	158	229	417	960	2,213	9,325	80,622	15,624	986
19 years	138,691	122	357	204	189	306	501	1,127	2,684	11,623	100,641	19,644	1,293
20-24 years	825,744	712	1,894	945	937	1,384	2,591	5,473	14,127	65,503	601,468	123,415	7,295
25-29 years	981,135	720	1,832	899	905	1,343	2,539	5,583	14,593	70,964	718,926	154,885	7,946
30-34 years	654,666	498	1,287	593	583	914	1,700	3,581	9,411	45,632	478,309	106,478	5,680
35-39 years	223,172	178	494	207	228	368	689	1,449	3,504	16,633	161,557	35,572	2,293
40-44 years	32,698	30	86	41	37	69	122	258	590	2,528	23,256	5,240	441
45-49 years	1,176	-	9	1	1	2	13	9	23	118	802	162	36
Race of mother													
White	2,432,242	1,490	3,870	1,900	1,957	3,165	6,011	13,573	36,685	181,536	1,767,932	395,303	18,820
Under 15 years	2,906	1	12	4	7	8	18	34	76	261	2,057	387	41
15-19 years	247,331	180	552	263	279	441	813	2,006	4,862	21,536	176,842	37,569	1,988
15 years	9,291	5	34	13	11	21	54	97	204	858	6,547	1,351	96
16 years	23,844	21	68	25	34	52	84	229	533	2,185	16,858	3,568	187
17 years	46,208	37	100	43	52	86	142	371	913	4,072	32,992	7,010	390
18 years	72,681	54	170	66	85	123	233	590	1,407	6,367	51,991	11,041	554
19 years	95,307	63	180	116	97	159	300	719	1,805	8,054	68,454	14,599	761
20-24 years	615,801	387	959	535	524	860	1,639	3,641	10,066	48,977	445,817	97,754	4,642
25-29 years	805,583	442	1,091	552	569	920	1,763	4,072	11,230	57,593	589,277	132,403	5,671
30-34 years	548,505	333	858	372	389	634	1,209	2,589	7,305	37,539	400,786	92,169	4,322
35-39 years	184,893	125	333	144	161	256	472	1,043	2,680	13,568	133,846	30,489	1,776
40-44 years	26,329	22	58	30	27	44	87	183	449	1,970	18,703	4,403	353
45-49 years	894	-	7	-	1	2	10	5	17	92	604	129	27
Black	576,668	974	2,713	1,255	1,204	1,672	2,948	5,728	12,283	46,265	424,696	69,410	7,520
Under 15 years	5,754	10	26	16	13	18	34	71	147	559	4,105	642	113
15-19 years	130,638	202	555	270	270	409	668	1,315	2,835	10,595	96,790	15,209	1,520
15 years	10,462	17	55	25	17	31	58	125	246	919	7,627	1,189	153
16 years	18,627	32	83	39	39	49	89	191	411	1,551	13,857	2,063	223
17 years	26,509	43	107	54	60	92	154	264	603	2,131	19,592	3,131	278
18 years	35,495	55	140	66	69	103	174	353	755	2,731	26,413	4,240	396
19 years	39,545	55	170	86	85	134	193	382	820	3,263	29,301	4,586	470
20-24 years	185,008	302	888	383	388	496	900	1,698	3,753	14,667	136,871	22,345	2,317
25-29 years	141,713	254	693	326	304	387	701	1,357	2,953	11,121	104,542	17,128	1,947
30-34 years	80,579	152	393	196	162	252	432	872	1,807	6,512	58,754	9,911	1,136
35-39 years	28,239	48	135	52	58	95	181	347	671	2,386	20,278	3,569	419
40-44 years	4,555	6	22	11	9	15	29	65	112	408	3,230	584	64
45-49 years	182	-	1	1	-	-	3	3	5	17	126	22	4
Race of child													
White	2,392,843	1,465	3,796	1,867	1,927	3,100	5,895	13,300	36,042	178,461	1,738,336	390,221	18,433
Under 15 years	2,846	1	12	4	7	8	18	34	74	249	2,016	383	40
15-19 years	241,268	175	537	258	273	423	784	1,951	4,746	21,034	172,334	36,822	1,931
15 years	9,086	5	33	13	10	20	52	95	198	839	6,400	1,327	94
16 years	23,266	20	66	25	34	52	81	223	519	2,141	16,446	3,481	178
17 years	45,129	35	99	42	52	82	137	359	899	3,983	32,193	6,865	383
18 years	70,870	54	163	64	83	116	227	574	1,378	6,225	50,605	10,844	537
19 years	92,917	61	176	114	94	153	287	700	1,752	7,846	66,690	14,305	739
20-24 years	603,715	380	944	521	518	842	1,605	3,543	9,877	48,001	436,733	96,228	4,523
25-29 years	794,812	439	1,073	547	559	905	1,731	4,014	11,064	56,812	581,095	131,005	5,568
30-34 years	541,332	325	843	369	385	626	1,194	2,546	7,188	36,994	395,419	91,191	4,252
35-39 years	182,106	123	324	138	157	251	467	1,024	2,636	13,355	131,770	30,115	1,746
40-44 years	25,889	22	56	30	27	43	86	183	443	1,927	18,376	4,350	346
45-49 years	875	-	7	-	1	2	10	5	14	89	593	127	27

See footnotes at end of table.

Table 33. Live births by 5-minute Apgar score, age of mother, and race of mother and of child: Total of 47 reporting States and the District of Columbia, 1989—Con.

Age of mother and race	Total	5-minute score										Not stated	
		0	1	2	3	4	5	6	7	8	9		10
Black	602,081	993	2,764	1,281	1,223	1,716	3,035	5,924	12,692	48,236	443,800	72,652	7,765
Under 15 years	5,806	10	25	16	13	18	34	71	148	568	4,145	644	114
15–19 years	135,067	207	569	275	275	423	697	1,357	2,912	10,962	100,092	15,747	1,551
15 years	10,628	17	55	25	18	32	61	127	251	934	7,744	1,210	154
16 years	19,036	33	84	39	39	49	92	195	417	1,581	14,153	2,123	231
17 years	27,305	45	108	55	60	95	159	273	611	2,192	20,188	3,236	283
18 years	36,797	55	147	68	71	108	179	367	776	2,836	27,409	4,380	401
19 years	41,301	57	175	88	87	139	206	395	857	3,419	30,598	4,798	482
20–24 years	193,216	307	903	395	389	508	921	1,770	3,876	15,302	143,057	23,400	2,388
25–29 years	148,371	257	702	329	312	395	723	1,393	3,053	11,611	109,591	17,989	2,016
30–34 years	84,778	157	401	200	166	257	441	904	1,870	6,827	61,916	10,457	1,182
35–39 years	29,841	49	140	54	59	99	186	361	709	2,514	21,449	3,779	442
40–44 years	4,813	6	23	11	9	16	30	65	117	434	3,421	613	68
45–49 years	189	–	1	1	–	–	3	3	7	18	129	23	4

¹Includes races other than white and black.

NOTE: Excludes data for California, Oklahoma, and Texas, which did not require reporting of 5-minute Apgar score.

Technical notes

Source of data

Data shown in this report for 1989 are based on 100 percent of the birth certificates in all States and the District of Columbia. The data are provided to the National Center for Health Statistics (NCHS) through the Vital Statistics Cooperative Program (VSCP). In 1984 and earlier years, the VSCP included varying numbers of States that provided data based on 100 percent of their birth certificates. Data for States not in the VSCP were based on a 50-percent sample of birth certificates filed in those States. Information on sampling procedures and sampling errors for 1984 and earlier years is provided in the annual report, *Vital Statistics of the United States*, Volume I, Natality.

The 1989 revision of the U.S. Standard Certificate of Live Birth includes items to identify the Hispanic or ethnic origin of the newborn's mother and father. Data for Hispanic origin shown in this report with one exception are for the 47 States and the District of Columbia that reported this information in 1989. The one exception is the table which shows estimated birth and fertility rates by Hispanic origin. This topic is discussed in the section below on population denominators.

Race

Beginning with the 1989 data year, NCHS is tabulating its birth data primarily by race of the mother. In 1988 and prior years, births were tabulated by the race of the child, which was determined from the race of the parents as entered on the birth certificate. When the parents were of the same race, as was the case for 96.6 percent of births in 1989, the race of the child was the same as the race of the parents. When the parents were of different races and one parent was white, the child was assigned to the other parent's race. When the parents were of different races and neither parent was white, the child was assigned to the father's race, with one exception. If either parent was Hawaiian, the child was assigned to Hawaiian. If race was

missing for one parent, the child was assigned the race of the parent for whom race was reported.

The most important factor influencing the decision to tabulate births by race of the mother is the recent revision of the birth certificate, effective with the 1989 data year. This revision includes many more health questions which are directly associated with the mother (for example, method of delivery, medical risk factors for this pregnancy, tobacco and alcohol use during pregnancy, and maternal weight gain). Additionally, many of the other items on the birth certificate for more than two decades also relate directly to the mother, for example, her marital status, her education level, and her receipt of prenatal care. In all these instances, it is more appropriate to tabulate births by the mother's race.

A second factor has been the increasing incidence of interracial parentage. In 1989, 3.4 percent of births were to parents of different races compared with just 1.0 percent 20 years ago. The majority of these births were to white mothers and fathers of another race. There have been two major consequences of the increasing interracial parentage. One is the effect on birth rates by race. The number of white births under the pre-1989 procedures has been arbitrarily limited to infants whose parents were both white (or one parent if only one parent's race was reported). At the same time, the number of births of other races has been arbitrarily increased to include all births to white mothers and fathers of other races. Thus, if race of mother had been used, birth rates per 1,000 white women in a given age group would have been higher while comparable rates for black women and women of other races would have been lower. The other consequence of increasing interracial parentage is its impact on the racial differential in various characteristics of births, particularly in cases where there is generally a large racial disparity, such as the incidence of low birth weight. In this instance, the racial differential is smaller when the data are tabulated by race of child than by race of mother. The same effect has been noted for characteristics such as

nonmarital childbearing, preterm births, late or no prenatal care, and low educational attainment of mother.

The third factor influencing the decision to tabulate births by race of mother is the growing proportion of births with race of father not stated, 15 percent in 1989 compared with 7 percent in 1968. This reflects the increase in the proportion of births to unmarried women; in many such cases, no information is reported on the father. These births are already assigned the race of the mother because there is no alternative. Tabulating births by race of mother will provide for a more uniform approach, rather than a necessarily arbitrary combination of parental races. This topic is discussed in greater detail in a recent paper (16).

It is evident that this change in the racial classification of births will present challenges to those analyzing birth data by race, particularly trend data. The problem is likely to be acute for races other than white and black. In order to facilitate continuity and analysis of the data, key published tables for births in 1989 and 1990, including all trend tables, will show data for both race of mother and race of child. This will make it possible to distinguish the effects of this change from real changes in the data. The text in this report focuses on data tabulated by race of mother except where trends are discussed. In the latter case, the analysis is based on data tabulated by race of child.

Population denominators

Birth and fertility rates for 1989 shown in tables 1, 3-5, and 12 are based on populations estimated as of July 1, 1989. The population estimates for the United States were published by the U.S. Bureau of the Census (17) and are based on the 1980 census count. The 1980 census counts by race were modified to be consistent with Office of Management and Budget categories and historical categories for birth data. The modification procedures are described in detail in a U.S. Bureau of the Census report (18).

Birth and fertility rates by month shown in table 8 are based on monthly

population estimates also based on the 1980 census count. Rates for unmarried women shown in tables 16 and 17 are based on distributions of the population by marital status as of March 1989 (19) published by the U.S. Bureau of the Census which have been adjusted to July 1989 population levels by the Division of Vital Statistics, NCHS.

Birth and fertility rates for the Hispanic population, shown in table 24, are based on estimates of the Hispanic population from the Current Population Survey conducted in March 1989 (12). The estimates for March have been adjusted to July 1989 population levels so that the rates in table 23 may be compared with those in tables 1 and 3-5. Beginning with 1986, the Current Population Survey figures include estimates of undocumented immigrants (20). The effect of this change is to reduce the levels of some birth and fertility rates by about 1 percent.

Computation of rates

In computing birth rates by live-birth order, births with birth order not stated were distributed in the same proportion as births of known live-birth order within each age of mother classification. This procedure is done separately by race. A similar process is followed for computing birth rates by age of father.

In computing birth and fertility rates for the Hispanic population, births with origin of mother not stated are included with non-Hispanic births rather than being distributed. Thus, rates for the Hispanic population are underestimates of the true rates to the extent that the births in the reporting area with origin of mother not stated (1.9 percent) were actually to Hispanic mothers. In order to compute rates for the Hispanic population for the United States as a whole, estimates were made of births by Hispanic origin and age of mother for the three nonreporting States, Louisiana, New Hampshire, and Oklahoma. The resulting rates are, therefore, estimated for the United States.

The population with origin not stated was imputed. The effect on the rates is believed to be small.

Births by marital status of mother

Beginning with 1980 data, national estimates of births to unmarried women have been derived from two sources. In 1989 marital status was reported directly on the birth certificates of 44 States and the District of Columbia. In the remaining six States, which lack such an item, marital status is inferred from a comparison of the child's and parents' surnames. This procedure represents a substantial departure from the method used before 1980 to prepare national estimates of births to unmarried women, which assumed that the incidence of births to unmarried women in States with no direct question on marital status was the same as the incidence in reporting States in the same geographic division.

The current method represents an attempt to use related information on the birth certificate to improve the quality of national data as well as to provide data for the individual nonreporting States. An evaluation of this method and its validity for California (the largest nonreporting State) has been published (21). Because of the continued substantial increases in nonmarital childbearing throughout the 1980's, the data have been intensively evaluated. There has been continuing concern that the current method might overstate the number of births to unmarried women because it incorporates data based on a comparison of surnames. This is because births to women who have retained their maiden surname as their legal surname after marriage and who are frequently older, well-educated women, would be classified as nonmarital births. The results of the evaluation have been generally similar in both the reporting States and the States using inferential data, but nonmarital births have increased at a slightly faster rate in the States with a marital status item on the

birth certificate than in the States providing inferential data. This pattern was observed for both white and black births.

Birth weight

Birth weight is reported in some areas in pounds and ounces rather than in grams. However, the metric system has been used in tabulating and presenting the statistics to facilitate comparison with data published by other groups. Equivalents of the gram weights in terms of pounds and ounces are as follows:

Less than 500 grams	= 1 lb 1 oz or less
500-999 grams	= 1 lb 2 oz-2 lb 3 oz
1,000-1,499 grams	= 2 lb 4 oz-3 lb 4 oz
1,500-1,999 grams	= 3 lb 5 oz-4 lb 6 oz
2,000-2,499 grams	= 4 lb 7 oz-5 lb 8 oz
2,500-2,999 grams	= 5 lb 9 oz-6 lb 9 oz
3,000-3,499 grams	= 6 lb 10 oz-7 lb 11 oz
3,500-3,999 grams	= 7 lb 12 oz-8 lb 13 oz
4,000-4,499 grams	= 8 lb 14 oz-9 lb 14 oz
4,500-4,999 grams	= 9 lb 15 oz-11 lb 0 oz
5,000 grams or more	= 11 lb 1 oz or more

Period of gestation and birth weight

The 1989 revision of the U.S. Standard Certificate of Live Birth includes a new item, "clinical estimate of gestation," that is being compared with length of gestation computed from the date the LMP began when the latter appears to be inconsistent with birth weight. This is done for normal weight births of apparently short gestations and very low birth weight births reported to be full term. The clinical estimate was also used if the LMP date was not reported. The period of gestation for 3.7 percent of the births in 1989 was based on the clinical estimate of gestation. For all but 0.2 percent of these records, the clinical estimate was used because the LMP date was not reported. For the remaining 0.2 percent, the clinical estimate was used because it was compatible with the reported birth weight, whereas the LMP-based gestation was not. In cases where the reported birth weight was inconsistent with both the LMP-computed gestation and the clinical estimate of gestation, the LMP-computed gestation was used and birth weight was reclassified as "not stated."

This was necessary for only 0.01 percent of all birth records in 1989. These changes resulted in only a very small discontinuity in the data.

Computation of percents, percent distributions, and medians

Births with unknown live-birth order, attendant at birth, educational attainment of mother, nativity of mother, month of pregnancy in which prenatal care began, number of prenatal visits, birth weight, length of gestation, and 1- and 5-minute Apgar scores were subtracted from the figures for total births that were used as denominators before percents, percent distributions, and medians were computed. In the case of birth intervals, the percent distributions exclude the second, or later, born child in a multiple delivery (interval of 0 months). Percent distributions and the median number of prenatal visits also exclude births to mothers who had no prenatal care. Computations of the median years of school completed and the median number of prenatal visits were based on ungrouped data. Beginning in 1989 an asterisk is shown in place of any derived statistic based on fewer than 20 births in the numerator or denominator.

Random variation

Although the birth data in this report for births since 1985 are not subject to sampling error, they may be affected by random variation in the number of births involved. When the number of events is small (perhaps less than 100) and the probability of such an event is small, considerable caution must be observed in interpreting the data. More information on this topic is included in the Technical Appendix of the annual report, *Vital Statistics of the United States*, Volume I, Natality, 1988.

Related reports

Throughout this report, reference has been made to the 1989 revision of the U.S. Standard Certificate of Live Birth. This report describes birth rates and characteristics of births which have

been based on data available on previous versions of the birth certificate. A second supplement to the Monthly Vital Statistics Report for 1989 birth data will be published and will present summary data on all the new topics included on the new birth certificate. These include method of delivery, tobacco and alcohol use during pregnancy, maternal weight gain, obstetric procedures, medical risk factors, complications of labor and delivery, abnormal conditions of the newborn, and congenital anomalies of the child.

Many of the topics discussed in this report are covered in more analytic detail in other reports published by NCHS. Topics of reports published in the past 5 years include American Indian and Alaska Native births (22), first-births to older mothers (1), low birth weight (23), birth rates by educational attainment (7), and births of Hispanic parentage (24,25). Also available is a report evaluating inferred birth statistics for unmarried women in California (21).

This report presents summary tabulations from the final natality statistics for 1989. More detailed tabulations for 1989 will be published in *Vital Statistics of the United States, Volume I—Natality*. Prior to the publication of that volume, the National Center for Health Statistics will respond to requests for unpublished data whenever possible.

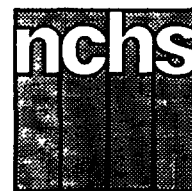
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Monthly Vital Statistics Report



Final Data From the CENTERS FOR DISEASE CONTROL AND PREVENTION/National Center for Health Statistics

Advance Report of Final Marriage Statistics, 1989 and 1990

by Sally C. Clarke, Division of Vital Statistics

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1984. The rate of marriage in 1990 (9.8 per 1,000 population) was also slightly higher than in 1989 (9.7). However, provisional data indicate that the increase in the number and rate of marriages was temporary and declined each year from 1991 to 1993.

First marriage rates were highest for men and women in their mid- and late-20's. Single (never married) women ages 25-29 were more than 5 times as likely to marry in 1990 as single women 40-44 years of age and 14 times as likely to marry as single women ages 50-54. The drop by age was not as steep for men as for women. Single men ages 25-29 were approximately four times as likely to marry as single men 40-44 years of age and eight times as likely to marry as single men ages 50-54. Marriage rates were very low for single men and women in age groups over 55 years. About a quarter of divorced men and women 20-24 years of age remarried in 1990.

The marriage rates for previously divorced men and women consistently declined with additional age.

The age distribution of brides and grooms shifted to older ages during the 1970's and 1980's. In 1990 proportionately fewer brides and grooms were under 25 years of age when they first married and more brides and grooms were between 25 and 39 years of age than in 1970.

The median age of previously single brides was 24.0 years, about 10 years younger than the median age for previously divorced brides and 30 years younger than the median age for previously widowed brides. Previously single grooms were 10.5 years younger than previously divorced grooms and about 37 years younger than previously widowed grooms. Since 1970 the median age for previously single and widowed brides has increased by about 3 years, while the median age for previously divorced

Highlights

A total of 2,443,489 couples married in the United States in 1990, a 2-percent increase over the number for 1989 (2,403,268) and the highest number since

Acknowledgments

This report was prepared under the general direction of Robert L. Heuser, Chief of the Natality, Marriage, and Divorce Statistics Branch. Donna L. Wright provided clerical support. Sherry Murphy of the Statistical Resources Branch collected, evaluated, and processed county data on which the U.S. figures are based and provided statistical tables and content review. Gail Parr provided computer programming support. Patricia Day, David Justice, Jenny Justice, Ann Scarlett, and Elsie Stanton of the Technical Services Branch carried out quality evaluation and acceptance procedures for the State data files on which this report is based. Staff of the Registration Methods Branch consulted with State vital statistics offices regarding the collection of the marriage certificate data on which this report is based. This report was edited by Thelma Sanders and typeset by Jacqueline M. Davis of the Publications Branch, Division of Data Services.



U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES
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Centers for Disease Control and Prevention
National Center for Health Statistics



brides has increased by about 4 years. Previously single and divorced grooms were about 3 years older in 1990 than in 1970, while previously widowed grooms were about 4 years older.

The majority of marriages in 1990 were between spouses entering first marriages (54 percent). The next most frequent combination was that both spouses were previously divorced (20 percent). Relatively few were both widowed (1 percent). The remaining quarter of marriages were between partners with differing marital histories.

White brides and grooms were younger than black brides and grooms at first marriage and were also younger at remarriage after divorce. The rate of marriage in 1990 was 76 percent higher for white women than black women and 55 percent higher for white men than black men. Except for first marriages to men and women 40 years of age and over, the rate of first marriage and remarriage in all age categories was higher for white men and women than for their black counterparts.

The data in tables 1–3 are derived from total counts of marriages that are available for all 50 States and the District of Columbia. The data in tables 4–11 contain detailed demographic information about brides and grooms. This information is drawn from a sample of certificates of marriages performed in the marriage-registration area (MRA), which is composed of 42 States and the District of Columbia. Marriages in the MRA sample in 1990 were representative of 77 percent of all U.S. marriages. See Technical notes for further information on the data in this report.

Number and rates

There were 2,443,489 marriages performed in the United States in 1990, a 2-percent increase over the number for 1989 and the highest number since 1984 (table 1). Provisional data indicate that the increase in marriages from 1988 to 1990 is followed by consecutive declines—from 2,371,000 in 1991 to 2,362,000 in 1992 to 2,334,000 in 1993. Over the last 50 years, the number of marriages has varied between a low of 1,451,000 in 1958 and a high of around 2,477,000 in 1984. There was an increase

in marriages at the beginning of World War II, an abrupt drop in 1943 and 1944 when millions of young men were overseas in the Armed Forces, and a postwar surge to 2.3 million in 1946, a figure that was not exceeded until 1979. The postwar surge receded quickly during the late 1940's and the annual total fluctuated around 1.5 or 1.6 million in the 1950's. During the 14-year period from 1959 to 1973 the annual total of marriages increased every year, reaching 2.3 million again in 1973. During the mid-1970's marriages dipped for 2 years before resuming their upward trend. The annual marriage total fluctuated again in the 1980's, reached an all-time high in 1984 and then declined every year from 1984 through 1988. The number increased in 1989 and again in 1990 followed by consecutive declines in 1991–93.

The rate of marriage increased slightly between 1989 (9.7 per 1,000 total population) and 1990 (9.8), returning to the level of 1988. The increase in the marriage rate appears to be a minor aberration in a trend of declining rates. According to provisional data, the marriage rate declined in 1991 (9.4) and fell sharply to 9.0 by 1993. Unlike the trend in the number of marriages that was generally upward during the 1940–90 period, the marriage rate has cycled up and down several times in response to wars, economic cycles, variations in the

number of young adults reaching marriageable ages, and changes in marital patterns (figure 1). The rate per 1,000 total population reached a historic high of 16.4 in 1946 in the wake of demobilization, and a low of 8.4 in 1958 when an economic recession combined with small numbers of young adults reaching marriageable ages. The rate rose again, crested at 10.9 in 1972 (less than the record high) and fell to 9.9 in 1976–77 before another, weaker recovery to 10.6 in 1980–82. After 1982 the marriage rate declined to 9.7 per 1,000 population in 1989, increased slightly in 1990 and then declined to 9.0 by 1993.

One of the underlying factors that accounts for cycles in the marriage rate is the variation in the number of unmarried young adults who reach marriageable age. A rate that takes into account these fluctuations is the marriage rate per 1,000 unmarried women 15–44 years of age. The marriage rate reached a record high of 199.0 per 1,000 unmarried women 15–44 years of age in 1946. Then the rate drifted generally downward, dropping below 100 in 1983 and continuing downward to an all-time low of 91.0 in 1988. The rate increased slightly in 1989 and again in 1990, to 91.3. Even though there are variations in the size of the marriageable population, the general decline in this rate indicates that fewer eligible women are marrying than did so in the past.

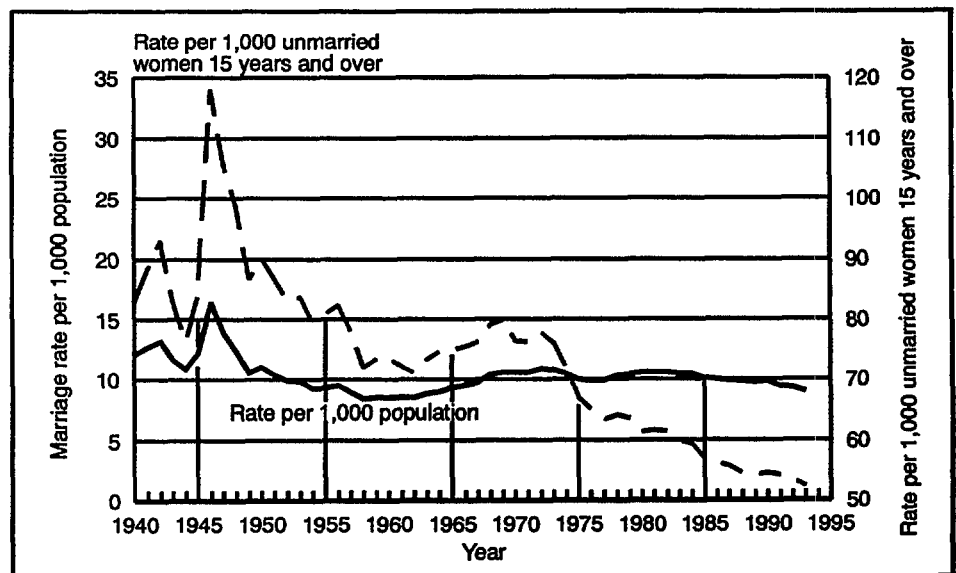


Figure 1. Marriage rates: United States, 1940–93

Geographic variation

The data in table 2 show that compared with 1989, the number of marriages for 1990 was higher in 27 States and the District of Columbia and lower in 23 States. The number of marriages in 1990 was lower than in 1989 for all States in the Northeast, although the declines were small (less than 6 percent). In contrast, the number of marriages was higher in 1990 than in 1989 for every State in the West except Alaska, where the number was virtually unchanged. The only State with a striking difference in the number of marriages between 1989 and 1990 was Illinois—a 17-percent increase. The increase in marriages in Illinois was associated with the discontinuation of a State law that required all applicants for marriage licenses to have blood tests for human immunodeficiency virus (HIV) infection (1). The law went into effect in January 1988 and the number of marriages in Illinois was sharply lower for that year (78,302) than in 1987 (95,613). The number of Illinois residents that married in neighboring States increased substantially in 1988. Presumably many residents of Illinois chose to marry in other States due to the mandatory HIV test. The law requiring the HIV test was repealed in June 1989 and the number of marriages in Illinois partially rebounded, to 85,720 in 1989. The sharp increase in the number of marriages in 1990 probably reflects the fact that this was the first full year since 1987 in which the HIV test was not required. This experience in Illinois is an example of how State laws can play a part in decisions of where to marry. Neither the bride nor groom are required to be a resident of the State in which they marry, so couples may easily choose to marry out of their resident State.

Marriage rates based on the place where the couple married differed by region of the country and by State (table 2). In 1990, as in previous years, rates for the Northeast and Midwest (8.0 and 8.7 per 1,000 population) were substantially lower than rates for the South (10.9) and West (11.0). These differences were even more pronounced in 1980. Compared with 1989, the marriage rate in 1990 declined 2 percent in the Northeast, rose 1 percent in the Midwest and West and rose 2 percent in the South.

Rates of marriage varied considerably among States, from 7.1 in Pennsylvania to 16.4 in Hawaii and 99.0 in Nevada. Most States had marriage rates in 1990 that differed by less than 6 percent from the marriage rate in 1989. However, Illinois and South Dakota had substantial increases in their marriage rates, 17 and 9 percent, while the rate for Delaware declined by 7 percent.

Monthly and daily variation

In 1990 marriages continued to follow the typical seasonal swings from low in the winter to high in the summer months (table 3). June was the month in which the greatest number of couples married (280,218) and January had the fewest (117,310). Compared with 1989, April, July, and December had fewer marriages while the remaining months had more. Some of the annual variations in monthly totals correspond to the number of Saturdays a month contains in a particular year. More than half of U.S. marriages were performed on Saturdays, therefore, having a fifth Saturday among the 30 or 31 days in a month causes a substantial increase in the monthly marriage total.

Total marriage rate

The total marriage rate combines a set of annual age-specific rates to show the total number of marriages that 1,000 men and 1,000 women would be expected to have during their lifetimes. In 1990 the total marriage rate per thousand was 1,130.0 for women and 1,143.8 for men (table 4). This means that if current age-specific rates were to continue, there would be 1,130.0 marriages per 1,000 women and 1,148.8 marriages per 1,000 men during their lifetimes. The rate may be separated into a first marriage rate and a remarriage rate. In 1990 the total first marriage rate was 714.6 for women and 695.5 for men. Thus, 71 percent of women and 70 percent of men would be expected to marry at least once. Total first marriage rates for women and men were lower in 1990 than in 1989. In contrast, the total remarriage rates increased from 1989 to 1990. The total remarriage rate for 1990 was 415.4 per 1,000 for women and 448.3 per 1,000 for men. Some of

these remarriages would be third- or higher order marriages.

Rates by marital status and age

The marriage rates for unmarried women aged 15–44 and 15 years of age and over in table 1 show the trend in marriage for all unmarried women without regard to whether they were single or had been divorced or widowed. Information about the previous marital status of bride and groom is available from 38 States and the District of Columbia in the MRA. There is much variation in marriage rates by previous marital status and the trends in these rates are important for understanding the changes in the more general marriage rates.

It is clear from the data in table 5 that marriage rates for both sexes and for each previous marital status have dropped substantially since 1970. The marriage rate for single and divorced women dropped 38 percent; and for widowed women, 49 percent. The marriage rate for single and widowed men dropped 42 and 41 percent; and for divorced men, 48 percent. Table 5 also shows that the likelihood of marriage varies enormously according to previous marital status. In 1990 the marriage rate for single women was 57.7 per 1,000, 24 percent below the marriage rate for divorced women (76.2) but more than 10 times the rate for widows (5.2). The 1990 marriage rate for single men (47.0 per 1,000) was less than half the rate for divorced men (105.9), but almost twice the rate for widowed men (23.8). The marriage rates were higher for divorced than for single persons and rates were much higher for single and divorced than for widowed persons.

Throughout the 1970–90 period, marriage rates for single women were consistently higher than marriage rates for single men. In contrast, marriage rates for divorced women were consistently lower than marriage rates for divorced men, and marriage rates for widowed women were about one-fourth of the rates for widowed men.

Table 6 shows marriage rates specific for age as well as previous marital status of brides and grooms. First marriage rates

reached a peak for men and women in their mid- and late-20's. For example, in 1990 the marriage rate for single women was 28.2 per 1,000 for those 15–19 years of age, rose to 109.4 for those 25–29, and dropped substantially with each additional 5 years of age. Single women ages 25–29 were more than 5 times as likely to marry as single women 40–44 and 14 times as likely to marry as single women 50–54. The marriage rate for single men 15–19 years of age was 10.3 per 1,000, climbed to 95.7 at 25–29 years of age and then also dropped with each additional 5 years of age. The decline, however, was not as steep as that for women. Single men aged 25–29 years were approximately four times as likely to marry as single men 40–44 and eight times as likely to marry as single men aged 50–54 years. Marriage rates were very low for single men and women in age groups over 55 years.

At younger ages, marriage rates for single and divorced women were higher than rates for men. There is a crossover point at which marriage rates for men exceed the rates for women. For example, single women who were in age groups between 15–34 years had higher rates than their male counterparts but the reverse was true for age groups over 35 years. Divorced women 20–24 years of age had higher marriage rates than divorced men in the same age category, but lower marriage rates for every age group over 25 years.

Previous marital status

The majority of marriages united brides and grooms that were both single (54 percent) (table 7). The next most frequent combination was that both spouses were divorced (20 percent). Relatively few marriages united partners who were both widowed (1 percent). The remaining quarter of marriages were between partners with differing marital histories. In 1990 the proportion of single brides that married previously divorced grooms was the same as the proportion of divorced brides that married single grooms (11 percent each). Widowed men married divorced and widowed women also in equal proportions (1 percent each). During the 1970's when the number of divorces was climbing

steadily, the proportion of brides and grooms that had been divorced also increased and the proportion of first marriages for brides and grooms declined. For example, from 1970 to 1990 the percent of marriages where both spouses were previously divorced increased from 11 to 20 percent. During the same time period, marriages between two previously single spouses declined from 69 to 54 percent.

Age at marriage

There was a shift in the age distribution of marriages to older ages during the 1970's and 1980's (table 8). In 1990, 17 percent of the previously single brides were teenagers, down from 30 percent in 1980 and 42 percent in 1970. In 1990, 41 percent of the previously single brides were 20–24, down from 46 percent in 1970. The biggest change in the age distribution was the increase in the proportion of previously single brides who were between 25 and 39 years of age—from 11 percent in 1970 to 41 percent in 1990. The proportion of brides that were 25–29 when they married for the first time doubled from 1970 (8 percent) to 1980 (16 percent) and more than tripled from 1970 to 1990 (27 percent). The ages of previously single grooms showed the same shift after 1970 with a decrease in the proportion of single grooms under 25 years of age and a corresponding increase in the proportion between 25 and 39 years of age. There was less change between 1970 and 1990 in the distribution of marriages by age of divorced than of single brides. The percent of previously divorced brides that were 25–39 years of age increased from 50 percent in 1970 to 63 percent in 1990.

Table 9 shows the median and mean ages at marriages by previous marital status of the bride and groom. The mean age of previously single brides was 25.0 years, about 10.5 years younger than the mean age for previously divorced brides (35.6 years) and about 28 years younger than for previously widowed brides (53.4). Previously single grooms were about 12 years younger than previously divorced grooms, 26.9 and 39.0 years, and about 34 years younger than previously widowed grooms (61.1 years). Since 1970 the mean age for previously

single, divorced, and widowed brides has increased by about 3 years. Previously single and widowed grooms were also about 3 years older in 1990 than in 1970 while previously divorced grooms were slightly more than 2 years older.

Race

In 1989 and 1990, 34 States reported the race of bride and groom on marriage records. In 1990 among brides for whom race was stated, 87 percent were white brides, 11 percent were black brides, and 2 percent were brides of other races. The proportions were similar for grooms (table 10). Of the marriages where race was reported for bride and groom, 85 percent were both white, 11 percent were both black, and 1 percent were both of other races (data not shown). Only 3 percent of couples in the 34-State area married interracially.

The marriage patterns by previous marital status and age differ by race. In 1990 about one-third of the white brides and grooms had been divorced compared with only a quarter of the black brides and grooms. The mean ages at marriage show that white brides and grooms are younger than black brides and grooms at first marriage and at remarriage after divorce (table 10).

Marriage rates for 1990 by race, previous marital status, and age are shown in table 11. The overall marriage rate for white women (58.8 per 1,000) was 76 percent higher than the rate for black women (33.5). The difference between races in marriage rates was narrower for men; the rate for white men (71.2) was 55 percent higher than the rate for black men (45.9). For all age groups under 55 years, marriage rates for white women were more than twice those of black women with the largest difference between races in the 15–19 age group—41.2 compared with 14.8. The difference in the age-specific rates between white and black men were generally not as pronounced as for women. Similar to the findings for women, the age group at which the disparity was greatest was 15–19 years—15.2 for white men compared with 5.0 for black men. Other studies have also found much higher rates of marriage for white than black men and women (2,3). In

particular, it has been noted that marriages among black teenagers have become extremely rare (4).

Except for first marriages at ages 40 years and over, marriage rates were higher for white women and men than black women and men for all previous marital status and age combinations. For first marriages, the rate for white women (72.5) was 91 percent higher than the rate for black women (38.0). White men first married at rates 50 percent higher than black men—58.9 compared with 39.2. The pattern in first marriage rates by age was the same for both races, peaking at 25–29 years of age and decreasing steadily thereafter. For all age groups under 40 years, first marriage rates for white men and women were higher than for black men and women. However, for men and women first marrying at 40 years of age and over, the relationship reversed and the rates were higher for

black persons than for white persons. For remarriages following divorce and widowhood, the rates for white women and men were higher than for black women and men for every age category. The disparities were greatest at the younger age groups and the rates converged with additional age.

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Table 1. Marriages and marriage rates: United States, 1940–93

[Data refer only to events occurring within the United States. Alaska included beginning 1959 and Hawaii beginning 1960. Beginning with 1978, data include nonlicensed marriages registered in California; see Technical notes. Rates per 1,000 population enumerated as of April 1 for 1940, 1950, 1960, 1970, and 1980 and estimated as of July 1 for all other years]

Year	Number	Rate per 1,000 population—				
		Total population	Men 15 years of age and over ¹	Women 15 years of age and over ¹	Unmarried women 15 years of age and over	Unmarried women 15–44 years of age
Provisional:						
1993	2,334,000	9.0	---	---	52.3	86.8
1992	2,362,000	9.3	---	---	53.3	88.2
1991	2,371,000	9.4	---	---	54.2	89.0
Final:						
1990	2,443,489	9.8	26.0	24.1	54.5	91.3
1989	2,403,268	9.7	25.8	23.9	54.2	91.2
1988	2,395,926	9.8	26.0	24.0	54.6	91.0
1987	2,403,378	9.9	26.3	24.3	55.7	92.4
1986	2,407,099	10.0	26.6	24.5	56.2	93.9
1985	2,412,625	10.1	27.0	24.9	57.0	94.9
1984	2,477,192	10.5	28.0	25.8	59.5	99.0
1983	2,445,604	10.5	28.0	25.7	59.9	99.3
1982	2,456,278	10.6	28.5	26.1	61.4	101.9
1981	2,422,145	10.6	28.4	26.1	61.7	103.1
1980	2,390,252	10.6	28.5	26.1	61.4	102.6
1979	2,331,337	10.4	28.1	25.8	63.6	107.9
1978	2,282,272	10.3	28.0	25.7	64.1	109.1
1977	2,178,367	9.9	27.2	25.0	63.6	109.8
1976	2,154,807	9.9	27.4	25.2	65.2	113.4
1975	2,152,662	10.0	27.9	25.6	66.9	118.5
1974	2,229,667	10.5	29.4	27.1	72.0	128.4
1973	2,284,108	10.8	30.7	28.2	76.0	137.3
1972	2,282,154	10.9	31.3	28.8	77.9	141.3
1971	2,190,481	10.6	30.7	28.2	76.2	138.9
1970	2,158,802	10.6	31.1	28.4	76.5	140.2
1969	2,145,000	10.6	31.4	28.9	80.0	149.1
1968	2,069,000	10.4	30.8	28.3	79.1	147.2
1967	1,927,000	9.7	29.1	26.9	76.4	145.2
1966	1,857,000	9.5	28.4	26.4	75.6	145.1
1965	1,800,000	9.3	27.9	26.0	75.0	144.3
1964	1,725,000	9.0	27.1	25.3	74.6	146.2
1963	1,654,000	8.8	26.4	24.7	73.4	143.3
1962	1,577,000	8.5	25.5	23.9	71.2	138.4
1961	1,548,000	8.5	25.5	24.0	72.2	145.4
1960	1,523,000	8.5	25.4	24.0	73.5	148.0
1959	1,494,000	8.5	25.2	23.8	73.6	149.8
1958	1,451,000	8.4	24.8	23.5	72.0	146.3
1957	1,518,000	8.9	26.4	24.9	78.0	157.4
1956	1,585,000	9.5	27.8	26.4	82.4	165.6
1955	1,531,000	9.3	27.2	25.8	80.9	161.1
1954	1,490,000	9.2	26.9	25.4	79.8	154.3
1953	1,546,000	9.8	28.2	26.7	83.7	163.3
1952	1,539,318	9.9	28.3	26.8	83.2	159.9
1951	1,594,694	10.4	29.4	28.1	86.6	164.9
1950	1,667,231	11.1	30.7	29.8	90.2	166.4
1949	1,579,798	10.6	29.4	28.5	86.7	158.0
1948	1,811,155	12.4	34.0	33.0	98.5	174.7
1947	1,991,878	13.9	37.9	36.8	106.2	182.7
1946	2,291,045	16.4	44.5	42.8	118.1	199.0
1945	1,612,992	12.2	35.8	30.5	83.6	138.2
1944	1,452,394	10.9	31.2	27.8	76.5	124.5
1943	1,577,050	11.7	32.2	30.6	83.0	133.5
1942	1,772,132	13.2	35.6	34.8	93.0	147.6
1941	1,695,999	12.7	34.0	33.7	88.5	138.4
1940	1,595,879	12.1	32.3	32.3	82.8	122.4

¹Rates for 1961–88 are revised and may differ from rates published previously. See Technical notes.

Table 2. Marriages and marriage rates: United States, each region, division, and State, 1980, 1989, and 1990

[By place of occurrence. Data are counts of marriages performed, except as noted. Rates per 1,000 population enumerated as of April 1 for 1980 and estimated as of July 1 for 1989 and 1990]

Region, division, and State	Number			Rate		
	1990	1989	1980	1990	1989	1980
United States	2,443,489	2,403,268	2,390,252	9.8	9.7	10.6
Regions:						
Northeast	408,900	418,270	400,313	8.0	8.2	8.1
Midwest	522,415	510,486	569,237	8.7	8.6	9.7
South	930,746	910,281	880,185	10.9	10.7	11.7
West	581,428	564,231	540,517	11.0	10.9	12.5
Northeast:						
New England	110,454	113,842	106,328	8.4	8.6	8.6
Middle Atlantic	298,446	304,428	293,985	7.9	8.1	8.0
Midwest:						
East North Central	366,910	353,684	395,517	8.7	8.4	9.5
West North Central	155,505	156,802	173,720	8.8	8.9	10.1
South:						
South Atlantic	457,214	450,373	413,113	10.5	10.5	11.2
East South Central	185,207	182,481	¹ 168,828	12.2	12.1	¹ 11.5
West South Central	288,325	277,427	298,244	10.8	10.4	12.6
West:						
Mountain	248,414	238,177	241,704	18.1	17.6	21.3
Pacific	333,014	326,054	298,813	8.5	8.5	9.4
New England:						
Maine	11,915	12,386	12,040	9.7	10.2	10.7
New Hampshire	10,535	11,129	9,251	9.5	10.1	10.0
Vermont	6,128	6,140	5,226	10.9	11.0	10.2
Massachusetts	47,696	49,173	46,273	7.9	8.2	8.1
Rhode Island	8,134	8,266	7,490	8.1	8.3	7.9
Connecticut	26,046	26,748	26,048	7.9	8.1	8.4
Middle Atlantic:						
New York	² 154,774	² 156,765	144,518	² 8.6	² 8.7	8.2
New Jersey	58,747	60,076	55,794	7.6	7.8	7.6
Pennsylvania	84,925	87,587	93,673	7.1	7.4	7.9
East North Central:						
Ohio	98,076	97,782	99,832	9.0	9.0	9.2
Indiana	53,169	53,445	57,853	9.6	9.7	10.5
Illinois	100,632	85,720	109,823	8.8	7.5	9.6
Michigan	76,099	76,210	86,898	8.2	8.2	9.4
Wisconsin	38,934	40,527	41,111	7.9	8.3	8.7
West North Central:						
Minnesota	33,688	34,326	37,641	7.7	7.9	9.2
Iowa	24,931	25,267	27,474	9.0	9.1	9.4
Missouri	49,063	50,331	54,625	9.6	9.9	11.1
North Dakota	4,762	4,847	6,094	7.5	7.5	9.3
South Dakota	7,716	7,108	8,800	11.1	10.2	12.7
Nebraska	12,625	12,709	14,239	8.0	8.1	9.1
Kansas	22,720	22,214	24,847	9.2	9.0	10.5
South Atlantic:						
Delaware	5,639	5,943	4,437	8.4	9.0	7.5
Maryland	46,316	46,202	46,278	9.7	9.8	11.0
District of Columbia	4,960	4,945	5,182	8.2	7.9	8.1
Virginia	71,043	69,001	60,210	11.4	11.3	11.3
West Virginia	13,003	13,279	17,391	7.2	7.3	8.9
North Carolina	51,923	51,017	46,718	7.8	7.8	7.9
South Carolina	55,754	54,694	53,915	15.9	15.8	17.3
Georgia	66,760	67,400	70,638	10.3	10.5	12.9
Florida	141,816	137,892	108,344	10.9	10.9	11.1
East South Central:						
Kentucky	49,790	50,093	¹ 32,727	13.5	13.6	¹ 8.9
Tennessee	68,019	64,990	59,175	13.9	13.4	12.9
Alabama	43,050	43,158	49,018	10.6	10.7	12.6
Mississippi	24,348	24,240	27,908	9.4	9.4	11.1

See footnotes at end of table.

Table 2. Marriages and marriage rates: United States, each region, division, and State, 1990, 1989, and 1990—Con.

[By place of occurrence. Data are counts of marriages performed, except as noted. Rates per 1,000 population enumerated as of April 1 for 1990 and estimated as of July 1 for 1989 and 1990]

Region, division, and State	Number			Rate		
	1990	1989	1990	1990	1989	1990
West South Central:						
Arkansas	36,020	34,822	26,513	15.3	14.8	11.6
Louisiana	40,443	38,559	43,460	9.6	9.1	10.3
Oklahoma	33,249	33,082	46,509	10.6	10.5	15.4
Texas	178,613	170,964	181,762	10.5	10.2	12.8
Mountain:						
Montana	6,924	6,758	8,336	8.6	8.4	10.6
Idaho	14,064	13,193	13,428	13.9	13.3	14.2
Wyoming	4,852	4,624	6,868	10.7	10.1	14.6
Colorado	32,362	31,934	34,917	9.8	9.7	12.1
New Mexico	13,324	³ 12,998	16,641	8.8	³ 8.6	12.8
Arizona	36,842	⁴ 35,738	30,223	10.0	⁴ 9.9	11.1
Utah	19,427	18,598	16,958	11.2	10.9	11.6
Nevada	120,619	114,334	114,333	99.0	100.6	142.8
Pacific:						
Washington	46,554	45,278	47,728	9.5	9.5	11.6
Oregon	25,348	23,839	23,004	8.9	8.5	8.7
California	⁴ 237,135	⁴ 233,293	210,864	⁴ 7.9	⁴ 8.0	8.9
Alaska	5,671	5,673	5,361	10.2	10.4	13.3
Hawaii	18,306	17,971	11,856	16.4	16.4	12.3

¹Data are incomplete.

²Figure used for New York City is the total number of valid marriage certificates provided to the National Center for Health Statistics.

³Data are premarital health examination forms issued.

⁴Data include marriage licenses issued for some counties.

Table 3. Marriages and marriage rates, by month: United States, 1990, 1989, and 1990

[Rates on an annual basis per 1,000 population]

Month	Number			Rate		
	1990	1989	1990	1990	1989	1990
Total	2,443,489	2,403,268	2,390,252	9.8	9.7	10.6
January	117,310	114,278	125,964	5.6	5.5	6.6
February	147,056	136,754	148,611	7.7	7.3	8.3
March	168,118	156,443	166,231	8.0	7.5	8.7
April	185,379	193,561	177,340	9.1	9.6	9.6
May	226,131	225,017	236,776	10.7	10.8	12.3
June	280,218	271,919	276,006	13.7	13.4	14.8
July	219,936	237,862	215,203	10.4	11.3	11.2
August	250,493	234,226	277,460	11.8	11.2	14.4
September	255,029	254,683	203,020	12.4	12.5	10.9
October	213,769	211,645	197,125	10.1	10.1	10.2
November	184,405	170,228	188,888	9.0	8.4	10.1
December	195,645	196,652	177,628	9.2	9.3	9.2

Table 4. Total marriage rate by marriage order of women and men: Marriage-registration area, 1972-90

[Based on sample data. Marriages per 1,000 women or men if age-sex specific rates for a given year were constant throughout their lives. Figures for marriage order not stated have been distributed. Beginning in 1977, figures exclude data for Iowa. For a description of the marriage-registration area, see Technical notes]

Year	Total marriage rate		Total first-marriage rate		Total remarriage rate	
	Women	Men	Women	Men	Women	Men
1990	1,130.0	1,143.8	714.6	695.5	415.4	448.3
1989	1,120.4	1,144.3	717.5	705.6	402.9	438.7
1988	1,115.7	1,145.2	709.1	702.1	406.6	443.1
1987	1,106.2	1,138.6	699.4	689.6	406.8	449.0
1986	1,113.5	1,150.1	698.6	689.4	414.9	460.7
1985	1,113.0	1,155.5	699.3	688.9	413.7	466.6
1984	1,139.2	1,192.4	704.6	698.1	434.6	494.3
1983	1,131.9	1,189.4	703.0	697.4	428.9	492.0
1982	1,143.6	1,206.4	710.9	703.4	432.7	503.0
1981	1,113.9	1,218.0	687.2	711.4	426.7	506.6
1980	1,128.4	1,207.5	706.2	714.4	422.2	493.1
1979	1,130.0	1,243.2	704.4	739.4	425.6	503.8
1978	1,112.4	1,227.3	696.5	733.7	415.9	493.6
1977	1,098.4	1,213.9	687.6	727.7	410.8	486.2
1976	1,100.7	1,218.0	695.5	737.5	405.2	480.5
1975	1,125.7	1,246.2	720.8	774.4	404.9	471.8
1974	1,191.5	1,317.1	789.8	852.7	401.7	464.4
1973	1,249.1	1,382.3	843.4	920.0	405.7	462.3
1972	1,254.8	1,401.9	866.9	960.8	387.9	441.1

Table 5. Marriage rates by previous marital status of women and men: Marriage-registration area, 1970-90

[Based on sample data. Figures exclude data for Iowa beginning with 1977. Figures for previously divorced and previously widowed exclude data for Michigan and Ohio for all years, for South Carolina beginning with 1972, and for the District of Columbia for 1970. For a description of the marriage-registration area, see Technical notes. Rates per 1,000 population ages 15 years and over in specified group enumerated as of April 1 for 1970 and 1980 and estimated as of July 1 for all other years]

Year	Previous marital status of women			Previous marital status of men		
	Single	Divorced	Widowed	Single	Divorced	Widowed
1990	57.7	76.2	5.2	47.0	105.9	23.8
1989	58.7	75.6	5.1	48.2	105.6	24.5
1988	58.4	78.6	5.3	48.3	109.7	25.1
1987	58.9	80.7	5.4	48.8	115.7	26.1
1986	59.7	79.5	5.5	49.1	117.8	26.8
1985	61.5	81.8	5.7	50.1	121.6	27.7
1984	63.5	87.3	5.8	51.6	132.7	28.7
1983	63.8	91.6	6.2	51.8	142.1	30.7
1982	66.0	94.4	6.1	53.1	146.9	32.1
1981	64.9	96.3	6.5	53.8	150.8	30.8
1980	66.0	91.3	6.7	54.7	142.1	32.2
1979	67.8	104.0	7.7	56.3	165.6	35.3
1978	68.2	105.0	7.1	56.4	168.6	32.7
1977	69.2	107.3	7.6	56.7	173.4	35.3
1976	72.0	111.3	7.9	58.2	185.0	37.6
1975	75.9	117.2	8.3	61.5	189.8	40.4
1974	83.5	121.7	9.1	68.0	198.7	38.9
1973	90.9	131.0	9.3	73.9	221.3	39.3
1972	95.1	130.6	9.4	77.2	229.0	40.6
1971	93.3	132.8	9.6	75.2	230.7	42.5
1970	93.4	123.3	10.2	80.4	204.5	40.6

Table 6. Marriage rates by age and previous marital status of women and men: Marriage-registration area, 1970, 1980, 1989, and 1990

[Based on sample data. For a description of the marriage-registration area, see Technical notes. Marriages of persons under 15 years of age are included in the youngest age groups; rates are based on populations that exclude persons under 15 years of age. Rates for all marriages are based on the unmarried population; for first marriages, on the never-married population; and for remarriages, on the widowed and divorced populations. Rates per 1,000 population in specified age group enumerated as of April 1 for 1970 and 1980 and estimated as of July 1 for all other years]

Age and previous marital status	Women				Men			
	1990	1989	1980	1970	1990	1989	1980	1970
All marriages¹								
Total	47.8	47.9	54.2	69.4	56.2	57.0	66.8	88.4
15-19 years	28.8	30.0	47.2	---	10.4	11.0	17.4	---
15-17 years	10.8	11.4	20.2	35.8	1.5	1.7	3.0	5.4
18-19 years	53.8	56.1	90.9	156.7	22.3	23.7	39.2	74.4
20-24 years	100.0	104.4	130.8	234.2	67.2	73.3	100.4	205.7
25-29 years	127.4	124.5	126.3	170.1	107.1	105.3	131.2	217.6
30-34 years	97.2	95.8	95.0	111.3	90.9	89.6	122.8	160.8
35-39 years	69.3	69.3	---	---	79.4	76.8	---	---
40-44 years	50.0	49.2	---	---	69.7	75.9	---	---
45-49 years	36.2	34.3	---	---	59.1	60.2	---	---
50-54 years	21.4	21.2	---	---	53.2	47.3	---	---
55-59 years	11.7	10.4	11.7	---	34.8	36.4	38.4	---
60-64 years	8.1	7.1	8.3	---	27.2	26.6	31.7	---
65 years and over	1.9	2.0	2.2	2.4	12.5	12.9	15.2	15.6
First marriages²								
Total	57.7	58.7	66.0	93.4	47.0	48.2	54.7	80.4
15-19 years	28.2	29.3	45.4	---	10.3	10.8	17.0	---
15-17 years	10.7	11.3	19.8	35.0	1.5	1.7	2.9	5.2
18-19 years	52.5	54.7	87.3	151.4	22.1	23.5	38.4	73.0
20-24 years	92.6	96.7	119.8	220.1	64.0	69.7	94.5	195.7
25-29 years	109.4	109.8	101.6	132.8	95.7	94.2	109.9	181.5
30-34 years	70.8	68.3	56.3	66.5	66.2	66.2	75.5	98.8
35-39 years	41.1	40.3	---	---	46.3	42.2	---	---
40-44 years	19.5	21.4	---	---	25.7	28.5	---	---
45-49 years	12.9	11.0	---	---	14.3	12.9	---	---
50-54 years	7.8	7.0	---	---	11.7	10.6	---	---
55-59 years	4.2	4.0	4.6	---	5.8	6.4	8.0	---
60-64 years	3.8	3.7	3.8	---	5.0	4.9	6.2	---
65 years and over	0.7	0.9	0.9	1.1	2.5	2.9	2.9	3.4
Remarriages²								
Total	35.8	34.8	38.3	36.6	84.5	84.1	108.3	116.5
15-19 years	*	*	*	*	*	*	*	*
20-24 years	245.9	252.9	230.4	---	220.4	241.8	---	---
25-29 years	200.0	176.2	178.6	251.3	201.8	200.3	226.7	---
30-34 years	137.7	137.7	129.0	164.1	177.5	165.0	225.2	420.3
35-39 years	89.6	89.2	---	---	125.7	126.0	203.9	345.2
40-44 years	65.2	60.7	---	---	109.5	113.8	---	---
45-49 years	43.3	41.8	---	---	88.0	93.7	---	---
50-54 years	24.8	24.9	---	---	75.0	64.6	---	---
55-59 years	13.0	11.6	13.2	---	52.8	53.0	58.6	---
60-64 years	8.7	7.6	9.1	---	37.7	37.2	46.2	---
65 years and over	2.0	2.1	2.3	2.5	15.0	15.7	19.0	19.9
Previously widowed³								
Total	5.2	5.1	6.7	10.2	23.8	24.5	32.2	40.6
15-44 years	43.6	42.2	51.0	54.1	82.4	72.7	106.7	107.8
45-64 years	11.0	9.8	12.2	17.7	49.8	50.5	59.2	79.2
65 years and over	1.7	1.8	2.1	2.3	14.0	14.3	17.8	19.4

See footnotes at end of table.

Table 6. Marriage rates by age and previous marital status of women and men: Marriage-registration area, 1970, 1980, 1989, and 1990—Con.

[Based on sample data. For a description of the marriage-registration area, see Technical notes. Marriages of persons under 15 years of age are included in the youngest age groups; rates are based on populations that exclude persons under 15 years of age. Rates for all marriages are based on the unmarried population; for first marriages, on the never-married population; and for remarriages, on the widowed and divorced populations. Rates per 1,000 population in specified age group enumerated as of April 1 for 1970 and 1980 and estimated as of July 1 for all other years]

Age and previous marital status	Women				Men			
	1990	1989	1980	1970	1990	1989	1980	1970
Remarriages ² —Con.								
Previously divorced ³	76.2	75.6	91.3	123.3	105.9	105.6	142.1	204.5
15–19 years	*	*	*	*	*	*	*	*
20–24 years	252.3	248.6	234.2	---	225.0	238.0	224.1	---
25–29 years	199.8	174.0	180.8	---	200.3	195.5	220.1	---
30–34 years	137.5	138.3	131.8	---	173.7	164.7	201.8	---
35–39 years	92.8	91.9	---	---	124.5	123.9	---	---
40–44 years	69.3	64.3	---	---	110.4	113.2	---	---
45–49 years	47.3	45.5	---	---	86.6	92.0	---	---
50–54 years	28.2	28.4	---	---	72.9	65.6	---	---
55–59 years	17.1	15.9	18.1	---	51.4	49.2	57.6	---
60–64 years	11.5	10.8	12.5	---	35.3	33.7	45.3	---
65 years and over	4.5	4.9	5.3	6.1	19.1	20.3	22.8	23.6

¹Figures exclude data for Iowa in 1980.

²Figures exclude data for Iowa for 1980, 1989, and 1990.

³Figures exclude data for Michigan and Ohio for all years, Iowa and South Carolina for 1980, 1989, and 1990, and the District of Columbia for 1970.

Table 7. Percent distribution of marriages by previous marital status of both bride and groom: Reporting States, 1970-80

[Based on sample data]

Year	Total	Wife previously single and husband previously—			Wife previously divorced and husband previously—			Wife previously widowed and husband previously—		
		Single	Divorced	Widowed	Single	Divorced	Widowed	Single	Divorced	Widowed
1990	100.0	53.7	10.9	0.3	11.0	19.7	1.3	0.5	1.4	1.2
1989	100.0	54.5	10.8	0.4	10.9	19.1	1.3	0.5	1.3	1.3
1988	100.0	54.5	10.7	0.4	10.9	19.0	1.3	0.5	1.4	1.3
1987	100.0	54.3	11.0	0.4	10.7	19.1	1.3	0.5	1.4	1.4
1986	100.0	54.4	11.0	0.3	10.7	18.9	1.3	0.5	1.4	1.4
1985	100.0	54.7	11.1	0.3	10.4	18.8	1.3	0.5	1.4	1.5
1984	100.0	55.0	11.1	0.4	10.2	18.8	1.3	0.5	1.4	1.5
1983	100.0	54.8	11.2	0.4	10.0	18.9	1.3	0.5	1.5	1.5
1982	100.0	55.1	11.3	0.4	9.8	18.8	1.3	0.5	1.4	1.5
1981	100.0	54.9	11.4	0.4	9.6	18.8	1.3	0.5	1.5	1.5
1980	100.0	56.5	10.8	0.4	9.3	17.8	1.4	0.5	1.5	1.6
1979	100.0	56.7	10.8	0.5	8.9	17.6	1.4	0.6	1.7	1.9
1978	100.0	57.3	10.7	0.5	8.7	17.4	1.4	0.6	1.7	1.7
1977	100.0	57.8	10.3	0.5	8.5	17.2	1.4	0.6	1.7	1.9
1976	100.0	58.9	10.1	0.6	8.2	16.4	1.5	0.6	1.8	2.0
1975	100.0	60.5	9.3	0.6	7.8	15.5	1.6	0.7	1.8	2.1
1974	100.0	63.1	8.6	0.6	7.3	14.0	1.4	0.8	2.0	2.1
1973	100.0	64.8	8.1	0.6	7.1	13.2	1.4	0.7	1.8	2.1
1972	100.0	67.1	7.6	0.6	6.6	12.0	1.4	0.8	1.8	2.1
1971	100.0	68.2	7.2	0.7	6.4	11.1	1.5	0.9	1.8	2.2
1970	100.0	68.8	6.9	0.7	6.4	10.7	1.4	0.9	1.8	2.4

NOTE: In 1970 previous marital status was reported by 38 States: Alabama, Alaska, California, Connecticut, Delaware, Florida, Georgia, Hawaii, Idaho, Illinois, Indiana, Iowa, Kansas, Kentucky, Louisiana, Maine, Maryland, Massachusetts, Minnesota, Mississippi, Missouri, Montana, Nebraska, New Hampshire, New Jersey, New York, North Carolina, Oregon, Pennsylvania, Rhode Island, South Dakota, Tennessee, Utah, Vermont, Virginia, West Virginia, Wisconsin, and Wyoming. Starting in 1971 the District of Columbia also reported this item. After 1976 Iowa no longer reported it. In 1979 Colorado joined the MRA, bringing the total of reporting areas back to 38 States plus the District of Columbia for the 1979-90 period.

Table 8. Marriages, 1989 and 1990, and percent distribution of marriages, 1970, 1980, 1989, and 1990 by age according to previous marital status of women and men: Marriage-registration area

[Based on sample data. For sampling errors of estimates and a description of the marriage-registration area, see Technical notes]

Age and previous marital status	Women						Men					
	Number		Percent				Number		Percent			
	1990	1989	1990	1989	1980	1970	1990	1989	1990	1989	1980	1970
All marriages												
Total	1,869,892	1,856,812	100.0	100.0	100.0	100.0	1,869,892	1,856,812	100.0	100.0	100.0	100.0
Under 20 years	203,854	215,006	10.9	11.6	21.1	32.5	79,946	84,343	4.3	4.5	8.5	14.0
Under 18 years	44,392	47,762	2.4	2.6	5.6	10.0	6,790	7,441	0.4	0.4	0.9	1.6
18-19 years	159,462	167,244	8.5	9.0	15.6	22.5	73,156	76,902	3.9	4.1	7.6	12.4
20-24 years	547,411	563,332	29.3	30.3	37.1	39.7	461,213	476,640	24.7	25.7	35.7	45.9
25-29 years	459,064	451,773	24.6	24.3	18.7	10.4	507,481	510,293	27.1	27.5	23.8	16.7
30-34 years	265,361	256,034	14.2	13.8	9.3	4.7	309,543	297,889	16.6	16.0	12.3	6.6
35-39 years	158,856	149,362	8.5	8.0	4.8	3.2	186,656	173,494	10.0	9.3	6.5	4.2
40-44 years	101,889	93,557	5.4	5.0	2.9	2.7	120,649	116,696	6.5	6.3	4.0	3.3
45-49 years	56,132	53,156	3.0	2.9	2.0	2.3	72,919	70,140	3.9	3.8	2.8	2.7
50-54 years	28,865	27,539	1.5	1.5	1.4	1.5	46,642	42,020	2.5	2.3	2.1	1.9
55-59 years	16,206	15,304	0.9	0.8	0.9	1.2	29,260	28,405	1.6	1.5	1.5	1.5
60-64 years	13,088	12,436	0.7	0.7	0.7	0.8	20,683	21,394	1.1	1.2	1.1	1.1
65 years and over	18,856	19,313	1.0	1.0	1.0	0.9	34,900	35,498	1.9	1.9	1.8	1.9
First marriages¹												
Total	1,178,589	1,184,505	100.0	100.0	100.0	100.0	1,186,073	1,189,721	100.0	100.0	100.0	100.0
Under 20 years	196,223	206,680	16.6	17.4	30.4	41.8	78,036	82,221	6.6	6.9	12.7	18.4
Under 18 years	43,420	46,614	3.7	3.9	8.2	13.0	6,733	7,314	0.6	0.6	1.3	2.1
18-19 years	152,803	160,066	13.0	13.5	22.2	28.8	71,303	74,907	6.0	6.3	11.4	16.3
20-24 years	480,860	494,689	40.8	41.8	47.3	46.0	426,696	440,092	36.0	37.0	50.0	57.0
25-29 years	320,218	316,108	27.2	26.7	16.0	7.7	406,674	409,853	34.3	34.4	25.7	16.2
30-34 years	119,198	110,984	10.1	9.4	4.0	2.0	175,501	168,311	14.8	14.1	7.5	4.1
35-39 years	39,908	35,678	3.4	3.0	1.1	0.9	63,247	55,841	5.3	4.7	2.0	1.8
40-44 years	13,050	11,706	1.1	1.0	0.5	0.6	21,027	19,446	1.8	1.6	0.9	1.0
45-49 years	4,686	4,190	0.4	0.4	0.3	0.4	6,880	6,200	0.6	0.5	0.5	0.6
50-54 years	2,094	1,844	0.2	0.2	0.2	0.2	3,485	2,966	0.3	0.2	0.3	0.3
55-59 years	917	949	0.1	0.1	0.1	0.1	1,851	1,789	0.2	0.2	0.2	0.2
60-64 years	796	849	0.1	0.1	0.1	0.1	1,240	1,326	0.1	0.1	0.1	0.1
65 years and over	639	828	0.1	0.1	0.1	0.1	1,436	1,676	0.1	0.1	0.1	0.1
Remarriages¹												
Total	651,984	632,599	100.0	100.0	100.0	100.0	645,613	628,381	100.0	100.0	100.0	100.0
Under 20 years	3,670	3,630	0.6	0.6	1.7	2.9	400	471	0.1	0.1	0.2	0.3
20-24 years	52,379	53,861	8.0	8.5	15.3	18.8	22,924	24,181	3.6	3.8	7.2	10.1
25-29 years	128,217	125,665	19.7	19.9	24.4	19.2	88,992	88,933	13.8	14.2	20.1	18.5
30-34 years	141,593	140,477	21.7	22.2	20.6	13.1	128,330	123,767	19.9	19.7	21.9	14.6
35-39 years	116,606	111,262	17.9	17.6	12.7	10.7	120,395	114,684	18.6	18.3	15.4	12.0
40-44 years	87,422	80,488	13.4	12.7	8.1	9.6	97,928	95,477	15.2	15.2	10.2	10.7
45-49 years	50,657	48,230	7.8	7.6	5.6	8.4	64,977	63,044	10.1	10.0	7.3	9.5
50-54 years	26,368	25,352	4.0	4.0	4.0	5.7	42,527	38,514	6.6	6.1	5.6	7.0
55-59 years	15,067	14,124	2.3	2.2	2.6	4.6	26,969	26,277	4.2	4.2	4.0	5.7
60-64 years	12,136	11,393	1.9	1.8	2.1	3.3	19,241	19,785	3.0	3.1	3.0	4.2
65 years and over	17,869	18,117	2.7	2.9	2.9	3.6	32,930	33,248	5.1	5.3	5.1	7.3

See footnotes at end of table.

Table 8. Marriages, 1989 and 1990, and percent distribution of marriages, 1970, 1980, 1989, and 1990 by age according to previous marital status of women and men: Marriage-registration area—Con.

[Based on sample data. For sampling errors of estimates and a description of the marriage-registration area, see Technical notes]

Age and previous marital status	Women						Men					
	Number		Percent				Number		Percent			
	1990	1989	1990	1989	1980	1970	1990	1989	1990	1989	1980	1970
Remarriages¹—Con.												
Previously widowed ²	49,139	49,000	100.0	100.0	100.0	100.0	45,524	46,843	100.0	100.0	100.0	100.0
Under 25 years	874	823	1.8	1.7	3.0	4.6	154	149	*	*	0.7	1.1
25–29 years	1,922	1,999	3.9	4.1	5.6	5.0	566	702	1.2	1.5	1.8	2.5
30–34 years	3,568	3,684	7.3	7.5	6.3	5.2	1,366	1,209	3.0	2.6	3.5	3.0
35–39 years	4,213	4,303	8.6	8.8	7.2	7.4	1,905	2,052	4.2	4.4	3.8	4.0
40–44 years	5,116	4,962	10.4	10.1	8.6	10.2	2,849	2,645	6.3	5.6	5.0	6.6
45–49 years	5,114	4,953	10.4	10.1	10.5	13.7	2,959	3,063	6.5	6.5	7.3	9.8
50–54 years	4,750	4,865	9.7	9.9	12.6	14.2	3,717	3,932	8.2	8.4	10.9	11.9
55–59 years	5,082	4,601	10.3	9.4	11.4	13.8	5,263	5,275	11.6	11.3	13.6	14.9
60–64 years	6,032	6,318	12.3	12.9	13.2	11.5	6,374	7,274	14.0	15.5	14.5	13.7
65 years and over	12,468	12,492	25.4	25.5	21.6	14.2	20,371	20,542	44.7	43.9	38.9	32.4
Previously divorced ²	511,750	495,983	100.0	100.0	100.0	100.0	512,853	495,827	100.0	100.0	100.0	100.0
Under 20 years	3,076	2,953	0.6	0.6	1.7	3.6	290	411	*	0.1	0.2	0.4
20–24 years	44,157	44,999	8.6	9.1	16.7	22.8	19,571	20,708	3.8	4.2	7.7	11.9
25–29 years	107,094	105,981	20.9	21.4	26.7	23.2	75,896	74,858	14.8	15.1	21.7	22.0
30–34 years	117,823	117,392	23.0	23.7	22.5	15.2	108,933	105,261	21.2	21.2	24.1	17.4
35–39 years	96,516	91,754	18.9	18.5	13.6	11.7	101,731	97,494	19.8	19.7	16.9	13.9
40–44 years	70,029	64,332	13.7	13.0	8.0	9.6	81,713	80,369	15.9	16.2	10.8	11.6
45–49 years	38,899	36,705	7.6	7.4	5.0	6.8	54,009	50,803	10.5	10.2	7.4	9.6
50–54 years	17,941	17,007	3.5	3.4	2.8	3.4	33,186	29,657	6.5	6.0	5.2	5.9
55–59 years	8,416	7,883	1.6	1.6	1.5	2.1	18,348	17,662	3.6	3.6	3.0	3.6
60–64 years	4,479	3,710	0.9	0.7	0.7	1.0	10,303	9,820	2.0	2.0	1.7	2.0
65 years and over	3,320	3,267	0.6	0.7	0.6	0.6	8,873	8,784	1.7	1.8	1.4	1.5
Not stated if widowed or divorced . . .	91,095	87,616	...	...	...	...	87,236	85,711	...	...	...	...
Not stated if previously married												
Total	39,319	39,706	...	...	...	...	38,206	38,710	...	...	...	...

¹Figures for first marriages and remarriages exclude data for Iowa beginning in 1977; these data are included in "Not stated if previously married."

²Data exclude remarriages in Michigan and Ohio for all years, for South Carolina beginning in 1972, and for the District of Columbia for 1970. These data are included in "Not stated if widowed or divorced."

Table 9. Median and mean age of bride and groom by previous marital status: Marriage-registration area, 1964-90

[Based on sample data. Figures by previous marital status exclude data for Iowa beginning with 1977. Figures for previously divorced and previously widowed exclude data for Michigan and Ohio for all years, for South Carolina beginning with 1972, and for the District of Columbia for 1970. For a description of the marriage-registration area, see Technical notes]

Year	Previous marital status of bride					Previous marital status of groom				
	Total ¹	First marriage	Remarriage			Total ¹	First marriage	Remarriage		
			Total ²	Previously divorced	Previously widowed			Total ²	Previously divorced	Previously widowed
	Median age									
1990	26.7	24.0	35.0	34.2	54.0	28.7	25.9	38.3	37.4	63.1
1989	26.4	23.9	34.7	34.0	53.8	28.4	25.7	38.3	37.3	62.9
1988	26.1	23.7	34.5	33.6	53.9	28.1	25.5	38.0	37.0	63.0
1987	25.9	23.6	34.1	33.3	53.9	28.0	25.3	37.7	36.7	62.8
1986	25.7	23.3	33.9	33.1	54.3	27.8	25.1	37.5	36.6	62.9
1985	25.3	23.0	33.6	32.8	54.6	27.5	24.8	37.1	36.1	62.7
1984	25.0	22.8	33.3	32.5	54.2	27.2	24.6	36.8	35.9	62.4
1983	24.8	22.5	32.9	32.0	54.0	27.0	24.4	36.2	35.3	62.0
1982	24.4	22.3	32.5	31.6	54.1	26.7	24.1	35.7	34.9	61.7
1981	24.1	22.0	32.1	31.2	53.6	26.3	23.9	35.3	34.4	61.0
1980	23.7	21.8	32.0	31.0	53.6	25.9	23.6	35.2	34.0	61.2
1979	23.4	21.6	31.9	30.8	55.2	25.8	23.4	35.3	33.9	61.7
1978	23.2	21.4	31.5	30.5	52.6	25.5	23.2	35.1	33.8	59.7
1977	22.9	21.1	31.4	30.2	53.1	25.2	23.0	34.9	33.6	60.1
1976	22.7	21.0	31.7	30.1	53.0	25.0	22.9	35.1	33.7	60.0
1975	22.4	20.8	32.0	30.2	52.4	24.7	22.7	35.5	33.6	59.4
1974	22.0	20.6	32.1	30.0	51.9	24.2	22.5	35.7	33.6	59.2
1973	21.9	20.6	32.3	30.2	52.1	24.1	22.5	36.3	33.9	59.3
1972	21.7	20.5	32.8	30.3	51.4	23.8	22.4	36.5	34.0	59.1
1971	21.7	20.5	32.9	30.2	51.8	23.7	22.5	36.9	34.1	59.1
1970	21.7	20.6	33.3	30.1	51.2	23.6	22.5	37.5	34.5	58.7
1969	21.6	20.6	33.8	30.4	51.3	23.5	22.4	38.2	34.7	59.0
1968	21.5	20.6	33.8	30.7	50.6	23.6	22.4	38.3	35.1	57.9
1967	21.4	20.5	35.0	31.3	50.0	23.8	22.6	39.1	35.5	57.7
1966	21.5	20.3	35.2	31.4	50.2	23.8	22.6	39.2	35.8	57.9
1965	21.4	20.4	35.5	31.7	50.1	23.6	22.5	39.6	36.0	57.8
1964	21.4	20.4	35.6	31.7	50.3	23.6	22.4	39.7	36.4	58.0

See footnotes at end of table.

Table 9. Median and mean age of bride and groom by previous marital status: Marriage-registration area, 1964-90—Con.

[Based on sample data. Figures by previous marital status exclude data for Iowa beginning with 1977. Figures for previously divorced and previously widowed exclude data for Michigan and Ohio for all years, for South Carolina beginning with 1972, and for the District of Columbia for 1970. For a description of the marriage-registration area, see Technical notes]

Year	Previous marital status of bride					Previous marital status of groom					
	Total ¹	First marriage	Remarriage			Total ¹	First marriage	Remarriage			
			Total ²	Previously divorced	Previously widowed			Total ²	Previously divorced	Previously widowed	
											Mean age
1990	29.3	25.0	37.0	35.6	53.4	31.7	26.9	40.7	39.0	61.1	
1989	29.0	24.8	36.9	35.3	53.3	31.5	26.7	40.6	38.8	61.1	
1988	28.8	24.6	36.7	35.0	53.1	31.3	26.5	40.5	38.6	60.9	
1987	28.6	24.5	36.4	34.7	53.1	31.2	26.4	40.3	38.4	60.9	
1986	28.4	24.3	36.2	34.6	53.3	31.0	26.2	40.1	38.2	61.2	
1985	28.1	24.0	36.1	34.3	53.3	30.8	25.9	39.9	37.9	61.1	
1984	27.8	23.8	35.9	34.0	52.8	30.5	25.7	39.7	37.7	60.8	
1983	27.6	23.5	35.6	33.7	52.6	30.3	25.5	39.3	37.3	60.2	
1982	27.3	23.3	35.3	33.4	52.6	30.0	25.3	39.0	37.0	59.9	
1981	27.0	23.0	35.0	33.0	52.2	29.8	25.0	38.7	36.6	59.5	
1980	26.7	22.7	35.0	32.8	52.2	29.4	24.8	38.7	36.5	59.6	
1979	26.7	22.5	35.4	32.8	53.4	29.5	24.6	38.9	36.4	60.0	
1978	26.3	22.3	34.9	32.6	51.4	29.1	24.4	38.5	36.2	58.4	
1977	26.2	22.2	35.0	32.5	51.8	29.0	24.3	38.6	36.1	58.9	
1976	26.1	22.1	35.3	32.5	51.8	28.9	24.1	38.8	36.2	58.6	
1975	25.9	21.9	35.5	32.7	51.2	28.7	24.0	39.1	36.3	58.2	
1974	25.6	21.7	35.7	32.5	51.0	28.3	23.8	39.4	36.3	58.2	
1973	25.5	21.7	36.0	32.8	51.0	28.1	23.8	39.6	36.4	58.1	
1972	25.2	21.6	36.2	32.9	50.7	27.9	23.7	39.8	36.5	58.0	
1971	25.1	21.6	36.4	32.8	50.6	27.8	23.7	40.3	36.6	57.7	
1970	25.1	21.6	36.6	32.8	50.3	27.8	23.8	40.6	36.7	57.7	
1969	25.1	21.6	36.9	33.0	50.4	27.7	23.8	40.9	36.9	57.7	
1968	25.0	21.6	36.9	33.2	49.9	27.7	23.8	41.0	37.1	57.0	
1967	25.1	21.6	37.4	33.3	49.7	28.0	24.0	41.4	37.4	56.7	
1966	25.2	21.5	37.6	33.6	49.7	28.0	24.0	41.6	37.6	57.0	
1965	25.2	21.6	37.7	33.6	49.7	28.1	24.0	42.0	37.8	56.7	
1964	25.3	21.4	37.8	33.1	50.0	28.3	24.0	42.1	37.8	57.0	

¹Figures include previous marital status not stated.

²Figures include divorced or widowed not stated.

Table 10. Marriages and mean age at marriage by race and previous marital status of bride and groom: Total of 34 reporting States, 1989 and 1990

[Based on sample data]

Race	Total	First marriage	Remarriage				Previous marital status not stated
			Total	Previously divorced ¹	Previously widowed ¹	Widowed or divorced not stated	
1990							
Number							
Bride:							
All races	1,250,064	763,758	474,827	408,231	38,785	27,811	11,479
White	1,075,920	642,071	425,944	367,256	34,871	23,817	7,905
Black	136,847	97,914	38,506	31,881	3,000	3,625	427
Other races	24,529	17,878	6,418	5,589	535	294	233
Race not stated	12,768	5,895	3,959	3,505	379	75	2,914
Groom:							
All races	1,250,064	773,753	465,695	404,543	35,367	25,785	10,616
White	1,073,144	653,632	412,283	359,334	31,468	21,481	7,229
Black	144,272	98,908	44,713	37,380	3,343	3,990	651
Other races	20,853	15,750	4,877	4,328	254	295	226
Race not stated	11,795	5,463	3,822	3,501	302	19	2,510
Mean age							
Bride:							
All races	29.2	24.6	36.8	35.3	53.5	36.1	26.3
White	29.2	24.2	36.7	35.1	53.9	35.8	25.7
Black	29.8	26.7	37.8	36.7	50.0	37.9	27.3
Other races	28.8	26.0	36.8	36.1	45.6	*	*
Race not stated	29.4	24.9	37.1	35.9	48.4	*	27.9
Groom:							
All races	31.7	26.5	40.4	38.7	61.2	39.4	28.1
White	31.7	26.2	40.3	38.5	61.6	39.2	27.3
Black	32.2	28.0	41.5	40.1	58.0	40.8	29.3
Other races	30.6	27.9	39.3	38.4	*	*	*
Race not stated	31.9	27.1	39.9	38.6	*	*	30.0
1989							
Number							
Bride:							
All races	1,229,398	761,810	455,732	391,299	38,019	26,414	11,856
White	1,059,960	641,145	410,730	353,716	34,095	22,919	8,085
Black	134,368	98,056	35,560	29,264	3,196	3,100	752
Other races	23,771	17,672	5,994	5,207	459	328	105
Race not stated	11,299	4,937	3,448	3,112	269	67	2,914
Groom:							
All races	1,229,398	771,089	447,009	386,591	35,389	25,029	11,300
White	1,057,643	651,431	398,427	345,693	31,144	21,590	7,785
Black	140,685	99,413	40,556	33,671	3,655	3,230	716
Other races	20,450	15,466	4,830	4,332	321	177	154
Race not stated	10,620	4,779	3,196	2,895	269	32	2,645
Mean age							
Bride:							
All races	28.9	24.3	36.7	35.1	53.4	35.8	26.2
White	28.9	24.0	36.6	34.9	54.0	35.8	25.7
Black	29.3	26.3	37.7	36.7	47.9	35.7	27.4
Other races	28.4	25.8	35.9	35.3	43.7	33.3	*
Race not stated	29.2	24.7	37.1	35.5	*	*	27.6

See footnote at end of table.

Table 10. Marriages and mean age at marriage by race and previous marital status of bride and groom: Total of 34 reporting States, 1989 and 1990—Con.

[Based on sample data]

Race	Total	First marriage	Remarriage			Widowed or divorced not stated	Previous marital status not stated
			Total	Previously divorced ¹	Previously widowed ¹		
1989—Con.							
Mean age							
Groom:							
All races	31.4	26.3	40.4	38.6	61.3	39.2	27.8
White	31.4	26.0	40.3	38.4	61.8	39.0	27.2
Black	31.7	27.8	41.5	39.9	57.7	40.1	28.0
Other races	30.7	27.8	40.0	38.8	56.3	*	*
Race not stated	31.6	26.8	40.6	38.8	*	*	29.5

¹Data exclude remarriages in South Carolina. These data are included in "Widowed or divorced not stated."

NOTE: Of the 42 States in the marriage-registration area in 1989 and 1990, 34 reported race of bride and groom—Alabama, Alaska, Connecticut, Delaware, Florida, Georgia, Hawaii, Idaho, Illinois, Indiana, Kansas, Kentucky, Louisiana, Maine, Minnesota, Mississippi, Missouri, Montana, Nebraska, New Hampshire, New Jersey, North Carolina, Oregon, Pennsylvania, Rhode Island, South Carolina, South Dakota, Tennessee, Utah, Vermont, Virginia, West Virginia, Wisconsin, and Wyoming. Those registration areas that did not report race are California, Colorado, the District of Columbia, Iowa, Maryland, Massachusetts, Michigan, New York, and Ohio.

Table 11. Marriage rates by race, previous marital status, and age of women and men: Total of 34 Reporting States, 1990

[Based on sample data. Marriages of persons under 15 years of age are included in the youngest age groups; rates are based on populations that exclude persons under 15 years of age. Prior to calculations of rates, figures for not stated race were distributed. Rates for all marriages were based on the unmarried population; for first marriages, on the never-married population; and for remarriages, on the widowed and divorced populations. Rates per 1,000 in specified age and race groups enumerated as of April 1]

Age and previous marital status	Women			Men		
	All race ¹	White	Black	All races ¹	White	Black
All marriages						
Total	54.1	58.8	33.5	66.1	71.2	45.9
15-19 years	35.7	41.2	14.8	13.2	15.2	5.0
20-24 years	115.4	131.2	58.7	82.9	89.9	56.4
25-29 years	139.9	162.2	70.3	122.9	133.3	82.0
30-34 years	106.7	123.6	55.1	108.4	117.0	72.1
35-39 years	80.3	90.7	44.1	93.9	99.3	67.5
40-44 years	60.8	67.2	33.5	83.7	87.6	61.5
45-54 years	34.8	38.4	18.1	69.3	72.9	48.1
55-64 years	11.9	12.9	6.5	38.7	40.0	30.2
65 years and over	2.2	2.3	1.3	15.8	16.5	10.4
First marriages						
Total	64.4	72.5	38.0	54.6	58.9	39.2
15-19 years	34.9	40.2	14.8	13.1	15.1	5.0
20-24 years	106.6	121.3	57.0	79.1	85.6	55.8
25-29 years	118.3	139.2	64.5	109.5	119.2	75.8
30-34 years	73.5	85.8	46.5	78.8	85.4	56.7
35-39 years	41.2	43.1	35.2	51.0	51.9	46.0
40-44 years	23.0	22.6	24.0	30.1	29.7	31.9
45-54 years	11.1	10.6	12.5	16.3	15.3	19.9
55-64 years	4.2	3.9	*	6.7	5.4	12.5
65 years and over	0.8	0.7	*	3.1	2.7	*
Previously widowed²						
Total	6.0	6.3	3.8	28.2	30.3	17.8
15-44 years	53.9	66.4	21.6	96.2	116.8	49.0
45-64 years	12.8	14.8	5.1	55.9	63.3	30.4
65 years and over	2.0	2.1	1.0	16.9	18.3	8.8
Previously divorced²						
Total	86.8	94.7	45.1	117.0	122.5	85.4
15-19 years	*	*	*	*	*	*
20-24 years	241.5	253.3	130.2	207.2	220.0	92.3
25-29 years	202.5	216.7	110.7	199.5	205.8	154.7
30-34 years	148.0	162.5	76.8	173.2	179.3	135.5
35-39 years	106.3	118.0	55.7	140.0	146.2	106.2
40-44 years	75.8	82.9	41.5	115.7	120.4	91.1
45-54 years	44.9	48.6	25.7	92.5	96.8	69.7
55-64 years	17.3	18.6	11.4	51.4	53.0	43.6
65 years and over	5.0	5.4	*	22.9	24.0	17.5

¹Includes races other than white and black.

²Figures for previously widowed and previously divorced exclude data for South Carolina.

NOTE: Of the 42 States in the marriage-registration area in 1990, 34 reported race of bride and groom—Alabama, Alaska, Connecticut, Delaware, Florida, Georgia, Hawaii, Idaho, Illinois, Indiana, Kansas, Kentucky, Louisiana, Maine, Minnesota, Mississippi, Missouri, Montana, Nebraska, New Hampshire, New Jersey, North Carolina, Oregon, Pennsylvania, Rhode Island, South Carolina, South Dakota, Tennessee, Utah, Vermont, Virginia, West Virginia, Wisconsin, and Wyoming. Those registration areas that did not report race are California, Colorado, the District of Columbia, Iowa, Maryland, Massachusetts, Michigan, New York, and Ohio.

Symbols

- Data not available
 - ... Category not applicable
 - Quantity zero
 - 0.0 Quantity more than zero but less than 0.05
 - * Figure does not meet standards of reliability or precision
-

Technical notes

Place and time of occurrence

Marriages and marriage rates for States and other areas are by place of occurrence. Marriages are those performed during the calendar year.

Sources of data

Figures in tables 1–3 are based on totals reported by States and counties, except for New York City where the count of marriages is the total number of valid marriage certificates provided to the National Center for Health Statistics (NCHS). Figures in tables 4–11 are based on data tabulated from State-coded data tapes and from probability samples of records selected and coded in NCHS from copies of the records sent by States participating in the marriage-registration area (MRA). In 1989 and 1990 the MRA consisted of the District of Columbia and all except eight States—Arizona, Arkansas, Nevada, New Mexico, North Dakota, Oklahoma, Texas, and Washington.

Nonlicensed (confidential) marriages for California

Section 4213 of the California Civil Code allows unmarried couples who have been living together to be married confidentially without obtaining a marriage license or health certificate. In March 1972 this section was amended to require county clerks to keep sealed records of these marriages and to report periodically the total number to the California State Department of Health Services. Since reporting began, nonlicensed marriages have increased rapidly, from 2,857 in 1973, to 48,040 in 1980, to 90,494 in 1987. There were 94,791 nonlicensed marriages in 1989 and 103,206 in 1990. NCHS has not included the nonlicensed California marriages in totals or rates for years before 1978. However, beginning with final statistics for 1978, nonlicensed marriages are included in the national and regional totals and rates.

Marriage sample

Total counts of marriages shown in tables 1–3 are obtained from State offices for most States. For New Mexico

Table 1. Approximate sampling errors of estimated number of marriages shown in table 8: Marriage-registration area, 1989 and 1990

Percent of total MRA marriages in subclass	Sampling error	
	1989	1990
1 or 99	508	510
2 or 98	714	718
3 or 97	870	874
4 or 96	1,000	1,004
5 or 95	1,112	1,117
7 or 93	1,302	1,308
10 or 90	1,531	1,538
15 or 85	1,822	1,830
20 or 80	2,041	2,050
25 or 75	2,209	2,219
50	2,551	2,563

HOW TO USE THE SAMPLING ERROR TABLE: The total number of MRA marriages in 1990 (excluding nonlicensed California marriages) was 1,869,892. For any estimate of marriages shown in table 8, determine its percent of the total MRA marriages. Then look in the table of sampling errors for the row containing the computed percent to determine the sampling error for the estimated number of marriages for the year. For example, in 1990 there were an estimated 651,984 remarriages of women, or 34.9 percent of all 1990 marriages. Because 34.9 is between 25 and 50 percent, the sampling error is between 2,219 and 2,563, or, by interpolation, 2,355 remarriages. The chances are about 68 out of 100 that the actual number of 1990 remarriages is between 649,629 and 654,339 (651,984 + 2,355).

marriages and California nonlicensed marriages, counts were obtained from each county. Data on characteristics of bride and groom shown in tables 4–11 are available only from States in the MRA and exclude nonlicensed marriages in California.

The probability sample of marriages for 1989 and 1990 were selected by using five different sampling rates. For the District of Columbia and for each State in the MRA, either 5, 10, 20, 50, or 100 percent of the marriage records were included. Sampling rates were selected so that the expected sample would contain at least 2,500 records for each State. This criterion required 100-percent sampling for the District of Columbia and Delaware. All States in the MRA provided their marriage certificate data through either State-coded data tapes, microfilm, or photocopies.

In 1989 and 1990, marriages in the MRA sample are representative of 77 percent of the marriages registered in the United States in those years. Nonlicensed marriages registered in California are not available for inclusion in the MRA marriage sample. The 5-percent sample of California marriages for 1989 and 1990 was drawn only from licensed marriages. The corresponding weights for

sample records were based on these totals. Because no information is available on the characteristics of persons obtaining nonlicensed marriages, no accurate estimate is available of the bias introduced in sample estimates by the omission of these marriages.

Marriage rates were lower for the MRA than for the entire United States. The 1990 crude marriage rate for the MRA (8.7 per 1,000) was 11 percent below the U.S. rate (9.8) and the rate for unmarried women 15 years of age and over (47.8 per 1,000) was 12 percent below the U.S. rate (54.5). This is because residents of the MRA constituted 86 percent of the U.S. population, while the marriages in the MRA were representative of only 77 percent of U.S. marriages. At least two reasons for the these differences can be identified.

First, many residents of States in the MRA married in States not in the MRA and were not counted in the MRA marriage total. However, because they lived within the MRA, they were counted in the population on which the rates were based. Nevada accounted for a large proportion of this net loss from the MRA total.

A second reason was that the nonlicensed California marriages were not in the MRA sample to count as marriages, but the entire population of California was in the population on which MRA rates were based. If these 103,206 marriages in 1990 had been included in the MRA sample, the rate would have been 50.4 rather than 47.8 per 1,000 unmarried women 15 years of age and over.

There may also be a difference in the rate at which residents of States in the MRA marry, divorce, and remarry compared with residents of States not in the MRA.

Sampling errors

All statistics for the MRA are estimates based on the systematic sample of marriages described earlier; therefore, these statistics are subject to sampling errors. The sampling error is a measure of variation that occurs by chance between sample estimates and the actual quantity being estimated. Chances are about 68 out of 100 that an estimate would differ from the true value by less than the

sampling error, and about 95 out of 100 that the difference would be less than twice the sampling error.

Population denominators

Marriage rates for 1989 and 1990 for the MRA by age, sex, and previous marital status are based on unpublished population estimates as of July 1, prepared by the U.S. Bureau of the Census (5), except for the rates by race shown in table 11 which are based on populations enumerated as of April 1, 1990 (6). National and State rates for 1989 and 1990 are based on population estimates as of July 1, published by the U.S. Bureau of the Census (7).

Computation of percent distributions, medians, and means

Figures for marriage order and previous marital status not stated were subtracted from figures for marriages used as denominators before medians were computed. Percent distributions were calculated excluding not-stated cases. Computations of median and mean age at marriage were based on tabulations of ungrouped data.

Nonreporting bias

Age was reported on more than 99 percent marriage records and the

missing data were imputed during processing of the file. For tables 5, 6, and 11, no allocation of missing data for previous marital status was done before rates were calculated.

In 1990 previous marital status was reported with about 99 percent completeness for tables 5, 6, (38 States and the District of Columbia) and 11 (34 States). Missing data for race in table 11 (about 1 percent of the records for brides and grooms) were allocated before the calculation of the rates.

This report represents summary tabulations from the final marriage statistics for 1989 and 1990. The National Center for Health Statistics will respond to requests for unpublished data whenever possible.

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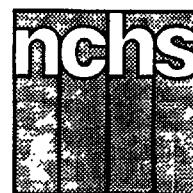
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Monthly Vital Statistics Report



Final Data From the CENTERS FOR DISEASE CONTROL AND PREVENTION/National Center for Health Statistics

Advance Report of Final Divorce Statistics, 1989 and 1990

by Sally C. Clarke, Division of Vital Statistics

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Divorces and divorce rates

The number of divorcing couples in the United States was 1,182,000 in 1990, the highest number since 1985 (1,190,000) but 3 percent lower than the peak number in 1981 (1,213,000) (table 1). The divorce rate per 1,000 population in 1990 was 4.7, the same as in 1989, but 11 percent lower than the peak rate of 5.3 in 1979 and 1981. Provisional data indicate that the rate remained steady at 4.7 in 1991 but

increased slightly to 4.8 in 1992 before dropping to 4.6 in 1993 (1,2). For women at risk of divorce (married women 15 years of age and over), the divorce rate increased slightly in 1990 to 20.9 per 1,000 population after declining steadily for 4 years. This rate can be used as an estimate of the divorce rate per 1,000 married couples. Thus, approximately 2 percent of married couples in the United States divorced in 1990.

Table 2 shows the number and rate, of divorces by region, division, and State for 1990, 1989, and 1980. Compared with 1989, the number of divorces in 1990 was higher in every region except the Northeast, where it declined slightly. Within the Northeast, all New England States (with the exception of Rhode Island) had lower numbers of divorces in 1990 than in 1989. When divorce rates by region between 1989 and 1990 were compared, the rate declined in the Northeast, increased in the Midwest and South, and was unchanged in the West. The 1990 rate was highest in the South (5.5)

and lowest in the Northeast (3.3), a disparity that has been persistent but narrowing over time.

Compared with 1980, the number of divorces in 1990 was lower in every region except the South. The number declined 3 percent in the Northeast, 6 percent in the Midwest, and 2 percent in the West. Divorces in the South in 1990 (470,000) numbered 5 percent higher than in 1980 (449,000). Despite the increase in the number for the South, divorce rates were lower for all regions in 1990 than in 1980 with the greatest decline occurring in the West—from 6.3 to 5.1, a 19-percent decline.

Divorce rates for 1990 by State ranged from 2.7 in Massachusetts to 10.8 in Nevada. Compared with 1989, divorce rates for 1990 declined for 14 States and the District of Columbia, increased for 26 States, and stayed the same for 9 States. When divorce rates for 1990 were compared with rates for 1980, only eight States had higher rates in 1990 than in 1980. Of these States, six were in the

Acknowledgments

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U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES
Public Health Service
Centers for Disease Control and Prevention
National Center for Health Statistics



South (Arkansas, Delaware, Kentucky, North Carolina, South Carolina, and West Virginia). The remaining two States with higher rates in 1990 than in 1980 (Pennsylvania and North Dakota) had very low rates in both years. A comparison between rates for 1980 and 1990 showed declines of more than 20 percent for Alaska, California, the District of Columbia, Maine, Nevada, New Hampshire, and New Mexico. The rates for Nebraska, Hawaii, Tennessee, and Virginia were the same for both years. Rates were not computed for Louisiana in 1989 and 1990 because the reported numbers were incomplete.

The numbers and rates of divorce discussed above are from counts of divorces from every State and the District of Columbia. The National Center for Health Statistics (NCHS) collects these counts as well as the statistical information from the divorce certificates of the 31 States and the District of Columbia that comprise the divorce-registration area (DRA). The divorces in the DRA accounted for 49 percent of all divorces in 1989 and 1990. Data on the children

involved in divorce, ages of the husbands and wives at divorce and at marriage, and the duration of marriage were reported by all DRA States. Data used in this report on the race of the husband and wife and on the physical custody of the children were from the certificates of DRA States that had these items on their certificates and met certain NCHS criteria for reporting. See Technical notes for more information on the data used in this report.

Children involved in divorce

Statistics on children involved in divorce are important because of the impact divorce can have on their physical, emotional, and economic well-being (3). Vital statistics data contain information on the number and rate of children involved in divorce each year. The number of children involved in divorce increased for the third consecutive year, to 1,075,000 in 1990, while the average number of children per decree was 0.90 (table 3). The number of children involved in divorce varied between 1 and 1.2 million during 1972-90 while

the number of divorces increased to levels that equaled and then exceeded the number of children involved in divorce (figure 1). As a result of these trends, the average number of children per decree fell from 1.20 in 1972 to a relative low of 0.89 in 1987 and 1988 before increasing slightly to its current level. The average number of children for divorcing couples was very similar to the average number of children in all married-couple households in 1990 (0.88) (4).

The rate of children involved in divorce per 1,000 children under 18 years of age was 16.8 in 1990, the same as for 1989, but 10 percent lower than the peak rate in 1981 (18.7). In 1989 and 1990, just over half of divorcing couples had children under 18 years of age at the time of their divorce, while 47 percent were childless or had children who were older than 18 years of age (table 4). A quarter of divorcing couples had one child, 20 percent had two children, and 8 percent had three children or more. There was wide variation by State in the percent of divorcing couples with children, ranging from 38 percent in the District of

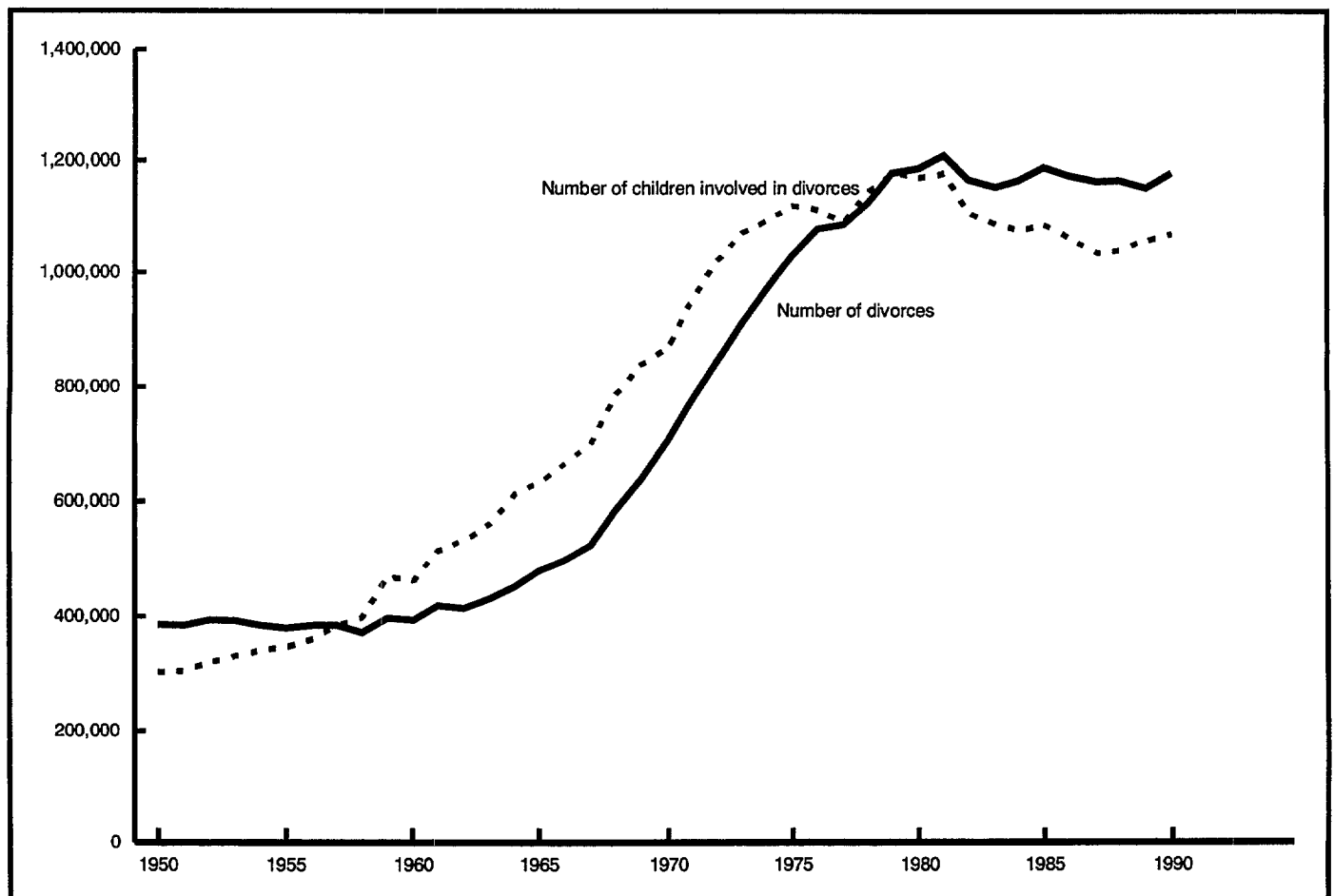


Figure 1. Estimated number of divorces and children involved in divorces: United States, 1950-90

Columbia to 64 percent in Nebraska in 1990. One reason for this variation is differences among States in the number of children in married-couple families. Data from the 1990 Census show that only 36 percent of married couples in the District of Columbia had children under age 18 compared with 48 percent of married couples in Nebraska (5,6).

The presence of children at divorce varied by the marital history of the divorcing couple—fewer remarriages than first marriages had children upon divorce. For couples in which both the husband and wife were divorcing from a first marriage, 61 percent of the couples had children under 18 years of age. For couples in which one spouse was divorcing from a first marriage and the other from a remarriage, 54 percent of those in which the husband was the remarrying partner had children upon divorce, while 47 percent of those in which the wife was the remarrying partner had children. For couples in

which both spouses were divorcing from a remarriage, only 29 percent had children upon divorce (data not shown). Part of the reason for fewer children in divorces of remarriages is that these men and women were older than their counterparts in first marriages (discussed in the Age section) and, therefore, their children would be more likely to be over 18 years of age. The children of couples in remarriages of one or both spouses could be offspring of the present couple or children brought into the marriage by one of the spouses. Vital statistics data do not make this distinction.

Age

Tables 5–7 show that divorce is more frequent for married men and women under the age of 40 than for older married couples. Divorce rates varied considerably with age and were much higher for younger than older married men and women (table 5 and figure 2). For men, 1990 divorce rates increased from 32.8

per 1,000 married men 15–19 years of age to 50.2 for men 20–24 years and then declined precipitously with increasing age to 2.1 for married men 65 years of age and older. For women divorce rates were at their peak for teenagers aged 15–19 years (48.6) and declined with increasing age to 1.4 for women 65 years of age and over. Between 1989 and 1990 divorce rates declined only for teenaged men and women and for men 20–24 years of age. All the rates for the remaining age groups increased slightly except the rate for married women 65 years of age and over, which remained steady.

Almost two-thirds of divorcing men and three-fourths of divorcing women were under 40 years of age (table 6). The modal group for men was 30–34 years of age (20.7 percent) while the modal group for women was 25–29 years of age (21.8 percent). Since the mid-1970's the age at divorce for men and women has shifted upward as shown by the median and mean ages at decree in table 7. The

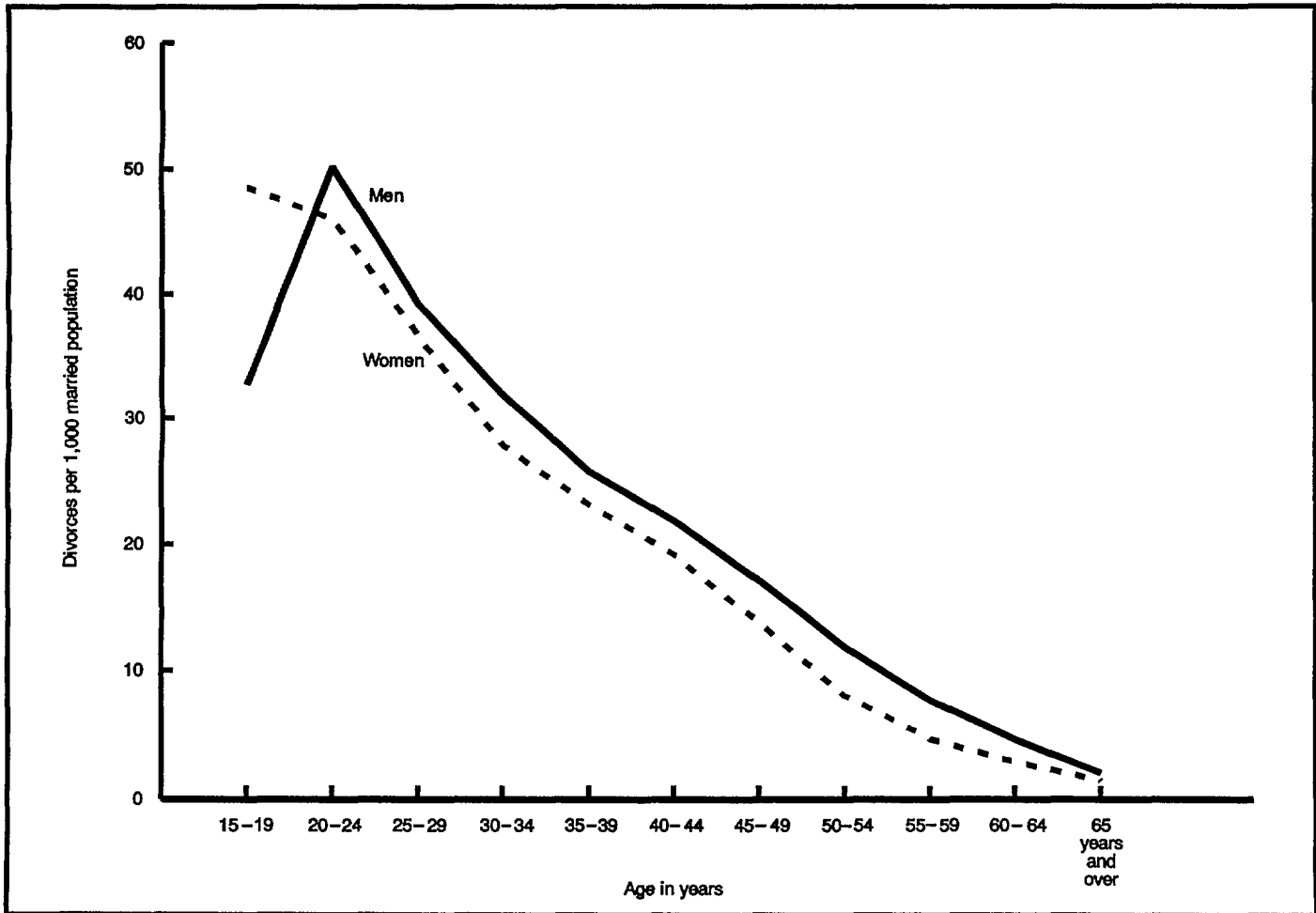


Figure 2. Age-specific divorce rates for men and women: Divorce-registration area, 1990

median age at decree for men and women was more than 3 years older in 1990 than in 1975. The median age of men divorcing from first marriages increased from 30.1 years in 1975 to 33.2 years in 1990, while the median age for women increased from 27.9 to 31.1 years. Over the same period the median age at divorce for remarriages also increased but by a smaller amount than for first marriages.

One factor that affects the age at decree is the age at marriage for divorcing men and women. Tables 8 and 9 show that in the last decade the age at marriage shifted upward for men and women. In 1990, 73 percent of divorcing husbands and 81 percent of divorcing wives were under 30 years of age at the time of their marriages, compared with 80 and 87 percent, respectively, in 1980. Table 9 shows that the median age at marriage for divorcing husbands and wives was approximately 2 years older in 1990 (24.9 and 22.6 years, respectively) than in the 1970's and rose steadily throughout the 1980's. In 1990 the median age at marriage was approximately 10 years younger for first marriages (23.1 years for men; 21.0 years for women) than for remarriages (33.7 years for men; 30.6 years for women) ending in divorce. The median age at marriage increased for first marriages and for remarriages in the 1980's while maintaining the 10-year differential. The findings regarding the median age at marriage for divorcing couples are consistent with recent marriage data, which show increases in the age at marriage during the same period (7).

Duration

Most divorces are concentrated within the first 10 years of marriage as shown by the data in tables 10 and 11 and in figure 3. The median duration of marriage for divorcing couples in 1989 and in 1990 was 7.2 years, which is the longest duration in the 1970-90 period (table 10). In 1990 the median duration for first marriages was approximately 8 years for men and women, while the median duration for remarriages was more than 2 years shorter (between 5 and 6 years for men and women). Among remarriages, third marriages ended about 2 years

sooner than second marriages. First marriages and remarriages lasted longer in 1990 than in 1980, but the increase was greater for remarriages.

The percent of divorces by duration of marriage increased rapidly to a peak at 3 years after which it declined sharply through 10 years and more moderately thereafter (figure 3). Few divorces (3.3 percent in 1990) occurred within the first year of marriage partly due to requirements by many States that couples be separated for at least 1 year before obtaining a divorce (table 11). Approximately 32 percent of divorces in 1990 occurred for couples that had been married 1 to 4 years, while 28 percent occurred for couples married 5 to 9 years. Altogether, 63 percent of divorcing couples had been married less than 10 years. Only 12 percent of divorces were for couples married 20 years or longer.

There were differences among States in the timing of divorce as shown by the percent distribution and the median duration of marriages before divorce. In 1990 the percent of divorces with durations of less than 1 year ranged from 8.6 in Alabama to 0.6 percent in Virginia. The median duration of marriage before divorce was shortest in Alabama, Kentucky, and Tennessee (5.8 years) and longest in Maryland (9.1 years). To some

extent, the variation reflects State differences in divorce laws. In addition to divorce laws, other possible reasons for variations among States in the duration of marriage are differences in the proportions of first and remarriages. As discussed earlier in this report, first marriages last longer before divorce than remarriages.

Race

For the 27 States and the District of Columbia that reported information on the race of the husband and wife in 1990, 85 percent of divorcing couples were white, 11 percent were black, and 1 percent were of races other than white or black (table 12). The remaining 3 percent of divorces were for interracial couples, with divorces between a white husband and "other" wife the most frequent combination.

Studies have found higher rates of marital dissolution for black than white couples (8,9). Racial differences in economic circumstances and social networks have been cited as some of the reasons for the disparity. In 1990 divorce rates for black men and women were nearly 30 and 20 percent higher, respectively, than for white men and women and almost twice those of men and women of "other" races (table 13). The divorce rate

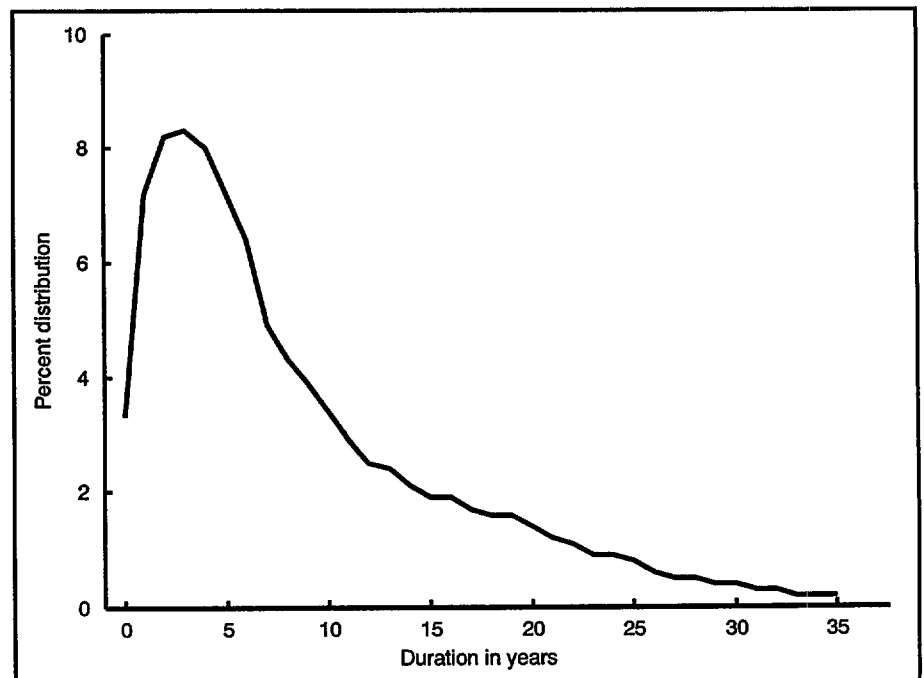


Figure 3. Percent distribution of divorces by duration of marriage: Divorce-registration area, 1990

for black men was 24.6 per 1,000 compared with 19.1 for white men and 12.7 for men of "other" races. The divorce rates for women by race were either identical or very similar to those of the men—22.8 for black women, 19.1 for white women, and 13.1 for women of "other" races.

The pattern in divorce rates by age differed between races. For white men and women and those of "other" races, divorce rates in 1990 were at their peak for the youngest age group, 15–24 years of age, and then they declined steadily with increasing age. For black men and women, the divorce rate peaked later, at 25–29 years of age, and declined thereafter. This delayed peak reflects the fact that black men and women are older at the time of marriage (tabular data not shown) and take longer to divorce than white men and women (as discussed later in this report). Divorce rates for all age groups except 15–24 years were higher for black men and women than for their white and "other" counterparts.

Tables 14–16 present data by race of the husband and wife on the mean age at time of decree, mean duration of marriage, and average number of children per decree. In 1990 black men and women were approximately a year older at the time of their divorce than white men and women and those of "other" races (table 14). Within racial groups the pattern in the relative ages differed depending on the race of the spouse. In general black men and women were younger at divorce when they were married to a white or "other" spouse than when they were married to a black spouse. Likewise, husbands of races other than white and black who were in interracial marriages were also younger at divorce than their counterparts in same-race marriages. This was also true for women of "other" races. White husbands and wives were younger at divorce when they were married to black spouses, but a consistent pattern was not evident when their spouses were of "other" races.

The differences in the relative ages of husbands and wives according to the race of their spouses can be partly attributed to differences in the duration of marriage for these couples. Table 15 shows that in 1990, marriages for black couples lasted approximately 1 year

longer before divorce (10.3 years) than marriages for white couples (9.2 years) and couples of "other" races (9.1 years). Data from previous years have shown that black husbands and wives separate sooner than white husbands and wives, but take more than twice as long to end their separations in divorce (10). All combinations of interracial marriages ended sooner than same-race marriages with marriages between an "other" husband and a black wife lasting the shortest length of time before divorce—5.3 years on average.

Table 16 shows the average number of children per decree by race of the husband and wife. When comparing same-race couples in 1990, there was very little difference in the average number of children ranging from 0.90 to 0.91 for white and black couples to 0.96 for couples of "other" races. Except for interracial marriages between a white wife and a black husband, the average number of children per decree for interracial couples was substantially lower than for same-race couples—ranging between 0.74 and 0.79.

Physical custody of children

Starting with 1989 data NCHS began collecting information on who was awarded the physical custody of the children at divorce. Data were collected on the number of children awarded to the husband, wife, the husband and wife jointly, or to some person other than the husband or wife. Fifteen States reported custody information in 1989; the number of reporting States increased to 19 in 1990.

Tables 17 and 18 contain similar information except that the data in table 17 show the number of divorces tabulated by person(s) to whom custody was awarded, while the data in table 18 show the total number of children for whom custody was determined. According to the data in table 17, 46 percent of divorces in 1990 had custody awarded while 54 percent did not. Most of the divorces in which custody was not awarded were those in which no children were involved in the divorce. There were some cases in which children were involved in the divorce but custody was not awarded. An example is a remarriage

for one of the spouses in which the children are brought in from the first marriage. For the 19 States that reported custody information in 1990, Virginia had the highest percent of divorces in which custody was not awarded (72 percent), while Nebraska had the lowest (39 percent). The variation by State in the percent of divorces in which custody was not awarded corresponded somewhat to the variation in the percent of divorces with no children present (table 4).

In 1990 the wife was awarded custody of the children almost three-fourths (72 percent) of the time in those divorces in which custody was awarded. Joint custody was the second most common arrangement (16 percent) while husbands were awarded custody in 9 percent of these divorces. Divorces in which custody was awarded to someone other than the husband and/or wife were rare, accounting for only 1 percent of the divorces in which custody was awarded. Divorces in which children of the same family were given different custody arrangements (for example, the husband is awarded custody of some of the children while the wife is awarded custody of other children) comprised 2 percent of the total number of divorces in which custody was awarded. Most States have divorce laws that state that custody should be awarded to either or both parents based on the "best interests of the child." Some reasons why wives are awarded custody more often are because they more often request custody of the children and also because of strong legal presumptions and traditions that favor the mother as the custodial parent, especially when the children are young (11,12). In recent years more fathers are taking a more active role in child care after divorce mostly through the adoption of laws that provide for joint custody. Most States have adopted provisions for joint custody although the advantages and disadvantages of this arrangement have been extensively debated (13). Variations by State in the distribution of custody arrangements reflect differences in State laws regarding joint custody. Custody awarded to the mother was the most common arrangement in every State—ranging from 45 percent of the divorces in which custody was awarded in Montana to 81 percent in Alabama.

The second most common arrangement varied among States and was either the father awarded custody or joint custody. The percent of divorces in which the father was awarded custody varied between 5 and 12 percent by State, while the percent of divorces in which joint custody was awarded had a much wider disparity among States, ranging between 4 and 44 percent. Divorces in which a person other than the husband or wife was awarded custody and divorces in which there was a combination of custody arrangements accounted for a small percent of divorces in all States.

