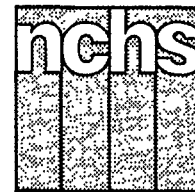


# Monthly Vital Statistics Report



Provisional Data From the CENTERS FOR DISEASE CONTROL/National Center for Health Statistics

## Annual Summary of Births, Marriages, Divorces, and Deaths: United States, 1991

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### Highlights

The provisional number of live births for 1991 decreased 2 percent from the number reported for 1990. The birth rate per 1,000 population and the fertility rate per 1,000 women 15-44 years of age also decreased in 1991, representing the first declines since 1986.

In 1991 the provisional number of marriages decreased 3 percent from the comparable figure for 1990. The marriage rate per 1,000 population decreased 4 percent from 1990 and was the lowest it has been since 1965.

Despite the increase in the number of divorces, the divorce rate remained the same as it was in 1988, 1989, and 1990, following a general decline from 1981.

The provisional death rate decreased 1 percent from 1990. The age-adjusted death rate also decreased from 1990 and was at the lowest level ever recorded. The infant mortality rate continued its decline, and life expectancy at birth matched the record high attained in 1989. Age-adjusted death rates were lower in 1991 than in 1990 for four leading causes of death—Diseases of heart, Cerebrovascular diseases, Accidents and adverse effects, and Pneumonia and influenza. Rates were higher in 1991 than in 1990 for Homicide and legal intervention and Human immunodeficiency virus (HIV) infection.

Data for HIV infection reflected a 24-percent increase in the estimated number of deaths between 1990 and 1991, following a 13-percent increase between 1989 and 1990 and a 33-percent increase in final data from 1988 to 1989. The age-adjusted death rate for 1991 also increased from 1990. HIV infection climbed from 11th to 9th in the ranking of leading causes of death.

### Births

An estimated 4,111,000 babies were born in the United States during 1991,

a decline of 2 percent from the 4,179,000 births reported for 1990. The birth rate was 16.2 live births per 1,000 population, 3 percent lower than the 1990 provisional rate of 16.7 (table A). The fertility rate of 69.6 live births per 1,000 women aged 15-44 years was 2 percent lower than the 1990 rate of 71.1 (table B and figure 1). The birth and fertility rates, which increased dramatically in the 1940's and 1950's, followed by rapid declines in the 1960's and early 1970's, have been fairly steady since that time. The current year marks the first decline in birth and fertility rates since 1986. The 1991 rates however, remained higher than those reported throughout most of the 1970's and 1980's.

The birth rates in 1991 were lower than the rates in 1990 for 9 months; they were higher than the rates for April and were the same for March and September (table B). The fertility rates and the seasonally adjusted fertility rates in 1991 were lower than the rates in 1990 for 9 months and were higher than the rates for March, April, and September (tables B and C).

Changes in the annual number of births are affected by two factors—changes in age-specific birth rates and in the number and age composition of women in the childbearing ages. According to projections prepared by the U.S. Bureau of the Census (1),



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



**Table A. Vital statistics rates: United States, 1984-91**

[Infant mortality rates per 1,000 live births; all other rates per 1,000 population]

Rate	1991 (prov.)	1990 (prov.)	1989		1988 (final)	1987 (final)	1986 (final)	1985 (final)	1984 (final)
			(prov.)	(final)					
Birth	16.2	16.7	16.2	16.3	15.9	15.7	15.6	15.8	15.5
Death	8.5	8.6	8.7	8.7	8.8	8.7	8.7	8.7	8.6
Natural increase	7.7	8.1	7.5	7.6	7.1	7.0	6.9	7.1	6.9
Marriage	9.4	9.8	9.7	---	9.7	9.9	10.0	10.1	10.5
Divorce	4.7	4.7	4.7	---	4.7	4.8	4.9	5.0	5.0
Infant mortality	8.9	9.1	9.7	9.8	10.0	10.1	10.4	10.6	10.8

**Table B. Live births, birth rates, and fertility rates, by month: United States, 1990 and 1991**

[Data are provisional. Rates on an annual basis. Birth rates per 1,000 population and fertility rates per 1,000 women 15-44 years. Due to rounding, figures may not add to totals. Figures include revisions and, therefore, may differ from those previously published]

Month	Number		Birth rate		Fertility rate	
	1991	1990	1991	1990	1991	1990
Total	4,111,000	4,179,000	16.2	16.7	69.6	71.1
January	325,000	330,000	15.2	15.6	65.0	66.4
February	312,000	316,000	16.1	16.5	68.9	70.2
March	346,000	342,000	16.1	16.1	69.0	68.7
April	340,000	330,000	16.4	16.1	70.2	68.5
May	355,000	368,000	16.5	17.3	70.9	73.9
June	342,000	361,000	16.4	17.5	70.4	74.7
July	358,000	364,000	16.6	17.1	71.4	72.9
August	346,000	362,000	16.1	17.0	69.1	72.6
September	365,000	362,000	17.5	17.5	75.3	74.8
October	355,000	361,000	16.4	16.9	70.9	72.2
November	324,000	333,000	15.5	16.1	66.8	68.8
December	342,000	350,000	15.8	16.3	68.3	70.0

**Table C. Seasonally adjusted birth and fertility rates, by month: United States, 1990 and 1991**

[Data are provisional. Rates on an annual basis. Birth rates per 1,000 population and fertility rates per 1,000 women 15-44 years. For method of seasonal adjustment, see Technical notes. Figures include revisions and, therefore, may differ from those previously published]

Month	Birth rate		Fertility rate	
	1991	1990	1991	1990
January	16.0	16.3	68.5	69.6
February	16.5	16.9	70.5	71.8
March	16.4	16.4	70.3	70.1
April	16.8	16.4	71.9	69.8
May	16.8	17.5	71.9	74.7
June	16.1	17.5	69.3	74.8
July	16.0	16.4	68.7	69.9
August	15.2	16.1	65.3	68.9
September	16.4	16.4	70.5	70.0
October	16.5	16.9	71.1	72.1
November	15.9	16.5	68.7	70.6
December	16.2	16.8	70.1	71.7

unless there is an increase in some age-specific birth rates, the annual number of births should continue to decline. However, recent fertility levels have been higher than projected (1). These higher rates have been partially attributed to large increases in immigration (2); foreign-born women tend to have higher fertility rates than native-born women, and shifts in immigration levels are likely to influence future fertility.

Provisional data by place of residence indicate that the number of births decreased by 2-7 percent between 1990 and 1991 in all geographic divisions except the West South Central and Mountain, where there were reported increases of less than 1 percent. Birth rates per 1,000 total population declined 1-7 percent for all divisions except the West South Central, where it remained unchanged.

The provisional number of births decreased in 42 States and the District of Columbia and increased in 8 States between 1990 and 1991. Birth rates fell in 43 States and the District of

there was a small increase (1 percent) in the number of women in the childbearing ages (15-44 years), but there was a decrease (3 percent) in the number of women aged 25-29 years, the peak childbearing years. The 2-percent decline in the general fertility rate between 1990 and 1991 is consistent with the aging of the

babyboom women as they move into their forties.

The U.S. Bureau of the Census (1) projects that the total number of women in the childbearing ages will decline by less than 1 percent, and that the number of women in the peak childbearing ages will drop by another 3 percent between 1991 and 1992. Thus,

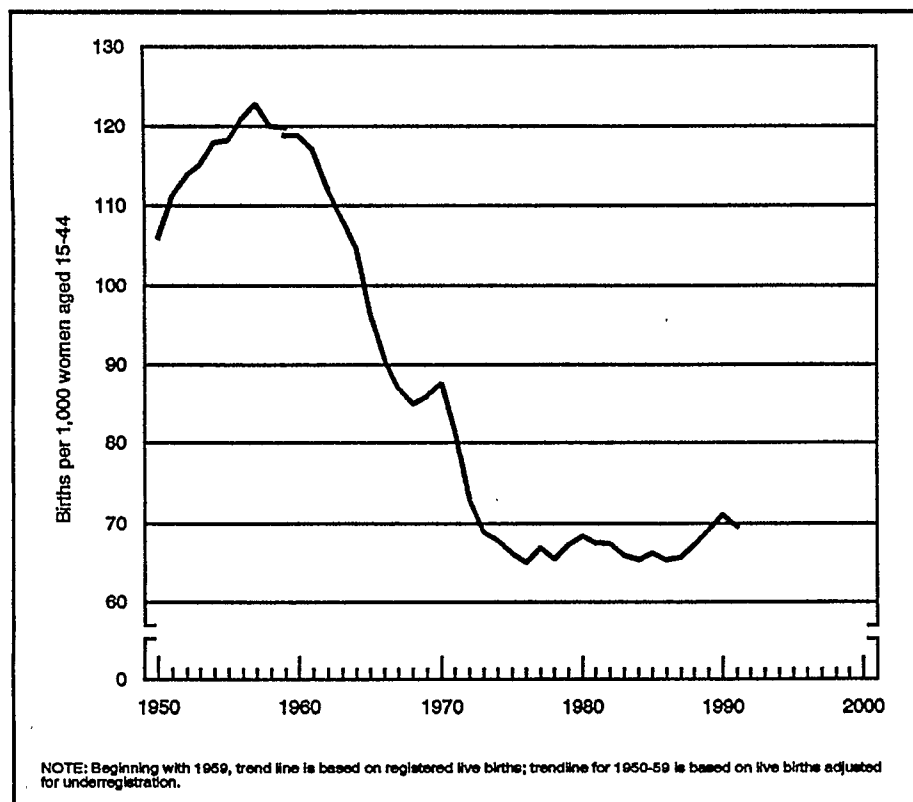


Figure 1. Fertility rates: United States, 1950-91

Table D. Marriages and marriage rates, by month: United States, 1990 and 1991

[Data are provisional. Rates on an annual basis per 1,000 population. Data are estimated for some States; see Technical notes. Due to rounding, figures may not add to totals. Figures include revisions and, therefore, may differ from those previously published]

Month	Number		Rate	
	1991	1990	1991	1990
Total . . . . .	2,371,000	2,448,000	9.4	9.8
January . . . . .	120,000	121,000	5.6	5.7
February . . . . .	151,000	143,000	7.8	7.5
March . . . . .	140,000	161,000	6.6	7.6
April . . . . .	186,000	177,000	8.9	8.6
May . . . . .	230,000	247,000	10.7	11.6
June . . . . .	258,000	274,000	12.4	13.3
July . . . . .	233,000	224,000	10.8	10.5
August . . . . .	253,000	264,000	11.8	12.4
September . . . . .	223,000	236,000	10.7	11.4
October . . . . .	221,000	219,000	10.2	10.3
November . . . . .	177,000	190,000	8.4	9.2
December . . . . .	180,000	191,000	8.3	8.9

Columbia, rose in 6 States, and remained the same in 1 State.

**Natural increase**

During 1991 an estimated 1,946,000 persons were added to the population as the result of natural increase, the excess of births over deaths. The rate of natural increase was 7.7 persons per 1,000 population, 5 percent lower than the rate for 1990 (8.1). The decline is due to a larger decrease in the birth rate than in the death rate.

**Marriages**

In 1991, 2,371,000 couples married, a drop of 3 percent from 2,448,000 in 1990 (table D). The marriage rate was 9.4 per 1,000 population, lower than it has been since 1965. The 1991 rate was down 4 percent from 9.8 per 1,000 in 1990 and down 11 percent from its level of 10.6 a decade earlier in 1981 (figure 2).