The data in table 18 for children for whom custody was reported are very similar to the data in table 17 for divorces in which custody was awarded. In 1990 the wife was awarded custody of 73 percent of the children for whom custody was reported; husband and wife jointly, 16 percent; husband, 10 percent; and someone other than the wife and/or husband, 1 percent. The percent distribution by type of custody arrangement showed the greatest variation among States in cases where custody was awarded to the wife and where custody was awarded to the wife and husband jointly.

Table 19 shows that in 1990 the percent of children awarded to the husband increased from 9 percent for those husbands 20–24 years of age to 13 percent for husbands 45–49 years of age and then declined slightly for husbands 50 years of age or older (11 percent). This probably reflects the fact that the children of older husbands are more likely to be older than the children of younger husbands; and husbands more often request custody of older children (14). The percent of children that were awarded jointly peaked for husbands and wives in age groups from 35 to 44 years.

White and “other” husbands were more likely to be awarded custody of children than black husbands (table 20). There were also more joint custody awards for white and “other” husbands and wives. Thus, more than a quarter of white and “other” husbands (28–31 percent) were awarded the custody of their children through either sole or joint custody compared with 12 percent of black husbands.

In 1990 husbands were more likely awarded custody of their children when

they were in first marriages rather than in second, third, or higher-order marriages (table 21). Joint custody was also more likely for husbands in first marriages (16 percent).

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Symbols

- - - Data not available
 - . . . Category not applicable
 - Quantity zero
 - 0.0 Quantity more than zero but less than 0.05
 - * Figure does not meet standard of reliability or precision
-

Table 1. Divorces and annulments and rates: United States, 1940-90

[Data refer only to events occurring within the United States. Alaska included beginning with 1959, and Hawaii, beginning with 1960. Rates per 1,000 population enumerated as of April 1 for 1940, 1950, 1960, 1970, and 1980 and estimated as of July 1 for all other years]

Year	Divorces and annulments	Rate per 1,000 —	
		Total population ¹	Married women 15 years and over
1990	1,182,000	4.7	20.9
1989	1,157,000	4.7	20.4
1988	1,167,000	4.8	20.7
1987	1,166,000	4.8	20.8
1986	1,178,000	4.9	21.2
1985	1,190,000	5.0	21.7
1984	1,169,000	5.0	21.5
1983	1,158,000	5.0	21.3
1982	1,170,000	5.1	21.7
1981	1,213,000	5.3	22.6
1980	1,189,000	5.2	22.6
1979	1,181,000	5.3	22.8
1978	1,130,000	5.1	21.9
1977	1,091,000	5.0	21.1
1976	1,083,000	5.0	21.1
1975	1,036,000	4.8	20.3
1974	977,000	4.6	19.3
1973	915,000	4.3	18.2
1972	845,000	4.0	17.0
1971	773,000	3.7	15.8
1970	708,000	3.5	14.9
1969	639,000	3.2	13.4
1968	584,000	2.9	12.5
1967	523,000	2.6	11.2
1966	499,000	2.5	10.9
1965	479,000	2.5	10.6
1964	450,000	2.4	10.0
1963	428,000	2.3	9.6
1962	413,000	2.2	9.4
1961	414,000	2.3	9.6
1960	393,000	2.2	9.2
1959	395,000	2.2	9.3
1958	368,000	2.1	8.9
1957	381,000	2.2	9.2
1956	382,000	2.3	9.4
1955	377,000	2.3	9.3
1954	379,000	2.4	9.5
1953	390,000	2.5	9.9
1952	392,000	2.5	10.1
1951	381,000	2.5	9.9
1950	385,000	2.6	10.3
1949	397,000	2.7	10.6
1948	408,000	2.8	11.2
1947	483,000	3.4	13.6
1946	610,000	4.3	17.9
1945	485,000	3.5	14.4
1944	400,000	2.9	12.0
1943	359,000	2.6	11.0
1942	321,000	2.4	10.1
1941	293,000	2.2	9.4
1940	264,000	2.0	8.8

¹Rates for 1981-88 are revised and may differ from rates published previously. See Technical notes.

Table 2. Number and rate of divorces and annulments: United States, each region, division, and State, 1980, 1989, and 1990

[Data are counts of decrees granted supplied by States. Figures for the divorce-registration States differ from those based on sample data shown in table 4. Rates per 1,000 population in each area enumerated as of April 1 for 1980 and estimated as of July 1 for all other years]

Region, division, and State	Number			Rate		
	1990	1989	1980	1990	1989	1980
United States	¹ 1,182,000	¹ 1,157,000	1,189,000	4.7	4.7	5.2
Regions:						
Northeast	169,000	171,000	174,000	3.3	3.4	3.5
Midwest	274,000	262,000	292,000	4.6	4.4	5.0
South	¹ 470,000	¹ 457,000	449,000	¹ 5.5	¹ 5.4	6.0
West	269,000	267,000	274,000	5.1	5.1	6.3
Northeast:						
New England	44,039	45,715	49,049	3.3	3.5	4.0
Middle Atlantic	125,367	125,002	124,690	3.3	3.3	3.4
Midwest:						
East North Central	² 197,347	² 187,709	212,405	² 4.7	² 4.5	5.1
West North Central	76,256	74,778	79,625	4.3	4.2	4.6
South:						
South Atlantic	227,039	218,540	206,344	5.2	5.1	5.6
East South Central	91,508	90,265	² 87,528	6.0	6.0	² 6.0
West South Central	² 148,007	² 143,093	² 155,025	*	*	² 6.5
West:						
Mountain	² 79,425	² 76,582	86,088	² 6.5	² 6.3	7.6
Pacific	179,884	² 182,036	187,900	4.6	² 4.7	5.9
New England:						
Maine	5,176	5,702	6,205	4.2	4.7	5.5
New Hampshire	4,933	5,011	5,254	4.5	4.5	5.7
Vermont	2,491	2,523	2,623	4.4	4.5	5.1
Massachusetts	16,258	16,819	17,873	2.7	2.8	3.1
Rhode Island	3,754	3,626	3,606	3.7	3.6	3.8
Connecticut	11,427	12,034	13,488	3.5	3.7	4.3
Middle Atlantic:						
New York	58,283	60,570	61,972	3.2	3.4	3.5
New Jersey	27,113	26,059	27,796	3.5	3.4	3.8
Pennsylvania	39,971	38,373	34,922	3.4	3.2	2.9
East North Central:						
Ohio	53,504	48,627	58,809	4.9	4.5	5.4
Indiana	² 39,571	² 35,010	³ 40,006	² 7.1	² 6.3	³ 7.3
Illinois	45,977	46,066	50,997	4.0	4.0	4.5
Michigan	40,568	40,276	45,047	4.4	4.4	4.9
Wisconsin	17,727	17,730	17,546	3.6	3.7	3.7
West North Central:						
Minnesota	15,595	15,675	⁴ 15,371	3.6	3.6	⁴ 3.8
Iowa	10,913	10,507	11,854	3.9	3.8	4.1
Missouri	25,701	25,139	27,595	5.0	4.9	5.6
North Dakota	2,320	2,229	2,142	3.6	3.5	3.3
South Dakota	2,651	2,624	2,811	3.8	3.8	4.1
Nebraska	6,496	6,308	6,442	4.1	4.0	4.1
Kansas	12,580	12,296	13,410	5.1	5.0	5.7
South Atlantic:						
Delaware	2,986	2,896	2,313	4.5	4.4	3.9
Maryland	16,607	16,321	17,494	3.5	3.5	4.1
District of Columbia	2,291	2,751	4,682	3.8	4.4	7.3
Virginia	27,307	25,808	23,615	4.4	4.2	4.4
West Virginia	9,775	9,154	10,273	5.4	5.1	5.3
North Carolina	34,039	32,272	28,050	5.1	4.9	4.8
South Carolina	16,182	15,115	13,595	4.6	4.4	4.4
Georgia	36,857	34,558	34,743	5.7	5.4	6.4
Florida	80,995	79,665	71,579	6.2	6.3	7.3
East South Central:						
Kentucky	20,897	20,396	² 16,731	5.7	5.5	² 4.6
Tennessee	32,198	31,939	30,206	6.6	6.6	6.6
Alabama	25,678	24,985	26,745	6.3	6.2	6.9
Mississippi	12,735	12,945	13,846	4.9	5.0	5.5
West South Central:						
Arkansas	16,655	16,687	² 15,882	7.1	7.1	² 6.9
Louisiana	² 12,525	² 9,922	² 18,108	*	*	² 4.3
Oklahoma	24,977	23,050	24,226	7.9	7.3	8.0
Texas	93,850	93,434	96,809	5.5	5.6	6.8

See footnotes at end of table.

Table 2. Number and rate of divorces and annulments: United States, each region, division, and State, 1980, 1989, and 1990—Con.

[Data are counts of decrees granted supplied by States. Figures for the divorce-registration States differ from those based on sample data shown in table 4. Rates per 1,000 population in each area enumerated as of April 1 for 1980 and estimated as of July 1 for all other years]

Region, division, and State	Number			Rate		
	1990	1989	1980	1990	1989	1980
Mountain:						
Montana	4,049	4,112	4,940	5.1	5.1	6.3
Idaho	6,446	6,275	6,596	6.4	6.3	7.0
Wyoming	3,132	3,034	4,003	6.9	6.6	8.5
Colorado	18,665	18,686	18,571	5.6	5.7	6.4
New Mexico	² 9,327	² 8,817	10,426	26.1	² 5.9	8.0
Arizona	25,088	23,153	19,908	6.8	6.4	7.3
Utah	8,950	8,119	7,802	5.2	4.8	5.3
Nevada	13,095	13,203	13,842	10.8	11.6	17.3
Pacific:						
Washington	28,757	26,890	28,642	5.9	5.7	6.9
Oregon	15,734	15,079	17,762	5.5	5.4	6.7
California	127,044	^{2,5} 131,025	133,541	4.3	^{2,5} 4.5	5.6
Alaska	3,170	3,429	3,517	5.7	6.3	8.8
Hawaii	5,179	5,613	4,438	4.6	5.1	4.6

¹Figure includes estimates; see Technical notes.

²Data are incomplete; see Technical notes.

³Some counties reported divorce petitions filed rather than decrees granted.

⁴Data are estimated.

⁵Includes approximately 1,000 legal separations.

Table 3. Estimated number of children involved in divorces and annulments, average number of children per decree, and rate per 1,000 children under 18 years of age: United States, 1950-90

[Data refer to children under 18 years of age and only to events occurring within the United States. Beginning in 1960, estimated from frequencies based on sample data; for 1950-59, estimated from total counts. For estimating method, see Technical notes. Population enumerated as of April 1 for 1950, 1960, 1970, and 1980 and estimated as of July 1 for all other years]

Year	<i>Estimated number of children involved</i>	<i>Average number of children per decree</i>	<i>Rate per 1,000 children under 18 years of age</i>
1990	1,075,000	0.90	16.8
1989	1,063,000	0.91	16.8
1988	1,044,000	0.89	16.4
1987	1,038,000	0.89	16.3
1986	1,064,000	0.90	16.8
1985	1,091,000	0.92	17.3
1984	1,081,000	0.92	17.2
1983	1,091,000	0.94	17.4
1982	1,108,000	0.94	17.6
1981	1,180,000	0.97	18.7
1980	1,174,000	0.98	17.3
1979	1,181,000	1.00	18.4
1978	1,147,000	1.01	17.7
1977	1,095,000	1.00	16.7
1976	1,117,000	1.03	16.9
1975	1,123,000	1.08	16.7
1974	1,099,000	1.12	16.2
1973	1,079,000	1.17	15.7
1972	1,021,000	1.20	14.7
1971	946,000	1.22	13.6
1970	870,000	1.22	12.5
1969	840,000	1.31	11.9
1968	784,000	1.34	11.1
1967	701,000	1.34	9.9
1966	669,000	1.34	9.5
1965	630,000	1.32	8.9
1964	613,000	1.36	8.7
1963	562,000	1.31	8.2
1962	532,000	1.29	7.9
1961	516,000	1.25	7.8
1960	463,000	1.18	7.2
1959	468,000	1.18	7.5
1958	398,000	1.08	6.5
1957	379,000	0.99	6.4
1956	361,000	0.95	6.3
1955	347,000	0.92	6.3
1954	341,000	0.90	6.4
1953	330,000	0.85	6.4
1952	318,000	0.81	6.2
1951	304,000	0.80	6.1
1950	299,000	0.78	6.3

Table 4. Number of divorces and annulments and percent distribution, by number of children involved under 18 years of age: Divorce-registration area and each registration State, 1989 and 1990

[Based on sample data]

Area and year	All divorces and annulments	Number of children involved under 18 years of age					
		Total	None	1	2	3	4 or more
1990		Number		Percent distribution			
Divorce-registration area	580,111	100.0	47.0	25.1	20.0	6.1	1.8
Alabama	25,770	100.0	48.9	26.3	17.8	5.2	1.7
Alaska	3,161	100.0	50.9	22.0	19.1	5.5	2.5
Connecticut	10,330	100.0	50.5	23.9	19.2	5.2	1.2
Delaware	3,034	100.0	47.5	25.2	19.9	5.7	1.7
District of Columbia	2,490	100.0	62.0	22.3	11.8	2.7	1.2
Georgia	36,940	100.0	47.8	26.6	19.5	4.8	1.3
Hawaii	5,179	100.0	47.7	23.3	20.2	6.4	2.4
Idaho	6,458	100.0	45.2	22.7	20.4	7.9	3.8
Illinois	45,990	100.0	45.5	24.7	20.9	7.1	1.8
Iowa	10,914	100.0	41.1	24.3	23.7	8.6	2.2
Kansas	12,570	100.0	44.8	23.6	21.9	7.5	2.3
Kentucky	20,750	100.0	49.0	25.9	19.0	5.0	1.1
Maryland	16,565	100.0	53.9	25.3	15.8	4.1	0.9
Massachusetts	16,280	100.0	45.3	25.2	21.4	6.6	1.5
Michigan	40,640	100.0	46.3	22.7	21.8	6.7	2.4
Missouri	25,685	100.0	45.8	25.9	20.3	6.2	1.8
Montana	4,049	100.0	44.7	23.6	21.5	7.7	2.5
Nebraska	6,500	100.0	36.4	24.7	25.1	10.9	2.9
New Hampshire	4,955	100.0	40.6	25.9	24.4	7.2	1.9
New York	58,160	100.0	52.5	24.3	17.1	4.9	1.2
Ohio	53,500	100.0	46.4	25.1	20.6	6.4	1.5
Oregon	15,755	100.0	48.2	22.5	20.4	6.2	2.7
Pennsylvania	40,120	100.0	43.2	27.6	21.3	6.4	1.6
Rhode Island	3,754	100.0	42.7	27.7	22.0	6.2	1.5
South Carolina	16,190	100.0	46.7	27.6	19.1	5.2	1.4
South Dakota	2,654	100.0	40.3	24.8	23.6	8.3	3.0
Tennessee	32,110	100.0	50.1	27.1	17.5	4.6	0.8
Utah	8,950	100.0	36.8	21.6	21.4	11.6	8.6
Vermont	2,491	100.0	42.6	23.8	25.0	6.4	2.2
Virginia	27,275	100.0	51.3	26.1	17.6	4.2	0.9
Wisconsin	17,760	100.0	39.4	24.6	25.0	8.7	2.3
Wyoming	3,132	100.0	43.2	23.1	22.8	8.2	2.7
1989		Number		Percent distribution			
Divorce-registration area	568,441	100.0	46.8	25.2	19.9	6.2	1.9
Alabama	25,085	100.0	48.2	26.7	18.4	5.2	1.5
Alaska	3,419	100.0	47.6	24.5	19.2	6.2	2.5
Connecticut	11,852	100.0	50.9	23.9	18.7	5.3	1.2
Delaware	2,896	100.0	47.0	26.9	19.0	5.7	1.3
District of Columbia	1,842	100.0	63.0	22.0	11.1	2.7	*
Georgia	35,180	100.0	49.6	26.1	17.7	5.2	1.4
Hawaii	5,613	100.0	44.6	25.1	20.9	6.4	2.9
Idaho	6,286	100.0	44.6	22.6	21.5	7.5	3.8
Illinois	45,870	100.0	45.4	25.0	20.4	7.0	2.1
Iowa	10,510	100.0	39.1	24.4	25.3	9.0	2.3
Kansas	12,294	100.0	44.5	23.1	22.4	7.5	2.4
Kentucky	20,395	100.0	50.3	26.6	16.6	4.9	1.6
Maryland	16,315	100.0	53.2	25.9	16.2	4.0	0.8
Massachusetts	16,845	100.0	45.5	25.5	21.1	5.8	2.2
Michigan	40,270	100.0	44.1	24.4	21.4	7.3	3.0
Missouri	25,135	100.0	48.0	24.3	19.7	6.3	1.7
Montana	4,103	100.0	44.9	22.4	22.5	7.7	2.5
Nebraska	6,344	100.0	37.1	25.3	24.7	9.9	3.1
New Hampshire	5,023	100.0	42.3	26.4	23.0	6.6	1.8
New York	60,600	100.0	52.9	22.7	16.9	5.8	1.7
Ohio	48,630	100.0	45.4	25.4	21.0	6.3	1.9
Oregon	15,095	100.0	47.6	21.7	21.5	6.7	2.5
Pennsylvania	38,390	100.0	42.7	26.9	22.5	6.3	1.6
Rhode Island	3,626	100.0	40.5	26.1	24.6	6.6	2.2
South Carolina	15,120	100.0	46.8	28.4	19.0	4.9	1.1
South Dakota	2,627	100.0	41.5	24.4	23.1	8.2	2.8
Tennessee	31,880	100.0	50.1	26.9	17.6	4.2	1.1
Utah	8,114	100.0	37.8	22.4	21.0	10.6	8.3
Vermont	2,523	100.0	39.8	25.3	26.2	6.6	2.1
Virginia	25,790	100.0	50.7	26.7	17.0	4.6	1.0
Wisconsin	17,735	100.0	37.6	25.6	25.6	8.7	2.5
Wyoming	3,034	100.0	42.0	23.2	24.3	7.6	2.9

Table 5. Number of divorces and annulments by age of men and women at time of decree, 1990; and rates by age of men and women at time of decree, 1970, 1980, and 1984-90: Divorce-registration area

[Based on sample data. Before calculation of rates, figures for age not stated were distributed. Before 1989, rates exclude data for Michigan, Ohio, and South Dakota; beginning in 1989 rates exclude data for Ohio and South Dakota. Rates per 1,000 married population in specified group enumerated as of April 1 for 1970 and 1980 and estimated as of July 1 for all other years]

Age of men and women at time of decree	Number		Rate							
	1990	1990	1989	1988	1987	1986	1985	1984	1980	1970
Men										
All ages	580,111	19.2	18.7	18.9	18.8	19.0	19.4	19.2	19.8	14.2
15-19 years ¹	2,183	32.8	34.7	37.5	37.6	41.2	40.0	42.9	29.3	15.1
20-24 years	41,952	50.2	51.1	55.9	52.2	49.5	49.9	48.2	46.9	33.6
25-29 years	100,807	39.3	37.9	38.9	37.6	38.2	38.4	37.6	41.4	30.0
30-34 years	111,292	31.9	30.5	30.2	30.4	30.6	30.4	31.7	33.8	22.3
35-39 years	94,481	25.9	25.8	26.1	26.0	25.4	26.3	27.1	26.8	17.9
40-44 years	75,535	21.9	21.7	21.3	21.4	22.2	23.2	22.0	21.0	13.8
45-49 years	47,805	17.3	16.9	17.0	17.1	17.2	16.7	16.1	14.5	10.7
50-54 years	27,388	12.0	11.5	11.4	11.0	10.8	11.1	10.7	9.5	7.6
55-59 years	16,062	7.8	7.2	7.0	6.5	6.4	6.8	6.4	5.8	5.1
60-64 years	9,623	4.7	4.5	4.5	4.3	4.2	4.1	4.0	3.7	3.4
65 years and over	9,599	2.1	2.0	1.9	2.0	2.0	2.1	1.9	1.9	1.9
Not stated	43,384	...	...	...	...	...	...	...	...	...
Women										
All ages	580,111	18.7	18.4	18.5	18.6	18.8	19.2	18.8	19.5	14.0
15-19 years ¹	8,316	48.6	52.0	56.3	49.5	51.4	48.4	45.5	42.4	26.9
20-24 years	69,340	46.0	44.8	46.3	46.0	46.2	46.8	44.4	47.2	33.3
25-29 years	116,486	36.6	35.6	35.6	33.9	34.8	35.6	35.0	37.8	25.7
30-34 years	111,421	27.9	27.7	26.7	27.2	27.7	28.6	28.1	29.2	18.9
35-39 years	86,858	23.1	22.6	22.3	23.1	23.0	23.4	23.5	23.3	14.8
40-44 years	66,310	19.3	19.1	19.0	18.7	18.8	19.6	18.5	16.7	11.9
45-49 years	36,852	13.8	12.9	13.0	13.1	12.8	12.6	11.8	10.8	8.5
50-54 years	18,330	8.2	7.8	7.8	7.5	7.6	7.4	7.4	6.6	5.6
55-59 years	9,285	4.8	4.7	4.7	4.5	4.2	4.2	4.3	3.9	3.5
60-64 years	5,670	2.9	2.7	2.8	2.7	2.8	2.7	2.7	2.7	2.3
65 years and over	5,151	1.4	1.4	1.5	1.5	1.5	1.6	1.4	1.4	1.3
Not stated	46,092	...	...	...	...	...	...	...	...	...

¹Includes divorces of persons under 15 years of age.

Table 6. Percent distribution of divorces and annulments by age of husband and wife at time of decree: Divorce-registration area, 1970 and 1980-90

[Based on sample data]

<i>Age of husband and wife at time of decree</i>	1990	1989	1988	1987	1986	1985	1984	1983	1982	1981	1980	1970
Husband												
	Percent distribution											
All ages	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Under 20 years	0.4	0.4	0.4	0.4	0.5	0.5	0.5	0.6	0.6	0.7	0.8	0.8
20-24 years	7.8	8.2	8.7	9.0	9.7	10.3	10.6	11.0	11.7	12.5	13.5	16.3
25-29 years	18.8	18.9	19.8	20.2	20.6	21.0	20.9	21.3	22.0	22.8	23.4	22.8
30-34 years	20.7	21.2	20.8	20.8	20.6	20.6	20.7	21.0	21.3	22.1	21.4	16.2
35-39 years	17.6	17.5	17.2	17.3	17.6	17.2	17.1	16.6	16.3	15.1	14.6	12.8
40-44 years	14.1	13.7	13.3	13.0	12.1	12.0	11.8	11.5	10.7	10.0	9.8	10.7
45-49 years	8.9	8.6	8.4	8.1	7.8	7.4	7.4	7.2	6.9	6.7	6.5	8.3
50-54 years	5.1	5.0	4.9	4.8	4.8	4.8	4.7	4.8	4.6	4.6	4.4	5.4
55-59 years	3.0	3.0	2.9	2.9	2.9	3.0	3.0	2.9	2.8	2.7	2.7	3.2
60-64 years	1.8	1.8	1.8	1.8	1.7	1.6	1.7	1.7	1.5	1.5	1.4	1.8
65 years and over	1.8	1.8	1.7	1.7	1.7	1.7	1.6	1.5	1.5	1.4	1.4	1.7
Wife												
All ages	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Under 20 years	1.6	1.6	1.7	1.7	2.0	2.1	2.2	2.5	2.7	2.9	3.4	4.1
20-24 years	13.0	13.3	14.4	15.0	16.3	16.8	17.3	17.4	18.6	19.5	20.8	24.9
25-29 years	21.8	22.4	22.6	22.6	22.8	23.1	23.1	23.6	24.1	24.8	24.6	21.8
30-34 years	20.9	21.1	20.4	20.3	19.8	19.9	19.7	19.5	19.9	20.2	19.4	14.4
35-39 years	16.3	16.2	15.8	16.1	16.2	15.5	15.4	15.0	14.2	13.1	12.8	11.0
40-44 years	12.4	11.8	11.4	11.0	10.1	10.2	9.8	9.5	8.8	8.2	7.7	9.4
45-49 years	6.9	6.6	6.5	6.2	5.8	5.6	5.5	5.5	5.1	4.9	4.8	6.8
50-54 years	3.4	3.3	3.3	3.2	3.2	3.1	3.2	3.2	3.1	3.1	3.1	3.8
55-59 years	1.7	1.8	1.8	1.9	1.8	1.8	1.9	1.9	1.8	1.8	1.7	2.0
60-64 years	1.1	1.0	1.1	1.1	1.1	1.1	1.0	1.0	1.0	0.9	0.9	1.0
65 years and over	1.0	0.9	1.0	0.9	0.9	0.9	0.8	0.9	0.8	0.8	0.8	0.8

Table 7. Median and mean age of husband and wife at time of decree by number of this marriage: Divorce-registration area, 1970-90

[Based on sample data. Means and medians computed on data by single years of age]

Year	Number of marriage of husband						Number of marriage of wife					
	Total	First marriage	Remarriage			Number of marriage not stated	Total	First marriage	Remarriage			Number of marriage not stated
			Total ¹	Second marriage	Third marriage or more				Total ¹	Second marriage	Third marriage or more	
Median age in years												
1990	35.6	33.2	41.5	40.4	44.9	35.1	33.2	31.1	38.2	37.3	40.6	32.8
1989	35.4	32.9	41.2	40.2	44.3	35.6	32.9	30.9	37.7	36.8	40.2	33.1
1988	35.1	32.7	40.8	39.7	44.1	35.3	32.6	30.6	37.5	36.6	40.1	32.7
1987	34.9	32.6	40.4	39.5	43.7	35.1	32.5	30.5	37.3	36.4	39.8	32.6
1986	34.6	32.4	40.0	39.2	43.5	34.9	32.1	30.2	37.0	36.1	39.4	32.2
1985	34.4	32.2	39.8	38.8	43.0	34.5	31.9	30.0	36.8	36.0	39.1	31.8
1984	34.3	32.2	39.6	38.5	42.7	34.4	31.7	30.0	36.4	35.7	38.5	31.5
1983	34.0	32.1	39.3	38.3	42.6	34.1	31.5	29.8	36.3	35.5	38.9	31.3
1982	33.6	31.7	39.1	38.0	42.4	33.7	31.1	29.5	35.8	35.0	38.8	30.9
1981	33.1	31.4	38.5	37.4	42.4	33.4	30.6	29.1	35.3	34.5	38.5	30.6
1980	32.7	31.0	38.3	37.3	41.9	32.8	30.3	28.8	35.2	34.3	38.3	30.1
1979	32.5	30.8	38.4	37.3	42.4	32.5	30.1	28.6	35.3	34.4	38.5	29.9
1978	32.0	30.5	38.2	36.9	41.1	32.5	29.7	28.3	35.1	33.9	38.7	29.7
1977	32.4	30.5	39.3	38.0	43.8	32.5	29.9	28.2	35.7	34.6	40.1	29.9
1976	32.3	30.2	39.6	38.2	44.3	31.9	29.7	28.1	36.2	34.9	40.8	29.2
1975	32.2	30.1	39.9	38.3	44.9	32.8	29.5	27.9	36.4	35.1	40.8	29.7
1974	32.2	30.2	40.3	38.7	45.0	32.0	29.5	27.7	36.7	35.4	41.3	29.2
1973	32.4	30.4	40.8	39.3	45.8	31.7	29.7	27.8	37.3	36.0	42.0	28.7
1972	32.6	30.4	40.9	39.4	45.6	32.4	29.8	27.9	37.7	36.2	42.6	29.6
1971	32.9	30.5	41.5	40.0	46.3	32.6	29.8	27.7	37.9	36.5	42.2	29.6
1970	32.9	30.5	41.5	39.9	46.5	33.1	29.8	27.7	38.2	36.5	42.8	29.3
Mean age in years												
1990	37.3	35.0	43.1	41.9	46.5	37.2	34.8	32.9	39.5	38.6	41.9	34.7
1989	37.2	34.8	42.9	41.8	46.1	37.4	34.6	32.7	39.2	38.3	41.6	34.7
1988	36.9	34.7	42.5	41.5	45.8	37.0	34.4	32.5	39.0	38.2	41.5	34.3
1987	36.8	34.6	42.3	41.3	45.5	37.2	34.2	32.4	38.8	38.0	41.4	34.4
1986	36.5	34.4	42.1	41.0	45.2	36.6	33.9	32.2	38.6	37.8	41.1	33.8
1985	36.4	34.3	41.9	41.0	44.9	36.4	33.7	32.0	38.5	37.7	41.2	33.6
1984	36.2	34.2	41.6	40.7	44.6	36.4	33.6	31.9	38.2	37.5	40.5	33.6
1983	36.1	34.1	41.4	40.5	44.6	36.1	33.5	31.8	38.1	37.2	41.0	33.1
1982	35.7	33.7	41.3	40.3	44.6	35.8	33.1	31.4	37.9	37.0	40.7	32.9
1981	35.4	33.4	40.9	39.8	44.5	35.8	32.7	31.1	37.6	36.7	40.5	32.7
1980	35.1	33.2	40.6	39.6	43.7	35.3	32.4	30.8	37.4	36.5	40.4	32.3
1979	35.0	33.1	40.7	39.7	44.2	35.4	32.3	30.7	37.4	36.6	40.5	32.5
1978	34.8	32.9	40.5	39.5	43.8	35.0	32.1	30.5	37.2	36.2	40.5	32.1
1977	35.1	33.0	41.4	40.4	45.3	35.1	32.4	30.5	38.1	37.2	41.6	32.2
1976	35.1	32.9	41.7	40.4	45.6	34.6	32.3	30.4	38.3	37.1	42.2	31.8
1975	35.0	32.8	41.7	40.4	45.8	35.6	32.3	30.3	38.5	37.4	42.1	32.5
1974	35.1	32.9	42.1	40.9	46.1	35.1	32.3	30.3	38.8	37.6	42.6	32.1
1973	35.3	33.1	42.4	41.1	46.4	34.9	32.5	30.4	39.1	38.0	42.7	31.6
1972	35.4	33.2	42.4	41.1	46.4	35.3	32.6	30.5	39.3	38.0	43.4	32.4
1971	35.6	33.2	42.7	41.4	46.8	35.2	32.7	30.4	39.4	38.2	43.0	32.3
1970	35.6	33.2	42.8	41.4	47.1	35.4	32.7	30.4	39.3	38.1	43.4	32.2

¹Includes remarried, number not stated.

Table 8. Percent distribution of divorces and annulments by age of husband and wife at time of this marriage: Divorce-registration area, 1970 and 1980-90

[Based on sample data]

<i>Age of husband and wife at time of this marriage</i>	1990	1989	1988	1987	1986	1985	1984	1983	1982	1981	1980	1970
Husband	Percent distribution											
All ages	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Under 20 years	11.7	12.1	12.4	12.8	13.7	14.2	14.9	15.4	16.1	17.0	18.0	19.3
20-24 years	38.8	39.3	40.2	40.5	40.8	41.4	41.9	42.5	43.0	44.0	44.0	43.8
25-29 years	22.3	22.0	21.8	21.3	21.0	20.5	20.1	19.7	19.3	18.7	18.4	16.4
30-34 years	11.6	11.1	10.8	10.6	10.4	10.3	9.7	9.3	9.0	8.6	8.1	7.6
35-39 years	6.5	6.5	6.2	6.3	5.8	5.5	5.4	5.1	5.0	4.6	4.5	4.6
40-44 years	3.9	3.8	3.7	3.5	3.5	3.4	3.1	3.2	3.0	2.8	2.8	3.2
45 years and over	5.2	5.3	5.0	5.0	4.9	4.8	4.9	4.7	4.7	4.5	4.2	5.2
Wife												
All ages	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Under 20 years	27.6	28.5	29.6	30.4	31.7	32.6	34.0	35.1	36.6	38.3	39.9	46.1
20-24 years	36.6	36.3	36.5	36.5	36.4	36.7	36.4	36.3	36.2	35.9	35.5	30.3
25-29 years	16.4	16.6	15.9	15.4	14.8	14.4	13.8	13.3	12.7	12.1	11.4	9.5
30-34 years	8.5	8.3	8.1	7.9	7.6	7.2	6.8	6.7	6.2	5.8	5.6	4.8
35-39 years	5.1	4.8	4.6	4.5	4.4	4.0	4.0	3.7	3.6	3.2	3.1	3.4
40-44 years	2.7	2.7	2.5	2.4	2.3	2.3	2.1	2.1	2.0	1.9	1.9	2.3
45 years and over	3.0	2.9	2.9	3.0	2.9	2.9	2.9	2.9	2.8	2.7	2.6	3.5

Table 9. Median and mean age of husband and wife at time of this marriage by number of marriage: Divorce-registration area, 1970-90

[Based on sample data. Medians and means computed on data by single years of age]

Year	Number of marriage of husband						Number of marriage of wife					
	Total	First marriage	Remarriage			Number of marriage not stated	Total	First marriage	Remarriage			Number of marriage not stated
			Total ¹	Second marriage	Third marriage or more				Total ¹	Second marriage	Third marriage or more	
Median age in years												
1990	24.9	23.1	33.7	32.0	39.0	25.0	22.6	21.0	30.6	29.1	35.3	22.6
1989	24.8	23.0	33.6	31.9	38.7	24.8	22.5	20.9	30.3	28.8	35.0	22.4
1988	24.6	22.8	33.4	31.8	38.5	24.7	22.3	20.8	30.1	28.7	34.9	22.3
1987	24.5	22.8	33.4	31.8	38.2	24.6	22.2	20.7	30.2	28.7	34.9	22.2
1986	24.3	22.7	33.2	31.6	38.0	24.6	22.0	20.6	30.0	28.6	34.7	22.1
1985	24.1	22.6	32.9	31.4	37.9	24.2	21.8	20.5	29.8	28.4	34.6	21.8
1984	24.0	22.5	32.7	31.3	37.5	24.2	21.7	20.4	29.6	28.3	34.0	21.6
1983	23.8	22.4	32.5	31.1	37.7	24.3	21.5	20.3	29.5	28.1	34.1	21.5
1982	23.7	22.3	32.4	31.0	37.6	23.9	21.3	20.2	29.2	28.0	34.3	21.4
1981	23.4	22.1	32.0	30.6	37.6	23.7	21.1	20.0	28.9	27.7	33.9	21.2
1980	23.3	22.0	31.8	30.4	37.1	23.7	20.9	19.9	28.8	27.4	33.9	21.0
1979	23.2	22.0	31.7	30.4	37.2	23.5	20.9	19.8	28.8	27.4	34.0	20.9
1978	23.0	21.9	31.5	30.1	37.1	23.2	20.7	19.7	28.5	27.1	34.1	20.6
1977	23.1	21.9	32.1	30.6	38.1	23.1	20.7	19.7	28.9	27.5	34.7	20.6
1976	23.1	21.9	32.5	30.7	38.6	22.8	20.7	19.7	29.3	27.6	35.2	20.4
1975	23.0	21.9	32.1	30.5	38.8	23.1	20.6	19.7	29.1	27.4	35.3	20.4
1974	23.0	21.8	32.6	30.8	39.1	23.1	20.6	19.6	29.3	27.7	35.5	20.4
1973	22.9	21.8	32.8	31.0	39.3	23.0	20.5	19.6	29.4	27.7	36.3	20.4
1972	23.0	21.8	32.7	30.8	39.0	22.9	20.5	19.5	29.5	27.7	36.8	20.4
1971	23.0	21.8	33.0	31.1	39.8	22.8	20.5	19.5	29.6	27.9	36.1	20.1
1970	23.0	21.8	33.0	31.1	39.8	22.7	20.4	19.4	29.6	27.7	36.8	19.9
Mean age in years												
1990	27.6	24.2	35.8	34.1	40.6	27.8	25.0	22.0	32.4	31.0	36.5	25.2
1989	27.5	24.1	35.7	34.1	40.5	27.6	24.9	21.9	32.2	30.8	36.5	24.9
1988	27.3	23.9	35.5	34.0	40.2	27.5	24.7	21.8	32.1	30.7	36.4	24.7
1987	27.2	23.9	35.5	34.0	40.2	27.6	24.7	21.7	32.1	30.7	36.5	24.8
1986	27.0	23.8	35.4	33.9	40.0	27.4	24.4	21.6	32.0	30.6	36.2	24.6
1985	26.9	23.7	35.3	33.8	39.8	27.3	24.3	21.5	31.9	30.6	36.4	24.3
1984	26.7	23.5	35.1	33.7	39.6	27.4	24.1	21.3	31.8	30.5	35.7	24.6
1983	26.6	23.4	34.9	33.5	39.5	27.2	24.0	21.2	31.7	30.4	36.2	24.2
1982	26.4	23.3	35.0	33.5	39.8	27.0	23.8	21.0	31.6	30.3	36.1	24.1
1981	26.1	23.1	34.6	33.2	39.6	26.9	23.5	20.9	31.4	30.1	35.9	23.9
1980	25.9	23.0	34.4	33.0	39.0	26.7	23.3	20.7	31.2	29.8	35.9	23.8
1979	25.8	22.9	34.5	33.1	39.2	26.6	23.2	20.6	31.2	29.9	35.9	23.6
1978	25.7	22.9	34.2	32.8	39.0	26.1	23.1	20.5	31.0	29.6	36.0	23.1
1977	25.9	22.9	34.9	33.5	40.0	26.0	23.3	20.5	31.6	30.2	36.6	22.9
1976	25.9	22.9	35.2	33.5	40.4	25.6	23.3	20.5	31.9	30.2	37.1	22.6
1975	25.8	22.9	35.0	33.4	40.5	26.2	23.2	20.4	31.8	30.3	37.0	23.0
1974	25.9	22.8	35.4	33.7	40.9	25.9	23.2	20.4	32.1	30.4	37.5	22.8
1973	25.9	22.8	35.5	33.8	40.9	25.9	23.2	20.3	32.1	30.5	37.6	22.7
1972	25.9	22.9	35.3	33.7	40.7	25.8	23.2	20.3	32.2	30.5	37.9	22.8
1971	26.0	22.9	35.6	33.8	41.3	25.3	23.2	20.2	32.3	30.6	37.7	22.3
1970	26.1	23.0	35.7	34.0	41.2	25.5	23.2	20.2	32.3	30.5	38.0	22.2

¹Includes remarried, number not stated.

Table 10. Median and mean duration of marriage at time of decree by number of this marriage of husband and wife: Divorce-registration area, 1970-90

[Based on sample data]

Year	Number of marriage of husband						Number of marriage of wife				
	Total	First marriage	Remarriage			Number of marriage not stated	First marriage	Remarriage			
			Total ¹	Second marriage	Third marriage or more			Total ¹	Second marriage	Third marriage or more	Number of marriage not stated
Median duration in years											
1990	7.2	8.1	5.8	6.3	4.6	6.8	8.3	5.5	6.1	4.0	6.8
1989	7.2	8.1	5.7	6.2	4.3	7.2	8.2	5.4	6.0	3.9	7.1
1988	7.1	8.0	5.5	5.9	4.3	7.0	8.1	5.3	5.9	3.9	7.1
1987	7.0	7.9	5.3	5.7	4.0	7.0	8.0	5.1	5.6	3.7	7.0
1986	6.9	7.9	5.1	5.5	3.9	6.9	7.9	5.0	5.5	3.6	6.9
1985	6.8	8.0	4.9	5.4	3.7	6.5	8.0	4.8	5.4	3.5	6.5
1984	6.9	8.3	4.8	5.2	3.6	6.5	8.2	4.7	5.2	3.4	6.5
1983	7.0	8.4	4.8	5.2	3.6	6.6	8.4	4.7	5.2	3.3	6.6
1982	7.0	8.2	4.6	5.0	3.4	6.8	8.2	4.5	5.0	3.2	6.9
1981	7.0	8.1	4.5	4.9	3.3	6.8	8.0	4.4	4.9	3.1	6.8
1980	6.8	7.8	4.4	4.8	3.2	6.6	7.7	4.4	4.8	3.2	6.6
1979	6.8	7.8	4.4	4.8	3.3	6.6	7.7	4.4	4.8	3.0	6.7
1978	6.6	7.5	4.3	4.6	3.2	6.3	7.5	4.3	4.7	3.0	6.4
1977	6.6	7.5	4.6	4.8	3.5	6.4	7.4	4.6	4.9	3.4	6.4
1976	6.5	7.3	4.5	4.8	3.5	6.1	7.3	4.5	4.9	3.4	6.2
1975	6.5	7.3	4.5	4.8	3.6	6.4	7.2	4.5	5.0	3.2	6.4
1974	6.5	7.3	4.6	5.0	3.6	6.4	7.2	4.6	5.0	3.5	6.5
1973	6.6	7.5	4.6	4.9	3.7	6.3	7.5	4.8	5.2	3.6	6.3
1972	6.7	7.5	4.7	5.0	3.8	6.2	7.4	4.8	5.2	3.7	6.3
1971	6.7	7.6	4.9	5.2	3.8	6.5	7.5	4.9	5.4	3.7	6.5
1970	6.7	7.6	4.8	5.1	3.9	6.5	7.6	4.9	5.3	3.8	6.5
Mean duration in years											
1990	9.8	10.9	7.4	7.8	6.0	9.3	11.0	7.1	7.7	5.4	9.3
1989	9.8	10.8	7.2	7.8	5.7	9.7	10.9	7.0	7.6	5.2	9.7
1988	9.7	10.8	7.0	7.5	5.6	9.6	10.9	6.9	7.5	5.2	9.7
1987	9.6	10.8	6.9	7.4	5.4	9.5	10.8	6.8	7.3	5.0	9.6
1986	9.6	10.7	6.7	7.2	5.3	9.4	10.7	6.7	7.2	5.0	9.5
1985	9.5	10.7	6.7	7.2	5.1	9.2	10.7	6.6	7.1	4.9	9.2
1984	9.5	10.8	6.5	7.0	5.1	9.1	10.8	6.5	7.0	4.8	9.2
1983	9.6	10.8	6.6	7.0	5.1	9.1	10.8	6.5	7.0	4.9	9.2
1982	9.4	10.5	6.4	6.9	4.8	9.3	10.5	6.3	6.8	4.7	9.3
1981	9.3	10.4	6.3	6.7	4.9	9.1	10.4	6.3	6.7	4.7	9.2
1980	9.2	10.2	6.2	6.6	4.8	9.2	10.2	6.3	6.8	4.7	9.2
1979	9.3	10.3	6.3	6.7	5.0	9.1	10.2	6.3	6.8	4.7	9.2
1978	9.1	10.1	6.3	6.7	4.9	8.9	10.1	6.3	6.7	4.6	9.0
1977	9.2	10.2	6.5	6.9	5.3	9.0	10.1	6.6	7.0	5.1	9.1
1976	9.2	10.1	6.5	7.0	5.2	8.9	10.1	6.6	7.0	5.2	9.0
1975	9.2	10.0	6.7	7.1	5.4	9.1	10.0	6.8	7.3	5.1	9.1
1974	9.3	10.1	6.8	7.2	5.2	9.3	10.1	6.8	7.2	5.2	9.4
1973	9.4	10.3	6.9	7.3	5.6	9.2	10.3	7.0	7.6	5.2	9.3
1972	9.5	10.3	7.1	7.5	5.8	9.2	10.3	7.1	7.6	5.6	9.3
1971	9.5	10.4	7.1	7.6	5.6	9.4	10.4	7.2	7.7	5.4	9.4
1970	9.5	10.4	7.1	7.4	5.9	9.4	10.4	7.1	7.7	5.5	9.5

¹Includes remarried, number not stated.

Table 11. Percent distribution of divorces and annulments by duration of marriage to decree and median and mean duration of marriage to decree: Divorce-registration area and each registration State, 1989 and 1990

[Based on sample data]

Area and year	Total	Less than 1 year	1-4 years	5-9 years	10-14 years	15-19 years	20-24 years	25 years and over	Median	Mean
1990		Percent distribution							Years ¹	
Divorce-registration area	100.0	3.3	31.7	28.3	15.0	9.2	6.2	6.2	7.2	9.8
Alabama	100.0	8.6	35.9	25.2	12.9	7.2	5.1	5.3	5.8	8.5
Alaska	100.0	5.4	36.4	28.7	14.3	7.1	4.9	3.3	6.2	8.2
Connecticut	100.0	1.4	30.5	27.4	15.0	10.0	7.6	8.0	7.9	10.7
Delaware	100.0	1.7	32.2	28.9	15.4	9.1	6.3	6.4	7.4	9.9
District of Columbia	100.0	0.8	28.5	32.6	14.6	9.4	6.0	8.1	7.8	10.6
Georgia	100.0	5.8	37.5	27.3	12.3	8.6	4.2	4.3	5.9	8.3
Hawaii	100.0	3.1	35.0	30.1	14.3	8.3	4.7	4.5	6.6	8.9
Idaho	100.0	7.1	36.1	25.8	13.7	8.3	4.7	4.3	6.0	8.5
Illinois	100.0	3.3	31.3	28.0	15.2	9.4	6.5	6.2	7.4	9.9
Iowa	100.0	3.0	30.6	26.7	15.9	10.3	6.8	6.7	7.8	10.2
Kansas	100.0	6.3	36.5	26.9	13.5	7.3	4.9	4.6	6.0	8.4
Kentucky	100.0	6.7	37.6	24.9	13.1	7.6	4.9	5.2	5.8	8.5
Maryland	100.0	*	21.3	33.2	18.5	10.3	7.8	8.4	9.1	11.6
Massachusetts	100.0	*	26.4	29.0	17.0	11.1	8.0	8.2	8.8	11.3
Michigan	100.0	2.7	30.9	28.2	16.1	8.9	6.7	6.5	7.6	10.0
Missouri	100.0	3.8	35.4	27.5	14.1	7.7	5.7	5.8	6.7	9.2
Montana	100.0	4.5	32.5	27.4	14.5	9.9	6.1	5.1	7.0	9.4
Nebraska	100.0	2.9	30.0	28.5	15.7	9.4	6.9	6.6	7.6	10.1
New Hampshire	100.0	1.1	30.9	30.2	15.9	9.5	6.7	5.6	7.7	10.0
New York	100.0	1.4	27.9	31.8	14.4	9.5	7.2	7.7	7.7	10.6
Ohio	100.0	3.4	34.5	28.1	14.6	8.7	6.0	4.7	6.8	9.2
Oregon	100.0	3.0	32.1	27.5	16.8	8.4	6.8	5.4	7.4	9.7
Pennsylvania	100.0	1.1	25.1	29.6	16.6	11.6	7.7	8.3	8.8	11.3
Rhode Island	100.0	0.8	27.8	29.6	17.1	10.0	6.9	7.7	8.3	10.8
South Carolina	100.0	1.6	30.1	29.4	15.6	10.8	6.8	5.8	7.8	10.2
South Dakota	100.0	4.2	33.7	27.1	14.2	10.5	5.0	5.4	6.8	9.3
Tennessee	100.0	6.5	38.1	24.7	13.2	8.1	4.4	4.6	5.8	8.5
Utah	100.0	6.2	36.0	26.1	13.9	8.5	4.9	6.2	6.2	8.6
Vermont	100.0	0.8	29.8	29.5	16.1	10.3	6.6	6.9	7.9	10.4
Virginia	100.0	0.6	28.0	29.9	17.0	10.1	6.9	7.5	8.3	10.8
Wisconsin	100.0	1.2	28.5	28.7	16.5	11.7	7.0	6.3	8.4	10.6
Wyoming	100.0	6.2	34.8	26.1	15.1	8.5	4.9	4.4	6.4	8.7
1989		Percent distribution							Years ¹	
Divorce-registration area	100.0	3.5	31.8	28.4	14.7	9.5	6.1	6.1	7.2	9.8
Alabama	100.0	8.6	37.5	24.7	12.3	7.7	4.5	4.7	5.6	8.3
Alaska	100.0	5.0	37.3	30.0	12.6	7.9	4.0	3.2	5.9	8.1
Connecticut	100.0	1.6	30.6	27.1	14.7	10.4	8.2	7.5	7.9	10.7
Delaware	100.0	2.0	30.0	30.2	16.0	9.6	5.8	6.4	7.7	10.0
District of Columbia	100.0	*	28.7	33.2	13.6	9.4	6.2	8.2	7.6	10.6
Georgia	100.0	6.6	37.6	26.8	12.9	7.2	4.8	4.2	5.8	8.3
Hawaii	100.0	2.8	34.4	30.8	13.7	8.7	4.8	4.9	6.7	9.0
Idaho	100.0	6.9	35.7	25.8	12.9	9.2	4.4	5.2	6.2	8.8
Illinois	100.0	3.6	31.6	27.2	14.6	10.6	5.8	6.6	7.3	10.0
Iowa	100.0	2.4	31.9	27.6	16.0	9.8	6.6	5.7	7.5	9.9
Kansas	100.0	6.0	35.7	27.7	13.7	7.7	4.3	4.8	6.2	8.5
Kentucky	100.0	6.2	37.6	26.5	13.1	7.3	4.6	4.8	5.9	8.4
Maryland	100.0	0.6	22.0	33.2	18.1	11.3	7.1	7.7	8.9	11.3
Massachusetts	100.0	0.7	25.9	28.9	16.7	10.7	8.0	9.1	8.8	11.5
Michigan	100.0	2.9	30.3	27.8	15.4	10.6	6.7	6.3	7.7	10.2
Missouri	100.0	5.1	34.8	28.0	13.0	8.3	5.3	5.4	6.5	9.1
Montana	100.0	5.0	33.0	27.5	15.3	9.1	5.2	4.9	6.9	9.2
Nebraska	100.0	2.2	31.7	27.7	14.3	10.5	7.4	6.3	7.6	10.2
New Hampshire	100.0	1.4	31.0	31.2	14.0	10.5	6.0	5.8	7.4	9.9
New York	100.0	1.1	30.3	30.4	14.2	9.8	7.2	7.0	7.5	10.4
Ohio	100.0	3.8	33.7	28.1	13.9	9.2	6.1	5.2	6.9	9.4
Oregon	100.0	3.6	31.8	28.1	16.4	9.5	5.6	4.9	7.4	9.5
Pennsylvania	100.0	1.1	24.3	29.6	17.1	12.0	7.0	9.0	9.0	11.5
Rhode Island	100.0	0.7	29.3	30.5	15.5	9.8	6.9	7.2	7.9	10.6
South Carolina	100.0	1.7	31.0	28.9	17.0	9.6	5.9	5.9	7.6	10.0
South Dakota	100.0	4.5	33.4	28.2	13.3	9.7	5.3	5.5	6.9	9.4
Tennessee	100.0	6.7	38.1	25.9	12.8	7.4	4.6	4.3	5.7	8.2
Utah	100.0	6.9	35.1	27.3	14.2	8.0	4.5	4.2	6.2	8.5
Vermont	100.0	*	27.1	30.7	16.0	10.0	8.2	7.3	8.3	11.0
Virginia	100.0	0.7	28.0	30.9	16.6	9.9	7.0	6.9	8.1	10.6
Wisconsin	100.0	1.2	27.4	30.2	17.1	10.4	6.8	6.8	8.3	10.6
Wyoming	100.0	5.7	34.1	28.6	13.8	8.0	5.0	4.9	6.5	8.8

¹Medians and means computed on data by single years of duration.

Table 12. Divorces and annulments by race of wife and husband: Total of 27 reporting States and the District of Columbia, 1989 and 1990

[Based on sample data]

Race of husband and year	Race of wife				
	All races	White	Black	Other	Not stated
1990					
All races	464,736	383,240	51,080	9,311	21,105
White	383,021	376,346	1,689	3,499	1,487
Black	52,566	2,990	48,962	342	272
Other races	8,374	2,625	262	5,414	73
Not stated	20,775	1,279	167	56	19,273
1989					
All races	457,673	375,931	51,279	9,156	21,307
White	375,528	369,572	1,164	3,370	1,422
Black	52,846	2,680	49,638	373	155
Other races	8,464	2,630	365	5,369	100
Not stated	20,835	1,049	112	44	19,630

NOTE: The 27 reporting States were Alabama, Alaska, Connecticut, Delaware, Georgia, Hawaii, Idaho, Illinois, Iowa, Kansas, Kentucky, Maryland, Missouri, Montana, Nebraska, New York, Oregon, Pennsylvania, Rhode Island, South Carolina, South Dakota, Tennessee, Utah, Vermont, Virginia, Wisconsin, and Wyoming.

Table 13. Divorces and annulments and rates, by age and race of husband and wife: Total of 27 reporting States and the District of Columbia, 1990

[Based on sample data. Before calculation of rates, figures for race and age not stated were distributed. Rates per 1,000 married population in specified group enumerated as of April 1, 1990]

Age at time of decree	Men					Women				
	All races	White	Black	Other races	Not stated	All races	White	Black	Other races	Not stated
	Number									
All ages	464,736	383,021	52,566	8,374	20,775	464,736	383,240	51,080	9,311	21,105
15-19 years ¹	1,929	1,855	26	7	41	7,556	6,916	266	97	277
20-24 years	36,270	32,101	2,187	525	1,457	59,286	51,887	4,140	940	2,319
25-29 years	85,094	71,597	8,921	1,487	3,089	98,038	81,974	10,299	2,119	3,646
30-34 years	93,504	76,619	11,684	1,925	3,276	93,241	76,327	11,523	2,135	3,256
35-39 years	79,144	64,505	10,222	1,527	2,890	73,189	59,602	9,466	1,600	2,521
40-44 years	63,467	52,586	7,255	1,140	2,486	55,454	46,134	6,000	1,085	2,235
45-54 years	63,724	53,238	7,311	987	2,188	46,825	38,615	5,498	863	1,849
55-64 years	21,747	17,799	2,737	405	806	12,661	10,234	1,691	219	517
65 years and over	8,210	6,606	1,066	177	361	4,542	3,708	600	49	185
Not stated	11,647	6,115	1,157	194	4,181	13,944	7,843	1,597	204	4,300
	Rate									
All ages	19.4	19.1	24.6	12.7	...	19.3	19.1	22.8	13.1	...
15-24 years ¹	44.2	47.6	23.1	26.2	...	47.0	49.6	31.9	25.0	...
25-29 years	40.0	40.2	42.4	24.6	...	37.6	37.8	40.2	23.3	...
30-34 years	32.1	31.6	41.2	19.8	...	29.5	29.1	35.7	18.6	...
35-39 years	26.6	26.1	34.7	15.4	...	24.0	23.7	29.9	14.5	...
40-44 years	22.4	22.2	27.6	12.6	...	19.9	20.0	22.3	11.2	...
45-54 years	15.2	15.1	19.1	7.7	...	11.6	11.4	14.2	7.2	...
55-64 years	6.2	5.9	9.6	5.2	...	3.9	3.7	6.2	2.9	...
65 years and over	2.1	1.9	3.9	2.6	...	1.5	1.4	2.9	*	...

¹Includes divorces of persons under 15 years of age.

NOTE: The 27 reporting States were Alabama, Alaska, Connecticut, Delaware, Georgia, Hawaii, Idaho, Illinois, Iowa, Kansas, Kentucky, Maryland, Missouri, Montana, Nebraska, New York, Oregon, Pennsylvania, Rhode Island, South Carolina, South Dakota, Tennessee, Utah, Vermont, Virginia, Wisconsin, and Wyoming.

Table 14. Mean age of husband and wife at time of decree by race of husband and wife: Total of 27 reporting States and the District of Columbia, 1989 and 1990

[Based on sample data. Mean age in years]

Race of husband	Race of wife									
	1990					1989				
	All races	White	Black	Other races	Not stated	All races	White	Black	Other races	Not stated
	Mean age of husband									
All races	36.8	36.7	37.8	37.5	37.0	36.7	36.5	37.4	37.3	36.7
White	36.7	36.7	35.6	37.4	38.4	36.6	36.6	35.1	36.3	37.3
Black	37.7	35.0	37.9	35.7	41.2	37.4	35.0	37.5	35.4	*
Other races	36.9	35.6	33.1	37.8	*	37.0	35.1	35.2	38.2	*
Not stated	36.9	37.6	*	*	36.8	36.6	36.0	*	*	36.7
	Mean age of wife									
All races	34.3	34.1	35.4	34.1	34.4	34.0	33.9	35.0	34.4	34.0
White	34.1	34.1	34.3	34.0	35.6	33.9	33.9	32.0	34.1	34.0
Black	35.3	32.0	35.5	33.4	35.3	34.9	32.5	35.1	32.5	*
Other races	33.9	33.2	32.4	34.3	*	33.9	32.5	32.0	34.8	*
Not stated	34.4	35.0	*	*	34.4	34.0	33.3	*	*	34.1

NOTE: The 27 reporting States were Alabama, Alaska, Connecticut, Delaware, Georgia, Hawaii, Idaho, Illinois, Iowa, Kansas, Kentucky, Maryland, Missouri, Montana, Nebraska, New York, Oregon, Pennsylvania, Rhode Island, South Carolina, South Dakota, Tennessee, Utah, Vermont, Virginia, Wisconsin, and Wyoming.

Table 15. Mean duration of marriage at time of decree by race of husband and wife: Total of 27 reporting States and the District of Columbia, 1989 and 1990

[Based on sample data. Mean duration in years]

Race of husband	Race of wife									
	1990					1989				
	All races	White	Black	Other races	Not stated	All races	White	Black	Other races	Not stated
All races	9.3	9.2	10.2	8.4	9.0	9.2	9.1	9.9	8.6	8.8
White	9.2	9.2	6.4	7.6	8.8	9.2	9.2	7.0	7.9	8.1
Black	10.1	7.1	10.3	5.8	13.4	9.8	6.1	10.0	6.8	*
Other races	8.2	6.6	5.3	9.1	*	8.0	6.4	5.2	9.1	*
Not stated	8.9	7.6	*	*	8.9	8.7	6.9	*	*	8.8

NOTE: The 27 reporting States were Alabama, Alaska, Connecticut, Delaware, Georgia, Hawaii, Idaho, Illinois, Iowa, Kansas, Kentucky, Maryland, Missouri, Montana, Nebraska, New York, Oregon, Pennsylvania, Rhode Island, South Carolina, South Dakota, Tennessee, Utah, Vermont, Virginia, Wisconsin, and Wyoming.

Table 16. Average number of children per decree by race of husband and wife: Total of 27 reporting States and the District of Columbia, 1989 and 1990

[Based on sample data]

Race of husband	Race of wife									
	1990					1989				
	All races	White	Black	Other races	Not stated	All races	White	Black	Other races	Not stated
All races	0.90	0.90	0.90	0.89	0.94	0.91	0.91	0.88	0.97	0.91
White	0.90	0.90	0.74	0.79	0.82	0.91	0.91	0.59	0.88	0.96
Black	0.91	0.94	0.91	0.75	0.74	0.89	0.90	0.89	0.96	*
Other races	0.88	0.79	*	0.96	*	0.92	0.82	*	1.03	*
Not stated	0.95	0.90	*	*	0.96	0.91	0.91	*	*	0.91

NOTE: The 27 reporting States were Alabama, Alaska, Connecticut, Delaware, Georgia, Hawaii, Idaho, Illinois, Iowa, Kansas, Kentucky, Maryland, Missouri, Montana, Nebraska, New York, Oregon, Pennsylvania, Rhode Island, South Carolina, South Dakota, Tennessee, Utah, Vermont, Virginia, Wisconsin, and Wyoming.

Table 17. Divorces by whether and to whom custody was awarded: Each of 15 reporting States in 1989 and each of 19 reporting States in 1990

[Based on sample data]

Area and year	All divorces	No custody awarded ¹	Custody awarded to: ²						Not stated ³
			Total	Husband	Wife	Joint	Other person	Combination	
1990									
Total, 19 reporting States	319,695	149,674	128,507	11,186	92,330	20,183	1,704	3,104	41,514
Alabama	25,770	12,810	8,760	790	7,075	750	40	105	4,200
Alaska	3,161	1,665	971	114	605	188	28	36	525
Connecticut	10,330	5,200	4,584	242	2,648	1,678	10	6	546
Idaho	6,458	3,198	3,232	280	1,752	1,062	28	110	28
Illinois	45,990	21,500	10,750	800	8,070	1,540	20	320	13,740
Kansas	12,570	6,002	6,434	344	3,044	2,810	126	110	134
Michigan	40,640	19,330	18,640	1,760	13,560	2,590	120	610	2,670
Missouri	25,685	12,065	13,565	1,265	9,765	2,105	135	295	55
Montana	4,049	1,907	2,138	148	968	944	18	60	4
Nebraska	6,500	2,440	3,854	382	3,068	168	62	174	206
New Hampshire	4,955	2,265	2,690	253	2,143	188	32	74	—
Oregon	15,755	8,170	7,425	780	5,175	1,075	140	255	160
Pennsylvania	40,120	16,080	19,060	1,570	14,440	2,060	550	440	4,980
Rhode Island	3,754	1,602	1,134	57	692	372	5	8	1,018
Tennessee	32,110	15,680	14,080	1,430	11,060	1,230	180	180	2,350
Utah	8,950	3,536	3,530	264	2,834	300	10	122	1,884
Vermont	2,491	1,095	543	51	383	93	5	11	853
Virginia	27,275	13,695	5,420	525	3,790	775	185	145	8,160
Wyoming	3,132	1,434	1,697	131	1,258	255	10	43	1
1989									
Total, 15 reporting States	290,166	131,561	110,787	9,046	79,001	18,980	1,181	2,579	47,818
Alabama	25,085	11,760	8,995	745	7,230	770	90	160	4,330
Connecticut	11,852	6,110	5,258	272	3,114	1,860	4	8	484
Idaho	6,286	3,078	3,182	224	1,794	1,016	10	138	26
Illinois	45,870	20,840	7,060	500	5,410	950	10	190	17,970
Kansas	12,294	5,470	6,310	408	3,162	2,486	160	94	514
Michigan	40,270	17,830	9,990	870	7,450	1,240	120	310	12,450
Missouri	25,135	12,245	12,550	1,145	9,235	1,775	125	270	340
Montana	4,103	1,919	2,182	135	1,015	950	15	67	2
New Hampshire	5,023	2,355	2,667	265	2,096	178	34	94	1
Oregon	15,095	7,560	6,540	565	4,775	940	25	235	995
Pennsylvania	38,390	15,420	18,750	1,530	14,460	1,970	320	470	4,220
Tennessee	31,880	15,620	14,860	1,550	11,640	1,260	230	180	1,400
Utah	8,114	3,084	1,504	132	1,176	142	4	50	3,526
Wisconsin	17,735	6,945	9,235	560	5,205	3,215	10	245	1,555
Wyoming	3,034	1,325	1,704	145	1,239	228	24	68	5

¹Includes divorces in which the number of children under 18 years of age was reported as "none," and therefore the custody item was not applicable; also includes divorces in which children were reported, but no custody was awarded.

²The categories "Husband," "Wife," "Joint," or "Other" mean that all children in a family were awarded to that category. "Combination" means that some children were awarded to one custodian and some were awarded to another.

³Includes divorces where custody was not reported except those in which the number of children was reported as none. Such divorces were assigned to "No custody awarded."

Table 18. Number and percent distribution of children under 18 years of age for whom custody was reported, by person(s) awarded custody: Each of 15 reporting States in 1989 and each of 19 reporting States in 1990

[Based on sample data]

Area and year	Custody awarded to:				
	Total ¹	Husband	Wife	Joint	Other person
1990					
Total, 19 reporting States	221,883	22,906	160,946	34,820	3,211
Alabama	14,400	1,540	11,550	1,245	65
Alaska	1,677	238	1,058	327	54
Connecticut	7,708	406	4,476	2,808	18
Idaho	5,964	622	3,300	1,980	62
Illinois	18,680	1,720	14,090	2,820	50
Kansas	11,544	780	5,444	5,034	286
Michigan	33,280	3,720	24,580	4,740	240
Missouri	23,135	2,540	16,910	3,430	255
Montana	3,854	325	1,788	1,694	47
Nebraska	7,220	882	5,872	298	168
New Hampshire	4,567	502	3,674	326	65
Oregon	13,290	1,675	9,525	1,855	235
Pennsylvania	32,560	3,260	24,980	3,300	1,020
Rhode Island	1,840	100	1,145	584	11
Tennessee	22,210	2,500	17,530	1,910	270
Utah	7,414	718	6,016	664	16
Vermont	961	102	686	164	9
Virginia	8,500	985	6,030	1,175	310
Wyoming	3,079	291	2,292	466	30
Percent distribution					
Total, 19 reporting States	100.0	10.3	72.5	15.7	1.4
Alabama	100.0	10.7	80.2	8.6	*
Alaska	100.0	14.2	63.1	19.5	3.2
Connecticut	100.0	5.3	58.1	36.4	*
Idaho	100.0	10.4	55.3	33.2	1.0
Illinois	100.0	9.2	75.4	15.1	*
Kansas	100.0	6.8	47.2	43.6	2.5
Michigan	100.0	11.2	73.9	14.2	0.7
Missouri	100.0	11.0	73.1	14.8	1.1
Montana	100.0	8.4	46.4	44.0	1.2
Nebraska	100.0	12.2	81.3	4.1	2.3
New Hampshire	100.0	11.0	80.4	7.1	1.4
Oregon	100.0	12.6	71.7	14.0	1.8
Pennsylvania	100.0	10.0	76.7	10.1	3.1
Rhode Island	100.0	5.4	62.2	31.7	*
Tennessee	100.0	11.3	78.9	8.6	1.2
Utah	100.0	9.7	81.1	9.0	*
Vermont	100.0	10.6	71.4	17.1	*
Virginia	100.0	11.6	70.9	13.8	3.6
Wyoming	100.0	9.5	74.4	15.1	1.0
1989					
Total, 15 reporting States	191,471	18,426	137,840	32,910	2,295
Alabama	14,730	1,430	11,710	1,365	225
Connecticut	8,882	472	5,212	3,184	14
Idaho	5,864	572	3,398	1,870	24
Illinois	12,270	1,070	9,500	1,680	20
Kansas	11,350	886	5,690	4,484	290
Michigan	18,040	1,710	13,780	2,260	290
Missouri	21,455	2,235	15,955	3,005	260
Montana	3,965	320	1,897	1,717	31
New Hampshire	4,508	549	3,602	296	61
Oregon	11,575	1,235	8,575	1,725	40
Pennsylvania	32,410	3,390	25,470	3,060	490
Tennessee	23,550	2,610	18,590	1,900	450
Utah	3,114	326	2,470	314	4
Wisconsin	16,645	1,280	9,720	5,610	35
Wyoming	3,113	341	2,271	440	61

See footnotes at end of table.

Table 18. Number and percent distribution of children under 18 years of age for whom custody was reported, by person(s) awarded custody: Each of 15 reporting States in 1989 and each of 19 reporting States in 1990—Con.

[Based on sample data]

Area and year	Custody awarded to:					Other person
	Total ¹	Husband	Wife	Joint	Percent distribution	
1989—Con.						
Total, 15 reporting States	100.0	9.6	72.0	17.2		1.2
Alabama	100.0	9.7	79.5	9.3		1.5
Connecticut	100.0	5.3	58.7	35.8		*
Idaho	100.0	9.8	57.9	31.9		*
Illinois	100.0	8.7	77.4	13.7		*
Kansas	100.0	7.8	50.1	39.5		2.6
Michigan	100.0	9.5	76.4	12.5		1.6
Missouri	100.0	10.4	74.4	14.0		1.2
Montana	100.0	8.1	47.8	43.3		0.8
New Hampshire	100.0	12.2	79.9	6.6		1.4
Oregon	100.0	10.7	74.1	14.9		*
Pennsylvania	100.0	10.5	78.6	9.4		1.5
Tennessee	100.0	11.1	78.9	8.1		1.9
Utah	100.0	10.5	79.3	10.1		*
Wisconsin	100.0	7.7	58.4	33.7		*
Wyoming	100.0	11.0	73.0	14.1		2.0

¹Total of children for whom custody was reported does not necessarily equal the reported number of children under 18 years of age.

Table 19. Number and percent distribution of children under 18 years of age for whom custody was reported, by person(s) awarded custody, according to age of husband and wife at time of decree: Total of 15 reporting States in 1989 and total of 19 reporting States in 1990

[Based on sample data]

Age of husband and wife at time of decree	Custody awarded to:									
	1990					1989				
	Total ¹	Husband	Wife	Joint	Other person	Total ¹	Husband	Wife	Joint	Other person
Number										
Husband										
All ages	221,883	22,906	160,946	34,820	3,211	191,471	18,426	137,840	32,910	2,295
Under 20 years	544	48	433	61	2	445	38	336	44	27
20-24 years	13,229	1,215	10,385	1,418	211	12,544	1,068	9,819	1,370	287
25-29 years	41,146	4,071	30,954	5,430	691	34,797	2,822	26,407	5,171	397
30-34 years	54,877	5,401	39,654	9,183	639	49,077	4,820	35,396	8,342	519
35-39 years	52,598	5,567	37,181	9,193	657	44,551	4,277	31,239	8,695	340
40-44 years	33,700	3,624	23,847	5,819	410	28,335	3,103	19,330	5,628	274
45-49 years	14,204	1,822	9,689	2,314	379	11,731	1,229	8,111	2,256	135
50 years or older	6,967	751	5,157	904	155	6,121	600	4,363	922	236
Age not stated	4,618	407	3,646	498	67	3,870	469	2,839	482	80
Wife										
All ages	221,883	22,906	160,946	34,820	3,211	191,471	18,426	137,840	32,910	2,295
Under 20 years	2,090	211	1,634	224	21	1,992	249	1,436	254	53
20-24 years	25,193	2,786	18,841	3,123	443	22,492	2,255	16,923	2,860	454
25-29 years	53,257	5,356	39,443	7,738	720	46,447	4,102	34,457	7,327	561
30-34 years	58,858	5,454	42,694	9,965	745	51,456	4,590	37,587	8,795	484
35-39 years	45,366	4,908	31,936	7,867	655	38,940	4,151	26,778	7,624	387
40-44 years	23,598	2,601	16,472	4,233	292	18,933	1,815	12,913	4,061	144
45-49 years	6,688	858	4,649	1,050	131	5,224	445	3,523	1,151	105
50 years or older	1,651	85	1,292	175	99	1,482	121	1,089	241	31
Age not stated	5,182	647	3,985	445	105	4,505	698	3,134	597	78
Percent distribution										
Husband										
All ages	100.0	10.3	72.5	15.7	1.4	100.0	9.6	72.0	17.2	1.2
Under 20 years	100.0	*	79.6	*	*	100.0	*	75.5	*	*
20-24 years	100.0	9.2	78.5	10.7	1.6	100.0	8.5	78.3	10.9	2.3
25-29 years	100.0	9.9	75.2	13.2	1.7	100.0	8.1	75.9	14.9	1.1
30-34 years	100.0	9.8	72.3	16.7	1.2	100.0	9.8	72.1	17.0	1.1
35-39 years	100.0	10.6	70.7	17.5	1.2	100.0	9.6	70.1	19.5	0.8
40-44 years	100.0	10.8	70.8	17.3	1.2	100.0	11.0	68.2	19.9	1.0
45-49 years	100.0	12.8	68.2	16.3	2.7	100.0	10.5	69.1	19.2	*
50 years or older	100.0	10.8	74.0	13.0	2.2	100.0	9.8	71.3	15.1	3.9
Age not stated	100.0	8.8	79.0	10.8	*	100.0	12.1	73.4	12.5	*
Wife										
All ages	100.0	10.3	72.5	15.7	1.4	100.0	9.6	72.0	17.2	1.2
Under 20 years	100.0	10.1	78.2	10.7	*	100.0	12.5	72.1	12.8	*
20-24 years	100.0	11.1	74.8	12.4	1.8	100.0	10.0	75.2	12.7	2.0
25-29 years	100.0	10.1	74.1	14.5	1.4	100.0	8.8	74.2	15.8	1.2
30-34 years	100.0	9.3	72.5	16.9	1.3	100.0	8.9	73.0	17.1	0.9
35-39 years	100.0	10.8	70.4	17.3	1.4	100.0	10.7	68.8	19.6	1.0
40-44 years	100.0	11.0	69.8	17.9	1.2	100.0	9.6	68.2	21.4	*
45-49 years	100.0	12.8	69.5	15.7	*	100.0	8.5	67.4	22.0	*
50 years or older	100.0	*	78.3	10.6	*	100.0	*	73.5	16.3	*
Age not stated	100.0	12.5	76.9	8.6	*	100.0	15.5	69.6	13.3	*

¹Total of children for whom custody was reported does not necessarily equal the reported number of children under 18 years of age.

NOTES: Of the 31 States in the divorce-registration area, 15 reported custody in 1989—Alabama, Connecticut, Idaho, Illinois, Kansas, Michigan, Missouri, Montana, New Hampshire, Oregon, Pennsylvania, Tennessee, Utah, Wisconsin, and Wyoming. In 1990 an additional five States reported—Alaska, Nebraska, Rhode Island, Vermont, and Virginia. Wisconsin ceased to report.

Table 20. Number and percent distribution of children under 18 years of age for whom custody was reported, by person(s) awarded custody, according to race of husband and wife: Total of 13 reporting States in 1989 and total of 17 reporting States in 1990

[Based on sample data]

Race of husband and wife	Custody awarded to:										
	1990					1989					
	Total ¹	Husband	Wife	Joint	Other person	Total ¹	Husband	Wife	Joint	Other person	
Husband					Number						
All races	184,036	18,684	132,692	29,754	2,906	168,923	16,167	120,458	30,354	1,944	
White	157,449	16,466	111,155	27,247	2,581	145,990	14,434	101,892	28,078	1,586	
Black	15,895	970	13,791	879	255	13,997	939	11,974	817	267	
Other	1,758	318	1,181	231	28	1,665	166	1,247	219	33	
Race not stated	8,934	930	6,565	1,397	42	7,271	628	5,345	1,240	58	
Wife											
All races	184,036	18,684	132,692	29,754	2,906	168,923	16,167	120,458	30,354	1,944	
White	157,392	16,185	111,445	27,190	2,572	146,254	14,245	102,396	28,070	1,543	
Black	15,102	894	13,209	767	232	13,359	810	11,513	772	264	
Other	2,193	556	1,306	298	33	1,905	375	1,257	234	39	
Race not stated	9,349	1,049	6,732	1,499	69	7,405	737	5,292	1,278	98	
Husband					Percent distribution						
All races	100.0	10.2	72.1	16.2	1.6	100.0	9.6	71.3	18.0	1.2	
White	100.0	10.5	70.6	17.3	1.6	100.0	9.9	69.8	19.2	1.1	
Black	100.0	6.1	86.8	5.5	1.6	100.0	6.7	85.5	5.8	1.9	
Other	100.0	18.1	67.2	13.1	*	100.0	10.0	74.9	13.2	*	
Race not stated	100.0	10.4	73.5	15.6	*	100.0	8.6	73.5	17.1	*	
Wife											
All races	100.0	10.2	72.1	16.2	1.6	100.0	9.6	71.3	18.0	1.2	
White	100.0	10.3	70.8	17.3	1.6	100.0	9.7	70.0	19.2	1.1	
Black	100.0	5.9	87.5	5.1	1.5	100.0	6.1	86.2	5.8	2.0	
Other	100.0	25.4	59.6	13.6	*	100.0	19.7	66.0	12.3	*	
Race not stated	100.0	11.2	72.0	16.0	*	100.0	10.0	71.5	17.3	*	

¹Total of children for whom custody was reported does not necessarily equal the reported number of children under 18 years of age.

NOTES: Of the 31 States in the divorce-registration area, 13 reported custody and race of husband and wife in 1989—Alabama, Connecticut, Idaho, Illinois, Kansas, Missouri, Montana, Oregon, Pennsylvania, Tennessee, Utah, Wisconsin, and Wyoming. In 1990 an additional five States reported—Alaska, Nebraska, Rhode Island, Vermont, and Virginia. Wisconsin ceased to report.

Table 21. Number and percent distribution of children under 18 years of age for whom custody was reported, by person(s) awarded custody, according to number of this marriage of husband and wife: Total of 15 reporting States in 1989 and total of 19 reporting States in 1990

[Based on sample data]

Number of this marriage of husband and wife	Custody awarded to:													
	1990					1989								
	Total ¹	Husband	Wife	Joint	Other person	Total ¹	Husband	Wife	Joint	Other person				
Husband					Number									
All marriages ²	221,883	22,906	160,946	34,820	3,211	191,471	18,426	137,840	32,910	2,295				
First marriage	168,609	17,955	121,056	27,143	2,455	146,044	14,138	103,507	26,680	1,719				
Second marriage	35,532	3,209	26,527	5,278	518	29,676	2,912	22,194	4,221	349				
Third marriage or more	7,511	655	5,745	970	141	6,934	433	5,559	834	108				
Not stated	9,918	1,076	7,381	1,369	92	8,610	937	6,413	1,141	119				
Wife														
All marriages ²	221,883	22,906	160,946	34,820	3,211	191,471	18,426	137,840	32,910	2,295				
First marriage	172,503	17,374	125,516	27,229	2,384	149,178	14,016	106,955	26,454	1,753				
Second marriage	33,079	3,720	23,623	5,209	527	28,697	2,955	20,951	4,472	319				
Third marriage or more	6,016	626	4,326	925	139	5,026	517	3,621	812	76				
Not stated	9,917	1,159	7,240	1,378	140	8,385	927	6,173	1,138	147				
Husband					Percent distribution									
All marriages ²	100.0	10.3	72.5	15.7	1.4	100.0	9.6	72.0	17.2	1.2				
First marriage	100.0	10.6	71.8	16.1	1.5	100.0	9.7	70.9	18.3	1.2				
Second marriage	100.0	9.0	74.7	14.9	1.5	100.0	9.8	74.8	14.2	1.2				
Third marriage or more	100.0	8.7	76.5	12.9	*	100.0	6.2	80.2	12.0	*				
Not stated	100.0	10.8	74.4	13.8	*	100.0	10.9	74.5	13.3	*				
Wife														
All marriages ²	100.0	10.3	72.5	15.7	1.4	100.0	9.6	72.0	17.2	1.2				
First marriage	100.0	10.1	72.8	15.8	1.4	100.0	9.4	71.7	17.7	1.2				
Second marriage	100.0	11.2	71.4	15.7	1.6	100.0	10.3	73.0	15.6	1.1				
Third marriage or more	100.0	10.4	71.9	15.4	*	100.0	10.3	72.0	16.2	*				
Not stated	100.0	11.7	73.0	13.9	*	100.0	11.1	73.6	13.6	*				

¹Total of children for whom custody was reported does not necessarily equal the number of children under 18 years of age.

²Includes remarried, number not stated.

NOTES: Of the 31 States in the divorce-registration area, 15 reported custody and number of this marriage in 1989 and 1990—Alabama, Connecticut, Idaho, Illinois, Kansas, Michigan, Missouri, Montana, New Hampshire, Oregon, Pennsylvania, Tennessee, Utah, Wisconsin, and Wyoming. In 1989 an additional five States reported—Alaska, Nebraska, Rhode Island, Vermont, and Virginia. Wisconsin ceased to report.

Technical notes

Table I. Sampling error of estimated percent: Divorce-registration area, 1980, 1989, and 1990, and each registration State, 1989 and 1990

[Figures for Alaska, Delaware, District of Columbia, Hawaii, Montana, New Hampshire, Rhode Island, South Dakota, Vermont, and Wyoming had no sampling errors in 1989 or 1990 because all records were tabulated]

Definitions

Divorces include absolute divorces, annulments, and dissolutions of marriage. Data are tabulated by State where decree was granted, not by State of residence. Date of divorce is defined as the date the decree was granted.

Sources of data

Nationwide counts

Data in tables 1 and 2 are derived from counts of the number of divorce decrees reported annually by States and counties to the National Center for Health Statistics (NCHS). When divorces are not reported for some counties, the following criteria are applied for the data shown in table 2:

- The State totals are published as reported even when there are nonreporting counties. If the population of nonreporting areas in the latest available census is less than 1 percent of the State population, the State total does not have a footnote to indicate that the data are incomplete.
- If the population of nonreporting areas is 1.0 to 9.9 percent of the State population, data for the State and division have the footnote "Data are incomplete." Rates are computed, and no estimates are made for the missing data.
- If the population of nonreporting areas is 10 percent or more of the State population, the State and division totals have the footnote "Data are incomplete," and the divorce rate is not computed. Estimates are made for inclusion in the totals for the region and for the United States, and rates are computed. Figures for the region and United States have the footnote "Figures include estimates."

Sample data

Information about the characteristics of divorcing couples is available only from States that participate in the divorce-registration area (DRA). Data in tables 3–11 are derived from a probability sample of divorce records from States

Area and year	Sampling error of estimated percent			
	1 or 99	10 or 90	25 or 75	50
Divorce-registration area				
1990	0.0	0.1	0.2	0.2
1989	0.0	0.1	0.2	0.2
1980	0.0	0.1	0.1	0.2
Registration States, 1990				
Alabama	0.1	0.4	0.5	0.6
Alaska	...	...	...	...
Connecticut	0.1	0.3	0.4	0.5
Delaware	...	...	...	...
District of Columbia	...	...	...	...
Georgia	0.2	0.5	0.7	0.8
Hawaii	...	...	...	...
Idaho	0.1	0.4	0.5	0.6
Illinois	0.1	0.4	0.6	0.7
Iowa	0.1	0.3	0.4	0.5
Kansas	0.1	0.3	0.4	0.4
Kentucky	0.1	0.4	0.6	0.7
Maryland	0.2	0.5	0.7	0.8
Massachusetts	0.2	0.5	0.7	0.8
Michigan	0.1	0.4	0.6	0.7
Missouri	0.1	0.4	0.5	0.6
Montana	...	...	...	...
Nebraska	0.1	0.4	0.5	0.6
New Hampshire	...	...	...	...
New York	0.2	0.5	0.8	0.9
Ohio	0.1	0.4	0.6	0.6
Oregon	0.2	0.5	0.7	0.8
Pennsylvania	0.1	0.4	0.6	0.7
Rhode Island	...	...	...	...
South Carolina	0.2	0.5	0.7	0.8
South Dakota	...	...	...	...
Tennessee	0.2	0.5	0.7	0.8
Utah	0.1	0.3	0.5	0.5
Vermont	...	...	...	...
Virginia	0.1	0.4	0.5	0.6
Wisconsin	0.1	0.5	0.6	0.8
Wyoming	...	...	...	...
Registration States, 1989				
Alabama	0.1	0.4	0.5	0.6
Alaska	...	...	...	...
Connecticut	0.1	0.3	0.4	0.5
Delaware	...	...	...	...
District of Columbia	...	...	...	...
Georgia	0.2	0.5	0.7	0.8
Hawaii	...	...	...	...
Idaho	0.1	0.4	0.5	0.6
Illinois	0.1	0.4	0.6	0.7
Iowa	0.1	0.3	0.4	0.5
Kansas	0.1	0.3	0.4	0.5
Kentucky	0.1	0.4	0.6	0.7
Maryland	0.2	0.5	0.7	0.8
Massachusetts	0.2	0.5	0.7	0.8
Michigan	0.1	0.4	0.6	0.7
Missouri	0.1	0.4	0.5	0.6
Montana	...	...	...	...
Nebraska	0.1	0.4	0.5	0.6
New Hampshire	...	...	...	...
New York	0.2	0.5	0.8	0.9
Ohio	0.1	0.4	0.6	0.7
Oregon	0.2	0.5	0.7	0.8
Pennsylvania	0.2	0.5	0.7	0.8
Rhode Island	...	...	...	...
South Carolina	0.2	0.5	0.7	0.8
South Dakota	...	...	...	...
Tennessee	0.2	0.5	0.7	0.8
Utah	0.1	0.3	0.5	0.6
Vermont	...	...	...	...
Virginia	0.1	0.4	0.5	0.6
Wisconsin	0.1	0.5	0.7	0.8
Wyoming	...	...	...	...

participating in the DRA. The DRA has expanded from 28 States in 1970 to 31 States and the District of Columbia in 1989 and 1990. About 49 percent of the divorces in the United States in 1989 and 1990 were granted in the DRA. Data on the race of the husband and wife in tables 12–16 were from 27 States and the District of Columbia that were in the DRA and reported this item on their divorce certificates. The divorces in these States accounted for 40 percent of all divorces in 1989 and 39 percent in 1990. The data on the physical custody of the children in tables 17–19 and 21 were from the 15 and 19 States that reported this item in 1989 and 1990, respectively. These States accounted for 25 and 27 percent of all divorces in 1989 and 1990, respectively. The data in table 20 were from the 13 and 17 States that reported custody and race in 1989 and 1990, respectively. Data in these States accounted for 21 and 23 percent of all divorces in the respective years.

Divorce sample

The probability sample of divorces for 1989 and 1990 were selected by using five different sampling rates. For the District of Columbia and for each State in the DRA, either 5, 10, 20, 50, or 100 percent of the divorce records were included. Sampling rates were selected so that the expected sample would contain at least

2,500 records for each State. This criterion required 100-percent sampling for Alaska, Delaware, the District of Columbia, Hawaii, Montana, New Hampshire, Rhode Island, South Dakota, Vermont, and Wyoming. All States in the DRA provided their divorce certificate data through either State-coded data tapes, microfilm, or photocopies.

Table I shows sampling errors for estimates that constitute 1, 10, 25, 50, 75, 90, and 99 percent of the annual divorce totals. These sampling errors are shown for the DRA for 1980, 1989, and 1990 and for the District of Columbia and each DRA State for 1989 and 1990.

Estimates of children involved in divorce

To make national estimates of children involved in divorce, shown in table 3, it was assumed that the average number of children per decree for the United States was the same as the average in the DRA. This average was multiplied by the national divorce total to estimate the national number of children involved in divorce. For 1950–59 the average number of children per decree was calculated using data from all reporting States; for 1960, from a nationwide sample; for 1961–69, from 16 States; and thereafter, from all DRA States.

Computation of rates, percent distributions, medians, and means

Divorce rates for 1989 and 1990 in tables 1–3 and 5 are based on the populations estimated as of July 1, 1989, and July 1, 1990 (15–18). The divorce rates by race in table 13 are based on the population enumerated as of April 1, 1990, in the decennial census (19). Percent distributions, means, and medians exclude cases for which the pertinent information (number of children, duration of marriage, person to whom custody was awarded, or age) is not stated. Mean and median ages at marriage and at decree, and mean and median duration of marriage were computed using ungrouped data.

The mean and the median are measures of central tendency. The mean is computed by summing the values of the item under consideration and dividing this sum by the number of observations included. The median is the middle value of a set of observations that have been arranged in order of magnitude. There are an equal number of observations above and below the median.

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National Center for Health Statistics

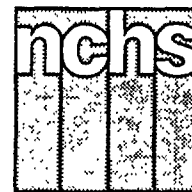
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Monthly Vital Statistics Report



Final Data From the National Center for Health Statistics

Advance Report of Final Mortality Statistics, 1989

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sional data for 1990 indicate that the death rate (861.9) continued to decline from 1989.

The age-adjusted death rate, which eliminates the effects of the aging of the population, was 523.0 per 100,000 population, 2 percent lower than the 1988 rate of 535.5. The age-adjusted rate decreased for the white population between 1988 and 1989 but remained about the same for the black population. For most of the 10-year age groups for males and females combined, death rates declined between 1988 and 1989, but they increased for age groups between 25 and 44 years. Contributing most to the increase within this age span were deaths due to Human immunodeficiency virus infection (HIV infection).

In 1989 life expectancy at birth reached a record high of 75.3 years. The difference in life expectancy for males and females has narrowed since the late 1970's, however, women are still expected to outlive men by an average of 6.8 years. Life expectancy

increased for the white population, but it remained unchanged from the previous year for the black population. This resulted in a widening gap in life expectancy between the black and white populations. Although the difference in life expectancy between the white and black populations narrowed from 7.6 years in 1970 to 5.6 years in 1984, it increased to 6.4 years in 1988 and 6.8 years in 1989. Life expectancy for black males again declined between 1988 and 1989, as it has every year since 1984, except for 1987, when it remained unchanged. Life expectancy for black females has fluctuated since 1982, showing no clear trend.

As in previous years, almost three out of four deaths in the United States were caused by the first four leading causes of death—Diseases of heart; Malignant neoplasms, including neoplasms of lymphatic and hematopoietic tissues (cancer); Cerebrovascular diseases (stroke); and Accidents and adverse effects. Age-adjusted death rates for 10 of the 15 leading causes of

Highlights

In 1989, 2,150,466 deaths were registered in the United States, 17,533 fewer than the record high number of 2,167,999 deaths recorded in 1988. The death rate for 1989 was 866.3 deaths per 100,000 population, 2 percent below the rate of 882.0 in 1988. Provi-

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U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES
Public Health Service
Centers for Disease Control
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death declined between 1988 and 1989, led by reductions for Atherosclerosis; Septicemia; and Nephritis, nephrotic syndrome, and nephrosis. Heart disease, the leading cause of death in the United States, and stroke, the third leading cause of death, continued their long-term declines. Mortality for Motor vehicle accidents, a component of Accidents and adverse effects, and for Pneumonia and influenza also declined between 1988 and 1989.

Increases in age-adjusted death rates for leading causes of death between 1988 and 1989 were led by HIV infection, Diabetes mellitus, and Homicide and legal intervention. Mortality from HIV infection, the 11th leading cause of death in the United States, increased by 32 percent; from Diabetes mellitus, the 7th leading cause, by 14 percent; and from Homicide, the 10th leading cause, by 4 percent. The age-adjusted death rate for cancer, the second leading cause of death, increased slightly between 1988 and 1989. Among other causes, the age-adjusted death rate for alcohol-induced causes increased by 3 percent between 1988 and 1989, while the rate for drug-induced causes fell by 2 percent.

The age-adjusted death rate for males was about 70 percent higher than the rate for females for all causes of death combined. For each of the 15 leading causes of death, male mortality was also higher. The greatest sex differential was for HIV infection, where the age-adjusted rate for males was 8.7 times that for females. The smallest sex differential was for Diabetes mellitus, with a male-to-female ratio of 1.1.

Overall, the black population had age-adjusted death rates that exceeded those of the white population by about 60 percent. Rates were also higher for most of the leading causes of death. The largest race differential continued to be for Homicide and legal intervention, for which the age-adjusted rate for the black population was about seven times that of the white population. The two leading causes that had lower rates for the black population were Chronic obstructive pulmonary diseases and allied conditions and Suicide.

In 1989 there were differences in the leading causes of death between the

Hispanic and the non-Hispanic white populations in a 44-State reporting area. Although the two leading causes of death—Diseases of heart and cancer—were the same for the two population groups, there were substantial differences in the ranking of other leading causes.

The infant mortality rate (9.8 infant deaths per 1,000 live births) reached a record low in 1989. The rate declined for the white population, but the change between 1988 and 1989 for the black population was not statistically significant. For the black population the downward trend in infant mortality has slowed in recent years. Neonatal and postneonatal mortality rates declined between 1988 and 1989 for the white population but remained at about the same level for the black population. In 1989 the infant mortality rate for the black population remained at more than twice that for the white population. The ratio of black to white infant mortality rates has increased since the early 1970's. Three causes of death—Disorders relating to short gestation and unspecified low birthweight, Sudden infant death syndrome, and Respiratory distress syndrome—together accounted for 41 percent of the difference between black and white infant mortality rates.

Deaths and death rates

In 1989 a total of 2,150,466 deaths occurred in the United States, 17,533

fewer than in 1988. This is the first time since 1982 that the number of deaths decreased from the previous year. The 1988 total of 2,167,999 deaths is the largest final number ever recorded. The decrease in the number of deaths between 1988 and 1989 reflects lower mortality for a number of age groups and causes of death. The death rate for 1989, 866.3 per 100,000 population, was 2 percent lower than the rate of 882.0 in 1988. The provisional death rate for 1990 (861.9) declined slightly from that of 1989.

The age-adjusted death rate of 523.0 deaths per 100,000 population in 1989 was a record low, about 2 percent below the rate of 535.5 for 1988 (figure 1). Age-adjusted death rates show what the level of mortality would be if there were no changes in the age composition of the population from year to year. Thus, they are better indicators than unadjusted death rates for showing changes in the risk of death over a period of time when the age distribution of the population is changing. They are also better indicators of risk when comparisons of mortality are being made for sex or race subgroups of the population that have different age compositions. Since 1980 the age-adjusted death rate has decreased every year except 1985 and 1988, when major influenza outbreaks increased mortality in the United States. The rate for 1989 was 11 percent below the rate for 1980 and is the lowest final rate ever recorded.

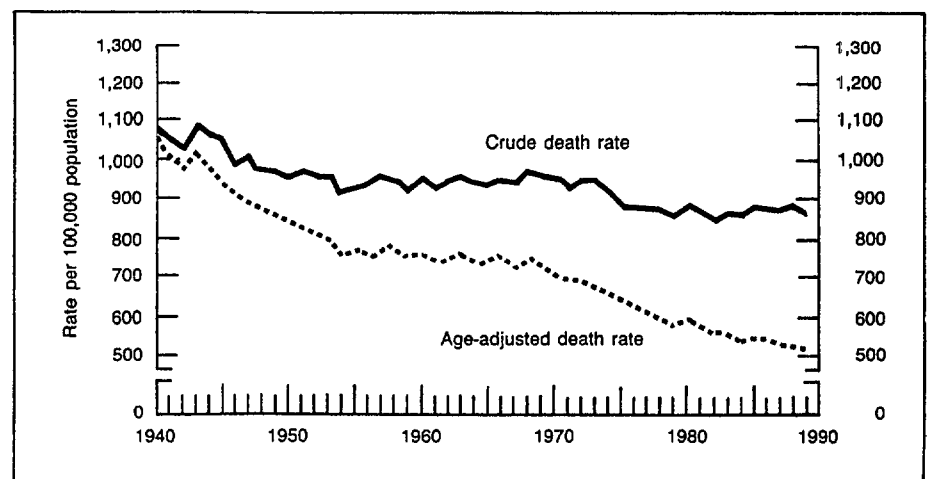


Figure 1. Crude and age-adjusted death rates: United States, 1940-89

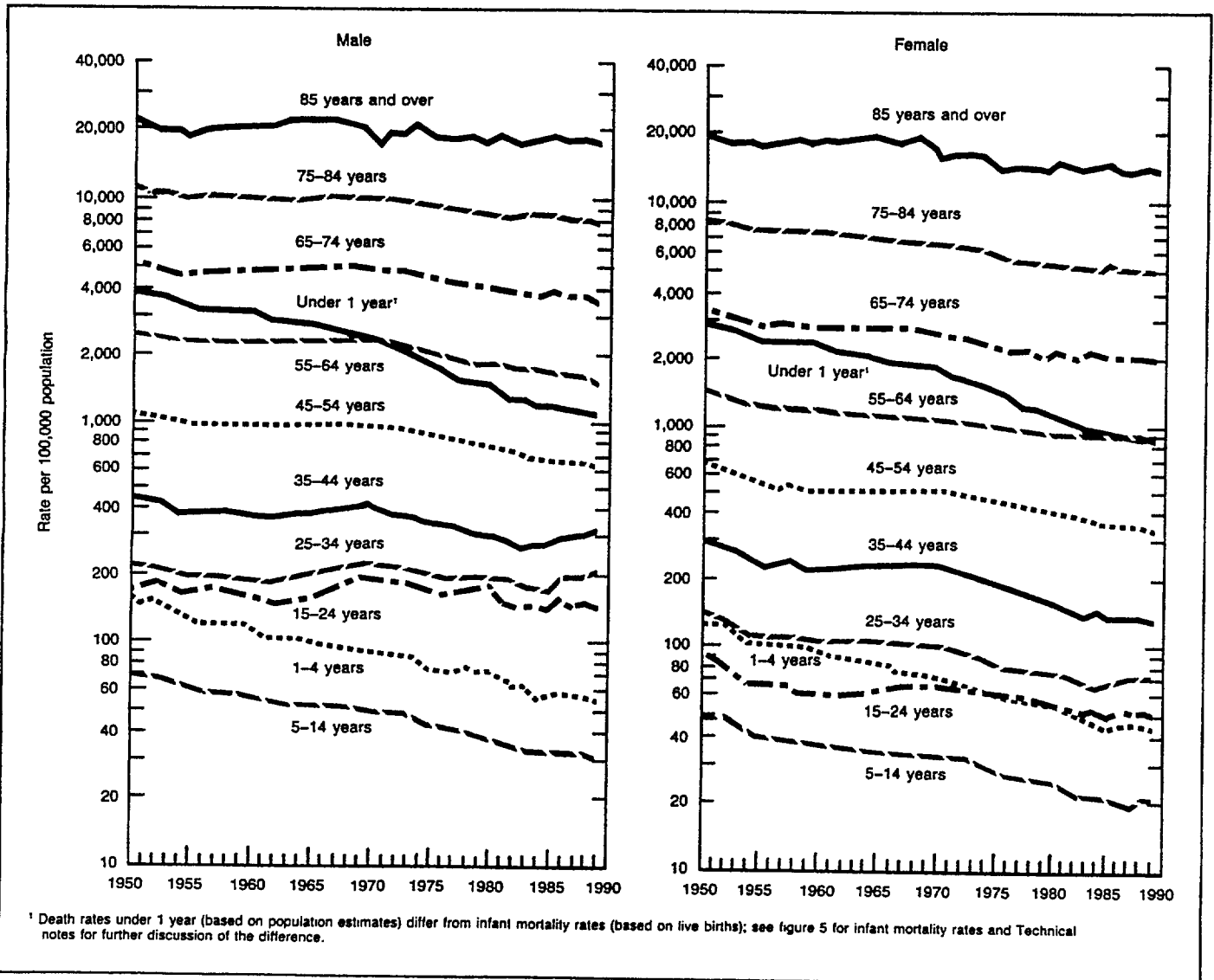
Death rates by age, sex, and race— Between 1988 and 1989, death rates for both sexes combined decreased for all of the 10-year age groups except 25–34 and 35–44 years (table A). The largest decrease (4 percent) occurred for the age group 85 years and over, and the largest increase (2 percent) occurred for those aged 25–34 years.

The death rates for males also declined between 1988 and 1989 for all age groups except 25–34 and 35–44 years. The increase in the death rate between 1988 and 1989 for males aged 35–44 years (2 percent) continued the increase begun between 1983 and 1984, a reversal of the downward trend for this age group since the late 1960's (figure 2 and table A).

Table A. Percent change in death rates between 1988 and 1989 by age and sex: United States

Age	Total	Male	Female
	Percent change		
All ages	-1.8	-2.0	-1.5
Under 1 year ¹	-0.3	-0.6	0.1
1–4 years	-3.3	-4.1	-2.2
5–14 years	-1.6	-2.6	-0.5
15–24 years	-2.2	-2.5	-1.0
25–34 years	2.0	2.3	1.1
35–44 years	1.0	1.9	-1.1
45–54 years	-2.3	-1.8	-3.2
55–64 years	-2.5	-2.6	-2.5
65–74 years	-3.0	-3.8	-2.2
75–84 years	-2.9	-3.6	-2.4
85 years and over	-3.6	-4.1	-3.3

¹Death rates under 1 year (based on population estimates) differ from infant mortality rates (based on live births); see table E for 1989 infant mortality rates and Technical notes for further discussion of the difference.



¹ Death rates under 1 year (based on population estimates) differ from infant mortality rates (based on live births); see figure 5 for infant mortality rates and Technical notes for further discussion of the difference.

Figure 2. Death rates by age and sex: United States, 1950–89

The increase in the death rate for males aged 25–34 years was also 2 percent. The largest decreases for males were for those aged 1–4 years and 85 years and over (4 percent each). Death rates for the younger population aged 1–14 years are subject to substantial fluctuation from year to year because of the relatively small number of deaths occurring in these age groups. Death rates at these ages are very low compared with other ages.

The death rates for females declined between 1988 and 1989 for all age groups except under 1 year and 25–34 years. This pattern is consistent with the general downward trend in age-specific rates for females observed since 1950. The largest decreases in death rates between 1988 and 1989 occurred for females aged 45–54 years and 85 years and over (3 percent each). The largest increase in the death rate between 1988 and 1989 was for females aged 25–34 years (1 percent).

Age-adjusted death rates for white males decreased by 3 percent between 1988 and 1989 and for white females, by 2 percent. The age-adjusted death rate for black females decreased by 1 percent and was about the same between the 2 years for black males. Age-adjusted death rates have decreased almost every year since 1980 for white males and females, resulting in record low rates in 1989. Rates decreased from 1980 through 1984 for black males but have fluctuated since then. Despite the decrease between 1988 and 1989, the rate for black males in 1989 was 2 percent above the record low in 1984. Rates decreased from 1980 to 1982 for black females but have fluctuated since then.

In 1989 the age-adjusted death rate for males of all races was 1.7 times that for females, the same as the ratio in 1988 and below the record high of 1.8 in 1979; in 1950 it was 1.5. This ratio between male and female age-adjusted death rates was 1.7 for the white population and 1.8 for the black population.

In 1989 the age-adjusted death rate for the black population was 1.6 times that for the white population, up from 1.5 in 1988. The ratio of black to

white age-adjusted death rates has increased slightly every year since 1982.

Expectation of life at birth and at specified ages

In 1989 the average expectation of life at birth reached a record high of 75.3 years (figure 3). This continued the general upward trend in life expectancy in the United States. The expectation of life at birth represents the average number of years that a group of infants would live if they were to experience throughout life the age-specific death rates prevailing in 1989.

In 1989 life expectancy for females was 78.6 years compared with 71.8 years for males; both figures represent increases over 1988. The difference in life expectancy between the sexes was 6.8 years in 1989, the same as in 1988. Historically, the difference in life expectancy between the sexes has narrowed since 1979 in contrast to widening from 1900 to 1972. The difference was 6.8 years in 1988 and 1989 compared with 6.9 years in 1987, 7.4 years in 1980 and 1981, 7.7 and 7.8 years throughout the period 1972–79, 6.5 years in 1960, and 2.0 years in 1900.

Between 1988 and 1989, the white population experienced an increase in life expectancy from 75.6 years to a record high of 76.0, while life expectancy for the black population remained at 69.2, as in the previous year. Although the difference in life expectancy between the white and

black populations narrowed from 7.6 years in 1970 to 5.6 years in 1983 and 1984, it has increased since then, to 6.4 years in 1988 and 6.8 years in 1989. Further discussion of the causes contributing to the widening differential between life expectancies for the black and white populations between 1988 and 1989 can be found in the section, "Cause of death."

Among the four race-sex groups, white females continued to have the highest life expectancy at birth (79.2 years), followed by black females (73.5 years), white males (72.7 years), and black males (64.8). Life expectancy increased steadily during the 1970's and early 1980's for all four race-sex groups. This increase has continued for white males and females. However, life expectancy for black females has fluctuated since 1982; for black males it increased from 1980 to 1984 but declined every year from 1984 to 1989 except for 1987, when it did not change. Overall, the largest gain in life expectancy between 1980 and 1989 was for white males (2.0 years), followed by white females (1.1 years), and black males and females (1.0 years).

The 1989 life table may be used to compare life expectancies at any age from birth onward. For example, a person who has reached age 65 years may look forward to living to an older age, on the average, than one who has reached 50 years. On the basis of mortality experienced in 1989, a person

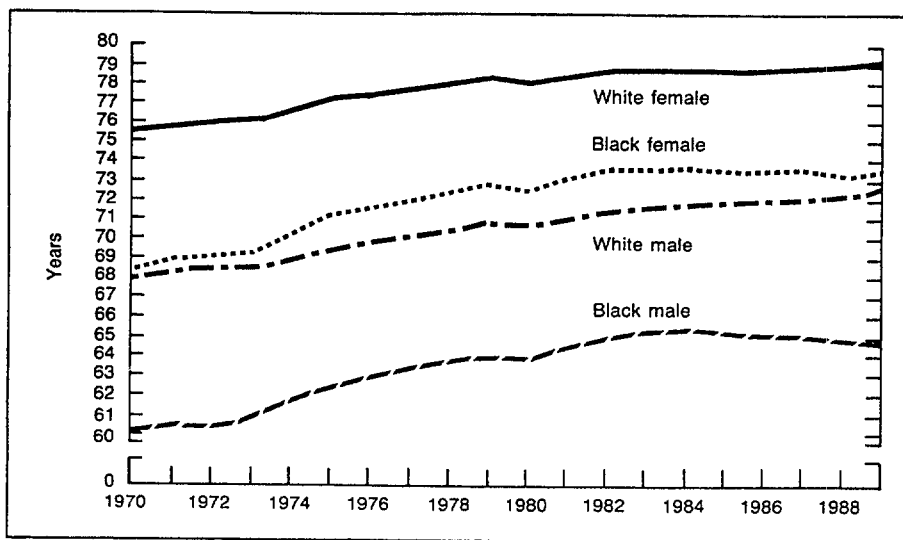


Figure 3. Life expectancy by sex: United States, 1970–89

aged 50 years could expect to live an average of 28.9 more years for a total of 78.9 years, and a person aged 65 years could expect to live an average of 17.2 more years for a total of 82.2 years.

Cause of death

Deaths assigned to the 15 leading causes accounted for 86 percent of the total number of deaths in 1989 (table B). The ranking of the first nine of the leading causes of death for 1989 remained unchanged from the list based on data for 1988. The other six leading causes of death were the same as for 1988, however, the rankings changed. Homicide and legal intervention, the 12th leading cause in 1988, increased to 10th in 1989. Human immunodeficiency virus infection, the 15th leading cause in 1988, increased to 11th in 1989. Nephritis, nephrotic syndrome, and nephrosis decreased in rank from 10th to 12th; Atherosclerosis, from 11th to 13th; Septicemia, from 13th to 14th; and Certain conditions originating in the perinatal period decreased from 14th to 15th. Ranking procedures can be found in the "Technical notes."

Trends in mortality based on age-adjusted death rates are shown in figure 4 and table C for 14 of the 15 leading

Table C. Age-adjusted death rates for 1989 and percent changes in age-adjusted death rates for the 15 leading causes of death from 1988 to 1989 and from 1979 to 1989: United States

[Rates per 100,000 population]

Rank ¹ order	Cause of death (Ninth Revision International Classification of Diseases, 1975)	Age-adjusted death rates for 1989	Percent change from—	
			1988 to 1989	1979 to 1989
...	All causes	523.0	-2.3	-9.4
1	Diseases of heart	155.9	-6.3	-21.9
2	Malignant neoplasms, including neoplasms of lymphatic and hematopoietic tissues	133.0	0.2	1.7
3	Cerebrovascular diseases	28.0	-5.7	-32.7
4	Accidents and adverse effects	33.8	-3.4	-21.2
...	Motor vehicle accidents	18.9	-4.1	-18.5
...	All other accidents and adverse effects	14.9	-2.6	-24.0
5	Chronic obstructive pulmonary diseases and allied conditions	19.4	-	32.9
6	Pneumonia and influenza	13.7	-3.5	22.3
7	Diabetes mellitus	11.5	13.9	17.3
8	Suicide	11.3	-0.9	-3.4
9	Chronic liver disease and cirrhosis	8.9	-1.1	-25.8
10	Homicide and legal intervention	9.4	4.4	-7.8
11	Human immunodeficiency virus infection	8.7	31.8	-
12	Nephritis, nephrotic syndrome, and nephrosis	4.4	-8.3	2.3
13	Atherosclerosis	2.9	-14.7	-49.1
14	Septicemia	4.1	-10.9	78.3
15	Certain conditions originating in the perinatal period ² . . . . .	...	-0.4	-31.2

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

²Inasmuch as deaths from this cause occur mainly among infants, percent changes are based on infant mortality rates instead of age-adjusted rates.

causes. Because deaths from Certain conditions originating in the perinatal period occur mainly among infants under 1 year, age-adjusted rates for this cause are not discussed.

For nine of the leading causes of death the age-adjusted death rates

decreased between 1988 and 1989 (table C). These causes were Diseases of heart; Cerebrovascular diseases; Accidents and adverse effects; Pneumonia and influenza; Suicide; Chronic liver disease and cirrhosis; Nephritis, nephrotic syndrome, and nephrosis; Atherosclerosis; and Septicemia. The largest declines were for Atherosclerosis (15 percent); Septicemia (11 percent); and Nephritis, nephrotic syndrome, and nephrosis (8 percent). The declines for Diseases of heart, Cerebrovascular diseases, and Atherosclerosis are consistent with the generally downward trends observed since 1950. Accidents and adverse effects has exhibited a general downward trend since 1968, while Chronic liver disease and cirrhosis has exhibited a downward trend since 1973. Pneumonia and influenza declined, despite influenza epidemics in 1988 and 1989 (1). Pneumonia and influenza, which declined from 1968 to 1978, has shown an upward trend since the early 1980's, marked by the periodic effects of outbreaks that have occurred each year (except 1987) since 1982. For the third consecutive year the age-adjusted death rate for Suicide declined slightly. Septicemia decreased

Table B. Death rates and percent of total deaths for the 15 leading causes of death: United States, 1989

[Rates per 100,000 population]

Rank ¹ order	Cause of death (Ninth Revision International Classification of Diseases, 1975)	Rate	Percent of total deaths
...	All causes	866.3	100.0
1	Diseases of heart	295.6	34.1
2	Malignant neoplasms, including neoplasms of lymphatic and hematopoietic tissues	199.9	23.1
3	Cerebrovascular diseases	58.6	6.8
4	Accidents and adverse effects	38.3	4.4
...	Motor vehicle accidents	19.2	2.2
...	All other accidents and adverse effects	19.1	2.2
5	Chronic obstructive pulmonary diseases and allied conditions	34.0	3.9
6	Pneumonia and influenza	30.8	3.6
7	Diabetes mellitus	18.9	2.2
8	Suicide	12.2	1.4
9	Chronic liver disease and cirrhosis	10.8	1.2
10	Homicide and legal intervention	9.2	1.1
11	Human immunodeficiency virus infection	8.9	1.0
12	Nephritis, nephrotic syndrome, and nephrosis	8.5	1.0
13	Atherosclerosis	7.8	0.9
14	Septicemia	7.8	0.9
15	Certain conditions originating in the perinatal period	7.6	0.9
...	All other causes	117.5	13.6

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

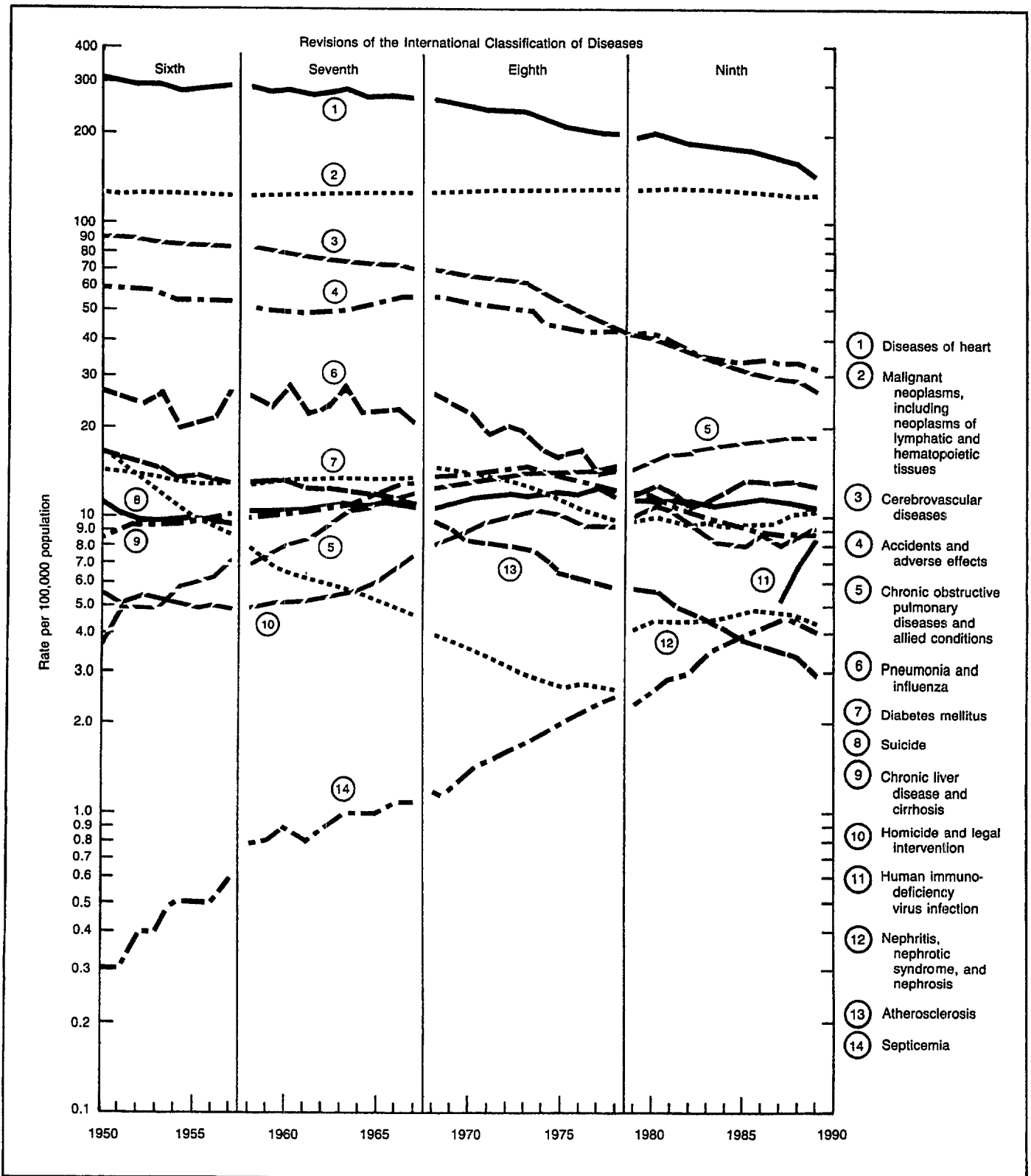


Figure 4. Age-adjusted death rates for 14 of the 15 leading causes of death, United States, 1950-89

from 1988 to 1989 in contrast to the upward trend since 1950.

Increases in the age-adjusted death rates between 1988 and 1989 occurred for four of the leading causes of death—Malignant neoplasms, including neoplasms of lymphatic and hematopoietic tissues; Diabetes mellitus; Homicide and legal intervention; and Human immunodeficiency virus infection. The largest increase, 32 percent, was for HIV infection, which also increased by 20 percent between 1987 and 1988. The age-adjusted death rate for Diabetes mellitus increased by 14 percent between 1988 and 1989, continuing the increase for the third consecutive year. Diabetes mortality decreased from the late 1960's throughout the 1970's and remained at a plateau through the early 1980's. The age-adjusted death rate for Homicide and legal intervention increased by 4 percent between 1988 and 1989 but is still 13 percent lower than the record high of 1980. The age-adjusted death rate for Chronic obstructive pulmonary diseases and allied conditions did not change between 1988 and 1989. Although there was a very large increase in age-adjusted death rates for Diabetes mellitus between 1988 and 1989 and a very large decrease for Atherosclerosis, there are no known reasons for these changes (2). They may reflect, in part, changes in the way in which physicians report causes of death on the death certificate.

Mortality levels for each of the 15 leading causes of death were higher for males than for females (table D). The largest differentials were for HIV infection, Suicide, and Homicide and legal intervention. Specifically, the age-adjusted death rate for HIV infection was 8.7 times as high for males as for females; for Suicide, 4.1 times as high; for Homicide and legal intervention, 3.6 times as high; and for Accidents and adverse effects the rate was 2.6 times as high for males as for females. The smallest sex difference in mortality was for Diabetes mellitus, with a male-to-female ratio of 1.1.

For females the age-adjusted death rate for all causes combined decreased by 2 percent between 1988 and 1989. Decreases in rates occurred

for 10 of the leading causes of death—Diseases of heart; Cerebrovascular diseases; Pneumonia and influenza; Accidents and adverse effects; Atherosclerosis; Septicemia; Nephritis, nephrotic syndrome, and nephrosis; Chronic liver disease and cirrhosis; Suicide; and Homicide and legal intervention. The decreases were offset, in part, by increases in rates for three leading causes of death—Malignant neoplasms, including neoplasms of lymphatic and hematopoietic tissues; Chronic obstructive pulmonary diseases and allied conditions; and Diabetes mellitus. Of the leading causes of death, Diabetes mellitus had the largest increase in mortality between 1988 and 1989 for women; the age-adjusted rate from this cause increased 12 percent. Increases in death rates for females aged 25–34 years between 1988 and 1989 were primarily due to increases for HIV infection; Accidents and adverse effects (primarily Motor vehicle accidents); and Malignant neoplasms, including neoplasms of lymphatic and hematopoietic tissues.

For males the age-adjusted death rate for all causes declined by 3 percent between 1988 and 1989. Decreases occurred in the rates for 10 of the leading causes of death—Diseases of heart; Accidents and adverse

effects; Cerebrovascular diseases; Chronic obstructive pulmonary diseases and allied conditions; Pneumonia and influenza; Suicide; Chronic liver disease and cirrhosis; Nephritis, nephrotic syndrome, and nephrosis; Septicemia; and Atherosclerosis. Increases in the age-adjusted death rate occurred for Diabetes mellitus, Homicide and legal intervention, and HIV infection. For males the largest increase was for HIV infection (31 percent). In contrast to 1988, when the age-adjusted death rate for Motor vehicle accidents increased for both sexes, between 1988 and 1989 the rate decreased for both sexes. Increases in death rates for males aged 25–34 years between 1988 and 1989 were primarily due to increases for HIV infection and Homicide and legal intervention.

Mortality was higher for the black population than for the white population for most of the leading causes (table D). The largest differential was for Homicide and legal intervention, for which the age-adjusted death rate for the black population was 6.6 times that of the white population. Other causes for which the differential was large include HIV infection (3.3); Nephritis, nephrotic syndrome, and nephrosis (3.1); Septicemia (2.7); and

Table D. Ratio of age-adjusted death rates for the 15 leading causes of death by sex and race: United States, 1989

Rank ¹ order	Cause of death, race, and sex (Ninth Revision International Classification of Diseases, 1975)	Ratio of—	
		Male to female	Black to white
...	All causes	1.72	1.58
1	Diseases of heart	1.87	1.43
2	Malignant neoplasms, including neoplasms of lymphatic and hematopoietic tissues	1.45	1.33
3	Cerebrovascular diseases	1.16	1.89
4	Accidents and adverse effects	2.62	1.30
...	Motor vehicle accidents	2.39	0.97
...	All other accidents and adverse effects	2.99	1.75
5	Chronic obstructive pulmonary diseases and allied conditions	1.80	0.84
6	Pneumonia and influenza	1.67	1.52
7	Diabetes mellitus	1.09	2.30
8	Suicide	4.13	0.59
9	Chronic liver disease and cirrhosis	2.33	1.67
10	Homicide and legal intervention	3.59	6.61
11	Human immunodeficiency virus infection	8.72	3.27
12	Nephritis, nephrotic syndrome, and nephrosis	1.56	3.08
13	Atherosclerosis	1.31	1.03
14	Septicemia	1.33	2.67
15	Certain conditions originating in the perinatal period ²	1.21	2.93

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

²Inasmuch as deaths from these causes occur mainly among infants, ratios are based on infant mortality rates rather than age-adjusted death rates.

Diabetes mellitus (2.3). Age-adjusted rates for the black population were lower than those for the white population for two leading causes of death—Chronic obstructive pulmonary diseases and allied conditions and Suicide.

For the white population decreases in age-adjusted rates occurred in nine leading causes of death. The largest decreases were for Atherosclerosis (12 percent); Nephritis, nephrotic syndrome, and nephrosis (10 percent); Diseases of heart (7 percent); and Cerebrovascular diseases (6 percent). Of the leading causes that increased for the white population, the largest increase was for HIV infection (32 percent). Other increases were for Diabetes mellitus (14 percent) and Homicide and legal intervention (2 percent). Age-adjusted rates for Chronic obstructive pulmonary diseases and allied conditions were the same in 1988 and 1989.

For the black population age-adjusted death rates were lower in 1989 than in 1988 for several of the leading causes, including Atherosclerosis (18 percent), Septicemia (8 percent), Diseases of heart and Cerebrovascular diseases (5 percent each), and Chronic liver disease and cirrhosis (4 percent). Of the leading causes that increased for the black population, the largest increase was for HIV infection (28 percent). Other increases were for Diabetes mellitus (12 percent), Homicide and legal intervention (5 percent), and Suicide (4 percent). Between 1988 and 1989 the age-adjusted death rate for Malignant neoplasms, including neoplasms of lymphatic and hematopoietic tissues, increased slightly for both the black and white populations (less than 1 percent each). The age-adjusted rate for Chronic obstructive pulmonary diseases and allied conditions did not change between 1988 and 1989.

Major causes of death contributing to the widening differential in mortality between the black and white populations between 1988 and 1989 were HIV infection; Homicide and legal intervention; Diabetes mellitus; and Malignant neoplasms, including neoplasms of lymphatic and hematopoietic tissues. For these four causes the increase in rates between

1988 and 1989 was smaller for the white population than for the black population.

HIV infection

In 1989 there were 22,082 deaths due to HIV infection, 33 percent more than the 16,602 deaths recorded in 1988. Of these deaths, 64 percent were for white males, 25 percent were for black males, 6 percent were for black females, and 4 percent were for white females (table 14). The largest numbers for both males and females were for age groups 25–34 and 35–44 years. Although the numbers of deaths were greatest for white males, the age-adjusted death rates and almost all age-specific death rates were highest for black males, followed by white males, black females, and white females.

Overall, HIV infection was ranked as the 11th leading cause of death in 1989 compared with 15th in 1987 and 1988. For the black population it ranked ninth in 1989, but for the white population it did not rank among the 10 leading causes of death. For males of all races combined HIV infection was the eighth leading cause of death, while for females it did not rank among the 10 leading causes.

By age, HIV infection ranked among the 10 leading causes for the same four age groups in 1989 as in 1988. For ages 1–4 years HIV infection increased in rank from 9th to 8th in 1989; for ages 15–24 years it was 6th in both years; for ages 25–44 years it increased from 4th to 3d; and for ages 45–64 years it ranked 10th in both years. Although it was the eighth leading cause for ages 1–4 years, the number of deaths due to HIV infection was relatively small—112 deaths, or less than 2 percent of deaths from all causes for that age group.

Hispanic deaths

Leading causes of death for all age groups combined for the Hispanic population differ from those of the non-Hispanic white population in an expanded reporting area of 44 States and the District of Columbia (table 17). In 1988 the reporting area included 26 States and the District of Columbia. Although the two

leading causes of death—Diseases of heart and Malignant neoplasms, including neoplasms of lymphatic and hematopoietic tissues—are the same for both groups, they accounted for almost three-fifths of all deaths in 1988 for the non-Hispanic white population but for only two-fifths of the deaths for the Hispanic population.

Of the major differences in leading causes of death between the two groups, 3 of the 10 leading causes for the Hispanic population are not among the 10 leading causes for the non-Hispanic white population: Homicide and legal intervention (5th leading cause), HIV infection (6th), and Certain conditions originating in the perinatal period (10th). Conversely, the 3 leading causes for the non-Hispanic white population not among the 10 leading causes for the Hispanic population were Chronic obstructive pulmonary diseases and allied conditions (4th), Suicide (8th), and Atherosclerosis (10th).

Differences in ranking the leading causes of death between the two population groups largely reflect differences in age composition between the two groups; within broad age groups leading causes are similar. However, even within age categories some differences exist. Except for the age group 1–14 years, where Hispanic and non-Hispanic deaths from Homicide and legal intervention ranked the same, HIV infection and Homicide and legal intervention consistently ranked higher for the Hispanic population than for the non-Hispanic white population for all age groups under 65 years. Chronic liver disease and cirrhosis also ranked higher for the Hispanic population aged 45 years and over.

Drug-induced deaths

In 1989 a total of 10,710 persons died of drug-induced causes in the United States (table 18). The category “drug-induced causes” includes not only deaths from dependent and non-dependent use of drugs (both legal and illegal use) but also poisoning from medically prescribed and other drugs; it excludes accidents, homicides, and

other causes indirectly related to drug use (for drug-induced causes see "Technical notes"). The age-adjusted death rate for drug-induced causes in 1989 was 4.1 deaths per 100,000 population, 2 percent lower than the rate for the previous year. The rate increased by 32 percent from 1983 to 1989. The age-adjusted death rate for drug-induced causes for males was 1.9 times the rate for females, and the rate for the black population was 2.0 times that for the white population.

Alcohol-induced deaths

In 1989 a total of 19,810 persons died of alcohol-induced causes in the United States (table 19). The category alcohol-induced causes includes not only deaths from dependent and non-dependent use of alcohol but also accidental poisoning by alcohol; it excludes accidents, homicides, and other causes indirectly related to alcohol use (for alcohol-induced causes see "Technical notes"). The age-adjusted death rate for alcohol-induced causes in 1989 was 7.2 deaths per 100,000 population, higher than the rate of 7.0 for the previous year. The rate decreased by 20 percent from 1980 to 1986 and then increased by 7 percent from 1986 to 1989. The age-adjusted death rate for alcohol-induced causes for males was 3.4 times the rate for females, and the rate for the black population was 2.7 times the rate for the white population.

Marital status

About 90 percent of the persons who died in 1989 had been married

(table 20). The proportion was larger for females (92 percent) than for males (88 percent) and for the white population (91 percent) than for the black population (82 percent). The proportion who were widowed at the time of death was considerably greater for women (58 percent) than for men (18 percent) but about the same for both major race groups: 38 percent of the white population and 34 percent of the black population.

Educational attainment

About 60 percent of the persons who died in 1989 had completed high school in a 21-State reporting area (table 21). The percent was about the same for males (60 percent) and females (61 percent) but was higher for the white population (62 percent) than for the black population (48 percent). While a near-equal proportion of white males (61 percent) and white females (62 percent) who died in 1989 had completed high school, the proportion who had completed 4 years of college was larger for white males (14 percent) than for white females (10 percent). In contrast, though near-equal proportions of black males and black females had completed high school (48 percent each), slightly more black females (6 percent) than black males (5 percent) had completed 4 years of college at the time of death.

Infant mortality

A change in the tabulation by race of live births beginning with data for

1989 affects infant mortality rates by race, because counts of live births comprise the denominator of infant mortality rates. The tabulation of race for live births changed from race of child to race of mother. As a result, infant mortality rates by race for 1989 are not comparable with those of previous years. In general, changing the basis for tabulating birth data from race of child to race of mother results in more white births and fewer black births and births of other races. Therefore, infant mortality rates under the new classification tend to be lower for white infants and higher for black infants and infants of other races than they are when computed based on live births tabulated by race of child (see "Technical notes").

To facilitate comparison with past years' data and analysis of current patterns, key tabulations and text analysis in this and other reports from the National Center for Health Statistics (NCHS) for 1989 and 1990 infant mortality will show data computed on the basis of live births tabulated by race of mother and race of child. This will make it possible to distinguish the effects of this change in tabulation from real changes in the data. Accordingly, rates for 1989 are presented in figure 5 and table 22 by both methods of tabulating race of live births. In this report the discussions of changes in various measures between 1989 and previous years are based on measures computed by race of child. Text references to white and black infant mortality for 1989 only refer to rates with live births tabulated according to race of mother (table E).

Table E. Infant, neonatal, and postneonatal deaths and mortality rates by race and sex: United States, 1989

[Rates are infant (under 1 year), neonatal (under 28 days), and postneonatal (28 days–11 months) deaths per 100,000 live births in specified group. Beginning in 1989, race for live births is tabulated according to race of mother; see Technical notes]

Race and sex	Infant		Neonatal		Postneonatal	
	Number	Rate	Number	Rate	Number	Rate
All races ¹	39,655	981.3	25,168	622.8	14,487	358.5
Male	22,361	1080.5	14,059	679.3	8,302	401.2
Female	17,294	877.2	11,109	563.5	6,185	313.7
White	25,794	808.0	16,428	514.6	9,366	293.4
Male	14,760	901.3	9,273	566.3	5,487	335.1
Female	11,034	709.7	7,155	460.2	3,879	249.5
Black	12,527	1861.0	8,021	1191.6	4,506	669.4
Male	6,842	2002.2	4,387	1283.8	2,455	718.4
Female	5,685	1715.4	3,634	1096.5	2,051	618.9

¹Includes races other than white and black.

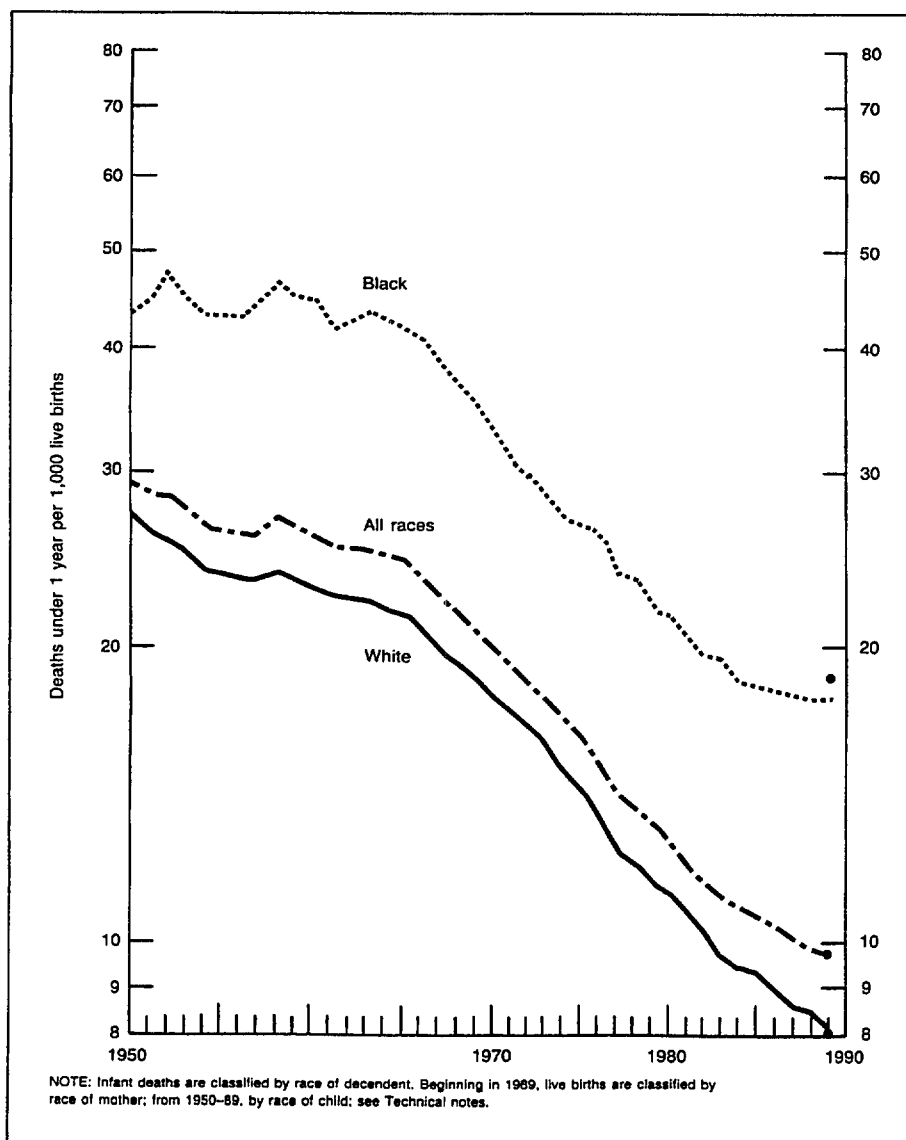


Figure 5. Infant mortality rates by race: United States, 1950-89

In 1989 there were 39,655 deaths of infants under 1 year of age (table E) compared with 38,910 in the previous year. The infant mortality rate of 9.8 infant deaths per 1,000 live births was the lowest final rate ever recorded for the United States; it compares with a rate of 10.0 for the previous year. In 1989 the infant mortality rate for the white population was 8.1 compared with 18.6 for the black population. These rates are computed using live births tabulated according to race of mother. Based on the race-of-child tabulation for live births, among white infants the rate in 1989 (8.2) was 4 percent lower than the rate from the previous year (8.5), while for black infants the difference in the rate was

not statistically significant (17.7 in 1989 compared with 17.6 in 1988).

Because the rate for black infants has declined more slowly than that for white infants, the difference in mortality rates between black and white infants has been widening since the mid-1970's. In 1989 the rate for black infants (18.6) was 2.3 times the rate for white infants (8.1), based on live births by race of mother. The ratio of black-to-white infant mortality was 2.2 in 1989 when based on a tabulation of live births according to race of child, an increase from the ratio of 2.1 for 1987 and 1988. The ratio has increased since the early 1970's when it was 1.8. The downward trend in infant mortality has slowed since 1981 for the

black population. For white infants, prior to the 4-percent decline between 1988 and 1989, the rate of decline had slowed since the late 1970's.

Between 1988 and 1989 the neonatal mortality rate declined by 2 percent, from 6.3 to 6.2 deaths for infants under 28 days per 1,000 live births. In 1989 the rate was 5.1 for the white population and 11.9 for the black population, based on live births by race of mother. Based on the race-of-child classification for live births, the rate for white infants was 4 percent lower than the rate for the previous year (5.2 and 5.4, respectively), while for black infants the difference between the 2 years was not statistically significant (11.3 for 1989 compared with 11.5 for 1988). Neonatal mortality rates have declined since 1960 for both races, but the rate for the white population has declined faster than that for the black population—an average annual decrease of 4 percent per year for white infants compared with 3 percent for black infants.

The postneonatal mortality rate—deaths to infants 28 days-11 months per 1,000 live births—for 1989 was 3.6 for the fourth consecutive year. Based on live births classified by race of mother, the rate was 2.9 for the white population and 6.7 for the black population. Based on the race-of-child classification for live births, the rate for white infants was 3.0. This was 3 percent lower than the rate of 3.1, which has remained constant for 1986-88. The difference in the rate for black infants between 1988 and 1989 was not statistically significant (6.4 in 1989 compared with 6.2 in 1988), nor was it significant between the 2 previous years. This contrasts with the historical trend of more rapid declines in postneonatal mortality for the black than for the white population. From 1960 to 1988 postneonatal mortality declined by an average of 3 percent per year for black infants compared with 2 percent for white infants.

The ranking of the leading causes of infant death did not change between 1988 and 1989. Among the 10 leading causes of infant death, the first 4 causes—Congenital anomalies, Sudden infant death syndrome, Disorders relating to short gestation and unspecified low birthweight,

and Respiratory distress syndrome—accounted for just over half (54 percent) of all infant deaths in 1989; and the remaining 6 causes accounted for only 15 percent of all infant deaths.

Between 1988 and 1989 the infant mortality rate decreased for 5 of the 10 leading causes of infant death and increased for the other 5 causes. The largest decreases were for Intrauterine hypoxia and birth asphyxia (10 percent) and Pneumonia and influenza and Congenital anomalies (4 percent each). The largest increases were for Disorders relating to short gestation and unspecified low birthweight (16 percent); Respiratory distress syndrome (10 percent); and Newborn affected by maternal complications of pregnancy and Newborn affected by complications of placenta, cord and membranes (5 percent each).

Differences between infant mortality rates for white and black infants by cause are reflected in differences in ranking of the leading causes of infant death, as well as in differences in cause-specific infant mortality rates. Congenital anomalies was the leading cause of death for white infants, followed by Sudden infant death syndrome, Respiratory distress syndrome, and Disorders relating to short gestation and unspecified low birthweight. Together these four causes accounted for 56 percent of white infant deaths. In contrast Disorders relating to short gestation and unspecified low birthweight was the leading cause of death for black infants, followed by Sudden infant death syndrome, Congenital anomalies, and Respiratory distress syndrome. Together these four causes accounted for 49 percent of all black infant deaths.

Although the difference between black and white infant mortality rates varied by cause, the risk was higher for black than for white infants for all the leading causes. Expressed as the ratio of the infant mortality rate for black infants to that for white infants, the leading causes are ranked, beginning with the highest ratio, as Disorders relating to short gestation and unspecified low birthweight (4.5); Accidents and adverse effects (2.6); Pneumonia and influenza, Newborn affected by

maternal complications of pregnancy, and Infections specific to the perinatal period (2.5); Respiratory distress syndrome and Intrauterine hypoxia and birth asphyxia (2.3); Sudden infant death syndrome and Newborn affected by complications of placenta, cord and membranes (2.0); and Congenital anomalies (1.1).

Taken together 3 of the 10 leading causes of infant death accounted for 41 percent of the difference between black and white infant mortality rates in 1989. These three causes were Disorders relating to short gestation and unspecified low birthweight (20 percent), Sudden infant death syndrome (12 percent), and Respiratory distress syndrome (9 percent).

Hispanic infant mortality—The infant mortality rate was 8.5 deaths to infants under 1 year of age per 1,000 live births for the Hispanic population in a reporting area of 43 States and the District of Columbia. This was 8 percent higher than the rate of 7.9 for the non-Hispanic white population (table 26). Among specified subgroups of the Hispanic population, the infant mortality rate for Mexican infants was 7.9 deaths to infants under 1 year of age per 1,000 live births, 9.6 for Puerto Rican infants, and 7.4 for Cuban infants. Infant mortality rates by specified Hispanic origin and race for non-Hispanic origin for the 43-State area may be somewhat understated (see “Technical notes”).

Maternal mortality

In 1989 a total of 320 women were reported to have died of maternal causes (table F) compared with 330 in 1988. As in previous years, the number does not include all deaths occurring to pregnant women but only to those assigned to Complications of pregnancy, childbirth, and the puerperium (ICD-9 Nos. 630–676). The maternal mortality rate for 1989 was 7.9 deaths per 100,000 live births compared with a rate of 8.4 in 1988. The difference in the rate between the 2 years was not statistically significant. The rates for 1988 and 1989 were higher than the record low rate of 6.6 recorded in 1987. From 1960 to 1982 the maternal mortality rate declined

Table F. Maternal deaths and maternal mortality rates by race: United States, 1989

[Maternal deaths are those assigned to Complications of pregnancy, childbirth, and the puerperium, category numbers 630–676 of the *Ninth Revision International Classification of Diseases, 1975*. Rates per 100,000 live births in specified group. Beginning in 1989, race for live births is tabulated according to race of mother; see Technical notes]

Race	Number	Rate
All races	320	7.9
White	180	5.6
All other	140	16.5
Black	124	18.4

nearly fivefold, from 37.1 in 1960 to 7.9 in 1982. Since 1982 the rate has fluctuated, showing no clear trend.

Black women have a higher risk of maternal death than do white women. In 1989 the maternal mortality rate for black women was 18.4, 3.3 times the rate of 5.6 for white women (based on live births tabulated by race of mother). In 1960 black women were 4.0 times as likely as white women to die of maternal causes. The change in the classification of race for live births beginning with data for 1989 affects maternal mortality rates by race as it does infant mortality rates, because counts of live births comprise the denominator of maternal mortality rates (see “Technical notes”).

Report of autopsy

For 1989 all States requested information on the death certificate as to whether autopsies were performed. They were reported as performed on 247,251 deaths, or 11.5 percent of the deaths that occurred in 1989, a reduction from the 11.6 percent reported for the previous year (table 28). This continues the downward trend in the percent of deaths autopsied. The percent autopsied for all causes of death combined is heavily influenced by the low rates for the three leading causes of death—Diseases of heart (8 percent); Malignant neoplasms, including neoplasms of lymphatic and hematopoietic tissues (4 percent); and Cerebrovascular diseases (4 percent). Among the 15 leading causes of death, the highest percents reported were for traumatic causes, that is, Homicide and legal intervention (97 percent), Suicide

(56 percent), and Accidents and adverse effects (51 percent). For non-traumatic causes the highest percents were for Certain conditions originating in the perinatal period (23 percent), Chronic liver disease and cirrhosis (18 percent), and HIV infection (11 percent).

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10. Deaths from 72 selected causes by race and sex: United States, 1989	26	23. Deaths under 1 year and infant mortality rates for 61 selected		. . . Category not applicable	
11. Death rates for 72 selected causes by race and sex: United States, 1989	28			- Quantity zero	
12. Age-adjusted death rates for 72 selected causes by race and sex: United States, 1989	30			0.0 Quantity more than zero but less than 0.05	
13. Deaths and death rates from 16 selected subcategories of Malignant neoplasms, including neoplasms of lymphatic and hematopoietic tissues, by race and sex: United States, 1989	32			* Figure does not meet standard of reliability or precision (estimate is based on fewer than 20 deaths in numerator or denominator)	

Table 1. Deaths, death rates, and age-adjusted death rates, by race and sex: United States, 1940, 1950, 1960, 1970, and 1975-89

[Rates per 100,000 population in specified group. Rates are based on populations enumerated as of April 1 for census years and estimated as of July 1 for all other years. Beginning 1970, excludes deaths of nonresidents of the United States]

Year	All other											
	All races			White			Total			Black		
	Both sexes	Male	Female	Both sexes	Male	Female	Both sexes	Male	Female	Both sexes	Male	Female
	Number											
1989	2,150,466	1,114,190	1,036,276	1,853,841	950,852	902,989	296,625	163,338	133,287	267,642	146,393	121,249
1988	2,167,999	1,125,540	1,042,459	1,876,906	965,419	911,487	291,093	160,121	130,972	264,019	144,228	119,791
1987	2,123,323	1,107,958	1,015,365	1,843,067	953,382	899,685	280,256	154,576	125,680	254,814	139,551	115,263
1986	2,105,361	1,104,005	1,001,356	1,831,083	952,554	878,529	274,278	151,451	122,827	250,326	137,214	113,112
1985	2,086,440	1,097,758	988,682	1,819,054	950,455	868,599	267,386	147,303	120,083	244,207	133,610	110,597
1984	2,039,369	1,076,514	962,855	1,781,897	934,529	847,368	257,472	141,985	115,487	235,884	129,147	106,737
1983	2,019,201	1,071,923	947,278	1,765,582	931,779	833,803	253,619	140,144	113,475	233,124	127,911	105,213
1982	1,974,797	1,056,440	918,357	1,729,085	919,239	809,846	245,712	137,201	108,511	226,513	125,610	100,903
1981	1,977,981	1,063,772	914,209	1,731,233	925,490	805,743	246,748	138,282	108,466	228,560	127,296	101,264
1980	1,989,841	1,075,078	914,763	1,738,607	933,878	804,729	251,234	141,200	110,034	233,135	130,138	102,997
1979	1,913,841	1,044,959	868,882	1,676,145	910,137	766,008	237,696	135,822	102,874	220,818	124,433	96,385
1978	1,927,788	1,055,290	872,498	1,689,722	920,123	769,599	238,066	135,167	102,899	221,340	124,663	96,677
1977	1,899,597	1,046,243	853,354	1,664,100	912,670	751,430	235,497	133,573	101,924	220,076	123,894	96,182
1976	1,909,440	1,051,983	857,457	1,674,989	918,589	756,400	234,451	133,394	101,057	219,442	123,977	95,465
1975	1,892,879	1,050,819	842,060	1,660,366	917,804	742,562	232,513	133,015	99,498	217,932	123,770	94,162
1970	1,921,031	1,078,478	842,553	1,682,096	942,437	739,659	238,935	136,041	102,894	225,647	127,540	98,107
1960	1,711,982	975,648	736,334	1,505,335	860,857	644,478	206,647	114,791	91,856	196,010	107,701	88,309
1950	1,452,454	827,749	624,705	1,276,085	731,366	544,719	176,369	96,383	79,986	169,606	92,004	77,602
1940	1,417,269	791,003	626,266	1,231,223	690,901	540,322	186,046	100,102	85,944	178,743	95,517	83,226
	Death rate											
1989	866.3	921.0	814.3	887.2	930.2	846.0	755.2	870.8	649.5	872.9	1,006.5	752.4
1988	882.0	940.0	826.9	905.1	952.2	860.0	757.5	872.7	652.2	874.2	1,006.8	754.5
1987	872.4	934.7	813.1	895.5	947.8	845.5	745.8	861.5	640.0	856.9	989.5	737.3
1986	873.2	940.7	809.3	896.2	954.4	840.7	745.6	862.7	638.8	854.2	987.7	733.9
1985	873.9	945.0	806.6	897.1	960.0	837.1	743.3	858.6	638.1	845.7	976.8	727.7
1984	862.3	935.9	792.7	885.2	951.1	822.3	731.5	846.4	627.0	828.5	958.1	712.0
1983	862.8	942.6	787.4	884.6	957.4	815.3	736.6	854.9	629.2	830.5	963.3	711.2
1982	852.0	938.0	770.7	872.9	951.8	797.9	728.9	854.8	614.5	819.2	960.4	692.4
1981	862.4	954.5	775.4	880.3	965.1	799.6	755.0	889.4	633.0	841.7	991.6	707.3
1980	878.3	976.9	785.3	892.5	983.3	806.1	791.7	936.5	660.6	875.4	1,034.1	733.3
1979	852.2	957.5	752.7	865.2	963.3	771.8	771.0	920.3	635.7	839.3	999.6	695.3
1978	868.0	977.5	764.5	880.2	982.7	782.7	790.0	943.2	651.0	855.1	1,016.8	709.5
1977	864.4	978.9	756.0	874.6	983.0	771.3	798.6	951.7	659.6	864.0	1,026.0	718.0
1976	877.6	993.8	767.6	887.7	997.3	783.1	812.1	969.8	668.6	875.0	1,041.6	724.5
1975	878.5	1,002.0	761.4	886.9	1,004.1	775.1	823.1	987.6	673.1	882.5	1,055.4	726.1
1970	945.3	1,090.3	807.8	946.3	1,086.7	812.6	938.4	1,115.9	775.3	999.3	1,186.6	829.2
1960	954.7	1,104.5	809.2	947.8	1,098.5	800.9	1,008.5	1,152.0	872.6	1,038.6	1,181.7	905.0
1950	963.8	1,106.1	823.5	945.7	1,089.5	803.3	1,119.4	1,251.1	993.5	---	---	---
1940	1,076.4	1,197.4	954.6	1,041.5	1,162.2	919.4	1,382.8	1,513.7	1,256.2	---	---	---
	Age-adjusted death rate ¹											
1989	523.0	678.7	395.3	496.1	644.2	374.9	684.8	896.4	515.0	783.1	1,032.1	585.6
1988	535.5	696.7	404.4	509.8	664.3	384.4	692.5	904.3	523.5	788.8	1,037.8	593.1
1987	535.5	698.6	403.3	511.1	668.2	384.1	688.0	898.1	520.1	778.6	1,023.2	586.2
1986	541.7	709.1	406.6	518.0	679.8	387.7	693.1	905.7	524.0	781.0	1,026.9	588.2
1985	546.1	716.8	409.4	523.1	688.7	390.6	697.8	910.4	530.0	779.9	1,024.0	589.1
1984	545.9	716.7	409.6	523.6	689.9	391.3	694.5	904.4	529.0	771.9	1,011.7	585.3
1983	550.5	725.3	411.5	528.0	698.4	392.7	703.1	916.3	535.2	777.9	1,019.6	590.4
1982	553.8	733.1	411.2	531.8	706.0	393.3	704.6	928.4	529.3	778.7	1,035.0	581.4
1981	568.2	753.3	420.4	544.6	724.4	401.4	732.6	964.3	549.3	803.9	1,067.7	599.1
1980	585.8	777.2	432.6	559.4	745.3	411.1	774.2	1,015.1	582.6	842.5	1,112.8	631.1
1979	577.0	768.6	423.1	551.9	738.4	402.5	757.1	994.8	566.9	812.1	1,073.3	605.0
1978	595.0	791.4	437.4	569.5	761.1	416.4	780.0	1,021.0	585.8	831.8	1,093.9	622.7
1977	602.1	801.3	441.8	575.7	770.6	419.6	796.7	1,036.1	601.8	849.3	1,112.1	639.6
1976	618.5	820.9	455.0	591.3	789.3	432.5	818.5	1,063.4	618.3	870.5	1,138.3	654.5
1975	630.4	837.2	462.5	602.2	804.3	439.0	840.6	1,090.1	634.5	890.8	1,163.0	670.6
1970	714.3	931.6	532.5	679.6	893.4	501.7	983.4	1,231.4	770.8	1,044.0	1,318.6	814.4
1960	760.9	949.3	590.6	727.0	917.7	555.0	1,046.1	1,211.0	893.3	1,073.3	1,246.1	916.9
1950	841.5	1,001.6	688.4	800.4	963.1	645.0	1,225.7	1,358.5	1,095.7	---	---	---
1940	1,076.1	1,213.0	938.9	1,017.2	1,155.1	879.0	1,634.7	1,764.4	1,504.7	---	---	---

¹For method of computation, see Technical notes.

Table 2. Deaths and death rates, by age, race, and sex: United States, 1989

[Rates per 100,000 population in specified group].

Age	All other											
	All races			White			Total			Black		
	Both sexes	Male	Female	Both sexes	Male	Female	Both sexes	Male	Female	Both sexes	Male	Female
	Number											
All ages	2,150,466	1,114,190	1,036,276	1,853,841	950,852	902,989	296,625	163,338	133,287	267,642	146,393	121,249
Under 1 year	39,655	22,361	17,294	25,794	14,760	11,034	13,861	7,601	6,260	12,527	6,842	5,685
1-4 years	7,292	4,110	3,182	5,133	2,910	2,223	2,159	1,200	959	1,830	1,021	809
5-9 years	4,313	2,510	1,803	3,187	1,864	1,323	1,126	646	480	953	559	394
10-14 years	4,601	2,914	1,687	3,467	2,211	1,256	1,134	703	431	967	603	364
15-19 years	15,570	11,263	4,307	11,945	8,450	3,495	3,625	2,813	812	3,120	2,456	664
20-24 years	20,918	15,902	5,016	15,232	11,560	3,672	5,686	4,342	1,344	5,037	3,846	1,191
25-29 years	26,930	19,932	6,998	19,514	14,640	4,874	7,416	5,292	2,124	6,685	4,772	1,913
30-34 years	33,594	24,222	9,372	23,876	17,498	6,378	9,718	6,724	2,994	8,947	6,203	2,744
35-39 years	37,862	26,742	11,120	26,885	19,234	7,651	10,977	7,508	3,469	10,050	6,938	3,112
40-44 years	43,057	28,586	14,471	32,046	21,376	10,670	11,011	7,210	3,801	10,025	6,583	3,442
45-49 years	50,857	32,718	18,139	38,963	25,166	13,797	11,894	7,552	4,342	10,781	6,857	3,924
50-54 years	67,409	42,105	25,304	52,670	32,966	19,704	14,739	9,139	5,600	13,329	8,317	5,012
55-59 years	101,474	62,981	38,493	82,414	51,499	30,915	19,060	11,482	7,578	17,258	10,446	6,812
60-64 years	158,584	96,628	61,956	133,021	81,919	51,102	25,563	14,709	10,854	23,262	13,340	9,922
65-69 years	219,097	129,847	89,250	187,834	112,194	75,640	31,263	17,653	13,610	28,452	16,031	12,421
70-74 years	262,127	148,559	113,568	230,704	131,599	99,105	31,423	16,960	14,463	28,507	15,209	13,298
75-79 years	301,225	157,090	144,135	268,221	140,663	127,558	33,004	16,427	16,577	29,815	14,555	15,260
80-84 years	297,981	135,580	162,401	270,882	123,249	147,633	27,099	14,768	12,331	24,205	10,644	13,561
85 years and over	457,358	149,735	307,623	421,669	136,813	284,856	35,689	12,922	22,767	31,725	11,056	20,669
Not stated	562	405	157	384	281	103	178	124	54	167	115	52
	Rate											
All ages ¹	866.3	921.0	814.3	887.2	930.2	846.0	755.2	870.8	649.5	872.9	1,006.5	752.4
Under 1 year ²	1,005.2	1,107.0	898.4	815.5	909.4	716.0	1,772.5	1,914.6	1,626.0	2,023.7	2,179.0	1,863.9
1-4 years	49.2	54.2	44.0	43.2	47.8	38.4	73.9	80.8	66.8	80.6	88.4	72.5
5-9 years	23.7	26.9	20.3	21.8	24.8	18.6	31.4	35.6	27.2	34.0	39.3	28.6
10-14 years	27.1	33.5	20.4	25.5	31.7	19.0	33.6	41.0	26.0	36.1	44.3	27.6
15-19 years	87.4	123.9	49.4	83.3	115.3	49.8	104.5	159.5	47.6	113.1	176.2	48.6
20-24 years	111.8	169.7	53.7	99.2	149.5	48.1	170.1	265.2	78.8	190.0	300.7	86.8
25-29 years	124.1	183.5	64.6	107.8	160.1	54.4	206.2	307.1	113.3	236.5	355.6	128.8
30-34 years	151.8	218.6	84.8	128.6	186.4	69.5	272.4	397.2	159.7	326.1	481.2	188.6
35-39 years	193.0	274.8	112.4	161.7	230.6	92.4	366.4	540.5	216.0	444.7	670.3	254.0
40-44 years	255.0	344.7	168.5	220.2	295.7	145.7	472.4	677.6	300.0	580.8	841.8	364.2
45-49 years	376.1	495.7	262.1	333.8	437.1	233.3	643.3	895.8	431.6	772.8	1,095.4	510.3
50-54 years	592.6	764.3	431.4	538.1	688.1	394.2	929.3	1,271.1	645.2	1,089.9	1,528.9	738.1
55-59 years	946.1	1,229.9	686.8	885.2	1,149.5	640.1	1,346.0	1,791.3	977.8	1,546.4	2,056.3	1,120.4
60-64 years	1,459.3	1,902.5	1,070.4	1,390.1	1,821.2	1,007.7	1,969.4	2,531.7	1,511.7	2,247.5	2,856.5	1,749.9
65-69 years	2,154.3	2,803.9	1,611.6	2,080.3	2,716.6	1,544.0	2,740.0	3,516.5	2,129.9	3,106.1	3,987.8	2,411.8
70-74 years	3,271.7	4,288.7	2,496.5	3,207.3	4,217.9	2,432.6	3,836.8	4,930.2	3,044.8	4,312.7	5,550.7	3,445.1
75-79 years	4,993.0	6,586.6	3,951.1	4,939.6	6,551.6	3,886.6	5,473.3	6,902.1	4,541.6	6,134.8	7,783.4	5,103.7
80-84 years	7,993.1	10,381.3	6,705.2	7,946.1	10,365.8	6,650.1	8,495.0	10,539.3	7,347.3	9,455.1	11,696.7	8,218.8
85 years and over	15,034.8	17,615.9	14,033.9	15,272.3	17,978.1	14,242.8	12,700.7	14,519.1	11,857.8	13,442.8	15,355.6	12,526.7

¹Figures for age not stated are included in All ages but not distributed among age groups.

²Death rates under 1 year (based on population estimates) differ from infant mortality rates (based on live births); see tables E and 22-26 for infant mortality rates, and Technical notes for further discussion of the difference.

Table 3. Abridged life table for the total population, 1989

[For explanation of the columns of the life table, see section 6 of *Vital Statistics of the United States, 1988, Volume II*]

Age interval Period of life between two exact ages stated in years (1) x to x+n	Proportion dying	Of 100,000 born alive		Stationary population		Average remaining lifetime
	Proportion of persons alive at beginning of age interval dying during interval (2) nq _x	Number living at beginning of age interval (3) l _x	Number dying during age interval (4) n ^d _x	In the age interval (5) nL _x	In this and all subsequent age intervals (6) T _x	Average number of years of life remaining at beginning of age interval (7) e _x
0-1	0.0099	100,000	986	99,154	7,525,922	75.3
1-5	0.0019	99,014	192	395,606	7,426,768	75.0
5-10	0.0012	98,822	117	493,791	7,031,162	71.1
10-15	0.0013	98,705	132	493,269	6,537,371	66.2
15-20	0.0043	98,573	428	491,894	6,044,102	61.3
20-25	0.0056	98,145	548	489,382	5,552,208	56.6
25-30	0.0062	97,597	604	486,474	5,062,826	51.9
30-35	0.0076	96,993	734	483,173	4,576,352	47.2
35-40	0.0097	96,259	932	479,097	4,093,179	42.5
40-45	0.0127	95,327	1,213	473,819	3,614,082	37.9
45-50	0.0186	94,114	1,753	466,508	3,140,263	33.4
50-55	0.0292	92,361	2,694	455,493	2,673,755	28.9
55-60	0.0463	89,667	4,154	438,547	2,218,262	24.7
60-65	0.0707	85,513	6,044	413,274	1,779,715	20.8
65-70	0.1026	79,469	8,156	377,836	1,366,441	17.2
70-75	0.1522	71,313	10,851	330,381	988,605	13.9
75-80	0.2235	60,462	13,511	269,356	658,224	10.9
80-85	0.3348	46,951	15,720	195,668	388,868	8.3
85 and over	1.0000	31,231	31,231	193,200	193,200	6.2

Table 4. Life expectancy at birth by race and sex: United States, 1940, 1950, 1960, and 1970-89

Year	All other											
	All races			White			Total			Black		
	Both sexes	Male	Female	Both sexes	Male	Female	Both sexes	Male	Female	Both sexes	Male	Female
1989	75.3	71.8	78.6	76.0	72.7	79.2	71.2	67.1	75.2	69.2	64.8	73.5
1988	74.9	71.5	78.3	75.6	72.3	78.9	71.2	67.1	75.1	69.2	64.9	73.4
1987	75.0	71.5	78.4	75.6	72.2	78.9	71.3	67.3	75.2	69.4	65.2	73.6
1986	74.8	71.3	78.3	75.4	72.0	78.8	71.2	67.2	75.1	69.4	65.2	73.5
1985	74.7	71.2	78.2	75.3	71.9	78.7	71.2	67.2	75.0	69.5	65.3	73.5
1984	74.7	71.2	78.2	75.3	71.8	78.7	71.3	67.4	75.0	69.7	65.6	73.7
1983	74.6	71.0	78.1	75.2	71.7	78.7	71.1	67.2	74.9	69.6	65.4	73.6
1982	74.5	70.9	78.1	75.1	71.5	78.7	71.0	66.8	75.0	69.4	65.1	73.7
1981	74.2	70.4	77.8	74.8	71.1	78.4	70.3	66.1	74.4	68.9	64.5	73.2
1980	73.7	70.0	77.4	74.4	70.7	78.1	69.5	65.3	73.6	68.1	63.8	72.5
1979	73.9	70.0	77.8	74.6	70.8	78.4	69.8	65.4	74.1	68.5	64.0	72.9
1978	73.5	69.6	77.3	74.1	70.4	78.0	69.3	65.0	73.5	68.1	63.7	72.4
1977	73.3	69.5	77.2	74.0	70.2	77.9	68.9	64.7	73.2	67.7	63.4	72.0
1976	72.9	69.1	76.8	73.6	69.9	77.5	68.4	64.2	72.7	67.2	62.9	71.6
1975	72.6	68.8	76.6	73.4	69.5	77.3	68.0	63.7	72.4	66.8	62.4	71.3
1974	72.0	68.2	75.9	72.8	69.0	76.7	67.1	62.9	71.3	66.0	61.7	70.3
1973	71.4	67.6	75.3	72.2	68.5	76.1	66.1	62.0	70.3	65.0	60.9	69.3
1972 ¹	71.2	67.4	75.1	72.0	68.3	75.9	65.7	61.5	70.1	64.7	60.4	69.1
1971	71.1	67.4	75.0	72.0	68.3	75.8	65.6	61.6	69.8	64.6	60.5	68.9
1970	70.8	67.1	74.7	71.7	68.0	75.6	65.3	61.3	69.4	64.1	60.0	68.3
1960	69.7	66.6	73.1	70.6	67.4	74.1	63.6	61.1	66.3	---	---	---
1950	68.2	65.6	71.1	69.1	66.5	72.2	60.8	59.1	62.9	---	---	---
1940	62.9	60.8	65.2	64.2	62.1	66.6	53.1	51.5	54.9	---	---	---

¹Deaths based on a 50-percent sample.

Table 5. Age-specific and age-adjusted death rates for the 15 leading causes in 1989 and selected components: United States, 1979, 1988, and 1989

[Rates per 100,000 population in specified group. For explanation of asterisk preceding cause-of-death codes, see Technical notes]

Cause of death (Ninth Revision International Classification of Diseases, 1975)	Year	Age												Age-adjusted rate ³
		All ages ¹	Under 1 year ²	1-4 years	5-14 years	15-24 years	25-34 years	35-44 years	45-54 years	55-64 years	65-74 years	75-84 years	85 years and over	
All causes	1989	866.3	1,005.2	49.2	25.4	99.9	138.1	221.7	475.0	1,204.4	2,646.7	6,138.8	15,034.8	523.0
	1988	882.0	1,008.3	50.9	25.8	102.1	135.4	219.6	486.2	1,235.6	2,729.8	6,321.3	15,594.0	535.5
	1979	852.2	1,332.9	64.2	31.5	114.8	133.0	229.8	589.7	1,338.0	2,929.0	6,496.2	14,962.4	577.0
Diseases of heart.390-398,402,404-429	1989	295.6	19.7	1.9	0.8	2.6	7.9	32.3	124.2	376.7	911.8	2,400.6	6,701.6	155.9
	1988	311.3	22.6	2.4	0.9	2.9	8.2	34.2	131.4	400.9	984.1	2,542.7	7,098.1	166.3
	1979	326.5	20.2	2.1	0.8	2.6	8.4	45.3	184.6	499.0	1,199.8	2,925.2	7,310.9	199.5
Rheumatic fever and rheumatic heart disease390-398	1989	2.5	*	*	*	0.1	0.2	0.7	1.6	4.0	9.2	19.7	27.2	1.5
	1988	2.6	*	*	*	0.1	0.3	0.6	1.8	4.6	10.2	20.5	27.4	1.7
	1979	3.5	*	*	*	0.2	0.4	1.4	3.9	8.0	16.0	20.6	25.2	2.6
Hypertensive heart disease.402	1989	8.4	*	*	*	*	0.3	1.6	5.7	13.6	25.8	63.3	163.5	4.8
	1988	8.5	*	*	*	0.1	0.3	1.5	5.7	13.9	27.5	63.3	160.0	4.9
	1979	9.3	*	*	*	*	0.4	1.9	7.0	16.2	35.7	79.6	170.3	6.0
Hypertensive heart and renal disease404	1989	1.0	*	*	*	*	*	0.1	0.3	0.9	2.6	8.7	24.2	0.5
	1988	1.0	*	*	*	*	*	0.1	0.3	1.0	2.6	9.2	25.4	0.5
	1979	1.6	*	*	*	*	*	0.2	0.4	1.4	5.1	16.8	50.9	0.9
Ischemic heart disease410-414	1989	200.6	0.8	*	*	0.3	2.6	18.0	80.3	255.3	638.6	1,670.2	4,465.8	105.1
	1988	207.3	0.8	*	*	0.3	2.7	19.3	84.3	266.9	676.7	1,738.5	4,616.9	110.2
	1979	245.5	0.7	*	*	0.3	3.6	30.1	136.1	381.0	926.6	2,224.8	5,376.1	149.7
Acute myocardial infarction410	1989	99.5	*	*	*	0.2	1.5	10.4	48.4	150.0	355.8	836.9	1,695.5	55.9
	1988	100.9	*	*	*	0.2	1.5	11.4	50.4	155.2	374.6	854.3	1,652.2	57.8
	1979	133.8	*	*	*	0.2	2.4	21.1	94.6	258.9	577.2	1,135.2	1,916.3	88.2
Other acute and subacute forms of ischemic heart disease411	1989	1.4	*	*	*	*	0.1	0.3	1.0	2.7	4.5	9.0	23.6	0.8
	1988	1.4	*	*	*	*	0.1	0.3	1.1	2.5	4.8	9.3	24.0	0.8
	1979	2.1	*	*	*	*	0.1	0.5	2.0	4.8	8.2	15.3	30.2	1.5
Angina pectoris.413	1989	0.4	*	*	*	*	*	*	0.2	0.4	1.2	3.8	10.7	0.2
	1988	0.4	*	*	*	*	*	*	0.1	0.4	1.4	3.7	10.0	0.2
	1979	0.2	*	*	*	*	*	*	0.1	0.3	0.9	2.1	4.6	0.1
Old myocardial infarction and other forms of chronic ischemic heart disease412,414	1989	99.4	*	*	*	0.1	1.1	7.2	30.8	102.2	277.1	820.6	2,736.0	48.2
	1988	104.6	*	*	*	0.1	1.1	7.5	32.7	108.8	296.0	871.2	2,930.7	51.4
	1979	109.4	*	*	*	0.1	1.0	8.4	39.3	117.0	340.3	1,072.2	3,424.9	59.9
Other diseases of endocardium424	1989	4.9	*	*	*	0.1	0.4	0.7	1.3	4.2	12.8	44.3	125.3	2.4
	1988	4.8	*	*	*	0.1	0.3	0.7	1.4	4.4	13.5	43.3	117.9	2.4
	1979	2.9	*	*	*	0.1	0.2	0.6	1.5	4.3	11.6	27.5	47.1	1.8
All other forms of heart disease415-423,425-429	1989	78.2	18.2	1.8	0.7	2.0	4.3	11.3	35.0	98.7	222.8	594.3	1,895.6	41.5
	1988	87.1	21.2	2.2	0.8	2.3	4.6	12.0	37.9	110.1	253.6	667.9	2,150.5	46.5
	1979	63.7	19.0	2.0	0.7	1.9	3.7	11.0	35.7	88.1	204.8	555.9	1,641.4	38.4
Malignant neoplasms, including neoplasms of lymphatic and hematopoietic tissues.140-208	1989	199.9	2.7	3.4	3.3	5.1	12.1	43.1	157.2	445.1	852.6	1,338.1	1,662.3	133.0
	1988	197.3	2.3	3.7	3.2	5.1	11.9	44.2	160.4	447.3	842.7	1,313.3	1,638.9	132.7
	1979	179.6	3.4	4.6	4.4	6.1	13.3	48.3	181.4	429.4	800.0	1,207.6	1,522.9	130.8
Malignant neoplasms of lip, oral cavity, and pharynx.140-149	1989	3.3	*	*	*	0.1	0.1	0.8	3.8	10.2	13.4	15.7	19.7	2.4
	1988	3.3	*	*	*	0.1	0.1	0.8	4.2	9.9	13.9	16.6	19.6	2.5
	1979	3.8	*	*	*	0.1	0.2	1.1	5.6	11.8	16.3	18.1	23.7	3.0
Malignant neoplasms of digestive organs and peritoneum.150-159	1989	48.2	*	*	0.1	0.3	1.5	6.9	30.2	94.8	202.3	360.8	537.0	30.0
	1988	47.8	*	*	*	0.3	1.4	7.3	30.7	96.2	200.7	357.2	532.4	30.0
	1979	48.6	*	*	0.1	0.3	1.8	8.2	36.3	103.9	221.9	388.7	547.8	33.1

See footnotes at end of table.

Table 5. Age-specific and age-adjusted death rates for the 15 leading causes in 1989 and selected components: United States, 1979, 1988, and 1989—Con.

[Rates per 100,000 population in specified group. For explanation of asterisk preceding cause-of-death codes, see Technical notes]

Cause of death (Ninth Revision International Classification of Diseases, 1975)	Year	Age												Age-adjusted rate ³
		All ages ¹	Under 1 year ²	1-4 years	5-14 years	15-24 years	25-34 years	35-44 years	45-54 years	55-64 years	65-74 years	75-84 years	85 years and over	
Malignant neoplasms of respiratory and intrathoracic organs160-165	1989	57.3	*	*	*	0.1	0.7	7.2	48.7	162.3	287.0	336.5	232.2	40.3
	1988	56.2	*	*	*	0.1	0.7	7.6	50.0	162.2	280.0	324.2	228.5	39.9
	1979	45.9	*	*	*	0.1	0.8	9.8	56.0	140.9	231.0	238.1	170.3	35.2
Malignant neoplasm of breast174-175	1989	17.4	*	*	*	*	1.5	9.0	23.0	41.8	62.1	92.6	135.0	12.5
	1988	17.3	*	*	*	*	1.5	8.9	23.4	43.4	61.3	90.1	133.6	12.6
	1979	15.4	*	*	*	*	1.6	9.1	25.3	41.3	56.6	77.4	114.2	12.2
Malignant neoplasms of genital organs179-187	1989	22.1	*	*	*	0.3	1.4	3.8	10.9	33.6	89.5	187.0	274.1	13.1
	1988	21.7	*	*	*	0.3	1.3	3.7	11.0	33.7	89.3	184.6	262.7	13.0
	1979	20.2	*	*	*	0.5	1.6	4.7	14.5	35.6	88.3	176.0	252.0	13.6
Malignant neoplasms of urinary organs188-189	1989	8.2	*	0.2	0.1	0.1	0.2	1.0	5.0	15.4	33.1	64.0	94.3	5.0
	1988	7.9	*	0.1	0.1	0.1	0.2	1.0	4.9	14.6	33.2	61.6	92.8	4.9
	1979	7.8	*	0.2	0.2	0.1	0.2	1.1	5.7	15.1	34.6	65.6	97.0	5.2
Malignant neoplasms of all other and unspecified sites170-173,190-199	1989	24.6	1.3	1.8	1.6	1.9	3.5	8.5	22.8	53.7	93.6	147.9	200.6	17.2
	1988	24.9	1.2	1.9	1.5	1.9	3.5	8.8	23.3	55.5	95.4	148.8	201.4	17.5
	1979	21.6	1.7	2.2	1.7	2.3	3.7	8.6	24.0	49.8	86.4	130.2	175.8	16.4
Leukemia204-208	1989	7.4	0.8	1.1	1.2	1.4	1.6	2.3	4.6	11.7	26.2	50.3	73.7	4.9
	1988	7.2	0.5	1.3	1.2	1.4	1.3	2.5	4.7	11.0	24.4	50.6	75.7	4.8
	1979	7.3	0.8	1.3	1.5	1.3	1.5	2.5	5.0	11.7	25.7	50.2	77.3	5.3
Other malignant neoplasms of lymphatic and hematopoietic tissues200-203	1989	11.5	*	0.2	0.3	0.8	1.8	3.5	8.2	21.6	45.5	83.3	95.7	7.6
	1988	11.1	*	0.2	0.3	0.8	1.8	3.4	8.2	20.8	44.5	79.6	92.2	7.4
	1979	9.1	*	0.3	0.4	0.9	1.8	3.0	8.6	19.5	39.5	63.1	66.0	6.7
Cerebrovascular diseases430-438	1989	58.6	3.2	0.3	0.2	0.6	2.1	6.4	18.4	48.8	144.7	519.8	1,631.0	28.0
	1988	61.2	3.9	0.4	0.2	0.7	2.2	6.9	19.2	51.3	154.7	553.6	1,707.4	29.7
	1979	75.5	4.6	0.3	0.3	0.9	2.6	9.1	26.4	68.1	226.9	793.8	2,264.9	41.6
Accidents and adverse effectsE800-E949	1989	38.3	25.2	18.7	11.6	45.8	37.8	32.5	30.1	35.0	48.5	105.1	255.2	33.8
	1988	39.5	24.3	19.6	12.2	49.5	38.3	32.8	31.4	35.1	50.1	106.5	267.3	35.0
	1979	46.9	31.5	26.5	16.1	62.6	45.7	38.4	39.4	43.5	58.8	117.8	276.0	42.9
Motor vehicle accidentsE810-E825	1989	19.2	5.5	6.8	6.4	35.4	23.4	17.3	15.6	15.8	19.1	29.8	28.8	18.9
	1988	20.0	5.6	6.9	7.0	38.5	23.9	17.4	15.8	15.7	19.2	30.2	29.1	19.7
	1979	23.8	6.5	9.8	8.3	45.6	28.8	21.0	18.6	18.2	20.7	28.7	24.4	23.2
All other accidents and adverse effectsE800-E807,E826-E949	1989	19.1	19.8	11.9	5.2	10.4	14.4	15.2	14.5	19.2	29.4	75.3	226.4	14.9
	1988	19.5	18.7	12.7	5.2	11.0	14.4	15.3	15.3	19.4	31.0	76.4	238.2	15.3
	1979	23.1	25.0	16.7	7.7	17.0	16.9	17.4	20.8	25.2	38.1	89.2	251.6	19.6
Chronic obstructive pulmonary diseases and allied conditions490-496	1989	34.0	1.2	0.4	0.3	0.5	0.7	1.7	9.2	49.8	148.9	313.8	403.5	19.4
	1988	33.7	1.4	0.3	0.3	0.5	0.7	1.8	9.3	48.8	151.9	313.0	394.3	19.4
	1979	22.2	1.9	0.5	0.2	0.3	0.5	1.7	9.3	40.2	117.0	200.6	230.2	14.6
Pneumonia and influenza480-487	1989	30.8	16.1	1.5	0.3	0.7	2.0	3.9	6.9	18.0	57.3	246.1	1,083.3	13.7
	1988	31.6	16.6	1.3	0.4	0.7	1.9	3.8	7.3	18.9	59.9	257.1	1,124.5	14.2
	1979	20.1	33.0	2.0	0.6	0.8	1.5	3.2	7.1	16.4	47.8	184.2	694.9	11.2
Diabetes mellitus250	1989	18.9	*	*	0.1	0.4	1.6	3.9	11.2	32.1	72.4	145.1	245.6	11.5
	1988	16.4	*	*	0.1	0.3	1.5	4.0	10.4	28.0	62.0	125.0	222.1	10.1
	1979	14.8	*	0.1	0.1	0.4	1.4	3.6	9.0	25.8	61.3	130.3	211.6	9.8
SuicideE950-E959	1989	12.2	...	...	0.7	13.3	15.0	14.6	14.6	15.5	18.0	23.1	22.8	11.3
	1988	12.4	...	...	0.7	13.2	15.4	14.8	14.6	15.6	18.4	25.9	20.5	11.4
	1979	12.1	...	...	0.4	12.4	16.3	15.4	16.5	16.6	17.8	20.8	17.9	11.7
Chronic liver disease and cirrhosis571	1989	10.8	*	*	*	0.2	2.2	9.9	19.0	31.3	35.7	34.2	23.1	8.9
	1988	10.7	0.5	*	*	0.1	2.4	10.1	19.8	32.0	35.0	32.4	20.0	9.0
	1979	13.2	1.0	*	*	0.2	3.4	13.9	31.0	40.9	41.8	28.3	18.1	12.0

See footnotes at end of table.

Homicide and legal interventionE960-E978	1989	9.2	8.5	2.7	1.5	16.9	16.3	11.0	7.6	5.0	4.1	4.2	4.3	9.4	
	1988	9.0	8.2	2.6	1.3	15.4	16.0	10.9	7.1	5.2	4.2	4.5	4.7	9.0	
	1979	10.0	5.0	2.5	1.1	14.5	18.2	14.3	10.8	7.0	5.4	4.8	5.0	10.2	
	1989	8.9	3.0	0.8	0.2	1.7	17.7	23.5	13.2	5.3	1.8	0.7	*	8.7	
Human immunodeficiency virus infection*042-*044	1988	6.8	2.1	0.8	0.2	1.4	13.8	17.5	9.7	4.0	1.6	0.8	0.4	6.6	
	1979	---	---	---	---	---	---	---	---	---	---	---	---	---	
	Nephritis, nephrotic syndrome, and nephrosis580-589	1989	8.5	5.0	*	0.1	0.2	0.6	1.3	2.9	8.6	24.3	73.1	195.9	4.4
		1988	9.1	5.6	0.1	0.1	0.2	0.6	1.4	3.3	9.4	25.6	78.4	217.0	4.8
1979		7.0	6.4	0.2	0.2	0.3	0.7	1.5	3.7	8.5	23.7	64.7	155.2	4.3	
Atherosclerosis.440	1989	7.8	*	*	*	*	*	0.1	0.7	3.3	12.9	59.0	338.7	2.9	
	1988	9.0	*	*	*	*	*	0.2	0.7	3.6	15.1	70.1	396.1	3.4	
	1979	12.8	*	*	*	*	*	0.1	0.9	4.8	24.4	125.3	649.1	5.7	
	Septicemia038	1989	7.8	7.4	0.6	0.1	0.2	0.7	1.6	3.1	7.8	20.2	62.6	185.7	4.1
1988		8.5	6.3	0.6	0.1	0.3	0.7	1.5	3.2	9.0	23.9	70.7	198.8	4.6	
1979		3.6	7.6	0.5	0.1	0.2	0.4	0.8	2.2	4.9	12.4	29.7	70.3	2.3	
Certain conditions originating in the perinatal period760-779	1989	7.6	470.6	0.9	0.1	*	*	*	*	*	*	*	*	(⁴)	
	1988	7.4	467.4	0.9	0.1	*	*	*	*	*	*	*	*	(⁴)	
	1979	10.4	680.7	0.6	*	*	*	*	*	*	*	*	*	(⁴)	

¹Figures for age not stated are included in All ages but not distributed among age groups.

²Death rates under 1 year (based on population estimates) differ from infant mortality rates (based on live births); see tables E and 22-26 for infant mortality rates and Technical notes for discussion of the difference.

³For method of computation, see Technical notes.

⁴Because deaths from this cause occur primarily among infants, age-adjusted rates are not shown.

Table 6. Deaths and death rates for the 10 leading causes of death in specified race-sex groups: United States, 1989

[Rates per 100,000 population in specified group. For explanation of asterisk preceding cause-of-death codes, see Technical notes]

Rank order ¹	Cause of death, race, and sex (Ninth Revision International Classification of Diseases, 1975)	Number	Rate	Rank order ¹	Cause of death, race, and sex (Ninth Revision International Classification of Diseases, 1975)	Number	Rate
All races, both sexes				All other, male—Con.			
...	All causes	2,150,466	866.3	7	Pneumonia and influenza	4,809	25.6
1	Diseases of heart.390–398,402,404–429	733,867	295.6	8	Chronic obstructive pulmonary diseases and allied conditions	4,132	22.0
2	Malignant neoplasms, including neoplasms of lymphatic and hematopoietic tissues	496,152	199.9	9	Certain conditions originating in the perinatal period	4,085	21.8
3	Cerebrovascular diseases	145,551	58.6	10	Diabetes mellitus	3,448	18.4
4	Accidents and adverse effectsE800–E949	95,028	38.3	...	All other causesResidual	34,079	181.7
...	Motor vehicle accidentsE810–E825	47,575	19.2	All other, female			
...	All other accidents and adverse effectsE800–E807,E826–E949	47,453	19.1	...	All causes	133,287	649.5
5	Chronic obstructive pulmonary diseases and allied conditions	84,344	34.0	1	Diseases of heart.390–398,402,404–429	42,196	205.6
6	Pneumonia and influenza	76,550	30.8	2	Malignant neoplasms, including neoplasms of lymphatic and hematopoietic tissues	26,988	131.5
7	Diabetes mellitus	46,833	18.9	3	Cerebrovascular diseases	11,277	55.0
8	Suicide.E950–E959	30,232	12.2	4	Diabetes mellitus	5,332	26.0
9	Chronic liver disease and cirrhosis	26,694	10.8	5	Accidents and adverse effectsE800–E949	4,668	22.7
10	Homicide and legal interventionE960–E978	22,909	9.2	...	Motor vehicle accidentsE810–E825	2,001	9.8
...	All other causesResidual	392,306	158.0	...	All other accidents and adverse effectsE800–E807,E826–E949	2,667	13.0
White, male				6	Pneumonia and influenza	3,888	18.9
...	All causes	950,852	930.2	7	Certain conditions originating in the perinatal period	3,361	16.4
1	Diseases of heart.390–398,402,404–429	325,397	318.3	8	Chronic obstructive pulmonary diseases and allied conditions	2,331	11.4
2	Malignant neoplasms, including neoplasms of lymphatic and hematopoietic tissues	228,301	223.3	9	Nephritis, nephrotic syndrome, and nephrosis	2,284	11.1
3	Accidents and adverse effectsE800–E949	52,691	51.5	10	Homicide and legal interventionE960–E978	2,252	11.0
...	Motor vehicle accidentsE810–E825	27,621	27.0	...	All other causesResidual	28,710	139.9
...	All other accidents and adverse effectsE800–E807,E826–E949	25,070	24.5	Black, male ²			
4	Cerebrovascular diseases	48,563	47.5	...	All causes	146,393	1,006.5
5	Chronic obstructive pulmonary diseases and allied conditions	44,046	43.1	1	Diseases of heart.390–398,402,404–429	38,321	263.5
6	Pneumonia and influenza	30,892	30.2	2	Malignant neoplasms, including neoplasms of lymphatic and hematopoietic tissues	31,452	216.2
7	Suicide.E950–E959	21,858	21.4	3	Accidents and adverse effectsE800–E949	9,503	65.3
8	Diabetes mellitus	16,282	15.9	...	Motor vehicle accidentsE810–E825	4,120	28.3
9	Chronic liver disease and cirrhosis	14,414	14.1	...	All other accidents and adverse effectsE800–E807,E826–E949	5,383	37.0
10	Human immunodeficiency virus infection.*042–*044	14,114	13.8	4	Homicide and legal interventionE960–E978	8,888	61.1
...	All other causesResidual	154,294	150.9	5	Cerebrovascular diseases	7,739	53.2
White, female				6	Human immunodeficiency virus infection.*042–*044	5,475	37.6
...	All causes	902,989	846.0	7	Pneumonia and influenza	4,168	28.7
1	Diseases of heart.390–398,402,404–429	323,469	303.0	8	Certain conditions originating in the perinatal period	3,813	26.2
2	Malignant neoplasms, including neoplasms of lymphatic and hematopoietic tissues	205,855	192.9	9	Chronic obstructive pulmonary diseases and allied conditions	3,593	24.7
3	Cerebrovascular diseases	76,953	72.1	10	Diabetes mellitus	3,072	21.1
4	Pneumonia and influenza	36,961	34.6	...	All other causesResidual	30,369	208.8
5	Chronic obstructive pulmonary diseases and allied conditions	33,835	31.7	Black, female ²			
6	Accidents and adverse effectsE800–E949	26,448	24.8	...	All causes	121,249	752.4
...	Motor vehicle accidentsE810–E825	12,870	12.1	1	Diseases of heart.390–398,402,404–429	39,110	242.7
...	All other accidents and adverse effectsE800–E807,E826–E949	13,578	12.7	2	Malignant neoplasms, including neoplasms of lymphatic and hematopoietic tissues	24,112	149.6
7	Diabetes mellitus	21,771	20.4	3	Cerebrovascular diseases	10,240	63.5
8	Atherosclerosis.	11,139	10.4	4	Diabetes mellitus	4,883	30.3
9	Septicemia	8,829	8.3	5	Accidents and adverse effectsE800–E949	3,901	24.2
10	Nephritis, nephrotic syndrome, and nephrosis	8,514	8.0	...	Motor vehicle accidentsE810–E825	1,491	9.3
...	All other causesResidual	149,215	139.8	...	All other accidents and adverse effectsE800–E807,E826–E949	2,410	15.0
All other, male				6	Pneumonia and influenza	3,417	21.2
...	All causes	163,338	870.8	7	Certain conditions originating in the perinatal period	3,152	19.6
1	Diseases of heart.390–398,402,404–429	42,805	228.2	8	Nephritis, nephrotic syndrome, and nephrosis	2,119	13.1
2	Malignant neoplasms, including neoplasms of lymphatic and hematopoietic tissues	35,008	186.6	9	Chronic obstructive pulmonary diseases and allied conditions	2,078	12.9
3	Accidents and adverse effectsE800–E949	11,221	59.8	10	Homicide and legal interventionE960–E978	2,074	12.9
...	Motor vehicle accidentsE810–E825	5,083	27.1	...	All other causesResidual	26,163	162.4
...	All other accidents and adverse effectsE800–E807,E826–E949	6,138	32.7				
4	Homicide and legal interventionE960–E978	9,349	49.8				
5	Cerebrovascular diseases	8,758	46.7				
6	Human immunodeficiency virus infection.*042–*044	5,644	30.1				

¹Rank based on number of deaths; see Technical notes.²Black included in All other.

Table 7. Deaths and death rates for the 10 leading causes of death in specified age groups: United States, 1989

[Rates per 100,000 population in specified group. For explanation of asterisk preceding cause-of-death codes, see Technical notes]

Rank order ¹	Cause of death and age (Ninth Revision International Classification of Diseases, 1975)	Number	Rate	Rank order ¹	Cause of death and age (Ninth Revision International Classification of Diseases, 1975)	Number	Rate
1-4 years				25-44 years			
...	All causes	7,292	49.2	...	All causes	141,443	176.1
1	Accidents and adverse effectsE800-E949	2,774	18.7	1	Accidents and adverse effectsE800-E949	28,429	35.4
...	Motor vehicle accidentsE810-E825	1,005	6.8	...	Motor vehicle accidentsE810-E825	16,571	20.6
...	All other accidents and adverse effectsE800-E807,E826-E949	1,769	11.9	...	All other accidents and adverse effectsE800-E807,E826-E949	11,858	14.8
2	Congenital anomalies740-759	928	6.3	2	Malignant neoplasms, including neoplasms of lymphatic and hematopoietic tissues . . .140-208	21,056	26.2
3	Malignant neoplasms, including neoplasms of lymphatic and hematopoietic tissues . . .140-208	506	3.4	3	Human immunodeficiency virus infection *042-*044	16,322	20.3
4	Homicide and legal interventionE960-E978	393	2.7	4	Diseases of heart390-398,402,404-429	15,244	19.0
5	Diseases of heart390-398,402,404-429	281	1.9	5	SuicideE950-E959	11,896	14.8
6	Pneumonia and influenza480-487	228	1.5	6	Homicide and legal interventionE960-E978	11,154	13.9
7	Certain conditions originating in the perinatal period760-779	134	0.9	7	Chronic liver disease and cirrhosis571	4,584	5.7
8	Human immunodeficiency virus infection *042-*044	112	0.8	8	Cerebrovascular diseases430-438	3,267	4.1
9	Meningitis320-322	99	0.7	9	Pneumonia and influenza480-487	2,296	2.9
10	Septicemia038	94	0.6	10	Diabetes mellitus250	2,119	2.6
...	All other causesResidual	1,743	11.8	...	All other causesResidual	25,076	31.2
5-14 years				45-64 years			
...	All causes	8,914	25.4	...	All causes	378,324	813.8
1	Accidents and adverse effectsE800-E949	4,090	11.6	1	Malignant neoplasms, including neoplasms of lymphatic and hematopoietic tissues . . .140-208	135,249	290.9
...	Motor vehicle accidentsE810-E825	2,266	6.4	2	Diseases of heart390-398,402,404-429	112,273	241.5
...	All other accidents and adverse effectsE800-E807,E826-E949	1,824	5.2	3	Cerebrovascular diseases430-438	15,124	32.5
2	Malignant neoplasms, including neoplasms of lymphatic and hematopoietic tissues . . .140-208	1,155	3.3	4	Accidents and adverse effectsE800-E949	15,046	32.4
3	Homicide and legal interventionE960-E978	510	1.5	...	Motor vehicle accidentsE810-E825	7,287	15.7
4	Congenital anomalies740-759	480	1.4	...	All other accidents and adverse effectsE800-E807,E826-E949	7,759	16.7
5	Diseases of heart390-398,402,404-429	295	0.8	5	Chronic obstructive pulmonary diseases and allied conditions490-496	13,031	28.0
6	SuicideE950-E959	240	0.7	6	Chronic liver disease and cirrhosis571	11,477	24.7
7	Pneumonia and influenza480-487	122	0.3	7	Diabetes mellitus250	9,726	20.9
8	Chronic obstructive pulmonary diseases and allied conditions490-496	113	0.3	8	SuicideE950-E959	6,984	15.0
9	Benign neoplasms, carcinoma in situ, and neoplasms of uncertain behavior and of unspecified nature210-239	85	0.2	9	Pneumonia and influenza480-487	5,587	12.0
10	Cerebrovascular diseases430-438	83	0.2	10	Human immunodeficiency virus infection *042-*044	4,429	9.5
...	All other causesResidual	1,741	5.0	...	All other causesResidual	49,398	106.3
15-24 years				65 years and over			
...	All causes	36,488	99.9	...	All causes	1,537,788	4,963.0
1	Accidents and adverse effectsE800-E949	16,738	45.8	1	Diseases of heart390-398,402,404-429	603,968	1,949.2
...	Motor vehicle accidentsE810-E825	12,941	35.4	2	Malignant neoplasms, including neoplasms of lymphatic and hematopoietic tissues . . .140-208	336,206	1,085.1
...	All other accidents and adverse effectsE800-E807,E826-E949	3,797	10.4	3	Cerebrovascular diseases430-438	126,660	408.8
2	Homicide and legal interventionE960-E978	6,185	16.9	4	Chronic obstructive pulmonary diseases and allied conditions490-496	69,965	225.8
3	SuicideE950-E959	4,870	13.3	5	Pneumonia and influenza480-487	67,395	217.5
4	Malignant neoplasms, including neoplasms of lymphatic and hematopoietic tissues . . .140-208	1,851	5.1	6	Diabetes mellitus250	34,798	112.3
5	Diseases of heart390-398,402,404-429	938	2.6	7	Accidents and adverse effectsE800-E949	26,832	86.6
6	Human immunodeficiency virus infection *042-*044	613	1.7	...	Motor vehicle accidentsE810-E825	7,251	23.4
7	Congenital anomalies740-759	474	1.3	...	All other accidents and adverse effectsE800-E807,E826-E949	19,581	63.2
8	Pneumonia and influenza480-487	271	0.7	8	Atherosclerosis440	18,413	59.4
9	Cerebrovascular diseases430-438	232	0.6	9	Nephritis, nephrotic syndrome, and nephrosis580-589	17,508	56.5
10	Chronic obstructive pulmonary diseases and allied conditions490-496	176	0.5	10	Septicemia038	15,428	49.8
...	All other causesResidual	4,140	11.3	...	All other causesResidual	220,615	712.0

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

Table 8. Deaths from 72 selected causes by age: United States, 1989

[For explanation of asterisk preceding cause-of-death codes, see Technical notes]

<i>Cause of death</i> (Ninth Revision International Classification of Diseases, 1975)	<i>All ages</i>	<i>Under 1 year</i>	<i>1-4 years</i>	<i>5-14 years</i>	<i>15-24 years</i>	<i>25-34 years</i>	<i>35-44 years</i>	<i>45-54 years</i>	<i>55-64 years</i>	<i>65-74 years</i>	<i>75-84 years</i>	<i>85 years and over</i>	<i>Not stated</i>
All causes	2,150,466	39,655	7,292	8,914	36,488	60,524	80,919	118,266	260,058	481,224	599,206	457,358	562
Shigellosis and amebiasis004,006	20	-	4	3	-	1	2	-	-	1	6	3	-
Certain other intestinal infections007-009	339	92	13	5	2	6	6	8	22	48	67	70	-
Tuberculosis010-018	1,970	1	7	3	25	127	200	201	270	426	466	242	2
Tuberculosis of respiratory system010-012	1,536	-	1	2	14	88	146	147	210	341	376	210	1
Other tuberculosis013-018	434	1	6	1	11	39	54	54	60	85	90	32	1
Whooping cough033	12	9	3	-	-	-	-	-	-	-	-	-	-
Streptococcal sore throat, scarlatina, and erysipelas034-035	17	1	1	-	2	-	-	3	3	1	2	4	-
Meningococcal infection036	273	58	48	31	38	8	17	15	18	19	14	7	-
Septicemia038	19,333	290	94	33	87	322	601	781	1,695	3,664	6,114	5,650	2
Acute poliomyelitis045	-	-	-	-	-	-	-	-	-	-	-	-	-
Measles055	32	8	12	3	2	4	2	-	-	-	1	-	-
Viral hepatitis070	1,516	7	5	5	60	138	187	183	244	362	253	72	-
Syphilis090-097	105	19	-	2	-	10	4	7	10	15	23	15	-
All other infectious and parasitic diseases001-003,005,020-032,037,039-041,*042-*044,046-054,056-066,071-088,098-139	29,234	396	216	144	794	8,415	9,399	3,931	2,099	1,761	1,375	691	13
Malignant neoplasms, including neoplasms of lymphatic and hematopoietic tissues140-208	496,152	107	506	1,155	1,851	5,314	15,742	39,138	96,111	155,028	130,612	50,566	22
Malignant neoplasms of lip, oral cavity, and pharynx140-149	8,104	-	2	4	28	52	304	944	2,201	2,438	1,530	598	3
Malignant neoplasms of digestive organs and peritoneum150-159	119,663	7	18	21	118	648	2,521	7,520	20,472	36,774	35,221	16,337	6
Malignant neoplasms of respiratory and intrathoracic organs160-165	142,281	7	3	6	47	300	2,641	12,132	35,043	52,184	32,847	7,065	6
Malignant neoplasm of breast174-175	43,138	1	-	-	7	655	3,282	5,734	9,020	11,296	9,035	4,107	1
Malignant neoplasms of genital organs179-187	54,952	1	5	7	116	602	1,400	2,709	7,254	16,267	18,253	8,337	1
Malignant neoplasms of urinary organs188-189	20,233	5	23	33	21	78	380	1,237	3,334	6,010	6,244	2,868	-
Malignant neoplasms of all other and unspecified sites170-173,190-199	61,030	51	271	556	707	1,519	3,091	5,678	11,600	17,015	14,437	6,102	3
Leukemia204-208	18,246	32	160	429	505	682	856	1,134	2,527	4,766	4,913	2,242	-
Other malignant neoplasms of lymphatic and hematopoietic tissues200-203	28,505	3	24	99	302	778	1,267	2,050	4,660	8,278	8,132	2,910	2
Benign neoplasms, carcinoma in situ, and neoplasms of uncertain behavior and of unspecified nature210-239	6,701	56	66	85	87	166	284	410	813	1,547	1,999	1,187	1
Diabetes mellitus250	46,833	6	15	32	136	687	1,432	2,784	6,942	13,168	14,160	7,470	1
Nutritional deficiencies260-269	3,046	14	3	4	8	17	37	42	119	340	934	1,526	2
Anemias280-285	3,993	38	50	47	112	175	184	166	264	640	1,109	1,207	1
Meningitis320-322	1,068	229	99	21	24	65	91	83	106	161	122	65	2
Major cardiovascular diseases390-448	931,838	924	332	396	1,248	4,644	14,783	36,833	96,172	203,467	301,942	270,981	116
Diseases of heart390-398,402,404-429	733,867	776	281	295	938	3,462	11,782	30,922	81,351	165,787	234,318	203,863	92
Rheumatic fever and rheumatic heart disease390-398	6,087	4	6	10	35	108	255	397	858	1,666	1,921	827	-
Hypertensive heart disease402	20,963	2	2	2	11	144	586	1,419	2,946	4,697	6,174	4,974	6
Hypertensive heart and renal disease404	2,385	-	-	-	5	17	30	71	198	475	854	735	-
Ischemic heart disease410-414	498,021	33	5	12	111	1,141	6,553	20,001	55,123	116,115	163,033	135,850	44
Acute myocardial infarction410	246,950	19	3	6	74	641	3,810	12,040	32,383	64,689	81,686	51,577	22
Other acute and subacute forms of ischemic heart disease411	3,376	2	-	-	5	24	96	246	583	822	879	718	1
Angina pectoris413	1,066	-	-	-	-	1	9	43	92	227	367	327	-
Old myocardial infarction and other forms of chronic ischemic heart disease412,414	246,629	12	2	6	32	475	2,638	7,672	22,065	50,377	80,101	83,228	21
Other diseases of endocardium424	12,185	19	7	16	37	154	243	329	913	2,325	4,329	3,812	1
All other forms of heart disease415-423,425-429	194,226	718	261	255	739	1,898	4,115	8,705	21,313	40,509	58,007	57,665	41
Hypertension with or without renal disease401,403	8,766	3	3	5	16	70	174	381	860	1,917	2,857	2,479	1
Cerebrovascular diseases430-438	145,551	127	40	83	232	913	2,354	4,583	10,541	26,306	50,740	49,614	18
Intracerebral and other intracranial hemorrhage431-432	20,679	50	12	37	93	320	899	1,712	2,998	4,835	6,309	3,408	6

Cerebral thrombosis and unspecified occlusion of cerebral arteries . . . . .	.434.0,434.9	19,799	16	8	10	20	38	119	345	1,195	3,423	6,990	7,632	3
Cerebral embolism . . . . .	.434.1	681	—	2	—	1	1	9	15	54	152	277	170	—
All other and late effects of cerebrovascular diseases . . . . .	.430,433,435-438	104,392	61	18	36	118	554	1,327	2,511	6,294	17,896	37,164	38,404	9
Atherosclerosis . . . . .	.440	19,357	1	1	1	2	5	44	168	721	2,348	5,761	10,304	1
Other diseases of arteries, arterioles, and capillaries . . . . .	.441-448	24,297	17	7	12	60	194	429	779	2,699	7,109	8,266	4,721	4
Acute bronchitis and bronchiolitis . . . . .	.466	633	73	21	4	3	10	7	20	35	100	175	183	2
Pneumonia and influenza . . . . .	.480-487	76,550	636	228	122	271	881	1,415	1,707	3,880	10,418	24,022	32,955	15
Pneumonia . . . . .	.480-486	74,957	624	220	108	255	866	1,384	1,676	3,808	10,246	23,591	32,164	15
Influenza . . . . .	.487	1,593	12	8	14	16	15	31	31	72	172	431	791	—
Chronic obstructive pulmonary diseases and allied conditions . . . . .	.490-496	84,344	48	55	113	176	318	632	2,283	10,748	27,065	30,627	12,273	6
Bronchitis, chronic and unspecified . . . . .	.490-491	3,759	30	26	10	9	17	30	98	398	979	1,277	885	—
Emphysema . . . . .	.492	15,467	7	1	1	3	7	63	401	2,318	5,595	5,485	1,586	—
Asthma . . . . .	.493	4,869	6	26	95	148	256	346	472	743	1,208	1,094	473	2
Other chronic obstructive pulmonary diseases and allied conditions . . . . .	.494-496	60,249	5	2	7	16	38	193	1,312	7,289	19,283	22,771	9,329	4
Ulcer of stomach and duodenum . . . . .	.531-533	6,455	12	3	4	11	40	143	269	611	1,383	2,169	1,809	1
Appendicitis . . . . .	.540-543	451	2	—	16	18	17	13	35	53	111	112	74	—
Hernia of abdominal cavity and intestinal obstruction without mention of hernia . . . . .	.550-553,560	5,530	88	26	24	14	54	95	121	365	891	1,852	2,000	—
Chronic liver disease and cirrhosis . . . . .	.571	26,694	18	6	7	57	981	3,603	4,721	6,756	6,492	3,340	704	9
Cholelithiasis and other disorders of gallbladder . . . . .	.574-575	3,048	3	2	—	4	20	48	85	227	590	1,032	1,037	—
Nephritis, nephrotic syndrome, and nephrosis . . . . .	.580-589	21,118	198	15	20	70	258	465	713	1,866	4,415	7,133	5,960	5
Acute glomerulonephritis and nephrotic syndrome . . . . .	.580-581	310	8	3	4	4	7	14	9	32	70	109	50	—
Chronic glomerulonephritis, nephritis and nephropathy, not specified as acute or chronic, and renal sclerosis, unspecified . . . . .	.582-583,587	1,517	4	3	4	13	36	57	61	151	313	479	395	1
Renal failure, disorders resulting from impaired renal function, and small kidney of unknown cause . . . . .	.584-586,588-589	19,291	186	9	12	53	215	394	643	1,683	4,032	6,545	5,515	4
Infections of kidney . . . . .	.590	1,414	6	—	—	10	25	34	39	80	228	468	523	1
Hyperplasia of prostate . . . . .	.600	449	—	—	—	—	—	3	3	13	60	184	186	—
Complications of pregnancy, childbirth, and the puerperium . . . . .	.630-676	320	...	...	—	99	169	50	2	...	...	...	...	—
Pregnancy with abortive outcome . . . . .	.630-638	50	...	...	—	19	25	6	—	...	...	...	...	—
Other complications of pregnancy, childbirth, and the puerperium . . . . .	.640-676	270	...	...	—	80	144	44	2	...	...	...	...	—
Congenital anomalies . . . . .	.740-759	12,897	8,120	928	480	474	483	402	395	428	513	450	218	6
Certain conditions originating in the perinatal period . . . . .	.760-779	18,752	18,564	134	23	7	6	6	2	2	3	1	—	4
Birth trauma, intrauterine hypoxia, birth asphyxia, and respiratory distress syndrome . . . . .	.767-769	4,631	4,578	31	9	4	4	3	—	1	1	—	—	—
Other conditions originating in the perinatal period . . . . .	.760-766,770-779	14,121	13,986	103	14	3	2	3	2	1	2	1	—	4
Symptoms, signs, and ill-defined conditions . . . . .	.780-799	26,988	6,627	285	181	736	1,969	2,231	1,512	1,999	3,089	3,899	4,369	91
All other diseases . . . . .	.Residual	171,472	1,623	892	1,062	1,924	4,160	6,928	8,475	15,935	32,245	51,522	46,686	20
Accidents and adverse effects . . . . .	.E800-E949	95,028	996	2,774	4,090	16,738	16,574	11,855	7,494	7,552	8,812	10,256	7,764	123
Motor vehicle accidents . . . . .	.E810-E825	47,575	216	1,005	2,266	12,941	10,269	6,302	3,879	3,408	3,465	2,909	877	38
All other accidents and adverse effects . . . . .	.E800-E807,E826-E949	47,453	780	1,769	1,824	3,797	6,305	5,553	3,615	4,144	5,347	7,347	6,887	85
Suicide . . . . .	.E950-E959	30,232	...	...	240	4,870	6,565	5,331	3,642	3,342	3,275	2,259	694	14
Homicide and legal intervention . . . . .	.E960-E978	22,909	335	393	510	6,185	7,135	4,019	1,885	1,085	740	409	130	83
All other external causes . . . . .	.E980-E999	2,700	51	56	49	345	760	668	278	193	146	97	37	20

Table 9. Death rates for 72 selected causes by age: United States, 1989

[Rates per 100,000 population in specified group. For explanation of asterisk preceding cause-of-death codes, see Technical notes]

Cause of death (Ninth Revision International Classification of Diseases, 1975)	All ages ¹	Under 1 year ²	1-4 years	5-14 years	15-24 years	25-34 years	35-44 years	45-54 years	55-64 years	65-74 years	75-84 years	85 years and over
All causes	866.3	1,005.2	49.2	25.4	99.9	138.1	221.7	475.0	1,204.4	2,646.7	6,138.8	15,034.8
Shigellosis and amebiasis004,006	0.0	*	*	*	*	*	*	*	*	*	*	*
Certain other intestinal infections007-009	0.1	2.3	*	*	*	*	*	*	0.1	0.3	0.7	2.3
Tuberculosis010-018	0.8	*	*	*	0.1	0.3	0.5	0.8	1.3	2.3	4.8	8.0
Tuberculosis of respiratory system010-012	0.6	*	*	*	*	0.2	0.4	0.6	1.0	1.9	3.9	6.9
Other tuberculosis013-018	0.2	*	*	*	*	0.1	0.1	0.2	0.3	0.5	0.9	1.1
Whooping cough033	*	*	*	*	*	*	*	*	*	*	*	*
Streptococcal sore throat, scarlatina, and erysipelas034-035	*	*	*	*	*	*	*	*	*	*	*	*
Meningococcal infection036	0.1	1.5	0.3	0.1	0.1	*	*	*	*	*	*	*
Septicemia038	7.8	7.4	0.6	0.1	0.2	0.7	1.6	3.1	7.8	20.2	62.6	185.7
Acute poliomyelitis045	*	*	*	*	*	*	*	*	*	*	*	*
Measles055	0.0	*	*	*	*	*	*	*	*	*	*	*
Viral hepatitis070	0.6	*	*	*	0.2	0.3	0.5	0.7	1.1	2.0	2.6	2.4
Syphilis090-097	0.0	*	*	*	*	*	*	*	*	*	0.2	*
All other infectious and parasitic diseases001-003,005,020-032,037,039-041,*042-*044,046-054,056-066,071-088,098-139	11.8	10.0	1.5	0.4	2.2	19.2	25.7	15.8	9.7	9.7	14.1	22.7
Malignant neoplasms, including neoplasms of lymphatic and hematopoietic tissues140-208	199.9	2.7	3.4	3.3	5.1	12.1	43.1	157.2	445.1	852.6	1,338.1	1,662.3
Malignant neoplasms of lip, oral cavity, and pharynx140-149	3.3	*	*	*	0.1	0.1	0.8	3.8	10.2	13.4	15.7	19.7
Malignant neoplasms of digestive organs and peritoneum150-159	48.2	*	*	0.1	0.3	1.5	6.9	30.2	94.8	202.3	360.8	537.0
Malignant neoplasms of respiratory and intrathoracic organs160-165	57.3	*	*	*	0.1	0.7	7.2	48.7	162.3	287.0	336.5	232.2
Malignant neoplasm of breast174-175	17.4	*	*	*	*	1.5	9.0	23.0	41.8	62.1	92.6	135.0
Malignant neoplasms of genital organs179-187	22.1	*	*	*	0.3	1.4	3.8	10.9	33.6	89.5	187.0	274.1
Malignant neoplasms of urinary organs188-189	8.2	*	0.2	0.1	0.1	0.2	1.0	5.0	15.4	33.1	64.0	94.3
Malignant neoplasms of all other and unspecified sites170-173,190-199	24.6	1.3	1.8	1.6	1.9	3.5	8.5	22.8	53.7	93.6	147.9	200.6
Leukemia204-208	7.4	0.8	1.1	1.2	1.4	1.6	2.3	4.6	11.7	26.2	50.3	73.7
Other malignant neoplasms of lymphatic and hematopoietic tissues200-203	11.5	*	0.2	0.3	0.8	1.8	3.5	8.2	21.6	45.5	83.3	95.7
Benign neoplasms, carcinoma in situ, and neoplasms of uncertain behavior and of unspecified nature210-239	2.7	1.4	0.4	0.2	0.2	0.4	0.8	1.6	3.8	8.5	20.5	39.0
Diabetes mellitus250	18.9	*	*	0.1	0.4	1.6	3.9	11.2	32.1	72.4	145.1	245.6
Nutritional deficiencies260-269	1.2	*	*	*	*	*	0.1	0.2	0.6	1.9	9.6	50.2
Anemias280-285	1.6	1.0	0.3	0.1	0.3	0.4	0.5	0.7	1.2	3.5	11.4	39.7
Meningitis320-322	0.4	5.8	0.7	0.1	0.1	0.1	0.2	0.3	0.5	0.9	1.2	2.1
Major cardiovascular diseases390-448	375.4	23.4	2.2	1.1	3.4	10.6	40.5	147.9	445.4	1,119.1	3,093.4	8,908.0
Diseases of heart390-398,402,404-429	295.6	19.7	1.9	0.8	2.6	7.9	32.3	124.2	376.7	911.8	2,400.6	6,701.6
Rheumatic fever and rheumatic heart disease390-398	2.5	*	*	*	0.1	0.2	0.7	1.6	4.0	9.2	19.7	27.2
Hypertensive heart disease402	8.4	*	*	*	*	0.3	1.6	5.7	13.6	25.8	63.3	163.5
Hypertensive heart and renal disease404	1.0	*	*	*	*	0.1	0.3	0.9	2.6	6.6	16.3	24.2
Ischemic heart disease410-414	200.6	0.8	*	*	0.3	2.6	18.0	80.3	255.3	638.6	1,670.2	4,465.8
Acute myocardial infarction410	99.5	*	*	*	0.2	1.5	10.4	48.4	150.0	355.8	836.9	1,695.5
Other acute and subacute forms of ischemic heart disease411	1.4	*	*	*	*	0.1	0.3	1.0	2.7	4.5	9.0	23.6
Angina pectoris413	0.4	*	*	*	*	*	*	0.2	0.4	1.2	3.8	10.7
Old myocardial infarction and other forms of chronic ischemic heart disease412,414	99.4	*	*	*	0.1	1.1	7.2	30.8	102.2	277.1	820.6	2,736.0
Other diseases of endocardium424	4.9	*	*	*	0.1	0.4	0.7	1.3	4.2	12.8	44.3	125.3
All other forms of heart disease415-423,425-429	78.2	18.2	1.8	0.7	2.0	4.3	11.3	35.0	98.7	222.8	594.3	1,895.6
Hypertension with or without renal disease401,403	3.5	*	*	*	*	0.2	0.5	1.5	4.0	10.5	29.3	81.5
Cerebrovascular diseases430-438	58.6	3.2	0.3	0.2	0.6	2.1	6.4	18.4	48.8	144.7	519.8	1,631.0

See footnotes at end of table.

Intracerebral and other intracranial hemorrhage . . . . .	.431-432	8.3	1.3	*	0.1	0.3	0.7	2.5	6.9	13.9	26.6	64.6	112.0
Cerebral thrombosis and unspecified occlusion of cerebral arteries . . . . .	.434.0,434.9	8.0	*	*	*	0.1	0.1	0.3	1.4	5.5	18.8	71.6	250.9
Cerebral embolism . . . . .	.434.1	0.3	*	*	*	*	*	*	*	0.3	0.8	2.8	5.6
All other and late effects of cerebrovascular diseases . . . . .	.430,433,435-438	42.1	1.5	*	0.1	0.3	1.3	3.6	10.1	29.1	98.4	380.7	1,262.5
Atherosclerosis . . . . .	.440	7.8	*	*	*	*	*	0.1	0.7	3.3	12.9	59.0	338.7
Other diseases of arteries, arterioles, and capillaries . . . . .	.441-448	9.8	*	*	*	0.2	0.4	1.2	3.1	12.5	39.1	84.7	155.2
Acute bronchitis and bronchiolitis . . . . .	.466	0.3	1.9	0.1	*	*	*	*	0.1	0.2	0.5	1.8	6.0
Pneumonia and influenza . . . . .	.480-487	30.8	16.1	1.5	0.3	0.7	2.0	3.9	6.9	18.0	57.3	246.1	1,083.3
Pneumonia . . . . .	.480-486	30.2	15.8	1.5	0.3	0.7	2.0	3.8	6.7	17.6	58.4	241.7	1,057.3
Influenza . . . . .	.487	0.6	*	*	*	*	*	0.1	0.1	0.3	0.9	4.4	26.0
Chronic obstructive pulmonary diseases and allied conditions . . . . .	.490-496	34.0	1.2	0.4	0.3	0.5	0.7	1.7	9.2	49.8	148.9	313.8	403.5
Bronchitis, chronic and unspecified . . . . .	.490-491	1.5	0.8	0.2	*	*	*	0.1	0.4	1.8	5.4	13.1	29.1
Emphysema . . . . .	.492	6.2	*	*	*	*	*	0.2	1.6	10.7	30.8	56.2	52.1
Asthma . . . . .	.493	2.0	*	0.2	0.3	0.4	0.6	0.9	1.9	3.4	6.6	11.2	15.5
Other chronic obstructive pulmonary diseases and allied conditions . . . . .	.494-496	24.3	*	*	*	*	0.1	0.5	5.3	33.8	106.1	233.3	306.7
Ulcer of stomach and duodenum . . . . .	.531-533	2.6	*	*	*	*	0.1	0.4	1.1	2.8	7.6	22.2	59.5
Appendicitis . . . . .	.540-543	0.2	*	*	*	*	*	*	0.1	0.2	0.6	1.1	2.4
Hernia of abdominal cavity and intestinal obstruction without mention of hernia . . . . .	.550-553,560	2.2	2.2	0.2	0.1	*	0.1	0.3	0.5	1.7	4.9	19.0	65.7
Chronic liver disease and cirrhosis . . . . .	.571	10.8	*	*	*	0.2	2.2	9.9	19.0	31.3	35.7	34.2	23.1
Cholelithiasis and other disorders of gallbladder . . . . .	.574-575	1.2	*	*	*	*	0.0	0.1	0.3	1.1	3.2	10.6	34.1
Nephritis, nephrotic syndrome, and nephrosis . . . . .	.580-589	8.5	5.0	*	0.1	0.2	0.6	1.3	2.9	8.6	24.3	73.1	195.9
Acute glomerulonephritis and nephrotic syndrome . . . . .	.580-581	0.1	*	*	*	*	*	*	*	0.1	0.4	1.1	1.6
Chronic glomerulonephritis, nephritis and nephropathy, not specified as acute or chronic, and renal sclerosis, unspecified . . . . .	.582-583,587	0.6	*	*	*	*	0.1	0.2	0.2	0.7	1.7	4.9	13.0
Renal failure, disorders resulting from impaired renal function, and small kidney of unknown cause . . . . .	.584-586,588-589	7.8	4.7	*	*	0.1	0.5	1.1	2.6	7.8	22.2	67.1	181.3
Infections of kidney . . . . .	.590	0.6	*	*	*	*	0.1	0.1	0.2	0.4	1.3	4.8	17.2
Hyperplasia of prostate . . . . .	.600	0.2	*	*	*	*	*	*	*	*	0.3	1.9	6.1
Complications of pregnancy, childbirth, and the puerperium . . . . .	.630-676	0.1	...	...	*	0.3	0.4	0.1	*	...	...	...	...
Pregnancy with abortive outcome . . . . .	.630-638	0.0	...	...	*	*	0.1	*	*	...	...	...	...
Other complications of pregnancy, childbirth, and the puerperium . . . . .	.640-676	0.1	...	...	*	0.2	0.3	0.1	*	...	...	...	...
Congenital anomalies . . . . .	.740-759	5.2	205.8	6.3	1.4	1.3	1.1	1.1	1.6	2.0	2.8	4.6	7.2
Certain conditions originating in the perinatal period . . . . .	.760-779	7.6	470.6	0.9	0.1	*	*	*	*	*	*	*	*
Birth trauma, intrauterine hypoxia, birth asphyxia, and respiratory distress syndrome . . . . .	.767-769	1.9	116.0	0.2	*	*	*	*	*	*	*	*	*
Other conditions originating in the perinatal period . . . . .	.760-766,770-779	5.7	354.5	0.7	*	*	*	*	*	*	*	*	*
Symptoms, signs, and ill-defined conditions . . . . .	.780-799	10.9	168.0	1.9	0.5	2.0	4.5	6.1	6.1	9.3	17.0	39.9	143.6
All other diseases . . . . .	.Residual	69.1	41.1	6.0	3.0	5.3	9.5	19.0	34.0	73.8	177.3	527.8	1,534.7
Accidents and adverse effects . . . . .	.E800-E949	38.3	25.2	18.7	11.6	45.8	37.8	32.5	30.1	35.0	48.5	105.1	255.2
Motor vehicle accidents . . . . .	.E810-E825	19.2	5.5	6.8	6.4	35.4	23.4	17.3	15.6	15.8	19.1	29.8	28.8
All other accidents and adverse effects . . . . .	.E800-E807,E826-E949	19.1	19.8	11.9	5.2	10.4	14.4	15.2	14.5	19.2	29.4	75.3	226.4
Suicide . . . . .	.E950-E959	12.2	...	...	0.7	13.3	15.0	14.6	14.6	15.5	18.0	23.1	22.8
Homicide and legal intervention . . . . .	.E960-E978	9.2	8.5	2.7	1.5	16.9	16.3	11.0	7.6	5.0	4.1	4.2	4.3
All other external causes . . . . .	.E980-E999	1.1	1.3	0.4	0.1	0.9	1.7	1.8	1.1	0.9	0.8	1.0	1.2

¹Figures for age not stated included in All ages but not distributed among age groups.

²Death rates under 1 year (based on population estimates) differ from infant mortality rates (based on live births); see tables E and 22-26 for infant mortality rates, and Technical notes for further discussion of the difference.

Table 10. Deaths from 72 selected causes by race and sex: United States, 1989

[For explanation of asterisk preceding cause-of-death codes, see Technical notes]

Cause of death (Ninth Revision International Classification of Diseases, 1975)	All other											
	All races			White			Total			Black		
	Both sexes	Male	Female	Both sexes	Male	Female	Both sexes	Male	Female	Both sexes	Male	Female
All causes	2,150,466	1,114,190	1,036,276	1,853,841	950,852	902,989	296,625	163,338	133,287	267,642	146,393	121,249
Shigellosis and amebiasis004,006	20	9	11	12	6	6	8	3	5	6	2	4
Certain other intestinal infections007-009	339	172	167	252	120	132	87	52	35	78	46	32
Tuberculosis010-018	1,970	1,284	686	1,152	724	428	818	560	258	707	485	222
Tuberculosis of respiratory system010-012	1,536	1,042	494	927	600	327	609	442	167	533	386	147
Other tuberculosis013-018	434	242	192	225	124	101	209	118	91	174	99	75
Whooping cough033	12	4	8	10	3	7	2	1	1	2	1	1
Streptococcal sore throat, scarlatina, and erysipelas034-035	17	6	11	16	5	11	1	1	-	1	1	-
Meningococcal infection036	273	127	146	214	103	111	59	24	35	50	22	28
Septicemia038	19,333	8,489	10,844	15,557	6,728	8,829	3,776	1,761	2,015	3,555	1,643	1,912
Acute poliomyelitis045	-	-	-	-	-	-	-	-	-	-	-	-
Measles055	32	16	16	18	10	8	14	6	8	11	6	5
Viral hepatitis070	1,516	906	610	1,232	744	488	284	162	122	206	106	100
Syphilis090-097	105	65	40	47	27	20	58	38	20	56	36	20
All other infectious and parasitic diseases001-003,005,020-032,037, 039-041,*042-*044,046-054,056-066, 071-088,098-139	29,234	23,738	5,496	20,638	17,195	3,443	8,596	6,543	2,053	8,254	6,284	1,970
Malignant neoplasms, including neoplasms of lymphatic and hematopoietic tissues140-208	496,152	263,309	232,843	434,156	228,301	205,855	61,996	35,008	26,988	55,564	31,452	24,112
Malignant neoplasms of lip, oral cavity, and pharynx140-149	8,104	5,340	2,764	6,693	4,293	2,400	1,411	1,047	364	1,251	939	312
Malignant neoplasms of digestive organs and peritoneum150-159	119,663	63,209	56,454	102,769	53,895	48,874	16,894	9,314	7,580	14,698	7,988	6,710
Malignant neoplasms of respiratory and intrathoracic organs160-165	142,281	92,914	49,367	125,274	80,821	44,453	17,007	12,093	4,914	15,528	11,116	4,412
Malignant neoplasm of breast174-175	43,138	301	42,837	38,253	265	37,988	4,885	36	4,849	4,438	35	4,403
Malignant neoplasms of genital organs179-187	54,952	31,141	23,811	46,572	26,027	20,545	8,380	5,114	3,266	7,762	4,840	2,922
Malignant neoplasms of urinary organs188-189	20,233	12,976	7,257	18,307	11,850	6,457	1,926	1,126	800	1,741	1,009	732
Malignant neoplasms of all other and unspecified sites170-173,190-199	61,030	32,627	28,403	54,382	29,004	25,378	6,648	3,623	3,025	5,911	3,223	2,688
Leukemia204-208	18,246	10,039	8,207	16,434	9,011	7,423	1,812	1,028	784	1,540	868	672
Other malignant neoplasms of lymphatic and hematopoietic tissues200-203	28,505	14,762	13,743	25,472	13,135	12,337	3,033	1,627	1,406	2,695	1,434	1,261
Benign neoplasms, carcinoma in situ, and neoplasms of uncertain behavior and of unspecified nature210-239	6,701	3,048	3,653	5,858	2,685	3,173	843	363	480	742	321	421
Diabetes mellitus250	46,833	19,730	27,103	38,053	16,282	21,771	8,780	3,448	5,332	7,955	3,072	4,883
Nutritional deficiencies260-269	3,046	1,098	1,948	2,571	895	1,676	475	203	272	443	188	255
Anemias280-285	3,993	1,688	2,305	3,089	1,267	1,822	904	421	483	852	401	451
Meningitis320-322	1,068	588	480	703	383	320	365	205	160	331	186	145
Major cardiovascular diseases390-448	931,838	450,995	480,843	820,810	396,710	424,100	111,028	54,285	56,743	100,901	48,508	52,393
Diseases of heart390-398,402,404-429	733,867	368,202	365,665	648,866	325,397	323,469	85,001	42,805	42,196	77,431	38,321	39,110
Rheumatic fever and rheumatic heart disease390-398	6,087	1,877	4,210	5,523	1,674	3,849	564	203	361	448	168	280
Hypertensive heart disease402	20,963	8,923	12,040	15,012	6,082	8,930	5,951	2,841	3,110	5,680	2,688	2,992
Hypertensive heart and renal disease404	2,385	954	1,431	1,693	658	1,035	692	296	396	656	280	376
Ischemic heart disease410-414	498,021	257,524	240,497	451,808	234,365	217,443	46,213	23,159	23,054	41,376	20,243	21,133
Acute myocardial infarction410	246,950	134,298	112,652	223,228	122,228	101,000	23,722	12,070	11,652	21,198	10,545	10,653
Other acute and subacute forms of ischemic heart disease411	3,376	1,902	1,474	2,843	1,608	1,235	533	294	239	496	271	225
Angina pectoris413	1,066	474	592	958	424	534	108	50	58	96	44	52
Old myocardial infarction and other forms of chronic ischemic heart disease412,414	246,629	120,850	125,779	224,779	110,105	114,674	21,850	10,745	11,105	19,586	9,383	10,203
Other diseases of endocardium424	12,185	5,300	6,885	11,206	4,833	6,373	979	467	512	860	402	458
All other forms of heart disease415-423,425-429	194,226	93,624	100,602	163,624	77,785	85,839	30,602	15,839	14,763	28,411	14,540	13,871

Hypertension with or without renal disease401-403	8,766	3,771	4,995	6,649	2,819	3,830	2,117	952	1,165	1,997	892	1,105
Cerebrovascular diseases430-438	145,551	57,321	88,230	125,516	48,563	76,953	20,035	8,758	11,277	17,979	7,739	10,240
Intracerebral and other intracranial hemorrhage431-432	20,679	9,471	11,208	16,818	7,485	9,333	3,861	1,986	1,875	3,324	1,712	1,612
Cerebral thrombosis and unspecified occlusion of cerebral arteries434.0,434.9	19,799	7,656	12,143	17,495	6,673	10,822	2,304	983	1,321	2,109	882	1,227
Cerebral embolism434.1	681	257	424	615	221	394	66	36	30	57	29	28
All other and late effects of cerebrovascular diseases430,433,435-438	104,392	39,937	64,455	90,588	34,184	56,404	13,804	5,753	8,051	12,489	5,116	7,373
Atherosclerosis440	19,357	7,254	12,103	17,791	6,652	11,139	1,566	602	964	1,436	547	889
Other diseases of arteries, arterioles, and capillaries441-448	24,297	14,447	9,850	21,988	13,279	8,709	2,309	1,168	1,141	2,058	1,009	1,049
Acute bronchitis and bronchiolitis466	633	288	345	544	241	303	89	47	42	79	39	40
Pneumonia and influenza480-487	76,550	35,701	40,849	67,853	30,892	36,961	8,697	4,809	3,888	7,585	4,168	3,417
Pneumonia480-486	74,957	35,151	39,806	66,344	30,379	35,965	8,613	4,772	3,841	7,521	4,141	3,380
Influenza487	1,593	550	1,043	1,509	513	996	84	37	47	64	27	37
Chronic obstructive pulmonary diseases and allied conditions490-496	84,344	48,178	36,166	77,881	44,046	33,835	6,463	4,132	2,331	5,671	3,593	2,078
Bronchitis, chronic and unspecified490-491	3,759	1,956	1,803	3,522	1,823	1,699	237	133	104	207	113	94
Emphysema492	15,467	9,294	6,173	14,590	8,665	5,925	877	629	248	765	547	218
Asthma493	4,869	1,848	3,021	3,761	1,352	2,409	1,108	496	612	984	434	550
Other chronic obstructive pulmonary diseases and allied conditions494-496	60,249	35,080	25,169	56,008	32,206	23,802	4,241	2,874	1,367	3,715	2,499	1,216
Ulcer of stomach and duodenum531-533	6,455	3,145	3,310	5,664	2,701	2,963	791	444	347	665	362	303
Appendicitis540-543	451	237	214	354	185	169	97	52	45	89	47	42
Hernia of abdominal cavity and intestinal obstruction without mention of hernia550-553,560	5,530	2,047	3,483	4,791	1,711	3,080	739	336	403	683	315	368
Chronic liver disease and cirrhosis571	26,694	17,310	9,384	22,211	14,414	7,797	4,483	2,896	1,587	3,851	2,517	1,334
Cholelithiasis and other disorders of gallbladder574-575	3,048	1,336	1,712	2,738	1,210	1,528	310	126	184	255	102	153
Nephritis, nephrotic syndrome, and nephrosis . . .580-589	21,118	10,320	10,798	16,607	8,093	8,514	4,511	2,227	2,284	4,166	2,047	2,119
Acute glomerulonephritis and nephrotic syndrome580-581	310	160	150	241	126	115	69	34	35	66	33	33
Chronic glomerulonephritis, nephritis and nephropathy, not specified as acute or chronic, and renal sclerosis, unspecified582-583,587	1,517	733	784	1,201	590	611	316	143	173	295	137	158
Renal failure, disorders resulting from impaired renal function, and small kidney of unknown cause584-586,588-589	19,291	9,427	9,864	15,165	7,377	7,788	4,126	2,050	2,076	3,805	1,877	1,928
Infections of kidney590	1,414	435	979	1,203	358	845	211	77	134	194	68	126
Hyperplasia of prostate600	449	449	...	375	375	...	74	74	...	70	70	...
Complications of pregnancy, childbirth, and the puerperium630-676	320	...	320	180	...	180	140	...	140	124	...	124
Pregnancy with abortive outcome630-638	50	...	50	21	...	21	29	...	29	26	...	26
Other complications of pregnancy, childbirth, and the puerperium640-676	270	...	270	159	...	159	111	...	111	98	...	98
Congenital anomalies740-759	12,897	6,812	6,085	10,291	5,444	4,847	2,606	1,368	1,238	2,179	1,143	1,036
Certain conditions originating in the perinatal period760-779	18,752	10,511	8,241	11,306	6,426	4,880	7,446	4,085	3,361	6,965	3,813	3,152
Birth trauma, intrauterine hypoxia, birth asphyxia, and respiratory distress syndrome767-769	4,631	2,803	1,828	3,037	1,844	1,193	1,594	959	635	1,467	877	590
Other conditions originating in the perinatal period760-766,770-779	14,121	7,708	6,413	8,269	4,582	3,687	5,852	3,126	2,726	5,498	2,936	2,562
Symptoms, signs, and ill-defined conditions780-799	26,988	15,205	11,783	20,597	11,361	9,236	6,391	3,844	2,547	5,835	3,496	2,339
All other diseasesResidual	171,472	79,288	92,184	147,014	66,907	80,107	24,458	12,381	12,077	22,334	11,199	11,135
Accidents and adverse effectsE800-E949	95,028	63,912	31,116	79,139	52,691	26,448	15,889	11,221	4,668	13,404	9,503	3,901
Motor vehicle accidentsE810-E825	47,575	32,704	14,871	40,491	27,621	12,870	7,084	5,083	2,001	5,611	4,120	1,491
All other accidents and adverse effectsE800-E807,E826-E949	47,453	31,208	16,245	38,648	25,070	13,578	8,805	6,138	2,667	7,793	5,383	2,410
SuicideE950-E959	30,232	24,102	6,130	27,424	21,858	5,566	2,808	2,244	564	2,153	1,771	382
Homicide and legal interventionE960-E978	22,909	17,686	5,223	11,308	8,337	2,971	11,601	9,349	2,252	10,962	8,888	2,074
All other external causesE980-E999	2,700	1,956	744	1,973	1,414	559	727	542	185	664	492	172

Table 11. Death rates for 72 selected causes by race and sex: United States, 1989

[Rates per 100,000 population in specified group. For explanation of asterisk preceding cause-of-death codes, see Technical notes]

Cause of death (Ninth Revision International Classification of Diseases, 1975)	All races			White			All other					
	Both sexes	Male	Female	Both sexes	Male	Female	Total			Black		
							Both sexes	Male	Female	Both sexes	Male	Female
All causes	866.3	921.0	814.3	887.2	930.2	846.0	755.2	870.8	649.5	872.9	1,006.5	752.4
Shigellosis and amebiasis004,006	0.0	*	*	*	*	*	*	*	*	*	*	*
Certain other intestinal infections007-009	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.3	0.2	0.3	0.3	0.2
Tuberculosis010-018	0.8	1.1	0.5	0.6	0.7	0.4	2.1	3.0	1.3	2.3	3.3	1.4
Tuberculosis of respiratory system010-012	0.6	0.9	0.4	0.4	0.6	0.3	1.6	2.4	0.8	1.7	2.7	0.9
Other tuberculosis013-018	0.2	0.2	0.2	0.1	0.1	0.1	0.5	0.6	0.4	0.6	0.7	0.5
Whooping cough033	*	*	*	*	*	*	*	*	*	*	*	*
Streptococcal sore throat, scarlatina, and erysipelas034-035	*	*	*	*	*	*	*	*	*	*	*	*
Meningococcal infection036	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.2	0.2	0.2	0.2
Septicemia038	7.8	7.0	8.5	7.4	6.6	8.3	9.6	9.4	9.8	11.6	11.3	11.9
Acute poliomyelitis045	*	*	*	*	*	*	*	*	*	*	*	*
Measles055	0.0	*	*	*	*	*	*	*	*	*	*	*
Viral hepatitis070	0.6	0.7	0.5	0.6	0.7	0.5	0.7	0.9	0.6	0.7	0.7	0.6
Syphilis090-097	0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.2	0.1	0.2	0.2	0.1
All other infectious and parasitic diseases.001-003,005,020-032,037,039-041,*042-*044,046-054,056-066,071-088,098-139	11.8	19.6	4.3	9.9	16.8	3.2	21.9	34.9	10.0	26.9	43.2	12.2
Malignant neoplasms, including neoplasms of lymphatic and hematopoietic tissues140-208	199.9	217.6	183.0	207.8	223.3	192.9	157.8	186.6	131.5	181.2	216.2	149.6
Malignant neoplasms of lip, oral cavity, and pharynx140-149	3.3	4.4	2.2	3.2	4.2	2.2	3.6	5.6	1.8	4.1	6.5	1.9
Malignant neoplasms of digestive organs and peritoneum150-159	48.2	52.2	44.4	49.2	52.7	45.8	43.0	49.7	36.9	47.9	54.9	41.6
Malignant neoplasms of respiratory and intrathoracic organs160-165	57.3	76.8	38.8	60.0	79.1	41.6	43.3	64.5	23.9	50.6	76.4	27.4
Malignant neoplasm of breast174-175	17.4	0.2	33.7	18.3	0.3	35.6	12.4	0.2	23.6	14.5	0.2	27.3
Malignant neoplasms of genital organs179-187	22.1	25.7	18.7	22.3	25.5	19.2	21.3	27.3	15.9	25.3	33.3	18.1
Malignant neoplasms of urinary organs188-189	8.2	10.7	5.7	8.8	11.6	6.0	4.9	6.0	3.9	5.7	6.9	4.5
Malignant neoplasms of all other and unspecified sites170-173,190-199	24.6	27.0	22.3	26.0	28.4	23.8	16.9	19.3	14.7	19.3	22.2	16.7
Leukemia.204-208	7.4	8.3	6.4	7.9	8.8	7.0	4.6	5.5	3.8	5.0	6.0	4.2
Other malignant neoplasms of lymphatic and hematopoietic tissues200-203	11.5	12.2	10.8	12.2	12.8	11.6	7.7	8.7	6.9	8.8	9.9	7.8
Benign neoplasms, carcinoma in situ, and neoplasms of uncertain behavior and of unspecified nature210-239	2.7	2.5	2.9	2.8	2.6	3.0	2.1	1.9	2.3	2.4	2.2	2.6
Diabetes mellitus250	18.9	16.3	21.3	18.2	15.9	20.4	22.4	18.4	26.0	25.9	21.1	30.3
Nutritional deficiencies260-269	1.2	0.9	1.5	1.2	0.9	1.6	1.2	1.1	1.3	1.4	1.3	1.6
Anemias280-285	1.6	1.4	1.8	1.5	1.2	1.7	2.3	2.2	2.4	2.8	2.8	2.8
Meningitis320-322	0.4	0.5	0.4	0.3	0.4	0.3	0.9	1.1	0.8	1.1	1.3	0.9
Major cardiovascular diseases390-448	375.4	372.8	377.8	392.8	388.1	397.3	282.7	289.4	276.5	329.1	333.5	325.1
Diseases of heart390-398,402,404-429	295.6	304.3	287.3	310.5	318.3	303.0	216.4	228.2	205.6	252.5	263.5	242.7
Rheumatic fever and rheumatic heart disease.390-398	2.5	1.6	3.3	2.6	1.6	3.6	1.4	1.1	1.8	1.5	1.2	1.7
Hypertensive heart disease402	8.4	7.4	9.5	7.2	5.9	8.4	15.2	15.1	15.2	18.5	18.5	18.6
Hypertensive heart and renal disease404	1.0	0.8	1.1	0.8	0.6	1.0	1.8	1.6	1.9	2.1	1.9	2.3
Ischemic heart disease410-414	200.6	212.9	189.0	216.2	229.3	203.7	117.7	123.5	112.3	135.0	139.2	131.1
Acute myocardial infarction410	99.5	111.0	88.5	106.8	119.6	94.6	60.4	64.3	56.8	69.1	72.5	66.1
Other acute and subacute forms of ischemic heart disease411	1.4	1.6	1.2	1.4	1.6	1.2	1.4	1.6	1.2	1.6	1.9	1.4
Angina pectoris413	0.4	0.4	0.5	0.5	0.4	0.5	0.3	0.3	0.3	0.3	0.3	0.3
Old myocardial infarction and other forms of chronic ischemic heart disease412,414	99.4	99.9	98.8	107.6	107.7	107.4	55.6	57.3	54.1	63.9	64.5	63.3
Other diseases of endocardium424	4.9	4.4	5.4	5.4	4.7	6.0	2.5	2.5	2.5	2.8	2.8	2.8
All other forms of heart disease415-423,425-429	78.2	77.4	79.1	78.3	76.1	80.4	77.9	84.4	71.9	92.7	100.0	86.1