The marriage rate based on the total population is a very broad measure and is typically slow to change.

More specific rates can be based on populations of unmarried men and women. Although the marriage rate for the total population dropped only 11 percent between 1981 and 1991, the rate of marriages per 1,000 unmarried men dropped 14 percent, from 74.7 to 64.1, and the rate for unmarried women dropped 12 percent, from 61.7 to 54.2. These rates show that the likelihood of marriage for those who were eligible dropped for both sexes between 1981 and 1991 but more for men 15 years of age and over than for women, thus narrowing the differential.

Another factor that affects marriage rates is the age composition of the population. Ninety percent or more of brides and grooms marry between the ages of 15 and 44 years. Between 1981 and 1991 the marriage rate per 1,000 unmarried men 15-44 years of age dropped 11 percent, from 90.0 to 79.8. The marriage rate per 1,000 unmarried women 15-44 years of age dropped 14 percent, from 103.1 to 89.0 during the decade.

The net decline in the number of marriages between 1981 and 1991, despite a growing population, has led to substantial increases in the unmarried population of men and women over 25 years of age. Reports published by the U.S. Bureau of the Census document the surge between 1981 and 1991 in the unmarried population over 25 years of age for never-married and for currently-divorced men and women (3).

As in most earlier years, the month with the most marriages in 1991 was June (258,000), followed by August (253,000) and July (233,000). The month with the fewest marriages was January (120,000), with less than half the number of weddings as June. (table D).

Among the 45 States and the District of Columbia reporting provisional marriage totals for 1991, the States with the highest marriage rates were Arkansas (15.7), Hawaii (15.4), South Carolina (14.8), Idaho (13.9), and Tennessee (13.7). Rates in these States were at least 46 percent higher than the national rate (9.4). States with the lowest marriage rates were Pennsylvania (6.7); West Virginia (6.9); New

Jersey (7.1); and North Carolina, Massachusetts, and North Dakota (tied with 7.3). These States had rates that were at least 22 percent lower than the national rate (table 2). To some extent these differentials are caused by migratory marriages, for example, many residents of North Carolina marry in South Carolina. Hawaii, Idaho, and Tennessee also attract many couples from other States.

Although the national trend in the marriage rate was sharply down from 9.8 to 9.4 per 1,000 population in 1991, marriage rates rose in the District of Columbia and nine States (Georgia, Colorado, Arkansas, Alaska, Tennessee, Montana, Ohio, Nebraska, and Wyoming). Most increases were modest, but in Arkansas, Colorado, and Georgia marriage rates increased by more than 6 percent. The marriage rate for Washington remained the same. For the remaining 36 States marriage rates dropped in 1991, and the drop was more than 9 percent in Wisconsin, Louisiana, Massachusetts, and New Hampshire.

Data were unavailable for California, Connecticut, Illinois, New York, and Nevada.

### Divorces

In 1991, 1,187,000 couples divorced, 12,000 more (1 percent) than in 1990 (table E). The divorce rate was 4.7 per 1,000 population, unchanged from the 3-year period 1988–90, but down 11 percent from the all-time high of 5.3 in 1981. Between 1981 and 1991, the annual number of divorces dropped 2 percent, the number of married men and women increased 7 percent, and the rate of divorces per 1,000 married women 15 years of age and over dropped 8 percent, from 22.6 to 20.9. This rate means that about 2 percent of couples divorce annually.

Among the States that reported provisional divorce figures, the highest divorce rates were in Arkansas (7.8), Oklahoma (7.4), Wyoming (7.0), Arizona (6.7), and Alabama and Tennessee (tied at 6.5). Rates in these States were at least 38 percent above the national average (4.7). States with the lowest divorce rates in 1991 were

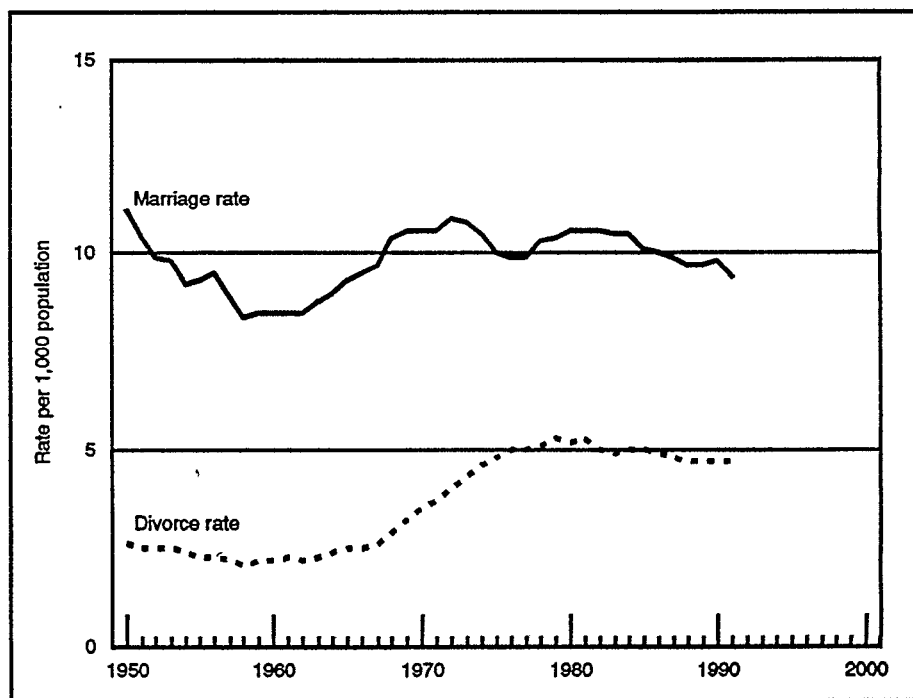


Figure 2. Marriage and divorce rates: United States, 1950–91

Table E. Divorces and divorce rates, by month: United States, 1990 and 1991

[Data are provisional. Includes reported annulments. Rates on an annual basis per 1,000 population. Data are estimated for some States; see Technical notes. Due to rounding, figures may not add to totals. Figures include revisions and, therefore, may differ from those previously published]

Month	Number		Rate	
	1991	1990	1991	1990
Total . . . . .	1,187,000	1,175,000	4.7	4.7
January . . . . .	96,000	92,000	4.5	4.3
February . . . . .	97,000	93,000	5.0	4.9
March . . . . .	92,000	106,000	4.3	5.0
April . . . . .	101,000	91,000	4.9	4.4
May . . . . .	110,000	102,000	5.1	4.8
June . . . . .	98,000	109,000	4.7	5.3
July . . . . .	104,000	99,000	4.8	4.6
August . . . . .	102,000	99,000	4.7	4.6
September . . . . .	99,000	98,000	4.8	4.7
October . . . . .	98,000	92,000	4.5	4.3
November . . . . .	93,000	96,000	4.4	4.6
December . . . . .	99,000	98,000	4.6	4.6

Massachusetts (2.3) and New York (3.1). Rhode Island, Pennsylvania, and North Dakota all had rates of 3.3 divorces per 1,000 population. Many of these States with low divorce rates also had low marriage rates. For many years a geographic differential in divorce levels has been observed with low rates in the northeastern section of the Nation and higher rates toward the South and West. This differential continued in 1991.

Although the national divorce rate did not change between 1990 and 1991, rates in 19 States increased, some substantially. The increases were 10

percent or more in six States (Georgia, Alaska, New Mexico, Texas, Arkansas and Iowa). On the other hand, divorce rates dropped by more than 10 percent in Massachusetts, the District of Columbia, Rhode Island, and Mississippi.

Data were not available for California, Connecticut, Illinois, Indiana, Louisiana, Nevada, and New Jersey.

### Deaths

During 1991 an estimated 2,165,000 deaths occurred in the United States, about the same as estimated for 1990 (2,162,000). The provisional death rate

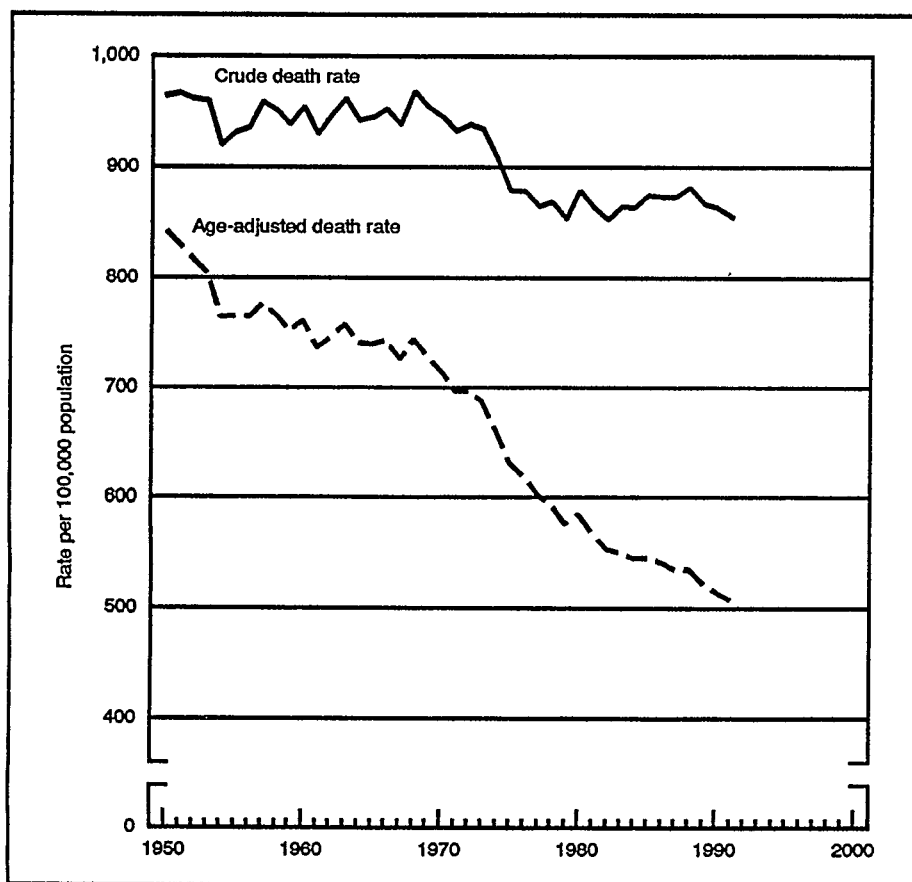


Figure 3. Crude and age-adjusted death rates: United States, 1950-91

Table F. Deaths and death rates, by month: United States, 1990 and 1991

[Data are provisional. Rates on an annual basis per 1,000 population. Due to rounding, figures may not add to totals. Figures include revisions and, therefore, may differ from those previously published]

Month	Number		Rate	
	1991	1990	1991	1990
Total	2,165,000	2,162,000	8.5	8.6
January	195,000	213,000	9.1	10.0
February	179,000	182,000	9.2	9.5
March	191,000	193,000	8.9	9.1
April	185,000	182,000	8.9	8.9
May	183,000	180,000	8.5	8.5
June	168,000	169,000	8.1	8.2
July	178,000	173,000	8.3	8.1
August	172,000	170,000	8.0	8.0
September	165,000	168,000	7.9	8.1
October	180,000	178,000	8.4	8.3
November	176,000	169,000	8.4	8.2
December	191,000	185,000	8.8	8.6

for 1991 was 854.0 deaths per 100,000 population, 1 percent lower than the provisional rate of 861.9 for 1990 and the lowest death rate since 1982. The decrease in the death rate between 1990 and 1991 reflects lower mortality for a number of causes of death. The provisional age-adjusted death rate declined 1 percent from 1990 to 1991, from 515.1 deaths per 100,000 population in 1990 to 507.9 in 1991, the lowest age-adjusted rate ever recorded in the United States (figure 3).