Hypertension with or without renal disease401,403	3.5	3.1	3.9	3.2	2.8	3.6	5.4	5.1	5.7	6.5	6.1	6.9
Cerebrovascular diseases430-438	58.6	47.4	69.3	60.1	47.5	72.1	51.0	46.7	55.0	58.6	53.2	63.5
Intracerebral and other intracranial hemorrhage431-432	8.3	7.8	8.8	8.0	7.3	8.7	9.8	10.6	9.1	10.8	11.8	10.0
Cerebral thrombosis and unspecified occlusion of cerebral arteries434.0,434.9	8.0	6.3	9.5	8.4	6.5	10.1	5.9	5.2	6.4	6.9	6.1	7.6
Cerebral embolism434.1	0.3	0.2	0.3	0.3	0.2	0.4	0.2	0.2	0.1	0.2	0.2	0.2
All other and late effects of cerebrovascular diseases430,433,435-438	42.1	33.0	50.6	43.4	33.4	52.8	35.1	30.7	39.2	40.7	35.2	45.8
Atherosclerosis440	7.8	6.0	9.5	8.5	6.5	10.4	4.0	3.2	4.7	4.7	3.8	5.5
Other diseases of arteries, arterioles, and capillaries441-448	9.8	11.9	7.7	10.5	13.0	8.2	5.9	6.2	5.6	6.7	6.9	6.5
Acute bronchitis and bronchiolitis466	0.3	0.2	0.3	0.3	0.2	0.3	0.2	0.3	0.2	0.3	0.3	0.2
Pneumonia and influenza480-487	30.8	29.5	32.1	32.5	30.2	34.6	22.1	25.6	18.9	24.7	28.7	21.2
Pneumonia480-486	30.2	29.1	31.3	31.7	29.7	33.7	21.9	25.4	18.7	24.5	28.5	21.0
Influenza487	0.6	0.5	0.8	0.7	0.5	0.9	0.2	0.2	0.2	0.2	0.2	0.2
Chronic obstructive pulmonary diseases and allied conditions490-496	34.0	39.8	28.4	37.3	43.1	31.7	16.5	22.0	11.4	18.5	24.7	12.9
Bronchitis, chronic and unspecified490-491	1.5	1.6	1.4	1.7	1.8	1.6	0.6	0.7	0.5	0.7	0.8	0.6
Emphysema492	6.2	7.7	4.9	7.0	8.5	5.6	2.2	3.4	1.2	2.5	3.8	1.4
Asthma493	2.0	1.5	2.4	1.8	1.3	2.3	2.8	2.6	3.0	3.2	3.0	3.4
Other chronic obstructive pulmonary diseases and allied conditions494-496	24.3	29.0	19.8	26.8	31.5	22.3	10.8	15.3	6.7	12.1	17.2	7.5
Ulcer of stomach and duodenum531-533	2.6	2.6	2.6	2.7	2.6	2.8	2.0	2.4	1.7	2.2	2.5	1.9
Appendicitis540-543	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.2	0.3	0.3	0.3
Hernia of abdominal cavity and intestinal obstruction without mention of hernia550-553,560	2.2	1.7	2.7	2.3	1.7	2.9	1.9	1.8	2.0	2.2	2.2	2.3
Chronic liver disease and cirrhosis571	10.8	14.3	7.4	10.6	14.1	7.3	11.4	15.4	7.7	12.6	17.3	8.3
Cholelithiasis and other disorders of gallbladder574-575	1.2	1.1	1.3	1.3	1.2	1.4	0.8	0.7	0.9	0.8	0.7	0.9
Nephritis, nephrotic syndrome, and nephrosis580-589	8.5	8.5	8.5	7.9	7.9	8.0	11.5	11.9	11.1	13.6	14.1	13.1
Acute glomerulonephritis and nephrotic syndrome580-581	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2
Chronic glomerulonephritis, nephritis and nephropathy, not specified as acute or chronic, and renal sclerosis, unspecified582-583,587	0.6	0.6	0.6	0.6	0.6	0.6	0.8	0.8	0.8	1.0	0.9	1.0
Renal failure, disorders resulting from impaired renal function, and small kidney of unknown cause584-586,588-589	7.8	7.8	7.8	7.3	7.2	7.3	10.5	10.9	10.1	12.4	12.9	12.0
Infections of kidney590	0.6	0.4	0.8	0.6	0.4	0.8	0.5	0.4	0.7	0.6	0.5	0.8
Hyperplasia of prostate600	0.2	0.4	...	0.2	0.4	...	0.2	0.4	...	0.2	0.5	...
Complications of pregnancy, childbirth, and the puerperium630-676	0.1	...	0.3	0.1	...	0.2	0.4	...	0.7	0.4	...	0.8
Pregnancy with abortive outcome630-638	0.0	...	0.0	0.0	...	0.0	0.1	...	0.1	0.1	...	0.2
Other complications of pregnancy, childbirth, and the puerperium640-676	0.1	...	0.2	0.1	...	0.1	0.3	...	0.5	0.3	...	0.6
Congenital anomalies740-759	5.2	5.6	4.8	4.9	5.3	4.5	6.6	7.3	6.0	7.1	7.9	6.4
Certain conditions originating in the perinatal period760-779	7.6	8.7	6.5	5.4	6.3	4.6	19.0	21.8	16.4	22.7	26.2	19.6
Birth trauma, intrauterine hypoxia, birth asphyxia, and respiratory distress syndrome767-769	1.9	2.3	1.4	1.5	1.8	1.1	4.1	5.1	3.1	4.8	6.0	3.7
Other conditions originating in the perinatal period760-766,770-779	5.7	6.4	5.0	4.0	4.5	3.5	14.9	16.7	13.3	17.9	20.2	15.9
Symptoms, signs, and ill-defined conditions780-799	10.9	12.6	9.3	9.9	11.1	8.7	16.3	20.5	12.4	19.0	24.0	14.5
All other diseasesResidual	69.1	65.5	72.4	70.4	65.5	75.1	62.3	66.0	58.9	72.8	77.0	69.1
Accidents and adverse effectsE800-E949	38.3	52.8	24.5	37.9	51.5	24.8	40.5	59.8	22.7	43.7	65.3	24.2
Motor vehicle accidentsE810-E825	19.2	27.0	11.7	19.4	27.0	12.1	18.0	27.1	9.8	18.3	28.3	9.3
All other accidents and adverse effectsE800-E807,E826-E949	19.1	25.8	12.8	18.5	24.5	12.7	22.4	32.7	13.0	25.4	37.0	15.0
SuicideE950-E959	12.2	19.9	4.8	13.1	21.4	5.2	7.1	12.0	2.7	7.0	12.2	2.4
Homicide and legal interventionE960-E978	9.2	14.6	4.1	5.4	8.2	2.8	29.5	49.8	11.0	35.8	61.1	12.9
All other external causesE980-E999	1.1	1.6	0.6	0.9	1.4	0.5	1.9	2.9	0.9	2.2	3.4	1.1

Table 12. Age-adjusted death rates for 72 selected causes by race and sex: United States, 1989

[Rates per 100,000 population in specified group. Computed by the direct method, using as the standard population the age distribution of the total population of the United States as enumerated in 1940. For explanation of asterisk preceding cause-of-death codes, see Technical notes]

Cause of death (Ninth Revision International Classification of Diseases, 1975)	All other											
	All races			White			Total			Black		
	Both sexes	Male	Female	Both sexes	Male	Female	Both sexes	Male	Female	Both sexes	Male	Female
All causes	523.0	678.7	395.3	496.1	644.2	374.9	684.8	896.4	515.0	783.1	1,032.1	585.6
Shigellosis and amebiasis004,006	0.0	*	*	*	*	*	*	*	*	*	*	*
Certain other intestinal infections007-009	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.1	0.2	0.3	0.1
Tuberculosis010-018	0.6	0.8	0.3	0.3	0.5	0.2	2.0	3.2	1.1	2.3	3.6	1.2
Tuberculosis of respiratory system010-012	0.4	0.7	0.2	0.3	0.4	0.1	1.5	2.5	0.7	1.7	2.9	0.8
Other tuberculosis013-018	0.1	0.2	0.1	0.1	0.1	0.1	0.5	0.7	0.4	0.6	0.7	0.4
Whooping cough033	*	*	*	*	*	*	*	*	*	*	*	*
Streptococcal sore throat, scarlatina, and erysipelas034-035	*	*	*	*	*	*	*	*	*	*	*	*
Meningococcal infection036	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.1
Septicemia038	4.1	4.8	3.6	3.6	4.1	3.1	8.1	9.4	7.1	9.6	11.2	8.4
Acute poliomyelitis045	*	*	*	*	*	*	*	*	*	*	*	*
Measles055	0.0	*	*	*	*	*	*	*	*	*	*	*
Viral hepatitis070	0.5	0.7	0.3	0.4	0.6	0.3	0.8	1.0	0.6	0.7	0.8	0.6
Syphilis090-097	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.1	0.2	0.2	0.1
All other infectious and parasitic diseases001-003,005,020-032,037,039-041,*042-*044,046-054,056-066,071-088,098-139	10.8	18.5	3.4	8.8	15.5	2.3	22.0	36.5	9.6	27.6	46.2	11.8
Malignant neoplasms, including neoplasms of lymphatic and hematopoietic tissues140-208	133.0	162.4	111.7	130.2	157.2	110.7	152.6	201.4	116.7	172.7	230.6	130.9
Malignant neoplasms of lip, oral cavity, and pharynx140-149	2.4	3.6	1.3	2.1	3.2	1.3	3.9	6.6	1.7	4.4	7.6	1.9
Malignant neoplasms of digestive organs and peritoneum150-159	30.0	38.6	23.1	28.5	36.5	22.1	40.5	53.9	30.3	44.4	59.0	33.3
Malignant neoplasms of respiratory and intrathoracic organs160-165	40.3	59.3	25.4	39.7	57.4	25.8	44.0	72.3	22.4	50.9	84.6	25.4
Malignant neoplasm of breast174-175	12.5	0.2	23.0	12.5	0.2	22.9	12.7	0.2	22.6	14.7	0.3	26.0
Malignant neoplasms of genital organs179-187	13.1	16.1	12.0	12.4	14.9	11.7	18.7	26.1	14.3	21.7	31.3	16.0
Malignant neoplasms of urinary organs188-189	5.0	7.7	3.0	5.1	7.8	3.0	4.5	6.3	3.2	5.1	7.1	3.6
Malignant neoplasms of all other and unspecified sites170-173,190-199	17.2	21.3	13.8	17.2	21.3	13.9	16.5	21.1	13.0	18.6	24.0	14.5
Leukemia204-208	4.9	6.3	3.9	5.0	6.4	3.9	4.3	5.7	3.3	4.6	6.1	3.5
Other malignant neoplasms of lymphatic and hematopoietic tissues200-203	7.6	9.4	6.2	7.6	9.3	6.2	7.4	9.3	5.9	8.3	10.5	6.6
Benign neoplasms, carcinoma in situ, and neoplasms of uncertain behavior and of unspecified nature210-239	1.7	1.9	1.5	1.6	1.8	1.5	1.9	2.0	1.9	2.1	2.3	2.1
Diabetes mellitus250	11.5	12.0	11.0	10.3	11.0	9.6	20.7	19.9	21.2	23.7	22.6	24.2
Nutritional deficiencies260-269	0.5	0.5	0.5	0.4	0.5	0.4	0.8	1.0	0.7	1.0	1.1	0.8
Anemias280-285	0.9	1.0	0.9	0.7	0.8	0.6	2.1	2.2	2.0	2.5	2.7	2.4
Meningitis320-322	0.4	0.4	0.3	0.3	0.3	0.2	0.9	1.1	0.7	1.0	1.3	0.8
Major cardiovascular diseases390-448	194.2	254.2	146.1	186.7	247.4	137.9	244.4	300.3	200.7	280.1	343.7	230.7
Diseases of heart390-398,402,404-429	155.9	210.2	112.3	151.0	205.9	106.6	188.4	237.9	149.7	216.4	272.6	172.9
Rheumatic fever and rheumatic heart disease390-398	1.5	1.2	1.8	1.5	1.1	1.8	1.4	1.2	1.6	1.5	1.3	1.6
Hypertensive heart disease402	4.8	5.5	4.1	3.6	4.1	3.0	14.2	16.7	12.1	17.2	20.3	14.6
Hypertensive heart and renal disease404	0.5	0.5	0.4	0.3	0.4	0.3	1.5	1.7	1.4	1.8	2.0	1.6
Ischemic heart disease410-414	105.1	146.3	72.4	105.3	148.2	71.0	100.9	128.0	79.8	113.5	142.9	90.9
Acute myocardial infarction410	55.9	78.8	37.5	56.1	80.0	36.7	53.4	67.7	42.3	60.0	75.4	48.1
Other acute and subacute forms of ischemic heart disease411	0.8	1.2	0.5	0.8	1.1	0.5	1.3	1.7	0.9	1.5	2.0	1.1
Angina pectoris413	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.3	0.2	0.3	0.3	0.2
Old myocardial infarction and other forms of chronic ischemic heart disease412,414	48.2	66.0	34.2	48.3	66.8	33.6	46.0	58.4	36.4	51.8	65.3	41.5
Other diseases of endocardium424	2.4	2.9	2.1	2.4	2.9	2.1	2.1	2.5	1.8	2.4	2.8	2.0

All other forms of heart disease . . . . .	.415-423,425-429	41.5	53.8	31.5	37.8	49.2	28.3	68.3	87.8	53.0	80.1	103.3	62.2
Hypertension with or without renal disease . . . . .	.401,403	1.8	2.1	1.6	1.4	1.7	1.2	4.8	5.3	4.3	5.7	6.4	5.1
Cerebrovascular diseases . . . . .	.430-438	28.0	30.4	26.2	25.9	28.0	24.1	43.3	47.7	39.8	49.0	54.1	44.9
Intracerebral and other intracranial hemorrhage . . . . .	.431-432	5.2	5.9	4.6	4.5	5.0	4.1	9.8	11.9	8.0	10.8	13.4	8.7
Cerebral thrombosis and unspecified occlusion of cerebral arteries . . . . .	.434.0,434.9	3.5	3.9	3.2	3.4	3.7	3.1	4.7	5.2	4.3	5.4	6.0	5.0
Cerebral embolism . . . . .	.434.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.1	0.2	0.2	0.1
All other and late effects of cerebrovascular diseases . . . . .	.430,433,435-438	19.2	20.5	18.2	17.9	19.2	16.9	28.7	30.4	27.4	32.6	34.5	31.1
Atherosclerosis . . . . .	.440	2.9	3.4	2.6	3.0	3.4	2.6	2.7	2.9	2.6	3.1	3.3	2.9
Other diseases of arteries, arterioles, and capillaries . . . . .	.441-448	5.4	8.1	3.4	5.4	8.3	3.3	5.2	6.5	4.2	5.9	7.2	4.9
Acute bronchitis and bronchiolitis . . . . .	.466	0.1	0.2	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2
Pneumonia and influenza . . . . .	.480-487	13.7	17.9	10.7	13.0	16.9	10.3	17.8	24.9	12.5	19.8	27.9	13.8
Pneumonia . . . . .	.480-486	13.4	17.7	10.4	12.7	16.6	10.0	17.6	24.7	12.4	19.7	27.7	13.7
Influenza . . . . .	.487	0.3	0.3	0.3	0.3	0.3	0.3	0.1	0.2	0.1	0.1	0.2	0.1
Chronic obstructive pulmonary diseases and allied conditions . . . . .	.490-496	19.4	26.4	14.7	19.8	26.8	15.2	14.9	22.4	9.7	16.6	24.9	10.9
Bronchitis, chronic and unspecified . . . . .	.490-491	0.8	1.1	0.6	0.8	1.1	0.7	0.5	0.7	0.4	0.6	0.7	0.5
Emphysema . . . . .	.492	3.7	5.2	2.6	3.9	5.4	2.8	2.0	3.4	1.0	2.2	3.8	1.1
Asthma . . . . .	.493	1.4	1.2	1.6	1.2	1.0	1.3	2.8	2.8	2.9	3.3	3.2	3.3
Other chronic obstructive pulmonary diseases and allied conditions . . . . .	.494-496	13.5	18.9	9.8	13.9	19.3	10.3	9.5	15.5	5.4	10.6	17.1	6.0
Ulcer of stomach and duodenum . . . . .	.531-533	1.3	1.7	1.1	1.3	1.6	1.0	1.8	2.5	1.2	1.9	2.6	1.4
Appendicitis . . . . .	.540-543	0.1	0.2	0.1	0.1	0.1	0.1	0.2	0.3	0.2	0.3	0.3	0.2
Hernia of abdominal cavity and intestinal obstruction without mention of hernia . . . . .	.550-553,560	1.1	1.1	1.0	1.0	1.0	1.0	1.5	1.7	1.3	1.8	2.1	1.5
Chronic liver disease and cirrhosis . . . . .	.571	8.9	12.8	5.5	8.3	11.9	5.0	12.5	18.0	7.9	13.9	20.5	8.5
Cholelithiasis and other disorders of gallbladder . . . . .	.574-575	0.6	0.7	0.5	0.6	0.7	0.5	0.6	0.7	0.6	0.7	0.7	0.7
Nephritis, nephrotic syndrome, and nephrosis . . . . .	.580-589	4.4	5.6	3.6	3.7	4.7	3.0	9.8	11.8	8.3	11.4	13.9	9.6
Acute glomerulonephritis and nephrotic syndrome . . . . .	.580-581	0.1	0.1	0.0	0.0	0.1	0.0	0.1	0.2	0.1	0.2	0.3	0.1
Chronic glomerulonephritis, nephritis and nephropathy, not specified as acute or chronic, and renal sclerosis, unspecified . . . . .	.582-583,587	0.3	0.4	0.3	0.3	0.4	0.2	0.7	0.8	0.6	0.8	1.0	0.7
Renal failure, disorders resulting from impaired renal function, and small kidney of unknown cause . . . . .	.584-586,588-589	4.0	5.0	3.3	3.3	4.3	2.7	9.0	10.9	7.6	10.4	12.8	8.8
Infections of kidney . . . . .	.590	0.3	0.2	0.3	0.2	0.2	0.3	0.4	0.4	0.5	0.5	0.4	0.6
Hyperplasia of prostate . . . . .	.600	0.1	0.2	...	0.1	0.2	...	0.1	0.4	...	0.2	0.4	...
Complications of pregnancy, childbirth, and the puerperium . . . . .	.630-676	0.1	...	0.3	0.1	...	0.2	0.3	...	0.7	0.4	...	0.7
Pregnancy with abortive outcome . . . . .	.630-638	0.0	...	0.0	0.0	...	0.0	0.1	...	0.1	0.1	...	0.2
Other complications of pregnancy, childbirth, and the puerperium . . . . .	.640-676	0.1	...	0.2	0.1	...	0.2	0.3	...	0.5	0.3	...	0.6
Congenital anomalies . . . . .	.740-759	5.0	5.2	4.7	4.8	5.1	4.5	5.5	5.8	5.2	5.9	6.2	5.5
Certain conditions originating in the perinatal period . . . . .	.760-779	7.3	8.0	6.6	5.5	6.1	4.8	14.6	15.8	13.4	17.3	18.6	15.9
Birth trauma, intrauterine hypoxia, birth asphyxia, and respiratory distress syndrome . . . . .	.767-769	1.8	2.1	1.4	1.5	1.7	1.2	3.1	3.7	2.5	3.6	4.3	3.0
Other conditions originating in the perinatal period . . . . .	.760-766,770-779	5.5	5.9	5.1	4.0	4.3	3.7	11.5	12.1	10.9	13.6	14.4	12.9
Symptoms, signs, and ill-defined conditions . . . . .	.780-799	8.1	10.5	5.9	6.9	9.0	5.1	14.2	18.9	10.1	16.5	22.3	11.7
All other diseases . . . . .	.Residual	38.6	46.3	32.3	35.9	43.1	30.1	55.4	68.1	45.4	64.3	79.5	52.5
Accidents and adverse effects . . . . .	.E800-E949	33.8	49.5	18.9	32.9	47.8	18.5	39.5	61.2	20.6	42.7	67.3	21.6
Motor vehicle accidents . . . . .	.E810-E825	18.9	26.8	11.2	19.1	26.8	11.5	18.2	27.8	9.7	18.5	29.4	9.1
All other accidents and adverse effects . . . . .	.E800-E807,E826-E949	14.9	22.7	7.6	13.8	21.0	7.0	21.3	33.4	10.9	24.1	38.0	12.5
Suicide . . . . .	.E950-E959	11.3	18.6	4.5	12.0	19.6	4.8	7.2	12.2	2.8	7.1	12.5	2.4
Homicide and legal intervention . . . . .	.E960-E978	9.4	14.7	4.1	5.4	8.1	2.8	29.4	49.8	10.7	35.7	61.5	12.5
All other external causes . . . . .	.E980-E999	1.0	1.5	0.5	0.9	1.3	0.5	1.8	2.9	0.9	2.2	3.5	1.0

Table 13. Deaths and death rates from 16 selected subcategories of Malignant neoplasms, including neoplasms of lymphatic and hematopoietic tissues, by race and sex: United States, 1989

[Rates per 100,000 population in specified group]

Cause of death (Ninth Revision International Classification of Diseases, 1975)	All other											
	All races			White			Total			Black		
	Both sexes	Male	Female	Both sexes	Male	Female	Both sexes	Male	Female	Both sexes	Male	Female
	Number											
Malignant neoplasms, including neoplasms of lymphatic and hematopoietic tissues ¹140-208	496,152	263,309	232,843	434,156	228,301	205,855	61,996	35,008	26,988	55,564	31,452	24,112
Malignant neoplasm of esophagus150	9,637	7,154	2,483	7,469	5,531	1,938	2,168	1,623	545	2,047	1,524	523
Malignant neoplasm of stomach151	14,186	8,520	5,666	11,449	6,836	4,613	2,737	1,684	1,053	2,249	1,390	859
Malignant neoplasms of colon, rectum, rectosigmoid junction, and anus153,154	56,261	27,770	28,491	49,807	24,648	25,159	6,454	3,122	3,332	5,768	2,726	3,042
Malignant neoplasm of pancreas157	24,543	11,965	12,578	21,236	10,386	10,850	3,307	1,579	1,728	2,954	1,403	1,551
Malignant neoplasms of trachea, bronchus, and lung162	137,150	89,052	48,098	121,023	77,659	43,364	16,127	11,393	4,734	14,703	10,457	4,246
Malignant melanoma of skin172	6,161	3,736	2,425	6,027	3,676	2,351	134	60	74	109	46	63
Malignant neoplasm of cervix uteri180	4,487	...	4,487	3,321	...	3,321	1,166	...	1,166	1,049	...	1,049
Malignant neoplasms of body of uterus and of uterus, part unspecified179,182	5,850	...	5,850	4,911	...	4,911	939	...	939	869	...	869
Malignant neoplasm of ovary183.0	12,256	...	12,256	11,228	...	11,228	1,028	...	1,028	890	...	890
Malignant neoplasm of prostate185	30,520	30,520	...	25,469	25,469	...	5,051	5,051	...	4,785	4,785	...
Malignant neoplasm of bladder188	10,121	6,843	3,278	9,193	6,308	2,885	928	535	393	853	484	369
Malignant neoplasms of kidney and other and unspecified urinary organs189	10,112	6,133	3,979	9,114	5,542	3,572	998	591	407	888	525	363
Malignant neoplasms of brain and other and unspecified parts of nervous system191,192	11,130	6,046	5,084	10,372	5,641	4,731	758	405	353	634	335	299
Hodgkin's disease201	1,721	1,007	714	1,533	892	641	188	115	73	173	107	66
Malignant lymphoma other than Hodgkin's disease200,202	18,197	9,420	8,777	16,833	8,643	8,190	1,364	777	587	1,135	643	492
Multiple myeloma and other immunoproliferative neoplasms203	8,587	4,335	4,252	7,106	3,600	3,506	1,481	735	746	1,387	684	703
	Rate											
Malignant neoplasms, including neoplasms of lymphatic and hematopoietic tissues ¹140-208	199.9	217.6	183.0	207.8	223.3	192.9	157.8	186.6	131.5	181.2	216.2	149.6
Malignant neoplasm of esophagus150	3.9	5.9	2.0	3.6	5.4	1.8	5.5	8.7	2.7	6.7	10.5	3.2
Malignant neoplasm of stomach151	5.7	7.0	4.5	5.5	6.7	4.3	7.0	9.0	5.1	7.3	9.6	5.3
Malignant neoplasms of colon, rectum, rectosigmoid junction, and anus153,154	22.7	23.0	22.4	23.8	24.1	23.6	16.4	16.6	16.2	18.8	18.7	18.9
Malignant neoplasm of pancreas157	9.9	9.9	9.9	10.2	10.2	10.2	8.4	8.4	8.4	9.6	9.6	9.6
Malignant neoplasms of trachea, bronchus, and lung162	55.2	73.6	37.8	57.9	76.0	40.6	41.1	60.7	23.1	48.0	71.9	26.3
Malignant melanoma of skin172	2.5	3.1	1.9	2.9	3.6	2.2	0.3	0.3	0.4	0.4	0.3	0.4
Malignant neoplasm of cervix uteri180	1.8	...	3.5	1.6	...	3.1	3.0	...	5.7	3.4	...	6.5
Malignant neoplasms of body of uterus and of uterus, part unspecified179,182	2.4	...	4.6	2.4	...	4.6	2.4	...	4.6	2.8	...	5.4
Malignant neoplasm of ovary183.0	4.9	...	9.6	5.4	...	10.5	2.6	...	5.0	2.9	...	5.5
Malignant neoplasm of prostate185	12.3	25.2	...	12.2	24.9	...	12.9	26.9	...	15.6	32.9	...
Malignant neoplasm of bladder188	4.1	5.7	2.6	4.4	6.2	2.7	2.4	2.9	1.9	2.8	3.3	2.3
Malignant neoplasms of kidney and other and unspecified urinary organs189	4.1	5.1	3.1	4.4	5.4	3.3	2.5	3.2	2.0	2.9	3.6	2.3
Malignant neoplasms of brain and other and unspecified parts of nervous system191,192	4.5	5.0	4.0	5.0	5.5	4.4	1.9	2.2	1.7	2.1	2.3	1.9
Hodgkin's disease201	0.7	0.8	0.6	0.7	0.9	0.6	0.5	0.6	0.4	0.6	0.7	0.4
Malignant lymphoma other than Hodgkin's disease200,202	7.3	7.8	6.9	8.1	8.5	7.7	3.5	4.1	2.9	3.7	4.4	3.1
Multiple myeloma and other immunoproliferative neoplasms203	3.5	3.6	3.3	3.4	3.5	3.3	3.8	3.9	3.6	4.5	4.7	4.4

¹Includes figures for subcategories not shown.

Table 14. Deaths and death rates by 10-year age groups and age-adjusted death rates for Human immunodeficiency virus infection, by race and sex: United States, 1988–89

[Human immunodeficiency virus infection deaths are those assigned to category numbers *042–*044 introduced in the United States in 1987; see Technical notes]

Year, race, and sex	Age												Age-adjusted rate ³
	All ages ¹	Under 1 year ²	1–4 years	5–14 years	15–24 years	25–34 years	35–44 years	45–54 years	55–64 years	65–74 years	75–84 years	85 years and over	
1989													Number
All races	22,082	120	112	64	613	7,759	8,563	3,285	1,144	327	70	12	...
Male	19,758	54	53	41	502	6,806	7,840	3,083	1,054	260	44	8	...
Female	2,324	66	59	23	111	953	723	202	90	67	26	4	...
White	15,095	52	44	41	364	5,137	5,827	2,446	860	249	60	10	...
Male	14,114	27	13	29	312	4,752	5,572	2,354	807	197	40	6	...
Female	981	25	31	12	52	385	255	92	53	52	20	4	...
All other	6,987	68	68	23	249	2,622	2,736	839	284	78	10	2	...
Male	5,644	27	40	12	190	2,054	2,268	729	247	63	4	2	...
Female	1,343	41	28	11	59	568	468	110	37	15	6	–	...
Black	6,795	68	68	22	242	2,559	2,661	809	272	76	10	1	...
Male	5,475	27	40	12	184	1,997	2,201	701	239	62	4	1	...
Female	1,320	41	28	10	58	562	460	108	33	14	6	–	...
1988													
All races	16,602	81	114	54	535	6,036	6,184	2,352	867	286	79	11	...
Male	14,811	49	62	34	447	5,279	5,656	2,214	784	223	53	8	...
Female	1,791	32	52	20	88	757	528	138	83	63	26	3	...
White	11,267	33	48	30	322	3,907	4,221	1,748	646	232	68	10	...
Male	10,479	23	26	23	282	3,599	4,015	1,682	595	179	46	7	...
Female	788	10	22	7	40	308	206	66	51	53	22	3	...
All other	5,335	48	66	24	213	2,129	1,963	604	221	54	11	1	...
Male	4,332	26	36	11	165	1,680	1,641	532	189	44	7	1	...
Female	1,003	22	30	13	48	449	322	72	32	10	4	–	...
Black	5,197	48	66	23	209	2,080	1,912	587	208	52	10	1	...
Male	4,202	26	36	10	161	1,632	1,592	517	178	42	7	1	...
Female	995	22	30	13	48	448	320	70	30	10	3	–	...
1989													Rate
All races	8.9	3.0	0.8	0.2	1.7	17.7	23.5	13.2	5.3	1.8	0.7	*	8.7
Male	16.3	2.7	0.7	0.2	2.7	31.0	43.5	25.5	10.3	3.2	1.2	*	15.7
Female	1.8	3.4	0.8	0.1	0.6	4.4	3.9	1.6	0.8	0.7	0.4	*	1.8
White	7.2	1.6	0.4	0.1	1.2	14.0	18.7	11.4	4.6	1.5	0.7	*	7.0
Male	13.8	1.7	*	0.2	2.1	25.6	35.8	22.3	9.0	2.7	1.2	*	13.1
Female	0.9	1.6	0.5	*	0.4	2.1	1.6	0.8	0.5	0.6	0.4	*	0.9
All other	17.8	8.7	2.3	0.3	3.7	36.6	51.4	24.4	10.5	4.0	*	*	18.0
Male	30.1	6.8	2.7	*	5.6	60.1	92.5	46.7	20.2	7.4	*	*	31.5
Female	6.5	10.6	2.0	*	1.7	15.2	16.3	5.9	2.5	*	*	*	6.4
Black	22.2	11.0	3.0	0.4	4.5	45.9	68.8	30.9	12.6	4.8	*	*	22.9
Male	37.6	8.6	3.5	*	6.9	75.9	121.1	59.9	24.5	9.2	*	*	40.3
Female	8.2	13.4	2.5	*	2.1	19.1	21.2	7.5	2.8	*	*	*	8.1
1988													
All races	6.8	2.1	0.8	0.2	1.4	13.8	17.5	9.7	4.0	1.6	0.8	*	6.6
Male	12.4	2.5	0.8	0.2	2.4	24.2	32.5	18.8	7.6	2.8	1.5	*	12.0
Female	1.4	1.7	0.7	0.1	0.5	3.5	3.0	1.1	0.7	0.6	0.4	*	1.4
White	5.4	1.1	0.4	0.1	1.1	10.7	14.0	8.4	3.4	1.5	0.8	*	5.3
Male	10.3	1.4	0.4	0.2	1.8	19.5	26.7	16.4	6.5	2.5	1.4	*	9.9
Female	0.7	*	0.4	*	0.3	1.7	1.4	0.6	0.5	0.6	0.4	*	0.7
All other	13.9	6.5	2.3	0.4	3.1	30.2	38.7	18.2	8.3	2.8	*	*	14.1
Male	23.6	6.9	2.5	*	4.8	50.0	70.4	35.2	15.7	5.4	*	*	24.8
Female	5.0	6.0	2.2	*	1.4	12.1	11.8	4.0	2.2	*	*	*	4.9
Black	17.2	8.1	3.0	0.4	3.8	37.8	50.2	23.0	9.7	3.4	*	*	17.9
Male	29.3	8.7	3.2	*	5.9	62.8	91.7	45.2	18.4	6.4	*	*	31.6
Female	6.3	7.5	2.8	*	1.7	15.4	15.4	5.0	2.6	*	*	*	6.2

¹ Figures for age not stated included in All ages but not distributed among age groups.

² Death rates under 1 year (based on population estimates) differ from infant mortality rates (based on live births); see tables E and 22–26 for infant mortality rates and Technical notes for further discussion of the difference.

³ For method of computation, see Technical notes.

Table 15. Deaths and death rates for major causes of death for the United States, each division, and State; and by race and sex for the United States, 1989

[Rates per 100,000 population in each race-sex group and area. Numbers after causes of death are category numbers of the *Ninth Revision International Classification of Diseases, 1975*]

Race, sex, and area	Diseases of heart (390-398,402, 404-429)		Malignant neoplasms, including neoplasms of lymphatic and hematopoietic tissues (140-208)		Cerebrovascular diseases (430-438)		Accidents and adverse effects (E800-E949)		Motor vehicle accidents (E810-E825)		Suicide (E950-E959)	
	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate
	United States	733,867	295.6	496,152	199.9	145,551	58.6	95,028	38.3	47,575	19.2	30,232	12.2
Male	368,202	304.3	263,309	217.6	57,321	47.4	63,912	52.8	32,704	27.0	24,102	19.9
Female	365,665	287.3	232,843	183.0	88,230	69.3	31,116	24.5	14,871	11.7	6,130	4.8
White	648,866	310.5	434,156	207.8	125,516	60.1	79,139	37.9	40,491	19.4	27,424	13.1
Male	325,397	318.3	228,301	223.3	48,563	47.5	52,691	51.5	27,621	27.0	21,858	21.4
Female	323,469	303.0	205,855	192.9	76,953	72.1	26,448	24.8	12,870	12.1	5,566	5.2
All other	85,001	216.4	61,996	157.8	20,035	51.0	15,889	40.5	7,084	18.0	2,808	7.1
Male	42,805	228.2	35,008	186.6	8,758	46.7	11,221	59.8	5,083	27.1	2,244	12.0
Female	42,196	205.6	26,988	131.5	11,277	55.0	4,668	22.7	2,001	9.8	564	2.7
Black	77,431	252.5	55,564	181.2	17,979	58.6	13,404	43.7	5,611	18.3	2,153	7.0
Male	38,321	263.5	31,452	216.2	7,739	53.2	9,503	65.3	4,120	28.3	1,771	12.2
Female	39,110	242.7	24,112	149.6	10,240	63.5	3,901	24.2	1,491	9.3	382	2.4
New England	39,189	300.4	29,291	224.5	7,415	56.8	3,864	29.6	1,797	13.8	1,284	9.8
Maine	3,814	312.1	2,815	230.4	726	59.4	431	35.3	186	15.2	170	13.9
New Hampshire	2,818	254.6	2,168	195.8	566	51.1	362	32.7	192	17.3	126	11.4
Vermont	1,475	260.1	1,094	192.9	298	52.6	226	39.9	109	19.2	94	16.6
Massachusetts	17,836	301.6	13,630	230.5	3,430	58.0	1,621	27.4	749	12.7	491	8.3
Rhode Island	3,417	342.4	2,449	245.4	606	60.7	287	28.8	119	11.9	100	10.0
Connecticut	9,829	303.5	7,135	220.3	1,789	55.2	937	28.9	442	13.6	303	9.4
Middle Atlantic	134,226	355.8	85,294	226.1	20,985	55.6	11,981	31.8	5,365	14.2	3,473	9.2
New York	64,823	361.1	38,093	212.2	9,145	50.9	5,422	30.2	2,432	13.5	1,519	8.5
New Jersey	24,317	314.3	17,990	232.5	4,111	53.1	2,120	27.4	949	12.3	503	6.5
Pennsylvania	45,086	374.5	29,211	242.6	7,729	64.2	4,439	36.9	1,984	16.5	1,451	12.1
East North Central	132,164	312.5	86,660	204.9	25,380	60.0	14,762	34.9	7,364	17.4	4,726	11.2
Ohio	35,357	324.2	23,218	212.9	6,277	57.6	3,638	33.4	1,769	16.2	1,235	11.3
Indiana	17,112	306.0	11,361	203.1	3,798	67.9	2,054	36.7	1,034	18.5	678	12.1
Illinois	36,709	314.9	23,929	205.3	6,865	58.9	4,081	35.0	1,932	16.6	1,171	10.0
Michigan	28,098	303.0	18,337	197.7	5,198	56.1	3,277	35.3	1,773	19.1	1,045	11.3
Wisconsin	14,888	305.9	9,815	201.7	3,242	66.6	1,712	35.2	856	17.6	597	12.3
West North Central	55,401	310.4	36,948	207.0	12,141	68.0	6,988	39.1	3,331	18.7	2,114	11.8
Minnesota	10,879	249.9	8,018	184.2	2,846	65.4	1,540	35.4	676	15.5	515	11.8
Iowa	9,681	340.9	6,187	217.9	2,142	75.4	1,147	40.4	551	19.4	315	11.1
Missouri	17,704	343.2	11,623	225.3	3,460	67.1	2,165	42.0	1,068	20.7	665	12.9
North Dakota	1,874	283.9	1,357	205.6	403	61.1	222	33.6	101	15.3	70	10.6
South Dakota	2,401	335.8	1,444	202.0	511	71.5	328	45.9	161	22.5	90	12.6
Nebraska	5,128	318.3	3,308	205.3	1,157	71.8	612	38.0	312	19.4	174	10.8
Kansas	7,734	307.8	5,011	199.4	1,622	64.5	974	38.8	462	18.4	285	11.3
South Atlantic	130,746	303.2	91,473	212.2	26,790	62.1	18,368	42.6	9,651	22.4	5,942	13.8
Delaware	1,961	291.4	1,429	212.3	323	48.0	250	37.1	119	17.7	95	14.1
Maryland	12,108	257.9	9,498	202.3	2,284	48.7	1,413	30.1	737	15.7	525	11.2
District of Columbia	1,973	326.7	1,703	282.0	446	73.8	221	36.6	86	14.2	51	8.4
Virginia	15,778	258.7	11,262	184.7	3,319	54.4	2,216	36.3	1,015	16.6	814	13.3
West Virginia	7,332	394.8	4,380	235.9	1,178	63.4	893	48.1	480	25.8	231	12.4
North Carolina	18,980	288.8	12,976	197.5	4,613	70.2	3,176	48.3	1,589	24.2	871	13.3
South Carolina	9,556	272.1	6,495	184.9	2,462	70.1	1,850	52.7	950	27.1	424	12.1
Georgia	16,754	260.3	11,150	173.2	3,755	58.3	3,018	46.9	1,681	26.1	855	13.3
Florida	46,304	365.4	32,580	257.1	8,410	66.4	5,331	42.1	2,994	23.6	2,076	16.4
East South Central	50,529	328.0	32,285	209.6	10,825	70.3	7,813	50.7	3,890	25.2	1,954	12.7
Kentucky	12,253	328.8	8,257	221.5	2,513	67.4	1,722	46.2	811	21.8	482	12.9
Tennessee	15,467	313.1	10,151	205.5	3,550	71.9	2,339	47.3	1,140	23.1	652	13.2
Alabama	13,182	320.1	8,608	209.0	2,869	69.7	2,208	53.6	1,136	27.6	506	12.3
Mississippi	9,627	367.3	5,269	201.0	1,893	72.2	1,544	58.9	803	30.6	314	12.0
West South Central	72,080	266.9	48,129	178.2	15,169	56.2	11,209	41.5	5,771	21.4	3,330	12.3
Arkansas	8,341	346.7	5,526	229.7	2,035	84.6	1,293	53.7	666	27.7	246	10.2
Louisiana	12,754	291.1	8,508	194.2	2,472	56.4	1,913	43.7	909	20.7	542	12.4
Oklahoma	10,698	331.8	6,681	207.2	2,282	70.8	1,335	41.4	672	20.8	416	12.9
Texas	40,287	237.1	27,414	161.3	8,380	49.3	6,668	39.2	3,524	20.7	2,126	12.5
Mountain	28,665	212.1	21,354	158.0	5,792	42.9	5,631	41.7	3,043	22.5	2,389	17.7
Montana	2,041	253.2	1,578	195.8	431	53.5	359	44.5	172	21.3	161	20.0
Idaho	2,315	228.3	1,672	164.9	577	56.9	480	47.3	248	24.5	160	15.8
Wyoming	968	203.8	754	158.7	170	35.8	211	44.4	114	24.0	82	17.3
Colorado	6,102	184.0	4,705	141.8	1,322	39.9	1,103	33.3	568	17.1	549	16.6
New Mexico	3,014	197.3	2,249	147.2	563	36.8	815	53.3	490	32.1	298	19.5
Arizona	8,768	246.6	6,458	181.6	1,641	46.1	1,631	45.9	861	24.2	671	18.9
Utah	2,728	159.8	1,858	108.8	638	37.4	554	32.5	312	18.3	211	12.4
Nevada	2,729	245.6	2,080	187.2	450	40.5	478	43.0	278	25.0	257	23.1

Table 15. Deaths and death rates for major causes of death for the United States, each division, and State; and by race and sex for the United States, 1989—Con.

[Rates per 100,000 population in each race-sex group and area. Numbers after causes of death are category numbers of the *Ninth Revision International Classification of Diseases, 1975*]

Race, sex, and area	Diseases of heart (390–398,402, 404–429)		Malignant neoplasms, including neoplasms of lymphatic and hematopoietic tissues (140–208)		Cerebrovascular diseases (430–438)		Accidents and adverse effects (E800–E949)		Motor vehicle accidents (E810–E825)		Suicide (E950–E959)	
	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate
	Pacific	90,867	237.4	64,718	169.1	21,054	55.0	14,412	37.6	7,363	19.2	5,020	13.1
Washington	11,199	235.2	8,718	183.1	2,686	56.4	1,703	35.8	859	18.0	648	13.6
Oregon	7,588	269.1	5,821	206.4	2,025	71.8	1,248	44.3	641	22.7	470	16.7
California	69,610	239.5	48,165	165.7	15,755	54.2	10,787	37.1	5,626	19.4	3,704	12.7
Alaska	476	90.3	440	83.5	97	18.4	372	70.6	93	17.6	89	16.9
Hawaii	1,994	179.3	1,574	141.5	491	44.2	302	27.2	144	12.9	109	9.8

Table 16. Deaths by age according to specified Hispanic origin, race for non-Hispanic origin, and sex: Total of 44 reporting States and the District of Columbia, 1989

[For a listing of reporting States, see Technical notes]

<i>Hispanic origin, race for non-Hispanic origin, and sex</i>	<i>Total</i>	<i>Under 1 year</i>	<i>1-4 years</i>	<i>5-14 years</i>	<i>15-24 years</i>	<i>25-34 years</i>	<i>35-44 years</i>	<i>45-54 years</i>	<i>55-64 years</i>	<i>65-74 years</i>	<i>75-84 years</i>	<i>85 years and over</i>	<i>Not stated</i>
All origins	1,960,745	36,065	6,617	8,115	33,042	54,929	73,608	107,167	235,406	437,745	547,890	419,666	495
Male	1,016,507	20,363	3,720	4,929	24,549	40,135	50,534	67,839	144,536	253,487	268,113	137,942	360
Female	944,238	15,702	2,897	3,186	8,493	14,794	23,074	39,328	90,870	184,258	279,777	281,724	135
Hispanic	76,379	4,440	913	872	4,291	6,666	6,517	6,380	9,873	12,820	14,103	9,439	65
Male	45,975	2,462	508	538	3,485	5,307	4,961	4,353	6,088	7,280	7,074	3,859	60
Female	30,404	1,978	405	334	806	1,359	1,556	2,027	3,785	5,540	7,029	5,580	5
Mexican	37,885	2,582	557	547	2,548	3,086	2,699	2,894	5,022	6,479	6,864	4,575	32
Male	22,967	1,451	311	336	2,112	2,544	2,010	1,943	3,091	3,720	3,493	1,928	28
Female	14,918	1,131	246	211	436	542	689	951	1,931	2,759	3,371	2,647	4
Puerto Rican	10,174	500	105	112	507	1,203	1,462	1,177	1,435	1,507	1,392	772	2
Male	6,275	259	59	65	386	900	1,144	815	908	833	643	262	1
Female	3,899	241	46	47	121	303	318	362	527	674	749	510	1
Cuban	7,388	79	12	13	82	280	366	550	992	1,476	2,142	1,395	1
Male	4,174	39	6	9	62	248	310	396	646	876	1,070	511	1
Female	3,214	40	6	4	20	32	56	154	346	600	1,072	884	-
Central and South American	5,031	298	65	51	450	709	608	519	588	722	628	391	2
Male	2,986	155	37	29	377	567	451	331	318	327	268	124	2
Female	2,045	143	28	22	73	142	157	188	270	395	360	267	-
Other and unknown Hispanic	15,901	981	174	149	704	1,388	1,382	1,240	1,836	2,636	3,077	2,306	28
Male	9,573	558	95	99	548	1,048	1,046	868	1,125	1,524	1,600	1,034	28
Female	6,328	423	79	50	156	340	336	372	711	1,112	1,477	1,272	-
Non-Hispanic ¹	1,864,732	30,674	5,635	7,162	28,308	47,307	65,887	99,379	223,014	421,048	529,350	406,746	222
Male	959,297	17,372	3,171	4,341	20,722	34,107	44,660	62,491	136,708	243,836	258,815	132,938	136
Female	905,435	13,302	2,464	2,821	7,586	13,200	21,227	36,888	86,306	177,212	270,535	273,808	86
White	1,612,878	19,053	3,814	5,205	20,475	32,983	47,212	76,767	185,085	367,810	478,024	376,308	142
Male	820,893	10,983	2,158	3,171	14,729	24,120	32,193	48,387	114,462	214,430	234,282	121,891	87
Female	791,985	8,070	1,656	2,034	5,746	8,863	15,019	28,380	70,623	153,380	243,742	254,417	55
Black	225,626	10,457	1,526	1,646	6,820	12,983	16,967	20,321	34,238	48,041	45,788	26,769	70
Male	123,074	5,725	852	1,000	5,244	9,065	11,395	12,738	20,080	26,341	21,279	9,314	41
Female	102,552	4,732	674	646	1,576	3,918	5,572	7,583	14,158	21,700	24,509	17,455	29
Not stated ²	19,634	951	69	81	443	956	1,204	1,408	2,519	3,877	4,437	3,481	208
Male	11,235	529	41	50	342	721	913	995	1,740	2,371	2,224	1,145	164
Female	8,399	422	28	31	101	235	291	413	779	1,506	2,213	2,336	44

¹Includes races other than white and black.

²Includes deaths that occurred in States that did not report Hispanic origin on the death certificate.

Table 17. Deaths for the 10 leading causes of death for Hispanic and white non-Hispanic origin, for specified age groups: Total of 44 reporting States and the District of Columbia, 1989

[For explanation of asterisk preceding cause-of-death codes, see Technical notes. For a listing of reporting States, see Technical notes]

Hispanic			White non-Hispanic		
Rank order	Cause of death and age (Ninth Revision International Classification of Diseases, 1975)	Number	Rank order	Cause of death and age (Ninth Revision International Classification of Diseases, 1975)	Number
All ages ¹			All ages ¹		
...	All causes	76,379	...	All causes	1,612,878
1	Diseases of heart.390-398,402,404-429	19,054	1	Diseases of heart.390-398,402,404-429	572,231
2	Malignant neoplasms, including neoplasms of lymphatic and hematopoietic tissues.140-208	13,366	2	Malignant neoplasms, including neoplasms of lymphatic and hematopoietic tissues.140-208	381,088
3	Accidents and adverse effectsE800-E949	7,062	3	Cerebrovascular diseases430-438	110,903
...	Motor vehicle accidentsE810-E825	4,141	4	Chronic obstructive pulmonary diseases and allied conditions490-496	69,620
...	All other accidents and adverse effectsE800-E807,E826-E949	2,921	5	Accidents and adverse effectsE800-E949	65,008
4	Cerebrovascular diseases430-438	3,801	...	Motor vehicle accidentsE810-E825	32,939
5	Homicide and legal interventionE960-E978	3,448	...	All other accidents and adverse effectsE800-E807,E826-E949	32,069
6	Human immunodeficiency virus infection*042-*044	3,099	6	Pneumonia and influenza.480-487	59,672
7	Diabetes mellitus250	2,450	7	Diabetes mellitus250	32,449
8	Pneumonia and influenza480-487	2,342	8	Suicide.E950-E959	23,351
9	Chronic liver disease and cirrhosis571	2,290	9	Chronic liver disease and cirrhosis571	18,192
10	Certain conditions originating in the perinatal period760-779	2,006	10	Atherosclerosis.440	15,753
...	All other causesResidual	17,461	...	All other causesResidual	264,611
1-14 years			1-14 years		
...	All causes	1,785	...	All causes	9,019
1	Accidents and adverse effectsE800-E949	706	1	Accidents and adverse effectsE800-E949	4,008
...	Motor vehicle accidentsE810-E825	385	...	Motor vehicle accidentsE810-E825	2,026
...	All other accidents and adverse effectsE800-E807,E826-E949	321	...	All other accidents and adverse effectsE800-E807,E826-E949	1,982
2	Malignant neoplasms, including neoplasms of lymphatic and hematopoietic tissues140-208	189	2	Malignant neoplasms, including neoplasms of lymphatic and hematopoietic tissues140-208	1,032
3	Congenital anomalies740-759	168	3	Congenital anomalies740-759	833
4	Homicide and legal interventionE960-E978	109	4	Homicide and legal interventionE960-E978	319
5	Diseases of heart.390-398,402,404-429	56	5	Diseases of heart.390-398,402,404-429	277
6	Pneumonia and influenza480-487	40	6	Pneumonia and influenza480-487	177
7	Human immunodeficiency virus infection*042-*044	37	7	Suicide.E950-E959	168
8	Suicide.E950-E959	17	8	Benign neoplasms, carcinoma in situ, and neoplasms of uncertain behavior and of unspecified nature210-239	91
9	Meningococcal infection036	16	9	Chronic obstructive pulmonary diseases and allied conditions490-496	76
9	Benign neoplasms, carcinoma in situ, and neoplasms of uncertain behavior and of unspecified nature210-239	16	9	Certain conditions originating in the perinatal period760-779	76
9	Certain conditions originating in the perinatal period760-779	16	...	All other causesResidual	1,962
...	All other causesResidual	415			
15-24 years			15-24 years		
...	All causes	4,291	...	All causes	20,475
1	Accidents and adverse effectsE800-E949	1,816	1	Accidents and adverse effectsE800-E949	11,182
...	Motor vehicle accidents.E810-E825	1,352	...	Motor vehicle accidentsE810-E825	8,940
...	All other accidents and adverse effectsE800-E807,E826-E949	464	...	All other accidents and adverse effectsE800-E807,E826-E949	2,242
2	Homicide and legal interventionE960-E978	1,131	2	Suicide.E950-E959	3,360
3	Suicide.E950-E959	404	3	Homicide and legal interventionE960-E978	1,192
4	Malignant neoplasms, including neoplasms of lymphatic and hematopoietic tissues140-208	191	4	Malignant neoplasms, including neoplasms of lymphatic and hematopoietic tissues140-208	1,155
5	Human immunodeficiency virus infection*042-*044	109	5	Diseases of heart.390-398,402,404-429	485
6	Diseases of heart.390-398,402,404-429	86	6	Congenital anomalies740-759	318
7	Pneumonia and influenza480-487	26	7	Human immunodeficiency virus infection*042-*044	239
8	Cerebrovascular diseases430-438	24	8	Pneumonia and influenza480-487	138
8	Congenital anomalies740-759	24	9	Cerebrovascular diseases430-438	124
10	Diabetes mellitus250	14	10	Chronic obstructive pulmonary diseases and allied conditions490-496	85
...	All other causesResidual	466	...	All other causesResidual	2,197

See footnote at end of table.

Table 17. Deaths for the 10 leading causes of death for Hispanic and white non-Hispanic origin, for specified age groups: Total of 44 reporting States and the District of Columbia, 1989—Con.

[For explanation of asterisk preceding cause-of-death codes, see Technical notes. For a listing of reporting States, see Technical notes]

Hispanic			White non-Hispanic		
Rank order	Cause of death and age (Ninth Revision International Classification of Diseases, 1975)	Number	Rank order	Cause of death and age (Ninth Revision International Classification of Diseases, 1975)	Number
25–44 years			25–44 years		
...	All causes	13,183	...	All causes	80,195
1	Accidents and adverse effectsE800–E949	2,779	1	Accidents and adverse effectsE800–E949	18,245
...	Motor vehicle accidentsE810–E825	1,581	...	Motor vehicle accidentsE810–E825	10,983
...	All other accidents and adverse effectsE800–E807,E826–E949	1,198	...	All other accidents and adverse effectsE800–E807,E826–E949	7,262
2	Human immunodeficiency virus infection*042–*044	2,364	2	Malignant neoplasms, including neoplasms of lymphatic and hematopoietic tissues140–208	14,061
3	Homicide and legal interventionE960–E978	1,768	3	Diseases of heart390–398,402,404–429	9,007
4	Malignant neoplasms, including neoplasms of lymphatic and hematopoietic tissues140–208	1,169	4	SuicideE950–E959	8,802
5	Diseases of heart390–398,402,404–429	829	5	Human immunodeficiency virus infection*042–*044	8,077
6	SuicideE950–E959	707	6	Homicide and legal interventionE960–E978	3,282
7	Chronic liver disease and cirrhosis571	564	7	Chronic liver disease and cirrhosis571	2,394
8	Cerebrovascular diseases430–438	275	8	Cerebrovascular diseases430–438	1,593
9	Pneumonia and influenza480–487	190	9	Diabetes mellitus250	1,344
10	Diabetes mellitus250	130	10	Pneumonia and influenza480–487	1,055
...	All other causesResidual	2,408	...	All other causesResidual	12,335
45–64 years			45–64 years		
...	All causes	16,253	...	All causes	261,852
1	Malignant neoplasms, including neoplasms of lymphatic and hematopoietic tissues140–208	4,284	1	Malignant neoplasms, including neoplasms of lymphatic and hematopoietic tissues140–208	98,837
2	Diseases of heart390–398,402,404–429	4,202	2	Diseases of heart390–398,402,404–429	78,040
3	Chronic liver disease and cirrhosis571	1,088	3	Accidents and adverse effectsE800–E949	10,102
4	Accidents and adverse effectsE800–E949	913	...	Motor vehicle accidentsE810–E825	5,078
...	Motor vehicle accidentsE810–E825	501	...	All other accidents and adverse effectsE800–E807,E826–E949	5,024
...	All other accidents and adverse effectsE800–E807,E826–E949	412	3	Chronic obstructive pulmonary diseases and allied conditions490–496	10,102
5	Cerebrovascular diseases430–438	800	5	Cerebrovascular diseases430–438	8,991
6	Diabetes mellitus250	709	6	Chronic liver disease and cirrhosis571	7,526
7	Human immunodeficiency virus infection*042–*044	526	7	Diabetes mellitus250	5,811
8	Pneumonia and influenza480–487	332	8	SuicideE950–E959	5,687
9	Homicide and legal interventionE960–E978	325	9	Pneumonia and influenza480–487	3,474
10	Chronic obstructive pulmonary diseases and allied conditions490–496	301	10	Human immunodeficiency virus infection*042–*044	2,596
...	All other causesResidual	2,773	...	All other causesResidual	30,686
65 years and over			65 years and over		
...	All causes	36,362	...	All causes	1,222,142
1	Diseases of heart390–398,402,404–429	13,800	1	Diseases of heart390–398,402,404–429	484,002
2	Malignant neoplasms, including neoplasms of lymphatic and hematopoietic tissues140–208	7,520	2	Malignant neoplasms, including neoplasms of lymphatic and hematopoietic tissues140–208	265,925
3	Cerebrovascular diseases430–438	2,672	3	Cerebrovascular diseases430–438	100,065
4	Pneumonia and influenza480–487	1,670	4	Chronic obstructive pulmonary diseases and allied conditions490–496	58,865
5	Diabetes mellitus250	1,591	5	Pneumonia and influenza480–487	54,538
6	Chronic obstructive pulmonary disease and allied conditions490–496	1,256	6	Diabetes mellitus250	25,193
7	Accidents and adverse effectsE800–E949	711	7	Accidents and adverse effectsE800–E949	20,966
...	Motor vehicle accidentsE810–E825	279	...	Motor vehicle accidentsE810–E825	5,783
...	All other accidents and adverse effectsE800–E807,E826–E949	432	...	All other accidents and adverse effectsE800–E807,E826–E949	15,183
8	Chronic liver disease and cirrhosis571	619	8	Atherosclerosis440	15,080
9	Nephritis, nephrotic syndrome, and nephrosis580–589	549	9	Nephritis, nephrotic syndrome, and nephrosis580–589	12,467
10	Septicemia038	428	10	Septicemia038	10,942
...	All other causesResidual	5,546	...	All other causesResidual	174,099

¹Includes deaths under 1 year of age.

Table 18. Deaths and age-adjusted death rates for drug-induced causes, by race and sex: United States, 1979–89

[Rates per 100,000 population in specified group. For listing of drug-induced causes, see Technical notes]

Year	All races						All other					
	Both sexes			White			Total			Black		
	Both sexes	Male	Female	Both sexes	Male	Female	Both sexes	Male	Female	Both sexes	Male	Female
	Number											
1989	10,710	6,895	3,815	8,336	5,249	3,087	2,374	1,646	728	2,236	1,570	666
1988	10,917	7,004	3,913	8,409	5,234	3,175	2,508	1,770	738	2,395	1,700	695
1987	9,796	6,146	3,650	7,547	4,600	2,947	2,249	1,546	703	2,101	1,465	636
1986	9,976	6,284	3,692	7,948	4,885	3,063	2,028	1,399	629	1,906	1,335	571
1985	8,663	5,342	3,321	6,946	4,172	2,774	1,717	1,170	547	1,600	1,107	493
1984	7,892	4,640	3,252	6,309	3,587	2,722	1,583	1,053	530	1,480	997	483
1983	7,492	4,145	3,347	6,187	3,378	2,809	1,305	767	538	1,194	724	470
1982	7,310	4,130	3,180	5,991	3,251	2,740	1,319	879	440	1,212	822	390
1981	7,106	3,835	3,271	5,863	3,042	2,821	1,243	793	450	1,152	751	401
1980	6,900	3,771	3,129	5,814	3,088	2,726	1,086	683	403	1,006	648	358
1979	7,101	3,656	3,445	6,116	3,077	3,039	985	579	406	897	540	357
	Age-adjusted death rate ¹											
1989	4.1	5.4	2.8	3.7	4.8	2.6	6.1	9.1	3.4	7.4	11.4	4.1
1988	4.2	5.6	2.9	3.8	4.8	2.7	6.7	10.2	3.6	8.2	12.9	4.3
1987	3.8	4.9	2.7	3.4	4.3	2.5	6.1	9.1	3.5	7.4	11.3	4.1
1986	3.9	5.1	2.8	3.7	4.6	2.7	5.7	8.5	3.2	6.8	10.5	3.7
1985	3.5	4.5	2.6	3.2	4.0	2.5	4.9	7.3	2.9	5.8	8.9	3.3
1984	3.2	3.9	2.5	3.0	3.5	2.5	4.7	6.7	2.9	5.5	8.2	3.2
1983	3.1	3.5	2.6	2.9	3.3	2.5	3.9	5.1	3.0	4.5	6.1	3.3
1982	3.1	3.6	2.6	2.9	3.3	2.5	4.1	5.8	2.6	4.7	6.9	2.8
1981	3.1	3.4	2.7	2.9	3.1	2.7	4.1	5.6	2.7	4.6	6.6	3.0
1980	3.0	3.4	2.6	2.9	3.2	2.6	3.7	4.9	2.5	4.1	5.8	2.7
1979	3.1	3.4	2.9	3.1	3.2	3.0	3.4	4.3	2.6	3.7	4.9	2.7

¹For method of computation, see Technical notes.

Table 19. Deaths and age-adjusted death rates for alcohol-induced causes, by race and sex: United States, 1979–89

[Rates per 100,000 population in specified group. For listing of alcohol-induced causes, see Technical notes]

Year	All races						All other					
	Both sexes			White			Total			Black		
	Both sexes	Male	Female	Both sexes	Male	Female	Both sexes	Male	Female	Both sexes	Male	Female
	Number											
1989	19,810	14,960	4,850	14,832	11,307	3,525	4,978	3,653	1,325	4,400	3,263	1,137
1988	18,872	14,206	4,666	14,035	10,681	3,354	4,837	3,525	1,312	4,294	3,159	1,135
1987	17,819	13,461	4,358	13,361	10,172	3,189	4,458	3,289	1,169	4,055	3,028	1,027
1986	17,425	12,986	4,439	13,198	9,864	3,334	4,227	3,122	1,105	3,853	2,862	991
1985	17,741	13,216	4,525	13,216	9,922	3,294	4,525	3,294	1,231	4,114	3,030	1,084
1984	17,606	12,995	4,611	13,364	9,986	3,398	4,222	3,009	1,213	3,776	2,710	1,066
1983	17,400	12,812	4,588	13,288	9,863	3,425	4,112	2,949	1,163	3,708	2,668	1,040
1982	17,541	12,903	4,638	13,527	10,042	3,485	4,014	2,861	1,153	3,603	2,573	1,030
1981	18,660	13,600	5,060	14,199	10,441	3,758	4,461	3,159	1,302	4,000	2,858	1,142
1980	19,765	14,447	5,318	14,815	10,936	3,879	4,950	3,511	1,439	4,451	3,170	1,281
1979	18,951	13,788	5,163	14,334	10,513	3,821	4,617	3,275	1,342	4,132	2,953	1,179
	Age-adjusted death rate ¹											
1989	7.2	11.5	3.4	6.1	9.8	2.8	14.1	22.9	6.9	16.2	26.8	7.6
1988	7.0	11.1	3.3	5.9	9.4	2.7	14.2	22.8	7.0	16.2	26.6	7.7
1987	6.8	10.8	3.1	5.7	9.1	2.6	13.4	21.9	6.4	15.6	26.0	7.2
1986	6.7	10.5	3.2	5.7	8.9	2.7	13.0	21.4	6.2	15.1	25.0	7.0
1985	6.9	10.9	3.4	5.8	9.1	2.8	14.5	23.3	7.2	16.6	27.2	7.9
1984	7.0	10.8	3.4	5.9	9.3	2.9	13.9	22.1	7.3	15.6	25.0	7.9
1983	7.0	10.8	3.5	5.9	9.3	2.9	14.0	22.3	7.2	15.6	25.1	8.0
1982	7.2	11.2	3.6	6.1	9.7	3.0	14.2	22.6	7.4	15.7	25.3	8.1
1981	7.8	12.0	4.0	6.5	10.2	3.3	16.4	25.8	8.8	17.9	28.7	9.3
1980	8.4	13.0	4.3	6.9	10.8	3.5	18.8	29.5	10.0	20.4	32.4	10.6
1979	8.2	12.6	4.3	6.8	10.6	3.5	18.1	28.3	9.7	19.2	30.4	10.1

¹For method of computation, see Technical notes.

Table 20. Deaths and percent distribution of deaths for ages 15 years and over, by marital status, race, and sex: United States, 1989

Marital status	All races			White			All other					
	Both sexes	Male	Female	Both sexes	Male	Female	Total			Black		
							Both sexes	Male	Female	Both sexes	Male	Female
Number ¹												
Total	2,094,043	1,081,890	1,012,153	1,815,876	928,826	887,050	278,167	153,064	125,103	251,198	137,253	113,945
Never married	214,392	132,593	81,799	166,528	99,078	67,450	47,864	33,515	14,349	44,465	30,919	13,546
Ever married	1,858,942	934,703	924,239	1,633,530	818,717	814,813	225,412	115,986	109,426	202,425	103,219	99,206
Married	915,028	643,345	271,683	810,064	570,829	239,235	104,964	72,516	32,448	91,500	63,192	28,308
Widowed	772,985	192,338	580,647	681,697	166,383	515,314	91,288	25,955	65,333	83,812	23,804	60,008
Divorced	170,929	99,020	71,909	141,769	81,505	60,264	29,160	17,515	11,645	27,113	16,223	10,890
Not stated	20,709	14,594	6,115	15,818	11,031	4,787	4,891	3,563	1,328	4,308	3,115	1,193
Percent distribution ²												
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Never married	10.3	12.4	8.1	9.3	10.8	7.6	17.5	22.4	11.6	18.0	23.1	12.0
Ever married	89.7	87.6	91.9	90.7	89.2	92.4	82.5	77.6	88.4	82.0	76.9	88.0
Married	44.1	60.3	27.0	45.0	62.2	27.1	38.4	48.5	26.2	37.1	47.1	25.1
Widowed	37.3	18.0	57.7	37.9	18.1	58.4	33.4	17.4	52.8	33.9	17.7	53.2
Divorced	8.2	9.3	7.1	7.9	8.9	6.8	10.7	11.7	9.4	11.0	12.1	9.7

¹Excludes figures for age not stated.²Denominators of percent distribution exclude deaths of persons of unknown marital status.

Table 21. Deaths and percent distribution of deaths for ages 15 years and over, by educational attainment, race, and sex: Total of 21 reporting States, 1989

Years of school completed	All races			White			All other					
	Both sexes	Male	Female	Both sexes	Male	Female	Total			Black		
							Both sexes	Male	Female	Both sexes	Male	Female
Number ¹												
Total	837,945	436,504	401,441	744,837	384,416	360,421	93,108	52,088	41,020	75,417	41,764	33,653
0-8 years	212,522	107,404	105,118	184,649	92,549	92,100	27,873	14,855	13,018	22,548	12,186	10,362
9-11 years	100,431	57,223	43,208	85,193	48,412	36,781	15,238	8,811	6,427	13,266	7,616	5,650
12 years	287,638	142,662	144,976	260,266	127,088	133,178	27,372	15,574	11,798	22,447	12,624	9,823
13-15 years	98,509	51,014	47,495	90,420	46,467	43,953	8,089	4,547	3,542	6,334	3,437	2,897
16 years or more	87,741	52,605	35,136	81,762	49,137	32,625	5,979	3,468	2,511	3,819	1,944	1,875
Not stated	51,104	25,596	25,508	42,547	20,763	21,784	8,557	4,833	3,724	7,003	3,957	3,046
Percent distribution ²												
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
0-8 years	27.0	26.1	28.0	26.3	25.4	27.2	33.0	31.4	34.9	33.0	32.2	33.9
9-11 years	12.8	13.9	11.5	12.1	13.3	10.9	18.0	18.6	17.2	19.4	20.1	18.5
12 years	36.6	34.7	38.6	37.1	34.9	39.3	32.4	33.0	31.6	32.8	33.4	32.1
13-15 years	12.5	12.4	12.6	12.9	12.8	13.0	9.6	9.6	9.5	9.3	9.1	9.5
16 years or more	11.2	12.8	9.3	11.6	13.5	9.6	7.1	7.3	6.7	5.6	5.1	6.1

¹Excludes figures for age not stated.²Denominators of percent distribution exclude deaths of persons of unknown educational attainment.

Table 22. Infant, neonatal, and postneonatal mortality rates, by race and sex: United States, 1940, 1950, 1960, 1970, and 1975–89

[Rates are infant (under 1 year), neonatal (under 28 days), and postneonatal (28 days–11 months) deaths per 1,000 live births in specified group. Beginning in 1989, race for live births is tabulated according to race of mother; see Technical notes]

Year	All other											
	All races			White			Total			Black		
	Both sexes	Male	Female	Both sexes	Male	Female	Both sexes	Male	Female	Both sexes	Male	Female
Infant mortality rate												
1989	9.8	10.8	8.8	8.1	9.0	7.1	16.3	17.6	15.0	18.6	20.0	17.2
Race of mother ¹												
Race of child ²												
1989	9.8	10.8	8.8	8.2	9.2	7.2	15.2	16.4	14.0	17.7	19.0	16.3
1988	10.0	11.0	8.9	8.5	9.5	7.4	15.0	16.2	13.8	17.6	19.0	16.1
1987	10.1	11.2	8.9	8.6	9.6	7.6	15.4	16.9	13.9	17.9	19.6	16.0
1986	10.4	11.5	9.1	8.9	10.0	7.8	15.7	17.3	14.0	18.0	20.0	16.0
1985	10.6	11.9	9.3	9.3	10.6	8.0	15.8	17.2	14.4	18.2	19.9	16.5
1984	10.8	11.9	9.6	9.4	10.5	8.3	16.1	17.3	14.8	18.4	19.8	16.9
1983	11.2	12.3	10.0	9.7	10.8	8.6	16.8	18.3	15.2	19.2	21.1	17.2
1982	11.5	12.8	10.2	10.1	11.2	8.9	17.3	18.9	15.5	19.6	21.5	17.7
1981	11.9	13.1	10.7	10.5	11.7	9.2	17.8	19.2	16.3	20.0	21.7	18.3
1980	12.6	13.9	11.2	11.0	12.3	9.6	19.1	20.7	17.5	21.4	23.3	19.4
1979	13.1	14.5	11.6	11.4	12.8	9.9	19.8	21.5	18.1	21.8	23.7	19.8
1978	13.8	15.3	12.2	12.0	13.4	10.6	21.1	23.1	18.9	23.1	25.4	20.8
1977	14.1	15.8	12.4	12.3	13.9	10.7	21.7	23.7	19.6	23.6	25.9	21.3
1976	15.2	16.8	13.6	13.3	14.8	11.7	23.5	25.5	21.4	25.5	27.8	23.2
1975	16.1	17.9	14.2	14.2	15.9	12.3	24.2	26.2	22.2	26.2	28.3	24.0
1970	20.0	22.4	17.5	17.8	20.0	15.4	30.9	34.2	27.5	32.6	36.2	29.0
1960	26.0	29.3	22.6	22.9	26.0	19.6	43.2	47.9	38.5	44.3	49.1	39.4
1950	29.2	32.8	25.5	26.8	30.2	23.1	44.5	48.9	39.9	43.9	48.3	39.4
1940	47.0	52.5	41.3	43.2	48.3	37.8	73.8	82.2	65.2	72.9	81.1	64.6
Neonatal mortality rate												
1989	6.2	6.8	5.6	5.1	5.7	4.6	10.3	11.1	9.5	11.9	12.8	11.0
Race of mother ¹												
Race of child ²												
1989	6.2	6.8	5.6	5.2	5.8	4.7	9.6	10.3	8.9	11.3	12.2	10.4
1988	6.3	6.9	5.7	5.4	5.9	4.8	9.7	10.5	8.8	11.5	12.5	10.4
1987	6.5	7.1	5.8	5.5	6.1	4.9	10.0	11.0	9.0	11.7	12.9	10.5
1986	6.7	7.4	6.0	5.8	6.4	5.1	10.1	11.1	9.1	11.7	13.0	10.5
1985	7.0	7.8	6.1	6.1	6.9	5.3	10.3	11.3	9.4	12.1	13.2	10.9
1984	7.0	7.7	6.3	6.2	6.8	5.5	10.2	11.0	9.5	11.8	12.7	10.9
1983	7.3	8.0	6.5	6.4	7.1	5.7	10.8	11.7	9.7	12.4	13.6	11.2
1982	7.7	8.5	6.9	6.8	7.5	6.0	11.3	12.4	10.3	13.1	14.3	11.8
1981	8.0	8.8	7.2	7.1	7.8	6.3	11.8	12.8	10.9	13.4	14.6	12.3
1980	8.5	9.3	7.6	7.5	8.3	6.6	12.5	13.5	11.5	14.1	15.3	12.8
1979	8.9	9.8	7.9	7.9	8.8	6.9	12.9	13.9	11.8	14.3	15.5	13.1
1978	9.5	10.5	8.4	8.4	9.3	7.4	14.0	15.5	12.4	15.5	17.2	13.7
1977	9.9	11.0	8.7	8.7	9.8	7.6	14.7	16.0	13.3	16.1	17.6	14.5
1976	10.9	12.0	9.7	9.7	10.7	8.5	16.3	17.7	14.9	17.9	19.5	16.3
1975	11.6	12.9	10.2	10.4	11.7	9.0	16.8	18.2	15.3	18.3	19.8	16.8
1970	15.1	17.0	13.1	13.8	15.5	11.9	21.4	23.9	18.9	22.8	25.4	20.1
1960	18.7	21.2	16.1	17.2	19.7	14.7	26.9	30.0	23.6	27.8	31.1	24.5
1950	20.5	23.3	17.5	19.4	22.2	16.4	27.5	30.8	24.2	27.8	31.1	24.4
1940	28.8	32.6	24.7	27.2	30.9	23.3	39.7	44.9	34.5	39.9	44.8	34.9
Postneonatal mortality rate												
1989	3.6	4.0	3.1	2.9	3.4	2.5	6.0	6.5	5.5	6.7	7.2	6.2
Race of mother ¹												
Race of child ²												
1989	3.6	4.0	3.1	3.0	3.4	2.5	5.6	6.1	5.2	6.4	6.8	5.9
1988	3.6	4.0	3.2	3.1	3.6	2.7	5.4	5.7	5.0	6.2	6.6	5.8
1987	3.6	4.1	3.2	3.1	3.6	2.7	5.4	5.9	4.9	6.1	6.8	5.5
1986	3.6	4.1	3.1	3.1	3.6	2.7	5.6	6.2	4.9	6.3	7.0	5.6
1985	3.7	4.2	3.2	3.2	3.7	2.7	5.5	6.0	5.0	6.1	6.7	5.6
1984	3.8	4.2	3.3	3.3	3.7	2.8	5.8	6.3	5.3	6.5	7.1	5.9
1983	3.9	4.3	3.4	3.3	3.7	2.9	6.0	6.6	5.4	6.8	7.4	6.1
1982	3.8	4.3	3.3	3.3	3.7	2.8	5.9	6.5	5.3	6.6	7.3	5.9
1981	3.9	4.3	3.5	3.4	3.8	3.0	6.0	6.5	5.4	6.6	7.1	6.0
1980	4.1	4.6	3.6	3.5	4.0	3.0	6.6	7.2	6.0	7.3	7.9	6.6
1979	4.2	4.7	3.7	3.5	4.0	3.0	6.9	7.6	6.3	7.5	8.2	6.7
1978	4.3	4.7	3.9	3.6	4.0	3.2	7.0	7.6	6.5	7.6	8.2	7.0
1977	4.2	4.8	3.7	3.6	4.1	3.1	7.0	7.7	6.3	7.6	8.3	6.8
1976	4.3	4.8	3.8	3.6	4.1	3.2	7.2	7.8	6.5	7.6	8.4	6.9
1975	4.5	4.9	4.0	3.8	4.2	3.3	7.5	8.0	6.9	7.9	8.5	7.2
1970	4.9	5.4	4.4	4.0	4.4	3.5	9.5	10.3	8.6	9.9	10.8	8.9
1960	7.3	8.1	6.5	5.7	6.3	4.9	16.4	17.8	14.8	16.5	18.0	14.9
1950	8.7	9.4	8.0	7.4	8.0	6.7	16.9	18.1	15.7	16.1	17.2	15.0
1940	18.3	19.9	16.6	16.0	17.5	14.5	34.1	37.3	30.7	33.0	36.4	29.7

¹Infant deaths based on race of decedent, live births based on race of mother; see Technical notes.

²Infant deaths based on race of decedent, live births based on race of child; see Technical notes.

Table 23. Deaths under 1 year and infant mortality rates for 61 selected causes by race: United States, 1989

[Rates per 100,000 live births in specified group. For explanation of asterisk preceding cause-of-death codes, see Technical notes. Beginning in 1989, race for live births is tabulated according to race of mother; see Technical notes]

Cause of death (Ninth Revision International Classification of Diseases, 1975)	All races ¹	White	Black	All races ¹	White	Black
	Number			Rate		
All causes	39,655	25,794	12,527	981.3	808.0	1,861.0
Certain intestinal infections008-009	92	38	49	2.3	1.2	6.4
Whooping cough033	9	7	2	*	*	*
Meningococcal infection036	58	43	12	1.4	1.3	*
Septicemia038	290	173	110	7.2	5.4	16.3
Viral diseases045-079	139	89	40	3.4	2.8	5.9
Congenital syphilis090	19	4	15	*	*	*
Remainder of infectious and parasitic diseases037,039-041,*042-*044,080-088,091-139	274	143	124	6.8	4.5	18.4
Malignant neoplasms, including neoplasms of lymphatic and hematopoietic tissues140-208	107	92	15	2.6	2.9	*
Benign neoplasms, carcinoma in situ, and neoplasms of uncertain behavior and of unspecified nature210-239	56	39	15	1.4	1.2	*
Diseases of thymus gland254	6	5	-	*	*	*
Cystic fibrosis277.0	15	11	4	*	*	*
Diseases of blood and blood-forming organs280-289	90	48	33	2.2	1.5	4.9
Meningitis320-322	229	128	87	5.7	4.0	12.9
Other diseases of nervous system and sense organs323-389	492	363	109	12.2	11.4	16.2
Acute upper respiratory infections460-465	34	29	4	0.8	0.9	*
Bronchitis and bronchiolitis466,490-491	103	58	37	2.5	1.8	5.5
Pneumonia and influenza480-487	636	396	210	15.7	12.4	31.2
Pneumonia480-486	624	386	208	15.4	12.1	30.9
Influenza487	12	10	2	*	*	*
Remainder of diseases of respiratory system470-478,492-519	384	230	139	9.5	7.2	20.6
Hernia of abdominal cavity and intestinal obstruction without mention of hernia550-553,560	88	57	27	2.2	1.8	4.0
Gastritis, duodenitis, and noninfective enteritis and colitis535,555-558	100	48	51	2.5	1.5	7.6
Remainder of diseases of digestive system520-534,536-543,562-579	171	96	69	4.2	3.0	10.3
Congenital anomalies740-759	8,120	6,312	1,498	200.9	197.7	222.5
Anencephalus and similar anomalies740	460	387	56	11.4	12.1	8.3
Spina bifida741	73	63	7	1.8	2.0	*
Congenital hydrocephalus742.3	172	119	44	4.3	3.7	6.5
Other congenital anomalies of central nervous system and eye742.0-742.2,742.4-742.9,743	314	244	54	7.8	7.6	8.0
Congenital anomalies of heart745-746	2,559	1,983	479	63.3	62.1	71.2
Other congenital anomalies of circulatory system747	491	354	124	12.2	11.1	18.4
Congenital anomalies of respiratory system748	1,256	954	261	31.1	29.9	38.8
Congenital anomalies of digestive system749-751	111	82	26	2.7	2.6	3.9
Congenital anomalies of genitourinary system752-753	473	388	77	11.7	12.2	11.4
Congenital anomalies of musculoskeletal system754-756	543	431	92	13.4	13.5	13.7
Down's syndrome758.0	93	72	18	2.3	2.3	*
Other chromosomal anomalies758.1-758.9	897	713	135	22.2	22.3	20.1
All other and unspecified congenital anomalies744,757,759	678	522	125	16.8	16.4	18.6
Certain conditions originating in the perinatal period760-779	18,564	11,181	6,907	459.4	350.2	1,026.1
Newborn affected by maternal conditions which may be unrelated to present pregnancy760	199	104	87	4.9	3.3	12.9
Newborn affected by maternal complications of pregnancy761	1,534	987	516	38.0	30.9	76.7
Newborn affected by complications of placenta, cord, and membranes762	984	672	288	24.4	21.1	42.8
Newborn affected by other complications of labor and delivery763	68	41	24	1.7	1.3	3.6
Slow fetal growth and fetal malnutrition764	30	22	7	0.7	0.7	*
Disorders relating to short gestation and unspecified low birthweight765	3,931	1,981	1,867	97.3	62.1	277.4
Disorders relating to long gestation and high birthweight766	1	1	-	*	*	*
Birth trauma767	222	147	70	5.5	4.6	10.4
Intrauterine hypoxia and birth asphyxia768	725	466	227	17.9	14.6	33.7
Fetal distress in liveborn infant768.2-768.4	193	131	50	4.8	4.1	7.4
Birth asphyxia768.5-768.9	532	335	177	13.2	10.5	26.3
Respiratory distress syndrome769	3,631	2,384	1,159	89.9	74.7	172.2
Other respiratory conditions of newborn770	3,344	2,013	1,238	82.8	63.1	183.9
Infections specific to the perinatal period771	892	571	300	22.1	17.9	44.6
Neonatal hemorrhage772	263	168	89	6.5	5.3	13.2
Hemolytic disease of newborn, due to isoimmunization, and other perinatal jaundice773-774	37	22	15	0.9	0.7	*
Syndrome of "infant of a diabetic mother" and neonatal diabetes mellitus775.0-775.1	10	8	2	*	*	*
Hemorrhagic disease of newborn776.0	3	-	3	*	*	*
All other and ill-defined conditions originating in the perinatal period775.2-775.9,776.1-779	2,690	1,594	1,015	66.6	49.9	150.8
Symptoms, signs, and ill-defined conditions780-799	6,627	4,323	2,017	164.0	135.4	299.6
Sudden infant death syndrome798.0	5,634	3,773	1,617	139.4	118.2	240.2
Symptoms, signs, and all other ill-defined conditions780-797,798.1-799	993	550	400	24.6	17.2	59.4

See footnote at end of table.

Table 23. Deaths under 1 year and infant mortality rates for 61 selected causes by race: United States, 1989—Con.

[Rates per 100,000 live births in specified group. For explanation of asterisk preceding cause-of-death codes, see Technical notes. Beginning in 1989, race for live births is tabulated according to race of mother; see Technical notes]

Cause of death (Ninth Revision International Classification of Diseases, 1975)	All races ¹	Number		Rate		
		White	Black	All races ¹	White	Black
Accidents and adverse effectsE800–E949	996	614	335	24.6	19.2	49.8
Inhalation and ingestion of food or other object causing obstruction of respiratory tract or suffocationE911–E912	162	99	57	4.0	3.1	8.5
Accidental mechanical suffocationE913	248	139	96	6.1	4.4	14.3
Other accidental causes and adverse effectsE800–E910,E914–E949	586	376	182	14.5	11.8	27.0
HomicideE960–E969	335	178	142	8.3	5.6	21.1
Child battering and other maltreatmentE967	122	67	49	3.0	2.1	7.3
Other homicideE960–E966,E968–E969	213	111	93	5.3	3.5	13.8
All other causesResidual	1,621	1,089	476	40.1	34.1	70.7

¹Includes races other than white and black.

Table 24. Deaths under 1 year and infant mortality rates for the 10 leading causes of infant death: United States, 1989

[Rates per 100,000 live births. Beginning in 1989, race for live births is tabulated according to race of mother; see Technical notes]

Rank order ¹	Cause of death (Ninth Revision International Classification of Diseases, 1975)	Number	Rate
All races ²			
...	All causes	39,655	981.3
1	Congenital anomalies740-759	8,120	200.9
2	Sudden infant death syndrome798.0	5,634	139.4
3	Disorders relating to short gestation and unspecified low birthweight765	3,931	97.3
4	Respiratory distress syndrome769	3,631	89.9
5	Newborn affected by maternal complications of pregnancy761	1,534	38.0
6	Accidents and adverse effectsE800-E949	996	24.6
7	Newborn affected by complications of placenta, cord, and membranes762	984	24.4
8	Infections specific to the perinatal period771	892	22.1
9	Intrauterine hypoxia and birth asphyxia768	725	17.9
10	Pneumonia and influenza480-487	636	15.7
...	All other causesResidual	12,572	311.1
White			
...	All causes	25,794	808.0
1	Congenital anomalies740-759	6,312	197.7
2	Sudden infant death syndrome798.0	3,773	118.2
3	Respiratory distress syndrome769	2,384	74.7
4	Disorders relating to short gestation and unspecified low birthweight765	1,981	62.1
5	Newborn affected by maternal complications of pregnancy761	987	30.9
6	Newborn affected by complications of placenta, cord, and membranes762	672	21.1
7	Accidents and adverse effectsE800-E949	614	19.2
8	Infections specific to the perinatal period771	571	17.9
9	Intrauterine hypoxia and birth asphyxia768	466	14.6
10	Pneumonia and influenza480-487	396	12.4
...	All other causesResidual	7,638	239.3
Black			
...	All causes	12,527	1,861.0
1	Disorders relating to short gestation and unspecified low birthweight765	1,867	277.4
2	Sudden infant death syndrome798.0	1,617	240.2
3	Congenital anomalies740-759	1,498	222.5
4	Respiratory distress syndrome769	1,159	172.2
5	Newborn affected by maternal complications of pregnancy761	516	76.7
6	Accidents and adverse effectsE800-E949	335	49.8
7	Infections specific to the perinatal period771	300	44.6
8	Newborn affected by complications of placenta, cord, and membranes762	288	42.8
9	Intrauterine hypoxia and birth asphyxia768	227	33.7
10	Pneumonia and influenza480-487	210	31.2
...	All other causesResidual	4,510	670.0

¹Rank based on number of deaths; see Technical notes.²Includes races other than white and black.

Table 25. Total deaths and death rates, and infant and neonatal deaths and mortality rates for the United States, each division, and State; and by race and sex for the United States, 1989

Race, sex, and area	Total deaths		Infant deaths (under 1 year)		Neonatal deaths (under 28 days)	
	Number	Rate ¹	Number	Rate ²	Number	Rate ²
United States	2,150,466	866.3	39,655	9.8	25,168	6.2
Male	1,114,190	921.0	22,361	10.8	14,059	6.8
Female	1,036,276	814.3	17,294	8.8	11,109	5.6
White	1,853,841	887.2	25,794	8.1	16,428	5.1
Male	950,852	930.2	14,760	9.0	9,273	5.7
Female	902,989	846.0	11,034	7.1	7,155	4.6
All other	296,625	755.2	13,861	16.3	8,740	10.3
Male	163,338	870.8	7,601	17.6	4,786	11.1
Female	133,287	649.5	6,260	15.0	3,954	9.5
Black	267,642	872.9	12,527	18.6	8,021	11.9
Male	146,393	1,006.5	6,842	20.0	4,387	12.8
Female	121,249	752.4	5,685	17.2	3,634	11.0
New England	115,965	888.9	1,618	8.1	1,133	5.7
Maine	11,185	915.3	129	7.4	89	5.1
New Hampshire	8,472	785.3	142	8.0	89	5.0
Vermont	4,586	808.8	59	6.9	41	4.8
Massachusetts	53,922	911.9	704	7.7	484	5.3
Rhode Island	9,557	957.6	151	10.2	115	7.8
Connecticut	28,243	872.0	433	8.8	315	6.4
Middle Atlantic	366,845	972.4	5,943	10.2	4,024	6.9
New York	171,679	956.4	3,094	10.6	2,090	7.2
New Jersey	71,455	923.7	1,135	9.3	751	6.2
Pennsylvania	123,711	1,027.5	1,714	10.2	1,183	7.0
East North Central	372,051	879.6	7,012	10.7	4,463	6.8
Ohio	98,375	901.9	1,624	9.9	1,033	6.3
Indiana	49,094	877.8	855	10.2	540	6.5
Illinois	103,366	886.7	2,235	11.7	1,428	7.5
Michigan	78,861	850.4	1,646	11.1	1,071	7.2
Wisconsin	42,355	870.2	652	9.1	391	5.4
West North Central	161,074	902.3	2,288	8.5	1,341	5.0
Minnesota	34,307	788.1	478	7.1	278	4.1
Iowa	27,195	957.6	323	8.3	214	5.5
Missouri	50,426	977.4	771	9.9	462	5.9
North Dakota	5,510	834.8	77	8.0	45	4.7
South Dakota	6,549	915.9	106	9.6	51	4.6
Nebraska	14,800	918.7	192	7.9	108	4.5
Kansas	22,287	886.9	341	8.8	183	4.7
South Atlantic	390,693	906.1	7,531	11.0	4,997	7.3
Delaware	5,843	868.2	127	11.8	92	8.6
Maryland	38,353	817.1	809	10.3	509	6.5
District of Columbia	7,649	1,266.4	270	22.9	188	15.9
Virginia	47,172	773.6	969	10.0	687	7.1
West Virginia	19,558	1,053.2	209	9.4	139	6.3
North Carolina	57,477	874.7	1,156	11.3	775	7.6
South Carolina	29,618	843.3	733	12.8	467	8.1
Georgia	52,258	812.0	1,358	12.3	887	8.0
Florida	132,765	1,047.8	1,900	9.8	1,253	6.5
East South Central	145,242	942.8	2,539	10.9	1,595	6.9
Kentucky	35,398	949.8	494	9.2	283	5.3
Tennessee	45,452	920.1	790	10.8	500	6.8
Alabama	39,006	947.2	755	12.1	502	8.0
Mississippi	25,386	968.6	500	11.6	310	7.2
West South Central	217,006	803.6	4,420	9.5	2,709	5.8
Arkansas	24,647	1,024.4	366	10.2	216	6.0
Louisiana	37,665	859.5	832	11.4	529	7.3
Oklahoma	29,816	924.8	405	8.5	234	4.9
Texas	124,878	735.0	2,817	9.2	1,730	5.6
Mountain	95,293	705.1	2,109	8.9	1,224	5.2
Montana	6,755	838.1	132	11.3	65	5.6
Idaho	7,468	736.5	154	9.7	100	6.3
Wyoming	3,254	685.1	65	9.4	36	5.2
Colorado	21,144	637.4	461	8.7	272	5.2
New Mexico	10,572	691.9	233	8.5	146	5.3
Arizona	28,212	793.4	620	9.2	371	5.5
Utah	9,239	541.2	285	8.0	158	4.4
Nevada	8,649	778.5	159	8.1	76	3.9
Pacific	286,297	747.8	6,195	8.6	3,682	5.1
Washington	36,163	759.6	691	9.2	381	5.1
Oregon	24,918	883.6	368	8.9	208	5.0
California	216,619	745.3	4,869	8.5	2,961	5.2
Alaska	2,095	397.5	107	9.2	50	4.3
Hawaii	6,502	584.7	160	8.3	82	4.2

¹Per 100,000 population in each race-sex group and area.

²Per 1,000 live births in each race-sex group and area. Beginning in 1989, race for live births is tabulated according to race of mother; see Technical notes.

Table 26. Infant, neonatal, and postneonatal deaths and mortality rates, by specified Hispanic origin and race for non-Hispanic origin: Total of 43 reporting States and the District of Columbia, 1989

[Rates per 1,000 live births in specified group. Live births based on race and Hispanic origin of mother; see Technical notes. For a listing of reporting States, see Technical notes]

Age	All origins	Hispanic					Non-Hispanic			Not stated ³
		Total	Mexican	Puerto Rican	Cuban	Other Hispanic ¹	Total ²	White	Black	
Number										
Under 1 year	35,914	4,431	2,581	499	79	1,272	30,535	18,936	10,438	948
Under 28 days	22,690	2,798	1,620	305	57	816	19,112	11,913	6,579	780
28 days–11 months	13,224	1,633	961	194	22	456	11,423	7,023	3,859	168
Rate										
Under 1 year	⁴ 9.8	8.5	7.9	9.6	7.4	9.6	9.8	7.9	18.5	...
Under 28 days	⁴ 6.2	5.4	5.0	5.9	5.3	6.1	6.2	5.0	11.6	...
28 days–11 months	⁴ 3.6	3.1	2.9	3.7	2.1	3.4	3.7	2.9	6.8	...

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

²Includes races other than white and black.

³Includes infant deaths that occurred in States that did not report Hispanic origin on the death certificate.

⁴Figures for origin not stated included in All origins but not distributed among origin groups.

Table 27. Maternal deaths and maternal mortality rates for selected causes by race: United States, 1989

[Maternal deaths are those assigned to Complications of pregnancy, childbirth, and the puerperium, category numbers 630–676 of the *Ninth Revision International Classification of Diseases, 1975*. Rates per 100,000 live births in specified group. Beginning in 1989, race for live births is tabulated according to race of mother; see Technical notes]

Cause of death (Ninth Revision International Classification of Diseases, 1975)	All races	All other		All races	All other		
		White	Black		White	Black	
Number							
Complications of pregnancy, childbirth, and the puerperium . . . . .	.630–676	320	180	140	124	7.9	5.6
Pregnancy with abortive outcome . . . . .	.630–638	50	21	29	26	1.2	0.7
Ectopic pregnancy . . . . .	.633	34	14	20	19	0.8	*
Spontaneous abortion . . . . .	.634	3	1	2	–	*	*
Legally induced abortion . . . . .	.635	3	1	2	2	*	*
Illegally induced abortion . . . . .	.636	–	–	–	–	*	*
Other pregnancy with abortive outcome . . . . .	.630–632,637–638	10	5	5	5	*	*
Direct obstetric causes . . . . .	.640–646,651–676	241	144	97	85	6.0	4.5
Hemorrhage of pregnancy and childbirth . . . . .	.640–641,666	43	30	13	10	1.1	0.9
Toxemia of pregnancy . . . . .	.642.4–642.9,643	58	29	29	27	1.4	0.9
Obstructed labor . . . . .	.660	–	–	–	–	*	*
Complications of the puerperium . . . . .	.670–676	89	60	29	26	2.2	1.9
Other direct obstetric causes . . . . .	.642.0–642.3,644–646,651–659,661–665,667–669	51	25	26	22	1.3	0.8
Indirect obstetric causes . . . . .	.647–648	29	15	14	13	0.7	*
Delivery in a completely normal case . . . . .	.650	–	–	–	–	*	*
Rate							

Table 28. Number of autopsies and percent of deaths for which autopsies were reported for 15 leading causes of death: United States, 1989

[For explanation of asterisk preceding cause-of-death codes, see Technical notes]

Rank order ¹	Cause of death (Ninth Revision International Classification of Diseases, 1975)	Total deaths	Reported autopsy	
			Number	Percent
...	All causes	2,150,466	247,251	11.5
1	Diseases of heart390-398,402,404-429	733,867	57,359	7.8
2	Malignant neoplasms, including neoplasms of lymphatic and hematopoietic tissues140-208	496,152	19,101	3.8
3	Cerebrovascular diseases430-438	145,551	5,333	3.7
4	Accidents and adverse effectsE800-E949	95,028	47,943	50.5
...	Motor vehicle accidentsE810-E825	47,575	25,031	52.6
...	All other accidents and adverse effectsE800-E807,E826-E949	47,453	22,912	48.3
5	Chronic obstructive pulmonary diseases and allied conditions490-496	84,344	4,137	4.9
6	Pneumonia and influenza480-487	76,550	6,050	7.9
7	Diabetes mellitus250	46,833	2,158	4.6
8	SuicideE950-E959	30,232	16,917	56.0
9	Chronic liver disease and cirrhosis571	26,694	4,777	17.9
10	Homicide and legal interventionE960-E978	22,909	22,147	96.7
11	Human immunodeficiency virus infection*042-*044	22,082	2,500	11.3
12	Nephritis, nephrotic syndrome, and nephrosis580-589	21,118	1,065	5.0
13	Atherosclerosis440	19,357	541	2.8
14	Septicemia038	19,333	1,676	8.7
15	Certain conditions originating in the perinatal period760-779	18,752	4,301	22.9
...	All other causesResidual	291,664	51,246	17.6

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

Technical notes

Nature and sources of data

Data shown in this report are based on information from all death certificates filed in the 50 States and the District of Columbia. Beginning with data year 1989 the U.S. Standard Certificate of Death was revised (3). Among the major changes were the addition of a new item on educational attainment and changes to improve the medical certification of cause of death. These changes include additional lines to report causes of death as well as more complete instructions with examples for properly completing the cause of death. In addition, for the first time, the U.S. Standard Certificate of Death includes a question on the Hispanic origin of the decedent. A number of States had previously included the Hispanic-origin item on their certificates, resulting in data shown in this report for years prior to 1989.

Mortality statistics are based on information coded by the National Center for Health Statistics (NCHS) from copies of the original certificates received from the State registration offices and on State-coded data provided to NCHS through the Vital Statistics Cooperative Program (VSCP). In 1989 all the States and the District of Columbia participated in this program and submitted part or all of the mortality data for 1989 on computer tape to NCHS. The following 23 States in the VSCP submitted precoded medical data for all deaths on computer tapes: California, Colorado, Florida, Iowa, Kansas, Louisiana, Maine, Maryland, Massachusetts, Michigan, Minnesota, Mississippi, Nebraska, New Hampshire, New York State (excluding New York City), North Carolina, Pennsylvania, South Carolina, Texas, Vermont, Virginia, Washington, and Wisconsin. In addition, two States—Georgia and Indiana—submitted precoded medical data on computer tape for part of the year. NCHS also contracted with Colorado and Kansas to precode medical data for all deaths on computer tape for five States—Alaska, Delaware, Idaho, North Dakota, and Wyoming. Vermont subcontracted with Pennsylvania to code their medical data. The remaining 20 VSCP States, New

York City, and the District of Columbia submitted copies of the original certificates from which NCHS coded the medical data. In addition, Georgia and Indiana submitted copies of the original certificates from which NCHS coded the medical data for part of the year. For 1989 all States submitted precoded demographic data for all deaths.

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

Cause-of-death classification

The mortality statistics presented here were compiled in accordance with the World Health Organization (WHO) regulations, which specify that member nations classify causes of death by the current *Manual of the International Statistical Classification of Diseases, Injuries, and Causes of Death* (4). Causes of death for 1979–89 were classified according to this manual. For earlier years, causes of death were classified according to the revisions then in use—1968–78, Eighth Revision; 1958–67, Seventh Revision; and 1949–57, Sixth Revision. Changes in classification of causes of death due to these revisions may result in discontinuities in cause-of-death trends. Consequently, cause-of-death comparisons between revisions require consideration of comparability ratios and, where available, estimates of their standard errors. Comparability ratios between the Eighth and Ninth Revisions, between the Seventh and Eighth Revisions, and between the Sixth and Seventh Revisions may be found in other NCHS reports (5–7).

Besides specifying the classification, WHO regulations outline the form of medical certification and the procedures to be used in coding cause of death. Cause-of-death data presented in this publication were coded by procedures outlined in annual issues of the *NCHS Instruction Manual* (8).

In this report tabulations of cause-of-death statistics are based solely on

the underlying cause of death. The underlying cause is defined by WHO as the disease or injury that initiated the train of events leading directly to death or as the circumstances of the accident or violence that produced the fatal injury. It is selected from the conditions entered by the physician in the cause-of-death section of the death certificate. When more than one cause or condition is entered by the physician, the underlying cause is determined by the sequence of conditions on the certificate, provisions of the International Classification of Diseases (ICD), and associated selection rules. In general, more medical information is reported on death certificates than is directly reflected in the underlying cause of death.

Codes for HIV infection

Beginning with data for 1987, NCHS introduced category numbers *042–*044 for classifying and coding Human immunodeficiency virus (HIV) infection. The asterisk before the category numbers indicates that these codes are not part of the Ninth Revision of the International Classification of Diseases (ICD-9). Deaths classified to HIV infection for 1988 and 1989 are shown in table 14. They are included, but not shown separately, in the category All other infectious and parasitic diseases in the List of 72 Selected Causes of Death and in the category Remainder of infectious and parasitic diseases in the List of 61 Selected Causes of Infant Death. Prior to 1987, deaths involving HIV infection were classified to Deficiency of cell-mediated immunity (ICD-9 No. 279.1), contained in the category All other diseases; to Pneumocystosis (ICD-9 No. 136.3), contained in the category All other infectious and parasitic diseases; to Malignant neoplasms, including neoplasms of lymphatic and hematopoietic tissues; and to a number of other causes. As a consequence, cause-of-death data beginning with 1987 are not strictly comparable with data for previous years.

For data years 1983–86 acquired immunodeficiency syndrome (AIDS) and HIV infection, when reported on

the death certificate, were assigned to the category Deficiency of cell-mediated immunity (ICD-9 No. 279.1). Because the selection rules for underlying cause of death were developed prior to the identification of AIDS, other conditions mentioned on the death certificate and not category No. 279.1 were often selected as the underlying cause of death during this period. Also, this category was not uniquely specific for HIV conditions. As mentioned in more detail in previous reports for 1984–86 (9–11) the number of death certificates that had mention of conditions coded to ICD-9 No. 279.1 was 2,943 for 1984, 6,040 for 1985, and 10,900 for 1986. It is believed that HIV infection was involved in most of these deaths.

Drug-induced deaths

Causes of death attributable to drug-induced mortality include ICD-9 No. 292, Drug psychoses; No. 304, Drug dependence; Nos. 305.2–305.9, Nondependent use of drugs, not including alcohol and tobacco; Nos. E850–E858, Accidental poisoning by drugs, medicaments and biologicals; Nos. E950.0–E950.5, Suicide by drugs, medicaments and biologicals; No. E962.0, Assault from poisoning by drugs and medicaments; and Nos. E980.0–E980.5, Poisoning by drugs, medicaments and biologicals, undetermined whether accidentally or purposely inflicted. Drug-induced causes exclude accidents, homicides, and other causes indirectly related to drug use.

Alcohol-induced deaths

Causes of death attributable to alcohol-induced mortality include ICD-9 No. 291, Alcoholic psychoses; No. 303, Alcohol dependence syndrome; No. 305.0, Nondependent abuse of alcohol; No. 357.5, Alcoholic polyneuropathy; No. 425.5, Alcoholic cardiomyopathy; No. 535.3, Alcoholic gastritis; Nos. 571.0–571.3, Chronic liver disease and cirrhosis, specified as alcoholic; No. 790.3, Excessive blood level of alcohol; and No. E860, Accidental poisoning by alcohol, not elsewhere classified. Alcohol-induced

causes exclude accidents, homicides, and other causes indirectly related to alcohol use.

Educational attainment

Beginning with the 1989 data year, mortality data on educational attainment are being tabulated from information reported on the death certificate. As a result of the revision of the U.S. Standard Certificate of Death (3), this item was added to the certificates of a large number of States. Mortality data on educational attainment for 1989 are based on deaths to residents of 21 reporting States whose data were at least 90 percent complete on a place-of-occurrence basis. The 21 reporting States are Arizona, California, Colorado, Delaware, Florida, Hawaii, Idaho, Illinois, Iowa, Kansas, Michigan, Minnesota, Missouri, Montana, New Hampshire, Oregon, South Carolina, Utah, Vermont, Wisconsin, and Wyoming.

Quality of reporting of cause of death

One index of the quality of reporting causes of death is the proportion of death certificates coded to the Ninth Revision chapter XVI, Symptoms, signs, and ill-defined conditions (ICD-9 Nos. 780–799). Although there are deaths for which it is not possible to determine the underlying cause, this proportion indicates the care and consideration given to the certification by the medical certifier. It may also be used as a rough measure of the specificity of the medical diagnoses made by the certifier in various areas. In 1989 a record low of 1.25 percent of all reported deaths in the United States were assigned to this category compared with 1.43 percent for 1988. However, trends in the percent of deaths assigned to this category vary by age. Although the percent of deaths from this cause for all ages combined has generally remained stable between 1980 and 1988, a slight increase in the percent occurred for the age group 5–14 years and decreases occurred for all the age groups 55 years and over. However, between 1988 and 1989, the percent decreased for almost all age groups.

Population bases for computing rates

The population used for computing rates shown in this report (furnished by the U.S. Bureau of the Census) represents the population residing in the specified area. Death rates for 1989 are based on population estimates as of July 1, 1989 (12,13). The estimates are based on the 1980 census counts. The 1980 census counts by race were modified to be consistent with U.S. Office of Management and Budget categories and historical categories for death data. The modification procedures are discussed in detail in a report of the U.S. Bureau of the Census (14).

Population estimates used to compute death rates for 1984–89 incorporate new estimation procedures for net migration and net undocumented immigration. Death rates for 1989 are comparable with those for 1984–88 but are not strictly comparable with those of previous years. Although trends in death rates for the total population are not substantially affected, caution should be used in comparing differences in death rates for the period 1984–89 with those of previous years for certain age-race-sex subgroups (9,15).

Infant mortality rates shown in figure 5 and tables E and 22–26 are the most commonly used index for measuring the risk of dying during the first year of life. They are calculated by dividing the number of infant deaths in a calendar year by the number of live births registered for the same period and are presented as rates per 1,000 or per 100,000 live births. Infant mortality rates use the number of live births in the denominator to approximate the population at risk of dying before the first birthday.

In contrast to infant mortality rates based on live births, infant death rates shown in figure 2 and tables A, 2, 5, 9, and 14 are based on the estimated population under 1 year of age. Infant death rates that appear in tabulations of age-specific death rates are calculated by dividing the number of infant deaths in a calendar year by the midyear population of infants under 1 year of age (estimated from births

occurring in the 12-month period ending with June) and are presented as rates per 100,000 population in this age group. Due to differences in the denominators, infant death rates may differ from infant mortality rates.

Race for infant and maternal mortality rates

Changes instituted by NCHS in the way in which live births are tabulated by race beginning with the 1989 data year affect infant and maternal mortality rates by race and their comparability with rates for 1988 and previous years. Because live births comprise the denominator of both infant and maternal mortality rates, changes in the number of live births by race affect the magnitude of the rate, if corresponding changes are not made in the number of infant and maternal deaths (the numerator of the rate). No changes were made in the way in which infant deaths and maternal deaths are tabulated by race that parallel the changes made for live births.

As noted in detail in the "Advance Report of Final Natality Statistics" (16), beginning with the 1989 data year, data on live births are being tabulated primarily by race of mother, as reported directly on the birth certificate. In previous years birth tabulations were by race of child, as determined statistically by an algorithm based on information reported for the mother and father. Briefly, in cases of mixed parentage where only one parent was white, the child was assigned to the other parent's race. When neither parent was white, the child was assigned the race of the father, except if either parent was Hawaiian, the child was assigned to Hawaiian. If race was not reported for one parent, the child was assigned the race of the parent for whom race was given.

The change in the tabulation of live births by race reflects three factors over the past two decades: the topical content of the birth certificate has been expanded to include considerable health and demographic information related to the mother, the increasing incidence of interracial parentage, and

the growing proportion of births for which no information on the father is reported.

Quantitatively, the change in the basis for tabulating live births by race results in more white births and fewer births to the black population and to other races. As a consequence, infant mortality rates and maternal mortality rates under the new classification tend to be lower for white infants and higher for infants of other races than they are when computed by the previous method of tabulating live births by race of child (table I). Although rates under the new classification for white infant and maternal deaths are lower by 1 to 3 percent than under the previous classification, they are 5 percent higher for black infant and maternal deaths. Rates for other races under the new classification are also higher than rates under the previous classification.

The change in the race classification of live births presents challenges to those analyzing infant and maternal mortality data, particularly trend data. To facilitate continuity and ease of interpretation, key published tables for 1989 and 1990, including all trend tables, will show data computed on the basis of live births tabulated by both race of mother and race of child. This will make it possible to distinguish the effects of this change from real changes in the data. The text in this report focuses on live birth data tabulated by race of mother except where trends are discussed. In the latter case the analysis is based on data tabulated by race of child.

Cause-of-death rankings

The cause-of-death rankings shown in figure 4 and tables B-D, 5-7, 17, and 28 are based on the List of 72 Selected Causes of Death and HIV

infection (ICD-9 Nos. *042-*044) the cause-of-death ranking for infants in table 24 is based on the List of 61 Selected Causes of Infant Death and HIV infection. HIV infection was added to the lists of rankable causes effective with data year 1987.

The group titles Major cardiovascular diseases and Symptoms, signs, and ill-defined conditions are not ranked from the List of 72 Selected Causes; Certain conditions originating in the perinatal period and Symptoms, signs, and ill-defined conditions are not ranked from the List of 61 Selected Causes of Infant Death. In addition, category titles that begin with the words "Other" and "All Other" are not ranked to determine the leading causes of death. When one of the titles that represents a subtotal is ranked (for example, Tuberculosis), its component parts are not ranked (in this case, Tuberculosis of respiratory system and Other tuberculosis).

Age-adjusted rates

The age-adjusted rates presented in this report were computed by the direct method, that is, by applying the age-specific death rates for a given cause of death to the standard population distributed by age. The total population as enumerated in 1940 was selected as the standard. By using the same standard population, the rates for the total population and for each race-sex group were adjusted separately. The age-adjusted rates were based on 10-year age groups. It is important not to compare age-adjusted death rates with crude rates.

Random variation

Although the mortality data in this report (except data for 1972) are not subject to sampling error, they may be

Table I. Ratio of infant, neonatal, postneonatal, and maternal mortality rates by race for live births tabulated according to race of mother to those by race for live births tabulated according to race of child: United States, 1989

Race	Infant	Neonatal	Postneonatal	Maternal
Total	1.00	1.00	1.00	1.00
White	0.99	0.98	0.97	0.98
Black	1.05	1.05	1.05	1.05
Other	1.13	1.14	1.13	1.14

affected by random variation in the number of deaths involved. When the number of events is small (perhaps less than 100) and the probability of such an event is small, considerable caution must be observed in interpreting the data. Such infrequent events may be assumed to follow a Poisson probability distribution. For this distribution, a simple approximation may be used to estimate the confidence interval as follows:

If N is the number of registered deaths in the population and R is the corresponding rate, the chances are 19 in 20 (approximate 95-percent confidence interval) that

$$1. N - 2\sqrt{N} \text{ and } N + 2\sqrt{N}$$

cover the "true" number of events.

$$2. R - 2 \frac{R}{\sqrt{N}} \text{ and } R + 2 \frac{R}{\sqrt{N}}$$

cover the "true" rate.

If the rate R_1 corresponding to N_1 events is compared with the rate R_2 corresponding to N_2 events, the difference between the two rates may be regarded as statistically significant if it exceeds

$$3. 2\sqrt{\frac{R_1^2}{N_1} + \frac{R_2^2}{N_2}}$$

Additional information on random variation may be found in the Technical Appendix of *Vital Statistics of the United States*, vol II (17).

Infant and maternal mortality rates—Comparisons made in the text between infant, neonatal, postneonatal, and maternal mortality rates, unless otherwise specified, are statistically significant at the 0.05 level of significance. Lack of comment in the text about any two rates does not mean that the difference was tested and found not to be significant at this level.

Rates, proportions, and ratios

Beginning in 1989 an asterisk is shown in place of a rate based on 20 or fewer deaths. These rates have a relative standard error of 23 percent or more and are, therefore, considered statistically unreliable. For age-adjusted death rates this criterion is applied to the sum of the age-specific deaths.

Life tables

U.S. abridged life tables are constructed by reference to a standard life table (18).

Hispanic origin

As a result of changes in State death certificates, the reporting areas for mortality data by Hispanic or ethnic origin of decedent expanded beginning in 1989. The number of reporting States increased from 26 States and the District of Columbia in 1988 to 44 States and the District of Columbia in 1989. For 1989 mortality data for the Hispanic-origin population are based on deaths to residents of 44 reporting States and the District of Columbia whose data were at least 90 percent complete on a place-of-occurrence basis and considered to be sufficiently comparable to be used for analysis. The 44 reporting States are Alabama, Alaska, Arizona, Arkansas, California, Colorado, Delaware, Florida, Georgia, Hawaii, Idaho, Illinois, Indiana, Iowa, Kansas, Kentucky, Maine, Massachusetts, Michigan, Minnesota, Mississippi, Missouri, Montana, Nebraska, Nevada, New Jersey, New Mexico, New York (including New York City), North Carolina, North Dakota, Ohio, Oregon, Pennsylvania, Rhode Island, South Carolina, South Dakota, Tennessee, Texas, Utah, Vermont, Washington, West Virginia, Wisconsin, and Wyoming.

Infant mortality rates for Hispanic-origin population are based on numbers of resident infant deaths reported to be of Hispanic origin and

numbers of resident live births by Hispanic origin of mother for 43 reporting States and the District of Columbia. The 43 States are Alabama, Alaska, Arizona, Arkansas, California, Colorado, Delaware, Florida, Georgia, Hawaii, Idaho, Illinois, Indiana, Iowa, Kansas, Kentucky, Maine, Massachusetts, Michigan, Minnesota, Mississippi, Missouri, Montana, Nebraska, Nevada, New Jersey, New Mexico, New York (including New York City), North Carolina, North Dakota, Ohio, Oregon, Pennsylvania, South Carolina, South Dakota, Tennessee, Texas, Utah, Vermont, Washington, West Virginia, Wisconsin, and Wyoming. In computing infant mortality rates, deaths and live births of unknown origin are not distributed among the specified Hispanic and non-Hispanic groups. Because the percent of infant deaths of unknown origin was 2.6 percent, and the percent of live births of unknown origin was 1.1 percent in the reporting area for 1989, infant mortality rates by specified Hispanic origin and race for non-Hispanic origin may be somewhat underestimated.

Small numbers of infant deaths for specific Hispanic-origin groups can result in infant mortality rates subject to relatively large random variation (see the section, "Random variation").

In 1980 the 43 and the 44 reporting States and the District of Columbia accounted for about 97 percent of the Hispanic population in the United States, including about 99 percent of the Mexican population, 94 percent of the Puerto Rican population, 97 percent of the Cuban population, and 94 percent of the "Other Hispanic" population (19).

Computation of percent distributions

Deaths of persons of unknown marital status and unknown educational attainment were subtracted from figures for total deaths used as denominators before percent distributions were computed.

This report represents summary tabulations from the final mortality statistics for 1989. More detailed tabulations for 1989 will be published in *Vital Statistics of the United States, 1989* Volume II—Mortality. Prior to the publication of that volume, the National Center for Health Statistics will respond to requests for unpublished data whenever possible.

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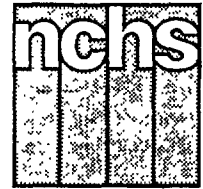
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Monthly Vital Statistics Report



Final Data From the CENTERS FOR DISEASE CONTROL AND PREVENTION/National Center for Health Statistics

Advance Report of Final Natality Statistics, 1990

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Births and birth rates

There were 4,158,212 babies born in the United States in 1990, a 3-percent increase compared with the 1989 total of 4,040,958 and the third consecutive year marking such an increase (table 1). Provisional data for 1991 indicate a 1-percent decline in the number of births; there appears to be a slight additional decline in the number in 1992. The 1990 total is the highest number reported since 1962 (4,167,362) (table 1 and figure 1).

The birth rate for 1990 was 16.7 births per 1,000 population, 2 percent higher than the 1989 rate of 16.4 and higher than the rate in any year since 1971, when it was 17.2. According to provisional data, a 3-percent drop in the birth rate is expected for 1991 and a similar decline appears likely in 1992.

The fertility rate, which relates the number of births to women of child-bearing age, rose 2 percent in 1990, to 70.9 live births per 1,000 women aged

15-44 years compared with 69.2 in 1989. The 1990 rate is higher than the rate for any year since 1972 (73.1). Provisional data indicate a 2-percent decline in the fertility rate for 1991, with little additional change expected in 1992.

Age-specific birth rates increased by 2-6 percent for women in all age groups 15-44 years (see tables 2-4 for births and birth rates by age of mother and figure 2 for birth rates by age of mother). Increases were smallest (2 percent) for women in the peak childbearing ages 20-24 and 25-29 years. The rate of 116.5 for women aged 20-24 years, however, was the highest rate reported since 1974 (117.7), and the rate of 120.2 for women aged 25-29 years was higher than in any year since 1971, when it was 134.1.

The birth rate for women aged 18-19 years rose 5 percent, from 84.2 in 1989 to 88.6 per 1,000 in 1990, the highest it has been since 1974 (88.7).

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U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES
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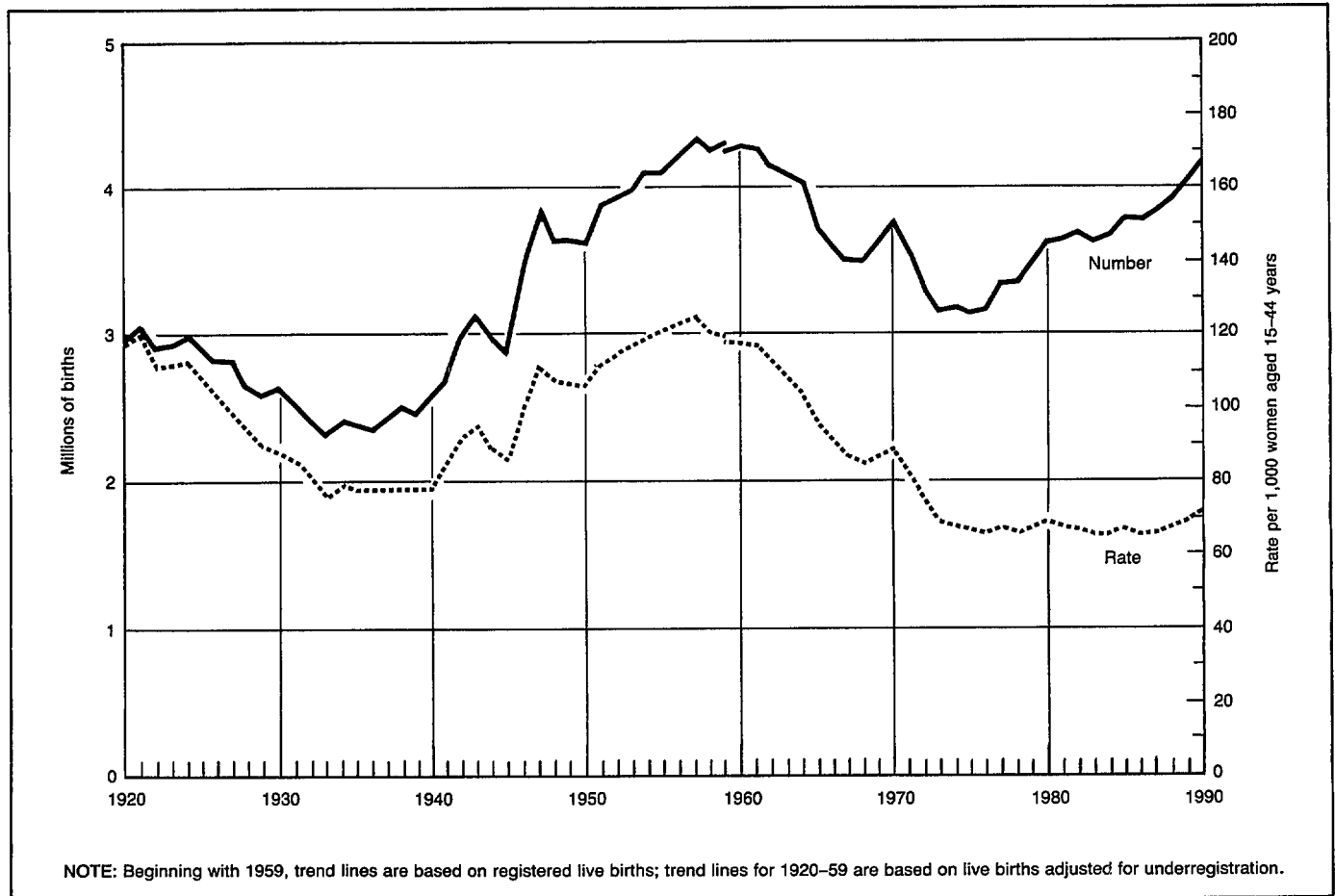


Figure 1. Live births and fertility rates: United States, 1920-90

This rate increased 13 percent between 1987 and 1990.

The rate for teenagers 15-17 years of age increased by 3 percent in 1990, to 37.5 per 1,000, higher than the rate in any year since 1973, when it was 38.5. The 1990 rise was smaller, however, than during 1986-89, when the rate rose by 4-8 percent annually. The 23-percent rise in the birth rate for teenagers 15-17 years of age, over the 4-year period 1986-90, translates into more than 34,000 additional births in 1990 than would have occurred had the rate in 1990 been at the 1986 level of 30.5 instead of 37.5.

Rates for women aged 35-39 and 40-44 years continued the steady increases observed beginning in the mid-1970's. The rate for women aged 35-39 years increased 6 percent, from 29.9 in 1989 to 31.7 in 1990. Between 1980 and 1990, this rate increased 60 percent. The rate for women aged 40-44 years also rose 6 percent

between 1989 and 1990, from 5.2 to 5.5 per 1,000. The rate for 1990 was 41 percent higher than the rate for 1980 (3.9). Women aged 35-44 years were born during the post World War II baby-boom years, 1946-55. The combined impact of the increases in birth rates for these women and in the numbers of women in these ages has been substantial, resulting in more births in 1990 to women aged 35-39 years (317,583) than in any year since 1963 and more to women aged 40-44 (48,607) than in two decades. As recently as 1980, there were only 140,793 births to women aged 35-39 years and 23,090 to women aged 40-44. The birth rate for women in their late forties remained at 0.2 per 1,000, unchanged since 1976.

The rate for women aged 30-34 years rose 4 percent in 1990, to 80.8, higher than the rate in any year since 1966 (85.1). Except for 1981, this rate has increased annually since 1975,

from 52.3 to 61.9 in 1980 and then to 80.8 in 1990, an overall increase of 54 percent.

The continued rise in the birth rate for women in their early thirties has coincided with the sustained growth in the number of women in that age group, reflecting the impact of the baby-boom period on current population patterns. The number of babies born in 1990 to women aged 30-34 years (886,063) was the highest number ever recorded. Women in this age group accounted for 21 percent of all births in 1990. Just 15 years earlier, in 1975, the number of births to women aged 30-34 totaled only 375,500, 12 percent of the 1975 total.

As in 1989, the increases in age-specific birth rates in 1990 of 4-6 percent for ages 18-19 and 30 years and over had somewhat limited impact on the overall fertility rate. This is because the increases were relatively small for women in their twenties, who

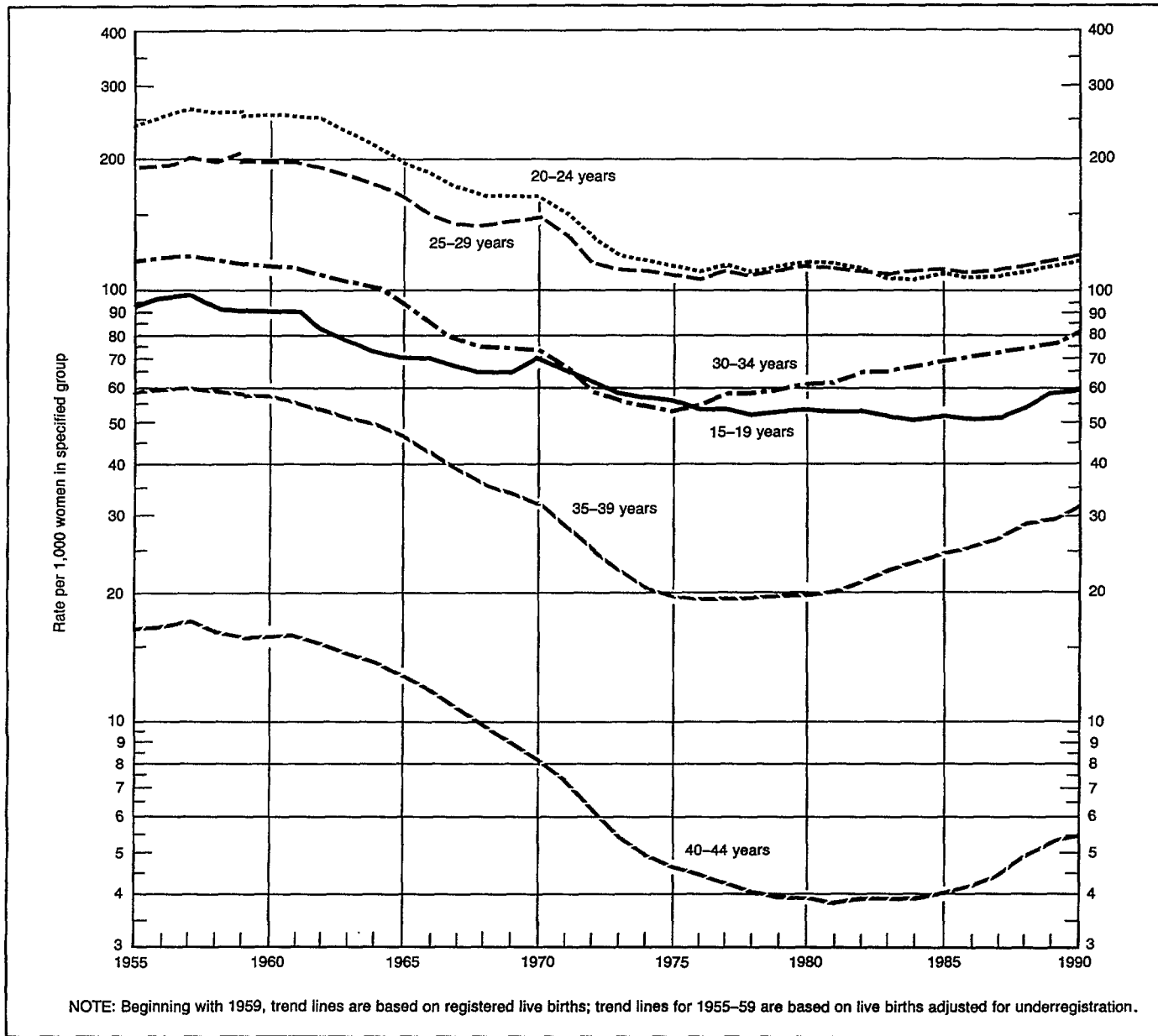


Figure 2. Birth rates by age of mother: United States 1955-90

accounted for 57 percent of births in 1990. Birth rates for women aged 20-24 and 25-29 years have risen somewhat in recent years, but the range for the rates has been relatively narrow, 106-120 since the early 1970's.

The increases in birth rates for women in their thirties reflect a continuation of a trend extending 15 years for these women to make up for previously postponed childbearing (1). The fact that many women were delaying childbearing is evident from changes in childlessness levels among women in their thirties. For example, among

women aged 30-34 years at the end of 1975, 16 percent had not had any children, compared with 26 percent of women aged 30-34 at the end of 1990. Some of this increase is associated with the growing proportions of women who are unmarried (never married or previously married) (2). But even among married women aged 30-34 years, there has been a clear upward trend in childlessness, from 8 percent in 1975 to 14 percent in 1990 (3). Despite these relatively high levels of childlessness, however, survey data indicate that nearly two-thirds of

childless wives in their early thirties expect to have at least one child (3). This high level of expected future childbearing by currently childless wives suggests that the increases in birth rates, especially first birth rates, for women in their late thirties are likely to continue. A factor possibly limiting the realization of these expectations is fertility impairments. More than a third of childless wives aged 35-44 years in 1988 were reported to have impaired fertility (4).

Women who delay childbearing to relatively older ages continue to be

disproportionately well-educated. For example, 52 percent of women aged 35–39 years having their first child in 1990 were college graduates compared with 33 percent of first-time mothers aged 25–29 and only 7 percent of mothers aged 20–24.

The trend in first birth rates for older well-educated women was clearly upward between 1975 and 1985, just as these rates fell for younger well-educated women (1,5). Although comparable rates for 1990 cannot be computed because the appropriate population data are not available, estimates of the levels of these rates indicate that first birth rates for older well-educated women have continued to increase since 1985.

The continued rise in birth rates for teenagers is associated in part with the growing proportion of teenagers who are sexually experienced. According to the 1988 National Survey of Family Growth, conducted by the National Center for Health Statistics (NCHS), these proportions rose considerably during the 1980's (6). Among women aged 15 years, the increase was from 17 percent in 1980 to 26 percent in 1988, and among women aged 17 years, from 36 to 51 percent. The increases were continuous throughout the 1980's, but the rate of increase was somewhat greater between 1985 and 1988 than in the early 1980's. Although pregnancy rates for teenagers had been relatively stable during the early 1980's, these rates increased beginning about 1985; abortion rates changed little during this period (7). Thus all of the recent rise in teenage pregnancy rates is reflected in increasing birth rates.

Another important factor in the increase in birth rates for teenagers is the growing proportion of all teen births to Hispanic women during recent years. In 1990, 19 percent of all teen births were to Hispanic women (see later section in text and related tables). Hispanic women, who are predominantly white (97 percent), have much higher fertility than non-Hispanic white women at all ages, but most especially at ages under 20 years. For example, the birth rate for Hispanic teenagers 15–19 years was

100.3 per 1,000 in 1990 compared with 42.5 for non-Hispanic white teenagers and 54.8 for all non-Hispanic teenagers. Moreover, the Hispanic teen population has increased considerably in recent years while the non-Hispanic teen population has declined. For example, the number of Hispanic women aged 15–19 years increased 16 percent between 1985 and 1990 while the number of non-Hispanic teenagers fell 8 percent. In other words, the rapid rise in teen birth rates since the mid-1980's results in part from the combined impact of the much higher fertility of Hispanic compared with non-Hispanic teenagers and the growing proportion of teenagers who are Hispanic. It might be noted here that the much higher fertility of Hispanic women combined with the more rapid growth in the number of Hispanic women at every age compared with non-Hispanic women are probably also factors in the continued rise in birth rates for women in their thirties, especially the recent large increases in higher order birth rates (table 5). Fertility patterns among Hispanic women are discussed later in this report.

Although the increases in birth rates for teenagers were greater than for women in their twenties, the prime childbearing ages, the proportion of all births occurring to teenagers remained at 13 percent in 1990, as it was in 1988 and 1989, compared with 18–19 percent in the mid-1970's. This is because the teenage population has continued to fall, both in absolute numbers and as a proportion of the population in the childbearing ages. The number of women aged 20–24 years has fallen as well but more recently, since 1981. For example, the number of women aged 15–19 years declined from 10.6 million in 1976 to 8.7 million in 1990, an 18-percent reduction, while the total population of women aged 15–44 years rose 20 percent, from 48.7 million to 58.6 million (8,9). The 20-percent overall increase reflects the even greater rise, 43 percent, in the number of women aged 25–44 years. Women in that age group in 1990 are all members of the baby-boom generation, whereas

most of those aged 25–44 in 1976 were born in the low-birth years before and during World War II.

As the smaller numbers of women under 25 years of age replace the much larger group aged 25–44 over the next several years, the total number of births can be expected to decline unless there are more than compensating increases in the birth rates for women in the peak childbearing ages. In fact, the provisional estimate of the number of births in 1991 was 1 percent below the 1990 total, with a slight additional decline apparent for 1992.

Birth rates increased for all birth orders except for eighth and higher order births. Increases were 2 percent for first and second births and 4–6 percent for third through fifth order births (tables 3 and 5 and figure 3). This pattern of change was similar to that observed in 1988 and 1989. Rates by live-birth order were relatively stable during the mid-1980's. The modest annual increases of 2–3 percent in first birth rates since 1988 have been enough to bring the number of first births to another record level of 1,689,118 in the United States in 1990.

Increases in first birth rates were largest for teenagers 18–19 years (4 percent) and for women aged 30–44 years (5–11 percent). Second order rates rose considerably for teenagers (7 percent) and for women 30–44 years (4–8 percent). Between 1986, when teen birth rates began to rise, and 1990, the first birth rate for women aged 15–17 years increased 20 percent. The only other age groups for whom first birth rates rose as much since 1986 were for women aged 30–34 (also up 20 percent) and 35–39 years (up 43 percent). The rate for women aged 40–44 years also increased but it is still very low, 1.0 per 1,000.

Although first birth rates for teenagers have risen considerably in the latter part of the 1980's, the major changes in fertility over the entire decade were the result of very substantial increases in first birth rates for women in their thirties. The rate for women aged 30–34 years rose 66 percent, and the rate for women aged 35–39 increased 158 percent. Second-order birth

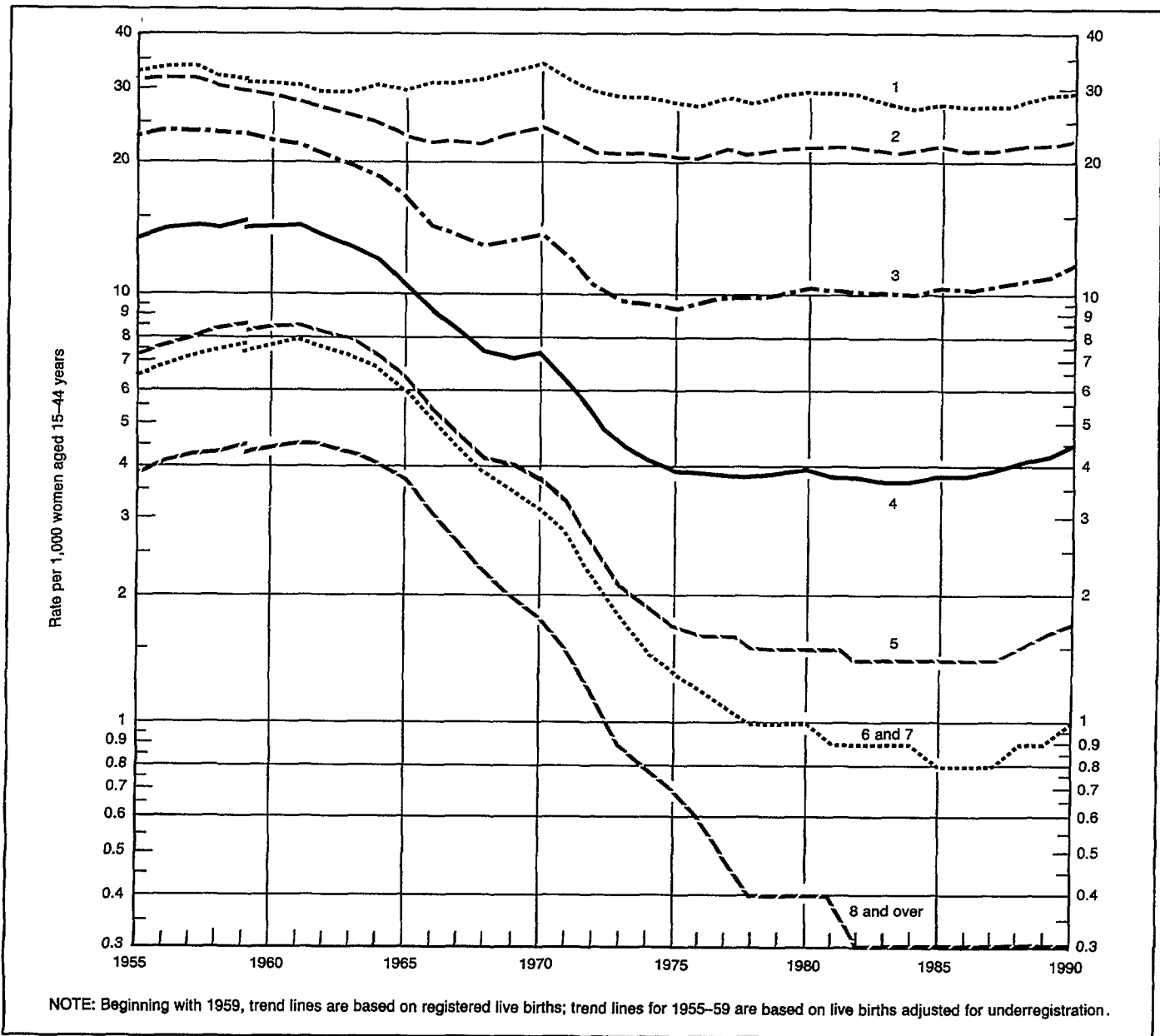


Figure 3. Birth rates by live-birth order: United States, 1955-90

rates also rose sharply, by 38-133 percent for women in their thirties.

Births by race—In 1990 as in 1989, birth data compiled by NCHS have been tabulated primarily by race of mother as reported directly on the birth certificate. In previous years, birth tabulations were by race of child, as determined by an algorithm based on information reported for the mother and father. Briefly, children of mixed-race parentage with one white parent were assigned the race of the other parent. When neither parent was white, the child was generally assigned

the father's race. Other details of current and former procedures concerning the tabulation of births by race are described in the Technical notes.

In general, changing the basis for tabulating birth data from race of child to race of mother results in more white births and fewer black births and births of other races. Therefore, population-based rates under the new classification tend to be higher for births to white mothers and lower for births to black mothers and to mothers of other races than they are when computed by race of child.

To facilitate continuity with previous years' data and analysis of current patterns, key tabulations and text analysis in this and other NCHS reports for 1989 and 1990 births show data for race of mother and for race of child. This will make it possible to distinguish the effects of this change in tabulation from real changes in the data. In this report, the discussions of changes in rates and various other measures between 1990 and previous years are based on rates and measures computed by race of mother. Text references to white births and white

mothers or black births and black mothers are therefore all based on tabulations by race of mother. Trend tabulations of births and birth rates by race of mother are not yet available; however, some rates for years prior to 1989 have been computed for analytic purposes for this report.

In 1990 the fertility rate for white women was 68.3 live births per 1,000 women aged 15–44 years, 3 percent higher than the 1989 rate (66.4) and 4 percent above the 1980 rate (65.6). The rate for black women was 86.8, just 1 percent higher than the 1989 rate (86.2) and 2 percent above the 1980 level (84.9).

Birth rates for white and black women increased between 1989 and 1990 for women in all age groups 15–44 years, but in each case the increase was greater for white women. Increases amounted to 5–7 percent for white women aged 15–19 and 30–44 years and 2–3 percent for white women in their twenties. By contrast, among black women, large increases were measured only in rates for those in their thirties (4–5 percent). Rates for black teenagers increased by 1 percent or less while rates for women in their twenties and early forties rose by 1–2 percent (tables 3 and 4).

Increases in birth rates by live-birth order were greater for white than for black women. Rates rose by 2–14 percent for white women. Rates for black women increased by 1–7 percent for second through sixth and seventh birth orders. The first-birth rate fell 2 percent.

Rates for first and second birth orders for white teenagers increased by 4–8 percent. Among black teenagers, first-birth rates fell 1–2 percent, but second- and third-birth rates rose 4–10 percent. Increases in order-specific birth rates for women in their thirties were sizable for both white and black women.

Total fertility rate—The total fertility rate is a measure that indicates how many births 1,000 women would have if they experienced throughout their childbearing years the set of age-specific birth rates observed in a given calendar year. It is a hypothetical measure that shows the implications of

current fertility levels for completed family size. The total fertility rate is computed from age-specific birth rates and is, therefore, age adjusted; it assumes the same number of women in each age group.

The total fertility rate in 1990 was 2,081.0, 3 percent higher than the 1989 level of 2,014.0 and higher than it has been in nearly two decades (2,266.5 in 1971) (table 4). The continued increase in the total fertility rate since 1986 reflects the ongoing increases in most age-specific birth rates since the mid-1980's. The level of 2,081.0 is just 1 percent below the level considered necessary for a given generation to exactly replace itself in the population over the long run (about 2,100). The total fertility rate has been below replacement level since 1972.

The total fertility rate for white women increased 4 percent in 1990, to 2,003.0, while the rate for black women rose 2 percent, to 2,480.0.

Geographic division and State

The number of births increased in all nine geographic divisions in 1990. As in 1989 and 1988, the increase in 1990 was largest in the Pacific Division, 7 percent. The number of births rose 3 percent in the East North Central, South Atlantic, and Mountain Divisions, 2 percent in the Middle Atlantic, East South Central, and West South Central Divisions, and 1 percent in the New England and West North Central Divisions. (See table 6 for 1990 data.) Births increased in all but seven States, three of them in New England, two in the West North Central Division, and one each in the Mountain and the West South Central Divisions. Increases amounted to 10 percent in Nevada, 7 percent in California, 5–6 percent in Washington and Hawaii, 4 percent in Delaware and Oregon, and up to 3 percent in other States.

Fertility rates by race and Hispanic origin of the mother for 1990 have been computed for this report (table 6). The rates varied widely by State within each race group and by Hispanic origin. Rates for white women ranged from a low of 31.8 per

1,000 women aged 15–44 years for the District of Columbia to a high of 91.6 for Utah. Fertility rates for white women were also below 60 per 1,000 for Massachusetts and West Virginia. Rates of 75 per 1,000 or greater were measured for Alaska, Arizona, California, Nevada, and Texas. Rates for black women in States with at least 200 black births ranged from a low of 67.2 in West Virginia to a high of 110.3 in Wisconsin. Rates of 100 or higher also were reported for Florida, Hawaii, Massachusetts, Minnesota, and Rhode Island.

Rates for Hispanic women showed great variation. In States with at least 200 births to Hispanic women, rates ranged from 41.8 in Louisiana to 128.4 in California.

The high fertility rates for white women in Arizona, California, and Texas in particular are associated with the high proportions of white women who are Hispanic and the high fertility of Hispanic women in those States. For example, more than 40 percent of births to white mothers in Texas in 1990 were to Hispanic women. The Hispanic fertility rate was 108.5, 74 percent higher than the rate of 62.4 for white non-Hispanic women in Texas. (Rates for non-Hispanic women are not shown in this report.) The same pattern was observed for California, where the Hispanic fertility rate was 128.4, nearly twice the rate of 65.5 for white non-Hispanic women.

Sex ratio

The sex ratio at birth in 1990 was 1,050 males per 1,000 females, the same as in 1987–89 (table 7). There has been very little variation in this ratio in the last decade, ranging from 1,050 to 1,053. The ratio for births to white mothers was 1,054, up slightly from 1,053 in 1989. For 1990 the ratio for births to black mothers declined, to 1,029 from 1,031 in 1989.

Month of birth

In 10 of the 12 months of 1990, birth rates were higher than for the same month the previous year, unchanged for 1 month, and lower for

1 month. Fertility rates were higher for 10 months and lower for 2 months. As has been the pattern for many years, the peak months of occurrence of births for 1990 were July, August, and September (table 8). The underlying trends can be observed if the seasonal component is removed from the monthly birth and fertility rates. Unlike the two previous years, seasonally adjusted birth and fertility rates in the first half of 1990 tended to be somewhat higher than those in the last half.

Day of week of birth

The concentration of delivery of babies during the weekdays intensified for 1990. Births are occurring more frequently on Tuesdays through Fridays, with concomitant deficits occurring on weekends and holidays. Births also occur with less frequency on Mondays. (See table 9 for 1990 data.) The index of occurrence reveals the extent of this pattern. The index is defined as the ratio of the average number of births on a given day of the week to the average daily number of births for the year, multiplied by 100. Thus the average number of daily births is equivalent to an index of 100.0. The peak day of occurrence was Tuesday, with an index of 108.7, as it has been since 1980 when these data were first available. The index for Friday increased to 108.6 in 1990 from 108.1 in 1989, making it almost the same as Tuesday. The day of the week that had the fewest number of births was Sunday, with an index of 80.3. The differential between Tuesday and Sunday widened slightly for 1990, to 35 percent from 34 percent in 1989. In comparison, the difference for 1980 was only 22 percent.

The deficit of deliveries on weekdays, holidays, and Mondays is associated in part with the scheduling of cesarean deliveries, which comprised a high proportion of births (23.5 percent) in 1990 (10), many of which are scheduled in advance and are unlikely to be planned for weekends or holidays. In 1989 the index of occurrence for primary cesarean delivery was 73.1

for Sunday and 113.7 for Friday (11). For repeat cesarean delivery the difference is even more striking—39.5 for Sunday and 131.4 for Friday. As would be expected there is also a large weekend deficit for induced vaginal deliveries, many of which may also be scheduled (data not shown in this report). For all vaginal births, the differential between weekends and weekdays remains but is smaller (87.3 for Sunday and 106.3 for Tuesday in 1989).

Place of delivery

There was a very slight increase in the proportion of births (98.9 percent) reported to have occurred in hospitals in 1990 compared with the 1989 level of 98.8 percent. This has remained at or above 98.0 percent since 1966. The number of births occurring in nonhospital settings was 46,946 in 1990 compared with 47,214 in 1989. Less than 1 percent of all births occurred in freestanding birthing centers (0.4) and in residences (0.6) in 1990.

The majority of out-of-hospital births (59 percent) occurred in residences in 1990 as in 1989. However, births in freestanding birthing centers increased by 4 percent, from 30.2 percent of all out-of-hospital births in 1989 to 31.4 percent in 1990.

White mothers continue to be more likely than black mothers to give birth outside of a hospital. For 1990 the proportion of white women who delivered out of a hospital remained unchanged from the previous year, at 1.2 percent, but the proportion for black women declined, from 0.9 percent in 1989 to 0.8 percent in 1990. Among out-of-hospital births, the number of mothers utilizing birthing centers increased by 7 percent for black mothers and 4 percent for white mothers between 1989 and 1990, but a much larger proportion of out-of-hospital births to white mothers occurred in freestanding birthing centers (35.1 percent) than for black mothers (10.3 percent). Conversely, births occurred at residences at a higher rate for black mothers (73 percent) than for white mothers (57 percent).

Attendant at birth

The proportion of deliveries attended by doctors of medicine (M.D.'s) and doctors of osteopathy (D.O.'s) decreased in 1990, to 95.3 percent of all births compared with 95.7 percent reported in 1989 (table 10). This ratio has been declining slowly since a peak of 99.5 percent in the early seventies. Midwife-attended births continued to increase in 1990, to 3.9 percent of all births compared with 3.7 percent in 1989. Total midwife deliveries in 1990 were 5.5 times the number reported in 1975, with most of the increase (91 percent) in hospital deliveries. Whereas the number of births attended by midwives in nonhospital settings doubled between 1975 (9,727) and 1990 (20,996), the number of births attended by midwives in hospitals in 1990 (141,953) was 7 times that in 1975 (19,686).

The proportion of births attended by physicians (M.D.'s and D.O.'s) varied depending on place of delivery. In 1990 physicians performed 96.1 percent of all hospital deliveries, 40.6 percent of freestanding birthing center deliveries, and 21.6 percent of deliveries in residences. The proportion of physician-attended births that were attended by D.O.'s also varied, from 3.2 percent for births in hospital settings to 10.4 percent in nonhospital settings.

Between 1989 and 1990 the number of midwife deliveries increased more for black mothers (13.7 percent) than for white mothers (9.9 percent). Among hospital births, the proportions attended by midwives increased between 1989 and 1990 for both white and black mothers (2.9–3.2 percent for white mothers and 4.0–4.4 percent for black mothers). In contrast, the proportion of births in birthing centers attended by midwives decreased from 63.1 percent in 1989 to 58.2 percent in 1990, with a decline for births for white mothers (64.6–59.2 percent) and an increase among black mothers (33.3 and 36.1 percent).

Certified nurse midwives delivered 91.2 percent of all midwife-attended births in 1990 compared with 89.8 percent in 1989. There was little change in this proportion for births in hospitals between 1989 (98.0 percent) and 1990 (98.1 percent). However, certified

nurse midwives attended 66.8 percent of all midwife births in birthing centers, an increase from 63.2 percent in 1989. For births at residences this proportion was unchanged at 30.0 percent.

Women attended in hospital by midwives continue to be more likely to be young (under 20 years of age), black, unmarried, and less educated than those attended by a physician in hospital (data not shown in this report).

Age of father

The birth rate for men increased 2 percent in 1990, to 58.4 live births per 1,000 men aged 15–54 years. There has been little annual change in this rate since 1972; the rate has ranged from 53.2 to 59.1 during this period. Basic data are shown in tables 11 and 12.

Birth rates by age of father increased for all age groups 15–19 through 50–54 years in 1990. The largest increase was measured for men aged 15–19 for whom there was a 7-percent increase. This rate rose 31 percent between 1986 and 1990, even more than the rate for teenage women (up 19 percent). Rates increased 2–3 percent for men aged 20–44 years and by 4 percent for men aged 50–54 years. The rate for men aged 45–49 years rose 1 percent.

The birth rate for white men rose 2 percent in 1990, to 54.6. Rates for white men by age increased in a similar pattern as those for men of all races combined. The rate for black men increased 1 percent, to 84.9 in 1990. Rates by age for black men increased as well, but in most cases at a slower pace than rates for white men.

Weight at birth

Although the overall incidence of low birth weight in 1990 remained unchanged from the 1989 level of 7.0 percent, the substantial racial disparity narrowed slightly. There was a decline between 1989 and 1990 in the proportion of low-birth-weight babies (birth weight of less than 2,500 grams or 5½ pounds) to black mothers, from

13.5 percent to 13.3 percent, while the rate for white mothers remained stable at 5.7 percent. The percent low birth weight among births to white mothers has remained steady throughout the 1980's, between 5.6 and 5.7 percent, but for births to black mothers this proportion has increased, from 12.7 in 1980 to 13.3 in 1990. The reduction in low birth weight for births to black mothers from the 1989 level marks the first decline since 1984. Most of the decrease was for mothers aged 20–24 (from 12.9 to 12.3 percent) and 25–29 years (from 13.5 to 13.1 percent). (See table 13 for basic data.)

The percent of very low-birth-weight births (less than 1,500 grams, or 3 pounds 4 ounces)—infants at the greatest risk of infant mortality and childhood morbidity—was unchanged from the 1989 rate of 1.3 percent. The overall incidence of very low birth weight has increased by about 10 percent since the late 1970's, reflecting the steady rise in the proportion of preterm births. The vast majority of very low-birth-weight babies are born preterm (95 percent in 1990). In 1990 as in 1989, births to black mothers were three times as likely as births to white mothers to have very low birth weight (2.9 percent and 1.0 percent, respectively).

Between 1989 and 1990, the incidence of low birth weight for births to white mothers increased by 1 percent for the youngest age group (under 15 years) and by 2 percent for births to mothers aged 35–39 years; decreased by 2–7 percent for births to mothers aged 30–34, 40–44, and 45–49 years; and remained unchanged for other ages. Among births to black mothers, there were reductions in low-birth-weight levels of 5 percent or less for mothers under 35 years and mothers aged 45–49 and increases of 2–4 percent for mothers aged 35–44 years. Overall, the highest risk of low birth weight is for babies born to mothers under 15 years of age and to mothers aged 45 and over; the lowest risk is for infants of mothers aged 25–34 years.

The racial differential in low birth weight is associated with the much higher incidence of preterm births (less than 37 weeks of gestation) among black mothers, 18.8 percent

compared with 8.9 percent for white mothers in 1990. Preterm births are much more likely to be of low birth weight (40.6 percent) than term births (3.1 percent). Proportions of low birth weight among preterm births are similar for white (38.9 percent) and black mothers (45.5 percent), but for term births the risk of low birth weight is twice as high for black mothers as for white mothers. In 1990, 2.5 percent of term births to white mothers were low birth weight compared with 5.9 percent for term births to black mothers. For postterm births the proportions were 1.7 percent for white mothers and 4.3 percent for black mothers.

The overall median birth weight for infants born in 1990 was 3,370 grams (7 pounds 7 ounces), unchanged since 1984. The median for births to white mothers was the same as in 1989 (3,410 grams). For births to black mothers the median increased from 3,160 in 1989 to 3,170 in 1990.

The numbers and proportions of low-birth-weight babies for each State are shown in table 14. Between 1989 and 1990, levels of low birth weight among births to white mothers increased in 21 States and the District of Columbia and declined in 16 States. There were no changes reported for 13 States. Among the 36 States and the District of Columbia with at least 1,000 births to black mothers in 1990, the proportions of low-birth-weight births to black mothers increased in 12 States, fell in 21 States and the District of Columbia, and did not change in 3 States.

Multiple births

Live births in multiple deliveries totaled 96,893 for 1990, a 4-percent increase over the 92,916 reported in 1989 compared with a 3-percent increase in single births (table 15). Multiple births include twins, triplets, quadruplets, and higher order plural births. Although each year the vast majority of multiple births are twins, this proportion continues to decline. In 1990 twin births comprised 96.9 percent of all multiple births compared with 98.1 percent in 1980.

The ratio of multiple births per 1,000 total live births was 23.3 in 1990 compared with 23.0 in 1989. Ratios have increased steadily since a low of 18.4 in 1973.

Multiple birth ratios vary in a distinctive pattern according to age of mother. The highest ratio was for mothers aged 35–39 years, 31.8 in 1990 compared with the low of 10.0 for births to mothers under 15 years of age. These differences by age were observed for both white and black mothers, and except for the age group 45–49 years, the age-specific multiple birth ratios for black births were higher than those for white births.

Multiple birth ratios have consistently been higher for black births than for white births, but the racial differential narrowed slightly between 1989 and 1990 as the ratio for births to white mothers increased at a greater rate (from 22.5 to 22.9) than for black mothers (from 26.9 to 27.0). Conversely, the ratio of higher order multiple births, which relates the number of triplets and other higher order multiple births to 100,000 live births, was substantially higher for white mothers (80.2) than for black mothers (46.9). This ratio increased for both races from the previous year, when the ratios were 77.8 for white mothers and 38.9 for black mothers. For 1990 the ratio for all higher order multiple births was 72.8, an increase of 5 percent over the previous year (69.2).

The number of babies born in triplet and higher order plural deliveries continued to rise in 1990, to a total of 3,028, an 8-percent increase over the 1989 level of 2,798. These births accounted for 3.1 percent of all multiple births in 1990 compared with 3.0 percent in 1989. This increase is due entirely to a rise in the number of triplet births, which increased by 12 percent, from 2,529 births in 1989 to 2,830 births in 1990, comprising 2.9 percent of all multiple births compared with 2.7 percent for the previous year. (In contrast, twin births rose by 4 percent between 1989 and 1990.) Births in quadruplet deliveries declined, from 229 in 1989 to 185 in 1990. Quintuplet and higher order births also declined, from 40 births in

1989 to only 13 births in 1990. (Data not shown in table 15.)

The lower birth weights and elevated rates of prematurity of multiple births, when compared with single births, are highly associated with their elevated infant mortality (12). For 1990 more than half (51.9 percent) of all plural births were of low birth weight compared with 5.9 percent of single births. Similarly, 49.1 percent of all multiple births in 1990 were born preterm compared with 9.7 percent of single births. (Data not shown in this report.)

The increasing incidence of multiple births in recent years, and in particular of higher order multiple births, has been associated with the delay of childbearing and increased use of fertility-enhancing drugs among older mothers. For white mothers most of the increase has been associated with the expanded use of fertility drugs, while the increase among black mothers has been attributed to a shift in the age composition of women in their childbearing ages (13).

Births to unmarried women

Increases averaging 4–7 percent were reported for the three principal measures of childbearing by unmarried women in 1990, the sixth successive year of such increases. The number of births to unmarried mothers reached a record level of 1,165,384 in 1990, 7 percent more than in 1989. The number of nonmarital births has increased 75 percent since 1980 (665,747). The birth rate per 1,000 unmarried women increased 5 percent, to 43.8 in 1990. This rate rose 49 percent since 1980 (29.4). Because of the much greater increase in births and the birth rate for unmarried women (5–7 percent) than for married women (1–2 percent) between 1989 and 1990, the proportion of all births occurring to unmarried women continued to rise, reaching 28.0 percent in 1990. In 1980, 18.4 percent of births were to unmarried mothers. (Basic data for unmarried women are shown in tables 16 and 17.)

Nonmarital childbearing increased more for white women than for

black women over the last decade. The number of births to unmarried white women totaled 669,698 in 1990, 9 percent more than in 1989 (613,543), and more than twice as many as in 1980 (328,984). The number of nonmarital births to black women in 1990 was 455,304, 3 percent more than in 1989 (442,395) and 43 percent more than in 1980 (318,799). The proportions of all births that were to unmarried women rose for both race groups, to 20.4 percent for white births and 66.5 percent for black births.

The birth rate for white unmarried women was 32.9 per 1,000 in 1990, 9 percent higher than the rate in 1989 (30.2) and 82 percent higher than in 1980 (18.1). The birth rate for black unmarried women, while much higher, changed much less during these years. The rate was 90.5 in 1990, about the same as the rate of 90.7 in 1989, and 12 percent higher than the rate of 81.1 in 1980. As a consequence of the greater increase in rates for white women than for black women, the racial differential in nonmarital birth rates declined considerably during the 1980's. The rate for black women was 4.5 times the rate for white women in 1980; by 1990, this differential fell to 2.8.

Increases in nonmarital birth rates were substantial for women in all age groups, except young teenagers 15–17 years. Rates rose by 6–8 percent for women aged 18–44 years. The rate for teenagers 15–17 years rose 3 percent. Not only have the age-specific rates continued to rise virtually without interruption since the mid-1970's, the rates measured for 1990 in all but one instance are the highest ever observed in the 50 years for which national rates are available. (The one exception is the rate for women aged 35–39 years, which was 17.3 in 1990 compared with 17.4 in 1965, the highest level ever for that rate.) Birth rates were highest for women in age groups 18–24 years, 60.7–65.1 per 1,000.

Increases in birth rates for white unmarried women were substantial in every age group, amounting to 10 percent or more for women in age groups 18–44 years. The rate for white teenagers 15–17 years rose 6 percent.

Much smaller increases were observed for black women, 2 percent in each age group 18–44 years. The rate for young black teenagers fell slightly in 1990. This pattern of much greater increases in rates for white than for black women has been observed for more than a decade.

Although increases in age-specific birth rates were widespread in 1990, it is the rise in the rates for women in their twenties and older, particularly those aged 25–39 years, that has had the greatest impact on nonmarital childbearing since 1980. This is because the increases in rates of 65–78 percent during the 1980's for women aged 25–39 years have coincided with comparably large increases (40–89 percent) in the number of unmarried women in those age groups. The number of unmarried women aged 15–24 years by contrast has actually fallen, by 6 percent. Therefore the increases in the rates for unmarried teenagers and women in their early twenties have had lesser effect. These divergent patterns have resulted in substantially more births to older unmarried women and an increasing proportion of all nonmarital births occurring to women 25 years of age and over, 34 percent in 1990 compared with 24 percent in 1980.

Levels of nonmarital childbearing vary widely according to State of residence. The number and ratio of births to unmarried women for each State by race are shown in table 18. With only two exceptions (Delaware and Texas), the ratios per 1,000 total live births in each State were higher in 1990 than in 1989. This was the case for births to white mothers as well, with only one exception (Texas). The ratios for births to black unmarried mothers increased in all but six States (Arizona, Delaware, Iowa, Massachusetts, Rhode Island, and Texas).

Interval since last live birth

The interval since the mother's last live birth is computed for all second and higher order births from the date of the last live birth and the date of the present birth (table 19).

There has been virtually no change over the last several years in

the proportions of births occurring within various intervals following the mother's previous live birth. In 1990 as in 1986–89, 13 percent of all second and higher order births occurred within 18 months of the mother's previous birth, 27 percent within 2 years and 51 percent within 3 years.

A substantial racial differential has been observed for many years in the occurrence of births within very short intervals. In 1990, 12 percent of births to white mothers and 20 percent of births to black mothers occurred within 1½ years of the mother's previous birth.

Closely spaced births tend to be at disproportionate risk of low birth weight and other health complications (14). In many cases this is because closely spaced births tend to occur more frequently to young women and to black women. For example, while 15 percent of all second births were to black mothers, 19 percent of all closely spaced second births were to black women. Babies born to teenage and black mothers are at greatly elevated risk of low birth weight. (See earlier section of this report.)

Educational attainment of mother and father

In 1990 as in 1989, educational attainment of the parents was reported on the birth certificates of 48 States, the District of Columbia, and New York City. Data were not available for the remainder of New York State and Washington. There was a slight decline in the proportion of mothers reported to have been high school graduates, 76 percent in 1990 compared with 77 percent in 1989. (See tables 20 and 21 for basic data.) The proportion of fathers who had completed high school remained unchanged, at 82 percent. This proportion for fathers may be overstated because it is based largely on information for births to married parents. When the mother is unmarried, information on the father is often not reported on the birth certificate. Because nonmarital births tend to be disproportionately to young mothers, it is likely that the fathers of these babies are young as well, and have had less opportunity to pursue their education.

In 1990, 17 percent of mothers giving birth were college graduates, the same level as in 1989. One third or more of mothers aged 30 years and over were college graduates. These proportions were even higher for first-time mothers, 46 percent of mothers aged 30–34 and 52 percent of mothers aged 35–39 years.

There was no change in the proportions of high school and college graduates among white and black mothers in 1990. Among white mothers, 78 percent had completed high school and 19 percent were college graduates. Among black mothers, 70 percent had completed high school and 7 percent were college graduates. The median years of school completed by white mothers was 12.7 years, and by black mothers, 12.5 years.

Births to Hispanic mothers

Hispanic origin of the parents was reported on the birth certificates of 48 States and the District of Columbia in 1990, an increase of 1 State (Louisiana) compared with 1989. Only New Hampshire and Oklahoma did not report this information in 1990. According to data from the 1990 census, 99.6 percent of the Hispanic population resides in the 1990 reporting area (9).

The text and tabulations (tables 22–26) in this report present data for births classified by Hispanic origin of the mother. Origin of the mother was very well reported in 1990; it was missing for only 1 percent of the birth records. (See table 22 for basic data.)

The fertility of the Hispanic population, in particular that of Mexican women, continues to be the highest of any ethnic or racial group in the United States for which fertility can be reliably measured. In 1990 the fertility rate for Hispanic women as a group was 107.7 births per 1,000 women aged 15–44 years, 61 percent higher than the rate for non-Hispanic women, 67.1 (table 24). Rates for white and black non-Hispanic women for 1990 were both substantially below the rate for Hispanic women, 62.8 and 89.0, respectively.

Among the Hispanic groups, the fertility of Mexican women was highest

(118.9), followed by "other Hispanic" women (102.7), Puerto Rican women (82.9), and Cuban women (52.6). The relationship of the rates in 1990 is similar to that observed in 1989.

The number of Hispanic origin births totaled 595,073 in 1990. Of these, 65 percent were to Mexican women, 14 percent to Central and South American women, 10 percent to Puerto Rican women, and 2 percent were to Cuban women. These proportions were about the same as in 1989, except for an increased proportion of Mexican births, up from 61 to 65 percent.

The Hispanic population is highly concentrated geographically. In 1990, 41 percent of Hispanic births were to California residents and 20 percent were to Texas residents. Other States with relatively large proportions of Hispanic births were New York (9 percent), Florida (5 percent), Illinois (4 percent), Arizona and New Jersey (3 percent each) and New Mexico (2 percent) (table 22). These proportions have been observed for several years.

In 1990, 97.1 percent of Hispanic mothers were reported to be white, 1.7 percent were black, and 1.2 percent were of other races (table 23). There has been little change in these proportions since 1978 when birth data for the Hispanic population first became available.

Birth rates by age, fertility rates, and total fertility rates by Hispanic origin are shown in table 24. (Fertility rates by State are shown in table 6.) These rates, based on 1990 census counts, indicate clearly that the fertility of Hispanic women exceeds that of white and black non-Hispanic women in every age group for women aged 20 years and over. The differential between Hispanic and non-Hispanic age-specific rates is larger as age of mother advances. For example, the rate for Hispanic women aged 25-29 years was 153.0 per 1,000, 31 percent higher than the rate of 116.5 for non-Hispanic women. By ages 35-39 years, the rate for Hispanic women (45.3) was 48 percent higher than the rate for non-Hispanic women (30.7).

The one exception to the pattern of higher fertility for Hispanic compared with non-Hispanic women is in the teenage years. Although Hispanic teenagers have much higher fertility than non-Hispanic teenagers as a group, 100.3 compared with 54.8, this is not the case when rates for non-Hispanic teenagers are examined for white and black women separately. The teenage birth rate was highest for black non-Hispanic teenagers, 116.2 per 1,000 aged 15-19 years compared with 100.3 for Hispanic teenagers. The rate for Hispanic teenagers, however, was still substantially higher than that for white non-Hispanic teenagers, 42.5.

In the section on births and birth rates earlier in this report, it was noted that teen birth rates, in particular those for white women, have been affected by the growing Hispanic teenage population and the high fertility of Hispanic teenagers. This is clarified when the rates for all white teenagers (50.8) and white non-Hispanic teenagers (42.5) are compared. It is evident that the much higher fertility of Hispanic teenagers is an important factor in the overall level of the birth rate for white teenagers.

Total fertility rates indicate the potential impact of current fertility levels on completed family size. The elevated total fertility rates of Hispanic women, especially Mexican and "other Hispanic" women, clearly reflect the high age-specific birth rates for these women. The rate of 3,214.0 for Mexican women was 74 percent greater than the rate of 1,850.5 for white non-Hispanic women and 26 percent higher than the rate of 2,547.5 for black non-Hispanic women. Rates for other Hispanic groups ranged from a low of 1,459.5 for Cuban women to a high of 2,877.0 for "other Hispanic" women (table 24).

In 1990, 17 percent of all Hispanic births and 18 percent of Mexican births were to mothers under 20 years of age. This proportion ranged from 8 to 9 percent for Cuban and Central and South American mothers to 22 percent for Puerto Rican mothers. (Basic data are shown in table 25.) The very high fertility of all Hispanic

women (except Cuban women) throughout the childbearing years is a key factor in accounting for the greater proportion of fourth and higher order births to Hispanic mothers (15 percent) compared with non-Hispanic mothers (10 percent) (table 26). The variation in this measure of childbearing largely mirrors the variations in proportions of teen births and in levels of age-specific birth rates.

A summary of various maternal demographic and infant health characteristics for Hispanic and non-Hispanic births is presented in table 26. There has been very little change in the levels of these characteristics over the 10-12-year period for which the data have been available. Hispanic women as a group are more likely than non-Hispanic women to have had their fourth or higher order child, to have completed fewer than 12 years of schooling, and to have had late or no prenatal care. Some of the educational differential can be attributed to the high proportion of Hispanic mothers who were born outside the United States, 61 percent overall. Presumably many foreign-born Hispanic women have not been exposed to a universal educational system. Other important differentials in childbearing characteristics have been documented for U.S.- and foreign-born Hispanic mothers (15,16). In spite of the less advantageous status of many Hispanic women with respect to educational attainment and receipt of prenatal care, Hispanic infants as a group continue to have relatively favorable levels of low birth weight, an average of 6.1 percent compared with 5.6 percent for white non-Hispanic infants and 13.3 percent for black non-Hispanic infants. The much lower incidence of smoking by Hispanic mothers may partly account for the favorable low-birth-weight levels (11). The maternal and infant characteristics included in table 26 are shown for the Mexican, Puerto Rican, Cuban, Central and South American, and Other and unknown Hispanic populations separately. These data demonstrate clearly the heterogeneity of the Hispanic population and the importance of differentiating among the groups in analyzing fertility patterns.

Births of other racial and national origin groups

The number of Chinese, Hawaiian, Filipino, and Other Asian or Pacific Islander births increased by 5–9 percent between 1989 and 1990 while the number of American Indian and Japanese births decreased by 1 percent or less. (Data for 1990 are shown in table 27.) Included in the classification "Other Asian or Pacific Islander" are births to Asian Indian, Cambodian, Korean, Laotian, Thai, and Vietnamese mothers.

The relatively high incidence of teenage childbearing (the proportion of births under 20 years of age) among American Indian mothers (20 percent) declined by less than 1 percent between 1989 and 1990, but births to Hawaiian teen mothers increased by 7 percent, to 18 percent of all births. Increases in teenage childbearing ranged from 2 to 21 percent, but the levels remained very low among Chinese (1 percent), Japanese (3 percent), and Filipino and other Asian or Pacific Islander mothers (6 percent). In contrast, the proportion of births to women aged 30 years and over was high among Chinese (58 percent), Japanese (59 percent), Filipino (46 percent), and other Asian mothers (39 percent), while the ratios for American Indian (21 percent) and Hawaiian mothers (22 percent) were relatively low, reflecting increases between 1989 and 1990 of up to 5 percent for all groups except Filipino, which decreased by less than 1 percent. Childbearing patterns among these groups have remained stable for several years.

Levels of low birth weight for births to mothers of races other than white and black ranged from 4.7 percent (Chinese) to 7.3 percent (Filipino) (table 29). In comparison, the rate of low birth weight for white births was 5.7 percent and for black births, 13.3 percent. Between 1989 and 1990 the incidence of low birth weight declined between 1 percent (Hawaiian) and 7 percent (Japanese) among all groups except Filipino and Other Asian, where no change was noted. For 1990 the proportion of very low

birth weight varied from 0.5 percent (Chinese) to 1.0 percent (American Indian and Filipino). These rates compare favorably with those for white mothers (1.0 percent) and black mothers (2.9 percent). Except for births to American Indian and Hawaiian mothers, the relatively favorable proportions of low-weight births are associated with the comparatively few births to teenage mothers, who are at increased risk of low birth weight.

Beginning with 1990, birth rates are available for American Indian and Asian or Pacific Islander births as a group (table 28). Included in the latter category are many disparate ethnic groups, including Chinese, Japanese, Hawaiian, Filipino, and Other Asian or Pacific Islander (from third generation Japanese American mothers to newly arrived Laotian mothers), and as a result, its analytic value may be limited. The 1990 birth rates and fertility rates (defined as the number of live births per 1,000 women aged 15–44 years) for American Indian (18.9 and 76.2) and Asian or Pacific Islander (19.0 and 69.6) women are quite comparable, but analysis of the age-specific rates of the two groups reveal very distinct fertility patterns (table 28). The age-specific birth rates for American Indian women reveal high fertility at the younger ages and comparatively low fertility at the older ages (81.1 for ages 15–19 years and 148.7 for ages 20–24 compared with 27.5 for ages 35–39). The analogous rates for Asian or Pacific Islander women are 26.4, 79.2, and 49.6, respectively. The American Indian age-specific rates generally are lower than, but largely mirror, those for black mothers.

In direct contrast, age-specific birth rates for Asian or Pacific Islanders are lower than those for American Indian and white and black women for all younger age groups up to ages 25–29 years, at which point Asian or Pacific Islander birth rates exceed those of the other races and continue to do so for each age group throughout the childbearing years. The higher age-specific birth rates for Asian or Pacific Islander older mothers reflects, at least in part, delayed childbearing resulting from

the disruption associated with immigration (17,18).

Month of pregnancy prenatal care began

The proportion of mothers who began prenatal care in the first trimester of pregnancy increased slightly from 1989 to 1990, from 75 percent to 76 percent. Except for 2 years (1984 and 1989), this proportion has been stable at 76 percent since 1979. The percent of mothers who began care in the third trimester or received no care at all was unchanged from the 6 percent reported since 1983. (See table 30 for 1990 data.)

The substantial racial differential in prenatal care persists. The percent of white mothers receiving care in the first trimester of pregnancy was 79 percent, the same as the previous year. The proportion of black mothers beginning care during this critical period rose slightly, from 60 percent in 1989 to 61 percent in 1990. Overall, in 1990, 11 percent of black mothers and 5 percent of white mothers received late or no prenatal care. These proportions represent a decrease for black mothers from the 12 percent reported in 1989 and no change for white mothers. As in previous years, unmarried mothers are much more likely than their married counterparts to receive inadequate or no care, 4 percent of all married mothers compared with 13 percent of unmarried mothers. For white mothers these proportions were 3 percent for married and 12 percent for unmarried mothers. Among black mothers, 6 percent of married mothers and 14 percent of unmarried mothers received late or no care.

As in the last several years, timing of prenatal care improved for mothers under 20 and 40 years of age and over between 1989 and 1990. Still, only 54.7 percent of mothers under 20 years of age began care in the first 3 months of pregnancy. This proportion rose steadily, to a peak of 85.3 percent for women aged 30–34 and fell to 78.6 percent for women aged 40–49 years.

A review of prenatal care data by State reveals wide variation among States in the percent of mothers

receiving late or no care. For white mothers only 1 State reported that at least 10 percent of mothers received late or no care, whereas for the 36 States and the District of Columbia with at least 1,000 births to black mothers, 24 States reported that 10 percent or more of black mothers received late or no care. Between 1989 and 1990, 12 States and the District of Columbia showed increases, 34 States showed decreases, and 4 States showed no change in the proportion of white mothers who received late or no care. Among the 36 States and the District of Columbia with at least 1,000 births to black mothers in 1990, 13 States and the District of Columbia reported increases, 22 States showed reductions, and there was no change in 1 State.

Number of prenatal visits

In 1990 the median number of visits made to obtain prenatal care by women who received any prenatal care was 12.0. The overall median number of visits has increased slowly, from 11.4 in 1982 to 12.0 in 1987, but has shown no change since that year. There was no change in the median number of visits for either white (12.2) or black mothers (10.6) from the previous year. (Summary data for 1990 are presented in table 31.)

As would be expected, the earlier prenatal care begins, the greater the number of visits. On average, there were 12.5 visits for mothers who began care in the first trimester, 9.2 visits for mothers who began care in the second trimester, and 5.0 visits for mothers who began care in the third trimester. These medians have been generally rising since 1980, when the comparable figures were 12.1, 8.7, and 4.7, respectively.

Racial differences are reduced substantially when median visits are analyzed by trimester or by marital status. In 1990 white mothers who began care in the first trimester had an average of 12.5 visits compared with 12.2 for black mothers. Married white

mothers had 12.3 median visits compared with 11.9 for married black mothers, and the median number of visits for unmarried white mothers was 10.6 compared with 10.2 for unmarried black mothers.

Period of gestation

The length of gestation is measured from the first day of the mother's last normal menstrual period (LMP) to the date of birth. When the length of gestation as computed from the LMP is inconsistent with the reported birth weight or is incompletely reported, the "clinical estimate of gestation"—an item added to the 1989 revision of the birth certificate—is used. The proportion of babies born preterm, that is, before 37 weeks of gestation, remained unchanged from the 1989 level of 10.6 percent. This proportion generally has been increasing in the last decade; the 1990 percent represents a 12-percent rise over the 1982 level of 9.5 percent. The increase in preterm births is seen for both white and black mothers. (Data for 1990 are shown in table 32.)

The proportion of preterm births among white mothers increased slightly in 1990, to 8.9 percent from 8.8 percent in 1989. The percent of preterm births for black mothers decreased slightly, from 18.9 in 1989 to 18.8 in 1990, slightly narrowing the substantial racial disparity.

Apgar score

The Apgar score, originated by the late physician Virginia Apgar, is a numerical expression of the physical condition of an infant at birth. The score is a composite evaluation of 5 factors—the infant's heart rate, respiratory effort, muscle tone, irritability, and color—each of which is assigned a value from 0 to 2. The overall score is the sum of the 5 values, with a score of 10 being optimum. The 1-minute Apgar score is an indication of the infant's condition at birth, whereas the 5-minute score is considered a better assessment of the infant's long-term

health status and survival chances. In 1990 the Apgar score at both 1 and 5 minutes after birth were reported by 47 States and the District of Columbia. (Data for 1990 are shown in tables 33 and 34.)

In 1990 the proportion of babies with high 1-minute Apgar scores of 9–10 increased for the fourth consecutive year, from 42.3 percent in 1989 to 42.7 percent. Between 1989 and 1990, this proportion rose by 1 percent for births to both white and black mothers, but as in the previous year the proportion of high 1-minute scores was slightly larger for births to black mothers (44.4) than to white mothers (42.2). There was little overall change between 1989 (2.3 percent) and 1990 (2.2 percent) in the level of severely depressed births (scores of 0–3). Severely depressed scores to black births decreased (3.8–3.6 percent), with no change reported for births to white mothers (1.9). Births to black mothers continue to be almost twice as likely to have severely depressed scores as births to white mothers.

Five-minute scores of 9–10 were reported for 89.6 percent of births in 1990, an increase over the level of 89.1 percent reported for 1989. In contrast to 1-minute scores, births to white mothers were more likely than births to black mothers to have scores of 9 or 10, 90.1 percent compared with 87.3 percent. Similar to the 1-minute score, however, severely depressed scores were more prevalent for births to black mothers (1.0 percent) than for births to white mothers (0.4 percent).

Between 1989 and 1990, the proportion of low 5-minute scores (scores less than 7) decreased slightly for each age group except the youngest (under 15 years) and the oldest (45–49 years). As in previous years, mothers under 15 years of age and mothers in their late forties are more likely to have low Apgar scores (3.2–3.3 percent) than mothers aged 25–29 and 30–34 years (1.3 percent). The incidence of low scores was higher for births to black mothers than for births to white mothers, regardless of the mother's age.

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Symbols

- - - Data not available
 - . . . Category not applicable
 - Quantity zero
 - 0.0 Quantity more than zero but less than 0.05
 - * Figure does not meet standard of reliability or precision (estimate is based on fewer than 20 births in numerator or denominator)
-

Table 1. Live births, birth rates, and fertility rates, by race: United States, specified years 1940–55 and each year 1960–90

[Birth rates are live births per 1,000 population in specified group. Fertility rates per 1,000 women aged 15–44 years in specified group. Population enumerated as of April 1 for census years and estimated as of July 1 for all other years. Beginning with 1970, excludes births to nonresidents of the United States]

Year	Number				Birth rate				Fertility rate			
	All races	White	All other		All races	White	All other		All races	White	All other	
			Total	Black			Total	Black			Total	Black
Registered births												
Race of mother:												
1990	4,158,212	3,290,273	867,939	684,336	16.7	15.8	21.7	22.4	70.9	68.3	83.2	86.8
1989	4,040,958	3,192,355	848,603	673,124	16.4	15.4	21.6	22.3	69.2	66.4	82.7	86.2
Race of child:												
1990	4,158,212	3,225,343	932,869	724,576	16.7	15.5	23.3	23.8	70.9	66.9	89.4	91.9
1989	4,040,958	3,131,991	908,967	709,395	16.4	15.1	23.1	23.5	69.2	65.1	88.6	90.8
1988	3,909,510	3,046,162	863,348	671,976	16.0	14.8	22.5	22.6	67.3	63.4	85.9	87.0
1987	3,809,394	2,992,488	816,906	641,567	15.7	14.6	21.8	21.9	65.8	62.3	83.1	84.1
1986	3,756,547	2,970,439	786,108	621,221	15.6	14.6	21.4	21.5	65.4	62.1	81.9	82.6
1985	3,760,561	2,991,373	769,188	608,193	15.8	14.8	21.4	21.3	66.3	63.1	82.3	82.4
1984 ¹	3,669,141	2,923,502	745,639	592,745	15.6	14.6	21.2	21.0	65.5	62.3	81.8	81.5
1983 ¹	3,638,933	2,904,250	734,683	586,027	15.6	14.6	21.4	21.0	65.7	62.5	82.7	82.0
1982 ¹	3,680,537	2,942,054	738,483	592,641	15.9	14.9	22.0	21.5	67.3	63.9	85.3	84.3
1981 ¹	3,629,238	2,908,669	720,569	587,797	15.8	14.8	21.9	21.7	67.3	63.9	85.7	85.3
1980 ¹	3,612,258	2,898,732	713,526	589,616	15.9	14.9	22.5	22.1	68.4	64.7	88.6	88.1
1979 ¹	3,494,398	2,808,420	685,978	577,855	15.6	14.5	22.2	22.0	67.2	63.4	88.5	88.3
1978 ¹	3,333,279	2,681,116	652,163	551,540	15.0	14.0	21.6	21.3	65.5	61.7	87.0	86.7
1977 ¹	3,326,632	2,691,070	635,562	544,221	15.1	14.1	21.6	21.4	66.8	63.2	87.7	88.1
1976 ¹	3,167,788	2,567,614	600,174	514,479	14.6	13.6	20.8	20.5	65.0	61.5	85.8	85.8
1975 ¹	3,144,198	2,551,996	592,202	511,581	14.6	13.6	21.0	20.7	66.0	62.5	87.7	87.9
1974 ¹	3,159,958	2,575,792	584,166	507,162	14.8	13.9	21.2	20.8	67.8	64.2	89.8	89.7
1973 ¹	3,136,965	2,551,030	585,935	512,597	14.8	13.8	21.7	21.4	68.8	64.9	93.4	93.6
1972 ¹	3,258,411	2,655,558	602,853	531,329	15.8	14.5	22.8	22.5	73.1	68.9	99.5	99.9
1971 ²	3,555,970	2,919,746	636,224	564,960	17.2	16.1	24.6	24.4	81.6	77.3	109.1	109.7
1970 ²	3,731,386	3,091,264	640,122	572,362	18.4	17.4	25.1	25.3	87.9	84.1	113.0	115.4
1969 ²	3,600,206	2,993,614	606,592	543,132	17.9	16.9	24.5	24.4	86.1	82.2	111.6	112.1
1968 ²	3,501,564	2,912,224	589,340	531,152	17.6	16.6	24.2	24.2	85.2	81.3	111.9	112.7
1967 ³	3,520,959	2,922,502	598,457	543,976	17.8	16.8	25.0	25.1	87.2	82.8	117.1	118.5
1966 ²	3,606,274	2,993,230	613,044	558,244	18.4	17.4	26.1	26.2	90.8	86.2	123.5	124.7
1965 ²	3,760,358	3,123,860	636,498	581,126	19.4	18.3	27.6	27.7	96.3	91.3	131.9	133.2
1964 ²	4,027,490	3,369,160	658,330	607,556	21.1	20.0	29.2	29.5	104.7	99.8	140.0	142.6
1963 ^{2,4}	4,098,020	3,326,344	638,928	580,658	21.7	20.7	29.7	---	108.3	103.6	143.7	---
1962 ^{2,4}	4,167,362	3,394,068	641,580	584,610	22.4	21.4	30.5	---	112.0	107.5	147.8	---
1961 ²	4,268,326	3,600,864	667,462	611,072	23.3	22.2	31.6	---	117.1	112.3	153.0	---
1960 ²	4,257,850	3,600,744	657,106	602,264	23.7	22.7	32.1	31.9	118.0	113.2	153.6	153.5
Births adjusted for underregistration												
Race of child:												
1955	4,097,000	3,485,000	613,000	---	25.0	23.8	34.5	---	118.3	113.7	154.3	---
1950	3,632,000	3,108,000	524,000	---	24.1	23.0	33.3	---	106.2	102.3	137.3	---
1945	2,858,000	2,471,000	388,000	---	20.4	19.7	26.5	---	85.9	83.4	106.0	---
1940	2,559,000	2,199,000	360,000	---	19.4	18.6	26.7	---	79.9	77.1	102.4	---

¹Based on 100 percent of births in selected States and on a 50-percent sample of births in all other States; see Technical notes.

²Based on a 50-percent sample of births.

³Based on a 20- to 50-percent sample of births.

⁴Figures by race exclude data for New Jersey.

NOTE: Rates for 1981–89 have been revised; see Technical notes.

Table 2. Live births by age of mother and live-birth order, and race of mother and of child: United States, 1990

[Live-birth order refers to number of children born alive to mother]

Live-birth order and race	Age of mother													
	All ages	Under 15 years	15-19 years						20-24 years	25-29 years	30-34 years	35-39 years	40-44 years	45-49 years
			Total	15 years	16 years	17 years	18 years	19 years						
All races	4,158,212	11,657	521,826	27,703	57,901	97,723	144,969	193,530	1,093,730	1,277,108	886,063	317,583	48,607	1,638
First child	1,689,118	11,132	390,768	25,580	50,565	78,972	106,647	129,004	515,455	465,458	230,612	66,541	8,933	219
Second child	1,330,852	435	103,062	1,889	6,344	15,781	30,847	48,401	360,921	446,156	311,635	96,875	11,544	224
Third child	678,709	14	21,293	93	661	2,224	5,975	12,340	148,625	228,572	196,559	73,514	9,900	232
Fourth child	261,277	4	3,562	5	41	226	864	2,426	45,958	84,001	82,498	38,384	6,661	209
Fifth child	97,196	-	491	2	7	15	100	367	12,513	28,819	32,535	18,674	4,009	155
Sixth child	39,342	-	63	1	3	2	17	40	3,209	10,120	14,051	9,322	2,461	116
Seventh child	17,453	-	12	-	-	1	4	7	790	3,747	6,235	5,024	1,530	115
Eighth child and over	17,708	-	6	-	-	-	2	4	328	2,039	5,273	6,615	3,110	337
Not stated	26,557	72	2,569	133	280	502	713	941	5,931	8,196	6,665	2,634	459	31
Race of mother														
White	3,290,273	4,974	354,482	14,802	35,446	64,686	100,481	139,067	837,572	1,051,760	739,209	261,787	39,309	1,180
First child	1,361,078	4,760	278,206	13,962	32,224	55,097	78,319	98,604	418,381	397,591	197,469	56,960	7,538	173
Second child	1,075,049	174	62,936	746	2,833	8,356	18,648	32,353	279,181	375,821	265,354	81,814	9,594	175
Third child	529,727	7	10,336	25	224	877	2,769	6,441	102,171	183,243	164,802	60,910	8,082	176
Fourth child	191,827	4	1,310	3	12	54	298	943	26,401	61,819	65,857	30,927	5,341	168
Fifth child	66,430	-	171	-	2	5	34	130	5,833	18,895	24,028	14,280	3,112	111
Sixth child	25,498	-	19	-	3	1	4	11	1,252	5,718	9,680	6,872	1,873	84
Seventh child	10,873	-	3	-	-	-	1	2	258	1,854	3,938	3,614	1,127	79
Eighth child and over	10,963	-	3	-	-	-	1	2	142	869	3,032	4,423	2,303	191
Not stated	18,828	29	1,498	66	148	296	407	581	3,953	5,950	5,049	1,987	339	23
All other	867,939	6,683	167,344	12,901	22,455	33,037	44,488	54,463	256,158	225,348	146,854	55,796	9,298	458
First child	328,040	6,372	112,562	11,618	18,341	23,875	28,328	30,400	97,074	67,867	33,143	9,581	1,395	46
Second child	255,803	261	40,126	1,143	3,511	7,425	11,999	16,048	81,740	70,335	46,281	15,061	1,950	49
Third child	148,982	7	10,957	68	437	1,347	3,206	5,899	46,454	45,329	31,757	12,604	1,818	56
Fourth child	69,450	-	2,252	2	29	172	566	1,483	19,557	22,182	16,641	7,457	1,320	41
Fifth child	30,766	-	320	2	5	10	66	237	6,680	9,924	8,507	4,394	897	44
Sixth child	13,844	-	44	1	-	1	13	29	1,957	4,402	4,371	2,450	588	32
Seventh child	6,580	-	9	-	-	1	3	5	532	1,893	2,297	1,410	403	36
Eighth child and over	6,745	-	3	-	-	-	1	2	186	1,170	2,241	2,192	807	146
Not stated	7,729	43	1,071	67	132	206	306	360	1,978	2,246	1,616	647	120	8
Black ¹	684,336	6,338	151,613	12,023	20,734	30,124	40,171	48,561	217,274	168,217	99,514	35,592	5,581	207
First child	253,013	6,049	101,065	10,815	16,872	21,604	25,194	26,580	78,570	43,103	18,498	5,014	683	31
Second child	199,818	242	36,893	1,078	3,288	6,902	11,070	14,555	70,207	53,335	29,400	8,636	1,083	22
Third child	121,814	6	10,205	61	414	1,256	3,009	5,465	41,083	37,313	23,691	8,372	1,114	30
Fourth child	57,647	-	2,091	2	26	156	528	1,379	17,417	18,435	13,203	5,569	904	28
Fifth child	25,052	-	296	2	5	10	66	213	5,900	8,190	6,726	3,292	622	26
Sixth child	10,780	-	37	1	-	1	10	25	1,701	3,494	3,343	1,796	398	11
Seventh child	4,899	-	9	-	-	1	3	5	449	1,510	1,716	950	251	14
Eighth child and over	4,564	-	3	-	-	-	1	2	148	907	1,614	1,426	428	38
Not stated	6,749	41	1,014	64	129	194	290	337	1,799	1,930	1,323	537	98	7

Race of child														
White	3,225,343	4,855	343,920	14,345	34,426	62,846	97,503	134,800	817,789	1,034,573	727,416	257,113	38,525	1,152
First child	1,332,945	4,648	270,139	13,527	31,292	53,566	76,059	95,695	409,038	391,585	194,141	55,864	7,362	168
Second child	1,055,427	168	60,923	725	2,755	8,096	18,056	31,291	272,625	370,212	261,599	80,358	9,370	172
Third child	519,494	7	9,960	25	217	845	2,677	6,196	99,422	179,848	162,267	59,901	7,918	171
Fourth child	187,763	4	1,254	3	12	48	283	908	25,636	60,474	64,607	30,372	5,254	162
Fifth child	64,903	—	169	—	2	5	34	128	5,652	18,375	23,524	14,012	3,065	106
Sixth child	24,968	—	19	—	3	1	4	11	1,211	5,584	9,492	6,737	1,842	83
Seventh child	10,658	—	3	—	—	—	1	2	249	1,813	3,854	3,556	1,104	79
Eighth child and over	10,787	—	3	—	—	—	1	2	138	839	2,976	4,367	2,276	188
Not stated	18,398	28	1,450	65	145	285	388	567	3,818	5,843	4,956	1,946	334	23
All other	932,869	6,802	177,906	13,358	23,475	34,877	47,466	58,730	275,941	242,535	158,647	60,470	10,082	486
First child	356,173	6,484	120,629	12,053	19,273	25,406	30,588	33,309	106,417	73,873	36,471	10,677	1,571	51
Second child	275,425	267	42,139	1,164	3,589	7,685	12,591	17,110	88,296	75,944	50,036	16,517	2,174	52
Third child	159,215	7	11,333	68	444	1,379	3,298	6,144	49,203	48,724	34,292	13,613	1,982	61
Fourth child	73,514	—	2,308	2	29	178	581	1,518	20,322	23,527	17,891	8,012	1,407	47
Fifth child	32,293	—	322	2	5	10	66	239	6,861	10,444	9,011	4,662	944	49
Sixth child	14,374	—	44	1	—	1	13	29	1,998	4,536	4,559	2,585	619	33
Seventh child	6,795	—	9	—	—	1	3	5	541	1,934	2,381	1,468	426	36
Eighth child and over	6,921	—	3	—	—	—	1	2	190	1,200	2,297	2,248	834	149
Not stated	8,159	44	1,119	68	135	217	325	374	2,113	2,353	1,709	688	125	8
Black ¹	724,576	6,426	158,974	12,347	21,451	31,398	42,268	51,510	230,494	178,140	106,156	38,145	6,019	222
First child	270,523	6,130	106,678	11,127	17,528	22,663	26,778	28,582	84,743	46,332	20,262	5,567	780	31
Second child	211,552	248	38,289	1,089	3,341	7,077	11,495	15,287	74,488	56,550	31,387	9,377	1,187	26
Third child	128,178	6	10,482	61	418	1,281	3,075	5,647	42,982	39,328	25,189	8,944	1,215	32
Fourth child	60,266	—	2,126	2	26	161	537	1,400	17,993	19,288	13,957	5,914	957	31
Fifth child	26,085	—	296	2	5	10	66	213	6,032	8,561	7,070	3,442	656	28
Sixth child	11,148	—	37	1	—	1	10	25	1,735	3,583	3,476	1,891	414	12
Seventh child	5,043	—	9	—	—	1	3	5	456	1,540	1,773	986	265	14
Eighth child and over	4,682	—	3	—	—	—	1	2	149	933	1,657	1,457	442	41
Not stated	7,099	42	1,054	65	133	204	303	349	1,916	2,025	1,385	567	103	7

¹Included in All other.

Table 3. Birth rates by age of mother and live-birth order, by race of mother and of child: United States, 1990

[Rates are live births per 1,000 women in specified age and racial group. Live-birth order refers to number of children born alive to mother]

Live-birth order and race	Age of mother										
	15-44 years ¹	10-14 years	15-19 years								
			Total	15-17 years	18-19 years	20-24 years	25-29 years	30-34 years	35-39 years	40-44 years	45-49 years
All races	70.9	1.4	59.9	37.5	88.6	116.5	120.2	80.8	31.7	5.5	0.2
First child	29.0	1.3	45.1	31.9	62.0	55.2	44.1	21.2	6.7	1.0	0.0
Second child	22.8	0.1	11.9	4.9	20.8	38.6	42.3	28.6	9.8	1.3	0.0
Third child	11.7	*	2.5	0.6	4.8	15.9	21.7	18.1	7.4	1.1	0.0
Fourth child	4.5	*	0.4	0.1	0.9	4.9	8.0	7.6	3.9	0.8	0.0
Fifth child	1.7	*	0.1	0.0	0.1	1.3	2.7	3.0	1.9	0.5	0.0
Sixth and seventh child	1.0	*	0.0	*	0.0	0.4	1.3	1.9	1.4	0.5	0.0
Eighth child and over	0.3	*	*	*	*	0.0	0.2	0.5	0.7	0.4	0.0
Race of mother											
White	68.3	0.7	50.8	29.5	78.0	109.8	120.7	81.7	31.5	5.2	0.2
First child	28.4	0.7	40.1	26.1	57.8	55.1	45.9	22.0	6.9	1.0	0.0
Second child	22.4	0.0	9.1	3.1	16.7	36.8	43.4	29.5	9.9	1.3	0.0
Third child	11.1	*	1.5	0.3	3.0	13.5	21.2	18.3	7.4	1.1	0.0
Fourth child	4.0	*	0.2	0.0	0.4	3.5	7.1	7.3	3.8	0.7	0.0
Fifth child	1.4	*	0.0	*	0.1	0.8	2.2	2.7	1.7	0.4	0.0
Sixth and seventh child	0.8	*	0.0	*	*	0.2	0.9	1.5	1.3	0.4	0.0
Eighth child and over	0.2	*	*	*	*	0.0	0.1	0.3	0.5	0.3	0.0
All other	83.2	4.0	96.3	69.1	132.4	145.4	117.7	76.3	32.8	6.7	0.4
First child	31.7	3.8	65.2	54.7	79.1	55.5	35.8	17.4	5.7	1.0	0.0
Second child	24.7	0.2	23.2	12.3	37.8	46.8	37.1	24.3	8.9	1.4	0.0
Third child	14.4	*	6.3	1.9	12.3	26.6	23.9	16.7	7.5	1.3	0.1
Fourth child	6.7	*	1.3	0.2	2.8	11.2	11.7	8.7	4.4	1.0	0.0
Fifth child	3.0	*	0.2	*	0.4	3.8	5.2	4.5	2.6	0.7	0.0
Sixth and seventh child	2.0	*	0.0	*	0.1	1.4	3.3	3.5	2.3	0.7	0.1
Eighth child and over	0.7	*	*	*	*	0.1	0.6	1.2	1.3	0.6	0.1
Black ²	86.8	4.9	112.8	82.3	152.9	160.2	115.5	68.7	28.1	5.5	0.3
First child	32.4	4.7	75.7	64.9	89.9	58.4	29.9	12.9	4.0	0.7	0.0
Second child	25.6	0.2	27.6	14.8	44.5	52.2	37.0	20.6	6.9	1.1	0.0
Third child	15.6	*	7.6	2.3	14.7	30.6	25.9	16.6	6.7	1.1	0.0
Fourth child	7.4	*	1.6	0.2	3.3	13.0	12.8	9.2	4.5	0.9	0.0
Fifth child	3.2	*	0.2	*	0.5	4.4	5.7	4.7	2.6	0.6	0.0
Sixth and seventh child	2.0	*	0.0	*	0.1	1.6	3.5	3.5	2.2	0.7	0.0
Eighth child and over	0.6	*	*	*	*	0.1	0.6	1.1	1.1	0.4	0.1
Race of child											
White	66.9	0.7	49.3	28.6	75.6	107.2	118.8	80.4	30.9	5.1	0.2
First child	27.8	0.7	38.9	25.3	56.1	53.9	45.2	21.6	6.8	1.0	0.0
Second child	22.0	0.0	8.8	3.0	16.1	35.9	42.7	29.1	9.7	1.3	0.0
Third child	10.8	*	1.4	0.3	2.9	13.1	20.8	18.1	7.3	1.1	0.0
Fourth child	3.9	*	0.2	0.0	0.4	3.4	7.0	7.2	3.7	0.7	0.0
Fifth child	1.4	*	0.0	*	0.1	0.7	2.1	2.6	1.7	0.4	0.0
Sixth and seventh child	0.7	*	0.0	*	*	0.2	0.9	1.5	1.2	0.4	0.0
Eighth child and over	0.2	*	*	*	*	0.0	0.1	0.3	0.5	0.3	0.0
All other	89.4	4.1	102.4	72.4	142.1	156.7	126.7	82.4	35.5	7.3	0.5
First child	34.4	3.9	69.9	57.6	86.1	60.9	39.0	19.1	6.3	1.1	0.1
Second child	26.6	0.2	24.4	12.6	40.0	50.5	40.1	26.3	9.8	1.6	0.1
Third child	15.4	*	6.6	1.9	12.7	28.2	25.7	18.0	8.1	1.4	0.1
Fourth child	7.1	*	1.3	0.2	2.8	11.6	12.4	9.4	4.8	1.0	0.0
Fifth child	3.1	*	0.2	*	0.4	3.9	5.5	4.7	2.8	0.7	0.0
Sixth and seventh child	2.1	*	0.0	*	0.1	1.5	3.4	3.6	2.4	0.8	0.1
Eighth child and over	0.7	*	*	*	*	0.1	0.6	1.2	1.3	0.6	0.1
Black ²	91.9	4.9	118.3	85.4	161.6	170.0	122.3	73.3	30.2	5.9	0.3
First child	34.6	4.7	79.9	67.6	96.1	63.0	32.2	14.2	4.5	0.8	0.0
Second child	27.1	0.2	28.7	15.2	46.5	55.4	39.3	22.0	7.5	1.2	0.0
Third child	16.4	*	7.9	2.3	15.1	32.0	27.3	17.6	7.2	1.2	0.0
Fourth child	7.7	*	1.6	0.2	3.4	13.4	13.4	9.8	4.7	1.0	0.0
Fifth child	3.3	*	0.2	*	0.5	4.5	5.9	4.9	2.8	0.7	0.0
Sixth and seventh child	2.1	*	0.0	*	0.1	1.6	3.6	3.7	2.3	0.7	0.0
Eighth child and over	0.6	*	*	*	*	0.1	0.6	1.2	1.2	0.4	0.1

¹Rates computed by relating total births, regardless of age of mother, to women aged 15-44 years.²Included in All other.

Table 4. Total fertility rates and birth rates by age of mother and race: United States, 1970–90

[Total fertility rates are sums of birth rates for 5-year age groups multiplied by 5. Birth rates are live births per 1,000 women in specified group, enumerated as of April 1 for 1970, 1980, and 1990, and estimated as of July 1 for all other years]

Year and race	Total fertility rate	Age of mother									
		10–14 years	15–19 years			20–24 years	25–29 years	30–34 years	35–39 years	40–44 years	45–49 years
			Total	15–17 years	18–19 years						
All races											
1990	2,081.0	1.4	59.9	37.5	88.6	116.5	120.2	80.8	31.7	5.5	0.2
1989	2,014.0	1.4	57.3	36.4	84.2	113.8	117.6	77.4	29.9	5.2	0.2
1988	1,934.0	1.3	53.0	33.6	79.9	110.2	114.4	74.8	28.1	4.8	0.2
1987	1,872.0	1.3	50.6	31.7	78.5	107.9	111.6	72.1	26.3	4.4	0.2
1986	1,837.5	1.3	50.2	30.5	79.6	107.4	109.8	70.1	24.4	4.1	0.2
1985	1,844.0	1.2	51.0	31.0	79.6	108.3	111.0	69.1	24.0	4.0	0.2
1984 ¹	1,806.5	1.2	50.6	31.0	77.4	106.8	108.7	67.0	22.9	3.9	0.2
1983 ¹	1,799.0	1.1	51.4	31.8	77.4	107.8	108.5	64.9	22.0	3.9	0.2
1982 ¹	1,827.5	1.1	52.4	32.3	79.4	111.6	111.0	64.1	21.2	3.9	0.2
1981 ¹	1,812.0	1.1	52.2	32.0	80.0	112.2	111.5	61.4	20.0	3.8	0.2
1980 ¹	1,839.5	1.1	53.0	32.5	82.1	115.1	112.9	61.9	19.8	3.9	0.2
1979 ¹	1,808.0	1.2	52.3	32.3	81.3	112.8	111.4	60.3	19.5	3.9	0.2
1978 ¹	1,760.0	1.2	51.5	32.2	79.8	109.9	108.5	57.8	19.0	3.9	0.2
1977 ¹	1,789.5	1.2	52.8	33.9	80.9	112.9	111.0	56.4	19.2	4.2	0.2
1976 ¹	1,738.0	1.2	52.8	34.1	80.5	110.3	106.2	53.6	19.0	4.3	0.2
1975 ¹	1,774.0	1.3	55.6	36.1	85.0	113.0	108.2	52.3	19.5	4.6	0.3
1974 ¹	1,835.0	1.2	57.5	37.3	88.7	117.7	111.5	53.8	20.2	4.8	0.3
1973 ¹	1,879.0	1.2	59.3	38.5	91.2	119.7	112.2	55.6	22.1	5.4	0.3
1972 ¹	2,010.0	1.2	61.7	39.0	96.9	130.2	117.7	59.8	24.8	6.2	0.4
1971 ²	2,266.5	1.1	64.5	38.2	105.3	150.1	134.1	67.3	28.7	7.1	0.4
1970 ²	2,480.0	1.2	68.3	38.8	114.7	167.8	145.1	73.3	31.7	8.1	0.5
White											
Race of mother:											
1990	2,003.0	0.7	50.8	29.5	78.0	109.8	120.7	81.7	31.5	5.2	0.2
1989	1,931.0	0.7	47.9	28.1	72.9	106.9	117.8	78.1	29.7	4.9	0.2
Race of child:											
1990	1,963.0	0.7	49.3	28.6	75.6	107.2	118.8	80.4	30.9	5.1	0.2
1989	1,894.5	0.7	46.6	27.4	70.9	104.6	115.9	76.9	29.2	4.8	0.2
1988	1,822.5	0.6	43.2	25.3	67.8	101.6	113.0	74.3	27.2	4.4	0.2
1987	1,774.5	0.6	41.5	24.0	67.3	100.4	110.7	71.9	25.5	4.1	0.2
1986	1,747.5	0.6	41.5	23.3	68.7	101.0	109.2	69.8	23.5	3.7	0.2
1985	1,759.0	0.6	42.5	24.0	69.2	102.4	110.7	68.9	22.9	3.6	0.2
1984 ¹	1,722.5	0.6	42.2	23.9	67.3	101.1	108.3	66.8	21.8	3.5	0.2
1983 ¹	1,716.0	0.6	43.3	24.7	67.7	102.2	108.0	64.4	21.0	3.5	0.2
1982 ¹	1,741.5	0.6	44.3	25.1	69.7	106.0	110.4	63.2	20.1	3.5	0.2
1981 ¹	1,726.0	0.5	44.3	25.1	70.4	106.7	111.0	60.3	18.8	3.4	0.2
1980 ¹	1,748.5	0.6	44.7	25.2	72.1	109.5	112.4	60.4	18.5	3.4	0.2
1979 ¹	1,715.5	0.6	43.7	24.7	71.0	107.0	110.8	59.0	18.3	3.5	0.2
1978 ¹	1,667.5	0.6	42.9	24.9	69.4	104.1	107.9	56.6	17.7	3.5	0.2
1977 ¹	1,703.0	0.6	44.1	26.1	70.5	107.7	110.9	55.3	18.0	3.8	0.2
1976 ¹	1,652.0	0.6	44.1	26.3	70.2	105.3	105.9	52.6	17.8	3.9	0.2
1975 ¹	1,686.0	0.6	46.4	28.0	74.0	108.2	108.1	51.3	18.2	4.2	0.2
1974 ¹	1,748.5	0.6	47.9	28.7	77.3	113.0	111.8	52.9	18.9	4.4	0.2
1973 ¹	1,783.0	0.6	49.0	29.2	79.3	114.4	112.3	54.4	20.7	4.9	0.3
1972 ¹	1,906.5	0.5	51.0	29.3	84.3	124.8	117.4	58.4	23.3	5.6	0.3
1971 ²	2,160.5	0.5	53.6	28.5	92.3	144.9	134.0	65.4	26.9	6.4	0.4
1970 ²	2,385.0	0.5	57.4	29.2	101.5	163.4	145.9	71.9	30.0	7.5	0.4

See footnotes at end of table.

Table 4. Total fertility rates and birth rates by age of mother and race: United States, 1970-90—Con.

[Total fertility rates are sums of birth rates for 5-year age groups multiplied by 5. Birth rates are live births per 1,000 women in specified group, enumerated as of April 1 for 1970, 1980, and 1990, and estimated as of July 1 for all other years]

Year and race	Total fertility rate	Age of mother											
		10-14 years	15-19 years					20-24 years	25-29 years	30-34 years	35-39 years	40-44 years	45-49 years
			Total	15-17 years	18-19 years								
All other													
Race of mother:													
1990	2,398.0	4.0	96.3	69.1	132.4	145.4	117.7	76.3	32.8	6.7	0.4		
1989	2,360.5	4.2	95.9	69.2	132.5	143.6	116.6	73.7	31.1	6.6	0.4		
Race of child:													
1990	2,578.0	4.1	102.4	72.4	142.1	156.7	126.7	82.4	35.5	7.3	0.5		
1989	2,527.5	4.3	101.2	72.1	141.2	153.8	125.4	79.6	33.7	7.1	0.4		
1988	2,421.0	4.1	94.0	67.5	133.1	148.3	120.8	77.2	32.6	6.8	0.4		
1987	2,314.0	4.0	89.8	64.7	127.5	142.1	116.1	73.3	30.8	6.3	0.4		
1986	2,253.5	3.9	88.7	62.6	128.0	137.9	112.9	71.1	29.7	6.1	0.4		
1985	2,241.5	3.8	88.9	62.8	126.3	136.8	112.6	70.0	30.0	5.8	0.4		
1984 ¹	2,208.5	3.8	88.3	63.2	123.1	135.2	111.0	68.3	28.8	5.9	0.4		
1983 ¹	2,211.0	3.6	88.9	64.1	122.7	136.3	111.2	67.6	28.2	6.0	0.4		
1982 ¹	2,262.5	3.5	90.5	64.9	126.4	140.8	114.4	68.6	28.1	6.1	0.5		
1981 ¹	2,256.5	3.6	90.6	64.7	128.0	140.8	114.2	68.0	27.5	6.2	0.4		
1980	2,323.0	3.9	94.9	68.3	133.2	145.0	115.5	70.8	27.9	6.5	0.4		
1979 ¹	2,309.5	4.1	96.5	70.5	134.9	144.3	114.6	68.3	27.3	6.4	0.4		
1978 ¹	2,264.5	4.0	96.0	70.4	134.4	142.1	111.9	65.2	26.9	6.4	0.4		
1977 ¹	2,278.5	4.3	99.5	74.8	136.8	142.3	111.5	63.4	27.3	6.9	0.5		
1976 ¹	2,222.5	4.3	99.9	75.5	137.2	138.9	107.6	59.5	26.9	6.9	0.5		
1975 ¹	2,276.0	4.7	106.4	80.5	146.1	141.0	108.7	58.8	27.6	7.5	0.5		
1974 ¹	2,338.5	4.6	111.3	84.9	153.1	145.5	109.5	59.9	28.8	7.6	0.5		
1973 ¹	2,443.0	5.0	117.5	90.5	160.9	151.6	111.2	63.2	30.9	8.6	0.6		
1972 ¹	2,627.5	4.7	123.8	93.8	173.3	163.4	119.3	68.9	34.8	9.9	0.7		
1971 ²	2,919.5	4.7	128.5	94.0	185.6	184.0	134.6	79.3	40.2	11.7	0.9		
1970 ²	3,066.7	4.8	133.4	95.2	195.4	196.8	140.1	82.5	42.2	12.6	0.9		
Black³													
Race of mother:													
1990	2,480.0	4.9	112.8	82.3	152.9	160.2	115.5	68.7	28.1	5.5	0.3		
1989	2,432.5	5.1	111.5	81.9	151.9	156.8	114.4	66.3	26.7	5.4	0.3		
Race of child:													
1990	2,626.0	4.9	118.3	85.4	161.6	170.0	122.3	73.3	30.2	5.9	0.3		
1989	2,564.0	5.2	116.2	84.4	159.4	165.2	120.9	70.6	28.6	5.8	0.3		
1988	2,417.5	4.9	106.9	78.1	149.4	157.1	114.4	67.1	27.3	5.5	0.3		
1987	2,306.5	4.8	101.1	74.2	141.4	149.2	110.2	64.4	26.2	5.2	0.2		
1986	2,237.5	4.7	98.8	71.1	140.0	143.5	106.8	63.0	25.4	5.0	0.3		
1985	2,206.0	4.6	97.9	70.7	136.4	140.7	105.9	61.4	25.5	4.9	0.3		
1984 ¹	2,161.0	4.4	96.1	70.4	131.3	137.8	103.8	60.0	24.8	5.0	0.3		
1983 ¹	2,153.0	4.1	95.8	70.6	130.2	137.5	103.7	59.3	24.6	5.3	0.3		
1982 ¹	2,198.0	4.1	96.4	70.8	132.4	141.3	106.9	60.5	24.6	5.4	0.4		
1981 ¹	2,205.5	4.1	96.5	70.4	134.4	142.5	107.6	60.3	24.2	5.6	0.3		
1980	2,266.0	4.3	100.0	73.6	138.8	146.3	109.1	62.9	24.5	5.8	0.3		
1979 ¹	2,263.2	4.6	101.7	75.7	140.4	146.3	108.2	60.7	24.7	6.1	0.4		
1978 ¹	2,218.0	4.4	100.9	75.0	139.7	143.8	105.4	58.3	24.3	6.1	0.4		
1977 ¹	2,251.0	4.7	104.7	79.6	142.9	144.4	106.4	57.5	25.4	6.6	0.5		
1976 ¹	2,187.0	4.7	104.9	80.3	142.5	140.5	101.6	53.6	24.8	6.8	0.5		
1975 ¹	2,243.0	5.1	111.8	85.6	152.4	142.8	102.2	53.1	25.6	7.5	0.5		
1974 ¹	2,298.5	5.0	116.5	90.0	158.7	146.7	102.2	54.1	27.0	7.6	0.6		
1973 ¹	2,411.0	5.4	123.1	96.0	166.6	153.1	103.9	58.1	29.4	8.6	0.6		
1972 ¹	2,601.0	5.1	129.8	99.5	179.5	165.0	112.4	64.0	33.4	9.8	0.7		
1971 ²	2,902.0	5.1	134.5	99.4	192.6	186.6	128.0	74.8	38.9	11.6	0.9		
1970 ²	3,098.7	5.2	140.7	101.4	204.9	202.7	136.3	79.6	41.9	12.5	1.0		

¹Based on 100 percent of births in selected States and on a 50-percent sample of births in all other States; see Technical notes.
²Based on a 50-percent sample of births.
³Included in All other.

NOTE: Rates for 1981-89 have been revised; see Technical notes.

Table 5. Birth rates by live-birth order and race: United States, 1970 and 1980-90

[Rates are live births per 1,000 women aged 15-44 years, enumerated as of April 1 for 1970, 1980, and 1990, and estimated as of July 1 for all other years. Figures for live-birth order not stated are distributed]

Year and race	Total	Live-birth order						
		1	2	3	4	5	6 and 7	8 and over
All races								
1990.....	70.9	29.0	22.8	11.7	4.5	1.7	1.0	0.3
1989.....	69.2	28.4	22.4	11.3	4.3	1.6	0.9	0.3
1988.....	67.3	27.6	22.0	10.9	4.1	1.5	0.9	0.3
1987.....	65.8	27.2	21.6	10.5	3.9	1.4	0.8	0.3
1986.....	65.4	27.2	21.6	10.3	3.8	1.4	0.8	0.3
1985.....	66.3	27.6	22.0	10.4	3.8	1.4	0.8	0.3
1984 ¹	65.5	27.4	21.7	10.1	3.7	1.4	0.9	0.3
1983 ¹	65.7	27.8	21.5	10.1	3.7	1.4	0.9	0.3
1982 ¹	67.3	28.6	22.0	10.2	3.8	1.4	0.9	0.3
1981 ¹	67.3	29.0	21.6	10.1	3.8	1.5	0.9	0.4
1980 ¹	68.4	29.5	21.8	10.3	3.9	1.5	1.0	0.4
1970 ²	87.9	34.2	24.2	13.6	7.2	3.8	3.2	1.8
White								
Race of mother:								
1990.....	68.3	28.4	22.4	11.1	4.0	1.4	0.8	0.2
1989.....	66.4	27.6	21.9	10.7	3.8	1.3	0.7	0.2
Race of child:								
1990.....	66.9	27.8	22.0	10.8	3.9	1.4	0.7	0.2
1989.....	65.1	27.9	21.5	10.5	3.8	1.3	0.7	0.2
1988.....	63.4	26.3	21.2	10.2	3.6	1.2	0.7	0.2
1987.....	62.3	26.0	21.0	9.8	3.4	1.1	0.6	0.2
1986.....	62.1	26.1	21.0	9.7	3.3	1.1	0.6	0.2
1985.....	63.2	26.6	21.5	9.7	3.3	1.1	0.7	0.2
1984 ¹	62.3	26.5	21.1	9.4	3.3	1.1	0.7	0.2
1983 ¹	62.5	26.8	20.9	9.4	3.3	1.2	0.7	0.2
1982 ¹	63.9	27.6	21.3	9.5	3.3	1.2	0.7	0.3
1981 ¹	63.9	28.1	20.9	9.4	3.3	1.2	0.8	0.3
1980 ¹	64.7	28.4	21.0	9.5	3.4	1.3	0.8	0.3
1970 ²	84.1	32.9	23.7	13.3	6.8	3.4	2.7	1.2
All other								
Race of mother:								
1990.....	83.2	31.7	24.7	14.4	6.7	3.0	2.0	0.7
1989.....	82.7	32.0	24.6	14.2	6.5	2.9	1.9	0.6
Race of child:								
1990.....	89.4	34.4	26.6	15.4	7.1	3.1	2.1	0.7
1989.....	88.6	34.5	26.4	15.1	6.9	3.0	2.0	0.6
1988.....	85.9	33.7	25.8	14.5	6.6	2.8	1.9	0.6
1987.....	83.1	32.8	25.0	14.0	6.2	2.7	1.8	0.6
1986.....	81.9	32.5	24.6	13.6	6.1	2.6	1.8	0.6
1985.....	82.3	32.5	24.8	13.7	6.2	2.7	1.8	0.6
1984 ¹	81.8	32.5	24.5	13.6	6.1	2.7	1.8	0.6
1983 ¹	82.7	32.8	24.7	13.7	6.2	2.7	1.9	0.7
1982 ¹	85.3	33.7	25.6	14.2	6.4	2.8	1.9	0.7
1981 ¹	85.7	34.0	25.7	14.1	6.4	2.8	2.0	0.8
1980 ¹	88.6	35.6	26.2	14.4	6.5	2.9	2.1	0.9
1970 ²	113.0	42.4	26.9	15.9	9.7	6.1	6.7	5.3
Black³								
Race of mother:								
1990.....	86.8	32.4	25.6	15.6	7.4	3.2	2.0	0.6
1989.....	86.2	32.9	25.4	15.3	7.1	3.0	1.9	0.6
Race of child:								
1990.....	91.9	34.6	27.1	16.4	7.7	3.3	2.1	0.6
1989.....	90.8	34.9	26.8	16.0	7.4	3.1	2.0	0.6
1988.....	87.0	33.7	25.9	15.1	6.9	2.9	1.8	0.5
1987.....	84.1	33.0	25.0	14.5	6.5	2.8	1.7	0.5
1986.....	82.6	32.6	24.6	14.1	6.4	2.7	1.7	0.5
1985.....	82.4	32.5	24.5	14.0	6.3	2.7	1.8	0.6
1984 ¹	81.5	32.3	24.1	13.8	6.3	2.7	1.8	0.6
1983 ¹	82.0	32.4	24.2	13.8	6.4	2.8	1.8	0.7
1982 ¹	84.4	33.1	25.0	14.3	6.6	2.8	1.9	0.7
1981 ¹	85.3	33.7	25.2	14.3	6.6	2.9	2.0	0.8
1980 ¹	88.1	35.2	25.7	14.5	6.7	3.0	2.1	0.9
1970 ²	115.4	43.3	27.1	16.1	10.0	6.4	7.0	5.6

¹Based on 100 percent of births in selected States and on a 50-percent sample of births in all other States; see Technical notes.

²Based on a 50-percent sample of births.

³Included in All other.

NOTE: Rates for 1981-89 have been revised; see Technical notes.

Table 6. Live births by race of mother and of child, birth rates, and fertility rates by race and Hispanic origin of mother: United States, each division and State, 1990

[By place of residence. Birth rates per 1,000 enumerated population in each area; fertility rates per 1,000 women aged 15–44 years enumerated in each area]

Division and State	Number					Birth rate	Fertility rate			
	All races ¹	Race of mother		Race of child			All races ¹	Race of mother		Hispanic origin ²
		White	Black	White	Black			White	Black	
United States	4,158,212	3,290,273	684,336	3,225,343	724,576	16.7	70.9	68.3	86.8	107.7
New England	201,173	178,444	16,765	175,316	18,985	15.2	62.8	60.6	93.7	103.5
Maine	17,359	17,019	96	16,863	163	14.1	60.5	60.3	88.6	72.6
New Hampshire	17,569	17,278	113	17,120	184	15.8	64.1	64.3	62.1	---
Vermont	8,273	8,203	21	8,166	38	14.7	60.5	60.8	45.1	29.4
Massachusetts	92,654	79,947	9,013	78,275	10,248	15.4	62.4	59.2	101.8	108.4
Rhode Island	15,195	13,374	1,158	13,105	1,341	15.1	63.6	60.3	105.5	127.0
Connecticut	50,123	42,623	6,364	41,787	7,011	15.2	64.2	62.0	83.7	93.8
Middle Atlantic	591,826	458,589	111,956	450,136	118,737	15.7	67.1	64.5	81.7	90.7
New York	297,576	220,726	63,315	216,808	66,340	16.5	69.1	67.4	77.9	91.1
New Jersey	122,289	94,352	23,097	92,610	24,504	15.8	67.0	64.6	81.8	87.4
Pennsylvania	171,961	143,511	25,544	140,718	27,893	14.5	63.9	60.5	92.8	97.2
East North Central	675,512	544,621	117,879	536,696	123,546	16.1	68.6	64.8	94.3	99.5
Ohio	166,913	139,183	25,955	137,060	27,678	15.4	65.9	63.0	89.0	70.0
Indiana	86,214	75,777	9,473	74,640	10,294	15.6	66.5	64.6	86.2	77.3
Illinois	195,790	147,241	43,320	144,789	45,164	17.1	73.0	68.3	98.2	110.5
Michigan	153,700	119,108	31,957	117,515	32,900	16.5	69.4	65.1	93.5	88.0
Wisconsin	72,895	63,312	7,174	62,692	7,510	14.9	64.7	61.0	110.3	86.2
West North Central	270,331	238,954	22,066	235,439	24,138	15.3	67.6	65.1	97.8	83.1
Minnesota	68,013	61,968	2,579	61,015	3,103	15.5	66.3	63.8	109.9	83.0
Iowa	39,409	37,692	1,048	37,356	1,277	14.2	64.8	64.1	91.3	82.0
Missouri	79,260	64,635	13,569	63,750	14,115	15.5	68.0	64.1	96.8	64.3
North Dakota	9,250	8,347	80	8,216	119	14.5	66.1	63.4	99.0	107.2
South Dakota	10,999	9,172	69	8,964	135	15.8	73.8	67.4	111.5	92.5
Nebraska	24,380	22,391	1,379	22,094	1,552	15.4	69.1	67.6	95.9	93.7
Kansas	39,020	34,749	3,342	34,044	3,837	15.7	70.3	68.8	96.6	90.8
South Atlantic	700,285	483,865	201,386	476,146	207,214	16.1	68.0	62.8	85.4	76.6
Delaware	11,113	8,360	2,583	8,248	2,674	16.7	68.9	65.3	86.1	83.9
Maryland	80,245	52,434	24,873	50,963	26,018	16.8	67.2	64.2	74.3	74.3
District of Columbia	11,850	1,827	9,083	1,736	9,150	19.5	71.7	31.8	87.7	94.4
Virginia	99,352	72,304	23,877	71,148	24,744	16.1	64.7	61.3	78.9	79.5
West Virginia	22,585	21,594	863	21,473	964	12.6	56.1	55.8	67.2	36.7
North Carolina	104,525	71,154	30,766	69,834	31,651	15.8	65.5	60.5	80.4	99.3
South Carolina	58,610	35,614	22,420	35,226	22,699	16.8	69.7	63.3	83.4	74.2
Georgia	112,666	70,571	40,505	69,655	41,260	17.4	69.7	63.2	85.6	86.8
Florida	199,339	150,007	46,416	147,863	48,054	15.4	71.5	65.7	103.2	74.4
East South Central	236,374	168,864	65,312	167,494	66,330	15.6	66.3	60.9	86.2	50.6
Kentucky	54,362	48,857	5,098	48,511	5,371	14.8	62.8	61.6	77.4	52.3
Tennessee	74,962	56,610	17,595	55,999	18,045	15.4	64.8	60.2	86.1	54.2
Alabama	63,487	41,100	21,867	40,834	22,046	15.7	67.3	60.9	84.7	57.2
Mississippi	43,563	22,297	20,752	22,150	20,868	16.9	72.9	61.5	90.5	30.4
West South Central	472,721	372,705	86,684	366,069	90,159	17.7	74.7	72.9	86.0	107.0
Arkansas	36,457	27,502	8,505	27,151	8,684	15.5	70.1	65.2	93.7	89.5
Louisiana	72,192	41,251	29,720	40,730	30,015	17.1	72.1	62.7	90.8	41.8
Oklahoma	47,649	37,800	5,100	35,628	5,540	15.1	67.5	65.2	88.2	---
Texas	316,423	266,152	43,359	262,560	45,920	18.6	77.2	77.1	81.5	108.5
Mountain	242,829	216,405	8,265	212,366	10,169	17.8	76.4	74.7	89.2	101.7
Montana	11,613	10,030	37	9,675	75	14.5	65.9	61.5	81.5	103.1
Idaho	16,433	15,952	43	15,759	92	16.3	74.2	74.4	62.2	124.9
Wyoming	6,985	6,578	67	6,474	107	15.4	67.4	66.0	81.0	84.8
Colorado	53,525	49,012	2,887	48,131	3,398	16.2	65.9	65.1	85.5	89.2
New Mexico	27,402	22,603	537	22,150	779	18.1	77.7	73.7	75.4	87.6
Arizona	68,995	59,206	2,567	58,134	3,174	18.8	82.3	79.7	94.3	118.7
Utah	36,277	34,445	220	33,941	386	21.1	92.0	91.6	93.5	102.4
Nevada	21,599	18,579	1,907	18,102	2,158	18.0	77.6	77.0	94.5	111.1
Pacific	767,161	627,826	54,023	605,681	65,298	19.6	81.8	82.9	84.2	127.8
Washington	79,251	70,666	2,908	68,237	4,146	16.3	68.7	68.3	80.3	113.3
Oregon	42,891	39,903	919	38,887	1,261	15.1	66.1	65.6	85.4	119.5
California	612,628	502,976	48,987	486,252	58,215	20.6	85.3	87.7	84.1	128.4
Alaska	11,902	8,085	535	7,619	716	21.6	86.3	76.0	94.3	74.7
Hawaii	20,489	6,196	674	4,686	960	18.5	79.2	68.0	104.4	124.3

¹Includes races other than white and black.²Persons of Hispanic origin may be of any race.

NOTE: Data by Hispanic origin not available for New Hampshire and Oklahoma, which did not report Hispanic origin of mother on the birth certificate.

Table 7. Live births by sex and sex ratio, by race: United States, 1980–90

Year	All races			White			All other					
	Male	Female	Males per 1,000 females	Male	Female	Males per 1,000 females	Total			Black		
							Male	Female	Males per 1,000 females	Male	Female	Males per 1,000 females
Race of mother												
1990	2,129,495	2,028,717	1,050	1,688,088	1,602,185	1,054	441,407	426,532	1,035	347,082	337,254	1,029
1989	2,069,490	1,971,468	1,050	1,637,594	1,554,761	1,053	431,896	416,707	1,036	341,716	331,408	1,031
Race of child												
1990	2,129,495	2,028,717	1,050	1,654,928	1,570,415	1,054	474,567	458,302	1,035	367,455	357,121	1,029
1989	2,069,490	1,971,468	1,050	1,606,757	1,525,234	1,053	462,733	446,234	1,037	360,131	349,264	1,031
1988	2,002,424	1,907,086	1,050	1,562,675	1,483,487	1,053	439,749	423,599	1,038	341,441	330,535	1,033
1987	1,951,153	1,858,241	1,050	1,535,517	1,456,971	1,054	415,636	401,270	1,036	325,259	316,308	1,028
1986	1,924,868	1,831,679	1,051	1,523,914	1,446,525	1,053	400,954	385,154	1,041	315,788	305,433	1,034
1985	1,927,983	1,832,578	1,052	1,536,646	1,454,727	1,056	391,337	377,851	1,036	308,575	299,618	1,030
1984 ¹	1,879,490	1,789,651	1,050	1,500,326	1,423,176	1,054	379,164	366,475	1,031	300,951	291,794	1,031
1983 ¹	1,865,553	1,773,380	1,052	1,492,385	1,411,865	1,057	373,168	361,515	1,032	297,011	289,016	1,028
1982 ¹	1,885,676	1,794,861	1,051	1,509,704	1,432,350	1,054	375,972	362,511	1,037	301,121	291,520	1,033
1981 ¹	1,860,272	1,768,966	1,052	1,494,437	1,414,232	1,057	365,835	354,734	1,031	297,864	289,933	1,027
1980 ¹	1,852,616	1,759,642	1,053	1,490,140	1,408,592	1,058	362,476	351,050	1,033	299,033	290,583	1,029

¹Based on 100 percent of births in selected States and on a 50-percent sample of births in all other States; see Technical notes.

Table 8. Live births by race of mother and observed and seasonally adjusted birth and fertility rates, by month: United States, 1990

[Rates on an annual basis per 1,000 population for specified month. Birth rates based on the total population. Fertility rates based on women aged 15–44 years]

Month	Number				Observed		Seasonally adjusted ¹	
	All races	White	All other		Birth rate	Fertility rate	Birth rate	Fertility rate
			Total	Black				
Total	4,158,212	3,290,273	867,939	684,336	16.7	70.9	...	...
January	335,274	262,570	72,704	57,941	15.9	67.4	16.7	70.9
February	312,611	246,448	66,163	52,467	16.4	69.6	16.8	71.1
March	350,614	279,037	71,577	56,293	16.6	70.4	16.9	71.5
April	336,382	269,387	66,995	52,445	16.5	69.8	16.9	71.6
May	354,114	283,725	70,389	54,861	16.8	71.1	16.9	71.7
June	347,355	276,746	70,609	55,551	17.0	72.0	16.6	70.6
July	367,670	290,394	77,276	61,264	17.4	73.7	16.7	70.8
August	372,516	294,115	78,401	62,139	17.6	74.7	16.6	70.4
September	358,682	283,142	75,540	59,709	17.5	74.2	16.3	69.4
October	353,166	279,148	74,018	58,151	16.6	70.7	16.7	71.0
November	333,146	262,000	71,146	55,854	16.2	68.9	16.7	71.0
December	336,682	263,561	73,121	57,661	15.8	67.3	16.5	70.3

¹The method of seasonal adjustment, developed by the U.S. Bureau of the Census, is described in the X-11 Variant of the Census Method II Seasonal Adjustment Program, Technical Paper No. 15 (1967 revision).

Table 9. Average number of live births and index of occurrence, by day of week: United States, 1990

<i>Day of week</i>	<i>Average number of births</i>	<i>Index of occurrence¹</i>
Total	11,392	100.0
Sunday	9,153	80.3
Monday	11,582	101.7
Tuesday	12,382	108.7
Wednesday	12,221	107.3
Thursday	12,230	107.4
Friday	12,375	108.6
Saturday	9,799	86.0

¹Index is the ratio of the average number of births on a given day of the week to the average daily number of births for the year, multiplied by 100.

Table 10. Live births by attendant, place of delivery, and race of mother and of child: United States, 1990

Place of delivery and race	All births	Attendant							
		Physician				Midwife			
		Total	Doctor of medicine	Doctor of osteopathy	Total	Certified nurse midwife	Other midwife	Other	Unspecified
All races ¹	4,158,212	3,948,270	3,821,638	126,632	163,049	148,728	14,321	30,709	16,184
In hospital ²	4,109,634	3,933,539	3,808,368	125,171	141,953	139,229	2,724	19,400	14,742
Not in hospital.	46,946	13,722	12,299	1,423	20,996	9,421	11,575	11,274	954
Freestanding birthing center . .	14,759	5,962	5,244	718	8,554	5,711	2,843	182	61
Clinic or doctor's office	1,128	688	548	140	276	99	177	127	37
Residence	27,678	5,825	5,299	526	11,441	3,429	8,012	9,661	751
Other	3,381	1,247	1,208	39	725	182	543	1,304	105
Not specified	1,632	1,009	971	38	100	78	22	35	488
Race of mother									
White	3,290,273	3,134,547	3,028,656	105,891	122,638	109,346	13,292	22,184	10,904
In hospital ²	3,249,275	3,123,362	3,018,782	104,580	102,416	100,390	2,026	13,597	9,900
Not in hospital.	39,608	10,302	9,027	1,275	20,129	8,884	11,245	8,567	610
Freestanding birthing center . .	13,914	5,484	4,825	659	8,204	5,411	2,793	168	58
Clinic or doctor's office	948	566	436	130	254	87	167	102	26
Residence	22,418	3,513	3,052	461	10,970	3,221	7,749	7,476	459
Other	2,328	739	714	25	701	165	536	821	67
Not specified	1,390	883	847	36	93	72	21	20	394
Black	684,336	642,137	625,209	16,928	30,439	29,745	694	7,155	4,605
In hospital ²	678,510	639,094	622,290	16,804	29,972	29,398	574	5,124	4,320
Not in hospital.	5,605	2,932	2,810	122	460	341	119	2,017	196
Freestanding birthing center . .	576	355	300	55	207	185	22	12	2
Clinic or doctor's office	89	61	59	2	9	9	-	8	11
Residence	4,113	2,087	2,031	56	227	132	95	1,639	160
Other	827	429	420	9	17	15	2	358	23
Not specified	221	111	109	2	7	6	1	14	89
Race of child									
White	3,225,343	3,073,702	2,970,114	103,588	119,261	106,181	13,080	21,753	10,627
In hospital ²	3,185,106	3,062,728	2,960,438	102,290	99,389	97,419	1,970	13,346	9,643
Not in hospital.	38,857	10,095	8,832	1,263	19,781	8,691	11,090	8,387	594
Freestanding birthing center . .	13,680	5,383	4,731	652	8,075	5,303	2,772	166	56
Clinic or doctor's office	926	550	420	130	250	86	164	102	24
Residence	21,966	3,438	2,981	457	10,764	3,144	7,620	7,317	447
Other	2,285	724	700	24	692	158	534	802	67
Not specified	1,380	879	844	35	91	71	20	20	390
Black	724,576	679,791	661,380	18,411	32,543	31,751	792	7,423	4,819
In hospital ²	718,395	676,647	658,386	18,281	31,926	31,314	612	5,303	4,519
Not in hospital.	5,954	3,032	2,904	128	609	431	178	2,106	207
Freestanding birthing center . .	680	396	339	57	288	237	31	14	2
Clinic or doctor's office	94	65	63	2	9	9	0	8	12
Residence	4,334	2,137	2,077	60	311	167	144	1,716	170
Other	846	434	425	9	21	18	3	368	23
Not specified	227	112	110	2	8	6	2	14	93

¹Includes races other than white and black.

²Includes births occurring en route to or on arrival at hospital.

Table 11. Live births by age of father and mother and race of father and of child: United States, 1990

Age of mother and race	Total	Age of father										55 years and over	Not stated
		Under 15 years	15-19 years	20-24 years	25-29 years	30-34 years	35-39 years	40-44 years	45-49 years	50-54 years	55 years and over		
All races ¹	4,158,212	445	128,090	628,335	1,060,148	955,226	474,297	164,756	45,046	13,363	7,379	681,127	
Under 15 years	11,657	126	2,308	852	154	32	15	2	-	-	2	8,166	
15-19 years	521,826	239	97,833	161,807	37,519	7,853	2,012	613	229	81	85	213,555	
20-24 years	1,093,730	52	25,171	376,007	339,588	86,210	21,661	6,465	2,164	707	513	235,192	
25-29 years	1,277,108	17	2,265	74,147	561,709	381,236	92,540	24,908	6,757	2,274	1,326	129,929	
30-34 years	886,063	8	400	12,605	103,901	417,468	211,836	54,439	13,649	4,033	2,141	65,583	
35-39 years	317,583	3	101	2,600	15,648	57,768	136,220	60,016	14,891	4,087	2,231	24,018	
40-44 years	48,607	-	10	308	1,587	4,565	9,878	18,048	6,829	1,958	961	4,463	
45-49 years	1,638	-	2	9	42	94	135	265	527	223	120	221	
Race of father													
White	2,962,698	278	94,097	507,168	905,660	818,185	398,292	134,685	35,205	9,767	5,000	54,361	
Under 15 years	2,396	61	1,222	609	112	24	11	2	-	-	1	354	
15-19 years	250,316	157	71,547	126,891	30,008	6,223	1,584	483	182	53	56	13,132	
20-24 years	722,055	42	19,211	306,584	284,069	69,698	16,767	4,949	1,645	487	326	18,277	
25-29 years	990,697	12	1,710	60,391	488,057	325,129	75,505	19,865	5,147	1,617	814	12,450	
30-34 years	708,593	5	318	10,239	88,808	363,833	179,284	44,163	10,682	2,941	1,426	6,894	
35-39 years	250,490	1	80	2,193	13,211	49,378	116,781	49,837	11,718	3,044	1,603	2,644	
40-44 years	37,092	-	7	254	1,360	3,830	8,260	15,193	5,432	1,477	702	577	
45-49 years	1,059	-	2	7	35	70	100	193	399	148	72	33	
Black	424,108	142	28,138	97,612	111,429	84,751	44,562	18,466	6,598	2,525	1,726	28,159	
Under 15 years	1,687	59	981	190	28	3	2	-	-	-	-	424	
15-19 years	65,309	69	21,805	28,240	5,494	1,126	311	91	35	21	20	8,097	
20-24 years	127,808	10	4,828	56,214	41,577	11,016	3,303	1,079	411	172	152	9,046	
25-29 years	119,992	1	450	10,875	51,929	34,624	10,523	3,475	1,224	513	410	5,968	
30-34 years	76,714	1	59	1,776	10,580	32,314	18,734	6,474	2,101	824	527	3,324	
35-39 years	27,972	2	12	281	1,674	5,190	10,771	5,782	2,015	698	443	1,104	
40-44 years	4,473	-	3	35	144	463	902	1,533	768	274	161	190	
45-49 years	153	-	-	1	3	15	16	32	44	23	13	6	
Race of child													
White	3,225,343	276	93,622	502,737	897,576	811,362	394,673	132,910	34,569	9,488	4,806	343,324	
Under 15 years	4,855	59	1,212	606	115	24	10	2	-	-	-	2,827	
15-19 years	343,920	157	71,262	126,475	29,854	6,193	1,572	485	182	49	59	107,632	
20-24 years	817,789	42	19,080	303,933	281,998	69,100	16,587	4,860	1,592	467	313	119,817	
25-29 years	1,034,573	12	1,670	59,330	484,042	322,787	74,729	19,457	4,997	1,557	772	65,220	
30-34 years	727,416	5	309	9,996	87,360	361,035	177,818	43,533	10,500	2,848	1,364	32,648	
35-39 years	257,113	1	80	2,141	12,861	48,454	115,730	49,342	11,512	2,962	1,540	12,490	
40-44 years	38,525	-	7	249	1,312	3,698	8,125	15,030	5,384	1,456	683	2,581	
45-49 years	1,152	-	2	7	34	71	102	201	402	149	75	109	
Black	724,576	146	29,513	101,702	115,692	88,005	46,219	19,220	6,883	2,648	1,816	312,732	
Under 15 years	6,426	61	1,024	198	28	4	2	-	-	-	1	5,108	
15-19 years	158,974	70	22,821	29,336	5,752	1,180	325	98	37	24	23	99,308	
20-24 years	230,494	10	5,090	58,465	43,033	11,532	3,454	1,134	439	187	164	106,986	
25-29 years	178,140	2	493	11,449	53,817	35,929	10,939	3,662	1,294	541	444	59,570	
30-34 years	106,156	1	66	1,903	11,111	33,369	19,345	6,691	2,188	863	551	30,068	
35-39 years	38,145	2	16	311	1,792	5,479	11,171	5,999	2,080	722	452	10,121	
40-44 years	6,019	-	3	39	156	496	964	1,603	797	285	167	1,509	
45-49 years	222	-	-	1	3	16	19	33	48	26	14	62	

¹Includes races other than white and black, and births with race of father not stated.

Table 12. Birth rates by age of father and race: United States, 1980–90

[Rates are live births per 1,000 men in specified group, enumerated as of April 1 for 1980 and 1990 and estimated as of July 1 for all other years. Figures for age of father not stated are distributed]

Year and race	Age of father									
	15–54 years ¹	15–19 years ²	20–24 years	25–29 years	30–34 years	35–39 years	40–44 years	45–49 years	50–54 years	55 years and over
All races										
1990	58.4	23.5	88.0	116.4	97.8	53.0	21.0	7.5	2.8	0.4
1989	57.2	21.9	85.4	114.3	94.8	51.3	20.4	7.4	2.7	0.6
1988	55.8	19.6	82.4	111.6	93.1	49.9	19.9	7.1	2.7	0.4
1987	55.0	18.3	80.5	109.9	91.2	48.6	19.0	6.9	2.6	0.4
1986	54.8	17.9	80.3	109.6	90.3	46.8	18.3	6.7	2.6	0.4
1985	55.6	18.0	81.2	112.3	91.1	47.3	18.1	6.6	2.5	0.4
1984	55.0	17.8	80.7	111.4	89.9	46.0	17.8	6.3	2.4	0.4
1983	55.1	18.2	82.7	113.0	89.0	45.2	17.4	6.4	2.3	0.4
1982	56.4	18.6	86.5	117.3	90.2	44.5	17.5	6.4	2.3	0.4
1981	56.3	18.4	88.4	119.1	88.7	43.3	17.0	6.2	2.3	0.4
1980	57.0	18.8	92.0	123.0	91.0	42.8	17.1	6.1	2.2	0.4
White										
Race of father:										
1990	54.6	18.1	78.3	113.2	96.1	50.9	19.2	6.5	2.2	0.3
1989	53.3	16.7	75.9	110.8	93.0	49.1	18.7	6.3	2.1	0.4
Race of child:										
1990	53.8	17.8	77.2	111.7	94.9	50.1	18.9	6.3	2.1	0.3
1989	52.6	16.4	74.7	109.3	91.8	48.3	18.3	6.2	2.0	0.4
1988	51.5	14.6	72.6	107.0	90.0	46.9	17.7	5.9	2.0	0.2
1987	50.9	13.7	71.8	105.7	88.4	45.6	17.0	5.7	2.0	0.2
1986	51.0	13.5	72.3	105.8	87.7	43.8	16.3	5.6	1.9	0.3
1985	51.9	13.8	73.7	108.7	88.5	44.2	16.0	5.4	1.9	0.3
1984	51.2	13.8	73.4	107.7	87.0	43.0	15.7	5.2	1.8	0.3
1983	51.4	14.3	75.4	109.1	85.9	42.0	15.3	5.2	1.8	0.2
1982	52.5	14.7	79.2	113.1	86.6	41.2	15.4	5.2	1.8	0.3
1981	52.3	14.8	80.8	114.7	84.9	39.9	14.8	5.1	1.8	0.3
1980	52.9	15.2	84.0	118.4	86.9	39.2	14.7	5.0	1.8	0.3
All other										
Race of father:										
1990	78.2	45.6	132.5	132.3	106.6	65.2	31.9	14.4	6.6	1.4
1989	77.7	43.9	130.1	132.1	104.5	64.2	31.6	14.2	6.4	2.4
Race of child:										
1990	82.4	46.9	138.0	139.9	113.2	69.3	34.3	15.5	7.2	1.5
1989	81.8	45.2	135.4	139.7	110.8	68.4	33.9	15.4	7.0	2.5
1988	79.7	41.3	129.1	135.9	110.2	67.5	33.7	15.2	7.1	1.5
1987	77.3	38.6	123.1	132.6	106.5	66.6	32.7	14.6	6.7	1.4
1986	76.4	37.5	120.5	130.8	105.4	65.8	31.6	14.4	6.9	1.4
1985	77.1	37.1	120.1	132.9	106.1	67.5	31.9	14.2	6.8	1.3
1984	76.8	36.7	120.0	132.8	107.1	66.0	31.7	13.9	6.5	1.4
1983	77.8	36.8	122.3	136.0	108.1	67.1	31.6	14.3	6.3	1.3
1982	80.4	37.0	127.5	142.5	113.0	68.2	32.1	14.7	6.4	1.3
1981	80.7	35.8	131.4	145.4	113.3	67.7	31.9	14.2	6.1	1.3
1980	83.6	37.5	139.0	152.3	118.9	68.6	33.7	14.3	6.2	1.3
Black³										
Race of father:										
1990	84.9	55.2	158.2	144.9	103.2	60.4	31.1	15.0	7.1	1.4
1989	84.1	52.9	153.4	143.5	101.4	59.9	31.1	14.9	6.9	2.7
Race of child:										
1990	86.3	55.9	160.6	147.3	105.0	61.5	31.8	15.3	7.2	1.5
1989	85.4	53.6	155.6	145.8	103.1	60.9	31.7	15.2	7.1	2.8
1988	82.0	48.7	146.1	140.2	101.6	59.0	31.1	14.6	7.1	1.4
1987	79.5	45.1	138.0	136.0	99.0	59.1	30.7	14.1	6.7	1.3
1986	78.3	43.1	133.1	133.5	98.9	59.0	29.6	13.8	6.9	1.3
1985	78.3	42.3	131.1	134.4	98.6	60.4	30.0	13.6	6.7	1.3
1984	77.6	41.2	129.5	133.9	99.6	59.3	29.7	13.5	6.2	1.3
1983	78.1	41.0	130.5	136.1	100.2	60.5	30.0	13.7	6.1	1.2
1982	80.4	40.7	134.8	142.8	105.0	62.1	30.1	14.1	6.1	1.2
1981	81.2	39.2	139.7	147.2	105.6	62.1	30.0	13.6	5.9	1.2
1980	83.8	40.4	146.6	154.2	110.8	62.8	31.5	13.8	6.0	1.2

¹Rates computed by relating total births, regardless of age of father, to men aged 15–54 years.