Age-adjusted death rates control for changes and variations in the age composition of the population; therefore, they are better indicators than crude death rates for showing changes in mortality risk over time and for showing differences between race-sex groups within the population.

Unadjusted monthly death rates per 1,000 population were higher for July, October, November, and December 1991 than for the same months in 1990. The rates for April,

May, and August were the same. Death rates were lower for the remaining 5 months of 1991 than for the previous year (table F).

**Death rates by race and sex, and by age**

Among the major race-sex groups, age-adjusted death rates declined from 1990 to 1991 for white males and females. Although the age-adjusted rates for black males and females increased somewhat from 1990 to 1991, the changes were not statistically significant. The lowest estimated age-adjusted death rate was for white females (363.8 deaths per 100,000 population), followed by black females (554.5), white males (629.1), and black males (977.7). Between 1990 and 1991 provisional death rates by age decreased for the age groups 65-74 years, 75-84 years, and 85 years and over. Changes in death rates for the other age groups between the two years were not statistically significant (table G).

**Expectation of life**

The expectation of life at birth in 1991 matched the 1989 record high of 75.7 years. From 1990 to 1991 provisional data showed that for the white population life expectancy at birth increased by 0.4 years for both males and females. For the black population life expectancy at birth decreased by 0.4 years for males but did not change significantly for females. The expectation of life at birth for a given year represents the average number of years that a group of infants would be expected to live if, throughout life, they were to experience the age-specific death rates prevailing during the year of their birth.

**Major causes of death**

The 15 leading causes of death in 1991 accounted for 86 percent of all deaths in the United States (table H). (For ranking procedures see Technical notes.) The leading causes of death from 1981 through 1991 have generally been the same, but the order has often varied. For 1991 the eight leading causes of death were the same causes and in the same order as for 1990. For the 9th through 15th leading causes the causes of death remained the same, but the order changed.

Changes in ranking of leading causes of death between 1990 and 1991

**Table G. Estimated death rates by age for 1990 and 1991 and percent difference between 1990 and 1991: United States**

[Data are provisional, estimated from a 10-percent sample of deaths. Rates per 100,000 population in specified group. Figures may differ from those previously published. For information on standard errors of the estimates and further discussion, see Technical notes]

Age	1991	1990	Percent difference
All ages <sup>1</sup>	854.0	861.9	-0.9
Under 1 year <sup>2</sup>	901.8	936.6	-3.7
1-4 years	46.7	44.2	5.7
5-14 years	24.0	24.1	-0.4
15-24 years	107.1	104.1	2.9
25-34 years	137.4	139.6	-1.6
35-44 years	222.7	221.1	0.7
45-54 years	458.2	463.1	-1.1
55-64 years	1,162.4	1,175.6	-1.1
65-74 years	2,568.7	2,607.4	-1.5
75-84 years	5,932.3	6,084.5	-2.5
85 years and over	14,395.6	14,784.4	-2.6

<sup>1</sup>Figures for age not stated are included in "All ages" but are not distributed among age groups.  
<sup>2</sup>Death rates under 1 year (based on population estimates) differ from infant mortality rates (based on live births); see table 11 for infant mortality rates and Technical notes for discussion of the difference.

**Table H. Estimated deaths, death rates, and percent of total deaths for the 15 leading causes of death: United States, 1991**

[Data are provisional, estimated from a 10-percent sample of deaths. Rates per 100,000 population. Figures may differ from those previously published. Due to rounding, figures may not add to totals. See table 8 for category numbers of causes of death. For information on standard errors of the estimates and further discussion, see Technical notes]

Rank	Cause of death (Ninth Revision, International Classification of Diseases, 1975)	Number	Death rate	Percent of total deaths
...	All causes	2,165,000	854.0	100.0
1	Diseases of heart	718,090	283.3	33.2
2	Malignant neoplasms, including neoplasms of lymphatic and hematopoietic tissues	514,310	202.9	23.8
3	Cerebrovascular diseases	144,070	56.8	6.7
4	Accidents and adverse effects	91,700	36.2	4.2
...	Motor vehicle accidents	45,240	17.8	2.1
...	All other accidents and adverse effects	46,460	18.3	2.1
5	Chronic obstructive pulmonary diseases and allied conditions	89,130	35.2	4.1
6	Pneumonia and influenza	74,980	29.6	3.5
7	Diabetes mellitus	49,980	19.7	2.3
8	Suicide	30,200	11.9	1.4
9	Human immunodeficiency virus infection	29,850	11.8	1.4
10	Homicide and legal intervention	27,440	10.8	1.3
11	Chronic liver disease and cirrhosis	24,740	9.8	1.1
12	Nephritis, nephrotic syndrome, and nephrosis	22,020	8.7	1.0
13	Septicemia	19,450	7.7	0.9
14	Atherosclerosis	17,060	6.7	0.8
15	Certain conditions originating in the perinatal period	16,620	6.6	0.8
...	All other causes	295,100	116.4	13.6

were as follows: Human immunodeficiency virus infection (HIV infection), the 11th leading cause of death in 1990, became the 9th leading cause of death in 1991; and Homicide and legal intervention the 9th leading cause of death in 1990, became the 10th leading cause of death. Chronic liver disease and cirrhosis, the 10th leading cause of death in 1990, became the 11th leading cause of death in 1991. Nephritis, nephrotic syndrome, and nephrosis

remained the 12th leading cause of death; and Septicemia remained the 13th leading cause in 1991. Between the two years, Atherosclerosis changed its rank from 15th to 14th, and Certain conditions originating in the perinatal period changed from 14th to 15th.

For most leading causes, age-adjusted death rates are better indicators than crude death rates for showing changes in mortality risk over time, with the exception of the category

Certain conditions originating in the perinatal period, which occurs mainly among infants. Therefore, age-adjusted rates are used to depict trends for 14 of the 15 leading causes of death (figure 4). Among these 14 causes, age-adjusted death rates were lower in 1991 than in 1990 for 4 leading causes—Diseases of heart, Cerebrovascular diseases, Accidents and adverse effects, and Pneumonia and influenza. The age-adjusted death rates for Diseases of heart and Cerebrovascular diseases have generally declined since 1950, and for Accidents and adverse effects, since 1970. Death rates for Pneumonia and influenza declined from 1990, a year with excess influenza-associated mortality, to 1991, a year without excess influenza-associated mortality (4). Mortality from Pneumonia and influenza, which declined during 1968-78, has shown an upward trend between 1982 and 1988 and a downward trend since 1988.

Age-adjusted death rates were higher in 1991 than in 1990 for 2 of the 14 leading causes of death—Homicide and legal intervention and HIV infection. The age-adjusted rate for Homicide and legal intervention reached a peak in 1980, declined until the mid-1980's, and has been increasing since then, with the 1991 rate surpassing the peak rate of 1980. (For more information on HIV infection, see the section entitled "HIV infection.") For the remaining eight leading causes of death, provisional data did not indicate a statistically significant change between 1990 and 1991.

For the one other leading cause of death, Certain conditions originating in the perinatal period, which occurs mainly among infants under 1 year of age, age-adjusted death rates are not shown. Changes in mortality for this cause are measured by the infant mortality rate per 100,000 live births. The difference between the infant mortality rate for Certain conditions originating in the perinatal period for 1991 (402.0 infant deaths per 100,000 live births) and the 1990 rate (409.3) was not statistically significant.

**HIV infection**

On the basis of the Current Mortality Sample the estimated total

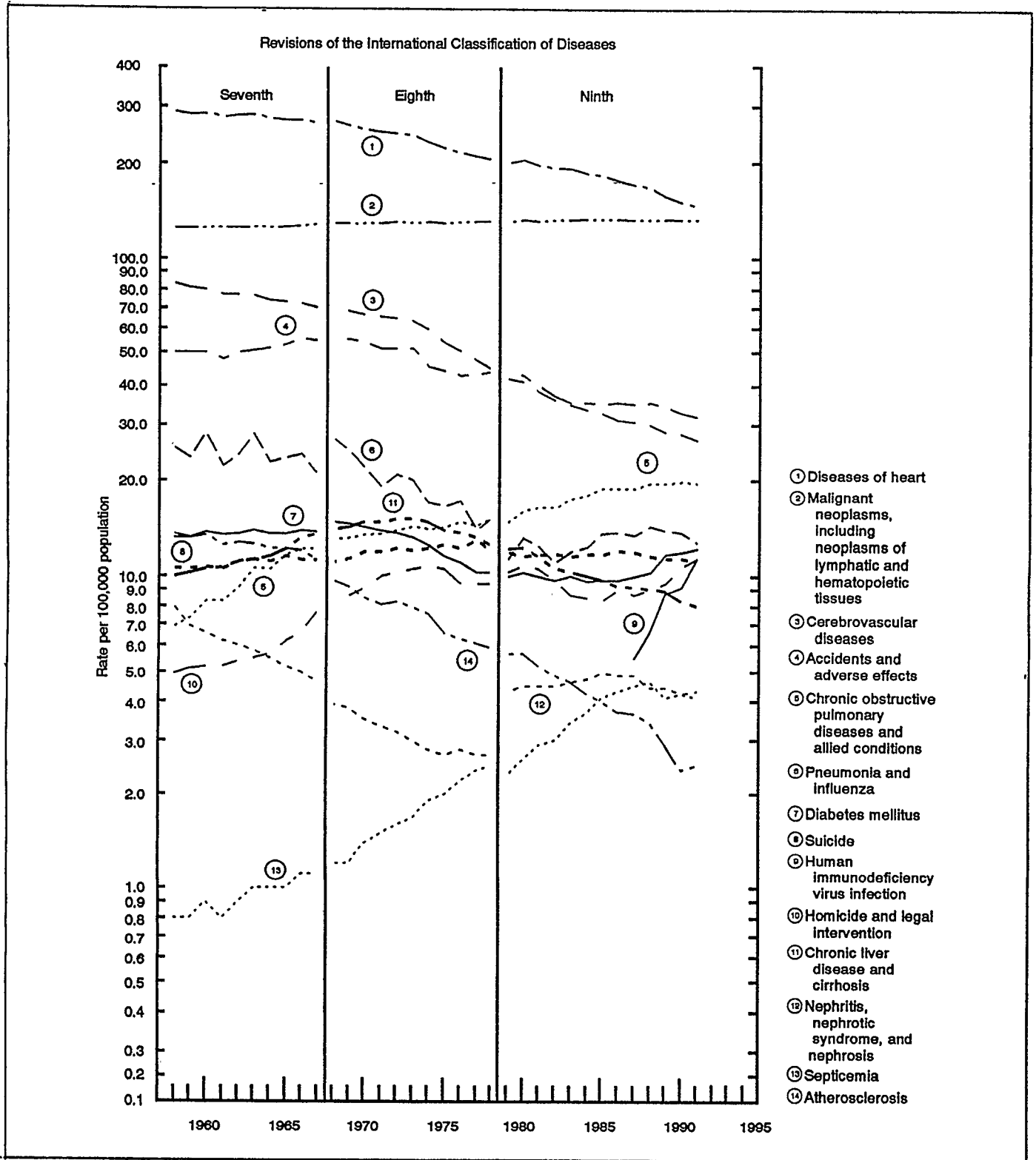


Figure 4. Age-adjusted death rates for 14 of the 15 leading causes of death: United States, 1958-91

**Table J. Deaths under 1 year and infant mortality rates, by month: United States, 1990 and 1991**

[Data are provisional. Rates on an annual basis per 1,000 live births. Due to rounding, figures may not add to totals. Figures include revisions and, therefore, may differ from those previously published]

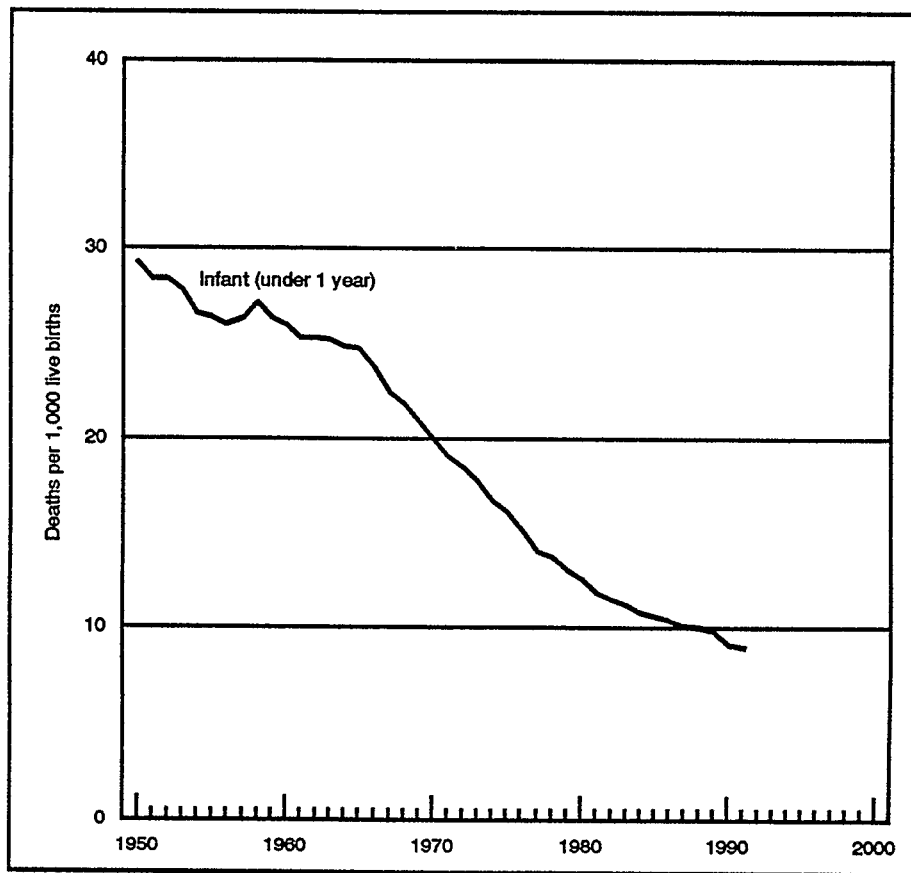
Month	Number		Rate	
	1991	1990	1991	1990
Total . . . . .	36,500	38,100	8.9	9.1
January . . . . .	3,300	3,500	9.6	10.4
February . . . . .	3,100	3,100	9.6	9.7
March . . . . .	3,200	3,200	9.4	9.3
April . . . . .	3,000	3,200	8.8	9.6
May . . . . .	3,300	3,300	9.5	9.2
June . . . . .	3,000	3,200	8.9	9.2
July . . . . .	3,000	3,100	8.5	8.6
August . . . . .	2,800	3,100	8.2	8.7
September . . . . .	2,900	3,100	8.4	8.8
October . . . . .	2,900	3,100	8.2	8.6
November . . . . .	3,000	3,000	9.0	8.7
December . . . . .	2,900	3,200	8.6	9.1

61 percent were for white males, 25 percent for black males, 6 percent for white females, and 7 percent were for black females. The largest numbers of deaths from this cause for both males and females were for the age groups 25–34 and 35–44 years. Although the numbers of deaths were highest for white males, the age-adjusted death rate and almost all age-specific death rates were highest for black males, followed by white males, black females, and white females.

Between 1990 and 1991 the age-adjusted death rate for HIV infection increased from 9.1 deaths per 100,000 population in 1990 to 11.2. It increased for white males, white females, and black males. The increase for black females was not statistically significant. The increase in the age-adjusted death rates between 1990 and 1991 was larger for white females and black males (about 35 percent each) than for white males. The rank for this leading cause increased from 11th to 9th between 1990 and 1991. The estimated numbers of deaths and death rates for HIV infection are shown in table 10 of this report.

**Infant mortality**

In 1991, 36,500 infant deaths were reported in the United States (table J). The infant mortality rate for 1991 was 892.8 per 100,000 live births, 2 percent lower than the rate of 908.0 for 1990. This is the lowest rate ever recorded in the United States (figure 5). For 1991 the estimated infant mortality rate for infants under 28 days was 554.2 deaths per 100,000 live births compared with a rate of 574.7 in 1990. For infants 28 days to 11 months, the infant mortality rate in 1991 was 338.6 compared with a rate of 333.3 in 1990. Between 1990 and 1991 changes in mortality rates for infants under 28 days and infants 28 days to 11 months were not statistically significant. Among the causes of infant death in table 12, the infant mortality rate decreased between 1990 and 1991 for Congenital anomalies but increased for Disorders relating to short gestation and unspecified low birthweight.



**Figure 5. Infant mortality rates: United States, 1950–91**

number of deaths due to HIV infection during 1991 was 29,850, with a range of 28,820 to 30,880 (approximate 95-percent confidence interval). This number was about 24 percent higher than the estimated number of deaths due to HIV infection in 1990, which was 24,120, with a range of 23,190 to

25,050. This increase was greater than the 13-percent increase in the provisional number of HIV infection deaths between 1989 and 1990, but it was smaller than the 33-percent increase reported in the final data between 1988 and 1989 (5,6). Of the approximately 29,850 HIV infection deaths in 1991,



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**Symbols**

- Data not available
  - . . . Category not applicable
  - Quantity zero
  - 0.0 Quantity more than zero but less than 0.05
  - Z Quantity more than zero but less than 500 where numbers are rounded to thousands
  - \* Figure does not meet standard of reliability or precision (100 or fewer estimated deaths in the numerator)
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Table 1. Provisional number of live births and birth rates: Each division and State, 1990 and 1991

[Data are estimates by State of residence; see Technical notes. Figures include revisions and, therefore, may differ from those previously published. Rates per 1,000 population in specified area]

Area	Live births			
	1991		1990	
	Number	Rate	Number	Rate
New England . . . . .	189,547	14.3	202,889	15.4
Maine . . . . .	16,581	13.2	16,908	13.6
New Hampshire . . . . .	16,060	13.9	17,199	15.2
Vermont . . . . .	7,712	13.2	8,282	14.4
Massachusetts . . . . .	86,321	14.5	93,222	15.7
Rhode Island . . . . .	14,591	14.5	14,963	14.9
Connecticut . . . . .	48,282	14.8	52,315	16.1
Middle Atlantic . . . . .	578,773	15.2	596,179	15.7
New York . . . . .	292,400	16.2	301,209	16.7
New Jersey . . . . .	117,789	15.1	124,082	16.0
Pennsylvania . . . . .	168,584	13.9	170,888	14.1
East North Central . . . . .	662,427	15.5	678,268	16.0
Ohio . . . . .	158,638	14.4	164,619	15.0
Indiana . . . . .	84,707	14.9	85,227	15.1
Illinois . . . . .	193,987	16.5	196,107	16.7
Michigan . . . . .	153,359	16.4	159,346	17.1
Wisconsin . . . . .	71,736	14.5	72,969	14.9
West North Central . . . . .	262,368	14.5	273,175	15.2
Minnesota . . . . .	67,020	15.1	68,378	15.5
Iowa . . . . .	36,011	12.6	39,127	13.7
Missouri . . . . .	77,991	15.0	81,157	15.7
North Dakota . . . . .	9,071	14.0	9,517	14.6
South Dakota . . . . .	11,042	15.4	10,912	15.2
Nebraska . . . . .	23,933	14.7	24,010	14.8
Kansas . . . . .	37,300	14.6	40,074	15.8
South Atlantic . . . . .	689,068	15.5	704,348	16.1
Delaware . . . . .	11,175	16.0	11,282	16.4
Maryland . . . . .	84,452	17.5	83,664	17.6
District of Columbia . . . . .	9,971	17.0	10,928	18.4
Virginia . . . . .	96,610	15.4	99,942	16.2
West Virginia . . . . .	22,195	12.2	22,202	12.1
North Carolina . . . . .	102,442	15.2	104,715	15.7
South Carolina . . . . .	57,742	16.0	59,075	16.6
Georgia . . . . .	110,024	16.6	112,899	17.3
Florida . . . . .	194,457	14.6	199,641	15.3
East South Central . . . . .	232,052	14.9	242,587	15.7
Kentucky . . . . .	54,913	14.7	57,791	15.5
Tennessee . . . . .	73,104	14.5	72,747	14.6
Alabama . . . . .	60,513	14.6	68,200	16.5
Mississippi . . . . .	43,522	16.6	43,849	16.7
West South Central . . . . .	482,024	17.7	480,815	17.7
Arkansas . . . . .	34,588	14.2	36,109	14.9
Louisiana . . . . .	74,562	17.2	71,704	16.4
Oklahoma . . . . .	47,312	14.7	47,250	14.7
Texas . . . . .	325,562	18.8	325,752	19.0
Mountain . . . . .	243,405	17.5	243,123	17.7
Montana . . . . .	11,544	14.3	11,758	14.6
Idaho . . . . .	17,233	16.6	16,594	16.2
Wyoming . . . . .	6,801	14.6	6,984	14.9
Colorado . . . . .	53,968	16.1	52,913	15.9
New Mexico . . . . .	28,160	18.0	28,654	18.5
Arizona . . . . .	67,656	18.3	68,749	18.9
Utah . . . . .	35,070	20.1	36,216	21.0
Nevada . . . . .	22,973	18.8	21,255	18.2
Pacific . . . . .	755,494	18.8	772,563	19.7
Washington . . . . .	75,734	15.2	78,106	16.0
Oregon . . . . .	42,807	14.6	44,408	15.4
California . . . . .	605,694	19.8	617,989	20.7
Alaska . . . . .	11,245	21.1	11,647	22.0
Hawaii . . . . .	20,014	17.5	20,413	18.1

Data for all years are provisional estimates by State of residence rather than by State of occurrence and, therefore, figures for 1990 differ from those published previously.