²Rates computed by relating births of fathers under 20 years of age to men aged 15–19 years.

³Included in All other.

NOTE: Rates for 1981–89 have been revised; see Technical notes.

Table 13. Number and percent low birth weight and live births by birth weight, age of mother, and race of mother and of child: United States, 1990

Age of mother and race	Birth weight ²														
	Low birth weight ¹		Total	Less than 500	500-999	1,000-1,499	1,500-1,999	2,000-2,499	2,500-2,999	3,000-3,499	3,500-3,999	4,000-4,499	4,500-4,999	5,000 grams or more	Not stated
	Number	Percent		grams	grams	grams	grams	grams	grams	grams	grams	grams	grams		
All races	289,418	7.0	4,158,212	5,555	20,533	26,827	55,087	181,416	665,737	1,524,675	1,220,843	378,003	66,178	8,054	5,304
Under 15 years	1,545	13.3	11,657	37	150	184	305	869	2,835	4,585	2,218	409	31	5	29
15-19 years	48,324	9.3	521,826	915	3,641	4,730	9,232	29,806	107,229	205,708	125,958	29,506	3,914	418	769
15 years	3,246	11.7	27,703	67	306	354	661	1,858	6,329	11,036	5,818	1,073	133	16	52
16 years	5,981	10.3	57,901	125	490	614	1,115	3,637	12,844	23,091	12,778	2,728	343	37	99
17 years	9,441	9.7	97,723	185	701	952	1,812	5,791	20,535	38,942	22,895	5,115	615	56	124
18 years	13,318	9.2	144,969	229	985	1,260	2,575	8,269	29,663	57,073	35,129	8,356	1,100	120	210
19 years	16,338	8.5	193,530	309	1,159	1,550	3,069	10,251	37,858	75,566	49,338	12,234	1,723	189	284
20-24 years	77,300	7.1	1,093,730	1,455	5,435	7,025	14,332	49,053	189,227	417,226	306,555	86,654	13,843	1,512	1,413
25-29 years	78,486	6.2	1,277,108	1,493	5,372	6,973	14,707	49,941	189,656	464,433	393,476	125,117	21,791	2,668	1,481
30-34 years	56,444	6.4	886,063	1,131	3,938	5,240	10,909	35,226	124,475	308,964	279,543	95,341	18,084	2,167	1,045
35-39 years	23,283	7.3	317,583	463	1,699	2,269	4,743	14,109	44,975	106,963	98,094	35,468	7,250	1,077	473
40-44 years	3,869	8.0	48,607	61	290	386	821	2,311	7,095	16,238	14,559	5,332	1,222	200	92
45-49 years	167	10.2	1,638	-	8	20	38	101	245	558	440	176	43	7	2
Race of mother															
White	187,179	5.7	3,290,273	3,010	11,791	16,513	35,540	120,325	468,339	1,191,605	1,036,984	335,641	59,654	7,039	3,832
Under 15 years	512	10.3	4,974	13	43	68	112	276	1,023	1,939	1,210	249	22	4	15
15-19 years	26,714	7.5	354,482	420	1,843	2,533	5,122	16,796	64,457	139,191	95,800	24,216	3,295	337	472
15 years	1,360	9.2	14,802	31	129	141	278	781	2,889	5,927	3,727	759	103	12	25
16 years	3,031	8.6	35,446	54	237	316	544	1,880	6,840	14,145	8,961	2,112	264	29	64
17 years	5,090	7.9	64,686	78	374	497	990	3,151	11,974	25,791	17,075	4,129	514	44	69
18 years	7,576	7.5	100,481	103	491	722	1,474	4,786	18,471	39,381	26,988	6,919	929	97	120
19 years	9,657	7.0	139,067	154	612	857	1,836	6,198	24,283	53,947	39,049	10,297	1,485	155	194
20-24 years	48,203	5.8	837,572	765	2,976	4,087	8,796	31,579	129,209	316,493	253,698	75,402	12,313	1,290	964
25-29 years	53,108	5.1	1,051,760	821	3,221	4,494	9,951	34,621	140,532	378,983	343,076	112,725	19,857	2,373	1,106
30-34 years	39,358	5.3	739,209	662	2,424	3,540	7,635	25,097	93,929	254,575	245,593	86,491	16,517	1,928	818
35-39 years	16,412	6.3	261,787	293	1,085	1,514	3,320	10,200	33,815	87,122	84,886	31,724	6,515	934	379
40-44 years	2,754	7.0	39,309	36	194	264	575	1,685	5,212	12,928	12,381	4,692	1,098	168	76
45-49 years	118	10.0	1,180	-	5	13	29	71	162	374	340	142	37	5	2
Black	90,523	13.3	684,336	2,405	8,143	9,405	17,531	53,039	161,159	257,979	137,613	30,531	4,561	719	1,251
Under 15 years	995	15.7	6,338	24	105	112	189	565	1,734	2,520	931	136	8	1	13
15-19 years	20,358	13.5	151,613	482	1,727	2,094	3,877	12,178	39,392	60,185	26,473	4,407	480	60	258
15 years	1,791	14.9	12,023	35	167	206	361	1,022	3,248	4,765	1,891	270	28	4	26
16 years	2,815	13.6	20,734	68	248	287	548	1,664	5,597	8,266	3,427	522	69	7	31
17 years	4,114	13.7	30,124	103	311	434	779	2,487	7,929	11,968	5,160	812	83	9	49
18 years	5,379	13.4	40,171	126	477	508	1,030	3,238	10,282	15,956	7,133	1,207	117	16	81
19 years	6,259	12.9	48,561	150	524	659	1,159	3,767	12,336	19,230	8,862	1,596	183	24	71
20-24 years	26,620	12.3	217,274	666	2,334	2,758	5,117	15,745	51,922	84,663	43,485	8,858	1,146	172	408
25-29 years	21,983	13.1	168,217	632	1,994	2,227	4,202	12,928	37,973	61,669	35,975	8,747	1,349	211	310
30-34 years	14,253	14.3	99,514	437	1,376	1,486	2,791	8,163	21,465	35,110	21,623	5,682	1,031	169	181
35-39 years	5,440	15.3	35,592	145	524	631	1,151	2,989	7,446	11,938	7,838	2,310	462	88	70
40-44 years	842	15.1	5,581	19	80	92	198	453	1,189	1,821	1,243	375	82	18	11
45-49 years	32	15.5	207	-	3	5	6	18	38	73	45	16	3	-	-

Race of child															
White	182,785	5.7	3,225,343	2,932	11,503	16,093	34,663	117,594	457,896	1,167,401	1,018,048	329,924	58,622	6,932	3,735
Under 15 years	495	10.2	4,855	11	43	65	106	270	1,006	1,891	1,183	239	22	4	15
15-19 years	25,842	7.5	343,920	405	1,774	2,443	4,954	16,266	62,554	135,057	92,932	23,563	3,194	327	451
15 years	1,309	9.1	14,345	30	124	136	271	748	2,809	5,736	3,615	739	100	12	25
16 years	2,943	8.6	34,426	50	230	302	520	1,841	6,655	13,725	8,701	2,057	257	29	59
17 years	4,928	7.8	62,846	77	362	479	961	3,049	11,643	25,045	16,606	4,017	496	43	68
18 years	7,316	7.5	97,503	100	467	700	1,426	4,623	17,926	38,212	26,198	6,743	899	94	115
19 years	9,346	6.9	134,800	148	591	826	1,776	6,005	23,521	52,339	37,812	10,007	1,442	149	184
20-24 years	46,937	5.7	817,789	743	2,900	3,974	8,559	30,761	125,981	308,884	248,083	73,688	12,019	1,265	932
25-29 years	52,135	5.0	1,034,573	804	3,162	4,405	9,754	34,010	137,905	372,673	337,804	111,065	19,566	2,338	1,087
30-34 years	38,536	5.3	727,416	646	2,370	3,459	7,461	24,600	92,108	250,375	242,020	85,376	16,291	1,904	806
35-39 years	16,026	6.2	257,113	287	1,057	1,476	3,239	9,967	33,097	85,506	83,528	31,241	6,426	922	367
40-44 years	2,701	7.0	38,525	36	192	258	563	1,652	5,086	12,654	12,160	4,611	1,071	167	75
45-49 years	113	9.8	1,152	-	5	13	27	68	159	361	338	141	33	5	2
Black	93,465	12.9	724,576	2,460	8,336	9,715	18,137	54,817	167,653	272,633	149,237	34,241	5,252	789	1,306
Under 15 years	1,007	15.7	6,426	26	104	115	193	569	1,747	2,557	954	139	8	1	13
15-19 years	20,977	13.2	158,974	492	1,772	2,164	4,000	12,549	40,722	62,998	28,488	4,896	554	68	271
15 years	1,828	14.8	12,347	36	172	210	366	1,044	3,306	4,902	1,965	285	31	4	26
16 years	2,880	13.4	21,451	69	250	299	567	1,695	5,731	8,546	3,613	564	75	7	35
17 years	4,229	13.5	31,398	104	318	448	798	2,561	8,148	12,474	5,499	891	97	10	50
18 years	5,558	13.2	42,268	129	491	522	1,068	3,348	10,670	16,755	7,698	1,346	138	19	84
19 years	6,482	12.6	51,510	154	541	685	1,201	3,901	12,867	20,321	9,713	1,810	213	28	76
20-24 years	27,540	12.0	230,494	682	2,393	2,845	5,295	16,325	54,046	89,674	47,204	10,059	1,348	193	430
25-29 years	22,590	12.7	178,140	644	2,031	2,293	4,328	13,294	39,492	65,199	39,025	9,756	1,528	227	323
30-34 years	14,748	13.9	106,156	450	1,411	1,538	2,908	8,441	22,504	37,402	23,591	6,345	1,196	186	184
35-39 years	5,693	15.0	38,145	147	541	659	1,202	3,144	7,837	12,762	8,566	2,606	514	94	73
40-44 years	875	14.6	6,019	19	81	96	203	476	1,267	1,962	1,364	423	96	20	12
45-49 years	35	15.8	222	-	3	5	8	19	38	79	45	17	8	-	-

¹Less than 2,500 grams (5 lb 8 oz).

²Equivalents of gram weights in terms of pounds and ounces are shown in the Technical notes.

Table 14. Number and percent of births of low birth weight, by race of mother and of child: United States and each State, 1990

[By place of residence]

State	Number ¹					Percent ¹				
	All races ²	Race of mother		Race of child		All races ²	Race of mother		Race of child	
		White	Black	White	Black		White	Black	White	Black
United States	289,418	187,179	90,523	182,785	93,465	7.0	5.7	13.3	5.7	12.9
Alabama	5,334	2,546	2,758	2,531	2,768	8.4	6.2	12.6	6.2	12.6
Alaska	575	325	58	304	68	4.8	4.0	10.9	4.0	9.5
Arizona	4,375	3,645	294	3,575	335	6.4	6.2	11.5	6.2	10.6
Arkansas	2,986	1,825	1,120	1,796	1,135	8.2	6.6	13.2	6.6	13.1
California	35,558	25,783	6,097	24,758	6,720	5.8	5.1	12.5	5.1	11.5
Colorado	4,283	3,662	456	3,585	501	8.0	7.5	15.8	7.5	14.8
Connecticut	3,309	2,410	833	2,347	893	6.6	5.7	13.1	5.6	12.7
Delaware	849	493	345	487	352	7.6	5.9	13.4	5.9	13.2
District of Columbia	1,785	133	1,589	126	1,597	15.1	7.3	17.5	7.3	17.5
Florida	14,813	8,822	5,781	8,682	5,899	7.4	5.9	12.5	5.9	12.3
Georgia	9,747	4,352	5,273	4,272	5,343	8.7	6.2	13.0	6.1	13.0
Hawaii	1,445	347	82	260	107	7.1	5.6	12.2	5.5	11.1
Idaho	928	897	5	879	9	5.7	5.6	*	5.6	*
Illinois	14,785	8,148	6,270	7,949	6,435	7.6	5.5	14.5	5.5	14.3
Indiana	5,648	4,401	1,178	4,313	1,246	6.6	5.8	12.5	5.8	12.1
Iowa	2,124	1,950	136	1,927	152	5.4	5.2	13.0	5.2	11.9
Kansas	2,435	1,982	400	1,947	422	6.2	5.7	12.0	5.7	11.0
Kentucky	3,838	3,197	611	3,172	629	7.1	6.6	12.0	6.5	11.7
Louisiana	6,650	2,462	4,110	2,435	4,126	9.2	6.0	13.8	6.0	13.8
Maine	892	872	4	869	5	5.1	5.1	*	5.2	*
Maryland	6,229	2,821	3,224	2,699	3,310	7.8	5.4	13.0	5.3	12.8
Massachusetts	5,417	4,216	947	4,105	1,028	5.9	5.3	10.5	5.3	10.0
Michigan	11,586	6,740	4,681	6,635	4,743	7.6	5.7	14.7	5.7	14.5
Minnesota	3,437	2,875	352	2,812	394	5.1	4.6	13.7	4.6	12.7
Mississippi	4,159	1,458	2,673	1,444	2,682	9.6	6.5	12.9	6.5	12.9
Missouri	5,637	3,769	1,807	3,708	1,852	7.1	5.8	13.3	5.8	13.1
Montana	715	626	4	603	5	6.2	6.2	*	6.2	*
Nebraska	1,287	1,095	163	1,078	171	5.3	4.9	11.8	4.9	11.0
Nevada	1,563	1,206	269	1,181	279	7.2	6.5	14.1	6.5	12.9
New Hampshire	863	842	10	833	12	4.9	4.9	*	4.9	*
New Jersey	8,489	5,148	3,002	5,005	3,127	7.0	5.5	13.0	5.4	12.8
New Mexico	2,016	1,683	64	1,637	92	7.4	7.5	12.0	7.4	11.9
New York	22,568	13,251	8,444	12,980	8,666	7.6	6.0	13.4	6.0	13.1
North Carolina	8,344	4,207	3,947	4,111	4,013	8.0	5.9	12.8	5.9	12.7
North Dakota	506	456	4	450	7	5.5	5.5	*	5.5	*
Ohio	11,812	8,196	3,507	8,026	3,649	7.1	5.9	13.5	5.9	13.2
Oklahoma	3,106	2,291	579	2,150	609	6.6	6.1	11.5	6.1	11.1
Oregon	2,144	1,926	94	1,858	118	5.0	4.8	10.2	4.8	9.4
Pennsylvania	12,270	8,208	3,860	7,986	4,051	7.1	5.7	15.1	5.7	14.5
Rhode Island	927	754	117	738	132	6.2	5.7	10.3	5.7	10.0
South Carolina	5,107	2,184	2,883	2,154	2,901	8.7	6.1	12.9	6.1	12.8
South Dakota	557	465	5	453	7	5.1	5.1	*	5.1	*
Tennessee	6,152	3,703	2,402	3,662	2,430	8.2	6.5	13.7	6.5	13.5
Texas	21,936	15,834	5,627	15,570	5,824	6.9	6.0	13.0	5.9	12.7
Utah	2,074	1,955	28	1,920	33	5.7	5.7	12.8	5.7	8.6
Vermont	436	431	1	430	1	5.3	5.3	*	5.3	*
Virginia	7,158	4,040	2,943	3,966	2,999	7.2	5.6	12.3	5.6	12.1
Washington	4,177	3,481	337	3,367	403	5.3	4.9	11.6	4.9	9.8
West Virginia	1,599	1,477	114	1,463	126	7.1	6.8	13.2	6.8	13.1
Wisconsin	4,273	3,114	1,026	3,079	1,047	5.9	4.9	14.3	4.9	14.0
Wyoming	515	475	9	468	12	7.4	7.2	*	7.2	*

¹Less than 2,500 grams (5 lb 8 oz).²Includes races other than white and black.

Table 15. Live births by plurality of birth and age of mother, by race of mother: United States, 1990

Age of mother	All live births			Single live births			Live births in twin deliveries			Live births in triplet and other plural deliveries		
	All races ¹	White	Black	All races ¹	White	Black	All races ¹	White	Black	All races ¹	White	Black
All ages	4,158,212	3,290,273	684,336	4,061,319	3,215,017	665,851	93,865	72,617	18,164	3,028	2,639	321
Under 15 years	11,657	4,974	6,338	11,541	4,925	6,273	116	49	65	—	—	—
15–19 years	521,826	354,482	151,613	514,252	349,888	148,826	7,489	4,543	2,756	85	51	31
15 years	27,703	14,802	12,023	27,327	14,614	11,847	371	183	176	5	5	—
16 years	57,901	35,446	20,734	57,176	35,034	20,441	723	411	292	2	1	1
17 years	97,723	64,686	30,124	96,502	64,020	29,586	1,218	666	535	3	—	3
18 years	144,969	100,481	40,171	142,921	99,217	39,446	2,021	1,252	713	27	12	12
19 years	193,530	139,067	48,561	190,326	137,003	47,506	3,156	2,031	1,040	48	33	15
20–24 years	1,093,730	837,572	217,274	1,072,431	822,451	211,651	20,945	14,863	5,539	354	258	84
25–29 years	1,277,108	1,051,760	168,217	1,246,144	1,027,004	162,987	30,020	23,919	5,143	944	837	87
30–34 years	886,063	739,209	99,514	860,478	717,878	96,163	24,466	20,315	3,271	1,119	1,016	80
35–39 years	317,583	261,787	35,592	307,498	253,431	34,311	9,587	7,904	1,245	498	452	36
40–44 years	48,607	39,309	5,581	47,376	38,291	5,435	1,203	993	143	28	25	3
45–49 years	1,638	1,180	207	1,599	1,149	205	39	31	2	—	—	—

¹Includes races other than white and black.

Table 16. Numbers, rates, and ratios of births to unmarried women by age of mother, by race of mother and of child: United States, 1990

Age of mother	Number				Rate per 1,000 unmarried women in specified group				Ratio per 1,000 live births			
	All races	White	All other	All other	All races	White	All other	All other	All races	White	All other	All other
Race of mother												
All ages	1,165,384	669,698	495,686	455,304	143.8	132.9	179.7	190.5	280.3	203.5	571.1	665.3
Under 15 years	10,675	4,157	6,518	6,240	—	—	—	—	915.8	835.7	975.3	984.5
15–19 years	349,970	199,896	150,074	139,442	42.5	30.6	88.3	106.0	670.7	563.9	896.8	919.7
15 years	24,068	11,625	12,443	11,732	29.6	20.4	65.0	78.8	868.8	785.4	964.5	975.8
16 years	46,309	25,063	21,246	19,894					799.8	707.1	946.2	959.5
17 years	72,021	41,398	30,623	28,476					737.0	640.0	926.9	945.3
18 years	95,961	56,195	39,766	36,875					661.9	559.3	893.9	918.0
19 years	111,611	65,615	45,996	42,465					576.7	471.8	844.5	874.5
20–24 years	403,873	232,529	171,344	157,819	65.1	48.2	124.3	144.8	369.3	277.6	668.9	726.4
25–29 years	229,991	131,967	98,024	89,614	56.0	43.0	94.3	105.3	180.1	125.5	435.0	532.7
30–34 years	118,200	68,400	49,800	44,930	37.6	29.9	57.8	61.5	133.4	92.5	339.1	451.5
35–39 years	44,149	27,050	17,099	14,946	17.3	14.5	24.6	25.5	139.0	103.3	306.5	419.9
40 years and over	8,526	5,699	2,827	2,313	23.6	23.2	25.2	25.1	169.7	140.8	289.8	399.6
Race of child												
All ages	1,165,384	647,376	518,008	472,660	143.8	131.8	183.3	193.9	280.3	200.7	555.3	652.3
Under 15 years	10,675	4,056	6,619	6,314	—	—	—	—	915.8	835.4	973.1	982.6
15–19 years	349,970	193,009	156,961	144,731	42.5	29.5	92.3	110.1	670.7	561.2	882.3	910.4
15 years	24,068	11,250	12,818	12,013	29.6	19.8	67.5	81.2	868.8	784.2	959.6	972.9
16 years	46,309	24,294	22,015	20,458					799.8	705.7	937.8	953.7
17 years	72,021	40,058	31,963	29,472					737.0	637.4	916.4	938.7
18 years	95,961	54,244	41,717	38,403					661.9	556.3	878.9	908.6
19 years	111,611	63,163	48,448	44,385					576.7	488.6	824.9	861.7
20–24 years	403,873	224,596	179,277	164,161	65.1	46.5	130.0	150.6	369.3	274.6	649.7	712.2
25–29 years	229,991	127,875	102,116	92,756	56.0	41.7	98.3	109.0	180.1	123.6	421.0	520.7
30–34 years	118,200	66,119	52,081	46,684	37.6	28.9	60.4	64.0	133.4	90.9	328.3	439.8
35–39 years	44,149	26,187	17,962	15,576	17.3	14.0	25.8	26.5	139.0	101.9	297.0	408.3
40 years and over	8,526	5,534	2,992	2,438	23.6	23.1	25.5	25.3	169.7	139.5	283.1	390.6

¹Rates computed by relating total births to unmarried mothers, regardless of age of mother, to unmarried women aged 15–44 years.

²Rates computed by relating births to unmarried mothers aged 40 years and over to unmarried women aged 40–44 years.

NOTE: For 44 States and the District of Columbia, marital status of mother is reported on the birth certificate; for 6 States, mother's marital status is inferred; see Technical notes.

Table 17. Birth rates for unmarried women by age of mother and race: United States, 1970, 1975, and 1980-90

[Rates are live births to unmarried women per 1,000 unmarried women in specified group, estimated as of July 1]

Year and race	Age of mother								
	15-44 years ¹	15-19 years			20-24 years	25-29 years	30-34 years	35-39 years	40-44 years ²
		Total	15-17 years	18-19 years					
All races									
1990 ³	43.8	42.5	29.6	60.7	65.1	56.0	37.6	17.3	3.6
1989 ³	41.6	40.1	28.7	56.0	61.2	52.8	34.9	16.0	3.4
1988 ³	38.5	36.4	26.4	51.5	56.0	48.5	32.0	15.0	3.2
1987 ³	36.0	33.8	24.5	48.9	52.6	44.5	29.6	13.5	2.9
1986 ³	34.2	32.3	22.8	48.0	49.3	42.2	27.2	12.2	2.7
1985 ³	32.8	31.4	22.4	45.9	46.5	39.9	25.2	11.6	2.5
1984 ^{3,4}	31.0	30.0	21.9	42.5	43.0	37.1	23.3	10.9	2.5
1983 ^{3,4}	30.3	29.5	22.0	40.7	41.8	35.5	22.4	10.2	2.6
1982 ^{3,4}	30.0	28.7	21.5	39.6	41.5	35.1	21.9	10.0	2.7
1981 ^{3,4}	29.5	27.9	20.9	39.0	41.1	34.5	20.8	9.8	2.6
1980 ^{3,4}	29.4	27.6	20.6	39.0	40.9	34.0	21.1	9.7	2.6
1980 ^{4,5}	28.4	27.5	20.7	38.7	39.7	31.4	18.5	8.4	2.3
1975 ^{4,5}	24.5	23.9	19.3	32.5	31.2	27.5	17.9	9.1	2.6
1970 ^{5,6}	26.4	22.4	17.1	32.9	38.4	37.0	27.1	13.6	3.5
White									
Race of mother:									
1990 ³	32.9	30.6	20.4	44.9	48.2	43.0	29.9	14.5	3.2
1989 ³	30.2	28.0	19.3	40.2	43.8	39.1	26.8	13.1	2.9
Race of child:									
1990 ³	31.8	29.5	19.8	43.3	46.5	41.7	28.9	14.0	3.1
1989 ³	29.2	27.2	18.7	38.9	42.4	37.9	25.9	12.7	2.8
1988 ³	26.5	24.5	17.1	35.7	38.0	34.2	23.4	11.7	2.6
1987 ³	24.5	22.5	15.8	33.5	35.6	31.0	21.5	10.4	2.3
1986 ³	23.2	21.3	14.5	32.7	33.3	29.4	19.5	9.4	2.1
1985 ³	21.8	20.3	14.2	30.4	30.8	27.5	17.7	8.7	1.9
1984 ^{3,4}	20.1	18.9	13.5	27.3	27.7	24.6	16.2	8.1	1.9
1983 ^{3,4}	19.2	18.4	13.4	25.8	26.3	22.9	15.4	7.5	1.9
1982 ^{3,4}	18.7	17.6	12.9	24.7	25.7	22.2	14.7	7.2	2.0
1981 ^{3,4}	18.1	16.9	12.4	24.1	25.0	21.5	13.6	7.0	1.8
1980 ^{3,4}	17.6	16.2	11.8	23.6	24.4	20.7	13.6	6.8	1.8
1980 ^{4,5}	16.2	15.9	11.7	22.8	22.4	17.3	10.5	5.3	1.4
1975 ^{4,5}	12.4	12.0	9.6	16.5	15.5	14.8	9.8	5.4	1.5
1970 ^{5,6}	13.9	10.9	7.5	17.6	22.5	21.1	14.2	7.6	2.0
All other									
Race of mother:									
1990 ³	79.7	88.3	65.0	120.6	124.3	94.3	57.8	24.6	5.2
1989 ³	80.7	87.8	65.6	119.5	123.5	94.7	57.9	24.3	5.1
Race of child:									
1990 ³	83.3	92.3	67.5	126.8	130.0	98.3	60.4	25.8	5.5
1989 ³	84.0	91.3	67.8	124.9	128.5	98.6	60.5	25.5	5.4
1988 ³	80.3	84.8	64.0	116.6	121.1	93.6	57.5	24.7	5.3
1987 ³	77.0	80.7	61.2	111.0	113.9	88.3	53.8	23.3	5.3
1986 ³	73.8	78.9	59.0	109.7	107.5	81.6	50.5	21.1	4.8
1985 ³	72.4	78.7	59.0	107.7	104.3	77.4	48.5	21.0	4.6
1984 ^{3,4}	70.9	77.8	59.1	104.7	100.4	75.4	44.8	20.3	4.6
1983 ^{3,4}	71.9	77.9	60.1	103.5	100.7	76.7	44.3	19.8	4.9
1982 ^{3,4}	73.7	78.3	60.1	105.6	103.2	78.5	44.3	20.1	5.4
1981 ^{3,4}	74.8	78.2	59.9	106.6	104.6	78.8	45.3	19.6	5.7
1980 ^{3,4}	77.2	81.7	63.1	111.6	106.6	79.1	46.9	19.2	5.6
1980 ^{4,5}	78.0	83.0	64.0	113.4	108.2	79.1	46.2	18.5	5.3
1975 ^{4,5}	79.0	86.3	70.7	114.3	102.1	73.2	47.9	20.0	6.9
1970 ^{5,6}	89.9	90.8	73.3	126.5	121.0	93.8	69.8	32.0	10.7

See footnotes at end of table.

Table 17. Birth rates for unmarried women by age of mother and race: United States, 1970, 1975, and 1980-90—Con.

[Rates are live births to unmarried women per 1,000 unmarried women in specified group, estimated as of July 1]

Year and race	Age of mother								
	15-44 years ¹	15-19 years			20-24 years	25-29 years	30-34 years	35-39 years	40-44 years ²
		Total	15-17 years	18-19 years					
Black ⁷									
Race of mother:									
1990 ³	90.5	106.0	78.8	143.7	144.8	105.3	61.5	25.5	5.1
1989 ³	90.7	104.5	78.9	140.9	142.4	102.9	60.5	24.9	5.0
Race of child:									
1990 ³	93.9	110.1	81.2	150.0	150.6	109.0	64.0	26.5	5.3
1989 ³	93.8	107.9	80.9	146.2	147.4	106.4	62.8	26.0	5.2
1988 ³	89.3	99.1	75.6	135.1	137.8	100.5	59.6	25.2	5.2
1987 ³	85.1	93.5	71.6	126.8	129.8	94.6	55.1	23.4	5.0
1986 ³	81.2	90.6	68.4	124.3	121.2	87.4	51.8	21.5	4.6
1985 ³	79.0	89.3	67.9	120.4	116.0	82.0	49.3	21.2	4.4
1984 ^{3,4}	77.0	87.5	67.4	115.6	110.6	80.4	45.4	20.3	4.5
1983 ^{3,4}	78.0	86.8	67.6	113.8	109.9	82.4	45.4	20.2	5.0
1982 ^{3,4}	79.8	86.5	67.2	114.8	112.0	85.5	45.9	20.3	5.4
1981 ^{3,4}	81.3	86.2	66.7	116.1	113.5	85.8	47.2	20.4	5.8
1980 ^{3,4}	82.9	89.2	69.6	120.2	115.1	83.9	48.2	19.6	5.6
1980 ^{4,5}	83.2	90.3	70.6	121.8	116.0	82.9	47.0	18.5	5.5
1975 ^{4,5}	84.2	93.5	76.8	123.8	108.0	75.7	50.0	20.5	7.2
1970 ^{5,6}	95.5	96.9	77.9	136.4	131.5	100.9	71.8	32.9	10.4

¹Rates computed by relating total births to unmarried mothers, regardless of age of mother, to unmarried women aged 15-44 years.

²Rates computed by relating births to unmarried mothers aged 40 years and over to unmarried women aged 40-44 years.

³Data for States in which marital status was not reported have been inferred and included with data from the remaining States; see Technical notes.

⁴Based on 100 percent of births in selected States and on a 50-percent sample of births in all other States; see Technical notes.

⁵Births to unmarried women are estimated for the United States from data for registration areas in which marital status of mother was reported; see Technical notes.

⁶Based on a 50-percent sample of births.

⁷Included in All other.

NOTE: Rates for 1981-89 have been revised; see Technical notes.

Table 18. Number and ratio of births to unmarried women, by race of mother and of child: United States and each State, 1990

[By place of residence]

State	Number					Ratio per 1,000 live births				
	All races ¹	Race of mother		Race of child		All races ¹	Race of mother		Race of child	
		White	Black	White	Black		White	Black	White	Black
United States	1,165,384	669,698	455,304	647,376	472,660	280.3	203.5	665.3	200.7	652.3
Alabama	19,131	4,921	14,157	4,916	14,162	301.3	119.7	647.4	120.4	642.4
Alaska	3,113	1,390	161	1,254	232	261.6	171.9	300.9	164.6	324.0
Arizona	22,532	17,102	1,571	16,833	1,764	326.6	288.9	612.0	289.6	555.8
Arkansas	10,713	4,710	5,917	4,591	6,009	293.9	171.3	695.7	169.1	692.0
California ²	193,559	154,625	30,536	147,933	35,201	315.9	307.4	623.3	304.2	604.7
Colorado	11,374	9,416	1,576	9,372	1,610	212.5	192.1	545.9	194.7	473.8
Connecticut ²	13,330	8,641	4,401	8,223	4,769	265.9	202.7	691.5	196.8	680.2
Delaware	3,222	1,392	1,815	1,379	1,828	289.9	166.5	702.7	167.2	683.6
District of Columbia	7,692	353	6,899	338	6,912	649.1	193.2	759.6	194.7	755.4
Florida	63,169	31,340	31,385	30,567	32,062	316.9	208.9	676.2	206.7	667.2
Georgia	36,979	10,538	26,293	10,181	26,622	328.2	149.3	649.1	146.2	645.2
Hawaii	5,088	898	119	603	157	248.3	144.9	176.6	128.7	163.5
Idaho	2,738	2,584	10	2,546	25	166.6	162.0	*	161.6	271.7
Illinois	62,148	28,007	33,712	26,726	34,879	317.4	190.2	778.2	184.6	772.3
Indiana	22,562	15,415	6,996	14,864	7,486	261.7	203.4	738.5	199.1	727.2
Iowa	8,282	7,340	766	7,242	842	210.2	194.7	730.9	193.9	689.4
Kansas	8,397	6,095	2,099	5,818	2,343	215.2	175.4	628.1	170.9	610.6
Kentucky	12,829	9,285	3,496	9,251	3,528	236.0	190.0	685.8	190.7	656.9
Louisiana	26,601	6,425	19,971	6,311	20,050	368.5	155.8	672.0	154.9	668.0
Maine	3,931	3,815	37	3,775	50	226.5	224.2	385.4	223.9	306.7
Maryland	23,789	8,497	14,961	7,833	15,578	296.5	162.1	601.5	153.7	598.7
Massachusetts	22,886	16,548	5,479	15,798	6,138	247.0	207.0	607.9	201.8	598.9
Michigan ²	40,289	17,410	22,477	17,396	22,486	262.1	146.2	703.4	148.0	683.5
Minnesota	14,192	10,896	1,890	10,514	2,134	208.7	175.8	732.8	172.3	687.7
Mississippi	17,627	2,973	14,507	2,912	14,557	404.6	133.3	699.1	131.5	697.6
Missouri	22,643	12,147	10,308	11,909	10,507	285.7	187.9	759.7	186.8	744.4
Montana	2,757	1,801	18	1,713	26	237.4	179.6	*	177.1	346.7
Nebraska	5,056	3,798	980	3,680	1,061	207.4	169.6	710.7	166.6	683.6
Nevada ²	5,480	3,946	1,263	3,876	1,315	253.7	212.4	662.3	214.1	609.4
New Hampshire	2,967	2,914	42	2,861	61	168.9	168.7	371.7	167.1	331.5
New Jersey	29,756	14,711	14,677	13,989	15,336	243.3	155.9	635.5	151.1	625.9
New Mexico	9,704	6,893	304	6,785	365	354.1	305.0	566.1	306.3	468.5
New York ²	98,110	53,660	42,700	52,063	44,132	329.7	243.1	674.4	240.1	665.2
North Carolina	30,718	10,083	19,816	9,644	20,162	293.9	141.7	644.1	138.1	637.0
North Dakota	1,699	1,172	16	1,148	20	183.7	140.4	*	139.7	168.1
Ohio	48,289	28,652	19,397	27,560	20,408	289.3	205.9	747.3	201.1	737.3
Oklahoma	11,998	6,995	3,311	6,668	3,443	251.8	185.1	649.2	187.2	621.5
Oregon	11,041	9,782	656	9,433	837	257.4	245.1	713.8	242.6	663.8
Pennsylvania	49,258	29,049	19,793	27,210	21,476	286.4	202.4	774.9	193.4	769.9
Rhode Island	3,997	3,027	729	2,905	833	263.0	226.3	629.5	221.7	621.2
South Carolina	19,148	5,217	13,857	5,132	13,934	326.7	146.5	618.1	145.7	613.9
South Dakota	2,515	1,327	18	1,263	39	228.7	144.7	*	140.9	288.9
Tennessee	22,662	10,037	12,506	9,815	12,716	302.3	177.3	710.8	175.3	704.7
Texas ²	55,435	33,983	20,941	33,981	20,943	175.2	127.7	483.0	129.4	456.1
Utah	4,910	4,333	116	4,216	174	135.3	125.8	527.3	124.2	450.8
Vermont	1,666	1,645	9	1,626	19	201.4	200.5	*	199.1	*
Virginia	25,874	10,921	14,631	10,785	14,753	260.4	151.0	612.8	151.6	596.2
Washington	18,746	15,417	1,579	14,514	2,170	236.5	218.2	543.0	212.7	523.4
West Virginia	5,743	5,144	587	5,118	614	254.3	238.2	680.2	238.3	636.9
Wisconsin	17,656	11,205	5,789	11,114	5,845	242.2	177.0	806.9	177.3	778.3
Wyoming	1,383	1,223	30	1,192	47	198.0	185.9	447.8	184.1	439.3

¹Includes races other than white and black.²Marital status of mother is inferred: see Technical notes.

Table 19. Live births by interval since last live birth, live-birth order, and race of mother: United States, 1990
 [Refers only to second and higher order births. Live-birth order refers to number of children born alive to mother]

Interval since last live birth and race of mother	Total, second and higher order births ¹	Live-birth order						
		2	3	4	5	6	7	8 and over
All races²								
All intervals	2,442,537	1,330,852	678,709	261,277	97,196	39,342	17,453	17,708
0 months (plural deliveries)	42,027	15,657	13,620	7,333	3,143	1,236	533	505
1-11 months	40,061	17,404	11,300	6,076	2,790	1,312	628	551
12-17 months	267,649	127,580	74,154	36,572	15,622	6,886	3,308	3,527
18-23 months	320,767	170,840	85,636	37,377	14,554	6,333	2,826	3,201
24-35 months	533,284	308,204	136,786	53,056	19,442	8,145	3,733	3,918
36-47 months	349,341	205,875	93,020	31,758	10,997	4,177	1,725	1,789
48-59 months	225,008	126,684	65,131	21,559	7,080	2,569	1,077	908
60-71 months	150,015	81,196	46,272	14,754	4,853	1,712	680	548
72 months or more	378,576	201,985	118,695	38,204	12,567	4,245	1,648	1,232
Not stated	135,809	75,427	34,095	14,588	6,148	2,727	1,295	1,529
White								
All intervals	1,910,367	1,075,049	529,727	191,827	66,430	25,498	10,873	10,963
0 months (plural deliveries)	32,540	12,782	10,781	5,437	2,187	767	309	277
1-11 months	24,264	11,946	6,810	3,193	1,269	576	254	216
12-17 months	189,192	97,638	52,111	23,428	8,942	3,646	1,682	1,745
18-23 months	252,393	140,153	66,366	27,668	10,082	4,220	1,826	2,078
24-35 months	439,530	262,639	110,616	40,919	14,320	5,745	2,546	2,745
36-47 months	289,257	174,229	76,425	24,942	8,200	3,025	1,194	1,242
48-59 months	183,238	104,426	53,374	16,884	5,329	1,838	760	627
60-71 months	119,841	65,205	37,549	11,423	3,606	1,220	459	379
72 months or more	286,667	152,185	92,074	28,534	8,969	2,954	1,122	829
Not stated	93,445	53,846	23,621	9,399	3,526	1,507	721	825
Black								
All intervals	424,574	199,818	121,814	57,647	25,052	10,780	4,899	4,564
0 months (plural deliveries)	8,086	2,315	2,447	1,659	867	409	200	189
1-11 months	13,371	4,530	3,881	2,492	1,309	615	292	252
12-17 months	63,891	23,500	18,586	11,270	5,579	2,538	1,238	1,180
18-23 months	53,700	23,319	15,741	7,994	3,594	1,593	720	739
24-35 months	71,736	33,565	20,987	9,795	4,008	1,816	827	738
36-47 months	46,205	23,710	13,236	5,483	2,174	873	364	365
48-59 months	32,624	17,088	9,386	3,766	1,414	549	240	181
60-71 months	23,812	12,657	6,920	2,646	951	361	160	117
72 months or more	76,390	41,873	21,776	8,044	2,917	1,033	428	319
Not stated	34,759	17,261	8,854	4,498	2,239	993	430	484

¹Excludes not stated birth order.
²Includes races other than white and black.

Table 20. Live births by educational attainment of mother and of father and race: Total of 48 reporting States, the District of Columbia, and New York City, 1990

Years of school completed	Education and race of mother			Education and race of father		
	All races ¹	White	Black	All races ^{1,2}	White	Black
Total	3,916,583	3,077,143	664,880	3,916,583	2,770,860	411,709
0-5 years	67,708	53,902	3,083	77,534	53,084	3,109
6 years	70,581	66,595	1,984	64,382	61,739	925
7 years	27,308	21,251	4,591	16,459	14,509	917
8 years	80,884	64,626	13,251	48,909	44,314	2,806
9 years	166,987	131,660	30,131	91,849	83,314	5,875
10 years	220,577	157,689	54,517	123,407	103,969	14,663
11 years	284,999	186,153	89,276	174,221	136,770	31,491
12 years	1,149,183	1,141,432	282,961	1,278,124	1,030,688	202,164
13 years	295,546	236,763	49,807	189,590	157,565	25,588
14 years	363,653	291,617	55,533	302,790	252,602	36,273
15 years	124,076	97,546	19,778	103,336	84,146	13,539
16 years	447,938	388,632	33,427	437,539	385,704	29,193
17 years or more	226,105	195,656	13,704	328,162	287,632	14,981
Not stated	61,038	43,621	12,837	680,281	74,824	30,185

¹Includes races other than white and black.
²Includes births with race of father not stated.

NOTE: Excludes data for Washington and New York State (exclusive of New York City), which did not require reporting of educational attainment of mother and father.

Table 21. Live births by educational attainment of mother and age of mother, by race of mother and of child: Total of 48 reporting States, the District of Columbia, and New York City, 1990

Age of mother and race	Total	Years of school completed by mother					
		0-8 years	9-11 years	12 years	13-15 years	16 years or more	Not stated
All races ¹	3,916,583	246,481	672,563	1,479,183	783,275	674,043	61,038
Under 15 years	11,279	8,451	2,329	-	-	-	499
15-19 years	500,566	51,099	266,075	157,228	18,304	-	7,860
15 years	26,776	9,426	16,612	-	-	-	738
16 years	55,759	8,934	44,431	1,414	-	-	980
17 years	93,968	9,446	70,335	12,511	200	-	1,476
18 years	138,947	11,087	69,557	53,186	3,119	-	1,998
19 years	185,116	12,206	65,140	90,117	14,985	-	2,668
20-24 years	1,039,209	65,841	216,336	505,521	197,501	39,612	14,398
25-29 years	1,198,646	57,797	117,466	469,638	296,660	239,083	18,002
30-34 years	824,607	39,163	51,069	257,932	196,109	266,581	13,753
35-39 years	295,437	18,916	16,306	77,188	65,515	112,051	5,461
40 years and over	46,839	5,214	2,982	11,676	9,186	16,716	1,065
Race of mother							
White	3,077,143	206,374	475,502	1,141,432	625,926	584,288	43,621
Under 15 years	4,771	3,596	952	-	-	-	223
15-19 years	337,793	40,615	174,660	105,296	12,231	-	4,991
15 years	14,213	5,381	8,419	-	-	-	413
16 years	33,927	6,599	25,858	882	-	-	588
17 years	61,833	7,945	45,048	7,762	139	-	939
18 years	95,669	9,841	47,856	34,703	2,012	-	1,257
19 years	132,151	10,849	47,479	61,949	10,080	-	1,794
20-24 years	790,926	58,698	162,831	378,227	149,011	32,278	9,881
25-29 years	981,210	50,607	88,042	379,595	242,130	207,528	13,308
30-34 years	683,250	33,293	36,156	209,125	161,611	232,650	10,415
35-39 years	241,745	15,529	10,833	60,319	53,487	97,524	4,053
40 years and over	37,448	4,036	2,028	8,870	7,456	14,308	750
Black	664,880	22,909	173,924	282,961	125,118	47,131	12,837
Under 15 years	6,181	4,633	1,296	-	-	-	252
15-19 years	147,790	8,753	83,795	47,284	5,461	-	2,497
15 years	11,722	3,773	7,645	-	-	-	304
16 years	20,198	2,094	17,268	493	-	-	343
17 years	29,364	1,187	23,284	4,364	54	-	475
18 years	39,177	892	19,743	16,909	991	-	642
19 years	47,329	807	15,855	25,518	4,416	-	733
20-24 years	211,276	3,174	47,060	111,231	41,333	4,968	3,510
25-29 years	163,071	2,590	24,497	72,680	42,908	17,036	3,360
30-34 years	96,485	2,160	12,112	37,336	25,788	16,909	2,180
35-39 years	34,470	1,232	4,394	12,401	8,459	7,103	881
40 years and over	5,607	367	770	2,029	1,169	1,115	157
Race of child							
White	3,016,514	204,685	463,347	1,116,866	612,770	575,956	42,890
Under 15 years	4,660	3,521	920	-	-	-	219
15-19 years	327,857	40,076	169,338	101,757	11,809	-	4,877
15 years	13,777	5,282	8,090	-	-	-	405
16 years	32,970	6,491	25,051	849	-	-	579
17 years	60,119	7,844	43,733	7,492	134	-	916
18 years	92,868	9,735	46,438	33,542	1,930	-	1,223
19 years	128,123	10,724	46,026	59,874	9,745	-	1,754
20-24 years	772,395	58,243	158,995	368,891	144,978	31,618	9,670
25-29 years	965,195	50,317	86,176	373,005	237,722	204,853	13,122
30-34 years	672,301	33,085	35,313	205,437	158,660	229,546	10,260
35-39 years	237,419	15,426	10,613	59,104	52,346	95,933	3,997
40 years and over	36,687	4,017	1,992	8,672	7,255	14,006	745
Black	702,537	24,035	182,319	298,852	132,923	51,046	13,362
Under 15 years	6,267	4,694	1,319	-	-	-	254
15-19 years	154,739	9,109	87,541	49,760	5,751	-	2,578
15 years	12,033	3,842	7,882	-	-	-	309
16 years	20,878	2,164	17,846	515	-	-	353
17 years	30,550	1,251	24,208	4,539	57	-	495
18 years	41,159	961	20,752	17,734	1,052	-	660
19 years	50,119	891	16,853	26,972	4,642	-	761
20-24 years	223,667	3,462	49,672	117,516	43,988	5,355	3,674
25-29 years	172,353	2,782	25,706	76,624	45,424	18,321	3,496
30-34 years	102,655	2,312	12,725	39,614	27,422	18,301	2,281
35-39 years	36,825	1,296	4,560	13,187	9,067	7,799	916
40 years and over	6,031	380	796	2,151	1,271	1,270	163

¹Includes races other than white and black.

NOTE: Excludes data for Washington and New York State (exclusive of New York City), which did not require reporting of educational attainment of mother.

Table 22. Live births by Hispanic origin of mother and by race of mother for mothers of non-Hispanic origin: Total of 48 reporting States and the District of Columbia and each State, 1990

[By place of residence]

State	Origin of mother										
	Hispanic							Non-Hispanic			
	All origins	Total	Mexican	Puerto Rican	Cuban	Central and South American	Other and unknown Hispanic	Total ¹	White	Black	Not stated
All reporting States	4,092,994	595,073	385,640	58,807	11,311	83,008	56,307	3,457,417	2,626,500	661,701	40,504
Alabama	63,487	344	160	57	12	43	72	63,104	40,778	21,830	39
Alaska	11,902	328	200	39	7	25	57	11,567	7,779	529	7
Arizona	68,995	19,663	18,943	163	20	276	261	49,256	39,775	2,527	76
Arkansas	36,457	414	246	32	2	23	111	35,925	27,055	8,492	118
California	612,628	245,592	200,129	2,015	913	28,418	14,117	362,993	255,913	48,004	4,043
Colorado	53,525	9,278	4,668	121	24	329	4,136	44,159	39,791	2,832	88
Connecticut	50,123	5,318	169	3,869	78	615	587	40,381	34,207	5,199	4,424
Delaware	11,113	323	84	186	7	19	27	10,785	8,055	2,564	5
District of Columbia	11,850	890	44	20	8	781	37	10,904	1,640	9,030	56
Florida	199,339	27,570	5,003	4,295	7,380	8,614	2,278	171,594	123,514	45,362	175
Georgia	112,666	2,263	1,311	277	58	367	250	109,961	68,005	40,412	442
Hawaii	20,489	2,437	348	628	16	46	1,399	18,050	5,472	651	2
Idaho	16,433	1,434	1,195	11	1	32	195	14,968	14,521	42	31
Illinois	195,790	24,245	17,653	3,406	241	1,267	1,678	169,681	122,854	41,808	1,864
Indiana	86,214	1,856	1,355	248	13	55	185	84,057	73,933	9,386	301
Iowa	39,409	623	379	8	2	28	206	38,758	37,080	1,038	28
Kansas	39,020	1,954	1,595	73	17	84	185	36,827	32,629	3,318	239
Kentucky	54,362	274	178	47	2	16	31	54,021	48,574	5,065	67
Louisiana	72,192	941	202	57	52	563	67	71,221	40,547	29,688	30
Maine	17,359	127	28	13	3	6	77	16,397	16,081	83	835
Maryland	80,245	2,523	547	218	83	1,564	111	75,637	49,463	23,716	2,085
Massachusetts	92,654	8,425	286	4,872	120	2,894	253	83,509	72,261	7,585	720
Michigan	153,700	4,326	2,560	383	62	233	1,088	143,083	109,182	31,440	6,291
Minnesota	68,013	1,050	781	56	13	65	135	63,845	58,476	2,211	3,118
Mississippi	43,563	116	47	9	3	11	46	43,418	22,161	20,748	29
Missouri	79,260	970	728	66	16	74	86	78,108	63,574	13,538	182
Montana	11,613	292	145	7	1	13	126	10,916	9,373	35	405
Nebraska	24,380	802	517	9	2	16	258	23,310	21,332	1,376	268
Nevada	21,599	3,261	2,483	55	93	312	318	18,305	15,378	1,887	33
New Jersey	122,289	16,972	874	7,081	877	4,582	3,558	105,000	78,423	22,130	317
New Mexico	27,402	12,193	2,831	40	25	55	9,242	15,201	10,527	512	8
New York	297,576	53,140	3,827	22,405	626	22,501	3,781	234,989	165,220	56,998	9,447
North Carolina	104,525	1,754	987	277	30	231	229	102,760	69,512	30,726	11
North Dakota	9,250	123	75	8	1	8	31	9,058	8,160	80	69
Ohio	166,913	2,427	1,009	917	35	128	338	164,294	136,756	25,809	192
Oregon	42,891	2,974	2,647	46	14	122	145	39,900	37,045	912	17
Pennsylvania	171,961	5,636	399	4,306	75	414	442	166,170	138,116	25,221	155
Rhode Island	15,195	1,560	87	509	14	796	154	12,915	11,300	1,019	720
South Carolina	58,610	571	266	116	15	10	164	57,949	35,055	22,336	90
South Dakota	10,999	113	72	11	1	8	21	10,880	9,076	68	6
Tennessee	74,962	444	231	64	20	72	57	74,501	56,178	17,582	17
Texas	316,423	115,845	103,031	773	231	4,789	7,021	200,153	150,304	43,121	425
Utah	36,277	2,043	1,238	66	5	147	587	34,214	32,450	214	20
Vermont	8,273	30	7	10	1	6	6	7,258	7,204	17	985
Virginia	99,352	3,459	630	349	54	2,086	340	95,692	68,944	23,770	201
Washington	79,251	5,700	3,869	163	19	166	1,483	71,795	63,707	2,759	1,756
West Virginia	22,585	73	24	3	4	4	38	22,498	21,545	859	14
Wisconsin	72,895	1,866	1,229	419	15	78	125	70,986	61,496	7,108	43
Wyoming	6,985	511	323	4	-	16	168	6,464	6,079	64	10

¹Includes races other than white and black.

Table 23. Number and percent distribution of live births by race of mother and of child, according to Hispanic origin of mother: Total of 48 reporting States and the District of Columbia, 1990

Race	Origin of mother									
	All origins	Hispanic							Non-Hispanic	Not stated
		Total	Mexican	Puerto Rican	Cuban	Central and South American	Other and unknown Hispanic			
Race of mother										
		Number								
All races	4,092,994	595,073	385,640	58,807	11,311	83,008	56,307	3,457,417	40,504	
White	3,235,195	577,692	383,080	55,946	10,983	75,643	52,040	2,626,500	31,003	
Black	679,123	10,194	1,035	2,138	288	5,429	1,304	661,701	7,228	
Other	178,676	7,187	1,525	723	40	1,936	2,963	169,216	2,273	
		Percent distribution								
All races	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	
White	79.0	97.1	99.3	95.1	97.1	91.1	92.4	76.0	76.5	
Black	16.6	1.7	0.3	3.6	2.5	6.5	2.3	19.1	17.8	
Other	4.4	1.2	0.4	1.2	0.4	2.3	5.3	4.9	5.6	
Race of child										
		Number								
All races	4,092,994	595,073	385,640	58,807	11,311	83,008	56,307	3,457,417	40,504	
White	3,172,595	563,816	376,497	52,192	10,822	74,155	50,150	2,578,325	30,454	
Black	718,852	19,910	5,051	5,494	395	6,417	2,553	691,407	7,535	
Other	201,547	11,347	4,092	1,121	94	2,436	3,604	187,685	2,515	
		Percent distribution								
All races	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	
White	77.5	94.7	97.6	88.8	95.7	89.3	89.1	74.6	75.2	
Black	17.6	3.3	1.3	9.3	3.5	7.7	4.5	20.0	18.6	
Other	4.9	1.9	1.1	1.9	0.8	2.9	6.4	5.4	6.2	

NOTE: Excludes New Hampshire and Oklahoma, which did not report Hispanic origin of mother on the birth certificate.

Table 24. Birth and fertility rates, total fertility rates, and birth rates by age of mother, by Hispanic origin of mother, and by race of mother for mothers of non-Hispanic origin: Total of 48 reporting States and the District of Columbia, 1990

[Birth rates by age of mother are live births per 1,000 women in specified group]

Measure	Origin of mother								
	All origins ¹	Hispanic					Non-Hispanic ¹		
		Total	Mexican	Puerto Rican	Cuban	Other Hispanic ²	Total ³	White	Black
Birth rate ⁴	16.7	26.7	28.7	21.6	10.9	27.5	15.7	14.4	23.0
Fertility rate ⁵	71.0	107.7	118.9	82.9	52.6	102.7	67.1	62.8	89.0
Total fertility rate ⁶	2,083.0	2,959.5	3,214.0	2,301.0	1,459.5	2,877.0	1,979.5	1,850.5	2,547.5
Birth rates by age of mother ⁷									
10-14 years	1.4	2.4	2.5	2.9	*	2.1	1.3	0.5	5.0
15-19 years	59.9	100.3	108.0	101.6	30.3	86.0	54.8	42.5	116.2
20-24 years	116.4	181.0	200.3	150.1	64.6	162.9	108.1	97.5	165.1
25-29 years	120.3	153.0	165.3	109.9	95.4	155.8	116.5	115.3	118.4
30-34 years	81.0	98.3	104.4	62.8	67.6	106.9	79.2	79.4	70.2
35-39 years	31.9	45.3	49.1	26.2	28.2	49.4	30.7	30.0	28.7
40-44 years	5.5	10.9	12.4	6.2	4.9	11.6	5.1	4.7	5.6
45-49 years	0.2	0.7	0.8	0.5	*	0.7	0.2	0.2	0.3

¹Includes origin not stated.²Includes Central and South American and other and unknown Hispanic.³Includes races other than white and black.⁴Rate per 1,000 total population.⁵Rate per 1,000 women aged 15-44 years.⁶Rates are sums of birth rates for 5-year age groups multiplied by 5.⁷Rates per 1,000 women in specified group.

NOTE: Excludes New Hampshire and Oklahoma, which did not report Hispanic origin of mother on the birth certificate.

Table 25. Live births by age and Hispanic origin of mother and by race of mother for mothers of non-Hispanic origin: Total of 48 reporting States and the District of Columbia, 1990

Age of mother	Origin of mother									
	All origins ¹	Hispanic						Non-Hispanic		
		Total	Mexican	Puerto Rican	Cuban	Central and South American	Other and unknown Hispanic	Total ²	White	Black
All ages	4,092,994	595,073	385,640	58,807	11,311	83,008	56,307	3,457,417	2,626,500	661,701
Under 15 years	11,535	2,346	1,556	360	16	132	282	9,104	2,602	6,204
15-19 years	512,978	97,685	66,615	12,420	851	7,377	10,422	410,841	249,954	147,521
15 years	27,363	5,790	3,849	837	35	383	686	21,340	8,854	11,736
16 years	57,033	12,064	8,112	1,678	87	782	1,405	44,475	22,793	20,227
17 years	96,055	19,329	13,222	2,485	165	1,351	2,106	75,867	44,127	29,287
18 years	142,503	26,839	18,514	3,333	251	2,009	2,732	114,471	71,752	39,055
19 years	190,024	33,663	22,918	4,087	313	2,852	3,493	154,688	102,428	47,216
20-24 years	1,075,072	189,193	127,893	19,811	2,176	22,207	17,106	876,268	631,233	210,491
25-29 years	1,256,814	166,105	104,560	15,071	4,420	26,704	15,350	1,078,760	863,490	162,091
30-34 years	873,275	96,079	58,438	7,834	2,680	17,882	9,245	767,560	627,057	95,653
35-39 years	313,630	36,374	22,113	2,729	1,006	7,249	3,277	273,220	219,811	34,215
40-44 years	48,067	6,971	4,270	550	156	1,393	602	40,386	31,508	5,341
45-49 years	1,623	320	195	32	6	64	23	1,278	845	185

¹Includes origin not stated.

²Includes races other than white and black.

NOTE: Excludes New Hampshire and Oklahoma, which did not report Hispanic origin of mother on the birth certificate.

Table 26. Percent of births with selected characteristics, by Hispanic origin of mother and by race of mother for mothers of non-Hispanic origin: Total of 48 reporting States and the District of Columbia, 1990

Characteristic	Origin of mother									
	All origins ¹	Hispanic						Non-Hispanic		
		Total	Mexican	Puerto Rican	Cuban	Central and South American	Other and unknown Hispanic	Total ²	White	Black
Fourth and higher order births	10.5	15.4	17.2	13.2	6.0	12.5	11.7	9.6	8.0	15.2
Births to unmarried mothers	28.1	36.7	33.3	55.9	18.2	41.2	37.2	26.6	16.9	66.7
Mothers completing 12 years or more of school ³	76.1	46.1	38.6	57.2	82.1	55.8	66.7	81.5	84.8	69.9
Mothers born in the United States	84.3	38.8	38.2	56.7	20.6	4.4	79.1	92.1	95.8	93.2
Mothers who began prenatal care in the first trimester	75.8	60.2	57.8	63.5	84.8	61.5	66.4	78.5	83.3	60.7
Mothers who had late or no prenatal care	6.1	12.0	13.2	10.6	2.8	10.9	8.5	5.1	3.4	11.2
Births of low birth weight ⁴	7.0	6.1	5.5	9.0	5.7	5.8	6.9	7.1	5.6	13.3
Preterm births ⁵	10.6	11.0	10.6	13.4	9.8	10.9	11.2	10.6	8.5	18.9
1-minute Apgar score less than 7 ⁶	8.6	7.4	8.0	7.2	5.1	6.5	8.4	8.7	8.1	11.3
5-minute Apgar score less than 7 ⁶	1.5	1.4	1.3	1.5	1.2	1.1	1.5	1.5	1.3	2.8

¹Includes origin not stated.

²Includes races other than white and black.

³Excludes data for New York State (exclusive of New York City) and Washington, which did not require reporting of educational attainment of mother.

⁴Birth weight of less than 2,500 grams (5 lb 8 oz).

⁵Born prior to 37 completed weeks of gestation.

⁶Excludes data for California and Texas, which did not require reporting of either 1- or 5-minute Apgar score.

NOTE: Excludes New Hampshire and Oklahoma, which did not report Hispanic origin of mother on the birth certificate.

Table 27. Live births by age of mother, by specified race of mother and of child: United States, 1990

Age of mother	All races ¹	White	Black	American Indian ²	Asian or Pacific Islander					
					Chinese	Japanese	Hawaiian	Filipino	Other	
Race of mother										
All ages	4,158,212	3,290,273	684,336	39,051	22,737	8,674	6,099	25,770	78,355	
Under 15 years	11,657	4,974	6,338	155	4	2	14	20	140	
15-19 years	521,826	354,482	151,613	7,468	271	247	1,107	1,541	4,796	
15 years	27,703	14,802	12,023	414	7	9	63	52	311	
16 years	57,901	35,446	20,734	872	27	16	109	147	525	
17 years	97,723	64,686	30,124	1,384	51	46	211	297	873	
18 years	144,969	100,481	40,171	2,065	71	76	311	435	1,269	
19 years	193,530	139,067	48,561	2,733	115	100	413	610	1,818	
20-24 years	1,093,730	837,572	217,274	12,815	1,799	774	1,941	4,789	15,971	
25-29 years	1,277,108	1,051,760	168,217	10,306	7,584	2,505	1,722	7,500	26,606	
30-34 years	886,063	739,209	99,514	5,676	8,742	3,392	902	7,394	20,623	
35-39 years	317,583	261,787	35,592	2,218	3,721	1,504	358	3,763	8,390	
40-44 years	48,607	39,309	5,581	398	598	246	51	738	1,646	
45-49 years	1,638	1,180	207	15	18	4	4	25	183	
Race of child										
All ages	4,158,212	3,225,343	724,576	49,014	24,267	10,476	8,744	27,272	84,804	
Under 15 years	11,657	4,855	6,426	168	4	2	17	25	150	
15-19 years	521,826	343,920	158,974	9,131	327	261	1,441	1,824	5,544	
15 years	27,703	14,345	12,347	485	10	6	71	73	341	
16 years	57,901	34,426	21,451	1,012	32	13	140	184	610	
17 years	97,723	62,846	31,398	1,669	61	44	271	360	1,006	
18 years	144,969	97,503	42,268	2,527	85	86	394	511	1,485	
19 years	193,530	134,800	51,510	3,438	139	112	565	696	2,102	
20-24 years	1,093,730	817,789	230,494	16,038	1,959	988	2,664	5,287	17,514	
25-29 years	1,277,108	1,034,573	178,140	13,104	8,069	3,051	2,544	7,996	28,492	
30-34 years	886,063	727,416	106,156	7,241	9,234	3,999	1,441	7,636	22,153	
35-39 years	317,583	257,113	38,145	2,810	4,013	1,868	537	3,766	9,005	
40-44 years	48,607	38,525	6,019	502	639	302	96	714	1,759	
45-49 years	1,638	1,152	222	20	22	5	4	24	187	

¹Includes births of other races not shown separately.
²Includes births to Aleuts and Eskimos.

Table 28. Birth rates by age and specified race of mother: United States, 1990

[Birth rates by age of mother are live births per 1,000 women in specified group]

Measure	All races ¹	White	Black	American Indian ²	Asian or Pacific Islander
Birth rate ³	16.7	15.8	22.4	18.9	19.0
Fertility rate ⁴	70.9	68.3	86.8	76.2	69.6
Birth rates by age of mother					
10-14 years	1.4	0.7	4.9	1.6	0.7
15-19 years	59.9	50.8	112.8	81.1	26.4
15-17 years	37.5	29.5	82.3	48.5	16.0
18-19 years	88.6	78.0	152.9	129.3	40.2
20-24 years	116.5	109.8	160.2	148.7	79.2
25-29 years	120.2	120.7	115.5	110.3	126.3
30-34 years	80.8	81.7	68.7	61.5	106.5
35-39 years	31.7	31.5	28.1	27.5	49.6
40-44 years	5.5	5.2	5.5	5.9	10.7
45-49 years	0.2	0.2	0.3	0.3	1.1

¹Includes births of other races not shown separately.
²Includes births to Aleuts and Eskimos.
³Rate per 1,000 total population.
⁴Rate per 1,000 women aged 15-44 years.

Table 29. Live births by birth weight and percent low birth weight, by specified race of mother and of child: United States, 1990

Birth weight ¹	All races ²	White	Black	American Indian ³	Asian or Pacific Islander				
					Chinese	Japanese	Hawaiian	Filipino	Other
Race of mother					Number				
Total	4,158,212	3,290,273	684,336	39,051	22,737	8,674	6,099	25,770	78,355
Less than 2,500 grams	289,418	187,179	90,523	2,380	1,065	534	441	1,879	5,203
Less than 500 grams	5,555	3,010	2,405	38	9	8	4	19	61
500–999 grams	20,533	11,791	8,143	149	33	25	22	100	259
1,000–1,499 grams	26,827	16,513	9,405	207	75	30	33	151	397
1,500–1,999 grams	55,087	35,540	17,531	460	188	80	73	305	867
2,000–2,499 grams	181,416	120,325	53,039	1,526	760	391	309	1,304	3,619
2,500–2,999 grams	665,737	468,339	161,159	5,799	4,292	1,971	1,117	5,514	16,999
3,000–3,499 grams	1,524,675	1,191,605	257,979	13,846	10,013	3,712	2,301	10,713	33,317
3,500–3,999 grams	1,220,843	1,036,984	137,613	11,898	5,873	1,987	1,682	6,005	18,076
4,000–4,499 grams	378,003	335,641	30,531	4,072	1,291	422	480	1,421	3,960
4,500–4,999 grams	66,178	59,654	4,561	838	155	45	68	192	631
5,000 grams or more	8,054	7,039	719	138	31	2	4	28	86
Not stated	5,304	3,832	1,251	80	17	1	6	18	83
					Percent				
Less than 2,500 grams	7.0	5.7	13.3	6.1	4.7	6.2	7.2	7.3	6.6
Race of child					Number				
Total	4,158,212	3,225,343	724,576	49,014	24,267	10,476	8,744	27,272	84,804
Less than 2,500 grams	289,418	182,785	93,465	2,995	1,123	640	636	1,929	5,571
Less than 500 grams	5,555	2,932	2,460	47	11	11	7	22	63
500–999 grams	20,533	11,503	8,336	189	32	32	32	110	284
1,000–1,499 grams	26,827	16,093	9,715	260	89	38	50	141	419
1,500–1,999 grams	55,087	34,663	18,137	582	204	109	111	306	922
2,000–2,499 grams	181,416	117,594	54,817	1,917	787	450	436	1,350	3,883
2,500–2,999 grams	665,737	457,896	167,653	7,300	4,532	2,206	1,579	5,817	18,072
3,000–3,499 grams	1,524,675	1,167,401	272,633	17,515	10,661	4,446	3,381	11,337	35,790
3,500–3,999 grams	1,220,843	1,018,048	149,237	14,901	6,338	2,503	2,364	6,464	20,053
4,000–4,499 grams	378,003	329,924	34,241	5,020	1,398	603	678	1,468	4,426
4,500–4,999 grams	66,178	58,622	5,252	1,025	165	71	93	209	699
5,000 grams or more	8,054	6,932	789	161	31	3	6	27	96
Not stated	5,304	3,735	1,306	97	19	4	7	21	97
					Percent				
Less than 2,500 grams	7.0	5.7	12.9	6.1	4.6	6.1	7.3	7.1	6.6

¹Equivalent of the gram weights in pounds and ounces are shown in the Technical notes.
²Includes births of other races not shown separately.
³Includes births to Aleuts and Eskimos.

Table 30. Live births by month of pregnancy prenatal care began and age of mother, by race of mother and of child: United States, 1990

Age of mother and race	Month of pregnancy prenatal care began						
	All births	1st and 2d months	3d month	4th-6th months	7th-9th months	No prenatal care	Not stated
All races ¹	4,158,212	2,234,829	850,121	735,783	167,270	80,406	89,803
Under 15 years	11,657	2,320	1,923	4,686	1,548	730	450
15-19 years	521,826	164,672	115,115	167,779	41,945	18,331	13,984
15 years	27,703	6,609	5,536	10,396	2,962	1,288	912
16 years	57,901	15,506	12,224	20,756	5,322	2,326	1,767
17 years	97,723	28,897	21,510	32,703	8,380	3,490	2,743
18 years	144,969	45,806	32,535	46,322	11,440	5,126	3,740
19 years	193,530	67,854	43,310	57,602	13,841	6,101	4,822
20-24 years	1,093,730	500,180	236,350	246,441	58,450	26,925	25,384
25-29 years	1,277,108	767,680	255,391	173,767	36,487	18,748	25,035
30-34 years	886,063	570,854	170,208	98,121	19,439	10,444	16,997
35-39 years	317,583	200,754	61,098	37,265	7,589	4,282	6,595
40 years and over	50,245	28,369	10,036	7,724	1,812	946	1,358
Race of mother							
White	3,290,273	1,886,321	671,842	512,670	113,282	46,494	59,664
Under 15 years	4,974	1,073	867	1,849	682	317	186
15-19 years	354,482	119,327	82,006	108,203	26,503	10,209	8,234
15 years	14,802	3,848	3,149	5,230	1,534	624	417
16 years	35,446	10,128	7,882	12,141	3,107	1,238	950
17 years	64,686	20,147	14,938	20,784	5,251	1,958	1,608
18 years	100,481	33,696	23,537	30,675	7,443	2,867	2,263
19 years	139,067	51,508	32,500	39,373	9,168	3,522	2,996
20-24 years	837,572	408,202	183,210	173,351	40,372	15,944	16,493
25-29 years	1,051,760	663,855	208,410	125,851	25,704	10,828	17,112
30-34 years	739,209	496,821	140,017	70,997	13,392	5,962	12,020
35-39 years	261,787	173,003	49,351	26,808	5,320	2,592	4,713
40 years and over	40,489	24,040	7,981	5,611	1,309	642	906
Black	684,336	261,062	139,716	185,356	43,801	31,008	23,393
Under 15 years	6,338	1,186	992	2,705	817	399	239
15-19 years	151,613	41,143	29,929	54,081	13,773	7,637	5,050
15 years	12,023	2,586	2,201	4,838	1,312	630	456
16 years	20,734	5,015	4,029	7,944	1,993	1,037	716
17 years	30,124	8,007	5,972	10,914	2,797	1,439	995
18 years	40,171	10,953	8,091	14,154	3,559	2,117	1,297
19 years	48,561	14,582	9,636	16,231	4,112	2,414	1,586
20-24 years	217,274	77,447	44,825	62,626	15,068	10,113	7,195
25-29 years	168,217	74,775	34,894	37,392	8,080	7,135	5,941
30-34 years	99,514	47,463	20,406	19,856	4,262	4,016	3,511
35-39 years	35,592	16,624	7,433	7,358	1,495	1,465	1,217
40 years and over	5,788	2,424	1,237	1,338	306	243	240
Race of child							
White	3,225,343	1,854,068	657,886	499,326	110,377	45,446	58,240
Under 15 years	4,855	1,043	845	1,805	665	314	183
15-19 years	343,920	115,805	79,585	104,878	25,692	9,987	7,973
15 years	14,345	3,731	3,052	5,060	1,486	609	407
16 years	34,426	9,844	7,644	11,770	3,026	1,219	923
17 years	62,846	19,584	14,510	20,176	5,109	1,920	1,547
18 years	97,503	32,693	22,839	29,768	7,200	2,810	2,193
19 years	134,800	49,953	31,540	38,104	8,871	3,429	2,903
20-24 years	817,789	399,371	178,884	168,574	39,352	15,554	16,054
25-29 years	1,034,573	654,451	204,753	122,966	25,064	10,590	16,749
30-34 years	727,416	489,737	137,606	69,390	13,098	5,814	11,771
35-39 years	257,113	170,111	48,392	26,221	5,217	2,550	4,622
40 years and over	39,677	23,550	7,821	5,492	1,289	637	888
Black	724,576	279,263	148,604	194,549	45,916	31,833	24,411
Under 15 years	6,426	1,207	1,009	2,735	830	402	243
15-19 years	158,974	43,503	31,635	56,417	14,357	7,816	5,246
15 years	12,347	2,664	2,268	4,960	1,347	644	464
16 years	21,451	5,207	4,203	8,193	2,060	1,053	735
17 years	31,398	8,379	6,283	11,336	2,888	1,468	1,044
18 years	42,268	11,641	8,586	14,790	3,738	2,160	1,353
19 years	51,510	15,612	10,295	17,138	4,324	2,491	1,650
20-24 years	230,494	82,985	47,707	65,988	15,856	10,415	7,543
25-29 years	178,140	79,726	37,087	39,301	8,515	7,328	6,183
30-34 years	106,156	51,123	21,814	20,945	4,472	4,130	3,672
35-39 years	38,145	18,058	8,008	7,748	1,565	1,494	1,272
40 years and over	6,241	2,661	1,344	1,415	321	248	252

¹Includes races other than white and black.

Table 31. Live births by month of pregnancy prenatal care began and number of prenatal visits, by race of mother and of child: United States, 1990

Number of prenatal visits and race	Month of pregnancy prenatal care began						Not stated
	All births	1st and 2d months	3d month	4th-6th months	7th-9th months	No prenatal care	
All races ¹	4,158,212	2,234,829	850,121	735,783	167,270	80,406	89,803
No visits	80,406	...	...	...	...	80,406	...
1-2 visits	71,871	8,535	6,147	18,789	35,530	...	2,870
3-4 visits	132,075	15,458	14,730	53,521	45,721	...	2,645
5-6 visits	246,106	45,996	42,143	114,065	40,181	...	3,721
7-8 visits	403,569	119,200	94,863	162,140	23,175	...	4,191
9-10 visits	790,254	361,460	218,098	193,509	11,466	...	5,721
11-12 visits	1,061,888	699,053	249,446	104,840	4,025	...	4,524
13-14 visits	622,358	466,018	114,400	38,285	1,430	...	2,225
15-16 visits	412,322	319,289	65,127	25,213	1,066	...	1,627
17-18 visits	88,883	69,276	14,381	4,655	168	...	403
19 visits or more	131,299	101,122	19,348	9,497	561	...	771
Not stated	117,181	29,422	11,438	11,269	3,947	...	61,105
Race of mother							
White	3,290,273	1,886,321	671,842	512,670	113,282	46,494	59,664
No visits	46,494	...	...	...	...	46,494	...
1-2 visits	43,145	5,358	3,601	10,121	22,528	...	1,537
3-4 visits	83,261	9,661	9,006	32,518	30,558	...	1,518
5-6 visits	166,363	32,083	28,943	75,325	27,719	...	2,293
7-8 visits	298,366	93,403	71,746	113,924	16,496	...	2,797
9-10 visits	621,781	298,546	172,159	138,896	8,202	...	3,978
11-12 visits	893,403	603,402	205,465	78,117	2,947	...	3,472
13-14 visits	534,949	408,070	94,958	29,143	1,068	...	1,710
15-16 visits	341,463	269,714	51,867	17,944	743	...	1,195
17-18 visits	74,999	59,416	11,625	3,526	122	...	310
19 visits or more	106,349	84,429	14,635	6,359	367	...	559
Not stated	79,700	22,239	7,837	6,797	2,532	...	40,295
Black	684,336	261,062	139,716	185,356	43,801	31,008	23,393
No visits	31,008	...	...	...	...	31,008	...
1-2 visits	24,688	2,817	2,266	7,713	10,743	...	1,149
3-4 visits	40,792	4,963	4,836	17,849	12,216	...	928
5-6 visits	65,276	11,303	10,666	32,052	10,070	...	1,185
7-8 visits	83,120	19,472	17,836	39,359	5,314	...	1,139
9-10 visits	130,218	46,002	35,366	44,844	2,616	...	1,390
11-12 visits	126,387	69,322	33,521	21,864	873	...	807
13-14 visits	65,972	42,475	15,252	7,555	289	...	401
15-16 visits	55,425	37,879	10,622	6,313	273	...	338
17-18 visits	10,724	7,437	2,225	945	40	...	77
19 visits or more	20,581	13,401	4,004	2,833	166	...	177
Not stated	30,145	5,991	3,122	4,029	1,201	...	15,802
Race of child							
White	3,225,343	1,854,068	657,886	499,326	110,377	45,446	58,240
No visits	45,446	...	...	...	...	45,446	...
1-2 visits	42,104	5,240	3,507	9,860	22,005	...	1,492
3-4 visits	81,066	9,408	8,759	31,655	29,759	...	1,485
5-6 visits	162,251	31,355	28,261	73,400	27,001	...	2,234
7-8 visits	291,897	91,653	70,345	111,135	16,038	...	2,726
9-10 visits	609,022	293,328	168,577	135,212	7,993	...	3,912
11-12 visits	877,506	593,807	201,400	76,047	2,855	...	3,397
13-14 visits	525,677	401,552	93,060	28,343	1,043	...	1,679
15-16 visits	335,009	264,922	50,703	17,486	731	...	1,167
17-18 visits	73,535	58,299	11,389	3,422	119	...	306
19 visits or more	104,058	82,757	14,242	6,155	359	...	545
Not stated	77,772	21,747	7,643	6,611	2,474	...	39,297
Black	724,576	279,263	148,604	194,549	45,916	31,833	24,411
No visits	31,833	...	...	...	...	31,833	...
1-2 visits	25,485	2,898	2,336	7,900	11,166	...	1,185
3-4 visits	42,364	5,129	5,013	18,491	12,772	...	959
5-6 visits	68,182	11,784	11,147	33,432	10,587	...	1,232
7-8 visits	87,423	20,558	18,737	41,289	5,650	...	1,189
9-10 visits	138,218	49,062	37,624	47,331	2,758	...	1,443
11-12 visits	135,704	74,618	36,034	23,253	941	...	858
13-14 visits	71,204	45,972	16,418	8,088	304	...	422
15-16 visits	59,137	40,508	11,372	6,619	282	...	356
17-18 visits	11,603	8,075	2,386	1,022	42	...	78
19 visits or more	21,971	14,363	4,276	2,975	172	...	185
Not stated	31,452	6,296	3,281	4,149	1,242	...	16,504

¹Includes races other than white and black.

Table 32. Live births by period of gestation and birth weight, by race of mother and of child: United States, 1990

Birth weight ¹ and race	Period of gestation									
	All births	Under 28 weeks	28–31 weeks	32–35 weeks	36 weeks	37–39 weeks	40 weeks	41 weeks	42 weeks and over	Not stated
All races ²	4,158,212	29,237	49,891	208,586	148,876	1,701,145	928,773	579,207	465,681	46,816
Less than 500 grams	5,555	5,099	199	22	5	10	5	—	3	212
500–999 grams	20,533	14,797	4,179	628	33	174	65	39	55	563
1,000–1,499 grams	26,827	4,454	13,349	5,888	626	1,207	293	189	314	507
1,500–1,999 grams	55,087	1,551	11,376	25,704	4,364	8,156	1,233	706	1,148	849
2,000–2,499 grams	181,416	1,034	5,359	54,128	23,934	66,869	12,936	6,603	8,157	2,396
2,500–2,999 grams	665,737	1,556	5,824	53,796	52,814	339,389	101,257	51,518	51,971	7,612
3,000–3,499 grams	1,524,675	—	6,278	43,284	44,672	708,567	348,853	194,397	162,541	16,083
3,500–3,999 grams	1,220,843	—	3,115	19,707	17,567	448,164	335,257	220,061	164,825	12,147
4,000–4,499 grams	378,003	—	—	4,371	3,984	108,790	108,153	86,792	62,112	3,801
4,500–4,999 grams	66,178	—	—	701	631	16,589	18,250	16,608	12,673	726
5,000 grams or more	8,054	—	—	122	113	2,131	1,998	1,943	1,597	150
Not stated	5,304	746	212	235	133	1,099	473	351	285	1,770
Race of mother										
White	3,290,273	15,888	29,485	138,042	107,160	1,333,165	765,144	487,645	378,692	35,052
Less than 500 grams	3,010	2,766	99	15	4	5	3	—	3	115
500–999 grams	11,791	8,312	2,499	398	25	117	48	29	34	329
1,000–1,499 grams	16,513	2,450	8,348	3,782	406	738	182	121	192	294
1,500–1,999 grams	35,540	686	7,162	16,949	2,892	5,387	788	421	749	506
2,000–2,499 grams	120,325	481	2,756	36,588	16,153	44,476	8,608	4,442	5,345	1,476
2,500–2,999 grams	469,339	755	2,880	35,034	37,862	240,217	72,489	37,516	36,528	5,058
3,000–3,499 grams	1,191,605	—	3,551	27,388	32,688	552,973	278,325	157,415	127,192	12,073
3,500–3,999 grams	1,036,984	—	2,054	13,776	13,281	377,046	289,114	191,629	140,121	9,963
4,000–4,499 grams	335,641	—	—	3,314	3,147	95,087	96,807	78,742	55,290	3,254
4,500–4,999 grams	59,654	—	—	538	512	14,512	16,627	15,284	11,551	630
5,000 grams or more	7,039	—	—	88	94	1,766	1,771	1,757	1,449	114
Not stated	3,832	438	136	172	96	841	382	289	238	1,240
Black	684,336	12,576	18,592	61,002	35,037	285,133	124,672	70,210	69,349	7,765
Less than 500 grams	2,405	2,210	95	7	1	4	2	—	—	86
500–999 grams	8,143	6,082	1,565	206	8	48	13	10	18	193
1,000–1,499 grams	9,405	1,890	4,574	1,897	201	418	100	59	98	168
1,500–1,999 grams	17,531	817	3,853	7,823	1,292	2,447	398	256	358	287
2,000–2,499 grams	53,039	528	2,405	15,414	6,764	19,111	3,712	1,878	2,510	717
2,500–2,999 grams	161,159	761	2,687	16,256	12,602	79,390	23,128	11,509	13,053	1,773
3,000–3,499 grams	257,979	—	2,425	13,469	9,922	118,910	53,734	28,561	28,505	2,453
3,500–3,999 grams	137,613	—	922	4,876	3,483	52,970	34,111	21,086	18,917	1,248
4,000–4,499 grams	30,531	—	—	840	636	9,896	8,094	5,760	5,003	302
4,500–4,999 grams	4,561	—	—	131	84	1,477	1,145	909	763	52
5,000 grams or more	719	—	—	28	16	255	171	137	88	24
Not stated	1,251	288	66	55	28	207	64	45	36	462
Race of child										
White	3,225,343	15,477	28,802	134,952	104,921	1,307,460	750,742	478,413	370,578	33,998
Less than 500 grams	2,932	2,694	98	15	4	5	3	—	3	110
500–999 grams	11,503	8,102	2,442	390	25	113	46	29	34	322
1,000–1,499 grams	16,093	2,387	8,165	3,672	393	717	176	116	187	280
1,500–1,999 grams	34,663	665	6,990	16,540	2,830	5,256	767	407	719	489
2,000–2,499 grams	117,594	466	2,711	35,817	15,800	43,434	8,413	4,325	5,212	1,416
2,500–2,999 grams	457,896	738	2,798	34,237	37,064	235,001	70,871	36,697	35,615	4,875
3,000–3,499 grams	1,167,401	—	3,457	26,770	32,038	542,122	272,738	154,226	124,329	11,721
3,500–3,999 grams	1,018,048	—	2,010	13,497	12,996	370,482	283,977	188,170	137,241	9,675
4,000–4,499 grams	329,924	—	—	3,239	3,082	93,507	95,295	77,405	54,226	3,170
4,500–4,999 grams	58,622	—	—	524	501	14,256	16,342	15,030	11,353	616
5,000 grams or more	6,932	—	—	85	94	1,744	1,740	1,730	1,428	111
Not stated	3,735	425	131	166	94	823	374	278	231	1,213
Black	724,576	12,859	19,094	63,130	36,547	300,909	133,257	75,860	74,538	8,382
Less than 500 grams	2,460	2,261	96	7	1	4	2	—	—	89
500–999 grams	8,336	6,224	1,606	208	8	51	13	10	18	198
1,000–1,499 grams	9,715	1,936	4,707	1,972	212	435	105	63	103	182
1,500–1,999 grams	18,137	829	3,982	8,103	1,326	2,535	412	267	386	297
2,000–2,499 grams	54,817	538	2,443	15,931	6,982	19,787	3,844	1,946	2,585	781
2,500–2,999 grams	167,653	773	2,748	16,795	13,126	82,554	24,121	12,029	13,635	1,872
3,000–3,499 grams	272,633	—	2,487	13,913	10,403	125,391	56,994	30,482	30,314	2,649
3,500–3,999 grams	149,237	—	955	5,075	3,669	57,072	37,139	23,182	20,723	1,422
4,000–4,499 grams	34,241	—	—	898	683	10,953	9,045	6,605	5,712	345
4,500–4,999 grams	5,252	—	—	140	93	1,644	1,327	1,075	913	60
5,000 grams or more	789	—	—	30	16	267	189	152	109	26
Not stated	1,306	298	70	58	28	216	66	49	40	481

¹Equivalents of the gram weights in pounds and ounces are shown in the Technical notes.²Includes races other than white and black.

Table 33. Live births by 1- and 5-minute Apgar scores, by race of mother and of child: Total of 47 reporting States and the District of Columbia, 1990

1-minute score and race	Total	5-minute score										Not stated	
		0	1	2	3	4	5	6	7	8	9		10
All races ¹	3,181,512	2,436	6,754	3,147	3,217	4,745	8,650	19,631	49,121	231,226	2,365,996	461,192	25,397
0	2,498	967	354	224	190	170	129	103	69	82	118	49	43
1	20,368	722	5,028	1,032	1,333	1,538	1,887	2,330	2,147	2,161	1,974	65	151
2	20,799	151	775	1,281	747	1,303	2,050	3,156	3,409	3,997	3,672	160	98
3	27,107	52	229	226	538	785	1,980	3,892	5,381	6,942	6,755	237	90
4	38,556	27	76	101	97	401	1,213	4,175	7,711	11,495	12,757	441	62
5	59,450	7	40	55	69	122	671	3,372	10,968	19,561	23,630	885	70
6	102,274	13	23	40	55	96	169	1,564	11,328	38,057	48,944	1,897	88
7	278,829	44	33	46	71	108	173	391	5,779	79,996	185,392	6,686	110
8	1,259,930	161	62	70	57	116	235	404	1,650	66,522	1,143,293	47,106	254
9	1,317,642	273	87	48	32	75	110	194	587	2,146	938,501	375,248	341
10	28,513	18	6	3	-	2	3	4	4	24	278	28,123	48
Not stated	25,546	1	41	21	28	29	30	46	88	243	682	295	24,042
Race of mother													
White	2,483,345	1,433	3,875	1,815	2,002	3,058	5,625	13,459	35,535	178,499	1,841,586	379,060	17,398
0	1,469	504	240	129	135	107	83	68	42	45	68	24	24
1	12,900	433	2,828	625	831	1,009	1,160	1,520	1,448	1,519	1,390	52	85
2	14,043	84	446	698	455	833	1,346	2,099	2,345	2,866	2,675	132	64
3	19,009	25	125	137	336	500	1,305	2,620	3,718	4,980	5,016	197	50
4	27,926	13	39	59	57	266	820	2,902	5,447	8,433	9,487	366	37
5	43,957	4	24	31	37	78	451	2,362	7,938	14,442	17,832	714	44
6	78,498	8	11	25	33	50	109	1,142	8,465	28,867	38,136	1,587	65
7	222,728	27	23	23	46	72	105	273	4,431	63,123	148,830	5,703	72
8	1,005,239	125	42	37	37	74	153	314	1,256	52,421	909,619	40,981	180
9	1,016,875	194	65	36	18	47	77	132	393	1,650	707,870	306,165	228
10	23,290	15	5	3	-	1	3	3	2	20	236	22,969	33
Not stated	17,411	1	27	12	17	21	13	24	50	133	427	170	16,516
Black	586,890	918	2,712	1,250	1,125	1,543	2,743	5,617	12,177	45,440	440,011	66,522	6,832
0	940	425	104	90	46	59	45	31	24	31	47	24	14
1	6,840	267	2,078	386	459	479	656	730	632	563	515	13	62
2	6,081	65	314	544	270	432	623	957	957	1,026	835	26	32
3	7,271	25	94	85	194	264	622	1,168	1,504	1,737	1,505	35	38
4	9,529	13	32	41	39	125	361	1,170	2,049	2,725	2,886	65	23
5	13,681	2	16	22	30	41	198	909	2,732	4,529	5,029	149	24
6	20,701	5	12	14	21	43	55	393	2,570	8,075	9,236	256	21
7	47,595	14	8	18	23	32	63	105	1,175	14,502	30,806	814	35
8	210,099	33	18	30	19	36	72	78	335	11,738	192,793	4,881	66
9	252,753	67	21	11	13	23	31	53	162	419	196,106	55,743	104
10	4,462	2	1	-	-	1	-	1	2	2	34	4,405	14
Not stated	6,938	-	14	9	11	8	17	22	35	93	219	111	6,399
Race of child													
White	2,440,903	1,413	3,791	1,779	1,952	2,989	5,525	13,176	34,923	175,418	1,809,084	373,847	17,006
0	1,451	498	237	128	132	105	82	67	41	45	68	24	24
1	12,644	427	2,768	613	816	984	1,143	1,482	1,418	1,489	1,370	52	82
2	13,772	82	435	680	441	817	1,314	2,050	2,304	2,815	2,641	130	63
3	18,630	24	122	136	327	489	1,280	2,573	3,627	4,885	4,922	196	49
4	27,437	13	37	57	55	261	812	2,839	5,351	8,272	9,342	361	37
5	43,161	4	24	31	34	75	439	2,316	7,811	14,148	17,533	703	43
6	77,159	8	11	25	33	46	107	1,122	8,327	28,392	37,464	1,560	64
7	219,052	26	22	22	43	71	103	263	4,369	62,053	146,361	5,648	71
8	987,842	125	42	36	36	72	152	306	1,240	51,544	893,652	40,460	177
9	999,727	190	63	36	18	47	77	131	385	1,624	695,077	301,854	225
10	23,007	15	4	3	-	1	3	3	2	19	235	22,689	33
Not stated	17,021	1	26	12	17	21	13	24	48	132	419	170	16,138
Black	614,901	930	2,780	1,277	1,164	1,597	2,823	5,805	12,567	47,434	461,688	69,767	7,069
0	948	428	105	91	47	61	44	32	24	31	47	24	14
1	7,042	272	2,131	396	472	502	667	756	653	586	531	13	63
2	6,271	66	319	558	280	446	650	989	981	1,061	861	27	33
3	7,525	25	97	85	201	271	645	1,198	1,558	1,798	1,572	36	39
4	9,861	13	34	42	41	128	369	1,214	2,118	2,827	2,983	69	23
5	14,206	2	16	22	32	43	206	940	2,813	4,724	5,228	155	25
6	21,580	5	12	15	21	45	57	405	2,658	8,375	9,694	271	22
7	49,990	16	9	18	26	31	63	110	1,213	15,214	32,408	846	36
8	221,449	33	18	30	20	38	73	84	343	12,285	203,273	5,182	70
9	264,246	68	22	11	13	23	32	54	168	436	204,830	58,483	106
10	4,609	2	2	-	-	1	-	1	2	3	34	4,550	14
Not stated	7,174	-	15	9	11	8	17	22	36	94	227	111	6,624

¹Includes races other than white and black.

NOTE: Excludes data for California, Oklahoma, and Texas, which did not require reporting of either 1- or 5-minute Apgar score.

Table 34. Live births by 5-minute Apgar score and age of mother, by race of mother and of child: Total of 47 reporting States and the District of Columbia, 1990

Age of mother and race	Total	5-minute score										Not stated	
		0	1	2	3	4	5	6	7	8	9		10
All races ¹	3,181,512	2,436	6,754	3,147	3,217	4,745	8,650	19,631	49,121	231,226	2,365,996	461,192	25,397
Under 15 years	8,995	11	44	22	26	43	52	91	218	820	6,523	1,027	118
15-19 years	396,222	355	1,187	518	572	788	1,456	3,317	7,778	32,848	292,266	51,847	3,290
15 years	20,876	22	94	28	39	61	96	195	477	1,833	15,276	2,548	207
16 years	43,507	42	153	70	73	94	180	444	927	3,718	32,018	5,371	417
17 years	73,843	63	238	101	100	149	255	627	1,455	6,148	54,414	9,658	635
18 years	110,449	95	306	137	160	225	432	909	2,169	9,191	81,437	14,505	883
19 years	147,547	133	396	182	200	259	493	1,142	2,750	11,958	109,121	19,765	1,148
20-24 years	828,267	680	1,832	837	871	1,332	2,389	5,483	13,598	63,185	614,460	116,958	6,642
25-29 years	986,796	683	1,743	926	833	1,280	2,342	5,408	14,037	68,592	736,840	146,847	7,265
30-34 years	684,479	466	1,290	572	635	883	1,594	3,599	9,154	45,773	512,063	103,101	5,349
35-39 years	240,181	199	572	228	232	353	682	1,443	3,704	17,141	177,452	35,913	2,262
40-44 years	35,477	38	85	42	46	65	126	274	612	2,780	25,596	5,352	461
45-49 years	1,095	4	1	2	2	1	9	16	20	87	796	147	10
Race of mother													
White	2,483,345	1,433	3,875	1,815	2,002	3,058	5,625	13,459	35,535	178,499	1,841,586	379,060	17,398
Under 15 years	3,153	3	10	7	10	16	17	21	72	304	2,266	385	42
15-19 years	254,011	173	578	247	312	444	807	1,967	4,781	21,614	185,096	36,197	1,795
15 years	9,746	6	33	14	15	33	36	76	224	847	7,055	1,330	77
16 years	24,348	24	73	26	38	45	91	242	486	2,168	17,648	3,320	187
17 years	45,688	34	111	43	60	67	140	383	889	3,894	33,152	6,579	336
18 years	72,589	45	143	64	85	134	260	527	1,379	6,209	52,907	10,333	503
19 years	101,640	64	218	100	114	165	280	739	1,803	8,496	74,334	14,635	692
20-24 years	616,151	359	980	476	538	812	1,507	3,602	9,583	47,214	454,405	92,445	4,230
25-29 years	808,549	439	1,049	548	533	876	1,613	3,936	10,752	55,632	602,651	125,331	5,189
30-34 years	573,204	309	835	365	431	613	1,117	2,675	7,125	37,583	428,896	89,207	4,048
35-39 years	198,801	116	366	143	145	248	472	1,038	2,745	13,880	147,061	30,853	1,734
40-44 years	28,688	32	57	28	32	48	86	209	465	2,209	20,647	4,523	352
45-49 years	788	2	-	1	1	1	6	11	12	63	564	119	8
Black	586,890	918	2,712	1,250	1,125	1,543	2,743	5,617	12,177	45,440	440,011	66,522	6,832
Under 15 years	5,616	8	32	15	16	27	34	67	138	497	4,091	621	70
15-19 years	131,537	180	593	260	248	319	609	1,284	2,807	10,341	99,019	14,519	1,358
15 years	10,539	16	60	14	22	27	60	111	246	928	7,766	1,168	121
16 years	18,016	18	76	43	34	45	85	186	419	1,443	13,523	1,934	210
17 years	26,208	29	122	57	38	76	101	234	536	2,087	19,785	2,867	276
18 years	34,909	50	160	72	74	83	161	364	735	2,725	26,263	3,875	347
19 years	41,865	67	175	74	80	88	202	389	871	3,158	31,682	4,675	404
20-24 years	186,712	303	813	344	317	487	818	1,756	3,700	14,174	140,618	21,317	2,065
25-29 years	143,100	217	641	357	274	372	660	1,326	2,863	10,793	107,500	16,347	1,750
30-34 years	84,444	139	423	186	180	237	407	796	1,741	6,647	62,937	9,671	1,080
35-39 years	30,459	66	183	75	77	87	181	335	807	2,518	22,240	3,464	426
40-44 years	4,840	5	26	12	12	14	32	50	116	452	3,470	569	82
45-49 years	182	-	1	1	1	-	2	3	5	18	136	14	1
Race of child													
White	2,440,903	1,413	3,791	1,779	1,952	2,989	5,525	13,176	34,923	175,418	1,809,084	373,847	17,006
Under 15 years	3,077	3	9	7	9	16	17	21	72	302	2,207	374	40
15-19 years	247,190	171	560	240	304	426	789	1,917	4,658	21,081	179,951	35,366	1,727
15 years	9,476	6	33	14	14	31	35	76	217	831	6,843	1,300	76
16 years	23,734	23	70	26	38	44	89	236	473	2,122	17,192	3,239	182
17 years	44,515	34	107	40	59	65	138	380	873	3,799	32,257	6,443	320
18 years	70,640	44	141	63	80	129	256	511	1,345	6,054	51,429	10,105	483
19 years	98,825	64	209	97	113	157	271	714	1,750	8,275	72,230	14,279	666
20-24 years	602,992	353	957	465	519	798	1,474	3,514	9,381	46,268	444,301	90,853	4,109
25-29 years	797,431	433	1,027	540	525	861	1,589	3,870	10,621	54,809	594,125	123,928	5,103
30-34 years	565,495	305	821	359	422	603	1,100	2,625	7,024	37,085	422,906	88,275	3,970
35-39 years	195,790	114	360	139	140	239	466	1,013	2,699	13,651	144,794	30,469	1,706
40-44 years	28,156	32	57	28	32	46	84	205	456	2,160	20,248	4,465	343
45-49 years	772	2	-	1	1	-	6	11	12	62	552	117	8
Black	614,901	930	2,780	1,277	1,164	1,597	2,823	5,805	12,567	47,434	461,688	69,767	7,069
Under 15 years	5,681	8	33	15	17	27	34	67	138	499	4,141	630	72
15-19 years	136,576	180	609	265	252	333	627	1,321	2,888	10,719	102,869	15,110	1,403
15 years	10,735	16	60	14	23	29	61	111	251	940	7,921	1,187	122
16 years	18,472	18	79	43	34	45	86	191	430	1,478	13,860	1,995	213
17 years	27,078	29	126	58	39	78	103	237	548	2,149	20,464	2,961	286
18 years	36,361	51	161	73	76	86	166	374	758	2,841	27,367	4,043	365
19 years	43,930	66	183	77	80	95	211	408	901	3,311	33,257	4,924	417
20-24 years	196,076	307	831	354	331	501	845	1,815	3,835	14,832	147,880	22,405	2,140
25-29 years	149,948	222	659	365	282	381	679	1,361	2,950	11,271	112,834	17,139	1,805
30-34 years	89,073	141	433	188	188	244	419	836	1,800	6,968	66,520	10,215	1,121
35-39 years	32,209	67	188	77	81	94	184	350	828	2,652	23,586	3,661	441
40-44 years	5,146	5	26	12	12	16	33	52	123	474	3,715	592	86
45-49 years	192	-	1	1	1	1	2	3	5	19	143	15	1

¹Includes races other than white and black.

NOTE: Excludes data for California, Oklahoma, and Texas, which did not require reporting of 5-minute Apgar score.

Technical notes

Source of data

Data shown in this report for 1990 are based on 100 percent of the birth certificates in all States and the District of Columbia. The data are provided to the National Center for Health Statistics (NCHS) through the Vital Statistics Cooperative Program (VSCP). In 1984 and earlier years, the VSCP included varying numbers of States that provided data based on 100 percent of their birth certificates. Data for States not in the VSCP were based on a 50-percent sample of birth certificates filed in those States. Information on sampling procedures and sampling errors for 1984 and earlier years is provided in the annual report, *Vital Statistics of the United States*, Volume I, Natality.

The 1989 revision of the U.S. Standard Certificate of Live Birth includes items to identify the Hispanic or ethnic origin of the newborn's mother and father. Data for Hispanic origin shown in this report are for the 48 States and the District of Columbia that reported this information in 1990.

Race

Beginning with the 1989 data year, NCHS is tabulating its birth data primarily by race of the mother. In 1988 and prior years, births were tabulated by the race of the child, which was determined from the race of the parents as entered on the birth certificate. When the parents were of the same race, as was the case for 96.5 percent of births in 1990, the race of the child was the same as the race of the parents. When the parents were of different races and one parent was white, the child was assigned to the other parent's race. When the parents were of different races and neither parent was white, the child was assigned to the father's race, with one exception—if either parent was Hawaiian, the child was assigned to Hawaiian. If race was missing for one parent, the child was assigned the race of the parent for whom race was reported.

The most important factor influencing the decision to tabulate births

by race of the mother was the recent revision of the birth certificate, effective with the 1989 data year. This revision includes many more health questions that are directly associated with the mother (for example, method of delivery, medical risk factors for this pregnancy, tobacco and alcohol use during pregnancy, and maternal weight gain). Additionally, many of the other items on the birth certificate for more than two decades also relate directly to the mother, for example, educational level and receipt of prenatal care. In all these instances, it is more appropriate to tabulate births by the mother's race.

A second factor has been the increasing incidence of interracial parentage. In 1990, 3.5 percent of births were to parents of different races compared with just 1.0 percent in 1968. The majority of these births were to white mothers and fathers of another race. There have been two major consequences of the increasing interracial parentage. One is the effect on birth rates by race. The number of white births under the pre-1989 procedures has been arbitrarily limited to infants whose parents were both white (or one parent white if only one parent's race was reported). At the same time, the number of births of other races has been arbitrarily increased to include all births to white mothers and fathers of other races. Thus, if race of mother had been used, birth rates per 1,000 white women in a given age group would have been higher while comparable rates for black women and women of other races would have been lower. The other consequence of increasing interracial parentage is its impact on the racial differential in various characteristics of births, particularly in cases where there is generally a large racial disparity, such as the incidence of low birth weight. In this instance, the racial differential is smaller when the data are tabulated by race of child than by race of mother. The same effect has been noted for characteristics such as nonmarital childbearing, preterm births, late or no prenatal care, and low educational attainment of mother.

The third factor influencing the decision to tabulate births by race of mother is the growing proportion of births with race of father not stated, 15 percent in 1990 compared with 7 percent in 1968. This reflects the increase in the proportion of births to unmarried women; in many such cases, no information is reported on the father. These births are already assigned the race of the mother because there is no alternative. Tabulating births by race of mother provides for a more uniform approach, rather than a necessarily arbitrary combination of parental races. This topic is discussed in greater detail in two recent papers (19,20).

This change in the tabulation of births by race presents challenges to those analyzing birth data by race, particularly trend data. The problem is likely to be acute for races other than white and black. To facilitate continuity and analysis of the data, key published tabulations for births in 1989 and 1990, including all trend tables, show data for both race of mother and race of child. This makes it possible to distinguish the effects of this change from real changes in the data. The text in this report focuses on data tabulated by race of mother. When the trend in rates is discussed, the rates are those tabulated by race of mother. Rates and other measures tabulated by race of mother for years prior to 1989 will be published in a future report.

Population denominators

Birth and fertility rates for 1990 shown in tables 1, 3-5, 12, 24, and 28 are based on populations enumerated in the 1990 census as of April 1. The population figures have been published by the U.S. Bureau of the Census (9). The 1990 census counts by race were modified to be consistent with Office of Management and Budget categories and historical categories for birth data. The modification procedures are described in detail in the census report (9).

Birth rates for 1981-89 have been revised, effective with this report. The

revised rates are based on revised populations for these years, which are consistent with 1990 census levels. These populations are published in a Bureau of the Census report (21).

A comparison of the revised rates with the rates originally published for 1981–89 indicates that the revised rates for women under 25 years of age are generally lower than the original rates, while for women aged 25 years and over, the revised rates are somewhat higher than the original rates.

Birth and fertility rates by month shown in table 8 are based on monthly population estimates and on the 1990 census count. Rates for unmarried women shown in tables 16 and 17 are based on distributions of the population by marital status as of March 1990 (2), published by the U.S. Bureau of the Census, which have been adjusted to July 1990 population levels (21) by the Division of Vital Statistics, NCHS.

Birth and fertility rates for the Hispanic population, shown in table 24, are based on tabulations of the Hispanic population from the 1990 census (9). Data for New Hampshire and Oklahoma are excluded from the population counts because these States did not report Hispanic origin on the birth certificate in 1990.

Computation of rates

In computing birth rates by live-birth order, births with birth order not stated were distributed in the same proportion as births of known live-birth order within each age of mother classification. This procedure is done separately by race. A similar process is followed for computing birth rates by age of father; births with age of father not stated are distributed first within each age-of-mother group.

In computing birth and fertility rates for the Hispanic population, births with origin of mother not stated are included with non-Hispanic births rather than being distributed. Thus, rates for the Hispanic population are underestimates of the true rates to the extent that the births with origin not stated (1.0 percent) were actually to Hispanic mothers. The population with origin not stated was imputed.

The effect on the rates is believed to be small.

Births by marital status of mother

Beginning with the 1980 data year, national estimates of births to unmarried women have been derived from two sources. In 1990 marital status was reported directly on the birth certificates of 44 States and the District of Columbia. In the remaining six States that lack such an item (California, Connecticut, Michigan, Nevada, New York, and Texas), marital status is inferred from a comparison of the child's and parents' surnames. This procedure represents a substantial departure from the method used before 1980 to prepare national estimates of births to unmarried women, which assumed that the incidence of births to unmarried women in States with no direct question on marital status was the same as the incidence in reporting States in the same geographic division.

The current method represents an attempt to use related information on the birth certificate to improve the quality of national data as well as to provide data for the individual nonreporting States. An evaluation of this method and its validity for California (the largest nonreporting State) has been published (22). Because of the continued substantial increases in nonmarital childbearing throughout the 1980's, the data have been intensively evaluated by the Division of Vital Statistics, NCHS. There has been continuing concern that the current method might overstate the number of births to unmarried women because it incorporates data based on a comparison of surnames. This is because women who have retained their maiden surname after marriage and who are frequently older, well-educated women would be classified as unmarried. The results of this evaluation have been generally similar in both the reporting States and the States using inferential data, but births to unmarried women increased at a slightly faster rate in the States providing inferential data than in the

States with a marital status item on the birth certificate. This was the case for births to unmarried white women, but births to unmarried black women increased slightly more in the reporting States than in the States providing inferential data.

Birth weight

Birth weight is reported in some areas in pounds and ounces rather than in grams. However, the metric system has been used in tabulating and presenting the statistics to facilitate comparison with data published by other groups. Equivalents of the gram weights in terms of pounds and ounces are as follows:

Less than 500 grams	= 1 lb 1 oz or less
500–999 grams	= 1 lb 2 oz–2 lb 3 oz
1,000–1,499 grams	= 2 lb 4 oz–3 lb 4 oz
1,500–1,999 grams	= 3 lb 5 oz–4 lb 6 oz
2,000–2,499 grams	= 4 lb 7 oz–5 lb 8 oz
2,500–2,999 grams	= 5 lb 9 oz–6 lb 9 oz
3,000–3,499 grams	= 6 lb 10 oz–7 lb 11 oz
3,500–3,999 grams	= 7 lb 12 oz–8 lb 13 oz
4,000–4,499 grams	= 8 lb 14 oz–9 lb 14 oz
4,500–4,999 grams	= 9 lb 15 oz–11 lb 0 oz
5,000 grams or more	= 11 lb 1 oz or more

Period of gestation and birth weight

The 1989 revision of the U.S. Standard Certificate of Live Birth includes a new item, "clinical estimate of gestation," that is being compared with length of gestation computed from the date the last normal menstrual period (LMP) began when the latter appears to be inconsistent with birth weight. This is done for normal weight births of apparently short gestations and very low birth weight births reported to be full term. The clinical estimate was also used if the LMP date was not reported. The period of gestation for 3.9 percent of the births in 1990 was based on the clinical estimate of gestation. For all but 0.2 percent of the records, the clinical estimate was used because the LMP date was not reported. For the remaining 0.2 percent, the clinical estimate was used because it was compatible with the reported birth weight, whereas the LMP-based gestation was not. In cases where the reported birth weight was

inconsistent with both the LMP-computed gestation and the clinical estimate of gestation, the LMP-computed gestation was used and birth weight was reclassified as "not stated." This was necessary for only about 600 births, or 0.01 percent of all birth records in 1990. The levels of the adjustments made for the 1990 data are very comparable to those for the 1989 data.

Computations of percents, percent distributions, and medians

Births with unknown live-birth order, attendant at birth, educational attainment of mother, nativity of mother, month of pregnancy prenatal care began, number of prenatal visits, birth weight, length of gestation, and 1- and 5-minute Apgar scores were subtracted from the figures for total births that were used as denominators before percents, percent distributions, and medians were computed. In the case of birth intervals, the percent distributions exclude the second- or later-born child in a multiple delivery

(interval of 0 months). Percent distributions and the median number of prenatal visits also exclude births to mothers who had no prenatal care. Computations of the median years of school completed and the median number of prenatal visits were based on ungrouped data. An asterisk is shown in place of any derived statistic based on fewer than 20 births in the numerator or denominator.

Random variation

Although the birth data in this report for births since 1985 are not subject to sampling error, they may be affected by random variation in the number of births involved. When the number of events is small (perhaps less than 100), and the probability of such an event is small, considerable caution must be observed in interpreting the data. More information on this topic is included in the Technical Appendix of the annual natality report (23).

Related reports

Throughout this report, reference has been made to the 1989 revision of the U.S. Standard Certificate of Live

Birth. This report describes birth rates and characteristics of births that have been based on data available on previous versions of the birth certificate. A second supplement to the *Monthly Vital Statistics Report* for 1990 birth data will be published and will present summary data on all the new topics included on the revised birth certificate. A similar report was published for 1989 (11).

The second supplement will include data on method of delivery, tobacco and alcohol use during pregnancy, maternal weight gain, obstetric procedures, medical risk factors, complications of labor and delivery, abnormal conditions of the newborn, and congenital anomalies of the child.

Many of the topics discussed in this report are covered in more analytic detail in other reports published by NCHS. Topics of reports published in the past 5 years include first births to older mothers (1), low birth weight (24), birth rates by educational attainment (5), births of Hispanic parentage (25), and twin births (12). Also available is a report evaluating inferred birth statistics for unmarried women in California (22).

This report presents summary tabulations from the final natality statistics for 1990. More detailed tabulations for 1990 will be published in *Vital Statistics of the United States, Volume I—Natality*. Prior to the publication of that volume, the National Center for Health Statistics will respond to requests for unpublished data whenever possible.

Suggested citation

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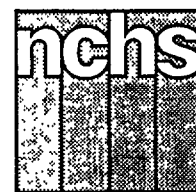
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National Center for Health Statistics

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Acting Deputy Director
Jack R. Anderson

Monthly Vital Statistics Report



Final Data From the CENTERS FOR DISEASE CONTROL AND PREVENTION/National Center for Health Statistics

Advance Report of Final Mortality Statistics, 1990

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Highlights

In 1990, 2,148,463 deaths were registered in the United States, 19,536 fewer than the record high number of 2,167,999 deaths recorded in 1988 and

2,003 fewer deaths than in 1989. The death rate for 1990 was 863.8 deaths per 100,000 population, 1 percent below the rate of 871.3 in 1989 and 3 percent below the rate in 1988. Provisional data for 1991 suggest that the death rate continued to decline.

The age-adjusted death rate, which eliminates the effects of the aging of the population, was at a record low of 520.2 per 100,000 population, 1.5 percent below the 1989 rate of 528.0 and 4 percent below the 1988 rate of 539.9. The age-adjusted rate decreased for the white and black populations between 1989 and 1990. For most of the 10-year age groups for males and all of the age groups for females, death rates declined between 1989 and 1990, but they increased for males aged 15–24 years, 35–44 years, and slightly for those aged 85 years and over. The cause of death contributing most to the increase in death rates for the white population and the black population aged 15–24 years was Homicide and legal intervention; and

for the white population aged 35–44 years, Human immunodeficiency virus infection (HIV infection).

In 1990, life expectancy at birth reached a record high of 75.4 years. The difference in life expectancy for males and females widened 0.2 years in 1990 after narrowing between 1984 and 1989. Women currently are expected to outlive men by an average of 7.0 years. For the white and black populations, life expectancy increased, narrowing the gap between the two race groups from 7.1 in 1989 to 7.0 years in 1990. Although life expectancy for black males increased in 1990 for the first time since 1984, it is still below the peak attained in 1984.

As in previous years, the first four leading causes of death accounted for almost 70 percent of deaths—Diseases of heart; Malignant neoplasms, including neoplasms of lymphatic and hematopoietic tissues (cancer); Cerebrovascular diseases (stroke); and Accidents and adverse effects. Age-adjusted death rates for 7 of the 15

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National Center for Health Statistics



leading causes of death declined between 1989 and 1990, led by reductions for Atherosclerosis. Heart disease, the leading cause of death in the United States, and stroke, the third leading cause of death, continued their long-term declines. Mortality for Motor vehicle accidents, a component of Accidents and adverse effects, also declined between 1989 and 1990.

Increases in age-adjusted death rates for leading causes of death between 1989 and 1990 were led by HIV infection and Homicide and legal intervention. Mortality from HIV infection, which became the 10th leading cause of death in the United States, increased by 13 percent; and from Homicide and legal intervention, the 11th leading cause, by 9 percent. Age-adjusted death rates also increased for Suicide (1.8 percent); Pneumonia and influenza (1.4 percent); Diabetes mellitus (0.9 percent); Chronic pulmonary diseases and allied conditions (0.5 percent); and Malignant neoplasms, including neoplasms of lymphatic and hematopoietic tissues (0.4 percent). Among other causes, the age-adjusted death rate for alcohol-induced causes decreased by 1 percent between 1989 and 1990, while the rate for drug-induced causes fell by 12 percent.

The age-adjusted death rate for males was about 74 percent higher than that for females for all causes of death combined. For each of the 15 leading causes of death, male mortality also was higher. The greatest sex differential was for HIV infection, where the age-adjusted rate for males was 8.4 times that for females. The smallest sex differential was for Diabetes mellitus, with a male-to-female ratio of 1.1.

Overall, the black population had age-adjusted death rates that exceeded those of the white population by about 60 percent. Rates also were higher for most of the leading causes of death. The largest race differential continued to be for Homicide and legal intervention, for which the age-adjusted rate for the black population was about seven times that of the white population. The two leading causes that had lower rates for the black population

were Chronic obstructive pulmonary diseases and allied conditions and Suicide.

In 1990, there were differences in the leading causes of death between the Hispanic and the non-Hispanic white populations in an area comprised of 45 States, New York State (excluding New York City), and the District of Columbia. Although the two leading causes of death—Diseases of heart and cancer—were the same for the two population groups, substantial differences exist in the ranking of other leading causes.

The infant mortality rate (9.2 infant deaths per 1,000 live births) reached a record low in 1990. The decline in the rate occurred for white and black infants. Neonatal mortality rates declined for white infants while postneonatal mortality rates declined for white and black infants. In 1990, the infant mortality rate for black infants remained at more than twice that for white infants. The ratio of black-to-white infant mortality rates has increased since the early 1970's when the mortality rates for black infants was 1.8 times that for white infants.

Deaths and death rates

Death rates and life table values for 1990 are based on the 1990 census enumeration. All death rates and life table values for 1981–89 contained in this report have been revised, using intercensal population estimates based on the 1990 census of population. Therefore, they are not comparable with the death rates and life table values in previous National Center for Health Statistics (NCHS) reports and publications containing those data for 1981–89 (see Technical notes).

In 1990, a total of 2,148,463 deaths occurred in the United States, 19,536 fewer than in 1988 and 2,003 fewer deaths than in 1989. The 1988 total of 2,167,999 deaths is the largest final number ever recorded. The decrease in the number of deaths between 1989 and 1990 reflects lower mortality for a number of age groups and causes of death. The death rate for 1990, 863.8 per 100,000 population, was 3 percent lower than the rate of 886.7 in 1988.

Provisional data for 1991 suggest that the death rate continued to decline (1).

The age-adjusted death rate of 520.2 deaths per 100,000 population in 1990 was a record low, about 4 percent below the rate of 539.9 for 1988 and 11 percent below the rate for 1980 (figure 1). Age-adjusted death rates show what the level of mortality would be if no changes occurred in the age composition of the population from year to year. Thus, they are better indicators than unadjusted death rates for showing changes in the risk of death over a duration when the age distribution of the population is changing. Also, they are better indicators of risk when comparisons of mortality are being made for sex or race subgroups of the population that have different age compositions. Since 1980, the age-adjusted death rate has decreased every year except 1985 and 1988, years when major influenza outbreaks increased mortality in the United States.

Death rates by age, sex, and race

Between 1989 and 1990, death rates for both sexes combined declined for all of the 10-year age groups except 15–24 and 35–44 years (table A). The largest decrease (7 percent) occurred for the age group 5–14 years, and the largest increase (2 percent) occurred for those aged 15–24 years.

For the white population, death rates declined between 1989 and 1990 for all age groups except 15–24 and 35–44 years. The largest decrease (6 percent) occurred for those aged 5–14 years, and the largest increase (1 percent) occurred for those aged 35–44 years. For the black population, death rates declined for all age groups except those aged 15–24 and 25–34 years. The largest decline occurred for the age group 1–4 years (6 percent), and the largest increase occurred for those aged 15–24 years (6 percent).

The death rate for males also declined between 1989 and 1990 for all age groups except 15–24, 25–34, 35–44 years, and 85 years and over. The largest increase was for those aged 15–24 years, although the change for males aged 85 years and over was very

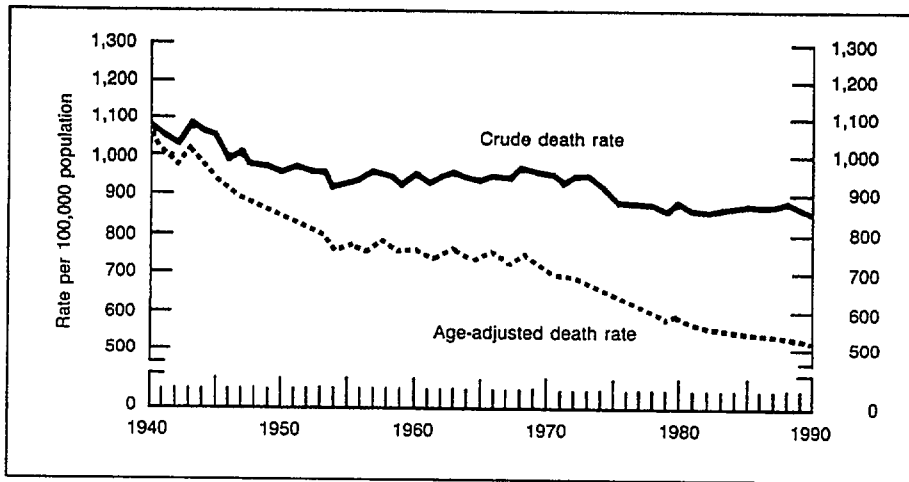


Figure 1. Crude and age-adjusted death rates: United States, 1940-90

Table A. Percent change in death rates between 1989 and 1990 by age, race, and sex: United States

Age	Total	White	Black	Male	Female
	Percent change				
All ages	-0.9	-0.6	-1.9	-0.9	-0.8
Under 1 year ¹	-5.4	-5.6	-4.1	-4.5	-6.7
1-4 years	-6.0	-5.9	-5.9	-4.4	-7.9
5-14 years	-6.6	-6.3	-5.2	-6.6	-6.3
15-24 years	1.6	0.2	6.1	3.5	-3.7
25-34 years	-0.6	-1.1	0.6	0.0	-2.0
35-44 years	0.5	1.0	-1.7	0.9	-0.7
45-54 years	-1.4	-1.0	-2.5	-1.9	-0.5
55-64 years	-2.2	-2.1	-2.6	-2.6	-1.7
65-74 years	-1.7	-1.5	-3.1	-1.9	-1.4
75-84 years	-1.3	-1.1	-2.5	-1.1	-1.7
85 years and over	-0.5	-0.5	-0.2	0.2	-0.8

¹Death rates under 1 year (based on population estimates) differ from infant mortality rates (based on live births); see table E for 1990 infant mortality rates and Technical notes for further discussion of the difference.

small. The increase in death rates between 1989 and 1990 for males aged 35-44 years (0.9 percent) continued the increase begun between 1983 and 1984, a reversal of the downward trend for this age group since the late 1960's (figure 2 and table A). The death rate for males aged 25-34 years was unchanged.