Table 2. Provisional number of marriages and divorces and rates: Each division and State, 1990 and 1991

[Divorces include reported annulments. By State of occurrence. Figures include revisions and, therefore, may differ from those previously published. Rates per 1,000 population in specified area]

Area	Marriages <sup>1</sup>				Divorces			
	1991		1990		1991		1990	
	Number	Rate	Number	Rate	Number	Rate	Number	Rate
New England . . . . .	<sup>2</sup> 77,805	27.8	112,240	8.5	<sup>2</sup> 30,320	23.0	44,006	3.4
Maine . . . . .	11,077	8.8	11,773	9.5	5,816	4.6	5,275	4.3
New Hampshire . . . . .	9,805	8.5	10,582	9.4	4,927	4.3	5,279	4.7
Vermont . . . . .	5,998	10.2	6,144	10.7	2,716	4.6	2,616	4.5
Massachusetts . . . . .	43,429	7.3	47,822	8.1	13,547	2.3	16,781	2.8
Rhode Island . . . . .	7,496	7.4	8,113	8.1	3,314	3.3	3,754	3.7
Connecticut . . . . .	---	---	27,806	8.6	---	---	10,301	3.2
Middle Atlantic . . . . .	<sup>2</sup> 136,673	26.9	314,070	8.3	<sup>2</sup> 95,692	23.2	121,598	3.2
New York . . . . .	---	---	169,264	9.4	55,610	3.1	57,863	3.2
New Jersey . . . . .	55,391	7.1	58,012	7.5	---	---	23,612	3.0
Pennsylvania . . . . .	81,282	6.7	86,794	7.2	40,082	3.3	40,123	3.3
East North Central . . . . .	<sup>2</sup> 258,442	28.3	364,501	8.6	<sup>2</sup> 111,883	24.4	<sup>2</sup> 153,299	24.2
Ohio . . . . .	97,364	8.8	95,827	8.7	54,265	4.9	50,989	4.7
Indiana . . . . .	50,649	8.9	54,295	9.6	---	---	---	---
Illinois . . . . .	---	---	97,082	8.3	---	---	44,259	3.8
Michigan . . . . .	73,593	7.9	76,137	8.2	39,770	4.3	40,219	4.3
Wisconsin . . . . .	36,836	7.5	41,160	8.4	17,848	3.6	17,832	3.6
West North Central . . . . .	149,929	8.3	156,134	8.7	80,132	4.4	76,917	4.3
Minnesota . . . . .	32,848	7.4	33,695	7.7	15,968	3.6	15,421	3.5
Iowa . . . . .	23,794	8.3	24,813	8.7	12,212	4.3	11,060	3.9
Missouri . . . . .	46,393	8.9	49,251	9.5	26,620	5.1	26,351	5.1
North Dakota . . . . .	4,719	7.3	4,779	7.3	2,167	3.3	2,326	3.6
South Dakota . . . . .	7,406	10.3	7,727	10.8	2,772	3.9	2,648	3.7
Nebraska . . . . .	12,695	7.8	12,484	7.7	6,496	4.0	6,488	4.0
Kansas . . . . .	22,074	8.7	23,385	9.2	13,897	5.5	12,623	5.0
South Atlantic . . . . .	445,786	10.0	455,406	10.4	233,338	5.2	226,074	5.2
Delaware . . . . .	5,340	7.6	5,628	8.2	3,007	4.3	2,985	4.4
Maryland . . . . .	44,399	9.2	46,081	9.7	16,576	3.4	16,055	3.4
District of Columbia . . . . .	5,031	8.6	4,716	7.9	2,290	3.9	2,686	4.5
Virginia . . . . .	68,771	11.0	71,257	11.5	28,160	4.5	27,266	4.4
West Virginia . . . . .	12,585	6.9	13,166	7.2	10,148	5.6	9,658	5.3
North Carolina . . . . .	48,966	7.3	52,070	7.8	33,763	5.0	34,017	5.1
South Carolina . . . . .	53,289	14.8	55,837	15.7	14,677	4.1	16,080	4.5
Georgia . . . . .	70,517	10.6	64,359	9.8	41,975	6.3	35,672	5.5
Florida . . . . .	136,888	10.3	142,292	10.9	82,742	6.2	81,655	6.3
East South Central . . . . .	182,085	11.7	185,473	12.0	94,720	6.1	93,809	6.1
Kentucky . . . . .	47,280	12.7	51,291	13.8	22,299	6.0	21,790	5.8
Tennessee . . . . .	68,790	13.7	66,597	13.4	32,482	6.5	32,295	6.5
Alabama . . . . .	42,657	10.3	43,263	10.5	27,069	6.5	25,280	6.1
Mississippi . . . . .	23,358	8.9	24,322	9.3	12,870	4.9	14,444	5.5
West South Central . . . . .	291,917	10.7	292,857	10.8	<sup>2</sup> 148,809	26.5	<sup>2</sup> 135,728	26.0
Arkansas . . . . .	38,052	15.7	35,703	14.8	18,859	7.8	16,765	6.9
Louisiana . . . . .	36,762	8.5	41,161	9.4	---	---	---	---
Oklahoma . . . . .	32,602	10.2	33,162	10.3	23,596	7.4	24,919	7.7
Texas . . . . .	184,501	10.6	182,831	10.7	106,354	6.1	94,044	5.5
Mountain . . . . .	<sup>2</sup> 129,264	<sup>2</sup> 10.2	250,907	18.3	<sup>2</sup> 75,209	25.9	87,031	6.3
Montana . . . . .	7,175	8.9	7,025	8.7	4,385	5.4	4,093	5.1
Idaho . . . . .	14,406	13.9	14,977	14.6	6,544	6.3	6,634	6.5
Wyoming . . . . .	4,825	10.4	4,843	10.3	3,239	7.0	3,095	6.6
Colorado . . . . .	33,619	10.0	31,512	9.4	19,105	5.7	18,385	5.5
New Mexico . . . . .	13,056	8.3	13,175	8.5	8,749	5.6	7,652	4.9
Arizona . . . . .	37,395	10.1	37,007	10.2	24,780	6.7	25,096	6.9
Utah . . . . .	18,788	10.8	19,012	11.0	8,407	4.8	8,786	5.1
Nevada . . . . .	---	---	123,356	105.6	---	---	13,290	11.4
Pacific . . . . .	<sup>2</sup> 97,846	<sup>2</sup> 10.2	334,420	8.5	<sup>2</sup> 53,269	25.6	180,713	4.6
Washington . . . . .	49,873	10.0	48,642	10.0	29,465	5.9	28,773	5.9
Oregon . . . . .	24,266	8.3	25,211	8.8	15,283	5.2	15,884	5.5
California . . . . .	---	---	236,693	7.9	---	---	127,967	4.3
Alaska . . . . .	6,038	11.3	5,730	10.8	3,387	6.4	2,921	5.5
Hawaii . . . . .	17,669	15.4	18,144	16.1	5,134	4.5	5,168	4.6

<sup>1</sup>Data are either marriages reported or marriage licenses issued; see Technical notes.  
<sup>2</sup>Excludes figures for State(s) shown below as not available.

All data are by State of occurrence rather than by State of residence and should be interpreted accordingly.

Table 3. Provisional number of deaths and infant deaths, death rates and infant mortality rates: Each division and State, 1990 and 1991

[Data are estimates by State of residence; see Technical notes. Figures include revisions and, therefore, may differ from those previously published. Rates for deaths at all ages are per 1,000 population in specified area. Rates for deaths under 1 year are infant mortality rates per 1,000 live births]

Area	Deaths (all ages)				Infant deaths (under 1 year)			
	1991		1990		1991		1990	
	Number	Rate	Number	Rate	Number	Rate	Number	Rate
New England . . . . .	112,411	8.5	115,615	8.8	1,317	6.9	1,517	7.5
Maine . . . . .	10,952	8.7	11,160	9.0	105	6.3	114	6.7
New Hampshire . . . . .	8,513	7.4	8,447	7.5	105	6.5	120	7.0
Vermont . . . . .	4,541	7.7	4,601	8.0	47	6.1	53	6.4
Massachusetts . . . . .	51,366	8.6	55,092	9.3	591	6.8	713	7.6
Rhode Island . . . . .	9,294	9.2	9,380	9.3	114	7.8	104	7.0
Connecticut . . . . .	27,745	8.5	26,935	8.3	355	7.4	413	7.9
Middle Atlantic . . . . .	360,314	9.5	361,378	9.5	5,334	9.2	5,738	9.6
New York . . . . .	166,795	9.2	168,004	9.3	2,734	9.4	2,975	9.9
New Jersey . . . . .	69,983	9.0	70,446	9.1	1,013	8.6	1,117	9.0
Pennsylvania . . . . .	123,536	10.2	122,928	10.2	1,587	9.4	1,646	9.6
East North Central . . . . .	378,994	8.9	374,190	8.8	6,405	9.7	6,811	10.0
Ohio . . . . .	99,104	9.0	99,049	9.0	1,500	9.5	1,558	9.5
Indiana . . . . .	51,780	9.1	49,940	8.9	794	9.4	843	9.9
Illinois . . . . .	104,389	8.9	103,478	8.8	2,006	10.3	2,132	10.9
Michigan . . . . .	79,972	8.6	78,979	8.5	1,521	9.9	1,672	10.5
Wisconsin . . . . .	43,749	8.9	42,744	8.7	584	8.1	606	8.3
West North Central . . . . .	164,055	9.1	163,764	9.1	2,279	8.7	2,222	8.1
Minnesota . . . . .	35,270	7.9	34,802	7.9	491	7.3	502	7.3
Iowa . . . . .	25,906	9.1	28,220	9.9	279	7.7	341	8.7
Missouri . . . . .	53,461	10.3	51,558	9.9	799	10.2	702	8.6
North Dakota . . . . .	5,648	8.7	5,657	8.6	82	9.0	72	7.6
South Dakota . . . . .	6,594	9.2	6,394	8.9	99	9.0	107	9.8
Nebraska . . . . .	14,665	9.0	14,785	9.1	177	7.4	188	7.8
Kansas . . . . .	22,511	8.8	22,348	8.8	352	9.4	310	7.7
South Atlantic . . . . .	396,655	8.9	394,868	9.0	6,988	10.1	7,323	10.4
Delaware . . . . .	5,880	8.4	5,803	8.5	142	12.7	106	9.4
Maryland . . . . .	37,982	7.9	39,132	8.2	684	8.1	771	9.2
District of Columbia . . . . .	6,961	11.9	7,518	12.6	199	20.0	203	18.6
Virginia . . . . .	49,151	7.8	48,374	7.8	938	9.7	1,020	10.2
West Virginia . . . . .	19,801	10.9	19,502	10.6	199	9.0	211	9.5
North Carolina . . . . .	58,909	8.7	57,532	8.6	1,123	11.0	1,156	11.0
South Carolina . . . . .	29,983	8.3	29,891	8.4	617	10.7	680	11.5
Georgia . . . . .	52,708	7.9	52,617	8.0	1,364	12.4	1,246	11.0
Florida . . . . .	135,280	10.1	134,499	10.3	1,722	8.9	1,930	9.7
East South Central . . . . .	144,284	9.3	147,315	9.5	2,326	10.0	2,444	10.1
Kentucky . . . . .	35,281	9.5	35,544	9.5	452	8.2	495	8.6
Tennessee . . . . .	45,351	9.0	45,228	9.1	709	9.7	759	10.4
Alabama . . . . .	38,027	9.2	41,289	10.0	675	11.2	654	9.6
Mississippi . . . . .	25,625	9.8	25,254	9.6	490	11.3	536	12.2
West South Central . . . . .	221,795	8.1	218,824	8.1	4,054	8.4	4,138	8.6
Arkansas . . . . .	24,230	10.0	24,922	10.3	361	10.4	362	10.0
Louisiana . . . . .	38,290	8.8	36,832	8.4	716	9.6	761	10.6
Oklahoma . . . . .	30,349	9.5	30,314	9.4	467	9.9	463	9.8
Texas . . . . .	128,926	7.4	126,756	7.4	2,510	7.7	2,552	7.8
Mountain . . . . .	99,248	7.1	97,162	7.1	1,932	7.9	2,067	8.5
Montana . . . . .	7,071	8.8	6,964	8.6	88	7.6	112	9.5
Idaho . . . . .	7,789	7.5	7,603	7.4	150	8.7	149	9.0
Wyoming . . . . .	3,167	6.8	3,248	6.9	49	7.2	56	8.0
Colorado . . . . .	22,334	6.7	21,545	6.5	446	8.3	443	8.4
New Mexico . . . . .	11,116	7.1	10,934	7.1	239	8.5	252	8.8
Arizona . . . . .	29,329	7.9	28,653	7.9	588	8.7	610	8.9
Utah . . . . .	9,199	5.3	9,325	5.4	210	6.0	264	7.3
Nevada . . . . .	9,243	7.5	8,890	7.6	162	7.1	181	8.5
Pacific . . . . .	290,482	7.2	285,881	7.3	5,870	7.8	5,935	7.7
Washington . . . . .	37,682	7.6	36,525	7.5	564	7.4	616	7.9
Oregon . . . . .	25,205	8.6	25,725	8.9	326	7.6	331	7.5
California . . . . .	218,735	7.2	214,692	7.2	4,748	7.8	4,722	7.6
Alaska . . . . .	2,145	4.0	2,198	4.2	101	9.0	118	10.1
Hawaii . . . . .	6,715	5.9	6,741	6.0	131	6.5	148	7.3

Data for all years are provisional estimates by State of residence rather than by State of occurrence and, therefore, figures for 1990 differ from those published previously.

Table 4. Provisional number of deaths and death rates, by age, race, and sex: United States, 1991

[Data are provisional, estimated from a 10-percent sample of deaths. Rates per 100,000 population in specified group. Figures may differ from those previously published. Due to rounding of estimates, figures may not add to totals. For information on standard errors of the estimates and further discussion, see Technical notes]

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 . . . . .	2,165,000	1,124,040	1,040,700	1,868,380	960,910	907,470	296,360	163,130	133,230	264,740	144,680	120,060
Under 1 year . . . . .	36,500	20,850	15,620	23,880	13,850	10,030	12,590	7,000	5,590	11,490	6,420	5,070
1-4 years . . . . .	7,150	3,830	3,320	4,910	2,690	2,220	2,240	1,140	1,100	1,960	1,010	950
5-14 years . . . . .	8,740	5,370	3,370	6,330	3,910	2,420	2,410	1,460	950	2,040	1,260	780
15-24 years . . . . .	37,950	28,820	9,130	27,510	20,720	6,790	10,440	8,100	2,340	9,340	7,270	2,070
25-34 years . . . . .	59,660	43,700	15,960	42,470	31,310	11,160	17,190	12,390	4,800	15,360	10,990	4,370
35-44 years . . . . .	87,680	60,680	27,000	64,140	45,020	19,120	23,540	15,660	7,880	21,360	14,240	7,120
45-54 years . . . . .	119,600	75,960	43,640	93,480	59,750	33,730	26,120	16,210	9,910	23,530	14,650	8,880
55-59 years . . . . .	96,540	59,610	36,930	77,970	48,440	29,530	18,570	11,170	7,400	16,660	10,070	6,590
60-64 years . . . . .	151,310	92,400	58,910	126,670	78,130	48,540	24,640	14,270	10,370	22,150	12,930	9,220
65-69 years . . . . .	216,050	127,380	88,670	184,730	109,520	75,210	31,320	17,860	13,460	27,990	15,820	12,170
70-74 years . . . . .	263,030	148,320	114,710	231,500	131,740	99,760	31,530	16,580	14,950	28,160	14,650	13,510
75-79 years . . . . .	301,060	159,280	141,780	270,280	144,000	126,280	30,780	15,280	15,500	27,290	13,310	13,980
80-84 years . . . . .	303,740	139,350	164,390	275,830	126,560	149,270	27,910	12,790	15,120	24,780	10,930	13,850
85 years and over . . . . .	474,910	157,960	316,950	437,990	144,840	293,150	36,920	13,120	23,800	32,490	11,030	21,460
Not stated . . . . .	850	530	320	690	430	260	160	100	60	140	100	40
	Rate											
All ages <sup>1</sup> . . . . .	854.0	909.1	801.6	880.1	924.3	837.6	719.7	828.8	619.9	835.4	961.5	721.3
Under 1 year <sup>2</sup> . . . . .	901.8	1,007.2	790.5	747.9	845.5	645.0	1,476.0	1,620.4	1,327.8	1,725.2	1,899.4	1,545.7
1-4 years . . . . .	46.7	48.9	44.5	40.3	43.1	37.4	71.8	71.6	71.9	81.1	82.1	80.0
5-14 years . . . . .	24.0	28.8	19.0	21.8	26.2	17.1	32.9	39.2	26.4	35.8	43.5	27.9
15-24 years . . . . .	107.1	160.8	52.2	96.1	142.7	48.2	153.3	238.0	68.7	176.2	277.1	77.3
25-34 years . . . . .	137.4	201.1	73.6	117.6	171.6	62.5	235.4	355.3	125.9	273.1	413.5	147.3
35-44 years . . . . .	222.7	311.3	135.8	191.7	268.7	114.5	398.3	572.8	248.1	484.9	706.7	297.9
45-54 years . . . . .	458.2	598.2	325.6	416.6	541.4	295.9	713.1	974.7	495.5	861.9	1,202.8	587.3
55-59 years . . . . .	910.8	1,176.4	667.6	853.3	1,100.2	623.8	1,270.2	1,682.2	927.3	1,475.6	1,963.0	1,069.8
60-64 years . . . . .	1,410.9	1,832.6	1,036.8	1,350.3	1,759.3	982.6	1,834.7	2,374.4	1,397.6	2,105.5	2,710.7	1,603.5
65-69 years . . . . .	2,102.5	2,724.7	1,583.1	2,037.6	2,644.1	1,527.4	2,588.4	3,350.8	1,988.2	2,930.9	3,757.7	2,279.0
70-74 years . . . . .	3,140.7	4,051.4	2,433.4	3,086.3	4,004.3	2,369.0	3,607.6	4,469.0	2,972.2	4,081.2	5,051.7	3,377.5
75-79 years . . . . .	4,830.1	6,396.8	3,787.9	4,829.9	6,431.4	3,761.7	4,832.0	6,087.6	4,015.5	5,436.3	6,860.8	4,539.0
80-84 years . . . . .	7,666.3	9,904.1	6,436.6	7,632.3	9,887.5	6,395.5	8,043.2	10,070.9	6,872.7	9,143.9	11,385.4	7,914.3
85 years and over . . . . .	14,395.6	17,150.9	13,328.4	14,673.0	17,620.4	13,552.9	11,758.0	13,252.5	11,069.8	12,593.0	14,324.7	11,856.4

<sup>1</sup>Figures for age not stated are included in "All ages" but are not distributed among age groups.

<sup>2</sup>Death rates under 1 year (based on population estimates) differ from infant mortality rates (based on live births); see table 11 for infant mortality rates and Technical notes for discussion of the difference.

Table 5. Death rates by age, race, and sex and age-adjusted death rates by race and sex: United States, 1960, 1970, 1980, and 1985-91

[Data for 1990 and 1991 are provisional, estimated from a 10-percent sample of deaths; for all other years, data are final. Rates per 100,000 population in specified group based on populations enumerated as of April 1 for 1960, 1970, and 1980 and estimated as of July 1 for all other years. Figures may differ from those previously published. For method of computation, information on standard errors of the estimates, and further discussion, see Technical notes]