The largest decreases for males were for those aged 5-14 years (7 percent), under 1 year (5 percent), and 1-4 years (4 percent). Death rates for the younger population aged 1-14 years are subject to substantial fluctuation from year to year because of the relatively small number of deaths occurring in these age groups. Death rates at these ages are very low compared with other ages.

For females, death rates declined between 1989 and 1990 for all age

groups. This pattern is consistent with the general downward trend in age-specific rates for females observed since 1950. The largest decreases in death rates between 1989 and 1990 occurred for females aged 1-4 years (8 percent), under 1 year (7 percent), and 5-14 years (6 percent).

Age-adjusted death rates for white males decreased by 1 percent between 1989 and 1990 and for white females by 2 percent. The age-adjusted death rate decreased by 2 percent for black males and females. Age-adjusted death rates have decreased almost every year since 1980 for white males and females, resulting in record low rates in 1990. Rates increased from 1985 through 1989 for black males before decreasing in 1990. Rates for black females have fluctuated since 1979.

In 1990, the age-adjusted death rate for males of all races was 1.7 times that for females. In 1950 the male-to-female ratio was 1.5. The 1970 ratio (1.7) increased to 1.8 during the late 1970's until 1987 when the ratio again declined to 1.7. For 1990, the ratio between male and female age-adjusted death rates was 1.7 for the white population and 1.8 for the black population.

In 1990, the age-adjusted death rate for the black population was 1.6 times that for the white population, the same ratio that has prevailed since 1987. From 1960 through 1986, the ratio was 1.5.

Expectation of life at birth and at specified ages

In 1990, the average expectation of life at birth reached a record high of 75.4 years. This continued the general upward trend in life expectancy in the United States.

The expectation of life at birth for 1990 represents the average number of years that a group of infants would live if the infants were to experience throughout life the age-specific death rates prevailing in 1990. In 1990 life expectancy for females was 78.8 years compared with 71.8 years for males; both figures represent increases over 1989. The difference in life expectancy between the sexes was 7.0 years in 1990, higher than the difference of 6.8 years in 1989. Historically, the difference in life expectancy between the sexes has narrowed since 1979, in contrast to widening from 1900 to 1972 (table 4). The difference was 6.8 years in 1989 compared with 7.1 in 1984, 7.8 years in 1975, 7.7 and 7.8 years throughout the period 1972-79, 6.5 years in 1960, and 2.0 years in 1900.

Between 1989 and 1990, life expectancy for the white population increased from 75.9 years to a record high of 76.1, and for the black population from 68.8 years to 69.1 years. Although the difference in life expectancy between the white and black populations narrowed from 7.6 years in 1970 to 5.7 years in 1982, it increased to 7.1 years in 1989 before declining to 7.0 years in 1990. Although life expectancy for black males increased

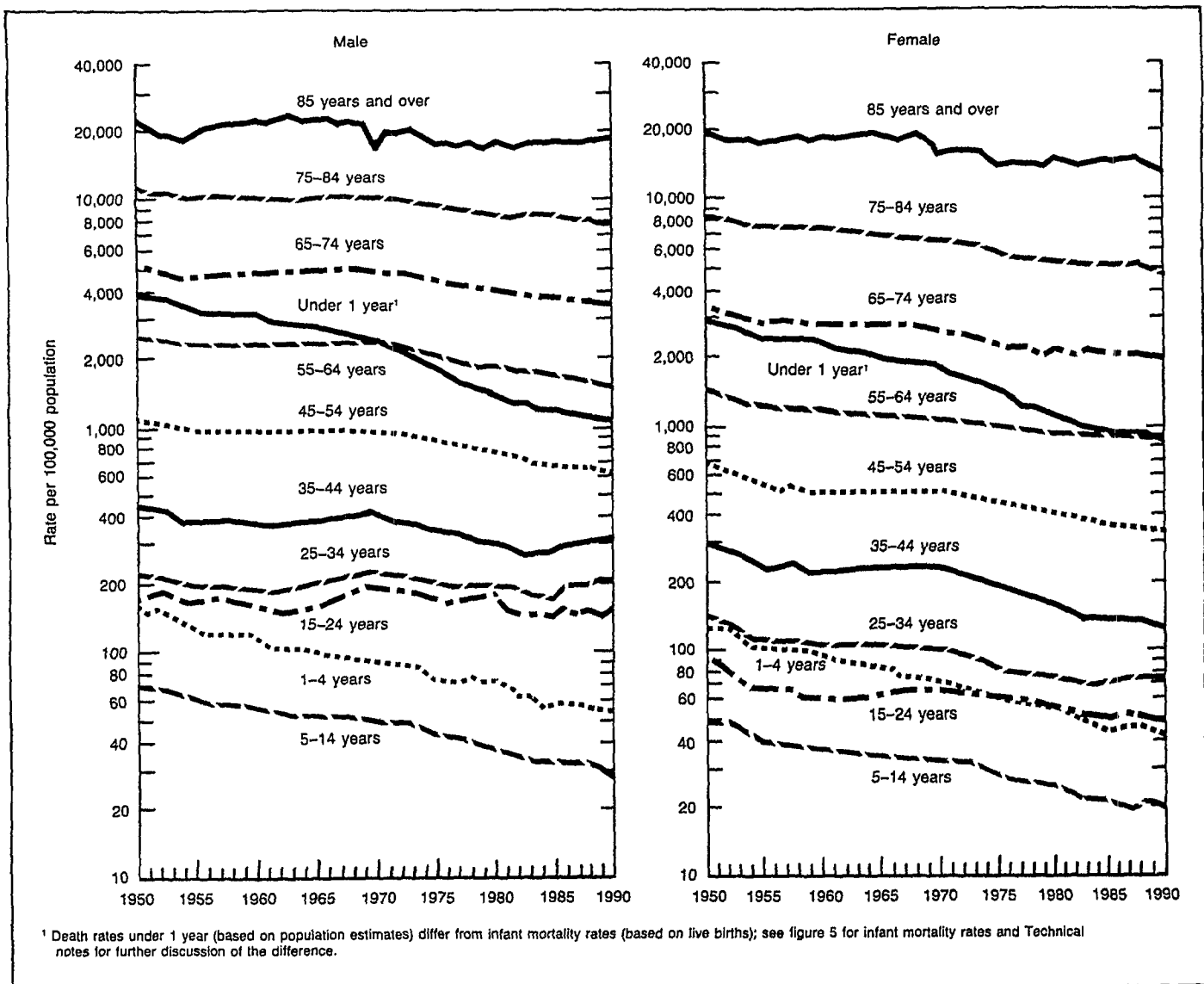


Figure 2. Death rates by age and sex: United States, 1950-90

for the first time since 1984, it is still 0.8 years below the peak life expectancy of 65.3 years attained in 1984.

Among the four race-sex groups, white females continued to have the highest life expectancy at birth (79.4 years), followed by black females (73.6 years), white males (72.7 years), and black males (64.5) (figure 3). Between 1989 and 1990, life expectancy increased for black males (from 64.3 years in 1989 to 64.5 years in 1990) and for black females (from 73.3 in 1989 to 73.6 in 1990). Before 1990, life expectancy for black males declined every year from 1984 through 1989. Life expectancy for black females has fluctuated since 1982, showing no clear trend. Overall, the largest gain in life

expectancy between 1980 and 1990 was for white males (2.0 years), followed by white females (1.3 years), black females (1.1 years), and black males (0.7 years).

The 1990 life table may be used to compare life expectancies at any age from birth onward. For example, a person who has reached age 65 years may look forward to living to an older age, on the average, than one who has reached 50 years. On the basis of mortality experienced in 1990, a person aged 50 years could expect to live an average of 29.0 more years for a total of 79.0 years, and a person aged 65 years could expect to live an average of 17.2 more years for a total of 82.2 years.

Cause of death

Deaths assigned to the 15 leading causes accounted for 86 percent of the total number of deaths in 1990 (table B). (For ranking procedures, see Technical notes.) The ranking of the first 9 of the 15 leading causes of death for 1990 was unchanged from the list based on data for 1989. The other six leading causes of death were the same as for 1989; however, the rankings changed for four of the six. HIV infection, the 11th leading cause in 1989, increased to 10th in 1990. Septicemia, the 14th leading cause in 1989, increased to 13th in 1990. Nephritis, nephrotic syndrome, and nephrosis and

Table B. Death rates and percent of total deaths for the 15 leading causes of death: United States, 1990

[Rates per 100,000 population]

Rank order ¹	Cause of death (Ninth Revision International Classification of Diseases, 1975)	Rate	Percent of total deaths
All races, both sexes			
...	All causes	863.8	100.0
1	Diseases of heart	289.5	33.5
2	Malignant neoplasms, including neoplasms of lymphatic and hematopoietic tissues	203.2	23.5
3	Cerebrovascular diseases	57.9	6.7
4	Accidents and adverse effects	37.0	4.3
...	Motor vehicle accidents	18.8	2.2
...	All other accidents and adverse effects	18.2	2.1
5	Chronic obstructive pulmonary diseases and allied conditions	34.9	4.0
6	Pneumonia and influenza	32.0	3.7
7	Diabetes mellitus	19.2	2.2
8	Suicide	12.4	1.4
9	Chronic liver disease and cirrhosis	10.4	1.2
10	Human Immunodeficiency virus infection	10.1	1.2
11	Homicide and legal intervention	10.0	1.2
12	Nephritis, nephrotic syndrome, and nephrosis	8.3	1.0
13	Septicemia	7.7	0.9
14	Atherosclerosis	7.3	0.8
15	Certain conditions originating in the perinatal period	7.1	0.8
...	All other causes	116.9	13.5

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

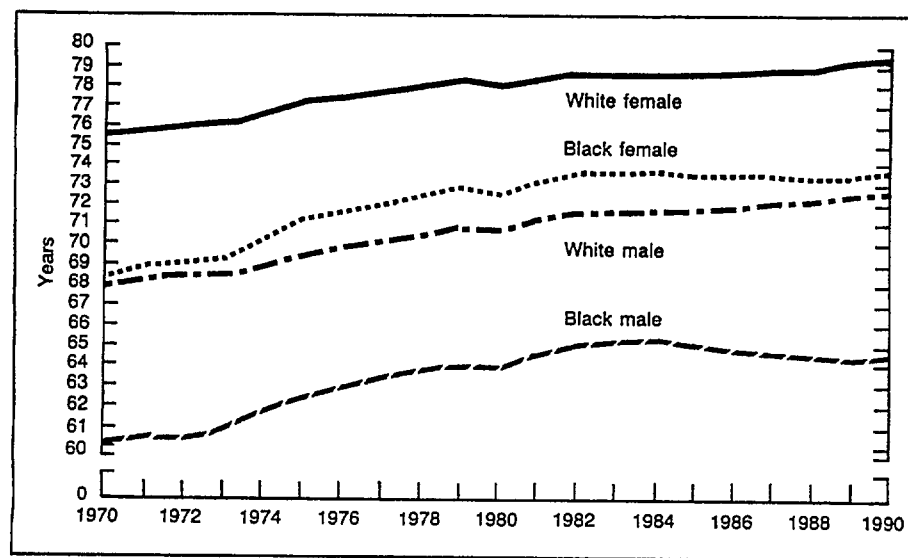


Figure 3. Life expectancy by sex: United States, 1970-90

Certain conditions originating in the perinatal period retained the same ranks. Homicide and legal intervention decreased in rank from 10th to 11th, and Atherosclerosis decreased from 13th to 14th.

Trends in mortality based on age-adjusted death rates are shown in figure 4 and table C for 14 of the 15 leading causes. Because deaths from Certain conditions originating in the perinatal period occur mainly among

infants under 1 year, age-adjusted rates for this cause are not discussed.

For seven of the leading causes of death, the age-adjusted death rates decreased between 1989 and 1990 (table C). These causes were Diseases of heart; Cerebrovascular diseases; Accidents and adverse effects; Chronic liver disease and cirrhosis; Nephritis, nephrotic syndrome, and nephrosis; Septicemia; and Atherosclerosis. The largest decline was for Atherosclerosis

(10 percent). The declines for Diseases of heart, Cerebrovascular diseases, and Atherosclerosis are consistent with the generally downward trends observed since 1950. Accidents and adverse effects has exhibited a general downward trend since 1968, while Chronic liver disease and cirrhosis has exhibited a downward trend since 1973. Death rates for Pneumonia and influenza increased slightly (1.4 percent) in 1990, a year of excess influenza-associated mortality in the elderly (2). Pneumonia and influenza, which had a general downward trend for 1969-82, has shown an upward trend since the early 1980's, marked by the periodic effects of outbreaks that have occurred each year (except 1987) since 1982. Septicemia decreased in 1989 and 1990, in contrast to the upward trend since 1950.

Increases in the age-adjusted death rates between 1989 and 1990 occurred for seven of the leading causes of death—Malignant neoplasms, including neoplasms of lymphatic and hematopoietic tissues; Chronic obstructive pulmonary diseases and allied conditions; Pneumonia and influenza; Diabetes mellitus; Suicide; HIV infection; and Homicide and legal intervention. The largest increase for 1990, 13 percent, was for HIV infection, which showed a smaller increase than in 1989 (30 percent) or in 1988 (22 percent). The age-adjusted death rate for Diabetes mellitus showed a much smaller increase for 1990 (1.0 percent) compared to the 14 percent increase in 1989. Diabetes mortality decreased from the late 1960's throughout the 1970's and remained at a plateau until 1988. The age-adjusted death rate for Homicide and legal intervention increased by 9 percent between 1989 and 1990, but the rate was still 6 percent lower than the record high of 1980. The age-adjusted death rate for Chronic obstructive pulmonary diseases and allied conditions increased slightly between 1989 and 1990 (1 percent), continuing the long-term upward trend for this cause of death. There continued to be a large decrease in the age-adjusted death rate for Atherosclerosis; a decrease of 10 percent

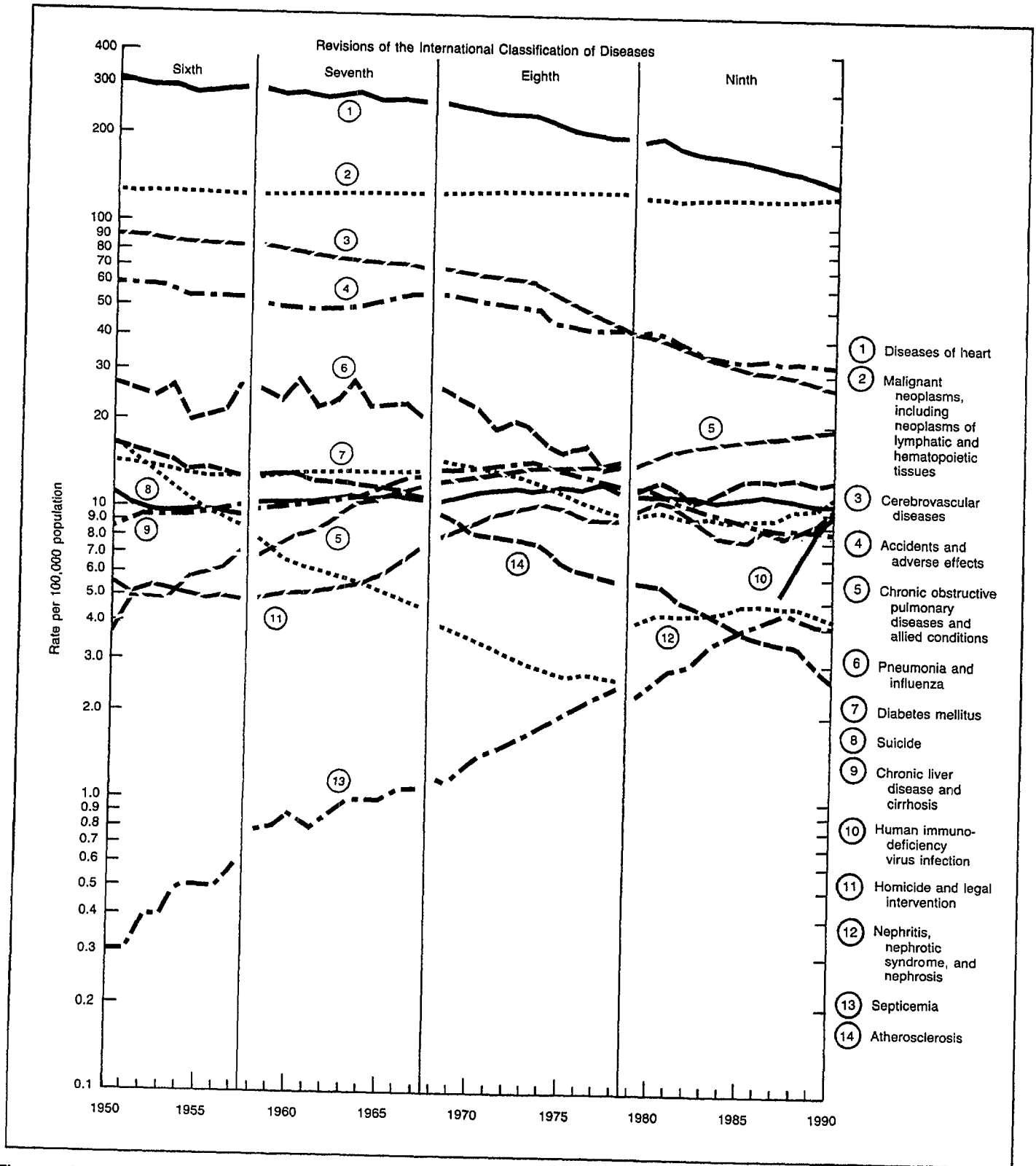


Figure 4. Age-adjusted rates for 14 of the 15 leading causes of death: United States, 1950-90

Table C. Age-adjusted death rates for 1990 and percent changes in age-adjusted death rates for the 15 leading causes of death from 1989 to 1990 and 1979 to 1990: United States

[Rates per 100,000 population]

Rank order ¹	Cause of death (Ninth Revision International Classification of Diseases, 1975)	Age-adjusted death rates for 1990	Percent change from—	
			1989 to 1990	1979 to 1990
...	All causes	520.2	-1.5	-9.8
1	Diseases of heart	152.0	-3.5	-23.8
2	Malignant neoplasms, including neoplasms of lymphatic and hematopoietic tissues	135.0	0.4	3.2
3	Cerebrovascular diseases	27.7	-2.1	-33.4
4	Accidents and adverse effects	32.5	-4.1	-24.2
...	Motor vehicle accidents	18.5	-4.1	-20.3
...	All other accidents and adverse effects	14.0	-6.7	-28.6
5	Chronic obstructive pulmonary diseases and allied conditions	19.7	0.5	34.9
6	Pneumonia and influenza	14.0	1.4	25.0
7	Diabetes mellitus	11.7	0.9	19.4
8	Suicide	11.5	1.8	-1.7
9	Chronic liver disease and cirrhosis	8.6	-4.4	-28.3
10	Human immunodeficiency virus infection	9.8	12.6	---
11	Homicide and legal intervention	10.2	8.5	---
12	Nephritis, nephrotic syndrome, and nephrosis	4.3	-4.4	---
13	Septicemia	4.1	-2.4	78.3
14	Atherosclerosis	2.7	-10.0	-52.6
15	Certain conditions originating in the perinatal period ²	...	-8.5	-37.0

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

²Inasmuch as deaths from this cause occur mainly among infants, percent changes are based on infant mortality rates instead of age-adjusted rates.

occurred between 1989 and 1990, although it was not as large as the decrease of 14 percent between 1988 and 1989. The very large decrease in mortality for Atherosclerosis and the very large increase for Diabetes mellitus that occurred between 1988 and 1989 may reflect in part changes in the way in which physicians report causes of death on the death certificate (3).

Mortality levels for each of the 15 leading causes of death were higher for males than for females (table D). Ten of the leading causes of death showed differentials in which death rates for males were at least 1.5 times those for females. The age-adjusted death rate for HIV infection, in which the death rate for males was 8.4 times that for females, was the largest differential. Other large differentials were for Suicide (4.2); Homicide and legal intervention (3.9); Accidents and adverse effects (2.7); Chronic liver disease and cirrhosis (2.3); Diseases of heart and Chronic obstructive pulmonary diseases and allied conditions (1.9 each); Pneumonia and influenza (1.7); Nephritis, nephrotic syndrome, and nephrosis (1.5); and Malignant neoplasms, including neoplasms of lymphatic and hematopoietic tissues

(1.5). The smallest sex difference in mortality was for Diabetes mellitus, with a male-to-female ratio of 1.1.

For females, the age-adjusted death rate for all causes combined decreased by 2 percent between 1989 and 1990. Decreases in rates occurred for six of the leading causes of death—

Atherosclerosis, Accidents and adverse effects, Chronic liver disease and cirrhosis, Diseases of heart, Septicemia, and Cerebrovascular diseases. Increases in rates occurred for five leading causes led by HIV infection; Homicide and legal intervention; Pneumonia and influenza; Diabetes mellitus; and Malignant neoplasms, including neoplasms of lymphatic and hematopoietic tissues. Rates for three causes were unchanged—Chronic obstructive pulmonary diseases and allied conditions; Suicide; and Nephritis, nephrotic syndrome, and nephrosis. Among the leading causes of death, HIV infection had the largest percent increase in age-adjusted rates between 1989 and 1990 for women, 16.7 percent.

For males, the age-adjusted death rate for all causes combined declined by 1 percent between 1989 and 1990. Decreases occurred in the rates for six of the leading causes of death—Atherosclerosis; Chronic liver disease and cirrhosis; Nephritis, nephrotic syndrome, and nephrosis; Accidents and adverse effects; Diseases of heart; and Cerebrovascular diseases. Increases in the age-adjusted death rate occurred for HIV infection; Homicide and legal intervention; Pneumonia and influenza; Suicide; Chronic obstructive pulmonary diseases and allied conditions;

Table D. Ratio of age-adjusted death rates for the 15 leading causes of death by sex and race: United States, 1990

Rank order ¹	Cause of death, race, and sex (Ninth Revision International Classification of Diseases, 1975)	Ratio of—	
		Male to female	Black to white
...	All causes	1.74	1.60
1	Diseases of heart	1.90	1.45
2	Malignant neoplasms, including neoplasms of lymphatic and hematopoietic tissues	1.48	1.38
3	Cerebrovascular diseases	1.18	1.90
4	Accidents and adverse effects	2.66	1.25
...	Motor vehicle accidents	2.46	0.99
...	All other accidents and adverse effects	3.01	1.61
5	Chronic obstructive pulmonary diseases and allied conditions	1.85	0.84
6	Pneumonia and influenza	1.68	1.48
7	Diabetes mellitus	1.11	2.38
8	Suicide	4.22	0.57
9	Chronic liver disease and cirrhosis	2.30	1.71
10	Human immunodeficiency virus infection	8.43	3.21
11	Homicide and legal intervention	3.88	6.69
12	Nephritis, nephrotic syndrome, and nephrosis	1.50	3.00
13	Septicemia	1.40	2.71
14	Atherosclerosis	1.33	1.15
15	Certain conditions originating in the perinatal period ²	1.25	3.10

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

²Inasmuch as deaths from these causes occur mainly among infants, ratios are based on infant mortality rates instead of age-adjusted death rates.

Diabetes mellitus; and Malignant neoplasms, including neoplasms of lymphatic and hematopoietic tissues. For males, the largest increase was for HIV infection (12 percent). Between 1989 and 1990 the age-adjusted death rate for Motor vehicle accidents continued the decline observed between 1988 and 1989. The increase in the death rate for males aged 15–24 years between 1989 and 1990 was principally due to a 23-percent increase for Homicide and legal intervention for this age group (from 26.8 to 32.9 per 100,000 population). For males aged 35–44 years, the increase was primarily due to a 15-percent increase in death rates due to HIV infection.

Mortality was higher for the black population than for the white population for most of the leading causes (table D). The largest differential was for Homicide and legal intervention, for which the age-adjusted death rate for the black population was 6.7 times that of the white population. Other causes for which the differential was large include HIV infection (3.2); Nephritis, nephrotic syndrome, and nephrosis (3.0); Septicemia (2.7); Diabetes mellitus (2.4); Cerebrovascular diseases (1.9); Chronic liver disease and cirrhosis (1.7); Pneumonia and influenza (1.5); and Diseases of heart (1.5). Age-adjusted rates for the black population were lower than those for the white population for two leading causes of death—Chronic obstructive pulmonary diseases and allied conditions and Suicide.

For the white population, decreases in age-adjusted rates occurred for seven leading causes of death. The largest decrease was for Atherosclerosis (10 percent). Of the leading causes that increased for the white population, the largest increases were for HIV infection (12.7 percent) and Homicide and legal intervention (9.3 percent). The increase in the death rate for the white population aged 15–24 years between 1989 and 1990 was primarily due to an increase in the rate for Homicide and legal intervention (from 8.2 to 9.9) for this age group. For those aged 35–44 years, the increase in the death rate was primarily due to HIV infection.

For the black population, age-adjusted death rates were lower in 1990 than in 1989 for 10 of the leading causes, including Accidents and adverse effects (8.5 percent); Nephritis, nephrotic syndrome, and nephrosis (8.5 percent); Diseases of heart (4.7 percent); Cerebrovascular diseases (4.3 percent); Chronic liver disease and cirrhosis (4.2 percent); Septicemia (4 percent); Atherosclerosis (3.1 percent); Suicide (2.8 percent); Pneumonia and influenza (2.5 percent); and Chronic obstructive pulmonary diseases and allied conditions (1.7 percent). Of the leading causes that increased for the black population, the largest increase was for HIV infection (11.7 percent). Other increases were for Homicide and legal intervention (9.7 percent); Malignant neoplasms, including neoplasms of lymphatic and hematopoietic tissues (1.4 percent); and Diabetes mellitus (1.2 percent). The increase in the death rate for the black population aged 15–24 years between 1989 and 1990 was primarily due to an increase in the rate for Homicide and legal intervention (from 65.4 to 78.2).

HIV infection

In 1990, there were 25,188 deaths due to HIV infection, 14 percent more than the 22,082 deaths recorded in 1989. Of these deaths, 64 percent (16,106 deaths) were for white males, 24 percent (6,097 deaths) for black males, 6 percent (1,633 deaths) for black females, and 5 percent (1,149 deaths) for white females (table 14). The largest numbers for males and females were for age groups 25–34 and 35–44 years. Although the numbers of deaths were greatest for white males, the age-adjusted death rates and almost all age-specific death rates were highest for black males, followed by white males, black females, and white females.

Overall, HIV infection was ranked as the 10th leading cause of death in 1990. For the black population it ranked 7th, and for the white population it ranked 10th among the leading causes of death. For males of all races combined, HIV infection was the eighth leading cause of death; for

females it did not rank among the 10 leading causes.

By age, HIV infection ranked among the 10 leading causes for ages 1–4, 5–14, 15–24, 25–44, and 45–64 years. HIV infection ranked 8th for ages 1–4 years, 10th for ages 5–14 years, 6th for ages 15–24 years, 3rd for ages 25–44 years, 10th for ages 45–64 years. Although HIV infection was the 8th leading cause for ages 1–4 years, the number of deaths due to this cause was relatively small—123 deaths, or 2 percent of deaths from all causes for that age group.

Hispanic deaths

Leading causes of death for all age groups combined for the Hispanic population differ from those for the non-Hispanic white population in an area comprised of 45 States, New York State (excluding New York City), and the District of Columbia (table 17) (see Technical notes). Although the two leading causes of death—Diseases of heart and Malignant neoplasms, including neoplasms of lymphatic and hematopoietic tissues—are the same for both groups, they accounted for three-fifths of all deaths in 1990 for the non-Hispanic white population but for only two-fifths of the deaths for the Hispanic population.

Major differences in leading causes of death between the two groups are as follows: Three of the 10 leading causes of death for the Hispanic population—Homicide and legal intervention (5th leading cause), HIV infection (8th), and Certain conditions originating in the perinatal period (10th)—are not among the 10 leading causes for the non-Hispanic white population. Conversely, the 3 leading causes for the non-Hispanic white population were Chronic obstructive pulmonary diseases and allied conditions (4th leading cause), Suicide (8th), and Atherosclerosis (10th).

Differences in ranking the leading causes of death between the two population groups largely reflect differences in age composition between the two groups; within broad age groups, leading causes are similar. However,

even within age categories some differences exist. Homicide and legal intervention consistently ranked higher for the Hispanic population than for the non-Hispanic white population for all age groups under 45 years. HIV infection for the Hispanic population aged 15–24, 25–44, and 45–64 consistently ranked higher than for the non-Hispanic white population for these same age groups. Diabetes mellitus and Chronic liver disease and cirrhosis ranked higher for Hispanics aged 45–64 years.

Drug-induced deaths

In 1990, a total of 9,463 persons died of drug-induced causes in the United States (table 18). The category drug-induced causes includes not only deaths from dependent and nondependent use of drugs (legal and illegal use), but also poisoning from medically prescribed and other drugs; it excludes accidents, homicides, and other causes indirectly related to drug use (for drug-induced causes, see Technical notes). The age-adjusted death rate for drug-induced causes in 1990 was 3.6 deaths per 100,000 population. The rate increased by 32 percent from 1983 to 1988, then declined 2 percent in 1989 and 12 percent in 1990. The age-adjusted death rate for drug-induced causes for males was 1.8 times the rate for females, and the rate for the black population was 1.7 times that for the white population.

Alcohol-induced deaths

In 1990, a total of 19,757 persons died of alcohol-induced causes in the United States (table 19). The category alcohol-induced causes includes not only deaths from dependent and nondependent use of alcohol, but also accidental poisoning by alcohol; it excludes accidents, homicides, and other causes indirectly related to alcohol use (for alcohol-induced causes, see Technical notes). The age-adjusted death rate for alcohol-induced causes in 1990 was 7.2 deaths per 100,000 population, which is lower than the rate of 7.3 for the previous year. The rate decreased by 20 percent from 1980 to 1986, increased by

9 percent from 1986 to 1989, then decreased by 1 percent in 1990. The age-adjusted death rate for alcohol-induced causes for males was 3.4 times the rate for females, and the rate for the black population was 2.6 times the rate for the white population.

Marital status

About 90 percent of the persons who died in 1990 had been married (table 20). The proportion was larger for females (92 percent) than for males (87 percent) and for the white population (90 percent) than for the black population (81 percent). The proportion who were widowed at the time of death was considerably greater for women (57 percent) than for men (18 percent) but about the same for both major race groups: 38 percent of the white population and 33 percent of the black population.

Educational attainment

About 55 percent of the persons who died in 1990 had completed high school in an area comprised of 28 States and the District of Columbia (table 21), (see Technical notes). The percent was about the same for males (54 percent) and females (57 percent), and similar for the white population (56 percent) compared to the black population (53 percent). About the same proportion of white females (57 percent) and white males (55 percent) who died in 1990 had completed high school. The proportion who had completed 4 years of college was similar for white females (3.8 percent) and for white males (2.4 percent). A greater proportion of black females (60 percent) had completed high school than black males (51 percent). Slightly more black females (2.9 percent) than black males (1 percent) had completed 4 years of college at the time of death.

Infant mortality

A change in the tabulation by race of live births beginning with data for 1989 affects infant mortality rates by race, because counts of live births comprise the denominator of infant

mortality rates. The tabulation of race for live births changed from race of child to race of mother (see Technical notes). As a result, infant mortality rates by race for 1989 and 1990 are not comparable with those of previous years. In general, changing the basis for tabulating birth data from race of child to race of mother results in more white births and fewer black births and births of other races. Therefore, infant mortality rates based on live births tabulated by race of mother tend to be lower for white infants and higher for black infants and infants of other races than they are when computed on the basis of live births tabulated by race of child. (For additional detail, see Technical notes.)

To facilitate comparison with previous years' data and analysis of current patterns, key tabulations and text analysis in this and other reports from NCHS for 1989 and 1990 infant mortality will show data computed on the basis of live births tabulated by race of mother and race of child. This will make it possible to distinguish the effects of this change in tabulation from real changes in the data. Accordingly, rates for 1989 and 1990 are presented in figure 5 and table 22 by both methods of tabulating race of live births. In this report, the discussions of changes in various measures among 1990 and years before 1989 are based on measures computed by race of child. Text references to white and black infant mortality for 1990 only refer to rates with live births tabulated according to race of mother (table E).

In 1990, there were 38,351 deaths of infants under 1 year of age, (table E) compared with 39,655 in the previous year. The infant mortality rate of 9.2 infant deaths per 1,000 live births was the lowest final rate ever recorded for the United States; it represented a decline of 6 percent from the rate of 9.8 for the previous year. In 1990, the mortality rate for white infants declined 6 percent (8.1 in 1989, compared with 7.6 in 1990) and for black infants, by 3 percent (18.6 in 1989, compared with 18.0 in 1990).

In 1990, the infant mortality rate for black infants (18.0) was 2.4 times the rate for white infants (7.6), slightly

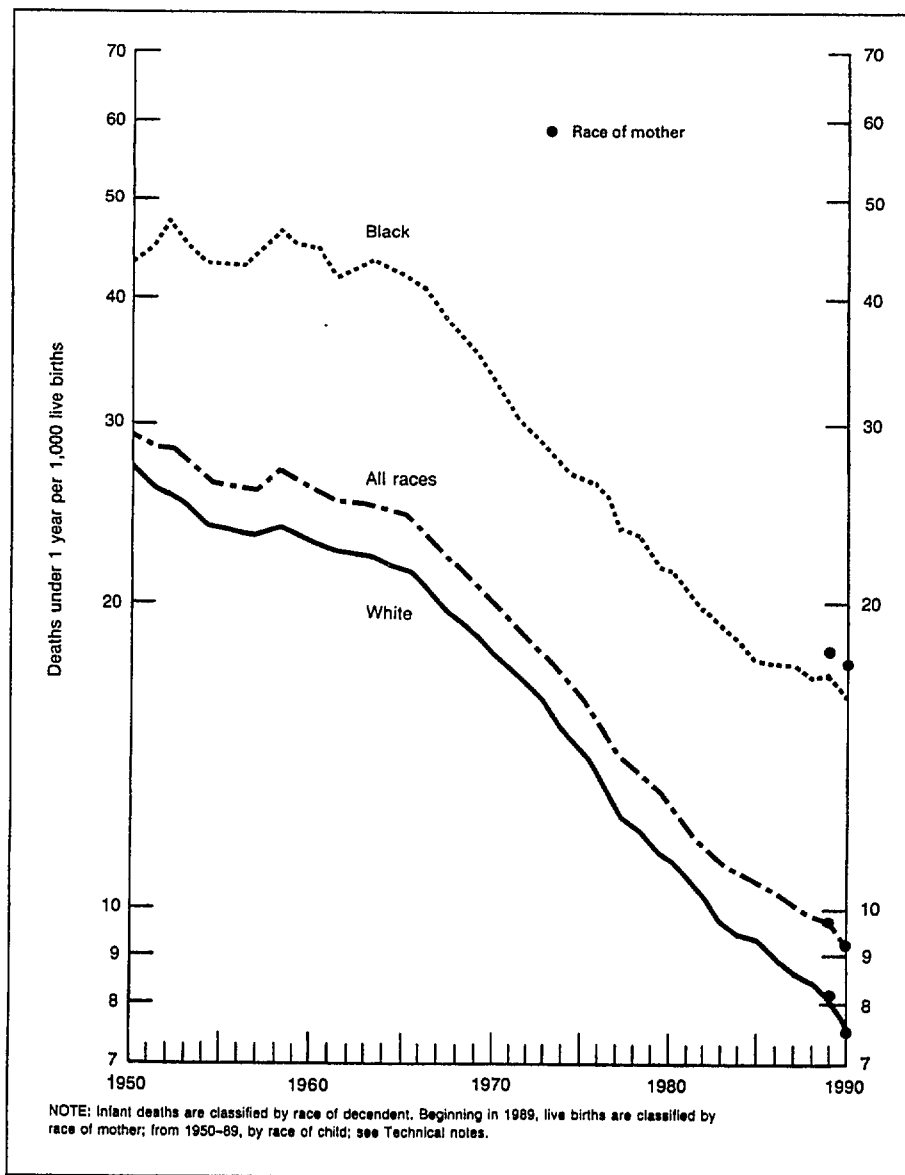


Figure 5. Infant mortality rates by race: United States, 1950-90

Table E. Infant, neonatal, and postneonatal deaths and mortality rates by race and sex: United States, 1990

[Rates are infant (under 1 year), neonatal (under 28 days), and postneonatal (28 days-11 months) deaths per 100,000 live births in specified group. Beginning in 1989, race for live births is tabulated according to race of mother; see Technical notes]

Race and sex	Infant		Neonatal		Postneonatal	
	Number	Rate	Number	Rate	Number	Rate
All races ¹	38,351	922.3	24,309	584.6	14,042	337.7
Male	21,856	1026.3	13,839	649.9	8,017	376.5
Female	16,495	813.1	10,470	516.1	6,025	297.0
White	24,883	756.3	15,751	478.7	9,132	277.5
Male	14,371	851.3	9,075	537.6	5,296	313.7
Female	10,512	656.1	6,676	416.7	3,836	239.4
Black	12,290	1795.9	7,905	1155.1	4,385	640.8
Male	6,811	1962.4	4,405	1269.2	2,406	693.2
Female	5,479	1624.6	3,500	1037.8	1,979	586.8

¹Includes races other than white and black.

higher than the ratio of 2.3 in the previous year. When based on live births by race of child, the ratio of black-to-white infant mortality in 1990 was 2.2; the ratio has increased since the early 1970's, when it was 1.8.

Between 1989 and 1990, the neonatal mortality rate declined by 6.5 percent, from 6.2 to 5.8 deaths for infants under 28 days per 1,000 live births. For white infants the rate declined from 5.1 to 4.8, while for black infants, the change in the rate between the two successive years was not statistically significant (11.9 in 1989 compared with 11.6 in 1990). Neonatal mortality rates historically have declined for both races—an average annual decrease of 4 percent per year for white infants compared with 3 percent for black infants between 1960 and 1990 by race of child.

The postneonatal mortality rate—deaths to infants 28 days-11 months per 1,000 live births—declined 5.6 percent for 1990 from 3.6 to 3.4 deaths. For white infants the postneonatal mortality rate declined 3 percent, from 2.9 to 2.8 deaths per 1,000 live births, while for black infants the rate declined 4 percent, from 6.7 in 1989 to 6.4 in 1990. This follows the historical trend, by race of child, of more rapid declines in postneonatal mortality for black than for white infants. From 1960 to 1990 postneonatal mortality declined by an average of 3 percent per year for black infants compared with 2 percent for white infants.

Although the list of the 10 leading causes of infant death was unchanged in 1990, the rankings for 2 of the leading causes of infant death changed slightly between 1989 and 1990. New-born affected by complications of placenta, cord, and membranes increased from the seventh leading cause in 1989 to the sixth. Accidents and adverse effects, the sixth leading cause in 1989, decreased to the seventh. Among the 10 leading causes of infant death, the first 4—Congenital anomalies, Sudden infant death syndrome, Disorders relating to short gestation and unspecified low birthweight, and Respiratory distress syndrome—accounted for just over half (54 percent) of all infant deaths in 1990; and the remaining 6

causes accounted for only 15 percent of all infant deaths.

Between 1989 and 1990, the infant mortality rate decreased for 8 of the 10 leading causes of infant death and increased for the other 2 causes. The largest decreases were for Respiratory distress syndrome (24 percent), Accidents and adverse effects (9 percent), and Sudden infant death syndrome (7 percent). The two increases were for Newborn affected by maternal complications of pregnancy (5 percent) and Intrauterine hypoxia and birth asphyxia (2 percent).

Differences between infant mortality rates for white and black infants by cause are reflected in differences in ranking of the leading causes of infant death as well as in differences in cause-specific infant mortality rates. Congenital anomalies was the leading cause of death for white infants, followed by Sudden infant death syndrome, Disorders relating to short gestation and unspecified low birthweight, and Respiratory distress syndrome. Together these four causes accounted for 56 percent of white infant deaths. In contrast, for black infants the leading cause of death was Disorders relating to short gestation and unspecified low birthweight, followed by Sudden infant death syndrome, Congenital anomalies, and Respiratory distress syndrome. Together these four causes accounted for 49 percent of all black infant deaths.

Although the difference between black and white infant mortality rates varied by cause, the risk was higher for black than for white infants for all the leading causes. Expressed as the ratio of the infant mortality rate for black infants to that for white infants, the leading causes ranked beginning with the highest ratio are: Disorders relating to short gestation and unspecified low birthweight (4.6); Pneumonia and influenza (3.0); Respiratory distress syndrome and Newborn affected by maternal complications of pregnancy (2.6 each); Infections specific to the perinatal period (2.5); Accidents and adverse effects (2.3); Intrauterine hypoxia and birth asphyxia (2.2); Newborn affected by complications of placenta, cord, and membranes (2.1);

Sudden infant death syndrome (2.1); and Congenital anomalies (1.1).

Hispanic infant mortality

The infant mortality rate was 7.8 deaths to Hispanic infants under 1 year of age per 1,000 live births in an area comprised of 45 States, New York State (excluding New York City), and the District of Columbia. This was 5 percent higher than the rate of 7.4 for non-Hispanic white infants (table 26). Among specified subgroups of the Hispanic population, the mortality rate for Mexican infants was 7.7 deaths to infants under 1 year of age per 1,000 live births, 10.2 for Puerto Rican infants, and 7.6 for Cuban infants. Infant mortality rates by specified Hispanic origin and race for non-Hispanic origin may be somewhat understated (see Technical notes).

Maternal mortality

In 1990, 343 women were reported to have died of maternal causes (table F) compared with 320 in 1989. As in previous years, the number does not include all deaths occurring to pregnant women, but only those deaths assigned to Complications of pregnancy, childbirth, and the puerperium (ICD-9 Nos. 630-676). The maternal mortality rate for 1990 was 8.2 deaths per 100,000 live births compared with a rate of 7.9 in 1989. The difference in the rate between the 2 years was not statistically significant.

Black women have a higher risk of maternal death than white women. In 1990, the maternal mortality rate for black women was 22.4, 4.1 times the

rate of 5.4 for white women. The change in the tabulation by race of live births beginning with data for 1989 affects maternal mortality rates by race as it does infant mortality rates, because counts of live births comprise the denominator of maternal mortality rates (see Technical notes).

Report of autopsy

For 1990, all States requested information on the death certificate as to whether autopsies were performed. They were reported as performed on 239,591 deaths, or 11.2 percent of the deaths that occurred in 1990, a reduction from the 11.5 percent reported for the previous year (table 28). This continues the downward trend in the percent of deaths autopsied. The percent autopsied for all causes of death combined is heavily influenced by the low rates for the three leading causes of death—Diseases of heart (8 percent); Malignant neoplasms, including neoplasms of lymphatic and hematopoietic tissues (4 percent); and Cerebrovascular diseases (4 percent). Among the 15 leading causes of death, the highest percents reported were for traumatic causes—Homicide and legal intervention (97 percent), Suicide (55 percent), and Accidents and adverse effects (50 percent). For nontraumatic causes, the highest percents were for Certain conditions originating in the perinatal period (24 percent), Chronic liver disease and cirrhosis (17 percent), and HIV infection (10 percent).

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Table F. Maternal deaths and maternal mortality rates by race: United States, 1990

[Maternal deaths are those assigned to Complications of pregnancy, childbirth, and the puerperium, category numbers 630-676 of the *Ninth Revision International Classification of Diseases, 1975*. Rates per 100,000 live births in specified group. Beginning in 1989, race for live births is tabulated according to race of mother; see Technical notes]

Race	Number	Rate
All races	343	8.2
White	177	5.4
All other	166	19.1
Black	153	22.4

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Table 1. Deaths, death rates, and age-adjusted death rates, by race and sex: United States, 1940, 1950, 1960, 1970, and 1975-90
 [Rates per 100,000 population in specified group. Rates are based on populations enumerated as of April 1 for census years and estimated as of July 1 for all other years. Beginning 1970, excludes deaths of nonresidents of the United States]

Year	All races						White						All other		
	Both sexes		Male	Female	Both sexes		Male	Female	Total		Black				
	Number														
1990	2,148,463	1,113,417	1,035,046	1,853,254	950,812	902,442	295,209	162,605	132,604	265,498	145,359	120,139			
1989	2,150,466	1,114,190	1,036,276	1,853,841	950,852	902,989	296,625	163,338	133,287	267,642	146,393	121,249			
1988	2,167,999	1,125,540	1,042,459	1,876,906	965,419	911,487	291,093	160,121	130,972	264,019	144,228	119,791			
1987	2,123,323	1,107,958	1,015,365	1,843,067	953,382	889,685	280,256	154,576	125,680	254,814	139,551	115,263			
1986	2,105,361	1,104,005	1,001,356	1,831,083	952,554	878,529	274,278	151,451	122,827	250,326	137,214	113,112			
1985	2,086,440	1,097,758	988,682	1,819,054	950,455	868,599	267,386	147,303	120,083	244,207	133,610	110,597			
1984	2,039,369	1,076,514	962,855	1,781,897	934,529	847,368	257,472	141,985	115,487	235,884	129,147	106,737			
1983	2,019,201	1,071,923	947,278	1,765,582	931,779	833,803	253,619	140,144	113,475	233,124	127,911	105,213			
1982	1,974,797	1,056,440	918,357	1,729,085	919,239	809,846	245,712	137,201	108,511	226,513	125,610	100,903			
1981	1,977,981	1,063,772	914,209	1,731,233	925,490	805,743	246,748	138,282	108,466	228,560	127,296	101,264			
1980	1,989,841	1,075,078	914,763	1,738,607	933,878	804,729	251,234	141,200	110,034	233,135	130,138	102,997			
1979	1,913,841	1,044,959	868,882	1,676,145	910,137	766,008	237,696	134,822	102,874	220,818	124,433	96,385			
1978	1,927,788	1,055,290	872,498	1,689,722	920,123	769,599	238,066	135,167	102,899	221,340	124,663	96,677			
1977	1,899,597	1,046,243	853,354	1,664,100	912,670	751,430	235,497	133,573	101,924	220,076	123,894	96,182			
1976	1,909,440	1,051,983	857,457	1,674,989	918,589	756,400	234,451	133,394	101,057	219,442	123,977	95,465			
1975	1,892,879	1,050,819	842,060	1,660,366	917,804	742,562	232,513	133,015	99,498	217,932	123,770	94,162			
1970	1,921,031	1,078,478	842,553	1,682,096	942,437	739,659	238,935	136,041	102,894	225,647	127,540	98,107			
1960	1,711,982	975,648	736,334	1,505,335	860,857	644,478	206,647	114,791	91,856	196,010	107,701	88,309			
1950	1,452,454	827,749	624,705	1,276,085	731,366	544,719	176,369	96,383	79,986	169,606	92,004	77,602			
1940	1,417,269	791,003	626,266	1,231,223	690,901	540,322	186,046	100,102	85,944	178,743	95,517	83,226			
Death rate															
1990	863.8	918.4	812.0	888.0	930.9	846.9	737.9	851.5	634.2	871.0	1,008.0	747.9			
1989 ²	871.3	926.3	818.9	893.2	936.5	851.8	755.2	871.5	649.0	887.9	1,026.7	763.2			
1988 ²	886.7	945.1	831.2	910.5	957.9	865.3	758.6	875.0	652.5	888.3	1,026.1	764.6			
1987 ²	876.4	939.3	816.7	900.1	952.7	849.8	747.0	864.1	640.2	868.9	1,006.2	745.7			
1986 ²	876.7	944.7	812.3	900.1	958.6	844.3	747.3	865.8	639.3	864.9	1,002.6	741.5			
1985 ²	876.9	948.6	809.1	900.4	963.6	840.1	745.0	861.7	638.8	854.8	989.3	734.2			
1984 ²	864.8	938.8	794.7	887.8	954.1	824.6	733.2	849.3	627.6	836.1	968.5	717.4			
1983 ²	863.7	943.2	788.4	885.4	957.7	816.4	737.9	856.9	629.8	836.6	971.2	715.9			
1982 ²	852.4	938.4	771.2	873.1	951.8	798.2	730.7	857.8	615.4	823.4	966.2	695.5			
1981 ²	862.0	954.0	775.0	880.4	965.2	799.8	751.6	885.7	630.0	842.4	992.6	707.7			
1980	878.3	976.9	785.3	892.5	983.3	806.1	791.7	936.5	660.6	875.4	1,034.1	733.3			
1979	852.2	957.5	752.7	865.2	963.3	771.8	771.0	920.3	635.7	839.3	999.6	695.3			
1978	868.0	977.5	764.5	880.2	982.7	782.7	790.0	943.2	651.0	855.1	1,016.8	709.5			
1977	864.4	978.9	756.0	874.6	983.0	771.3	798.6	951.7	659.6	864.0	1,026.0	718.0			
1976	877.6	993.8	767.6	887.7	997.3	783.1	812.1	969.8	668.6	875.0	1,041.6	724.5			
1975	878.5	1,002.0	761.4	886.9	1,004.1	775.1	823.1	987.6	673.1	882.5	1,055.4	726.1			
1970	945.3	1,030.3	807.8	946.3	1,086.7	812.6	938.4	1,115.9	775.3	999.3	1,188.6	829.2			
1960	954.7	1,104.5	809.2	947.8	1,098.5	800.9	1,008.5	1,152.0	872.6	1,038.6	1,181.7	905.0			
1950	963.8	1,106.1	823.5	945.7	1,089.5	803.3	1,119.4	1,251.1	993.5	---	---	---			
1940	1,076.4	1,197.4	954.6	1,041.5	1,162.2	919.4	1,382.8	1,513.7	1,256.2	---	---	---			
Age-adjusted death rate ¹															
1990	520.2	680.2	390.6	492.8	644.3	369.9	686.7	910.2	512.5	789.2	1,061.3	581.6			
1989 ²	528.0	689.3	397.3	499.6	652.2	376.0	703.9	932.5	525.4	805.9	1,082.8	594.3			
1988 ²	539.9	706.1	406.1	512.8	671.3	385.3	710.1	938.2	532.7	809.7	1,083.0	601.0			
1987 ²	539.2	706.8	404.6	513.7	674.2	384.8	702.7	927.8	527.4	796.4	1,063.6	592.4			
1986 ²	544.8	716.2	407.6	520.1	684.9	388.1	706.3	931.6	530.7	796.8	1,061.9	594.1			
1985 ²	548.9	723.0	410.3	524.9	693.3	391.0	709.1	931.8	535.7	793.6	1,053.4	594.8			
1984 ²	548.1	721.6	410.5	525.2	693.6	391.7	703.3	921.4	533.5	783.3	1,035.9	590.1			
1983 ²	552.5	729.4	412.5	529.4	701.6	393.3	710.8	928.6	540.1	787.4	1,037.5	595.3			
1982 ²	554.7	734.2	411.9	532.3	706.8	393.6	708.9	930.7	533.8	782.1	1,035.4	585.9			
1981 ²	568.6	753.8	420.8	544.8	724.8	401.5	734.0	964.1	551.5	807.0	1,068.8	602.7			
1980	585.8	777.2	432.6	559.4	745.3	411.1	774.2	1,015.1	582.6	842.5	1,112.8	631.1			
1979	577.0	768.6	423.1	551.9	738.4	402.5	757.1	994.8	566.9	812.1	1,073.3	605.0			
1978	595.0	791.4	437.4	569.5	761.1	416.4	780.0	1,021.0	585.8	831.8	1,093.9	622.7			
1977	602.1	801.3	441.8	575.7	770.6	419.6	796.7	1,036.1	601.8	849.3	1,112.1	639.6			
1976	618.5	820.9	455.0	591.3	789.3	432.5	818.5	1,063.4	618.3	870.5	1,138.3	654.5			
1975	630.4	837.2	462.5	602.2	804.3	439.0	840.6	1,090.1	634.5	890.8	1,163.0	670.6			
1970	714.3	931.6	532.5	679.6	893.4	501.7	983.4	1,231.4	770.8	1,044.0	1,318.6	814.4			
1960	760.9	949.3	590.6	727.0	917.7	555.0	1,046.1	1,211.0	893.3	1,073.3	1,246.1	916.9			
1950	841.5	1,001.6	688.4	800.4	963.1	645.0	1,225.7	1,358.5	1,095.7	---	---	---			
1940	1,076.1	1,213.0	938.9	1,017.2	1,155.1	879.0	1,634.7	1,764.4	1,504.7	---	---	---			

¹For method of computation, see Technical notes.

²Rates are revised and, therefore, may differ from those published in *Advance Report of Final Mortality Statistics* for 1989 and earlier years; see Technical notes.

Table 2. Deaths and death rates, by age, race, and sex: United States, 1990

[Rates per 100,000 population in specified group]

Age	All races						All other					
	All races			White			Total			Black		
	Both sexes	Male	Female	Both sexes	Male	Female	Both sexes	Male	Female	Both sexes	Male	Female
	Number											
All ages	2,148,463	1,113,417	1,035,046	1,853,254	950,812	902,442	295,209	162,605	132,604	265,498	145,359	120,139
Under 1 year	38,351	21,856	16,495	24,883	14,371	10,512	13,468	7,485	5,983	12,290	6,811	5,479
1-4 years	6,931	3,969	2,962	4,866	2,784	2,082	2,065	1,185	880	1,768	999	769
5-9 years	3,995	2,363	1,632	2,949	1,750	1,199	1,046	613	433	876	512	364
10-14 years	4,441	2,764	1,677	3,323	2,070	1,253	1,118	694	424	963	601	362
15-19 years	15,711	11,671	4,040	11,678	8,515	3,163	4,033	3,156	877	3,467	2,737	730
20-24 years	21,022	16,202	4,820	15,230	11,693	3,537	5,792	4,509	1,283	5,119	3,994	1,125
25-29 years	26,579	19,794	6,785	19,018	14,309	4,709	7,561	5,485	2,076	6,838	4,949	1,889
30-34 years	33,512	24,263	9,249	23,737	17,522	6,215	9,775	6,741	3,034	8,965	6,220	2,745
35-39 years	39,093	27,601	11,492	27,949	20,054	7,895	11,144	7,547	3,597	10,175	6,910	3,265
40-44 years	44,469	29,861	14,608	33,074	22,380	10,694	11,395	7,481	3,914	10,356	6,817	3,539
45-49 years	51,856	33,097	18,759	39,788	25,485	14,303	12,068	7,612	4,456	10,920	6,931	3,989
50-54 years	66,752	41,557	25,195	52,364	32,805	19,559	14,388	8,752	5,636	12,951	7,888	5,063
55-59 years	97,865	60,527	37,338	79,196	49,456	29,740	18,669	11,071	7,598	16,852	10,055	6,797
60-64 years	154,831	94,119	60,712	129,901	79,857	50,044	24,930	14,262	10,668	22,621	12,938	9,683
65-69 years	217,333	128,356	88,977	186,667	111,237	75,430	30,666	17,119	13,547	27,665	15,350	12,315
70-74 years	260,616	147,711	112,905	229,536	130,930	98,606	31,080	16,781	14,299	28,022	15,000	13,022
75-79 years	301,114	157,873	143,241	269,085	141,699	127,386	32,029	16,174	15,855	28,681	14,235	14,446
80-84 years	300,325	137,533	162,792	272,644	124,811	147,833	27,681	12,722	14,959	24,756	11,058	13,698
85 years and over	463,105	151,897	311,208	426,982	138,807	288,175	36,123	13,090	23,033	32,047	11,236	20,811
Not stated	562	403	159	384	277	107	178	126	52	166	118	48
	Rate											
All ages ¹	863.8	918.4	812.0	888.0	930.9	846.9	737.9	851.5	634.2	871.0	1,008.0	747.9
Under 1 year ²	971.9	1,082.8	855.7	795.7	896.1	690.0	1,645.0	1,805.1	1,480.7	1,925.9	2,112.4	1,735.5
1-4 years	46.8	52.4	41.0	41.1	45.9	36.1	69.3	78.5	59.9	76.8	85.8	67.6
5-9 years	22.2	25.6	18.5	20.3	23.5	17.0	29.6	34.3	24.8	32.3	37.3	27.2
10-14 years	26.0	31.6	20.2	24.3	29.5	18.8	33.0	40.4	25.3	36.6	45.2	27.8
15-19 years	87.9	127.2	46.4	81.4	115.4	45.4	114.2	176.0	50.5	127.7	199.7	54.3
20-24 years	109.9	166.3	51.3	97.4	146.0	46.4	165.8	260.2	72.8	192.8	307.4	83.0
25-29 years	124.6	184.9	63.9	107.8	160.3	54.1	204.9	308.9	108.5	246.0	374.2	129.7
30-34 years	153.5	223.4	84.3	130.5	191.6	68.7	268.3	392.5	157.6	329.9	489.8	189.6
35-39 years	197.0	280.7	114.8	167.8	240.4	95.0	348.9	506.3	211.2	431.3	631.5	258.1
40-44 years	252.8	344.2	163.9	220.5	299.3	142.1	440.3	623.4	282.0	550.4	785.5	349.1
45-49 years	377.3	491.1	267.8	336.4	435.6	239.4	629.3	857.1	432.9	772.7	1,074.8	519.1
50-54 years	590.0	756.5	432.9	537.4	687.3	393.4	917.2	1,215.6	664.1	1,099.9	1,487.5	782.3
55-59 years	933.2	1,208.5	681.5	867.3	1,122.9	629.2	1,376.2	1,832.8	1,009.6	1,619.0	2,185.9	1,170.1
60-64 years	1,457.2	1,902.7	1,069.1	1,384.8	1,811.2	1,006.6	2,003.0	2,652.6	1,509.0	2,327.8	3,094.1	1,749.1
65-69 years	2,159.1	2,847.6	1,600.8	2,077.8	2,748.3	1,528.0	2,834.6	3,721.5	2,178.5	3,218.0	4,256.2	2,467.7
70-74 years	3,266.0	4,345.4	2,465.0	3,192.0	4,251.2	2,398.5	3,940.9	5,252.7	3,047.7	4,391.6	5,929.6	3,381.4
75-79 years	4,933.9	6,608.6	3,856.7	4,876.2	6,544.8	3,798.8	5,478.9	7,225.9	4,395.0	5,931.5	7,966.1	4,738.9
80-84 years	7,682.8	10,143.8	6,376.0	7,645.1	10,129.3	6,333.7	8,075.5	10,289.1	6,826.5	8,587.4	11,243.4	7,212.1
85 years and over	15,327.4	18,056.6	14,274.3	15,465.0	18,268.3	14,400.6	13,868.8	16,080.9	12,863.1	14,394.6	16,954.9	13,309.5

¹Figures for age not stated are included in All ages but not distributed among age groups.

²Death rates under 1 year (based on population estimates) differ from infant mortality rates (based on live births); see tables E and 22-26 for infant mortality rates and Technical notes for further discussion of the difference.

Table 3. Abridged life table for the total population, 1990

[For explanation of the columns of the life tables, see section 6 of *Vital Statistics of the United States, 1988, Volume II*]

Age interval	Proportion dying	Of 100,000 born alive		Stationary population		Average remaining lifetime
	Proportion of persons alive at beginning of age interval dying during interval (2)	Number living at beginning of age interval (3)	Number dying during age interval (4)	In the age interval (5)	In this and all subsequent age intervals (6)	Average number of years of life remaining at beginning of age interval (7)
Period of life between two exact ages stated in years (1)	nq_x	l_x	$n d_x$	nL_x	T_x	e_x
x to $x + n$						
0-1	0.0093	100,000	927	99,210	7,535,219	75.4
1-5	0.0018	99,073	183	395,863	7,436,009	75.1
5-10	0.0011	98,890	110	494,150	7,040,146	71.2
10-15	0.0013	98,780	127	493,654	6,545,996	66.3
15-20	0.0044	98,653	430	492,290	6,052,342	61.3
20-25	0.0055	98,223	539	489,794	5,560,052	56.6
25-30	0.0062	97,684	607	486,901	5,070,258	51.9
30-35	0.0077	97,077	743	483,571	4,583,357	47.2
35-40	0.0099	96,334	952	479,425	4,099,786	42.6
40-45	0.0126	95,382	1,203	474,117	3,620,361	38.0
45-50	0.0187	94,179	1,759	466,820	3,146,244	33.4
50-55	0.0290	92,420	2,685	455,809	2,679,424	29.0
55-60	0.0457	89,735	4,101	439,012	2,223,615	24.8
60-65	0.0706	85,634	6,044	413,879	1,784,603	20.8
65-70	0.1029	79,590	8,186	378,369	1,370,724	17.2
70-75	0.1519	71,404	10,847	330,846	992,355	13.9
75-80	0.2211	60,557	13,389	270,129	661,509	10.9
80-85	0.3239	47,168	15,276	197,857	391,380	8.3
85 and over	1.0000	31,892	31,892	193,523	193,523	6.1

Table 4. Life expectancy at birth by race and sex: United States, 1940, 1950, 1960, and 1970-90

Year	All other											
	All races			White			Total			Black		
	Both sexes	Male	Female	Both sexes	Male	Female	Both sexes	Male	Female	Both sexes	Male	Female
1990	75.4	71.8	78.8	76.1	72.7	79.4	71.2	67.0	75.2	69.1	64.5	73.6
1989 ¹	75.1	71.7	78.5	75.9	72.5	79.2	70.9	66.7	74.9	68.8	64.3	73.3
1988 ¹	74.9	71.4	78.3	75.6	72.2	78.9	70.8	66.7	74.8	68.9	64.4	73.2
1987 ¹	74.9	71.4	78.3	75.6	72.1	78.9	71.0	66.9	75.0	69.1	64.7	73.4
1986 ¹	74.7	71.2	78.2	75.4	71.9	78.8	70.9	66.8	74.9	69.1	64.8	73.4
1985 ¹	74.7	71.1	78.2	75.3	71.8	78.7	71.0	67.0	74.8	69.3	65.0	73.4
1984 ¹	74.7	71.1	78.2	75.3	71.8	78.7	71.1	67.2	74.9	69.5	65.3	73.6
1983 ¹	74.6	71.0	78.1	75.2	71.6	78.7	70.9	67.0	74.7	69.4	65.2	73.5
1982 ¹	74.5	70.8	78.1	75.1	71.5	78.7	70.9	66.8	74.9	69.4	65.1	73.6
1981 ¹	74.1	70.4	77.8	74.8	71.1	78.4	70.3	66.2	74.4	68.9	64.5	73.2
1980	73.7	70.0	77.4	74.4	70.7	78.1	69.5	65.3	73.6	68.1	63.8	72.5
1979	73.9	70.0	77.8	74.6	70.8	78.4	69.8	65.4	74.1	68.5	64.0	72.9
1978	73.5	69.6	77.3	74.1	70.4	78.0	69.3	65.0	73.5	68.1	63.7	72.4
1977	73.3	69.5	77.2	74.0	70.2	77.9	68.9	64.7	73.2	67.7	63.4	72.0
1976	72.9	69.1	76.8	73.6	69.9	77.5	68.4	64.2	72.7	67.2	62.9	71.6
1975	72.6	68.8	76.6	73.4	69.5	77.3	68.0	63.7	72.4	66.8	62.4	71.3
1974	72.0	68.2	75.9	72.8	69.0	76.7	67.1	62.9	71.3	66.0	61.7	70.3
1973	71.4	67.6	75.3	72.2	68.5	76.1	66.1	62.0	70.3	65.0	60.9	69.3
1972 ²	71.2	67.4	75.1	72.0	68.3	75.9	65.7	61.5	70.1	64.7	60.4	69.1
1971	71.1	67.4	75.0	72.0	68.3	75.8	65.6	61.6	69.8	64.6	60.5	68.9
1970	70.8	67.1	74.7	71.7	68.0	75.6	65.3	61.3	69.4	64.1	60.0	68.3
1960	69.7	66.6	73.1	70.6	67.4	74.1	63.6	61.1	66.3	---	---	---
1950	68.2	65.6	71.1	69.1	66.5	72.2	60.8	59.1	62.9	---	---	---
1940	62.9	60.8	65.2	64.2	62.1	66.6	53.1	51.5	54.9	---	---	---

¹Life table values are revised and, therefore, may differ from those published in *Advance Report of Final Mortality Statistics* for 1989 and earlier years; see Technical notes.
²Deaths based on a 50-percent sample.

Table 5. Age-specific and age-adjusted death rates for the 15 leading causes in 1990 and selected components: United States, 1979, 1989, and 1990

[Rates per 100,000 population in specified group. For explanation of asterisk preceding cause-of-death codes, see Technical notes]

Cause of death (Ninth Revision International Classification of Diseases, 1975)	Year	Age											Age-adjusted rate ³	
		All ages ¹	Under 1 year ²	1-4 years	5-14 years	15-24 years	25-34 years	35-44 years	45-54 years	55-64 years	65-74 years	75-84 years		85 years and over
All causes	1990	863.8	971.9	46.8	24.0	99.2	139.2	223.2	473.4	1,196.9	2,648.6	6,007.2	15,327.4	520.2
	1989	871.3	1,027.9	49.8	25.7	97.6	140.0	222.2	480.1	1,224.3	2,693.8	6,083.3	15,409.6	528.0
	1979	852.2	1,332.9	64.2	31.5	114.8	133.0	229.8	589.7	1,338.0	2,929.0	6,496.6	14,962.4	577.0
Diseases of heart. 390-398,402,404-429	1990	289.5	20.1	1.9	0.9	2.5	7.6	31.4	120.5	367.3	894.3	2,295.7	6,739.9	152.0
	1989	297.3	20.1	1.9	0.8	2.5	8.0	32.4	125.5	383.0	928.1	2,378.9	6,868.7	157.5
	1979	326.5	20.2	2.1	0.8	2.6	8.4	45.3	184.6	499.0	1,199.8	2,925.2	7,310.9	199.5
Rheumatic fever and rheumatic heart disease . . . 390-398	1990	2.4	*	*	*	0.1	0.2	0.7	1.5	4.1	9.0	18.7	29.3	1.5
	1989	2.5	*	*	*	0.1	0.2	0.7	1.6	4.0	9.3	19.5	27.9	1.5
	1979	3.5	*	*	*	0.2	0.4	1.4	3.9	8.0	16.0	20.6	25.2	2.6
Hypertensive heart disease. 402	1990	8.5	*	*	*	*	0.3	1.6	5.6	13.3	26.3	60.9	173.4	4.8
	1989	8.5	*	*	*	*	0.3	1.6	5.8	13.9	26.3	62.7	167.6	4.9
	1979	9.3	*	*	*	*	0.4	1.9	7.0	16.2	35.7	79.6	170.3	6.0
Hypertensive heart and renal disease 404	1990	1.0	*	*	*	*	0.0	0.1	0.3	1.0	2.8	8.1	22.6	0.5
	1989	1.0	*	*	*	*	0.1	0.3	0.9	2.7	8.7	24.8	0.5	
	1979	1.6	*	*	*	*	0.2	0.4	1.4	5.1	16.8	50.9	0.9	
Ischemic heart disease 410-414	1990	196.7	0.7	*	*	0.3	2.5	17.3	77.7	248.6	627.0	1,602.5	4,498.1	102.6
	1989	201.8	0.9	*	*	0.3	2.6	18.0	81.2	259.5	650.0	1,655.2	4,577.2	106.2
	1979	245.5	0.7	*	*	0.3	3.6	30.1	136.1	381.0	926.6	2,224.8	5,376.1	149.7
Acute myocardial infarction 410	1990	96.1	*	*	*	0.2	1.4	10.0	46.5	144.3	342.1	793.6	1,695.5	53.7
	1989	100.1	*	*	*	0.2	1.5	10.5	48.9	152.5	362.1	829.3	1,737.8	56.5
	1979	133.8	*	*	*	0.2	2.4	21.1	94.6	258.9	577.2	1,135.2	1,916.3	88.2
Other acute and subacute forms of ischemic heart disease 411	1990	1.3	*	*	*	*	0.1	0.3	1.3	2.7	4.5	8.6	21.2	0.9
	1989	1.4	*	*	*	*	0.1	0.3	1.0	2.7	4.6	8.9	24.2	0.8
	1979	2.1	*	*	*	*	0.1	0.5	2.0	4.8	8.2	15.3	30.2	1.5
Angina pectoris. 413	1990	0.4	*	*	*	*	*	*	0.1	0.3	1.3	3.6	11.9	0.2
	1989	0.4	*	*	*	*	*	*	0.2	0.4	1.3	3.7	11.0	0.2
	1979	0.2	*	*	*	*	*	*	0.1	0.3	0.9	2.1	4.6	0.1
Old myocardial infarction and other forms of chronic ischemic heart disease 412,414	1990	98.8	*	*	*	0.1	1.0	7.0	29.7	101.3	279.0	796.7	2,769.4	47.8
	1989	99.9	*	*	*	0.1	1.1	7.2	31.1	103.9	282.0	813.2	2,804.2	48.7
	1979	109.4	*	*	*	0.1	1.0	8.4	39.3	117.0	340.3	1,072.2	3,424.9	59.9
Other diseases of endocardium 424	1990	5.2	*	*	*	0.1	0.3	0.6	1.6	4.5	13.3	46.0	140.2	2.5
	1989	4.9	*	*	*	0.1	0.4	0.7	1.3	4.3	13.0	43.9	128.4	2.4
	1979	2.9	*	*	*	0.1	0.2	0.6	1.5	4.3	11.6	27.5	47.1	1.8
All other forms of heart disease 415-423,425-429	1990	75.8	18.8	1.8	0.8	1.9	4.3	11.1	33.9	95.8	215.9	559.5	1,876.4	40.1
	1989	78.7	18.6	1.8	0.7	2.0	4.4	11.3	35.3	100.3	226.8	588.9	1,942.9	41.9
	1979	63.7	19.0	2.0	0.7	1.9	3.7	11.0	35.7	88.1	204.8	555.9	1,641.4	38.4
Malignant neoplasms, including neoplasms of lymphatic and hematopoietic tissues. 140-208	1990	203.2	2.3	3.5	3.1	4.9	12.6	43.3	158.9	449.6	872.3	1,348.5	1,752.9	135.0
	1989	201.0	2.8	3.5	3.3	5.0	12.3	43.2	158.9	452.5	867.8	1,326.0	1,703.7	134.5
	1979	179.6	3.4	4.6	4.4	6.1	13.3	48.3	181.4	429.4	800.0	1,207.6	1,522.9	130.8
Malignant neoplasms of lip, oral cavity, and pharynx. 140-149	1990	3.4	*	*	*	0.1	0.2	0.8	3.7	10.1	14.1	17.0	23.1	2.4
	1989	3.3	*	*	*	0.1	0.1	0.8	3.8	10.4	13.6	15.5	20.1	2.4
	1979	3.8	*	*	*	0.1	0.2	1.1	5.6	11.8	16.3	18.1	23.7	3.0
Malignant neoplasms of digestive organs and peritoneum 150-159	1990	48.6	*	0.2	*	0.3	1.5	7.2	31.6	95.1	203.1	358.6	553.8	30.2
	1989	48.5	*	*	0.1	0.3	1.5	6.9	30.5	96.4	205.9	357.6	550.4	30.3
	1979	48.6	*	*	0.1	0.3	1.8	8.2	36.3	103.9	221.9	388.7	547.8	33.1
Malignant neoplasms of respiratory and intrathoracic organs 160-165	1990	58.9	*	*	*	0.1	0.8	7.2	48.8	166.5	298.1	344.1	252.9	41.4
	1989	57.6	*	*	*	0.1	0.7	7.3	49.3	165.0	292.1	333.5	238.0	40.8
	1979	45.9	*	*	*	0.1	0.8	9.8	56.0	140.9	231.0	238.1	170.3	35.2

See footnotes at end of table.

Homicide and legal interventionE960-E978	1990	10.0	8.4	2.6	1.5	19.9	17.7	11.8	7.6	5.0	3.8	4.3	4.6	10.2
	1989	9.3	8.7	2.7	1.5	16.5	16.5	11.0	7.7	5.1	4.1	4.2	4.4	9.4
	1979	10.0	5.0	2.5	1.1	14.5	18.2	14.3	10.8	7.0	5.4	4.8	5.0	10.2
Nephritis, nephrotic syndrome, and nephrosis580-589	1990	8.3	3.8	0.2	0.1	0.2	0.5	1.4	2.9	8.2	23.9	69.7	199.1	4.3
	1989	8.6	5.1	*	0.1	0.2	0.6	1.3	2.9	8.8	24.7	72.4	200.8	4.5
	1979	7.0	6.4	0.2	0.2	0.3	0.7	1.5	3.7	8.5	23.7	64.7	155.2	4.3
Septicemia038	1990	7.7	6.8	0.7	0.1	0.2	0.7	1.5	3.1	8.0	20.9	60.2	183.7	4.1
	1989	7.8	7.5	0.6	0.1	0.2	0.7	1.7	3.2	8.0	20.5	62.1	190.4	4.2
	1979	3.6	7.6	0.5	0.1	0.2	0.4	0.8	2.2	4.9	12.4	29.7	70.3	2.3
Atherosclerosis.440	1990	7.3	*	*	*	*	*	0.1	0.6	3.2	12.3	53.2	318.0	2.7
	1989	7.8	*	*	*	*	*	0.1	0.7	3.4	13.1	58.5	347.2	3.0
	1979	12.8	*	*	*	*	*	0.1	0.9	4.8	24.4	125.3	649.1	5.7
Certain conditions originating in the perinatal period760-779	1990	7.1	443.0	0.9	0.1	*	*	*	*	*	*	*	*	9.4
	1989	7.6	481.2	0.9	0.1	*	*	*	*	*	*	*	*	9.4
	1979	10.4	680.7	0.6	*	*	*	*	*	*	*	*	*	9.4

¹Figures for age not stated are included in All ages but not distributed among age groups.

²Death rates under 1 year (based on population estimates) differ from infant mortality rates (based on live births); see tables E and 22-26 for infant mortality rates and Technical notes for discussion of the difference.

³For method of computation, see Technical notes.

⁴Because deaths from this cause occur primarily among infants, age-adjusted rates are not shown.

NOTE: Rates for 1989 have been revised; see Technical notes.

Table 6. Deaths and death rates for the 10 leading causes of death in specified race-sex groups: United States, 1990

[Rates per 100,000 population in specified group. For explanation of asterisk preceding cause-of-death codes, see Technical notes]

Rank order ¹	Cause of death, race, and sex (Ninth Revision International Classification of Diseases, 1975)	Number	Rate	Rank order ¹	Cause of death, race, and sex (Ninth Revision International Classification of Diseases, 1975)	Number	Rate
All races, both sexes				All other, male—Con.			
...	All causes	2,148,463	863.8	6	Human immunodeficiency virus infection *042–*044	6,280	32.9
1	Diseases of heart390–398,402,404–429	720,058	289.5	7	Pneumonia and influenza480–487	4,797	25.1
2	Malignant neoplasms, including neoplasms of lymphatic and hematopoietic tissues . .140–208	505,322	203.2	8	Chronic obstructive pulmonary diseases and allied conditions490–496	4,182	21.9
3	Cerebrovascular diseases430–438	144,088	57.9	9	Certain conditions originating in the perinatal period760–779	4,001	21.0
4	Accidents and adverse effectsE800–E949	91,983	37.0	10	Diabetes mellitus250	3,449	18.1
...	Motor vehicle accidentsE810–E825	46,814	18.8	...	All other causesResidual	33,075	173.2
...	All other accidents and adverse effectsE800–E807,E826–E949	45,169	18.2	All other, female			
5	Chronic obstructive pulmonary diseases and allied conditions490–496	86,679	34.9	...	All causes	132,604	634.2
6	Pneumonia and influenza480–487	79,513	32.0	1	Diseases of heart390–398,402,404–429	41,268	197.4
7	Diabetes mellitus250	47,664	19.2	2	Malignant neoplasms, including neoplasms of lymphatic and hematopoietic tissues . .140–208	28,062	134.2
8	SuicideE950–E959	30,906	12.4	3	Cerebrovascular diseases430–438	10,889	52.1
9	Chronic liver disease and cirrhosis571	25,815	10.4	4	Diabetes mellitus250	5,519	26.4
10	Human immunodeficiency virus infection *042–*044	25,188	10.1	5	Accidents and adverse effectsE800–E949	4,459	21.3
...	All other causesResidual	391,247	157.3	...	Motor vehicle accidentsE810–E825	2,045	9.8
White, male				...	All other accidents and adverse effectsE800–E807,E826–E949	2,414	11.5
...	All causes	950,812	930.9	6	Pneumonia and influenza480–487	3,910	18.7
1	Diseases of heart390–398,402,404–429	319,362	312.7	7	Certain conditions originating in the perinatal period760–779	3,167	15.1
2	Malignant neoplasms, including neoplasms of lymphatic and hematopoietic tissues . .140–208	232,608	227.7	8	Homicide and legal interventionE960–E978	2,322	11.1
3	Accidents and adverse effectsE800–E949	51,348	50.3	9	Chronic obstructive pulmonary diseases and allied conditions490–496	2,318	11.1
...	Motor vehicle accidentsE810–E825	27,288	26.7	10	Nephritis, nephrotic syndrome, and nephrosis580–589	2,209	10.6
...	All other accidents and adverse effectsE800–E807,E826–E949	24,060	23.6	...	All other causesResidual	28,481	136.2
4	Cerebrovascular diseases430–438	48,024	47.0	Black, male ²			
5	Chronic obstructive pulmonary diseases and allied conditions490–496	45,234	44.3	...	All causes	145,359	1,008.0
6	Pneumonia and influenza480–487	32,101	31.4	1	Diseases of heart390–398,402,404–429	37,038	256.8
7	SuicideE950–E959	22,448	22.0	2	Malignant neoplasms, including neoplasms of lymphatic and hematopoietic tissues . .140–208	31,995	221.9
8	Diabetes mellitus250	16,817	16.5	3	Homicide and legal interventionE960–E978	9,981	69.2
9	Human immunodeficiency virus infection *042–*044	16,106	15.8	4	Accidents and adverse effectsE800–E949	8,756	60.7
10	Chronic liver disease and cirrhosis571	13,889	13.6	...	Motor vehicle accidentsE810–E825	4,046	28.1
...	All other causesResidual	152,875	149.7	...	All other accidents and adverse effectsE800–E807,E826–E949	4,710	32.7
White, female				5	Cerebrovascular diseases430–438	7,653	53.1
...	All causes	902,442	846.9	6	Human immunodeficiency virus infection *042–*044	6,097	42.3
1	Diseases of heart390–398,402,404–429	318,002	298.4	7	Pneumonia and influenza480–487	4,161	28.9
2	Malignant neoplasms, including neoplasms of lymphatic and hematopoietic tissues . .140–208	208,977	196.1	8	Certain conditions originating in the perinatal period760–779	3,762	26.1
3	Cerebrovascular diseases430–438	76,502	71.8	9	Chronic obstructive pulmonary diseases and allied conditions490–496	3,628	25.2
4	Pneumonia and influenza480–487	38,705	36.3	10	Diabetes mellitus250	3,049	21.1
5	Chronic obstructive pulmonary diseases and allied conditions490–496	34,945	32.8	...	All other causesResidual	29,239	202.8
6	Accidents and adverse effectsE800–E949	25,586	24.0	Black, female ²			
...	Motor vehicle accidentsE810–E825	12,363	11.6	...	All causes	120,139	747.9
...	All other accidents and adverse effectsE800–E807,E826–E949	13,223	12.4	1	Diseases of heart390–398,402,404–429	38,073	237.0
7	Diabetes mellitus250	21,879	20.5	2	Malignant neoplasms, including neoplasms of lymphatic and hematopoietic tissues . .140–208	25,082	156.1
8	Atherosclerosis440	10,315	9.7	3	Cerebrovascular diseases430–438	9,754	60.7
9	Septicemia038	8,670	8.1	4	Diabetes mellitus250	5,065	31.5
10	Nephritis, nephrotic syndrome, and nephrosis580–589	8,550	8.0	5	Accidents and adverse effectsE800–E949	3,663	22.8
...	All other causesResidual	150,311	141.1	...	Motor vehicle accidentsE810–E825	1,514	9.4
All other, male				...	All other accidents and adverse effectsE800–E807,E826–E949	2,149	13.4
...	All causes	162,605	851.5	6	Pneumonia and influenza480–487	3,402	21.2
1	Diseases of heart390–398,402,404–429	41,426	216.9	7	Certain conditions originating in the perinatal period760–779	2,982	18.6
2	Malignant neoplasms, including neoplasms of lymphatic and hematopoietic tissues . .140–208	35,675	186.8	8	Homicide and legal interventionE960–E978	2,163	13.5
3	Accidents and adverse effectsE800–E949	10,590	55.5	9	Nephritis, nephrotic syndrome, and nephrosis580–589	2,049	12.8
...	Motor vehicle accidentsE810–E825	5,118	26.8	10	Chronic obstructive pulmonary diseases and allied conditions490–496	2,027	12.6
...	All other accidents and adverse effectsE800–E807,E826–E949	5,472	28.7	...	All other causesResidual	25,879	161.1
4	Homicide and legal interventionE960–E978	10,457	54.8				
5	Cerebrovascular diseases430–438	8,673	45.4				

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

²Black included in All other.

Table 7. Deaths and death rates for the 10 leading causes of death in specified age groups: United States, 1990

[Rates per 100,000 population in specified group. For explanation of asterisk preceding cause-of-death codes, see Technical notes]

Rank order ¹	Cause of death and age (Ninth Revision International Classification of Diseases, 1975)	Number	Rate	Rank order ¹	Cause of death and age (Ninth Revision International Classification of Diseases, 1975)	Number	Rate
1-4 years				25-44 years			
...	All causes	6,931	46.8	...	All causes	143,653	178.2
1	Accidents and adverse effectsE800-E949	2,566	17.3	1	Accidents and adverse effectsE800-E949	27,663	34.3
...	Motor vehicle accidentsE810-E825	928	6.3	...	Motor vehicle accidentsE810-E825	16,488	20.5
...	All other accidents and adverse effectsE800-E807,E826-E949	1,638	11.1	...	All other accidents and adverse effectsE800-E807,E826-E949	11,175	13.9
2	Congenital anomalies740-759	896	6.0	2	Malignant neoplasms, including neoplasms of lymphatic and hematopoietic tissues140-208	21,650	26.9
3	Malignant neoplasms, including neoplasms of lymphatic and hematopoietic tissues140-208	513	3.5	3	Human immunodeficiency virus infection*042-*044	18,748	23.3
4	Homicide and legal interventionE960-E978	378	2.6	4	Diseases of heart390-398,402,404-429	15,045	18.7
5	Diseases of heart390-398,402,404-429	282	1.9	5	SuicideE950-E959	12,267	15.2
6	Pneumonia and influenza480-487	171	1.2	6	Homicide and legal interventionE960-E978	12,060	15.0
7	Certain conditions originating in the perinatal period760-779	134	0.9	7	Chronic liver disease and cirrhosis571	4,505	5.6
8	Human immunodeficiency virus infection*042-*044	123	0.8	8	Cerebrovascular diseases430-438	3,352	4.2
9	Septicemia038	100	0.7	9	Diabetes mellitus250	2,184	2.7
10	Meningitis320-322	81	0.5	10	Pneumonia and influenza480-487	2,178	2.7
...	All other causesResidual	1,687	11.4	...	All other causesResidual	24,001	29.8
5-14 years				45-64 years			
...	All causes	8,436	24.0	...	All causes	371,304	804.2
1	Accidents and adverse effectsE800-E949	3,650	10.4	1	Malignant neoplasms, including neoplasms of lymphatic and hematopoietic tissues140-208	134,742	291.8
...	Motor vehicle accidentsE810-E825	2,059	5.9	2	Diseases of heart390-398,402,404-429	107,750	233.4
...	All other accidents and adverse effectsE800-E807,E826-E949	1,591	4.5	3	Cerebrovascular diseases430-438	14,814	32.1
2	Malignant neoplasms, including neoplasms of lymphatic and hematopoietic tissues140-208	1,094	3.1	4	Accidents and adverse effectsE800-E949	14,607	31.6
3	Homicide and legal interventionE960-E978	512	1.5	...	Motor vehicle accidentsE810-E825	7,282	15.8
4	Congenital anomalies740-759	468	1.3	...	All other accidents and adverse effectsE800-E807,E826-E949	7,325	15.9
5	Diseases of heart390-398,402,404-429	308	0.9	5	Chronic obstructive pulmonary diseases and allied conditions490-496	12,605	27.3
6	SuicideE950-E959	264	0.8	6	Chronic liver disease and cirrhosis571	10,806	23.4
7	Pneumonia and influenza480-487	134	0.4	7	Diabetes mellitus250	9,803	21.2
8	Chronic obstructive pulmonary diseases and allied conditions490-496	115	0.3	8	SuicideE950-E959	7,101	15.4
9	Benign neoplasms, carcinoma in situ, and neoplasms of uncertain behavior and of unspecified nature210-239	100	0.3	9	Pneumonia and influenza480-487	5,673	12.3
10	Human immunodeficiency virus infection*042-*044	84	0.2	10	Human immunodeficiency virus infection*042-*044	5,126	11.1
...	All other causesResidual	1,707	4.9	...	All other causesResidual	48,277	104.6
15-24 years				65 years and over			
...	All causes	36,733	99.2	...	All causes	1,542,493	4,963.2
1	Accidents and adverse effectsE800-E949	16,241	43.9	1	Diseases of heart390-398,402,404-429	594,858	1,914.0
...	Motor vehicle accidentsE810-E825	12,607	34.1	2	Malignant neoplasms, including neoplasms of lymphatic and hematopoietic tissues140-208	345,387	1,111.3
...	All other accidents and adverse effectsE800-E807,E826-E949	3,634	9.8	3	Cerebrovascular diseases430-438	125,409	403.5
2	Homicide and legal interventionE960-E978	7,354	19.9	4	Chronic obstructive pulmonary diseases and allied conditions490-496	72,755	234.1
3	SuicideE950-E959	4,869	13.2	5	Pneumonia and influenza480-487	70,485	226.8
4	Malignant neoplasms, including neoplasms of lymphatic and hematopoietic tissues140-208	1,819	4.9	6	Diabetes mellitus250	35,523	114.3
5	Diseases of heart390-398,402,404-429	917	2.5	7	Accidents and adverse effectsE800-E949	26,213	84.3
6	Human Immunodeficiency virus infection*042-*044	541	1.5	...	Motor vehicle accidentsE810-E825	7,210	23.2
7	Congenital anomalies740-759	491	1.3	...	All other accidents and adverse effectsE800-E807,E826-E949	19,003	61.1
8	Cerebrovascular diseases430-438	234	0.6	8	Nephritis, nephrotic syndrome, and nephrosis580-589	17,306	55.7
9	Pneumonia and influenza480-487	231	0.6	9	Atherosclerosis440	17,158	55.2
10	Chronic obstructive pulmonary diseases and allied conditions490-496	178	0.5	10	Septicemia038	15,351	49.4
...	All other causesResidual	3,858	10.4	...	All other causesResidual	222,048	2,045.9

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

Table 8. Deaths from 72 selected causes by age: United States, 1990

[For explanation of asterisk preceding cause-of-death codes, see Technical notes]

Cause of death (Ninth Revision International Classification of Diseases, 1975)	All ages	Under 1 year	1-4 years	5-14 years	15-24 years	25-34 years	35-44 years	45-54 years	55-64 years	65-74 years	75-84 years	85 years and over	Not stated
All causes	2,148,463	38,351	6,931	8,436	36,733	60,091	83,562	118,608	252,696	477,949	601,439	463,105	562
Shigellosis and amebiasis004,006	15	—	3	1	—	2	—	1	2	1	4	1	—
Certain other intestinal infections007-009	415	98	13	6	2	7	13	10	20	51	94	101	—
Tuberculosis010-018	1,810	2	6	3	23	144	178	188	269	382	406	209	—
Tuberculosis of respiratory system010-012	1,378	1	1	1	13	95	131	129	191	307	335	174	—
Other tuberculosis013-018	432	1	5	2	10	49	47	59	78	75	71	35	—
Whooping cough033	12	11	1	—	—	—	—	—	—	—	—	—	—
Streptococcal sore throat, scarlatina, and erysipelas034-035	14	2	—	—	1	1	—	2	1	2	2	3	—
Meningococcal infection036	215	50	38	18	32	15	14	8	13	11	10	6	—
Septicemia038	19,169	267	100	46	84	303	557	767	1,690	3,776	6,024	5,551	4
Acute poliomyelitis045	—	—	—	—	—	—	—	—	—	—	—	—	—
Measles055	64	11	29	4	7	10	3	—	—	—	—	—	—
Viral hepatitis070	1,578	4	4	2	38	114	224	189	248	397	293	65	—
Syphilis090-097	106	25	1	—	2	8	7	9	7	9	25	13	—
All other infectious and parasitic diseases001-003,005,020-032,037,039-041,*042-*044, 046-054,056-066,071-088,098-139	32,214	370	222	192	728	9,107	11,107	4,496	2,238	1,749	1,334	657	14
Malignant neoplasms, including neoplasms of lymphatic and hematopoietic tissues.140-208	505,322	90	513	1,094	1,819	5,427	16,223	39,823	94,919	157,413	135,011	52,963	27
Malignant neoplasms of lip, oral cavity, and pharynx140-149	8,405	—	1	5	23	65	308	928	2,138	2,537	1,703	697	—
Malignant neoplasms of digestive organs and peritoneum150-159	120,765	8	25	15	107	627	2,688	7,930	20,069	36,651	35,907	16,732	6
Malignant neoplasms of respiratory and intrathoracic organs160-165	146,386	4	3	13	40	340	2,703	12,236	35,162	53,789	34,451	7,640	5
Malignant neoplasm of breast174-175	43,663	—	—	—	15	629	3,380	5,855	8,834	11,410	9,228	4,310	2
Malignant neoplasms genital organs179-187	57,487	2	—	5	107	583	1,505	2,842	7,245	16,966	19,399	8,830	3
Malignant neoplasms of urinary organs188-189	20,654	—	20	32	24	108	388	1,253	3,317	6,016	6,435	3,060	1
Malignant neoplasms of all other and unspecified sites170-173,190-199	60,221	52	279	561	675	1,561	3,157	5,461	11,134	16,793	14,385	6,156	7
Leukemia204-208	18,574	24	170	382	535	668	872	1,207	2,443	4,754	5,123	2,393	3
Other malignant neoplasms of lymphatic and hematopoietic tissues200-203	29,167	—	15	81	293	846	1,222	2,111	4,577	8,497	8,380	3,145	—
Benign neoplasms, carcinoma in situ, and neoplasms of uncertain behavior and of unspecified nature210-239	6,752	71	75	100	93	213	296	399	755	1,529	2,006	1,214	1
Diabetes mellitus250	47,664	4	7	24	115	674	1,510	2,834	6,969	13,280	14,537	7,706	4
Nutritional deficiencies260-269	3,017	16	4	1	9	14	31	45	125	331	908	1,532	1
Anemias280-285	4,092	29	51	51	124	187	195	156	272	604	1,124	1,299	—
Meningitis320-322	1,017	197	81	37	29	53	88	81	116	146	128	61	—
Major cardiovascular diseases390-448	916,007	963	335	401	1,224	4,480	14,760	36,242	91,820	198,744	296,718	270,197	123
Diseases of heart390-398,402,404-429	720,058	794	282	308	917	3,290	11,755	30,204	77,546	161,373	229,844	203,641	104
Rheumatic fever and rheumatic heart disease.390-398	6,018	7	2	8	35	102	253	374	858	1,624	1,871	884	—
Hypertensive heart disease402	21,072	—	1	2	16	148	608	1,399	2,810	4,745	6,099	5,239	5
Hypertensive heart and renal disease404	2,377	1	—	—	7	21	55	85	211	501	814	682	—
Ischemic heart disease410-414	489,171	26	9	19	113	1,063	6,475	19,457	52,481	113,139	160,442	135,906	41
Acute myocardial infarction410	239,008	16	5	10	71	607	3,745	11,661	30,457	61,739	79,454	51,228	15
Other acute and subacute forms of ischemic heart disease411	3,333	—	—	—	3	22	110	320	560	811	864	642	1
Angina pectoris413	1,070	—	—	1	1	4	17	22	72	236	357	360	—
Old myocardial infarction and other forms of chronic ischemic heart disease412,414	245,760	10	4	8	38	430	2,603	7,454	21,392	50,353	79,767	83,676	25
Other diseases of endocardium424	13,004	17	7	14	34	119	224	397	954	2,396	4,604	4,236	2
All other forms of heart disease415-423,425-429	188,416	743	263	265	712	1,837	4,140	8,492	20,232	38,968	56,014	56,694	56
Hypertension with or without renal disease401,403	9,169	5	1	2	10	46	181	397	895	1,988	3,003	2,639	2
Cerebrovascular diseases430-438	144,088	148	45	73	234	937	2,415	4,690	10,124	26,054	49,988	49,367	13
Intracerebral and other intracranial hemorrhage431-432	20,575	61	12	19	83	315	916	1,730	2,853	4,968	6,344	3,270	4

Cerebral thrombosis and unspecified occlusion of cerebral arteries434.0,434.9	18,261	15	7	11	20	47	161	364	1,097	3,145	6,458	6,935	1
Cerebral embolism434.1	651	—	—	—	—	6	4	18	42	139	267	175	—
All other and late effects of cerebrovascular diseases430,433,435-438	104,601	72	26	43	131	569	1,334	2,578	6,132	17,802	36,919	38,987	8
Atherosclerosis440	18,047	1	—	1	1	14	33	162	674	2,220	5,331	9,607	3
Other diseases of arteries, arterioles, and capillaries441-448	24,645	15	7	17	62	193	376	789	2,581	7,109	8,552	4,943	1
Acute bronchitis and bronchiolitis466	633	75	18	6	5	5	17	11	49	90	157	200	—
Pneumonia and influenza480-487	79,513	634	171	134	231	762	1,416	1,751	3,922	10,665	25,377	34,443	7
Pneumonia480-486	77,415	627	161	122	226	756	1,402	1,717	3,826	10,419	24,753	33,399	7
Influenza487	2,098	7	10	12	5	6	14	34	96	246	624	1,044	—
Chronic obstructive pulmonary diseases and allied conditions490-496	86,679	55	55	115	178	300	608	2,277	10,328	27,518	32,145	13,092	8
Bronchitis, chronic and unspecified490-491	3,600	39	23	7	7	19	38	95	386	898	1,271	817	—
Emphysema492	15,706	—	1	—	1	13	71	417	2,213	5,642	5,671	1,677	—
Asthma493	4,819	12	24	102	160	237	332	502	738	1,125	1,074	512	1
Other chronic obstructive pulmonary diseases and allied conditions494-496	62,554	4	7	6	10	31	167	1,263	6,991	19,853	24,129	10,086	7
Ulcer of stomach and duodenum531-533	6,186	9	3	4	11	57	126	252	576	1,360	2,023	1,764	1
Appendicitis540-543	438	5	7	13	11	12	30	32	55	92	114	67	—
Hernia of abdominal cavity and intestinal obstruction without mention of hernia550-553,560	5,838	87	23	27	22	32	97	135	334	883	1,980	2,217	1
Chronic liver disease and cirrhosis571	25,815	16	7	7	44	889	3,616	4,500	6,306	6,290	3,419	706	15
Cholelithiasis and other disorders of gallbladder . . .574-575	3,022	3	—	1	5	22	43	67	212	630	1,027	1,010	2
Nephritis, nephrotic syndrome, and nephrosis . . .580-589	20,764	151	24	20	57	215	531	724	1,736	4,312	6,978	6,016	—
Acute glomerulonephritis and nephrotic syndrome580-581	296	10	5	3	3	7	11	18	25	59	82	73	—
Chronic glomerulonephritis, nephritis and nephropathy, not specified as acute or chronic, and renal sclerosis, unspecified582-583,587	1,521	1	4	6	11	31	72	74	134	307	495	386	—
Renal failure, disorders resulting from impaired renal function, and small kidney of unknown cause584-586,588-589	18,947	140	15	11	43	177	448	632	1,577	3,946	6,401	5,557	—
Infections of kidney590	1,296	6	1	—	9	8	34	44	93	199	436	466	—
Hyperplasia of prostate600	455	—	—	—	—	—	—	—	17	58	180	200	—
Complications of pregnancy, childbirth, and the puerperium630-676	343	...	...	—	107	160	73	3	...	...	...	...	—
Pregnancy with abortive outcome630-638	57	...	...	—	19	26	11	1	...	...	...	...	—
Other complications of pregnancy, childbirth, and the puerperium640-676	286	...	...	—	88	134	62	2	...	...	...	...	—
Congenital anomalies740-759	13,085	8,239	896	468	491	473	454	364	412	547	478	259	4
Certain conditions originating in the perinatal period760-779	17,674	17,482	134	29	5	6	2	2	1	1	1	4	7
Birth trauma, intrauterine hypoxia, birth asphyxia, and respiratory distress syndrome . . .767-769	3,871	3,819	28	16	3	3	1	1	—	—	—	—	—
Other conditions originating in the perinatal period760-766,770-779	13,803	13,663	106	13	2	3	1	1	1	1	1	4	7
Symptoms, signs, and ill-defined conditions780-799	24,137	6,409	270	123	711	1,693	2,015	1,352	1,701	2,579	3,398	3,801	85
All other diseasesResidual	172,891	1,655	864	1,030	1,742	3,908	6,865	8,596	15,643	31,856	52,053	48,661	18
Accidents and adverse effectsE800-E949	91,983	930	2,566	3,650	16,241	15,950	11,713	7,375	7,232	8,405	10,041	7,767	113
Motor vehicle accidentsE810-E825	46,814	195	928	2,059	12,607	10,170	6,318	3,917	3,365	3,350	2,917	943	45
All other accidents and adverse effectsE800-E807,E826-E949	45,169	735	1,638	1,591	3,634	5,780	5,395	3,458	3,867	5,055	7,124	6,824	68
SuicideE950-E959	30,906	...	...	264	4,869	6,550	5,717	3,718	3,383	3,230	2,493	671	11
Homicide and legal interventionE960-E976	24,932	332	378	512	7,354	7,643	4,417	1,892	1,055	682	430	139	98
All other external causesE980-E999	2,390	53	31	53	310	647	582	263	177	127	85	44	18

Table 9. Death rates for 72 selected causes by age: United States, 1990

[Rates per 100,000 population in specified group. For explanation of asterisk preceding cause-of-death codes, see Technical notes]

Cause of death (Ninth Revision International Classification of Diseases, 1975)	All ages ¹	Under 1 year ²	1-4 years	5-14 years	15-24 years	25-34 years	35-44 years	45-54 years	55-64 years	65-74 years	75-84 years	85 years and over
All causes	863.8	971.9	46.8	24.0	99.2	139.2	223.2	473.4	1,196.9	2,648.6	6,007.2	15,327.4
Shigellosis and amebiasis004,006	*	*	*	*	*	*	*	*	*	*	*	*
Certain other intestinal infections007-009	0.2	2.5	*	*	*	*	*	*	0.1	0.3	0.9	3.3
Tuberculosis010-018	0.7	*	*	*	0.1	0.3	0.5	0.8	1.3	2.1	4.1	6.9
Tuberculosis of respiratory system010-012	0.6	*	*	*	*	0.2	0.3	0.5	0.9	1.7	3.3	5.8
Other tuberculosis013-018	0.2	*	*	*	*	0.1	0.1	0.2	0.4	0.4	0.7	1.2
Whooping cough033	*	*	*	*	*	*	*	*	*	*	*	*
Streptococcal sore throat, scarlatina, and erysipelas034-035	*	*	*	*	*	*	*	*	*	*	*	*
Meningococcal infection036	0.1	1.3	0.3	*	0.1	*	*	*	*	*	*	*
Septicemia038	7.7	6.8	0.7	0.1	0.2	0.7	1.5	3.1	8.0	20.9	60.2	183.7
Acute poliomyelitis045	*	*	*	*	*	*	*	*	*	*	*	*
Measles055	0.0	*	0.2	*	*	*	*	*	*	*	*	*
Viral hepatitis070	0.6	*	*	*	0.1	0.3	0.6	0.8	1.2	2.2	2.9	2.2
Syphilis090-097	0.0	0.6	*	*	*	*	*	*	*	*	0.2	*
All other infectious and parasitic diseases001-003,005,020-032,037,039-041,*042-*044,046-054,056-066,071-088,098-139	13.0	9.4	1.5	0.5	2.0	21.1	29.7	17.9	10.6	9.7	13.3	21.7
Malignant neoplasms, including neoplasms of lymphatic and hematopoietic tissues140-208	203.2	2.3	3.5	3.1	4.9	12.6	43.3	158.9	449.6	872.3	1,348.5	1,752.9
Malignant neoplasms of lip, oral cavity, and pharynx140-149	3.4	*	*	*	0.1	0.2	0.8	3.7	10.1	14.1	17.0	23.1
Malignant neoplasms of digestive organs and peritoneum150-159	48.6	*	0.2	*	0.3	1.5	7.2	31.6	95.1	203.1	358.6	553.8
Malignant neoplasms of respiratory and intrathoracic organs160-165	58.9	*	*	*	0.1	0.8	7.2	48.8	166.5	298.1	344.1	252.9
Malignant neoplasm of breast174-175	17.6	*	*	*	*	1.5	9.0	23.4	41.8	63.2	92.2	142.6
Malignant neoplasms of genital organs179-187	23.1	*	*	*	0.3	1.4	4.0	11.3	34.3	94.0	193.8	292.2
Malignant neoplasms of urinary organs188-189	8.3	*	0.1	0.1	0.1	0.3	1.0	5.0	15.7	33.3	64.3	101.3
Malignant neoplasms of all other and unspecified sites170-173,190-199	24.2	1.3	1.9	1.6	1.8	3.6	8.4	21.8	52.7	93.1	143.7	203.7
Leukemia204-208	7.5	0.6	1.1	1.1	1.4	1.5	2.3	4.8	11.6	26.3	51.2	79.2
Other malignant neoplasms of lymphatic and hematopoietic tissues200-203	11.7	*	*	0.2	0.8	2.0	3.3	8.4	21.7	47.1	83.7	104.1
Benign neoplasms, carcinoma in situ, and neoplasms of uncertain behavior and of unspecified nature210-239	2.7	1.8	0.5	0.3	0.3	0.5	0.8	1.6	3.6	8.5	20.0	40.2
Diabetes mellitus250	19.2	*	*	0.1	0.3	1.6	4.0	11.3	33.0	73.6	145.2	255.0
Nutritional deficiencies260-269	1.2	*	*	*	*	*	0.1	0.2	0.6	1.8	9.1	50.7
Anemias280-285	1.6	0.7	0.3	0.1	0.3	0.4	0.5	0.6	1.3	3.3	11.2	43.0
Meningitis320-322	0.4	5.0	0.5	0.1	0.1	0.1	0.2	0.3	0.5	0.8	1.3	2.0
Major cardiovascular diseases390-448	368.3	24.4	2.3	1.1	3.3	10.4	39.4	144.6	434.9	1,101.3	2,963.6	8,942.7
Diseases of heart390-398,402,404-429	289.5	20.1	1.9	0.9	2.5	7.6	31.4	120.5	367.3	894.3	2,295.7	6,739.9
Rheumatic fever and rheumatic heart disease390-398	2.4	*	*	*	0.1	0.2	0.7	1.5	4.1	9.0	18.7	29.3
Hypertensive heart disease402	8.5	*	*	*	*	0.3	1.6	5.6	13.3	26.3	60.9	173.4
Hypertensive heart and renal disease404	1.0	*	*	*	0.0	0.1	0.3	1.0	2.8	8.1	22.6	67.3
Ischemic heart disease410-414	196.7	0.7	*	*	0.3	2.5	17.3	77.7	248.6	627.0	1,602.5	4,498.1
Acute myocardial infarction410	96.1	*	*	*	0.2	1.4	10.0	46.5	144.3	342.1	793.6	1,695.5
Other acute and subacute forms of ischemic heart disease411	1.3	*	*	*	*	0.1	0.3	1.3	2.7	4.5	8.6	21.2
Angina pectoris413	0.4	*	*	*	*	*	*	0.1	0.3	1.3	3.6	11.9
Old myocardial infarction and other forms of chronic ischemic heart disease412,414	98.8	*	*	*	0.1	1.0	7.0	29.7	101.3	279.0	796.7	2,769.4
Other diseases of endocardium424	5.2	*	*	*	0.1	0.3	0.6	1.6	4.5	13.3	46.0	140.2
All other forms of heart disease415-423,425-429	75.8	18.8	1.8	0.8	1.9	4.3	11.1	33.9	95.8	215.9	559.5	1,876.4
Hypertension with or without renal disease401,403	3.7	*	*	*	*	0.1	0.5	1.6	4.2	11.0	30.0	87.3
Cerebrovascular diseases430-438	57.9	3.8	0.3	0.2	0.6	2.2	6.5	18.7	48.0	144.4	499.3	1,633.9
Intracerebral and other intracranial hemorrhage431-432	8.3	1.5	*	*	0.2	0.7	2.4	6.9	13.5	27.5	63.4	108.2
Cerebral thrombosis and unspecified occlusion of cerebral arteries434.0,434.9	7.3	*	*	*	0.1	0.1	0.4	1.5	5.2	17.4	64.5	229.5
Cerebral embolism434.1	0.3	*	*	*	*	*	*	*	0.2	0.8	2.7	5.8
All other and late effects of cerebrovascular diseases430,433,435-438	42.1	1.8	0.2	0.1	0.4	1.3	3.6	10.3	29.0	98.7	368.7	1,290.4
Atherosclerosis440	7.3	*	*	*	*	*	0.1	0.6	3.2	12.3	53.2	318.0

Other diseases of arteries, arterioles, and capillaries441-448	9.9	*	*	*	0.2	0.4	1.0	3.1	12.2	39.4	85.4	163.6
Acute bronchitis and bronchiolitis466	0.3	1.9	*	*	*	*	*	*	0.2	0.5	1.6	6.6
Pneumonia and influenza480-487	32.0	16.1	1.2	0.4	0.6	1.8	3.8	7.0	18.6	59.1	253.5	1,140.0
Pneumonia480-486	31.1	15.9	1.1	0.3	0.6	1.8	3.7	6.9	18.1	57.7	247.2	1,105.4
Influenza487	0.8	*	*	*	*	*	*	0.1	0.5	1.4	6.2	34.6
Chronic obstructive pulmonary diseases and allied conditions490-496	34.9	1.4	0.4	0.3	0.5	0.7	1.6	9.1	48.9	152.5	321.1	433.3
Bronchitis, chronic and unspecified490-491	1.4	1.0	0.2	*	*	*	0.1	0.4	1.8	5.0	12.7	27.0
Emphysema492	6.3	*	*	*	*	*	0.2	1.7	10.5	31.3	56.6	55.5
Asthma493	1.9	*	0.2	0.3	0.4	0.5	0.9	2.0	3.5	6.2	10.7	16.9
Other chronic obstructive pulmonary diseases and allied conditions494-496	25.2	*	*	*	*	0.1	0.4	5.0	33.1	110.0	241.0	333.8
Ulcer of stomach and duodenum531-533	2.5	*	*	*	*	0.1	0.3	1.0	2.7	7.5	20.2	58.4
Appendicitis540-543	0.2	*	*	*	*	*	0.1	0.1	0.3	0.5	1.1	2.2
Hernia of abdominal cavity and Intestinal obstruction without mention of hernia550-553,560	2.3	2.2	0.2	0.1	0.1	0.1	0.3	0.5	1.6	4.9	19.8	73.4
Chronic liver disease and cirrhosis571	10.4	*	*	*	0.1	2.1	9.7	18.0	29.9	34.9	34.1	23.4
Cholelithiasis and other disorders of gallbladder574-575	1.2	*	*	*	*	0.1	0.1	0.3	1.0	3.5	10.3	33.4
Nephritis, nephrotic syndrome, and nephrosis580-589	8.3	3.8	0.2	0.1	0.2	0.5	1.4	2.9	8.2	23.9	69.7	199.1
Acute glomerulonephritis and nephrotic syndrome580-581	0.1	*	*	*	*	*	*	*	0.1	0.3	0.8	2.4
Chronic glomerulonephritis, nephritis and nephropathy, not specified as acute or chronic, and renal sclerosis, unspecified582-583,587	0.6	*	*	*	*	0.1	0.2	0.3	0.6	1.7	4.9	12.8
Renal failure, disorders resulting from impaired renal function, and small kidney of unknown cause584-586,588-589	7.6	3.5	*	*	0.1	0.4	1.2	2.5	7.5	21.9	63.9	183.9
Infections of kidney590	0.5	*	*	*	*	*	0.1	0.2	0.4	1.1	4.4	15.4
Hyperplasia of prostate600	0.2	*	*	*	*	*	*	*	*	0.3	1.8	6.6
Complications of pregnancy, childbirth, and the puerperium630-676	0.1	...	...	*	0.3	0.4	0.2	*	...	...	...	...
Pregnancy with abortive outcome630-638	0.0	...	...	*	*	0.1	*	*	...	...	...	...
Other complications of pregnancy, childbirth, and the puerperium640-676	0.1	...	...	*	0.2	0.3	0.2	*	...	...	...	...
Congenital anomalies740-759	5.3	208.8	6.0	1.3	1.3	1.1	1.2	1.5	2.0	3.0	4.8	8.6
Certain conditions originating in the perinatal period760-779	7.1	443.0	0.9	0.1	*	*	*	*	*	*	*	*
Birth trauma, intrauterine hypoxia, birth asphyxia, and respiratory distress syndrome767-769	1.6	96.8	0.2	*	*	*	*	*	*	*	*	*
Other conditions originating in the perinatal period760-766,770-779	5.5	346.3	0.7	*	*	*	*	*	*	*	*	*
Symptoms, signs, and ill-defined conditions780-799	9.7	162.4	1.8	0.4	1.9	3.9	5.4	5.4	8.1	14.3	33.9	125.8
All other diseasesResidual	69.5	41.9	5.8	2.9	4.7	9.1	18.3	34.3	74.1	176.5	519.9	1,610.5
Accidents and adverse effectsE800-E949	37.0	23.6	17.3	10.4	43.9	37.0	31.3	29.4	34.3	46.6	100.3	257.1
Motor vehicle accidentsE810-E825	18.8	4.9	6.3	5.9	34.1	23.6	16.9	15.6	15.9	18.6	29.1	31.2
All other accidents and adverse effectsE800-E807,E826-E949	18.2	18.6	11.1	4.5	9.8	13.4	14.4	13.8	18.3	28.0	71.2	225.9
SuicideE950-E959	12.4	...	...	0.8	13.2	15.2	15.3	14.8	16.0	17.9	24.9	22.2
Homicide and legal interventionE960-E978	10.0	8.4	2.6	1.5	19.9	17.7	11.8	7.6	5.0	3.8	4.3	4.6
All other external causesE980-E999	1.0	1.3	0.2	0.2	0.8	1.5	1.6	1.0	0.8	0.7	0.8	1.5

¹Figures for age not stated included in All ages but not distributed among age groups.

²Death rates under 1 year (based on population estimates) differ from infant mortality rates (based on live births); see tables E and 22-26 for infant mortality rates, and Technical notes for further discussion of the difference.