Race, sex, and year	All ages <sup>1</sup>	Under 1 year <sup>2</sup>	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	Age-adjusted rate <sup>3</sup>
All races, both sexes													
1991	854.0	901.8	46.7	24.0	107.1	137.4	222.7	458.2	1,162.4	2,568.7	5,932.3	14,395.6	507.9
1990	861.9	936.6	44.2	24.1	104.1	139.6	221.1	463.1	1,175.6	2,607.4	6,084.5	14,784.4	515.1
1989 <sup>4</sup>	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 <sup>4</sup>	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
1987 <sup>4</sup>	872.4	1,018.5	51.6	25.6	99.4	133.2	214.1	498.0	1,241.3	2,751.3	6,282.5	15,320.8	535.5
1986 <sup>4</sup>	873.2	1,032.1	52.0	26.0	102.3	132.1	212.9	504.8	1,255.1	2,801.4	6,348.2	15,398.9	541.7
1985 <sup>4</sup>	873.9	1,067.8	51.4	26.3	95.9	123.4	207.2	516.3	1,282.7	2,838.6	6,445.1	15,480.3	546.1
1980 <sup>4</sup>	878.3	1,288.3	63.9	30.6	115.4	135.5	227.9	584.0	1,346.3	2,994.9	6,692.6	15,980.3	585.8
1970 <sup>4</sup>	945.3	2,142.4	84.5	41.3	127.7	157.4	314.5	730.0	1,658.8	3,582.7	8,004.4	16,344.9	714.3
1960 <sup>4</sup>	954.7	2,696.4	109.1	46.6	106.3	146.4	299.4	756.0	1,735.1	3,822.1	8,745.2	19,857.5	760.9
All races, male													
1991	909.1	1,007.2	48.9	28.8	160.8	201.1	311.3	598.2	1,503.6	3,307.3	7,663.1	17,150.9	660.1
1990	917.2	1,037.5	48.7	29.1	156.1	205.6	306.1	600.9	1,507.5	3,358.5	7,950.2	17,521.6	668.9
1989 <sup>4</sup>	921.0	1,107.0	54.2	30.1	147.2	201.2	307.0	617.9	1,564.8	3,439.2	7,929.3	17,615.9	678.7
1988 <sup>4</sup>	940.0	1,113.7	56.5	30.9	151.0	196.7	301.4	629.0	1,606.9	3,573.8	8,223.2	18,370.8	696.7
1987 <sup>4</sup>	934.7	1,128.8	57.5	31.9	146.1	192.6	291.8	644.2	1,624.6	3,617.8	8,224.4	18,031.1	698.6
1986 <sup>4</sup>	940.7	1,152.7	57.9	31.7	151.4	192.7	288.1	653.1	1,648.2	3,701.4	8,353.0	18,187.4	709.1
1985 <sup>4</sup>	945.0	1,197.0	58.1	31.6	141.1	178.0	278.3	669.0	1,692.6	3,787.7	8,504.2	18,325.1	716.8
1980 <sup>4</sup>	976.9	1,428.5	72.6	36.7	172.3	196.1	299.2	767.3	1,815.1	4,105.2	8,816.7	18,801.1	777.2
1970 <sup>4</sup>	1,090.3	2,410.0	93.2	50.5	188.5	215.3	402.6	958.5	2,282.7	4,873.8	10,010.2	17,821.5	931.6
1960 <sup>4</sup>	1,104.5	3,059.3	119.5	55.7	152.1	187.9	372.8	992.2	2,309.5	4,914.4	10,178.4	21,186.3	949.3
All races, female													
1991	801.6	790.5	44.5	19.0	52.2	73.6	135.8	325.6	854.7	1,971.7	4,862.2	13,328.4	382.1
1990	809.3	831.2	39.4	18.9	50.8	73.4	138.1	332.6	877.5	2,002.1	4,941.7	13,727.5	389.0
1989 <sup>4</sup>	814.3	898.4	44.0	20.3	51.6	74.8	138.5	339.8	881.7	2,010.7	5,050.0	14,033.9	395.3
1988 <sup>4</sup>	826.9	897.7	45.0	20.4	52.1	74.0	140.0	350.9	904.7	2,056.1	5,173.3	14,508.1	404.4
1987 <sup>4</sup>	813.1	902.2	45.4	19.0	51.7	73.8	138.6	359.8	900.3	2,062.6	5,117.6	14,260.9	403.3
1986 <sup>4</sup>	809.3	905.8	45.8	19.9	52.3	71.6	139.8	364.8	906.1	2,090.8	5,151.9	14,297.5	406.6
1985 <sup>4</sup>	806.6	932.4	44.5	20.8	49.9	68.9	138.3	372.5	919.0	2,094.7	5,219.9	14,343.2	409.4
1980 <sup>4</sup>	785.3	1,141.7	54.7	24.2	57.5	75.9	159.3	412.9	934.3	2,144.7	5,440.1	14,746.9	432.6
1970 <sup>4</sup>	807.8	1,863.7	75.4	31.8	68.1	101.6	231.1	517.2	1,098.9	2,579.7	6,677.6	15,518.0	532.5
1960 <sup>4</sup>	809.2	2,321.3	98.4	37.3	61.3	106.6	229.4	526.7	1,196.4	2,871.8	7,633.1	19,008.4	590.6
White, both sexes													
1991	880.1	747.9	40.3	21.8	96.1	117.6	191.7	416.6	1,105.1	2,512.5	5,929.6	14,673.0	483.7
1990	891.6	814.4	40.0	23.1	95.1	120.6	192.4	425.3	1,125.2	2,565.7	6,081.0	15,087.7	494.3
1989 <sup>4</sup>	887.2	815.5	43.2	23.6	91.5	118.3	189.0	427.0	1,141.1	2,580.1	6,099.1	15,272.3	496.1
1988 <sup>4</sup>	905.1	832.0	45.7	23.9	95.1	116.2	188.0	438.8	1,173.0	2,650.6	6,282.9	15,875.6	509.8
1987 <sup>4</sup>	895.5	845.1	46.4	24.1	93.8	115.7	184.2	451.9	1,182.1	2,688.9	6,247.8	15,580.5	511.1
1986 <sup>4</sup>	896.2	870.7	46.6	24.4	98.8	115.1	184.6	458.7	1,193.8	2,741.2	6,312.6	15,639.1	518.0
1985 <sup>4</sup>	897.1	916.3	46.2	24.8	92.9	108.4	181.0	471.5	1,218.7	2,772.8	6,406.8	15,757.0	523.1
1980 <sup>4</sup>	892.5	1,099.9	57.9	29.1	112.0	118.4	197.2	531.6	1,276.7	2,921.1	6,664.9	16,220.0	559.4
1970 <sup>4</sup>	946.3	1,869.7	75.1	39.1	115.8	129.9	267.0	666.2	1,577.1	3,490.1	8,043.3	16,889.7	679.6
1960 <sup>4</sup>	947.8	2,357.7	95.2	43.9	99.1	123.6	260.4	692.3	1,632.8	3,739.8	8,827.2	20,354.5	727.0
White, male													
1991	924.3	845.5	43.1	26.2	142.7	171.6	268.7	541.4	1,431.0	3,246.4	7,688.8	17,620.4	629.1
1990	937.2	908.8	43.9	27.7	140.7	178.9	265.6	547.1	1,454.8	3,316.2	7,976.4	17,973.3	642.7
1989 <sup>4</sup>	930.2	909.4	47.8	28.1	132.9	173.5	260.8	551.1	1,486.1	3,362.7	7,911.0	17,978.1	644.2
1988 <sup>4</sup>	952.2	930.5	51.0	28.9	139.7	169.6	257.2	564.6	1,530.2	3,504.5	8,201.8	18,814.9	664.3
1987 <sup>4</sup>	947.8	942.1	52.0	30.0	137.3	167.8	249.6	582.8	1,552.8	3,548.4	8,212.2	18,434.9	668.2
1986 <sup>4</sup>	954.4	976.6	52.2	29.9	145.9	168.8	248.4	592.2	1,573.1	3,634.8	8,341.7	18,576.1	679.8
1985 <sup>4</sup>	960.0	1,038.9	52.4	29.9	136.3	157.1	241.4	608.8	1,614.3	3,716.8	8,500.4	18,788.9	688.7
1980 <sup>4</sup>	983.3	1,230.3	66.1	35.0	167.0	171.3	257.4	698.9	1,728.5	4,035.7	8,829.8	19,097.3	745.3
1970 <sup>4</sup>	1,086.7	2,113.2	83.6	48.0	170.8	176.6	343.5	882.9	2,202.6	4,810.1	10,098.8	18,551.7	893.4
1960 <sup>4</sup>	1,098.5	2,694.1	104.9	52.7	143.7	163.2	332.6	932.2	2,225.2	4,848.4	10,299.6	21,750.0	917.7
White, female													
1991	837.6	645.0	37.4	17.1	48.2	62.5	114.5	295.9	807.1	1,915.4	4,841.9	13,552.9	363.8
1990	847.9	715.0	35.9	18.2	48.2	61.1	119.2	307.5	825.1	1,956.9	4,921.1	13,993.7	372.8
1989 <sup>4</sup>	846.0	716.0	38.4	18.8	48.9	62.0	117.4	307.0	828.4	1,947.5	5,001.7	14,242.8	374.9
1988 <sup>4</sup>	860.0	728.2	40.2	18.6	49.2	61.7	119.1	317.2	850.5	1,995.9	5,129.3	14,755.9	384.4
1987 <sup>4</sup>	845.5	742.9	40.5	17.9	49.1	62.6	119.3	325.7	848.5	2,001.8	5,075.2	14,486.9	384.1
1986 <sup>4</sup>	840.7	759.1	40.7	18.6	50.4	60.4	121.3	330.3	853.3	2,031.8	5,108.7	14,502.9	387.7
1985 <sup>4</sup>	837.1	786.9	39.7	19.4	48.4	58.9	121.2	339.5	864.1	2,028.3	5,171.4	14,579.4	390.6
1980 <sup>4</sup>	806.1	962.5	49.3	22.9	55.5	65.4	138.2	372.7	876.2	2,066.6	5,401.7	14,979.6	411.1
1970 <sup>4</sup>	812.6	1,614.6	66.1	29.9	61.6	84.1	193.3	462.9	1,014.9	2,470.7	6,698.7	15,980.2	501.7
1960 <sup>4</sup>	800.9	2,007.7	85.2	34.7	54.9	85.0	191.1	458.8	1,078.9	2,779.3	7,696.6	19,477.7	555.0

See footnotes at end of table.

**Table 5. Death rates by age, race, and sex and age-adjusted death rates by race and sex: United States, 1960, 1970, 1980, and 1985-91 - Con.**

Data for 1990 and 1991 are provisional, estimated from a 10-percent sample of deaths; for all other years, data are final. Rates per 100,000 population in specified group based on populations enumerated as of April 1 for 1960, 1970, and 1980 and estimated as of July 1 for all other years. Figures may differ from those previously published. For method of computation, information on standard errors of the estimates, and further discussion, see Technical notes]