Table 10. Deaths from 72 selected causes by race and sex: United States, 1990

[For explanation of asterisk preceding cause-of-death codes, see Technical notes]

Cause of death (Ninth Revision International Classification of Diseases, 1975)	All races			White			All other					
	Both sexes	Male	Female	Both sexes	Male	Female	Total			Black		
							Both sexes	Male	Female	Both sexes	Male	Female
All causes	2,148,463	1,113,417	1,035,046	1,853,254	950,812	902,442	295,209	162,605	132,604	265,498	145,359	120,139
Shigellosis and amebiasis004,006	15	5	10	11	5	6	4	—	4	2	—	2
Certain other intestinal infections007-009	415	180	235	342	141	201	73	39	34	67	34	33
Tuberculosis010-018	1,810	1,147	663	1,033	630	403	777	517	260	668	446	222
Tuberculosis of respiratory system010-012	1,378	907	471	812	518	294	566	389	177	491	341	150
Other tuberculosis013-018	432	240	192	221	112	109	211	128	83	177	105	72
Whooping cough033	12	4	8	9	3	6	3	1	2	3	1	2
Streptococcal sore throat, scarlatina, and erysipelas034-035	14	6	8	12	4	8	2	2	—	2	2	—
Meningococcal infection036	215	113	102	166	80	86	49	33	16	43	28	15
Septicemia038	19,169	8,542	10,627	15,456	6,786	8,670	3,713	1,756	1,957	3,465	1,624	1,841
Acute poliomyelitis045	—	—	—	—	—	—	—	—	—	—	—	—
Measles055	64	34	30	43	23	20	21	11	10	10	5	5
Viral hepatitis070	1,578	927	651	1,265	755	510	313	172	141	212	105	107
Syphilis090-097	106	63	43	41	21	20	65	42	23	64	41	23
All other infectious and parasitic diseases001-003,005,020-032,037,039-041,*042-*044,046-054,056-066,071-088,098-139	32,214	26,301	5,913	22,658	19,131	3,527	9,556	7,170	2,386	9,198	6,890	2,308
Malignant neoplasms, including neoplasms of lymphatic and hematopoietic tissues140-208	505,322	268,283	237,039	441,585	232,608	208,977	63,737	35,675	28,062	57,077	31,995	25,082
Malignant neoplasms of lip, oral cavity, and pharynx140-149	8,405	5,636	2,769	6,918	4,515	2,403	1,487	1,121	366	1,311	1,000	311
Malignant neoplasms of digestive organs and peritoneum150-159	120,765	63,920	56,845	103,530	54,515	49,015	17,235	9,405	7,830	14,933	8,001	6,932
Malignant neoplasms of respiratory and intrathoracic organs160-165	146,386	94,950	51,436	128,927	82,714	46,213	17,459	12,236	5,223	15,913	11,219	4,694
Malignant neoplasm of breast174-175	43,663	272	43,391	38,513	227	38,286	5,150	45	5,105	4,703	44	4,659
Malignant neoplasms of genital organs179-187	57,487	32,929	24,558	48,635	27,412	21,223	8,852	5,517	3,335	8,195	5,226	2,969
Malignant neoplasms of urinary organs188-189	20,654	13,181	7,473	18,684	12,047	6,647	1,960	1,134	826	1,792	1,029	763
Malignant neoplasms of all other and unspecified sites170-173,190-199	60,221	31,891	28,330	53,613	28,366	25,247	6,608	3,525	3,083	5,866	3,130	2,736
Leukemia204-208	18,574	10,192	8,382	16,722	9,189	7,533	1,852	1,003	849	1,591	854	737
Other malignant neoplasms of lymphatic and hematopoietic tissues200-203	29,167	15,312	13,855	26,033	13,623	12,410	3,134	1,689	1,445	2,773	1,492	1,281
Benign neoplasms, carcinoma in situ, and neoplasms of uncertain behavior and of unspecified nature210-239	6,752	3,012	3,740	5,908	2,658	3,250	844	354	490	747	316	431
Diabetes mellitus250	47,664	20,266	27,398	38,696	16,817	21,879	8,968	3,449	5,519	8,114	3,049	5,065
Nutritional deficiencies260-269	3,017	1,108	1,909	2,546	903	1,643	471	205	266	433	189	244
Anemias280-285	4,092	1,770	2,322	3,136	1,274	1,862	956	496	460	887	460	427
Meningitis320-322	1,017	545	472	705	371	334	312	174	138	284	159	125
Major cardiovascular diseases390-448	916,007	442,737	473,270	807,688	389,824	417,864	108,319	52,913	55,406	98,068	47,209	50,859
Diseases of heart390-398,402,404-429	720,058	360,788	359,270	637,364	319,362	318,002	82,694	41,426	41,268	75,111	37,038	38,073
Rheumatic fever and rheumatic heart disease390-398	6,018	1,830	4,188	5,483	1,655	3,828	535	175	360	436	146	290
Hypertensive heart disease402	21,072	8,822	12,250	15,165	6,077	9,088	5,907	2,745	3,162	5,636	2,608	3,028
Hypertensive heart and renal disease404	2,377	959	1,418	1,648	648	1,000	729	311	418	707	300	407
Ischemic heart disease410-414	489,171	252,597	236,574	443,859	229,937	213,922	45,312	22,660	22,652	40,571	19,858	20,713
Acute myocardial infarction410	239,008	129,483	109,525	216,252	117,850	98,402	22,756	11,633	11,123	20,436	10,260	10,176
Other acute and subacute forms of ischemic heart disease411	3,333	1,968	1,365	2,807	1,667	1,140	526	301	225	479	272	207
Angina pectoris413	1,070	443	627	959	391	568	111	52	59	103	48	55
Old myocardial infarction and other forms of chronic ischemic heart disease412,414	245,760	120,703	125,057	223,841	110,029	113,812	21,919	10,674	11,245	19,553	9,278	10,275
Other diseases of endocardium424	13,004	5,500	7,504	11,951	5,023	6,928	1,053	477	576	924	414	510
All other forms of heart disease415-423,425-429	188,416	91,080	97,336	159,258	76,022	83,236	29,158	15,058	14,100	26,837	13,712	13,125
Hypertension with or without renal disease401,403	9,169	3,833	5,336	6,960	2,862	4,098	2,209	971	1,238	2,109	919	1,190
Cerebrovascular diseases430-438	144,088	56,697	87,391	124,526	48,024	76,502	19,562	8,673	10,889	17,407	7,653	9,754
Intracerebral and other intracranial hemorrhage431-432	20,575	9,227	11,348	16,776	7,252	9,524	3,799	1,975	1,824	3,227	1,665	1,562
Cerebral thrombosis and unspecified occlusion of cerebral arteries434.0,434.9	18,261	7,032	11,229	16,079	6,087	9,992	2,182	945	1,237	1,977	851	1,126

Cerebral embolism . . . . .	.434.1	651	263	388	604	240	364	47	23	24	39	20	19
All other and late effects of cerebrovascular diseases . . . . .	.430,433,435-438	104,601	40,175	64,426	91,067	34,445	56,622	13,534	5,730	7,804	12,164	5,117	7,047
Atherosclerosis . . . . .	.440	18,047	6,859	11,188	16,547	6,232	10,315	1,500	627	873	1,380	563	817
Other diseases of arteries, arterioles, and capillaries . . . . .	.441-448	24,645	14,560	10,085	22,291	13,344	8,947	2,354	1,216	1,138	2,061	1,036	1,025
Acute bronchitis and bronchiolitis . . . . .	.466	633	269	364	559	233	326	74	36	38	64	33	31
Pneumonia and influenza . . . . .	.480-487	79,513	36,898	42,615	70,806	32,101	38,705	8,707	4,797	3,910	7,563	4,161	3,402
Pneumonia . . . . .	.480-486	77,415	36,099	41,316	68,807	31,350	37,457	8,608	4,749	3,859	7,473	4,115	3,358
Influenza . . . . .	.487	2,098	799	1,299	1,999	751	1,248	99	48	51	90	46	44
Chronic obstructive pulmonary diseases and allied conditions . . . . .	.490-496	86,679	49,416	37,263	80,179	45,234	34,945	6,500	4,182	2,318	5,655	3,628	2,027
Bronchitis, chronic and unspecified . . . . .	.490-491	3,600	1,878	1,722	3,365	1,726	1,639	235	152	83	190	125	65
Emphysema . . . . .	.492	15,706	9,408	6,298	14,828	8,769	6,059	878	639	239	763	552	211
Asthma . . . . .	.493	4,819	1,885	2,934	3,696	1,358	2,338	1,123	527	596	986	460	526
Other chronic obstructive pulmonary diseases and allied conditions . . . . .	.494-496	62,554	36,245	26,309	58,290	33,381	24,909	4,264	2,864	1,400	3,716	2,491	1,225
Ulcer of stomach and duodenum . . . . .	.531-533	6,186	2,973	3,213	5,517	2,594	2,923	669	379	290	582	332	250
Appendicitis . . . . .	.540-543	438	257	181	357	212	145	81	45	36	71	39	32
Hernia of abdominal cavity and intestinal obstruction without mention of hernia . . . . .	.550-553,560	5,838	2,132	3,706	5,089	1,787	3,302	749	345	404	697	319	378
Chronic liver disease and cirrhosis . . . . .	.571	25,815	16,627	9,188	21,478	13,889	7,589	4,337	2,738	1,599	3,753	2,393	1,360
Cholelithiasis and other disorders of gallbladder . . . . .	.574-575	3,022	1,280	1,742	2,722	1,156	1,566	300	124	176	244	96	148
Nephritis, nephrotic syndrome, and nephrosis . . . . .	.580-589	20,764	10,005	10,759	16,571	8,021	8,550	4,193	1,984	2,209	3,855	1,806	2,049
Acute glomerulonephritis and nephrotic syndrome . . . . .	.580-581	296	145	151	249	118	131	47	27	20	42	24	18
Chronic glomerulonephritis, nephritis and nephropathy, not specified as acute or chronic, and renal sclerosis, unspecified . . . . .	.582-583,587	1,521	763	758	1,191	590	601	330	173	157	300	156	144
Renal failure, disorders resulting from impaired renal function, and small kidney of unknown cause . . . . .	.584-586,588-589	18,947	9,097	9,850	15,131	7,313	7,818	3,816	1,784	2,032	3,513	1,626	1,887
Infections of kidney . . . . .	.590	1,296	404	892	1,134	339	795	162	65	97	138	57	81
Hyperplasia of prostate . . . . .	.600	455	455	...	402	402	...	53	53	...	48	48	...
Complications of pregnancy, childbirth, and the puerperium . . . . .	.630-676	343	...	343	177	...	177	166	...	166	153	...	153
Pregnancy with abortive outcome . . . . .	.630-638	57	...	57	23	...	23	34	...	34	33	...	33
Other complications of pregnancy, childbirth, and the puerperium . . . . .	.640-676	286	...	286	154	...	154	132	...	132	120	...	120
Congenital anomalies . . . . .	.740-759	13,085	7,050	6,035	10,502	5,667	4,835	2,583	1,383	1,200	2,177	1,174	1,003
Certain conditions originating in the perinatal period.760-779	.760-779	17,674	10,056	7,618	10,506	6,055	4,451	7,168	4,001	3,167	6,744	3,762	2,982
Birth trauma, intrauterine hypoxia, birth asphyxia, and respiratory distress syndrome . . . . .	.767-769	3,871	2,311	1,560	2,498	1,487	1,011	1,373	824	549	1,276	766	510
Other conditions originating in the perinatal period . . . . .	.760-766,770-779	13,803	7,745	6,058	8,008	4,568	3,440	5,795	3,177	2,618	5,468	2,996	2,472
Symptoms, signs, and ill-defined conditions . . . . .	.780-799	24,137	13,533	10,604	18,058	9,951	8,107	6,079	3,582	2,497	5,505	3,215	2,290
All other diseases . . . . .	.Residual	172,891	79,020	93,871	148,904	66,879	82,025	23,987	12,141	11,846	21,737	10,908	10,829
Accidents and adverse effects . . . . .	.E800-E949	91,983	61,938	30,045	76,934	51,348	25,586	15,049	10,590	4,459	12,419	8,756	3,663
Motor vehicle accidents . . . . .	.E810-E825	46,814	32,406	14,408	39,651	27,288	12,363	7,163	5,118	2,045	5,560	4,046	1,514
All other accidents and adverse effects . . . . .	.E800-E807,E826-E949	45,169	29,532	15,637	37,283	24,060	13,223	7,886	5,472	2,414	6,859	4,710	2,149
Suicide . . . . .	.E950-E959	30,906	24,724	6,182	28,086	22,448	5,638	2,820	2,276	544	2,111	1,737	374
Homicide and legal intervention . . . . .	.E960-E978	24,932	19,604	5,328	12,153	9,147	3,006	12,779	10,457	2,322	12,144	9,981	2,163
All other external causes . . . . .	.E980-E999	2,390	1,733	657	1,820	1,315	505	570	418	152	494	361	133

Table 11. Death rates for 72 selected causes by race and sex: United States, 1990
 [Rates per 100,000 population in specified group. For explanation of asterisk preceding cause-of-death codes, see Technical notes]

Cause of death (Ninth Revision International Classification of Diseases, 1975)	All other											
	All races			White			Total			Black		
	Both sexes	Male	Female	Both sexes	Male	Female	Both sexes	Male	Female	Both sexes	Male	Female
All causes	863.8	918.4	812.0	888.0	930.9	846.9	737.9	851.5	634.2	871.0	1,008.0	747.9
Shigellosis and amebiasis004,006	*	*	*	*	*	*	*	*	*	*	*	*
Certain other intestinal infections007-009	0.2	0.1	0.2	0.2	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Tuberculosis010-018	0.7	0.9	0.5	0.5	0.6	0.4	1.9	2.7	1.2	2.2	3.1	1.4
Tuberculosis of respiratory system010-012	0.6	0.7	0.4	0.4	0.5	0.3	1.4	2.0	0.8	1.6	2.4	0.9
Other tuberculosis013-018	0.2	0.2	0.2	0.1	0.1	0.1	0.5	0.7	0.4	0.6	0.7	0.4
Whooping cough033	*	*	*	*	*	*	*	*	*	*	*	*
Streptococcal sore throat, scarlatina, and erysipelas034-035	*	*	*	*	*	*	*	*	*	*	*	*
Meningococcal infection036	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	*	0.1	0.2	*
Septicemia038	7.7	7.0	8.3	7.4	6.6	8.1	9.3	9.2	9.4	11.4	11.3	11.5
Acute poliomyelitis045	*	*	*	*	*	*	*	*	*	*	*	*
Measles055	0.0	0.0	0.0	0.0	0.0	0.0	0.1	*	*	*	*	*
Viral hepatitis070	0.6	0.8	0.5	0.6	0.7	0.5	0.8	0.9	0.7	0.7	0.7	0.7
Syphilis090-097	0.0	0.1	0.0	0.0	0.0	0.0	0.2	0.2	0.1	0.2	0.3	0.1
All other infectious and parasitic diseases001-003,005,020-032,037, 039-041,*042-*044,046-054,056-066,071-088,098-139	13.0	21.7	4.6	10.9	18.7	3.3	23.9	37.5	11.4	30.2	47.8	14.4
Malignant neoplasms, including neoplasms of lymphatic and hematopoietic tissues140-208	203.2	221.3	186.0	211.6	227.7	196.1	159.3	186.8	134.2	187.2	221.9	156.1
Malignant neoplasms of lip, oral cavity, and pharynx140-149	3.4	4.6	2.2	3.3	4.4	2.3	3.7	5.9	1.8	4.3	6.9	1.9
Malignant neoplasms of digestive organs and peritoneum150-159	48.6	52.7	44.6	49.6	53.4	46.0	43.1	49.2	37.4	49.0	55.5	43.2
Malignant neoplasms of respiratory and intrathoracic organs160-165	58.9	78.3	40.4	61.8	81.0	43.4	43.6	64.1	25.0	52.2	77.8	29.2
Malignant neoplasm of breast174-175	17.6	0.2	34.0	18.5	0.2	35.9	12.9	0.2	24.4	15.4	0.3	29.0
Malignant neoplasms of genital organs179-187	23.1	27.2	19.3	23.3	26.8	19.9	22.1	28.9	15.9	26.9	36.2	18.5
Malignant neoplasms of urinary organs188-189	8.3	10.9	5.9	9.0	11.8	6.2	4.9	5.9	4.0	5.9	7.1	4.8
Malignant neoplasms of all other and unspecified sites170-173,190-199	24.2	26.3	22.2	25.7	27.8	23.7	16.5	18.5	14.7	19.2	21.7	17.0
Leukemia204-208	7.5	8.4	6.6	8.0	9.0	7.1	4.6	5.3	4.1	5.2	5.9	4.6
Other malignant neoplasms of lymphatic and hematopoietic tissues200-203	11.7	12.6	10.9	12.5	13.3	11.6	7.8	8.8	6.9	9.1	10.3	8.0
Benign neoplasms, carcinoma in situ, and neoplasms of uncertain behavior and of unspecified nature210-239	2.7	2.5	2.9	2.8	2.6	3.0	2.1	1.9	2.3	2.5	2.2	2.7
Diabetes mellitus250	19.2	16.7	21.5	18.5	16.5	20.5	22.4	18.1	26.4	26.6	21.1	31.5
Nutritional deficiencies260-269	1.2	0.9	1.5	1.2	0.9	1.5	1.2	1.1	1.3	1.4	1.3	1.5
Anemias280-285	1.6	1.5	1.8	1.5	1.2	1.7	2.4	2.6	2.2	2.9	3.2	2.7
Meningitis320-322	0.4	0.4	0.4	0.3	0.4	0.3	0.8	0.9	0.7	0.9	1.1	0.8
Major cardiovascular diseases390-448	368.3	365.2	371.3	387.0	381.6	392.1	270.8	277.1	265.0	321.7	327.4	316.6
Diseases of heart390-398,402,404-429	289.5	297.6	281.8	305.4	312.7	298.4	206.7	216.9	197.4	246.4	256.8	237.0
Rheumatic fever and rheumatic heart disease390-398	2.4	1.5	3.3	2.6	1.6	3.6	1.3	0.9	1.7	1.4	1.0	1.8
Hypertensive heart disease402	8.5	7.3	9.6	7.3	5.9	8.5	14.8	14.4	15.1	18.5	18.1	18.9
Hypertensive heart and renal disease404	1.0	0.8	1.1	0.8	0.6	0.9	1.8	1.6	2.0	2.3	2.1	2.5
Ischemic heart disease410-414	196.7	208.3	185.6	212.7	225.1	200.8	113.3	118.7	108.3	133.1	137.7	128.9
Acute myocardial infarction410	96.1	106.8	85.9	103.6	115.4	92.3	56.9	60.9	53.2	67.0	71.1	63.4
Other acute and subacute forms of ischemic heart disease411	1.3	1.6	1.1	1.3	1.6	1.1	1.3	1.6	1.1	1.6	1.9	1.3
Angina pectoris413	0.4	0.4	0.5	0.5	0.4	0.5	0.3	0.3	0.3	0.3	0.3	0.3
Old myocardial infarction and other forms of chronic ischemic heart disease412,414	98.8	99.6	98.1	107.3	107.7	106.8	54.8	55.9	53.8	64.1	64.3	64.0
Other diseases of endocardium424	5.2	4.5	5.9	5.7	4.9	6.5	2.6	2.5	2.8	3.0	2.9	3.2
All other forms of heart disease415-423,425-429	75.8	75.1	76.4	76.3	74.4	78.1	72.9	78.9	67.4	88.0	95.1	81.7
Hypertension with or without renal disease401,403	3.7	3.2	4.2	3.3	2.8	3.8	5.5	5.1	5.9	6.9	6.4	7.4
Cerebrovascular diseases430-438	57.9	46.8	68.6	59.7	47.0	71.8	48.9	45.4	52.1	57.1	53.1	60.7
Intracerebral and other intracranial hemorrhage431-432	8.3	7.6	8.9	8.0	7.1	8.9	9.5	10.3	8.7	10.6	11.5	9.7
Cerebral thrombosis and unspecified occlusion of cerebral arteries434.0,434.9	7.3	5.8	8.8	7.7	6.0	9.4	5.5	4.9	5.9	6.5	5.9	7.0
Cerebral embolism434.1	0.3	0.2	0.3	0.3	0.2	0.3	0.1	0.1	0.1	0.1	0.1	*

All other and late effects of cerebrovascular diseases430,433,435-438	42.1	33.1	50.5	43.6	33.7	53.1	33.8	30.0	37.3	39.9	35.5	43.9
Atherosclerosis440	7.3	5.7	8.8	7.9	6.1	9.7	3.7	3.3	4.2	4.5	3.9	5.1
Other diseases of arteries, arterioles, and capillaries441-448	9.9	12.0	7.9	10.7	13.1	8.4	5.9	6.4	5.4	6.8	7.2	6.4
Acute bronchitis and bronchiolitis466	0.3	0.2	0.3	0.3	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.2
Pneumonia and influenza480-487	32.0	30.4	33.4	33.9	31.4	36.3	21.8	25.1	18.7	24.8	28.9	21.2
Pneumonia480-486	31.1	29.8	32.4	33.0	30.7	35.2	21.5	24.9	18.5	24.5	28.5	20.9
Influenza487	0.8	0.7	1.0	1.0	0.7	1.2	0.2	0.3	0.2	0.3	0.3	0.3
Chronic obstructive pulmonary diseases and allied conditions490-496	34.9	40.8	29.2	38.4	44.3	32.8	16.2	21.9	11.1	18.6	25.2	12.6
Bronchitis, chronic and unspecified490-491	1.4	1.5	1.4	1.6	1.7	1.5	0.6	0.8	0.4	0.6	0.9	0.4
Emphysema492	6.3	7.8	4.9	7.1	8.6	5.7	2.2	3.3	1.1	2.5	3.8	1.3
Asthma493	1.9	1.6	2.3	1.8	1.3	2.2	2.8	2.8	2.9	3.2	3.2	3.3
Other chronic obstructive pulmonary diseases and allied conditions494-496	25.2	29.9	20.6	27.9	32.7	23.4	10.7	15.0	6.7	12.2	17.3	7.6
Ulcer of stomach and duodenum531-533	2.5	2.5	2.5	2.6	2.5	2.7	1.7	2.0	1.4	1.9	2.3	1.6
Appendicitis540-543	0.2	0.2	0.1	0.2	0.2	0.1	0.2	0.2	0.2	0.2	0.3	0.2
Hernia of abdominal cavity and intestinal obstruction without mention of hernia550-553,560	2.3	1.8	2.9	2.4	1.7	3.1	1.9	1.8	1.9	2.3	2.2	2.4
Chronic liver disease and cirrhosis571	10.4	13.7	7.2	10.3	13.6	7.1	10.8	14.3	7.6	12.3	16.6	8.5
Cholelithiasis and other disorders of gallbladder574-575	1.2	1.1	1.4	1.3	1.1	1.5	0.7	0.6	0.8	0.8	0.7	0.9
Nephritis, nephrotic syndrome, and nephrosis580-589	8.3	8.3	8.4	7.9	7.9	8.0	10.5	10.4	10.6	12.6	12.5	12.8
Acute glomerulonephritis and nephrotic syndrome580-581	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	*
Chronic glomerulonephritis, nephritis and nephropathy, not specified as acute or chronic, and renal sclerosis, unspecified582-583,587	0.6	0.6	0.6	0.6	0.6	0.6	0.8	0.9	0.8	1.0	1.1	0.9
Renal failure, disorders resulting from impaired renal function, and small kidney of unknown cause584-586,588-589	7.6	7.5	7.7	7.2	7.2	7.3	9.5	9.3	9.7	11.5	11.3	11.7
Infections of kidney590	0.5	0.3	0.7	0.5	0.3	0.7	0.4	0.3	0.5	0.5	0.4	0.5
Hyperplasia of prostate600	0.2	0.4	...	0.2	0.4	...	0.1	0.3	...	0.2	0.3	...
Complications of pregnancy, childbirth, and the puerperium630-676	0.1	...	0.3	0.1	...	0.2	0.4	...	0.8	0.5	...	1.0
Pregnancy with abortive outcome630-638	0.0	...	0.0	0.0	...	0.0	0.1	...	0.2	0.1	...	0.2
Other complications of pregnancy, childbirth, and the puerperium640-676	0.1	...	0.2	0.1	...	0.1	0.3	...	0.6	0.4	...	0.7
Congenital anomalies740-759	5.3	5.8	4.7	5.0	5.5	4.5	6.5	7.2	5.7	7.1	8.1	6.2
Certain conditions originating in the perinatal period760-779	7.1	8.3	6.0	5.0	5.9	4.2	17.9	21.0	15.1	22.1	26.1	18.6
Birth trauma, intrauterine hypoxia, birth asphyxia, and respiratory distress syndrome767-769	1.6	1.9	1.2	1.2	1.5	0.9	3.4	4.3	2.6	4.2	5.3	3.2
Other conditions originating in the perinatal period760-766,770-779	5.5	6.4	4.8	3.8	4.5	3.2	14.5	16.6	12.5	17.9	20.8	15.4
Symptoms, signs, and ill-defined conditions780-799	9.7	11.2	8.3	8.7	9.7	7.6	15.2	18.8	11.9	18.1	22.3	14.3
All other diseasesResidual	69.5	65.2	73.6	71.3	65.5	77.0	60.0	63.6	56.7	71.3	75.6	67.4
Accidents and adverse effectsE800-E949	37.0	51.1	23.6	36.9	50.3	24.0	37.6	55.5	21.3	40.7	60.7	22.8
Motor vehicle accidentsE810-E825	18.8	26.7	11.3	19.0	26.7	11.6	17.9	26.8	9.8	18.2	28.1	9.4
All other accidents and adverse effectsE800-E807,E826-E949	18.2	24.4	12.3	17.9	23.6	12.4	19.7	28.7	11.5	22.5	32.7	13.4
SuicideE950-E959	12.4	20.4	4.8	13.5	22.0	5.3	7.0	11.9	2.6	6.9	12.0	2.3
Homicide and legal interventionE960-E978	10.0	16.2	4.2	5.8	9.0	2.8	31.9	54.8	11.1	39.8	69.2	13.5
All other external causesE980-E999	1.0	1.4	0.5	0.9	1.3	0.5	1.4	2.2	0.7	1.6	2.5	0.8

All other and late effects of cerebrovascular diseases430,433,435-438	19.1	20.6	18.0	17.8	19.3	16.7	28.6	31.6	26.4	32.2	36.4	29.3
Atherosclerosis440	2.7	3.2	2.4	2.7	3.2	2.4	2.7	3.1	2.4	3.1	3.6	2.7
Other diseases of arteries, arterioles, and capillaries441-448	5.4	8.2	3.4	5.4	8.3	3.3	5.3	7.0	4.1	5.9	7.7	4.6
Acute bronchitis and bronchiolitis466	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.1	0.2	0.2	0.1
Pneumonia and influenza480-487	14.0	18.5	11.0	13.4	17.5	10.6	17.9	25.4	12.6	19.8	28.7	13.7
Pneumonia480-486	13.7	18.1	10.7	13.0	17.0	10.3	17.7	25.1	12.4	19.6	28.4	13.5
Influenza487	0.3	0.4	0.3	0.3	0.4	0.3	0.2	0.2	0.1	0.2	0.3	0.1
Chronic obstructive pulmonary diseases and allied conditions490-496	19.7	27.2	14.7	20.1	27.4	15.2	15.2	23.6	9.6	16.9	26.5	10.7
Bronchitis, chronic and unspecified490-491	0.8	1.0	0.6	0.8	1.0	0.6	0.5	0.8	0.3	0.5	0.9	0.3
Emphysema492	3.7	5.3	2.6	3.9	5.5	2.8	2.1	3.7	1.0	2.3	4.1	1.1
Asthma493	1.4	1.3	1.5	1.2	1.0	1.3	2.9	3.0	2.8	3.4	3.5	3.3
Other chronic obstructive pulmonary diseases and allied conditions494-496	13.7	19.6	9.9	14.2	19.9	10.4	9.7	16.1	5.5	10.7	17.9	6.0
Ulcer of stomach and duodenum531-533	1.3	1.7	1.0	1.2	1.6	1.0	1.6	2.2	1.1	1.7	2.5	1.2
Appendicitis540-543	0.1	0.2	0.1	0.1	0.1	0.1	0.2	0.3	0.2	0.2	0.3	0.1
Hernia of abdominal cavity and intestinal obstruction without mention of hernia550-553,560	1.1	1.1	1.1	1.0	1.0	1.0	1.6	1.8	1.4	1.8	2.2	1.5
Chronic liver disease and cirrhosis571	8.6	12.2	5.3	8.0	11.5	4.8	12.0	17.2	7.9	13.7	20.0	8.7
Cholelithiasis and other disorders of gallbladder574-575	0.6	0.7	0.5	0.6	0.7	0.5	0.6	0.7	0.6	0.6	0.7	0.6
Nephritis, nephrotic syndrome, and nephrosis580-589	4.3	5.4	3.6	3.6	4.6	3.0	9.3	10.9	8.1	10.8	12.9	9.4
Acute glomerulonephritis and nephrotic syndrome580-581	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.1	0.1	0.2	*
Chronic glomerulonephritis, nephritis and nephropathy, not specified as acute or chronic, and renal sclerosis, unspecified582-583,587	0.3	0.4	0.3	0.3	0.4	0.2	0.7	1.0	0.6	0.8	1.1	0.6
Renal failure, disorders resulting from impaired renal function, and small kidney of unknown cause584-586,588-589	3.9	4.8	3.3	3.3	4.2	2.7	8.5	9.8	7.5	9.8	11.6	8.6
Infections of kidney590	0.2	0.2	0.3	0.2	0.2	0.3	0.3	0.4	0.3	0.3	0.4	0.3
Hyperplasia of prostate600	0.1	0.2	...	0.1	0.2	...	0.1	0.3	...	0.1	0.3	...
Complications of pregnancy, childbirth, and the puerperium630-676	0.1	...	0.3	0.1	...	0.2	0.4	...	0.8	0.5	...	0.9
Pregnancy with abortive outcome630-638	0.0	...	0.0	0.0	...	0.0	0.1	...	0.2	0.1	...	0.2
Other complications of pregnancy, childbirth, and the puerperium640-676	0.1	...	0.2	0.1	...	0.1	0.3	...	0.6	0.4	...	0.7
Congenital anomalies740-759	5.0	5.4	4.6	4.9	5.3	4.5	5.2	5.7	4.8	5.7	6.2	5.2
Certain conditions originating in the perinatal period760-779	6.9	7.6	6.1	5.2	5.8	4.5	13.4	14.8	12.0	16.2	17.9	14.5
Birth trauma, intrauterine hypoxia, birth asphyxia, and respiratory distress syndrome767-769	1.5	1.8	1.2	1.2	1.4	1.0	2.6	3.1	2.1	3.1	3.6	2.5
Other conditions originating in the perinatal period760-766,770-779	5.4	5.9	4.8	3.9	4.4	3.5	10.9	11.8	10.0	13.2	14.3	12.0
Symptoms, signs, and ill-defined conditions780-799	7.3	9.4	5.4	6.2	8.0	4.5	13.2	17.4	9.6	15.5	20.6	11.2
All other diseasesResidual	38.4	46.1	32.3	35.9	42.9	30.2	54.4	67.9	44.0	63.0	79.7	50.5
Accidents and adverse effectsE800-E949	32.5	47.7	17.9	31.8	46.4	17.6	36.8	56.7	19.6	39.7	62.4	20.4
Motor vehicle accidentsE810-E825	18.5	26.3	10.7	18.6	26.3	11.0	18.0	27.3	9.7	18.4	28.9	9.3
All other accidents and adverse effectsE800-E807,E826-E949	14.0	21.4	7.1	13.2	20.1	6.6	18.8	29.4	9.8	21.3	33.6	11.1
SuicideE950-E959	11.5	19.0	4.5	12.2	20.1	4.8	7.1	12.1	2.6	7.0	12.4	2.4
Homicide and legal interventionE960-E978	10.2	16.3	4.2	5.9	8.9	2.8	31.4	53.9	10.7	39.5	68.7	13.0
All other external causesE980-E999	0.9	1.4	0.5	0.8	1.2	0.4	1.4	2.2	0.7	1.6	2.5	0.7

Table 13. Deaths and death rates from 16 selected subcategories of Malignant neoplasms, including neoplasms of lymphatic and hematopoietic tissues, by race and sex: United States, 1990

[Rates per 100,000 population in specified group]

Cause of death (Ninth Revision International Classification of Diseases, 1975)	All other											
	All races			White			Total			Black		
	Both sexes	Male	Female	Both sexes	Male	Female	Both sexes	Male	Female	Both sexes	Male	Female
	Number											
Malignant neoplasms, including neoplasms of lymphatic and hematopoietic tissues ¹140-208	505,322	268,283	237,039	441,585	232,608	208,977	63,737	35,675	28,062	57,077	31,995	25,082
Malignant neoplasm of esophagus150	9,719	7,213	2,506	7,599	5,661	1,938	2,120	1,552	568	1,974	1,433	541
Malignant neoplasm of stomach151	14,073	8,336	5,737	11,309	6,690	4,619	2,764	1,646	1,118	2,258	1,341	917
Malignant neoplasms of colon, rectum, rectosigmoid junction, and anus153,154	56,525	28,173	28,352	49,858	24,943	24,915	6,667	3,230	3,437	5,998	2,863	3,135
Malignant neoplasm of pancreas157	25,082	12,199	12,883	21,728	10,582	11,146	3,354	1,617	1,737	3,023	1,442	1,581
Malignant neoplasms of trachea, bronchus, and lung162	141,285	91,091	50,194	124,650	79,488	45,162	16,635	11,603	5,032	15,144	10,632	4,512
Malignant melanoma of skin172	6,420	3,844	2,576	6,290	3,778	2,512	130	66	64	106	51	55
Malignant neoplasm of cervix uteri180	4,627	...	4,627	3,511	...	3,511	1,116	...	1,116	972	...	972
Malignant neoplasms of body of uterus and of uterus, part unspecified179,182	6,028	...	6,028	5,066	...	5,066	962	...	962	893	...	893
Malignant neoplasm of ovary183.0	12,566	...	12,566	11,469	...	11,469	1,097	...	1,097	959	...	959
Malignant neoplasm of prostate185	32,378	32,378	...	26,917	26,917	...	5,461	5,461	...	5,181	5,181	...
Malignant neoplasm of bladder188	10,341	6,910	3,431	9,430	6,403	3,027	911	507	404	847	466	381
Malignant neoplasms of kidney and other and unspecified urinary organs189	10,313	6,271	4,042	9,264	5,644	3,620	1,049	627	422	945	563	382
Malignant neoplasms of brain and other and unspecified parts of nervous system191,192	11,630	6,339	5,291	10,814	5,890	4,924	816	449	367	691	372	319
Hodgkin's disease201	1,632	956	676	1,471	853	618	161	103	58	148	96	52
Malignant lymphoma other than Hodgkin's disease200,202	18,601	9,795	8,806	17,185	9,005	8,180	1,416	790	626	1,172	651	521
Multiple myeloma and other immunoproliferative neoplasms203	8,934	4,561	4,373	7,377	3,765	3,612	1,557	796	761	1,453	745	708
	Rate											
Malignant neoplasms, including neoplasms of lymphatic and hematopoietic tissues ¹140-208	203.2	221.3	186.0	211.6	227.7	196.1	159.3	186.8	134.2	187.2	221.9	156.1
Malignant neoplasm of esophagus150	3.9	5.9	2.0	3.6	5.5	1.8	5.3	8.1	2.7	6.5	9.9	3.4
Malignant neoplasm of stomach151	5.7	6.9	4.5	5.4	6.5	4.3	6.9	8.6	5.3	7.4	9.3	5.7
Malignant neoplasms of colon, rectum, rectosigmoid junction, and anus153,154	22.7	23.2	22.2	23.9	24.4	23.4	16.7	16.9	16.4	19.7	19.9	19.5
Malignant neoplasm of pancreas157	10.1	10.1	10.1	10.4	10.4	10.5	8.4	8.5	8.3	9.9	10.0	9.8
Malignant neoplasms of trachea, bronchus, and lung162	56.8	75.1	39.4	59.7	77.8	42.4	41.6	60.8	24.1	49.7	73.7	28.1
Malignant melanoma of skin172	2.6	3.2	2.0	3.0	3.7	2.4	0.3	0.3	0.3	0.3	0.4	0.3
Malignant neoplasm of cervix uteri180	1.9	...	3.6	1.7	...	3.3	2.8	...	5.3	3.2	...	6.1
Malignant neoplasms of body of uterus and of uterus, part unspecified179,182	2.4	...	4.7	2.4	...	4.8	2.4	...	4.6	2.9	...	5.6
Malignant neoplasm of ovary183.0	5.1	...	9.9	5.5	...	10.8	2.7	...	5.2	3.1	...	6.0
Malignant neoplasm of prostate185	13.0	26.7	...	12.9	26.4	...	13.7	28.6	...	17.0	35.9	...
Malignant neoplasm of bladder188	4.2	5.7	2.7	4.5	6.3	2.8	2.3	2.7	1.9	2.8	3.2	2.4
Malignant neoplasms of kidney and other and unspecified urinary organs189	4.1	5.2	3.2	4.4	5.5	3.4	2.6	3.3	2.0	3.1	3.9	2.4
Malignant neoplasms of brain and other and unspecified parts of nervous system191,192	4.7	5.2	4.2	5.2	5.8	4.6	2.0	2.4	1.8	2.3	2.6	2.0
Hodgkin's disease201	0.7	0.8	0.5	0.7	0.8	0.6	0.4	0.5	0.3	0.5	0.7	0.3
Malignant lymphoma other than Hodgkin's disease200,202	7.5	8.1	6.9	8.2	8.8	7.7	3.5	4.1	3.0	3.8	4.5	3.2
Multiple myeloma and other immunoproliferative neoplasms203	3.6	3.8	3.4	3.5	3.7	3.4	3.9	4.2	3.6	4.8	5.2	4.4

¹Includes figures for subcategories not shown.

Table 14. Deaths and death rates by 10-year age groups and age-adjusted death rates for Human immunodeficiency virus infection, by race and sex: United States, 1989-90

[Human immunodeficiency virus infection deaths are those assigned to category numbers *042-*044 introduced in the United States in 1987; see Technical notes]

Year, race, and sex	Age												Age-adjusted rate ³
	All ages ¹	Under 1 year ²	1-4 years	5-14 years	15-24 years	25-34 years	35-44 years	45-54 years	55-64 years	65-74 years	75-84 years	85 years and over	
1990													Number
All races	25,188	106	123	84	541	8,483	10,265	3,812	1,314	369	66	12	...
Male	22,386	48	62	45	412	7,433	9,284	3,565	1,191	289	42	4	...
Female	2,802	58	61	39	129	1,050	981	247	123	80	24	8	...
White	17,255	30	46	28	312	5,619	7,080	2,848	950	274	52	8	...
Male	16,106	18	19	15	256	5,196	6,716	2,742	880	220	35	1	...
Female	1,149	12	27	13	56	423	364	106	70	54	17	7	...
All other	7,933	76	77	56	229	2,864	3,185	964	364	95	14	4	...
Male	6,280	30	43	30	156	2,237	2,568	823	311	69	7	3	...
Female	1,653	46	34	26	73	627	617	141	53	26	7	1	...
Black	7,730	76	76	54	226	2,802	3,100	930	353	90	14	4	...
Male	6,097	30	42	29	153	2,180	2,493	789	303	65	7	3	...
Female	1,633	46	34	25	73	622	607	141	50	25	7	1	...
1989													
All races	22,082	120	112	64	613	7,759	8,563	3,285	1,144	327	70	12	...
Male	19,758	54	53	41	502	6,806	7,840	3,083	1,054	260	44	8	...
Female	2,324	66	59	23	111	953	723	202	90	67	26	4	...
White	15,095	52	44	41	364	5,137	5,827	2,446	860	249	60	10	...
Male	14,114	27	13	29	312	4,752	5,572	2,354	807	197	40	6	...
Female	981	25	31	12	52	385	255	92	53	52	20	4	...
All other	6,987	68	68	23	249	2,622	2,736	839	284	78	10	2	...
Male	5,644	27	40	12	190	2,054	2,268	729	247	63	4	2	...
Female	1,343	41	28	11	59	568	468	110	37	15	6	-	...
Black	6,795	68	68	22	242	2,559	2,661	809	272	76	10	1	...
Male	5,475	27	40	12	184	1,997	2,201	701	239	62	4	1	...
Female	1,320	41	28	10	58	562	460	108	33	14	6	-	...
1990													Rate
All races	10.1	2.7	0.8	0.2	1.5	19.7	27.4	15.2	6.2	2.0	0.7	*	9.8
Male	18.5	2.4	0.8	0.3	2.2	34.5	50.2	29.1	12.0	3.7	1.1	*	17.7
Female	2.2	3.0	0.8	0.2	0.7	4.9	5.2	1.9	1.1	0.8	0.4	*	2.1
White	8.3	1.0	0.4	0.1	1.0	15.7	22.4	13.2	5.1	1.7	0.6	*	8.0
Male	15.8	*	*	*	1.7	28.8	42.5	25.8	10.0	3.1	1.0	*	15.0
Female	1.1	*	0.5	*	0.4	2.4	2.3	1.0	0.7	0.6	*	*	1.1
All other	19.8	9.3	2.6	0.8	3.3	39.1	55.1	27.7	14.0	5.1	*	*	19.7
Male	32.9	7.2	2.8	0.9	4.4	64.0	95.4	51.2	27.2	8.9	*	*	33.6
Female	7.9	11.4	2.3	0.8	2.1	16.3	20.0	7.5	3.6	2.4	*	*	7.6
Black	25.4	11.9	3.3	1.0	4.2	51.0	73.1	35.9	17.5	6.0	*	*	25.7
Male	42.3	9.3	3.6	1.1	5.7	84.1	127.1	67.1	34.5	10.6	*	*	44.2
Female	10.2	14.6	3.0	0.9	2.7	21.4	26.6	10.0	4.4	2.8	*	*	9.9
1989													
All races	8.9	3.1	0.8	0.2	1.6	17.9	23.5	13.3	5.4	1.8	0.7	*	8.7
Male	16.4	2.7	0.7	0.2	2.6	31.5	43.6	25.6	10.5	3.3	1.2	*	15.8
Female	1.8	3.5	0.8	0.1	0.6	4.4	3.9	1.6	0.8	0.7	0.4	*	1.8
White	7.3	1.7	0.4	0.1	1.2	14.3	18.9	11.5	4.6	1.6	0.7	*	7.1
Male	13.9	1.7	*	0.2	2.0	26.2	36.1	22.5	9.1	2.8	1.2	*	13.2
Female	0.9	1.7	0.5	*	0.4	2.2	1.6	0.9	0.5	0.6	0.4	*	0.9
All other	17.8	8.5	2.3	0.3	3.6	36.2	49.4	24.7	11.0	4.2	*	*	17.7
Male	30.1	6.7	2.7	*	5.4	59.5	88.1	46.5	21.8	8.2	*	*	30.9
Female	6.5	10.4	2.0	*	1.7	14.9	15.8	6.0	2.6	*	*	*	6.3
Black	22.5	10.9	3.0	0.4	4.5	46.8	65.3	31.7	13.5	5.1	*	*	23.0
Male	38.4	8.6	3.5	*	6.8	77.4	116.9	60.6	27.1	10.2	*	*	40.3
Female	8.3	13.3	2.5	*	2.1	19.4	21.0	7.7	2.9	*	*	*	8.1

¹Figures for age not stated included in All ages but not distributed among age groups.

²Death rates under 1 year (based on population estimates) differ from infant mortality rates (based on live births); see tables E and 22-26 for infant mortality rates and Technical notes for further discussion of the difference.

³For method of computation, see Technical notes.

NOTE: Rates for 1989 have been revised; see Technical notes.

Table 15. Deaths and death rates for major causes of death for the United States, each division, and State; and by race and sex for the United States, 1990

[Rates per 100,000 population in each race-sex group and area. Numbers after cause of death are category numbers of the *Ninth Revision International Classification of Diseases, 1975*]

Race, sex, and area	Diseases of heart (390-398, 402, 404-429)		Malignant neoplasms, including neoplasms of lymphatic and hematopoietic tissues (140-208)		Cerebrovascular diseases (430-438)		Accidents and adverse effects (E800-E949)		Motor vehicle accidents (E810-E825)		Suicide (E950-E959)	
	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate
United States	720,058	289.5	505,322	203.2	144,088	57.9	91,983	37.0	46,814	18.8	30,906	12.4
Male	360,788	297.6	268,283	221.3	56,697	46.8	61,938	51.1	32,406	26.7	24,724	20.4
Female	359,270	281.8	237,039	186.0	87,391	68.6	30,045	23.6	14,408	11.3	6,182	4.8
White	637,364	305.4	441,585	211.6	124,526	59.7	76,934	36.9	39,651	19.0	28,086	13.5
Male	319,362	312.7	232,608	227.7	48,024	47.0	51,348	50.3	27,288	26.7	22,448	22.0
Female	318,002	298.4	208,977	196.1	76,502	71.8	25,586	24.0	12,363	11.6	5,638	5.3
All other	82,694	206.7	63,737	159.3	19,562	48.9	15,049	37.6	7,163	17.9	2,820	7.0
Male	41,426	216.9	35,675	186.8	8,673	45.4	10,590	55.5	5,118	26.8	2,276	11.9
Female	41,268	197.4	28,062	134.2	10,889	52.1	4,459	21.3	2,045	9.8	544	2.6
Black	75,111	246.4	57,077	187.2	17,407	57.1	12,419	40.7	5,560	18.2	2,111	6.9
Male	37,038	256.8	31,995	221.9	7,653	53.1	8,756	60.7	4,046	28.1	1,737	12.0
Female	38,073	237.0	25,082	156.1	9,754	60.7	3,663	22.8	1,514	9.4	374	2.3
New England	38,702	293.0	28,740	217.6	7,138	54.0	3,710	28.1	1,667	12.6	1,342	10.2
Maine	3,697	301.1	2,792	227.4	719	58.6	413	33.6	210	17.1	155	12.6
New Hampshire	2,792	251.7	2,122	191.3	561	50.6	326	29.4	164	14.8	149	13.4
Vermont	1,426	253.4	1,136	201.9	301	53.5	194	34.5	90	16.0	84	14.9
Massachusetts	17,754	295.1	13,444	223.5	3,301	54.9	1,543	25.6	680	11.3	528	8.8
Rhode Island	3,437	342.5	2,427	241.9	557	55.5	280	27.9	104	10.4	127	12.7
Connecticut	9,596	291.9	6,819	207.4	1,699	51.7	954	29.0	419	12.7	299	9.1
Middle Atlantic	130,782	347.8	86,196	229.2	20,463	54.4	11,280	30.0	5,185	13.8	3,572	9.5
New York	63,629	353.7	38,415	213.5	8,761	48.7	5,061	28.1	2,409	13.4	1,553	8.6
New Jersey	23,659	306.1	17,931	232.0	3,977	51.4	2,094	27.1	936	12.1	567	7.3
Pennsylvania	43,494	366.1	29,850	251.2	7,725	65.0	4,125	34.7	1,840	15.5	1,452	12.2
East North Central	129,171	307.5	88,818	211.4	24,984	59.5	14,534	34.6	7,157	17.0	4,767	11.3
Ohio	34,665	319.6	23,973	221.0	6,306	58.1	3,678	33.9	1,729	15.9	1,188	11.0
Indiana	16,968	306.1	11,662	210.3	3,698	66.7	2,058	37.1	1,088	19.6	728	13.1
Illinois	35,300	308.8	24,439	213.8	6,707	58.7	3,984	34.9	1,845	16.1	1,158	10.1
Michigan	27,626	297.2	18,449	198.5	5,108	55.0	3,162	34.0	1,687	18.1	1,073	11.5
Wisconsin	14,612	298.7	10,295	210.5	3,165	64.7	1,652	33.8	808	16.5	620	12.7
West North Central	55,171	312.4	36,845	208.6	12,040	68.2	6,750	38.2	3,275	18.5	2,271	12.9
Minnesota	10,777	246.3	8,122	185.6	2,837	64.8	1,465	33.5	660	15.1	546	12.5
Iowa	9,585	345.2	6,076	218.8	2,042	73.5	1,046	37.7	492	17.7	336	12.1
Missouri	17,824	348.3	11,608	226.8	3,446	67.3	2,171	42.4	1,082	21.1	708	13.8
North Dakota	1,949	305.1	1,339	209.6	426	66.7	233	36.5	120	18.8	73	11.4
South Dakota	2,330	334.8	1,365	196.1	508	73.0	327	47.0	163	23.4	91	13.1
Nebraska	5,039	319.3	3,299	209.0	1,074	68.0	576	36.5	283	17.9	220	13.9
Kansas	7,667	309.5	5,036	203.3	1,707	68.9	932	37.6	475	19.2	297	12.0
South Atlantic	128,259	294.4	93,831	215.4	26,832	61.6	17,525	40.2	9,384	21.5	5,950	13.7
Delaware	1,894	284.3	1,501	225.3	324	48.6	243	36.5	142	21.3	80	12.0
Maryland	11,902	248.9	9,832	205.6	2,229	46.6	1,419	29.7	702	14.7	486	10.2
District of Columbia	1,887	310.9	1,547	254.9	374	61.6	199	32.8	71	11.7	37	6.1
Virginia	15,399	248.9	11,624	187.9	3,520	56.9	2,194	35.5	1,059	17.1	799	12.9
West Virginia	7,099	395.8	4,408	245.8	1,182	65.9	844	47.1	472	26.3	219	12.2
North Carolina	18,564	280.1	13,229	199.6	4,459	67.3	2,914	44.0	1,467	22.1	929	14.0
South Carolina	9,333	267.7	6,791	194.8	2,425	69.5	1,668	47.8	942	27.0	434	12.4
Georgia	16,339	252.2	11,035	170.3	3,821	59.0	2,874	44.4	1,650	25.5	880	13.6
Florida	45,842	354.3	33,864	261.7	8,498	65.7	5,170	40.0	2,879	22.3	2,086	16.1
East South Central	49,494	326.1	32,901	216.8	10,730	70.7	7,832	51.6	4,166	27.5	2,005	13.2
Kentucky	11,882	322.4	8,426	228.6	2,429	65.9	1,693	45.9	858	23.3	549	14.9
Tennessee	15,498	317.8	10,493	215.1	3,588	73.6	2,321	47.6	1,210	24.8	653	13.4
Alabama	12,894	319.1	8,657	214.3	2,897	71.7	2,325	57.5	1,241	30.7	514	12.7
Mississippi	9,220	358.3	5,325	206.9	1,816	70.6	1,493	58.0	857	33.3	289	11.2
West South Central	70,850	265.3	49,686	186.1	15,122	56.6	10,827	40.5	5,688	21.3	3,449	12.9
Arkansas	7,991	339.9	5,702	242.6	2,076	88.3	1,184	50.4	633	26.9	293	12.5
Louisiana	12,422	294.4	8,695	206.0	2,396	56.8	1,927	45.7	979	23.2	558	13.2
Oklahoma	10,882	345.9	6,656	211.6	2,196	69.8	1,350	42.9	717	22.8	392	12.5
Texas	39,555	232.9	28,633	168.6	8,454	49.8	6,366	37.5	3,359	19.8	2,206	13.0

Table 15. Deaths and death rates for major causes of death for the United States, each division, and State; and by race and sex for the United States, 1990—Con.

[Rates per 100,000 population in each race-sex group and area. Numbers after cause of death are category numbers of the *Ninth Revision International Classification of Diseases, 1975*]

Race, sex, and area	Diseases of heart (390-398, 402, 404-429)		Malignant neoplasms, including neoplasms of lymphatic and hematopoietic tissues (140-208)		Cerebrovascular diseases (430-438)		Accidents and adverse effects (E800-E949)		Motor vehicle accidents (E810-E825)		Suicide (E950-E959)	
	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate
Mountain	28,720	210.3	22,140	162.1	6,054	44.3	5,708	41.8	3,088	22.6	2,521	18.5
Montana	1,979	247.7	1,621	202.9	493	61.7	398	49.8	205	25.7	167	20.9
Idaho	2,212	219.7	1,738	172.6	548	54.4	477	47.4	250	24.8	192	19.1
Wyoming	972	214.3	731	161.2	211	46.5	203	44.8	99	21.8	81	17.9
Colorado	6,144	186.5	4,935	149.8	1,325	40.2	1,128	34.2	574	17.4	554	16.8
New Mexico	3,003	198.2	2,265	149.5	554	36.6	798	52.7	455	30.0	283	18.7
Arizona	8,807	240.3	6,837	186.5	1,735	47.3	1,628	44.4	893	24.4	686	18.7
Utah	2,739	159.0	1,765	102.4	675	39.2	563	32.7	292	16.9	264	15.3
Nevada	2,864	238.3	2,248	187.0	513	42.7	513	42.7	320	26.6	294	24.5
Pacific	88,909	227.2	66,165	169.1	20,725	53.0	13,817	35.3	7,204	18.4	5,029	12.9
Washington	11,238	230.9	9,004	185.0	2,724	56.0	1,788	36.7	912	18.7	677	13.9
Oregon	7,599	267.4	6,050	212.9	1,883	66.2	1,143	40.2	559	19.7	449	15.8
California	67,560	227.0	48,986	164.6	15,485	52.0	10,172	34.2	5,454	18.3	3,708	12.5
Alaska	444	80.7	470	85.4	103	18.7	393	71.4	100	18.2	70	12.7
Hawaii	2,068	186.6	1,655	149.3	530	47.8	321	29.0	179	16.2	125	11.3

NOTE: Caution should be used in comparing crude death rates by State. Death rates are affected by the population composition of the area.

Table 16. Deaths by age according to specified Hispanic origin, race for non-Hispanic origin, and sex: Total of 45 States, New York State (excluding New York City), and the District of Columbia, 1990

[For a listing of States, see Technical notes]

Hispanic origin, race for non-Hispanic origin, and sex	Total	Under 1 year	1-4 years	5-14 years	15-24 years	25-34 years	35-44 years	45-54 years	55-64 years	65-74 years	75-84 years	85 years and over	Not stated
All origins	1,970,337	35,030	6,354	7,752	33,298	53,444	74,137	107,419	231,828	441,097	553,839	425,603	536
Male	1,021,783	19,970	3,658	4,701	25,231	39,210	50,790	67,474	142,096	255,489	272,737	140,037	390
Female	948,554	15,060	2,696	3,051	8,067	14,234	23,347	39,945	89,732	185,608	281,102	285,566	146
Hispanic	68,673	4,228	836	823	4,085	5,418	5,159	5,371	8,790	11,911	12,772	9,186	94
Male	41,012	2,373	484	503	3,377	4,412	3,906	3,548	5,452	6,693	6,457	3,721	86
Female	27,661	1,855	352	320	708	1,006	1,253	1,823	3,338	5,218	6,315	5,465	8
Mexican	40,624	2,952	566	550	2,940	3,314	2,882	3,118	5,298	7,001	6,971	4,978	54
Male	24,642	1,656	329	340	2,477	2,772	2,153	2,042	3,247	3,976	3,564	2,038	48
Female	15,982	1,296	237	210	463	542	729	1,076	2,051	3,025	3,407	2,940	6
Puerto Rican	5,159	363	77	70	259	554	588	509	701	793	804	478	3
Male	3,146	205	48	46	195	413	450	341	442	430	400	174	2
Female	2,013	158	29	24	64	141	138	168	259	363	404	264	1
Cuban	7,181	81	19	19	62	259	357	497	936	1,478	2,086	1,385	2
Male	4,063	45	8	12	47	216	298	363	628	901	1,029	514	2
Female	3,118	36	11	7	15	43	59	134	308	577	1,057	871	-
Central and South American	4,122	295	76	71	361	562	510	414	464	488	533	344	4
Male	2,417	166	46	40	308	441	364	243	254	212	218	121	4
Female	1,705	129	30	31	53	121	146	171	210	276	315	223	-
Other and unknown Hispanic	11,587	537	98	113	463	729	822	833	1,391	2,151	2,378	2,041	31
Male	6,744	301	53	65	350	570	641	559	881	1,174	1,246	874	30
Female	4,843	236	45	48	113	159	181	274	510	977	1,132	1,167	1
Non-Hispanic ¹	1,887,983	30,231	5,458	6,847	28,915	47,459	68,225	101,065	221,162	426,225	537,899	414,249	248
Male	972,814	17,283	3,143	4,154	21,614	34,355	46,325	63,257	135,373	246,978	264,628	135,544	160
Female	915,169	12,948	2,315	2,693	7,301	13,104	21,900	37,808	85,789	179,247	273,271	278,705	88
White	1,636,015	18,745	3,681	4,973	20,683	33,167	49,794	78,902	183,892	372,947	486,026	383,063	142
Male	834,188	10,908	2,130	3,021	15,212	24,279	34,115	49,593	113,647	217,569	239,405	124,220	89
Female	801,827	7,837	1,551	1,952	5,471	8,888	15,679	29,309	70,245	155,378	246,621	258,843	53
Black	225,718	10,465	1,512	1,591	7,140	12,959	16,680	19,892	33,621	47,928	46,309	27,524	97
Male	123,446	5,791	848	967	5,584	9,164	11,087	12,314	19,652	26,283	22,023	9,668	65
Female	102,272	4,674	664	624	1,556	3,795	5,593	7,578	13,969	21,645	24,286	17,856	32
Not stated ²	13,681	571	60	82	298	567	753	983	1,876	2,961	3,168	2,168	194
Male	7,957	314	31	44	240	443	559	669	1,271	1,818	1,652	772	144
Female	5,724	257	29	38	58	124	194	314	605	1,143	1,516	1,396	50

¹Includes races other than white and black.

²Includes deaths that occurred in States that did not report Hispanic origin on the death certificate.

Table 17. Deaths for the 10 leading causes of death for Hispanic and white non-Hispanic origin, for specified age groups: Total of 45 States, New York State (excluding New York City), and the District of Columbia, 1990

[For explanation of asterisk preceding cause-of-death codes, see Technical notes. For a listing of States, see Technical notes]

Hispanic			White non-Hispanic		
Rank order	Cause of death and age (Ninth Revision International Classification of Diseases, 1975)	Number	Rank order	Cause of death and age (Ninth Revision International Classification of Diseases, 1975)	Number
All ages ¹			All ages ¹		
...	All causes	68,673	...	All causes	1,636,015
1	Diseases of heart390-398,402,404-429	16,903	1	Diseases of heart390-398,402,404-429	564,903
2	Malignant neoplasms, including neoplasms of lymphatic and hematopoietic tissues . . .140-208	12,759	2	Malignant neoplasms, including neoplasms of lymphatic and hematopoietic tissues . . .140-208	395,245
3	Accidents and adverse effectsE800-E949	6,634	3	Cerebrovascular diseases430-438	112,810
...	Motor vehicle accidentsE810-E825	4,084	4	Chronic obstructive pulmonary diseases and allied conditions490-496	73,444
...	All other accidents and adverse effectsE800-E807,E826-E949	2,550	5	Accidents and adverse effectsE800-E949	64,668
4	Cerebrovascular diseases430-438	3,655	...	Motor vehicle accidentsE810-E825	32,931
5	Homicide and legal interventionE960-E978	3,259	...	All other accidents and adverse effectsE800-E807,E826-E949	31,737
6	Diabetes mellitus250	2,501	6	Pneumonia and influenza480-487	62,357
7	Pneumonia and influenza480-487	2,106	7	Diabetes mellitus250	33,527
8	Human immunodeficiency virus infection*042-*044	2,099	8	SuicideE950-E959	24,895
9	Chronic liver disease and cirrhosis571	2,037	9	Chronic liver disease and cirrhosis571	17,780
10	Certain conditions originating in the perinatal period760-779	1,808	10	Atherosclerosis440	15,049
...	All other causesResidual	14,912	...	All other causesResidual	271,337
1-14 years			1-14 years		
...	All causes	1,659	...	All causes	8,654
1	Accidents and adverse effectsE800-E949	663	1	Accidents and adverse effectsE800-E949	3,627
...	Motor vehicle accidentsE810-E825	344	...	Motor vehicle accidentsE810-E825	1,797
...	All other accidents and adverse effectsE800-E807,E826-E949	319	...	All other accidents and adverse effectsE800-E807,E826-E949	1,830
2	Malignant neoplasms, including neoplasms of lymphatic and hematopoietic tissues . . .140-208	183	2	Malignant neoplasms, including neoplasms of lymphatic and hematopoietic tissues . . .140-208	1,038
3	Congenital anomalies740-759	156	3	Congenital anomalies740-759	832
4	Homicide and legal interventionE960-E978	137	4	Diseases of heart390-398,402,404-429	327
5	Diseases of heart390-398,402,404-429	44	5	Homicide and legal interventionE960-E978	283
6	Pneumonia and influenza480-487	27	6	SuicideE950-E959	186
7	Certain conditions originating in the perinatal period760-779	21	7	Pneumonia and influenza480-487	171
8	SuicideE950-E959	20	8	Benign neoplasms, carcinoma in situ, and neoplasms of uncertain behavior and of unspecified nature210-239	121
9	Cerebrovascular diseases430-438	17	9	Septicemia038	81
10	Septicemia038	16	10	Certain conditions originating in the perinatal period760-779	76
...	All other causesResidual	375	...	All other causesResidual	1,912
15-24 years			15-24 years		
...	All causes	4,085	...	All causes	20,663
1	Accidents and adverse effectsE800-E949	1,731	...	Accidents and adverse effectsE800-E949	11,159
...	Motor vehicle accidentsE810-E825	1,315	...	Motor vehicle accidentsE810-E825	8,923
...	All other accidents and adverse effectsE800-E807,E826-E949	416	...	All other accidents and adverse effectsE800-E807,E826-E949	2,236
2	Homicide and legal interventionE960-E978	1,225	...	SuicideE950-E959	3,528
3	SuicideE950-E959	384	3	Homicide and legal interventionE960-E978	1,316
4	Malignant neoplasms, including neoplasms of lymphatic and hematopoietic tissues . . .140-208	170	4	Malignant neoplasms, including neoplasms of lymphatic and hematopoietic tissues . . .140-208	1,191
5	Diseases of heart390-398,402,404-429	71	5	Diseases of heart390-398,402,404-429	495
6	Human immunodeficiency virus infection*042-*044	62	6	Congenital anomalies740-759	310
7	Congenital anomalies740-759	37	7	Human immunodeficiency virus infection . *042-*044	193
8	Cerebrovascular diseases430-438	31	8	Cerebrovascular diseases430-438	134
9	Pneumonia and influenza480-487	19	9	Pneumonia and influenza480-487	118
10	Complications of pregnancy, childbirth, and the puerperium630-676	13	10	Chronic obstructive pulmonary diseases and allied conditions490-496	89
...	All other causesResidual	342	...	All other causesResidual	2,150

See footnote at end of table.

Table 17. Deaths for the 10 leading causes of death for Hispanic and white non-Hispanic origin, for specified age groups: Total of 45 States, New York State (excluding New York City), and the District of Columbia, 1990—Con.

[For explanation of asterisk preceding cause-of-death codes, see Technical notes. For a listing of States, see Technical notes]

Hispanic			White non-Hispanic		
Rank order	Cause of death and age (Ninth Revision International Classification of Diseases, 1975)	Number	Rank order	Cause of death and age (Ninth Revision International Classification of Diseases, 1975)	Number
25-44 years			25-44 years		
...	All causes	10,577	...	All causes	82,961
1	Accidents and adverse effectsE800-E949	2,591	1	Accidents and adverse effectsE800-E949	18,253
...	Motor vehicle accidentsE810-E825	1,591	...	Motor vehicle accidentsE810-E825	11,230
...	All other accidents and adverse effects.E800-E807,E826-E949	1,000	...	All other accidents and adverse effects.E800-E807,E826-E949	7,023
2	Human immunodeficiency virus infection *042-*044	1,641	2	Malignant neoplasms, including neoplasms of lymphatic and hematopoietic tissues140-208	14,844
3	Homicide and legal interventionE960-E978	1,537	3	SuicideE950-E959	9,521
4	Malignant neoplasms, including neoplasms of lymphatic and hematopoietic tissues . . .140-208	1,078	4	Diseases of heart390-398,402,404-429	9,190
5	SuicideE950-E959	648	5	Human immunodeficiency virus infection . *042-*044	8,796
6	Diseases of heart390-398,402,404-429	628	6	Homicide and legal interventionE960-E978	3,521
7	Chronic liver disease and cirrhosis.571	516	7	Chronic liver disease and cirrhosis.571	2,414
8	Cerebrovascular diseases430-438	259	8	Cerebrovascular diseases430-438	1,704
9	Pneumonia and influenza480-487	118	9	Diabetes mellitus.250	1,428
10	Diabetes mellitus.250	97	10	Pneumonia and influenza480-487	1,000
...	All other causesResidual	1,464	...	All other causesResidual	12,290
45-64 years			45-64 years		
...	All causes	14,161	...	All causes	262,794
1	Malignant neoplasms, including neoplasms of lymphatic and hematopoietic tissues . . .140-208	4,065	1	Malignant neoplasms, including neoplasms of lymphatic and hematopoietic tissues . . .140-208	100,513
2	Diseases of heart390-398,402,404-429	3,656	2	Diseases of heart390-398,402,404-429	76,664
3	Chronic liver disease and cirrhosis.571	953	3	Accidents and adverse effectsE800-E949	10,165
4	Accidents and adverse effectsE800-E949	880	...	Motor vehicle accidentsE810-E825	5,111
...	Motor vehicle accidentsE810-E825	529	...	All other accidents and adverse effects.E800-E807,E826-E949	5,054
...	All other accidents and adverse effects.E800-E807,E826-E949	351	4	Chronic obstructive pulmonary diseases and allied conditions490-496	10,114
5	Cerebrovascular diseases430-438	716	5	Cerebrovascular diseases430-438	9,125
6	Diabetes mellitus.250	685	6	Chronic liver disease and cirrhosis.571	7,077
7	Human immunodeficiency virus infection *042-*044	351	7	SuicideE950-E959	5,986
8	Homicide and legal interventionE960-E978	261	8	Diabetes mellitus.250	5,985
9	SuicideE950-E959	231	9	Pneumonia and influenza480-487	3,666
10	Pneumonia and influenza480-487	223	10	Human immunodeficiency virus infection *042-*044	2,717
...	All other causesResidual	2,140	...	All other causesResidual	30,782
65 years and over			65 years and over		
...	All causes	33,869	...	All causes	1,242,036
1	Diseases of heart390-398,402,404-429	12,419	1	Diseases of heart390-398,402,404-429	477,813
2	Malignant neoplasms, including neoplasms of lymphatic and hematopoietic tissues . . .140-208	7,252	2	Malignant neoplasms, including neoplasms of lymphatic and hematopoietic tissues . . .140-208	277,594
3	Cerebrovascular diseases430-438	2,622	3	Cerebrovascular diseases430-438	101,701
4	Diabetes mellitus.250	1,710	4	Chronic obstructive pulmonary diseases and allied conditions490-496	62,663
5	Pneumonia and influenza480-487	1,633	5	Pneumonia and influenza480-487	57,142
6	Chronic obstructive pulmonary diseases and allied conditions490-496	1,201	6	Diabetes mellitus.250	26,029
7	Accidents and adverse effectsE800-E949	611	7	Accidents and adverse effectsE800-E949	20,974
...	Motor vehicle accidentsE810-E825	251	...	Motor vehicle accidentsE810-E825	5,749
...	All other accidents and adverse effects.E800-E807,E826-E949	360	...	All other accidents and adverse effects.E800-E807,E826-E949	15,225
8	Chronic liver disease and cirrhosis.571	552	8	Atherosclerosis440	14,386
9	Nephritis, nephrotic syndrome, and nephrosis580-589	471	9	Nephritis, nephrotic syndrome, and nephrosis580-589	12,727
10	Septicemia038	392	10	Septicemia038	11,214
...	All other causesResidual	5,006	...	All other causesResidual	179,793

¹Includes deaths under 1 year of age.

Table 18. Deaths and age-adjusted death rates for drug-induced causes, by race and sex: United States, 1979–90

[Rates per 100,000 population in specified group. For listing of drug-induced causes, see Technical notes]

Year	All races			White			Total			All other		
	Both sexes	Male	Female	Both sexes	Male	Female	Both sexes	Male	Female	Both sexes	Male	Female
1990	9,463	5,897	3,566	7,603	4,646	2,957	1,860	1,251	609	1,703	1,155	548
1989	10,710	6,895	3,815	8,336	5,249	3,087	2,374	1,646	728	2,236	1,570	666
1988	10,917	7,004	3,913	8,409	5,234	3,175	2,508	1,770	738	2,395	1,700	695
1987	9,796	6,146	3,650	7,547	4,600	2,947	2,249	1,546	703	2,101	1,465	636
1986	9,976	6,284	3,692	7,948	4,885	3,063	2,028	1,399	629	1,906	1,335	571
1985	8,663	5,342	3,321	6,946	4,172	2,774	1,717	1,170	547	1,600	1,107	493
1984	7,892	4,640	3,252	6,309	3,587	2,722	1,583	1,053	530	1,480	997	483
1983	7,492	4,145	3,347	6,187	3,378	2,809	1,305	767	538	1,194	724	470
1982	7,310	4,130	3,180	5,991	3,251	2,740	1,319	879	440	1,212	822	390
1981	7,106	3,835	3,271	5,863	3,042	2,821	1,243	793	450	1,152	751	401
1980	6,900	3,771	3,129	5,814	3,088	2,726	1,086	683	403	1,006	648	358
1979	7,101	3,656	3,445	6,116	3,077	3,039	985	579	406	897	540	357
Age-adjusted death rate ¹												
1990	3.6	4.6	2.6	3.3	4.2	2.5	4.6	6.7	2.8	5.7	8.4	3.4
1989 ²	4.1	5.4	2.8	3.7	4.8	2.6	6.0	8.9	3.4	7.5	11.4	4.1
1988 ²	4.2	5.6	2.9	3.8	4.9	2.7	6.6	10.0	3.6	8.3	12.9	4.4
1987 ²	3.8	5.0	2.7	3.4	4.3	2.5	6.0	9.0	3.5	7.4	11.3	4.1
1986 ²	4.0	5.2	2.8	3.7	4.7	2.7	5.6	8.4	3.2	6.9	10.5	3.7
1985 ²	3.5	4.5	2.6	3.3	4.0	2.5	4.9	7.2	2.9	5.9	8.9	3.3
1984 ²	3.2	3.9	2.6	3.0	3.5	2.5	4.6	6.7	2.9	5.5	8.2	3.3
1983 ²	3.1	3.6	2.6	3.0	3.3	2.5	4.0	5.1	3.0	4.6	6.1	3.3
1982 ²	3.1	3.6	2.6	2.9	3.3	2.5	4.1	5.8	2.6	4.7	6.9	2.8
1981 ²	3.1	3.4	2.7	2.9	3.1	2.7	4.0	5.5	2.7	4.6	6.6	2.9
1980	3.0	3.4	2.6	2.9	3.2	2.6	3.7	4.9	2.5	4.1	5.8	2.7
1979	3.1	3.4	2.9	3.1	3.2	3.0	3.4	4.3	2.6	3.7	4.9	2.7

¹For method of computation, see Technical notes.

²Rates are revised and, therefore, may differ from those published in *Advance Report of Final Mortality Statistics* for 1989 and earlier years; see Technical notes.

Table 19. Deaths and age-adjusted death rates for alcohol-induced causes, by race and sex: United States, 1979–90

[Rates per 100,000 population in specified group. For listing of alcohol-induced causes, see Technical notes]

Year	All races			White			Total			All other		
	Both sexes	Male	Female	Both sexes	Male	Female	Both sexes	Male	Female	Both sexes	Male	Female
1990	19,757	14,842	4,915	14,904	11,334	3,570	4,853	3,508	1,345	4,337	3,172	1,165
1989	19,810	14,960	4,850	14,832	11,307	3,525	4,978	3,653	1,325	4,400	3,263	1,137
1988	18,872	14,206	4,666	14,035	10,681	3,354	4,837	3,525	1,312	4,294	3,159	1,135
1987	17,819	13,461	4,358	13,361	10,172	3,189	4,458	3,289	1,169	4,055	3,028	1,027
1986	17,425	12,986	4,439	13,198	9,864	3,334	4,227	3,122	1,105	3,853	2,862	991
1985	17,741	13,216	4,525	13,216	9,922	3,294	4,525	3,294	1,231	4,114	3,030	1,084
1984	17,606	12,995	4,611	13,384	9,986	3,398	4,222	3,009	1,213	3,776	2,710	1,066
1983	17,400	12,812	4,588	13,288	9,863	3,425	4,112	2,949	1,163	3,708	2,668	1,040
1982	17,541	12,903	4,638	13,527	10,042	3,485	4,014	2,861	1,153	3,603	2,573	1,030
1981	18,660	13,600	5,060	14,199	10,441	3,758	4,461	3,159	1,302	4,000	2,858	1,142
1980	19,765	14,447	5,318	14,815	10,936	3,879	4,950	3,511	1,439	4,451	3,170	1,281
1979	18,951	13,788	5,163	14,334	10,513	3,821	4,617	3,275	1,342	4,132	2,953	1,179
Age-adjusted death rate ¹												
1990	7.2	11.4	3.4	6.2	9.9	2.8	13.6	22.0	6.8	16.1	26.6	7.7
1989 ²	7.3	11.7	3.4	6.2	9.9	2.8	14.3	23.3	6.9	16.6	27.7	7.8
1988 ²	7.1	11.3	3.3	5.9	9.5	2.7	14.3	23.2	7.0	16.6	27.3	7.9
1987 ²	6.8	10.9	3.2	5.8	9.2	2.6	13.5	22.2	6.5	15.9	26.7	7.3
1986 ²	6.7	10.6	3.3	5.7	9.0	2.7	13.1	21.6	6.2	15.3	25.5	7.1
1985 ²	7.0	11.0	3.4	5.8	9.2	2.8	14.6	23.5	7.2	16.8	27.7	8.0
1984 ²	7.0	10.9	3.5	5.9	9.3	2.9	14.0	22.2	7.3	15.7	25.4	8.0
1983 ²	7.0	10.9	3.5	6.0	9.3	2.9	14.0	22.3	7.3	15.8	25.4	8.0
1982 ²	7.2	11.2	3.6	6.2	9.7	3.0	14.2	22.4	7.4	15.7	25.1	8.1
1981 ²	7.8	12.0	4.1	6.6	10.2	3.3	16.3	25.6	8.7	17.9	28.5	9.3
1980	8.4	13.0	4.3	6.9	10.8	3.5	18.8	29.5	10.0	20.4	32.4	10.6
1979	8.2	12.6	4.3	6.8	10.6	3.5	18.1	28.3	9.7	19.2	30.4	10.1

¹For method of computation, see Technical notes.

²Rates are revised and, therefore, may differ from those published in *Advance Report of Final Mortality Statistics* for 1989 and earlier years; see Technical notes.

Table 20. Deaths and percent distribution of deaths for ages 15 years and over, by marital status, race, and sex: United States, 1990

Marital status	All other											
	All races			White			Total			Black		
	Both sexes	Male	Female	Both sexes	Male	Female	Both sexes	Male	Female	Both sexes	Male	Female
	Number ¹											
Total	2,094,183	1,082,062	1,012,121	1,816,849	929,560	887,289	277,334	152,502	124,832	249,435	136,318	113,117
Never married	223,871	140,378	83,493	173,341	105,092	68,249	50,530	35,286	15,244	46,638	32,342	14,296
Ever married	1,859,521	933,941	925,580	1,636,124	819,232	816,892	223,397	114,709	108,688	199,537	101,583	97,954
Married	913,817	641,733	272,084	810,107	569,965	240,142	103,710	71,768	31,942	89,731	62,046	27,685
Widowed	770,161	191,283	578,878	680,091	165,840	514,251	90,070	25,443	64,627	82,302	23,305	58,997
Divorced	175,543	100,925	74,618	145,926	83,427	62,499	29,617	17,498	12,119	27,504	16,232	11,272
Not stated	10,791	7,743	3,048	7,384	5,236	2,148	3,407	2,507	900	3,260	2,393	867
	Percent distribution ²											
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Never married	10.7	13.1	8.3	9.6	11.4	7.7	18.4	23.5	12.3	18.9	24.1	12.7
Ever married	89.3	86.9	91.7	90.4	88.6	92.3	81.6	76.5	87.7	81.1	75.9	87.3
Married	43.9	59.7	27.0	44.8	61.7	27.1	37.9	47.8	25.8	36.5	46.3	24.7
Widowed	37.0	17.8	57.4	37.6	17.9	58.1	32.9	17.0	52.1	33.4	17.4	52.6
Divorced	8.4	9.4	7.4	8.1	9.0	7.1	10.8	11.7	9.8	11.2	12.1	10.0

¹Excludes figures for age not stated.

²Denominators of percent distribution exclude deaths of persons of unknown marital status.

Table 21. Deaths and percent distribution of deaths for ages 15 years and over, by educational attainment, race, and sex: Total of 28 States and the District of Columbia, 1990

Years of school completed	All other											
	All races			White			Total			Black		
	Both sexes	Male	Female	Both sexes	Male	Female	Both sexes	Male	Female	Both sexes	Male	Female
	Number ¹											
Total	22,684	17,333	5,351	17,164	12,988	4,176	5,520	4,345	1,175	4,727	3,756	971
0-8 years	1,800	1,400	400	1,511	1,190	321	289	210	79	225	165	60
9-11 years	8,047	6,250	1,797	5,849	4,435	1,414	2,198	1,815	383	1,931	1,617	314
12 years	8,385	6,524	1,861	6,240	4,835	1,405	2,145	1,689	456	1,884	1,491	393
13-15 years	3,129	2,215	914	2,521	1,780	741	608	435	173	457	324	133
16 years or more	536	346	190	451	298	153	85	48	37	62	35	27
Not stated	787	598	189	592	450	142	195	148	47	168	124	44
	Percent distribution ²											
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
0-8 years	8.2	8.4	7.7	9.1	9.5	8.0	5.4	5.0	7.0	4.9	4.5	6.5
9-11 years	36.7	37.3	34.8	35.3	35.4	35.1	41.3	43.2	34.0	42.4	44.5	33.9
12 years	38.3	39.0	36.1	37.7	38.6	34.8	40.3	40.2	40.4	41.3	41.1	42.4
13-15 years	14.3	13.2	17.7	15.2	14.2	18.4	11.4	10.4	15.3	10.0	8.9	14.3
16 years or more	2.4	2.1	3.7	2.7	2.4	3.8	1.6	1.1	3.3	1.4	1.0	2.9

¹Excludes figures for age not stated.

²Denominators of percent distribution exclude deaths of persons of unknown educational attainment.

Table 22. Infant, neonatal, and postneonatal mortality rates, by race and sex: United States, 1940, 1950, 1960, 1970, and 1975-90

[Rates are infant (under 1 year), neonatal (under 28 days), and postneonatal (28 days-11 months) deaths per 1,000 live births in specified group. Beginning in 1989, race for live births is tabulated according to race of mother; see Technical notes]

Year	All races			White			All other					
	Both sexes	Male	Female	Both sexes	Male	Female	Total			Black		
							Both sexes	Male	Female	Both sexes	Male	Female
Race of mother ¹												
Infant mortality rate												
1990	9.2	10.3	8.1	7.6	8.5	6.6	15.5	17.0	14.0	18.0	19.6	16.2
1989	9.8	10.8	8.8	8.1	9.0	7.1	16.3	17.6	15.0	18.6	20.0	17.2
Race of child ²												
1990	9.2	10.3	8.1	7.7	8.7	6.7	14.4	15.8	13.1	17.0	18.5	15.3
1989	9.8	10.8	8.8	8.2	9.2	7.2	15.2	16.4	14.0	17.7	19.0	16.3
1988	10.0	11.0	8.9	8.5	9.5	7.4	15.0	16.2	13.8	17.6	19.0	16.1
1987	10.1	11.2	8.9	8.6	9.6	7.6	15.4	16.9	13.9	17.9	19.6	16.0
1986	10.4	11.5	9.1	8.9	10.0	7.8	15.7	17.3	14.0	18.0	20.0	16.0
1985	10.6	11.9	9.3	9.3	10.6	8.0	15.8	17.2	14.4	18.2	19.9	16.5
1984	10.8	11.9	9.6	9.4	10.5	8.3	16.1	17.3	14.8	18.4	19.8	16.9
1983	11.2	12.3	10.0	9.7	10.8	8.6	16.8	18.3	15.2	19.2	21.1	17.2
1982	11.5	12.8	10.2	10.1	11.2	8.9	17.3	18.9	15.5	19.6	21.5	17.7
1981	11.9	13.1	10.7	10.5	11.7	9.2	17.8	19.2	16.3	20.0	21.7	18.3
1980	12.6	13.9	11.2	11.0	12.3	9.6	19.1	20.7	17.5	21.4	23.3	19.4
1979	13.1	14.5	11.6	11.4	12.8	9.9	19.8	21.5	18.1	21.8	23.7	19.8
1978	13.8	15.3	12.2	12.0	13.4	10.6	21.1	23.1	18.9	23.1	25.4	20.8
1977	14.1	15.8	12.4	12.3	13.9	10.7	21.7	23.7	19.6	23.6	25.9	21.3
1976	15.2	16.8	13.6	13.3	14.8	11.7	23.5	25.5	21.4	25.5	27.8	23.2
1975	16.1	17.9	14.2	14.2	15.9	12.3	24.2	26.2	22.2	26.2	28.3	24.0
1970	20.0	22.4	17.5	17.8	20.0	15.4	30.9	34.2	27.5	32.6	36.2	29.0
1960	26.0	29.3	22.6	22.9	26.0	19.6	43.2	47.9	38.5	44.3	49.1	39.4
1950	29.2	32.8	25.5	26.8	30.2	23.1	44.5	48.9	39.9	43.9	48.3	39.4
1940	47.0	52.5	41.3	43.2	48.3	37.8	73.8	82.2	65.2	72.9	81.1	64.6
Race of mother ¹												
Neonatal mortality rate												
1990	5.8	6.5	5.2	4.8	5.4	4.2	9.9	10.8	8.9	11.6	12.7	10.4
1989	6.2	6.8	5.6	5.1	5.7	4.6	10.3	11.1	9.5	11.9	12.8	11.0
Race of child ²												
1990	5.8	6.5	5.2	4.9	5.5	4.3	9.2	10.0	8.3	10.9	12.0	9.8
1989	6.2	6.8	5.6	5.2	5.8	4.7	9.6	10.3	8.9	11.3	12.2	10.4
1988	6.3	6.9	5.7	5.4	5.9	4.8	9.7	10.5	8.8	11.5	12.5	10.4
1987	6.5	7.1	5.8	5.5	6.1	4.9	10.0	11.0	9.0	11.7	12.9	10.5
1986	6.7	7.4	6.0	5.8	6.4	5.1	10.1	11.1	9.1	11.7	13.0	10.5
1985	7.0	7.8	6.1	6.1	6.9	5.3	10.3	11.3	9.4	12.1	13.2	10.9
1984	7.0	7.7	6.3	6.2	6.8	5.5	10.2	11.0	9.5	11.8	12.7	10.9
1983	7.3	8.0	6.5	6.4	7.1	5.7	10.8	11.7	9.7	12.4	13.6	11.2
1982	7.7	8.5	6.9	6.8	7.5	6.0	11.3	12.4	10.3	13.1	14.3	11.8
1981	8.0	8.8	7.2	7.1	7.8	6.3	11.8	12.8	10.9	13.4	14.6	12.3
1980	8.5	9.3	7.6	7.5	8.3	6.6	12.5	13.5	11.5	14.1	15.3	12.8
1979	8.9	9.8	7.9	7.9	8.8	6.9	12.9	13.9	11.8	14.3	15.5	13.1
1978	9.5	10.5	8.4	8.4	9.3	7.4	14.0	15.5	12.4	15.5	17.2	13.7
1977	9.9	11.0	8.7	8.7	9.8	7.6	14.7	16.0	13.3	16.1	17.6	14.5
1976	10.9	12.0	9.7	9.7	10.7	8.5	16.3	17.7	14.9	17.9	19.5	16.3
1975	11.6	12.9	10.2	10.4	11.7	9.0	16.8	18.2	15.3	18.3	19.8	16.8
1970	15.1	17.0	13.1	13.8	15.5	11.9	21.4	23.9	18.9	22.8	25.4	20.1
1960	18.7	21.2	16.1	17.2	19.7	14.7	26.9	30.0	23.6	27.8	31.1	24.5
1950	20.5	23.3	17.5	19.4	22.2	16.4	27.5	30.8	24.2	27.8	31.1	24.4
1940	28.8	32.6	24.7	27.2	30.9	23.3	39.7	44.9	34.5	39.9	44.8	34.9
Race of mother ¹												
Postneonatal mortality rate												
1990	3.4	3.8	3.0	2.8	3.1	2.4	5.7	6.2	5.1	6.4	6.9	5.9
1989	3.6	4.0	3.1	2.9	3.4	2.5	6.0	6.5	5.5	6.7	7.2	6.2
Race of child ²												
1990	3.4	3.8	3.0	2.8	3.2	2.4	5.3	5.7	4.8	6.1	6.5	5.5
1989	3.6	4.0	3.1	3.0	3.4	2.5	5.6	6.1	5.2	6.4	6.8	5.9
1988	3.6	4.0	3.2	3.1	3.6	2.7	5.4	5.7	5.0	6.2	6.6	5.8
1987	3.6	4.1	3.2	3.1	3.6	2.7	5.4	5.9	4.9	6.1	6.8	5.5
1986	3.6	4.1	3.1	3.1	3.6	2.7	5.6	6.2	4.9	6.3	7.0	5.6
1985	3.7	4.2	3.2	3.2	3.7	2.7	5.5	6.0	5.0	6.1	6.7	5.6
1984	3.8	4.2	3.3	3.3	3.7	2.8	5.8	6.3	5.3	6.5	7.1	5.9
1983	3.9	4.3	3.4	3.3	3.7	2.9	6.0	6.6	5.4	6.8	7.4	6.1
1982	3.8	4.3	3.3	3.3	3.7	2.8	5.9	6.5	5.3	6.6	7.3	5.9
1981	3.9	4.3	3.5	3.4	3.8	3.0	6.0	6.5	5.4	6.6	7.1	6.0
1980	4.1	4.6	3.6	3.5	4.0	3.0	6.6	7.2	6.0	7.3	7.9	6.6
1979	4.2	4.7	3.7	3.5	4.0	3.0	6.9	7.6	6.3	7.5	8.2	6.7
1978	4.3	4.7	3.9	3.6	4.0	3.2	7.0	7.6	6.5	7.6	8.2	7.0
1977	4.2	4.8	3.7	3.6	4.1	3.1	7.0	7.7	6.3	7.6	8.3	6.8
1976	4.3	4.8	3.8	3.6	4.1	3.2	7.2	7.8	6.5	7.6	8.4	6.9
1975	4.5	4.9	4.0	3.8	4.2	3.3	7.5	8.0	6.9	7.9	8.5	7.2
1970	4.9	5.4	4.4	4.0	4.4	3.5	9.5	10.3	8.6	9.9	10.8	8.9
1960	7.3	8.1	6.5	5.7	6.3	4.9	16.4	17.8	14.8	16.5	18.0	14.9
1950	8.7	9.4	8.0	7.4	8.0	6.7	16.9	18.1	15.7	16.1	17.2	15.0
1940	18.3	19.9	16.6	16.0	17.5	14.5	34.1	37.3	30.7	33.0	36.4	29.7

¹Infant deaths based on race of decedent, and live births based on race of mother; see Technical notes.

²Infant deaths based on race of decedent, and live births based on race of child; see Technical notes.

Table 23. Deaths under 1 year and infant mortality rates for 61 selected causes by race: United States, 1990

[Rates per 100,000 live births in specified group. For explanation of asterisk preceding cause-of-death codes, see Technical notes. Beginning in 1989, race for live births is tabulated according to race of mother; see Technical notes]

Cause of death (Ninth Revision International Classification of Diseases, 1975)	All races ¹			All races ¹		
	White	Black	Rate	White	Black	Rate
All causes	38,351	24,883	12,290	922.3	756.3	1,795.9
Certain Intestinal infections008-009	98	54	41	2.4	1.6	6.0
Whooping cough033	11	8	3	*	*	*
Meningococcal infection036	50	37	11	1.2	1.1	*
Septicemia038	267	156	100	6.4	4.7	14.6
Viral diseases045-079	157	105	41	3.8	3.2	6.0
Congenital syphilis090	25	3	22	0.6	*	2.5
Remainder of infectious and parasitic diseases001,007, 010-032,034-035,037,039-041,*042-*044,080-088,091-139	232	104	125	5.6	3.2	18.3
Malignant neoplasms, including neoplasms of lymphatic and hematopoietic tissues140-208	90	69	17	2.2	2.1	*
Benign neoplasms, carcinoma in situ, and neoplasms of uncertain behavior and of unspecified nature210-239	71	57	14	1.7	1.7	*
Diseases of thymus gland254	2	1	-	*	*	*
Cystic fibrosis277.0	9	6	3	*	*	*
Diseases of blood and blood-forming organs280-289	83	50	24	2.0	1.5	3.5
Meningitis320-322	197	111	74	4.7	3.4	10.8
Other diseases of nervous system and sense organs323-389	462	357	91	11.1	10.9	13.3
Acute upper respiratory infections460-465	33	28	3	0.8	0.9	*
Bronchitis and bronchiolitis466,490-491	114	66	42	2.7	2.0	6.1
Pneumonia and influenza480-487	634	375	235	15.2	11.4	34.3
Pneumonia480-486	627	368	235	15.1	11.2	34.3
Influenza487	7	7	-	*	*	*
Remainder of diseases of respiratory system470-478,492-519	390	251	128	9.4	7.6	18.7
Hernia of abdominal cavity and intestinal obstruction without mention of hernia550-553,560	87	59	26	2.1	1.8	3.8
Gastritis, duodenitis, and noninfective enteritis and colitis535,555-558	126	69	49	3.0	2.1	7.2
Remainder of diseases of digestive system520-534,536-543,562-579	185	130	53	4.4	4.0	7.7
Congenital anomalies740-759	8,239	6,418	1,530	198.1	195.1	223.6
Anencephalus and similar anomalies740	470	366	79	11.3	11.1	11.5
Spina bifida741	80	65	13	1.9	2.0	*
Congenital hydrocephalus742.3	189	143	39	4.5	4.3	5.7
Other congenital anomalies of central nervous system and eye742.0-742.2,742.4-742.9,743	357	279	65	8.6	8.5	9.5
Congenital anomalies of heart745-746	2,601	2,018	494	62.6	61.3	72.2
Other congenital anomalies of circulatory system747	509	376	114	12.2	11.4	16.7
Congenital anomalies of respiratory system748	1,162	913	215	27.9	27.7	31.4
Congenital anomalies of digestive system749-751	143	102	31	3.4	3.1	4.5
Congenital anomalies of genitourinary system752-753	485	390	85	11.7	11.9	12.4
Congenital anomalies of musculoskeletal system754-756	544	420	108	13.1	12.8	15.8
Down's syndrome758.0	111	84	23	2.7	2.6	3.4
Other chromosomal anomalies758.1-758.9	885	725	126	21.3	22.0	18.4
All other and unspecified congenital anomalies744,757,759	703	537	138	16.9	16.3	20.2
Certain conditions originating in the perinatal period760-779	17,482	10,378	6,688	420.4	315.4	977.3
Newborn affected by maternal conditions which may be unrelated to present pregnancy760	227	127	98	5.5	3.9	14.3
Newborn affected by maternal complications of pregnancy761	1,655	1,044	571	39.8	31.7	83.4
Newborn affected by complications of placenta, cord, and membranes762	975	657	291	23.4	20.0	42.5
Newborn affected by other complications of labor and delivery763	74	53	19	1.8	1.6	*
Slow fetal growth and fetal malnutrition764	30	19	11	0.7	*	*
Disorders relating to short gestation and unspecified low birthweight765	4,013	2,004	1,912	96.5	60.9	279.4
Disorders relating to long gestation and high birthweight766	1	-	1	*	*	*
Birth trauma767	207	152	52	5.0	4.6	7.6
Intrauterine hypoxia and birth asphyxia768	762	505	231	18.3	15.3	33.8
Fetal distress in liveborn infant768.2-768.4	222	158	55	5.3	4.8	8.0
Birth asphyxia768.5-768.9	540	347	176	13.0	10.5	25.7
Respiratory distress syndrome769	2,850	1,798	984	68.5	54.6	143.8
Other respiratory conditions of newborn770	2,957	1,768	1,115	71.1	53.7	162.9
Infections specific to the perinatal period771	875	569	291	21.0	17.3	42.5
Neonatal hemorrhage772	305	186	111	7.3	5.7	16.2
Hemolytic disease of newborn, due to isoimmunization, and other perinatal jaundice773-774	44	28	15	1.1	0.9	*
Syndrome of "infant of a diabetic mother" and neonatal diabetes mellitus775.0-775.1	13	12	1	*	*	*
Hemorrhagic disease of newborn776.0	1	1	-	*	*	*
All other and ill-defined conditions originating in the perinatal period775.2-775.9,776.1-779	2,493	1,455	985	60.0	44.2	143.9
Symptoms, signs, and ill-defined conditions780-799	6,409	4,161	2,014	154.1	126.5	294.3
Sudden infant death syndrome798.0	5,417	3,643	1,578	130.3	110.7	230.6
Symptoms, signs, and all other ill-defined conditions780-797,798.1-799	992	518	436	23.9	15.7	63.7

See footnote at end of table.

Table 23. Deaths under 1 year and infant mortality rates for 61 selected causes by race: United States, 1990—Con.

[Rates per 100,000 live births in specified group. For explanation of asterisk preceding cause-of-death codes, see Technical notes. Beginning in 1989, race for live births is tabulated according to race of mother; see Technical notes]

Cause of death (Ninth Revision International Classification of Diseases, 1975)	All races ¹			All races ¹		
	White	Black	Rate	White	Black	Rate
Accidents and adverse effectsE800–E949	930	609	289	22.4	18.5	42.2
Inhalation and ingestion of food or other object						
causing obstruction of respiratory tract or suffocation.E911–E912	165	107	50	4.0	3.3	7.3
Accidental mechanical suffocationE913	240	143	90	5.8	4.3	13.2
Other accidental causes and adverse effectsE800–E910,E914–E949	525	359	149	12.6	10.9	21.8
HomicideE960–E969	332	181	141	8.0	5.5	20.6
Child battering and other maltreatmentE967	153	85	64	3.7	2.6	9.4
Other homicideE960–E966,E968–E969	179	96	77	4.3	2.9	11.3
All other causesResidual	1,636	1,040	526	39.3	31.6	76.9

¹Includes races other than white and black.

Table 24. Deaths under 1 year and infant mortality rates for the 10 leading causes of infant death: United States, 1990

[Rates per 100,000 live births. Beginning in 1989, race for live births is tabulated according to race of mother; see Technical notes]

Rank order ¹	Cause of death (Ninth Revision International Classification of Diseases, 1975)	Number	Rate
All races ²			
...	All causes	38,351	922.3
1	Congenital anomalies740–759	8,239	198.1
2	Sudden infant death syndrome798.0	5,417	130.3
3	Disorders relating to short gestation and unspecified low birthweight.765	4,013	96.5
4	Respiratory distress syndrome769	2,850	68.5
5	Newborn affected by maternal complications of pregnancy761	1,655	39.8
6	Newborn affected by complications of placenta, cord, and membranes.762	975	23.4
7	Accidents and adverse effectsE800–E949	930	22.4
8	Infections specific to the perinatal period771	875	21.0
9	Intrauterine hypoxia and birth asphyxia.768	762	18.3
10	Pneumonia and influenza480–487	634	15.2
...	All other causesResidual	12,001	288.6
White			
...	All causes	24,883	756.3
1	Congenital anomalies740–759	6,418	195.1
2	Sudden infant death syndrome798.0	3,643	110.7
3	Disorders relating to short gestation and unspecified low birthweight.765	2,004	60.9
4	Respiratory distress syndrome769	1,798	54.6
5	Newborn affected by maternal complications of pregnancy761	1,044	31.7
6	Newborn affected by complications of placenta, cord, and membranes.762	657	20.0
7	Accidents and adverse effectsE800–E949	609	18.5
8	Infections specific to the perinatal period771	569	17.3
9	Intrauterine hypoxia and birth asphyxia.768	505	15.3
10	Pneumonia and influenza.480–487	375	11.4
...	All other causesResidual	7,261	220.7
Black			
...	All causes	12,290	1,795.9
1	Disorders relating to short gestation and unspecified low birthweight.765	1,912	279.4
2	Sudden infant death syndrome798.0	1,578	230.6
3	Congenital anomalies740–759	1,530	223.6
4	Respiratory distress syndrome769	984	143.8
5	Newborn affected by maternal complications of pregnancy761	571	83.4
6	Infections specific to the perinatal period771	291	42.5
7	Newborn affected by complications of placenta, cord, and membranes.762	291	42.5
8	Accidents and adverse effectsE800–E949	289	42.2
9	Pneumonia and influenza.480–487	235	34.3
10	Intrauterine hypoxia and birth asphyxia.768	231	33.8
...	All other causes.Residual	4,378	639.7

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

²Includes races other than white and black.

Table 25. Total deaths and death rates, and infant and neonatal deaths and mortality rates for the United States, each division, and State; and by race and sex for the United States, 1990

Race, sex, and area	Total deaths		Infant deaths (under 1 year)		Neonatal deaths (under 28 days)	
	Number	Rate ¹	Number	Rate ²	Number	Rate ²
United States	2,148,463	863.8	38,351	9.2	24,309	5.8
Male	1,113,417	918.4	21,856	10.3	13,839	6.5
Female	1,035,046	812.0	16,495	8.1	10,470	5.2
White	1,853,254	888.0	24,883	7.6	15,751	4.8
Male	950,812	930.9	14,371	8.5	9,075	5.4
Female	902,442	846.9	10,512	6.6	6,676	4.2
All other	295,209	737.9	13,468	15.5	8,558	9.9
Male	162,605	851.5	7,485	17.0	4,764	10.8
Female	132,604	634.2	5,983	14.0	3,794	8.9
Black	265,498	871.0	12,290	18.0	7,905	11.6
Male	145,359	1008.0	6,811	19.6	4,405	12.7
Female	120,139	747.9	5,479	16.2	3,500	10.4
New England	114,551	867.4	1,457	7.2	992	4.9
Maine	11,106	904.5	108	6.2	79	4.6
New Hampshire	8,488	765.2	125	7.1	67	3.8
Vermont	4,595	816.5	53	6.4	30	3.6
Massachusetts	53,179	883.9	650	7.0	448	4.8
Rhode Island	9,576	954.3	123	8.1	89	5.9
Connecticut	27,607	839.9	398	7.9	279	5.6
Middle Atlantic	361,270	960.8	5,596	9.5	3,768	6.4
New York	168,936	939.0	2,851	9.6	1,931	6.5
New Jersey	70,383	910.5	1,102	9.0	749	6.1
Pennsylvania	121,951	1026.4	1,643	9.6	1,088	6.3
East North Central	372,874	887.6	6,814	10.1	4,370	6.5
Ohio	98,822	911.0	1,640	9.8	1,043	6.2
Indiana	49,569	894.1	831	9.6	530	6.1
Illinois	103,006	901.1	2,104	10.7	1,377	7.0
Michigan	78,744	847.1	1,641	10.7	1,075	7.0
Wisconsin	42,733	873.6	598	8.2	345	4.7
West North Central	161,089	912.2	2,279	8.4	1,361	5.0
Minnesota	34,776	794.9	496	7.3	295	4.3
Iowa	26,884	968.2	319	8.1	185	4.7
Missouri	50,377	984.5	748	9.4	451	5.7
North Dakota	5,678	888.9	74	8.0	51	5.5
South Dakota	6,326	908.9	111	10.1	59	5.4
Nebraska	14,769	935.7	202	8.3	120	4.9
Kansas	22,279	899.2	329	8.4	200	5.1
South Atlantic	392,113	900.0	7,461	10.7	4,978	7.1
Delaware	5,764	865.2	112	10.1	77	6.9
Maryland	38,413	803.4	766	9.5	502	6.3
District of Columbia	7,313	1205.0	245	20.7	180	15.2
Virginia	48,013	776.0	1,013	10.2	695	7.0
West Virginia	19,385	1080.9	223	9.9	143	6.3
North Carolina	57,315	864.7	1,109	10.6	764	7.3
South Carolina	29,715	852.2	683	11.7	465	7.9
Georgia	51,810	799.8	1,392	12.4	917	8.1
Florida	134,385	1038.7	1,918	9.6	1,235	6.2
East South Central	145,901	961.4	2,449	10.4	1,542	6.5
Kentucky	35,078	951.8	461	8.5	258	4.7
Tennessee	46,315	949.6	771	10.3	490	6.5
Alabama	39,381	974.6	688	10.8	462	7.3
Mississippi	25,127	976.5	529	12.1	332	7.6
West South Central	218,080	816.7	4,125	8.7	2,480	5.2
Arkansas	24,652	1048.7	336	9.2	195	5.3
Louisiana	37,571	890.3	799	11.1	484	6.7
Oklahoma	30,378	965.7	438	9.2	235	4.9
Texas	125,479	738.7	2,552	8.1	1,566	4.9
Mountain	97,023	710.3	2,088	8.6	1,193	4.9
Montana	6,861	858.6	105	9.0	53	4.6
Idaho	7,452	740.2	143	8.7	73	4.4
Wyoming	3,203	706.1	60	8.6	27	3.9
Colorado	21,583	655.1	472	8.8	276	5.2
New Mexico	10,625	701.3	246	9.0	145	5.3
Arizona	28,769	785.5	610	8.8	377	5.5
Utah	9,192	533.5	271	7.5	139	3.8
Nevada	9,318	775.3	181	8.4	103	4.8
Pacific	285,562	729.8	6,082	7.9	3,625	4.7
Washington	37,087	762.1	621	7.8	332	4.2
Oregon	25,136	884.3	354	8.3	180	4.2
California	214,369	720.3	4,844	7.9	2,966	4.8
Alaska	2,188	397.8	125	10.5	61	5.1
Hawaii	6,782	612.0	138	6.7	86	4.2

¹Per 100,000 population in each race-sex group and area.

²Per 1,000 live births in each race-sex group and area. Beginning in 1989, race for live births is tabulated according to race of mother; see Technical notes.

NOTE: Caution should be used in comparing crude death rates by State. Death rates are affected by the population composition of the area.

Table 26. Infant, neonatal, and postneonatal deaths and mortality rates, by specified Hispanic origin and race for non-Hispanic origin: Total of 45 States, New York State (excluding New York City), and the District of Columbia, 1990

[Rates per 1,000 live births in specified group. Live births based on race and Hispanic origin of mother; see Technical notes. For a listing of States, see Technical notes]

Age	All origins	Hispanic					Non-Hispanic			Not stated ³
		Total	Mexican	Puerto Rican	Cuban	Other Hispanic ¹	Total ²	White	Black	
Number										
Under 1 year	35,030	4,228	2,952	363	81	832	30,231	18,745	10,465	571
Under 28 days	22,202	2,706	1,873	249	60	524	19,044	11,792	6,698	452
28 days-11 months	12,828	1,522	1,079	114	21	308	11,187	6,953	3,767	119
Rate										
Under 1 year	⁴ 9.1	7.8	7.7	10.2	7.6	7.2	9.3	7.4	17.9	...
Under 28 days	⁴ 5.8	5.0	4.9	7.0	5.6	4.5	5.8	4.7	11.4	...
28 days-11 months	⁴ 3.3	2.8	2.8	3.2	2.0	2.6	3.4	2.8	6.4	...

¹Includes Central and South American and other and unknown Hispanic.
²Includes races other than white and black.
³Includes infant deaths that occurred in States that did not report Hispanic origin on the death certificate.
⁴Figures for origin not stated included in All origins but not distributed among origin groups.

Table 27. Maternal deaths and maternal mortality rates for selected causes by race: United States, 1990

[Maternal deaths are those assigned to Complications of pregnancy, childbirth, and the puerperium, category numbers 630-676 of the *Ninth Revision International Classification of Diseases, 1975*. Rates per 100,000 live births in specified group. Beginning in 1989, race for live births is tabulated according to race of mother; see Technical notes]

Cause of death (Ninth Revision International Classification of Diseases, 1975)	All races	All other				All races	All other		
		White	Total		White		Total		
			Black	Black			Black	Black	
Number									
Complications of pregnancy, childbirth, and the puerperium 630-676	343	177	166	153	8.2	5.4	19.1	22.4	
Pregnancy with abortive outcome 630-638	57	23	34	33	1.4	0.7	3.9	4.8	
Ectopic pregnancy 633	41	14	27	26	1	*	3.1	3.8	
Spontaneous abortion 634	6	4	2	2	*	*	*	*	
Legally induced abortion 635	1	-	1	1	*	*	*	*	
Illegally induced abortion 636	1	1	-	-	*	*	*	*	
Other pregnancy with abortive outcome 630-632,637-638	8	4	4	4	*	*	*	*	
Direct obstetric causes 640-646,651-676	265	140	125	113	6.4	4.3	14.4	16.5	
Hemorrhage of pregnancy and childbirth 640-641,666	44	26	18	17	1.1	0.8	*	*	
Toxemia of pregnancy 642.4-642.9,643	64	34	30	27	1.5	1	3.5	3.9	
Obstructed labor 660	-	-	-	-	*	*	*	*	
Complications of the puerperium 670-676	99	51	48	43	2.4	1.6	5.5	6.3	
Other direct obstetric causes 642.0-642.3,644-646,651-659,661-665,667-669	58	29	29	26	1.4	0.9	3.3	3.8	
Indirect obstetric causes 647-648	21	14	7	7	0.5	*	*	*	
Delivery in a completely normal case 650	-	-	-	-	*	*	*	*	

Table 28. Number of autopsies and percent of deaths for which autopsies were reported for 15 leading causes of death: United States, 1990

[For explanation of asterisk preceding cause-of-death codes, see Technical notes]

Rank order ¹	Cause of death (Ninth Revision International Classification of Diseases, 1975)	Total deaths	Reported autopsy	
			Number	Percent
...	All causes	2,148,463	239,591	11.2
1	Diseases of heart390-398,402,404-429	720,058	54,542	7.6
2	Malignant neoplasms, including neoplasms of lymphatic and hematopoietic tissues140-208	505,322	17,906	3.5
3	Cerebrovascular diseases430-438	144,088	5,163	3.6
4	Accidents and adverse effectsE800-E949	91,983	46,353	50.4
...	Motor vehicle accidentsE810-E825	46,814	24,810	53
...	All other accidents and adverse effectsE800-E807,E826-E949	45,169	21,543	47.7
5	Chronic obstructive pulmonary diseases and allied conditions.490-496	86,679	3,948	4.6
6	Pneumonia and Influenza480-487	79,513	5,643	7.1
7	Diabetes mellitus250	47,664	2,085	4.4
8	SuicideE950-E959	30,906	17,016	55.1
9	Chronic liver disease and cirrhosis571	25,815	4,372	16.9
10	Human immunodeficiency virus infection*042-*044	25,188	2,625	10.4
11	Homicide and legal intervention.E960-E978	24,932	24,166	96.9
12	Nephritis, nephrotic syndrome, and nephrosis580-589	20,764	1,022	4.9
13	Septicemia.038	19,169	1,641	8.6
14	Atherosclerosis440	18,047	458	2.5
15	Certain conditions originating in the perinatal period.760-779	17,674	4,152	23.5
...	All other causesResidual	290,661	48,499	16.7

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

Symbols

- - - Data not available
 - . . . Category not applicable
 - Quantity zero
 - 0.0 Quantity more than zero but less than 0.05
 - * Figure does not meet standard of reliability or precision (estimate is based on fewer than 20 deaths in numerator or denominator)
-

Technical notes

Nature and sources of data

Data shown in this report are based on information from all death certificates filed in the 50 States and the District of Columbia. The U.S. Standard Certificate of Death was revised in 1989; for additional details see the 1989 revision of the U.S. standard certificates and reports, and *Technical Appendix from Vital Statistics of the United States, vol II (4,5)*.

Mortality statistics are based on information coded by the States and provided to the National Center for Health Statistics (NCHS) through the Vital Statistics Cooperative Program (VSCP) and from copies of the original certificates received from the State registration offices. In 1990 all the States and the District of Columbia participated in this program and submitted part or all of the mortality data for 1990 on computer tape to NCHS. The 25 States in the VSCP that submitted precoded medical data for all deaths on computer tapes are California, Colorado, Florida, Georgia, Indiana, Iowa, Kansas, Louisiana, Maine, Maryland, Massachusetts, Michigan, Minnesota, Mississippi, Nebraska, New Hampshire, New York State (excluding New York City), North Carolina, Pennsylvania, South Carolina, Texas, Vermont, Virginia, Washington, and Wisconsin. NCHS also contracted with Colorado and Kansas to precode medical data for all deaths on computer tape for Alaska, Delaware, Idaho, North Dakota, and Wyoming. Vermont subcontracted with Pennsylvania to code its medical data. The remaining 20 VSCP States, New York City, and the District of Columbia submitted copies of the original certificates from which NCHS coded the medical data. For 1990 all States submitted precoded demographic data for all deaths.

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

Cause-of-death classification

The mortality statistics presented here were compiled in accordance with the World Health Organization (WHO) regulations, which specify that member nations classify causes of death by the current *Manual of the International Statistical Classification of Diseases, Injuries, and Causes of Death (6)*. Causes of death for 1979–90 were classified according to the manual. For earlier years, causes of death were classified according to the revisions then in use—1968–78, Eighth Revision; 1958–67, Seventh Revision; and 1949–57, Sixth Revision. Changes in classification of causes of death due to these revisions may result in discontinuities in cause-of-death trends. Consequently, cause-of-death comparisons among revisions require consideration of comparability ratios and, where available, estimates of their standard errors. Comparability ratios between the Eighth and Ninth Revisions, between the Seventh and Eighth Revisions, and between the Sixth and Seventh Revisions may be found in other NCHS reports (7–9).

Besides specifying the classification, WHO regulations outline the form of medical certification and the procedures to be used in coding cause of death. Cause-of-death data presented in this publication were coded by procedures outlined in annual issues of the *NCHS Instructional Manual (10–15)*.

Before 1968, mortality medical data were based on manual coding of an underlying cause of death for each certificate in accordance with WHO rules. Effective with data year 1968, NCHS converted to computerized coding of the underlying cause and manual coding of all causes (multiple causes) on the death certificate. In this system, called "Automated Classification of Medical Entities" (ACME) (13), the multiple cause codes serve as inputs to the computer software that employs WHO rules to select the underlying cause. Since 1968, many States also have implemented ACME

and provide multiple cause and underlying cause data to NCHS in electronic form.

Beginning with data year 1990, another computer system is being implemented. This system, called "Mortality Medical Indexing, Classification, and Retrieval" (MICAR) (14,15), automates the coding of the multiple causes of death. In addition, MICAR ultimately will provide much more detailed information on the diseases reported on death certificates than is available through the International Classification of Diseases (ICD) code structure. In this first year of implementation, only about 5 percent (94,372) of the Nation's death records were multiple cause coded using MICAR with subsequent processing through ACME. This includes a portion of the records for Alabama, Kentucky, Oregon, Rhode Island, and West Virginia. The remainder of the national file was processed by either NCHS or the State using only the ACME system.

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

Codes for HIV infection

Beginning with data for 1987, NCHS introduced category numbers

*042-044 for classifying and coding Human immunodeficiency virus (HIV) infection. The asterisk before the category numbers indicates that these codes are not part of the Ninth Revision of the International Classification of Diseases (ICD-9). Deaths classified to HIV infection for 1989-90 are shown in table 14. They are included, but not shown separately, in the category All other infectious and parasitic diseases in the List of 72 Selected Causes of Death and in the category Remainder of infectious and parasitic diseases in the List of 61 Selected Causes of Infant Deaths. Before 1987, deaths involving HIV infection were classified to Deficiency of cell-mediated immunity (ICD 279.1), contained in the category All other diseases; to Pneumocystosis (ICD-9 No. 136.3), contained in the category All other infectious and parasitic diseases; to Malignant neoplasms, including neoplasms of lymphatic and hematopoietic tissues; and to a number of other causes. As a consequence, cause-of-death data beginning with 1987 are not strictly comparable with data for previous years.

For data years 1983-86, acquired immunodeficiency syndrome (AIDS) and HIV infection, when reported on the death certificate, were assigned to the category Deficiency of cell-mediated immunity (ICD-9 No. 279.1). Because the selection rules for underlying cause of death were developed before the identification of AIDS, other conditions mentioned on the death certificate and not category No. 279.1 were often selected as the underlying cause of death during this period. Also, this category was not uniquely specific for HIV conditions. As mentioned in more detail in previous reports for 1984-86 (16-18) the number of death certificates that had mention of conditions coded to ICD-9 No. 279.1 was 2,943 for 1984, 6,040 for 1985, and 10,900 for 1986. It is believed that HIV infection was involved in most of these deaths.

Drug-induced deaths

Causes of death attributable to drug-induced mortality include ICD-9 No. 292, Drug psychoses; No. 304,

Drug dependence; Nos. 305.2-305.9, Nondependent use of drugs, not including alcohol and tobacco; Nos. E850-E858, Accidental poisoning by drugs, medicaments, and biologicals; Nos. E950.0-E950.5, Suicide by drugs, medicaments, and biologicals; No. E962.0, Assault from poisoning by drugs and medicaments; and Nos. E980.0-E980.5, Poisoning by drugs, medicaments, and biologicals, undetermined whether accidentally or purposely inflicted. Drug-induced causes exclude accidents, homicides, and other causes indirectly related to drug use.

Alcohol-induced deaths

Causes of death attributable to alcohol-induced mortality include ICD-9 No. 291, Alcoholic psychoses; No. 303, Alcohol dependence syndrome; No. 305.0, Nondependent abuse of alcohol; No. 357.5, Alcoholic polyneuropathy; No. 425.5, Alcoholic cardiomyopathy; No. 535.3, Alcoholic gastritis; Nos. 571.0-571.3, Chronic liver disease and cirrhosis, specified as alcoholic; No. 790.3, Excessive blood level of alcohol; No. E860, Accidental poisoning by alcohol, not elsewhere classified. Alcohol-induced causes exclude accidents, homicides, and other causes indirectly related to alcohol use.

Educational attainment

Beginning with the 1989 data year, mortality data on educational attainment are being tabulated from information reported on the death certificate. As a result of the revision of the U.S. Standard Certificate of Death (4), this item was added to the certificates of numerous States. Mortality data on educational attainment for 1990 are based on deaths to residents of the 28 States and the District of Columbia whose data were at least 90 percent complete on a place-of-occurrence basis. These 28 States are Alabama, Arizona, California, Colorado, Delaware, Florida, Hawaii, Idaho, Illinois, Iowa, Kansas, Massachusetts, Michigan, Minnesota, Missouri, Montana, Nebraska, New Hampshire, North Dakota, Ohio,

Oregon, Pennsylvania, South Carolina, Texas, Utah, Vermont, Wisconsin, and Wyoming.

Quality of reporting of cause-of-death

One index of the quality of reporting causes of death is the proportion of death certificates coded to the Ninth Revision Chapter XVI Symptoms, signs, and ill-defined conditions (ICD-9 Nos. 780-799). Although deaths occur for which the underlying causes are impossible to determine, this proportion indicates the care and consideration given to the certification by the medical certifier. This proportion also may be used as a rough measure of the specificity of the medical diagnoses made by the certifier in various areas. In 1990, a record low of 1.12 percent of all reported deaths in the United States were assigned to Symptoms, signs, and ill-defined conditions (ICD-9 Nos. 780-799) compared with 1.25 percent for 1989. However, trends in the percent of deaths assigned to this category vary by age. Although the percent of deaths from this cause for all ages combined generally has remained stable since 1980, decreases have occurred for the age group 55-64 years since 1983; for age group 65-74 years since 1982; for age group 75-84 years since 1986; and for 10-year age groups from 15 to 54 years since 1988. Between 1989 and 1990, the percent decreased for all age groups, except for those under 1 year of age, which was unchanged.

Population bases for computing rates

The population used for computing death rates and life tables shown in this report (furnished by the U.S. Bureau of the Census) represents the population residing in the specified area. The populations for 1990 are based on the April 1, 1990 census enumeration. Death rates and life tables for 1981-89 have been recomputed, based on revised populations that are consistent with the 1990 census levels (19,20). They are, therefore, not comparable with death rates and life table values published in the

Advance Reports of Final Mortality Statistics, in *Vital Statistics of the United States, Volume II, Mortality*, and in other NCHS publications for those years.

Infant mortality rates shown in figure 5 and tables E and 22–26 are the most commonly used index for measuring the risk of dying during the first year of life. They are calculated by dividing the number of infant deaths in a calendar year by the number of live births registered for the same period and are presented as rates per 1,000 or per 100,000 live births. Infant mortality rates use the number of live births in the denominator to approximate the population at risk of dying before the first birthday.

In contrast to infant mortality rates based on live births, infant death rates shown in figure 2 and tables A, 2, 5, 9, and 14 are based on the estimated population under 1 year of age. For intercensal years infant death rates that appear in tabulations of age-specific death rates are calculated by dividing the number of infant deaths in a calendar year by the midyear population of infants under 1 year of age (estimated from births occurring in the 12-month period ending with June) and are presented as rates per 100,000 population in this age group. Because of differences in the denominators, infant death rates may differ from infant mortality rates.

Race for Infant and Maternal Mortality Rates

Beginning with the 1989 data year, the method of tabulating live births by race was changed from race of child to race of mother. This change affects infant and maternal mortality rates because live births comprise the denominator of these rates. In 1989 and 1990, as in previous years, infant and maternal deaths continue to be tabulated by the race of the decedent.

As noted in detail in Technical Appendix to *Vital Statistics of the United States, Volume I, Natality* (21), beginning with 1989, live births are tabulated primarily by race of mother, as reported directly on the birth certificate. Before 1989 birth tabulations

were by race of child, as determined statistically by an algorithm based on race as reported for the mother and father. Briefly, in cases of mixed parentage where only one parent was white, the child was assigned to the other parent's race. When neither parent was white, the child was assigned the race of the father, except if either parent was Hawaiian, the child was assigned to Hawaiian. If race was not reported for one parent, the child was assigned the race of the parent for whom race was given.

The change in tabulating live births by race reflects three factors over the past two decades—the topical content of the birth certificate has been expanded to include considerable health and demographic information related to the mother, the increasing incidence of interracial parentage, and the growing proportion of births for which no information on the father is reported.

Quantitatively, the change in the basis for tabulating live births by race results in more white births and fewer black births and births of other races. Consequently, infant and maternal mortality rates under the new tabulating procedure tend to be about 2 percent lower for white infants and about 5 percent higher for black infants than they are when computed by the previous method of tabulating live births by race of child. Rates for most other minority races also are higher when computed by race of mother (5).

The change in tabulating race of live births presents challenges to those analyzing infant and maternal mortality data, particularly trend data. To facilitate continuity and ease of interpretation, key published tables for 1989 and 1990, including all trend tables, will show data computed on the basis of live births tabulated by race of mother and race of child. This will make it possible to distinguish the effects of this change from real changes in the data. The text in this report focuses on live birth data tabulated by race of mother except where trends are discussed. In the latter case, the analysis is based on data tabulated by race of child.

Cause-of-death rankings

The cause-of-death rankings shown in figure 4 and tables B–D, 5–7, 17, and 28 are based on the List of 72 Selected Causes of Death and HIV infection (ICD-9 Nos. *042–*044). The cause-of-death ranking for infants in table 24 is based on the List of 61 Selected Causes of Infant Death and HIV infection. HIV infection was added to the lists of rankable causes effective with data year 1987.

The group titles Major cardiovascular diseases and Symptoms, signs, and ill-defined conditions are not ranked from the List of 72 Selected Causes; Certain conditions originating in the perinatal period and Symptoms, signs, and ill-defined conditions are not ranked from the List of 61 Selected Causes of Infant Death. In addition, category titles that begin with the words “Other” and “All Other” are not ranked to determine the leading causes of death. When one of the titles that represents a subtotal is ranked (for example, Tuberculosis), its component parts are not ranked (in this case, Tuberculosis of respiratory system and Other tuberculosis).

Age-adjusted rates

The age-adjusted rates presented in this report were computed by the direct method, that is, by applying the age-specific death rates for a given cause of death to the standard population distributed by age. The total population as enumerated in 1940 was selected as the standard. By using the same standard population, the rates for the total population and for each race-sex group were adjusted separately. The age-adjusted rates were based on 10-year age groups. It is important not to compare age-adjusted death rates with crude rates.

Random variation

Although the mortality data in this report (except data for 1972) are not subject to sampling error, they may be affected by random variation in the number of deaths involved. When the number of events is small (perhaps less than 100) and the probability of such

an event is small, considerable caution must be observed in interpreting the data. Such infrequent events may be assumed to follow a Poisson probability distribution. For this distribution, a simple approximation may be used to estimate the confidence interval, as follows:

If N is the number of registered deaths in the population and R is the corresponding rate, the chances are 19 in 20 (approximate 95-percent confidence interval) that

$$1. N - 2\sqrt{N} \text{ and } N + 2\sqrt{N}$$

covers the "true" number of events.

$$2. R - 2 \frac{R}{\sqrt{N}} \text{ and } R + 2 \frac{R}{\sqrt{N}}$$

covers the "true" rate.

If the rate R_1 , corresponding to N_1 events is compared with the rate R_2 corresponding to N_2 events, the difference between the two rates may be regarded as statistically significant if it exceeds

$$3. 2 \sqrt{\frac{R_1^2}{N_1} + \frac{R_2^2}{N_2}}$$

Additional information on random variation may be found in the Technical Appendix of *Vital Statistics of the United States*, Volume II (5).

Infant and maternal mortality rates—Comparisons made in the text among infant, neonatal, postneonatal, and maternal mortality rates, unless otherwise specified, are statistically significant at the 0.05 level of significance. Lack of comment in the text about any two rates does not mean that the difference was tested and found not to be significant at this level.

Rates, proportions, and ratios

Beginning with 1989 data, an asterisk is shown in place of a rate

based on 20 or fewer deaths. These rates have a relative standard error of 23 percent or more and are, therefore, considered statistically unreliable. For age-adjusted death rates, this criterion is applied to the sum of the age-specific deaths.

Life tables

U.S. abridged life tables are constructed by reference to a standard life table (22).

Hispanic origin

For 1990 mortality data for the Hispanic-origin population are based on deaths to residents of 45 States, New York State (excluding New York City), and the District of Columbia whose data were at least 90 percent complete on a place-of-occurrence basis and considered to be sufficiently comparable to be used for analysis. The 45 States are Alabama, Alaska, Arizona, Arkansas, California, Colorado, Delaware, Florida, Georgia, Hawaii, Idaho, Illinois, Indiana, Iowa, Kansas, Kentucky, Maine, Maryland, Massachusetts, Michigan, Minnesota, Mississippi, Missouri, Montana, Nebraska, Nevada, New Jersey, New Mexico, North Carolina, North Dakota, Ohio, Oregon, Pennsylvania, Rhode Island, South Carolina, South Dakota, Tennessee, Texas, Utah, Vermont, Virginia, Washington, West Virginia, Wisconsin, and Wyoming. Data for New York City are excluded for 1990 because more than 10 percent of its death certificates were coded to "unknown origin." Because about half of the deaths to Puerto Ricans are accounted for by New York City, the resulting mortality data may not be comparable with that of previous years.

Infant mortality rates for the Hispanic-origin population are based on numbers of resident infant deaths

reported to be of Hispanic-origin and numbers of resident live births by Hispanic origin of mother for 45 States, New York State (excluding New York City), and the District of Columbia. The 45 States are the same as listed above. In computing infant mortality rates, deaths and live births of unknown origin are not distributed among the specified Hispanic and non-Hispanic groups. Because the percent of infant deaths of unknown origin was 1.6 and the percent of live births of unknown origin was 1.0 in the reporting area for 1990, infant mortality rates by specified Hispanic origin and race for non-Hispanic origin may be somewhat underestimated.

Small numbers of infant deaths for specific Hispanic-origin groups can result in infant mortality rates subject to relatively large random variation (see section, "Random variation").

In 1990 the 45 States, New York State (excluding New York City), and the District of Columbia accounted for about 89 percent of the Hispanic population in the United States, including about 99 percent of the Mexican population, 58 percent of the Puerto Rican population, 92 percent of the Cuban population, and 81 percent of the "Other Hispanic" population (23).

Computation of percent distributions

Deaths of persons of unknown marital status and unknown educational attainment were subtracted from figures for total deaths used as denominators before percent distributions were computed.

This report represents summary tabulations from the final mortality statistics for 1990. More detailed tabulations for 1990 will be published in *Vital Statistics of the United States, 1990* Volume II—Mortality. Prior to the publication of that volume, the National Center for Health Statistics will respond to requests for unpublished data whenever possible.

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