Race, sex, and year	All ages <sup>1</sup>	Under 1 year <sup>2</sup>	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	Age-adjusted rate <sup>3</sup>
<b>All other, both sexes</b>													
1991	719.7	1,476.0	71.8	32.9	153.3	235.4	398.3	713.1	1,540.5	3,015.4	5,963.4	11,758.0	643.8
1990	706.2	1,408.1	60.9	28.5	142.4	235.0	386.5	696.3	1,517.6	2,945.6	6,125.0	11,851.4	633.5
1989 <sup>4</sup>	755.2	1,772.5	73.9	32.5	136.7	239.1	412.8	775.3	1,644.2	3,198.3	6,518.8	12,700.7	684.8
1988 <sup>4</sup>	757.5	1,745.3	72.3	33.4	133.2	235.2	408.4	783.7	1,684.2	3,249.8	6,692.0	12,789.6	692.5
1987 <sup>4</sup>	745.8	1,757.0	73.6	31.8	124.9	225.7	396.7	786.7	1,677.2	3,286.6	6,629.7	12,683.3	688.0
1986 <sup>4</sup>	745.6	1,719.2	75.0	32.5	118.9	223.4	387.9	796.1	1,719.2	3,321.2	6,708.3	12,917.6	693.1
1985 <sup>4</sup>	743.3	1,720.8	73.8	32.8	110.3	204.5	372.4	805.2	1,781.2	3,412.8	6,827.6	12,516.1	697.8
1980 <sup>4</sup>	791.7	2,148.5	91.4	37.4	133.6	239.1	428.9	967.7	1,954.9	3,671.0	6,984.3	13,227.1	774.2
1970 <sup>4</sup>	938.4	3,597.1	134.1	53.7	203.6	348.7	664.3	1,290.9	2,431.1	4,488.4	7,511.2	10,750.3	983.4
1960 <sup>4</sup>	1,008.5	4,626.4	190.8	64.3	158.2	318.6	633.4	1,342.9	2,774.6	4,784.9	7,631.1	13,907.6	1,046.1
<b>All other, male</b>													
1991	828.8	1,620.4	71.6	39.2	238.0	355.3	572.8	974.7	2,011.1	3,808.6	7,423.3	13,252.5	842.6
1990	809.5	1,538.8	68.0	35.1	223.0	348.3	558.6	959.8	1,885.6	3,715.1	7,704.9	13,698.9	824.4
1989 <sup>4</sup>	870.8	1,914.6	80.8	38.2	210.4	351.8	600.0	1,068.6	2,143.3	4,091.4	8,100.8	14,519.1	896.4
1988 <sup>4</sup>	872.7	1,891.0	79.8	38.9	202.1	346.1	587.3	1,065.7	2,185.8	4,175.6	8,401.2	14,554.7	904.3
1987 <sup>4</sup>	861.5	1,938.0	81.1	39.9	186.6	331.6	570.9	1,057.9	2,181.8	4,230.8	8,340.0	14,514.5	898.1
1986 <sup>4</sup>	862.7	1,911.8	82.3	39.6	177.4	329.0	554.0	1,069.2	2,245.8	4,295.7	8,459.3	14,757.5	905.7
1985 <sup>4</sup>	858.6	1,888.0	82.8	38.7	164.2	298.5	529.9	1,087.4	2,335.6	4,424.9	8,540.1	14,376.6	910.4
1980 <sup>4</sup>	936.5	2,350.2	103.0	44.9	201.6	357.8	594.2	1,309.1	2,606.3	4,747.2	8,688.5	15,774.9	1,015.1
1970 <sup>4</sup>	1,115.9	4,020.0	144.7	65.0	304.6	504.1	873.5	1,646.1	3,046.6	5,474.4	8,981.0	11,405.2	1,231.4
1960 <sup>4</sup>	1,152.0	5,189.4	207.3	75.2	213.8	386.4	729.2	1,551.0	3,151.5	5,664.0	8,662.6	15,238.7	1,211.0
<b>All other, female</b>													
1991	619.9	1,327.8	71.9	26.4	68.7	125.9	248.1	495.5	1,153.9	2,407.6	5,052.8	11,069.8	482.7
1990	611.7	1,273.6	53.6	21.6	61.7	131.6	239.0	476.8	1,216.0	2,359.2	5,138.2	11,004.9	480.0
1989 <sup>4</sup>	649.5	1,626.0	66.8	26.6	63.2	136.5	253.0	530.5	1,234.6	2,520.0	5,538.0	11,857.8	515.0
1988 <sup>4</sup>	652.2	1,600.0	64.6	27.7	64.6	134.3	255.9	548.4	1,274.5	2,550.1	5,626.3	11,960.1	523.5
1987 <sup>4</sup>	640.0	1,571.5	65.8	23.5	63.5	129.5	248.4	559.4	1,265.1	2,571.2	5,542.5	11,809.8	520.1
1986 <sup>4</sup>	638.8	1,521.8	67.5	25.2	60.9	128.0	246.6	568.9	1,287.7	2,589.7	5,591.5	12,025.5	524.0
1985 <sup>4</sup>	638.1	1,550.3	64.6	26.7	57.1	120.0	238.7	570.7	1,329.3	2,659.2	5,741.9	11,688.6	530.0
1980 <sup>4</sup>	660.6	1,944.1	79.5	29.8	68.0	135.7	288.3	687.8	1,423.1	2,856.2	5,863.3	11,922.3	582.6
1970 <sup>4</sup>	775.3	3,169.4	123.3	42.3	108.8	215.7	490.5	979.4	1,886.9	3,675.6	6,992.6	10,288.9	770.8
1960 <sup>4</sup>	872.6	4,067.1	174.4	53.4	106.1	260.0	547.3	1,144.9	2,409.7	3,981.4	6,708.4	12,871.2	893.3
<b>Black, both sexes</b>													
1991	835.4	1,725.2	81.1	35.8	176.2	273.1	484.9	861.9	1,779.5	3,413.4	6,736.1	12,593.0	742.8
1990	820.4	1,652.5	66.9	30.8	161.8	276.1	471.4	832.3	1,767.5	3,319.7	6,873.2	12,707.3	729.6
1989 <sup>4</sup>	872.9	2,023.7	80.6	35.0	150.8	280.6	503.6	920.9	1,883.8	3,611.9	7,280.3	13,442.8	783.1
1988 <sup>4</sup>	874.2	1,996.6	80.8	36.0	145.2	275.4	499.3	924.6	1,923.9	3,649.7	7,440.9	13,482.5	788.8
1987 <sup>4</sup>	856.9	2,003.7	82.1	33.9	135.0	263.1	480.4	923.0	1,907.1	3,668.6	7,313.9	13,222.6	778.6
1986 <sup>4</sup>	854.2	1,955.3	83.8	34.5	126.5	259.1	465.8	928.6	1,955.6	3,697.9	7,338.4	13,515.2	781.0
1985 <sup>4</sup>	845.7	1,951.1	80.0	34.8	115.9	235.4	443.7	935.7	2,007.5	3,759.0	7,407.4	13,076.0	779.9
1980 <sup>4</sup>	875.4	2,356.6	97.6	39.0	138.3	269.5	489.9	1,087.6	2,146.6	3,932.9	7,382.6	13,610.8	842.5
1970 <sup>4</sup>	999.3	3,835.6	140.0	55.5	212.4	381.2	724.9	1,383.8	2,570.6	4,719.4	7,860.7	11,300.5	1,044.0
1960 <sup>4</sup>	1,038.6	4,740.9	190.9	64.5	157.9	333.0	659.0	1,391.7	2,899.1	4,880.2	7,594.9	13,828.4	1,073.3
<b>Black, male</b>													
1991	961.5	1,899.4	82.1	43.5	277.1	413.5	706.7	1,202.8	2,323.2	4,285.5	8,358.6	14,324.7	977.7
1990	941.5	1,796.4	71.7	38.4	258.6	414.8	688.0	1,181.1	2,180.2	4,172.9	8,731.4	14,743.2	956.9
1989 <sup>4</sup>	1,006.5	2,179.0	88.4	41.7	235.8	417.1	744.1	1,296.9	2,439.6	4,621.3	9,064.4	15,355.6	1,032.1
1988 <sup>4</sup>	1,006.8	2,167.7	90.5	42.1	223.3	409.7	728.3	1,282.2	2,477.5	4,695.3	9,419.9	15,454.3	1,037.8
1987 <sup>4</sup>	989.5	2,211.4	90.5	42.5	203.9	389.8	701.5	1,263.6	2,464.7	4,737.6	9,240.7	15,226.1	1,023.2
1986 <sup>4</sup>	987.7	2,181.7	90.9	42.0	190.5	385.6	675.9	1,266.5	2,545.5	4,789.9	9,290.8	15,488.1	1,026.9
1985 <sup>4</sup>	976.8	2,134.8	89.0	41.3	174.1	347.4	641.8	1,283.3	2,623.1	4,888.7	9,298.4	15,046.2	1,024.0
1980 <sup>4</sup>	1,034.1	2,586.7	110.5	47.4	209.1	407.3	689.8	1,479.9	2,873.0	5,131.1	9,231.6	16,098.8	1,112.8
1970 <sup>4</sup>	1,186.6	4,298.9	150.5	67.1	320.6	559.5	956.6	1,777.5	3,256.9	5,803.2	9,454.9	12,222.3	1,318.6
1960 <sup>4</sup>	1,181.7	5,306.8	208.5	75.1	212.0	402.5	762.0	1,624.8	3,316.4	5,798.7	8,605.1	14,844.8	1,246.1
<b>Black, female</b>													
1991	721.3	1,545.7	80.0	27.9	77.3	147.3	297.9	587.3	1,327.5	2,749.5	5,761.9	11,856.4	554.5
1990	711.0	1,504.6	62.0	23.0	67.0	152.0	289.5	550.8	1,424.2	2,673.9	5,763.7	11,831.4	549.4
1989 <sup>4</sup>	752.4	1,863.9	72.5	28.1	67.8	158.4	302.0	617.1	1,424.2	2,854.5	6,211.4	12,526.7	585.6
1988 <sup>4</sup>	754.5	1,821.5	70.7	29.8	69.0	155.5	307.7	633.9	1,465.5	2,874.9	6,255.3	12,694.3	593.1
1987 <sup>4</sup>	737.3	1,791.5	73.5	25.0	67.9	150.0	295.9	646.3	1,445.0	2,874.5	6,145.7	12,313.2	586.2
1986 <sup>4</sup>	733.9	1,731.1	76.5	26.9	64.3	146.5	290.2	654.6	1,469.8	2,892.3	6,148.8	12,510.3	588.2
1985 <sup>4</sup>	727.7	1,756.6	70.8	28.1	59.5	136.3	278.4	654.0	1,501.7	2,925.7	6,252.0	12,154.7	589.1
1980 <sup>4</sup>	733.3	2,123.7	84.4	30.5	70.5	150.0	323.9	768.2	1,561.0	3,057.4	6,212.1	12,367.2	631.1
1970 <sup>4</sup>	829.2	3,368.8	129.4	43.8	111.9	231.0	533.0	1,043.9	1,986.2	3,860.9	6,691.5	10,706.6	814.4
1960 <sup>4</sup>	905.0	4,162.2	173.3	53.8	107.5	273.2	568.5	1,177.0	2,510.9	4,064.2	6,730.0	13,052.6	916.9

<sup>1</sup>Figures for age not stated are included in "All ages" but are not distributed among age groups.

<sup>2</sup>Death rates under 1 year (based on population data) differ from infant mortality rates (based on live births); see table 11 for infant mortality rates and Technical notes for discussion of the difference.

<sup>3</sup>For method of computation, see Technical notes.

<sup>4</sup>Data are final; see Technical notes.

**Table 6. Provisional abridged life table for the total population: United States, 1991**

[Data are provisional, estimated from a 10-percent sample of deaths. For further discussion, see Technical notes]

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)
0-1	0.0091	100,000	908	99,221	7,567,873	75.7
1-5	0.0018	99,092	183	395,939	7,468,652	75.4
5-10	0.0010	98,909	98	494,278	7,072,713	71.5
10-15	0.0014	98,811	138	493,787	6,578,435	66.6
15-20	0.0048	98,673	471	492,297	6,084,648	61.7
20-25	0.0059	98,202	574	489,604	5,592,351	56.9
25-30	0.0061	97,628	598	486,644	5,102,747	52.3
30-35	0.0075	97,030	731	483,366	4,616,103	47.6
35-40	0.0096	96,299	928	479,307	4,132,737	42.9
40-45	0.0128	95,371	1,221	474,020	3,653,430	38.3
45-50	0.0185	94,150	1,742	466,714	3,179,410	33.8
50-55	0.0276	92,408	2,551	456,063	2,712,696	29.4
55-60	0.0446	89,857	4,012	439,831	2,256,633	25.1
60-65	0.0684	85,845	5,874	415,336	1,816,802	21.2
65-70	0.1003	79,971	8,021	380,669	1,401,466	17.5
70-75	0.1465	71,950	10,541	334,314	1,020,797	14.2
75-80	0.2170	61,409	13,324	274,548	686,483	11.2
80-85	0.3233	48,085	15,548	201,765	411,935	8.6
85 and over	1.0000	32,537	32,537	210,170	210,170	6.5

**Table 7. Average length of life in years, by race and sex: United States, 1950, 1960, 1970, and 1980-91**

[Data for 1990 and 1991 are provisional, estimated from a 10-percent sample of deaths; for all other years, data are final. For further discussion, 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
1991	75.7	72.2	79.1	76.4	73.0	79.7	72.2	68.1	76.2	70.0	65.6	74.3
1990	75.4	72.0	78.8	76.0	72.6	79.3	72.4	68.4	76.3	70.3	66.0	74.5
1989 <sup>1</sup>	75.7	72.2	79.1	76.4	73.0	79.7	72.2	68.1	76.2	70.0	65.6	74.3
1988 <sup>1</sup>	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 <sup>1</sup>	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 <sup>1</sup>	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 <sup>1</sup>	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 <sup>1</sup>	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 <sup>1</sup>	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 <sup>1</sup>	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 <sup>1</sup>	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 <sup>1</sup>	73.7	70.0	77.4	74.4	70.7	78.1	69.5	65.3	73.6	68.1	63.8	72.5
1970 <sup>1</sup>	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 <sup>1</sup>	69.7	66.6	73.1	70.6	67.4	74.1	63.6	61.1	66.3	---	---	---
1950 <sup>1</sup>	68.2	65.6	71.1	69.1	66.5	72.2	60.8	59.1	62.9	---	---	---

<sup>1</sup>Data are final; see Technical notes.



**Table 8. Provisional age-specific and age-adjusted death rates for the 15 leading causes and selected components: United States, 1990 and 1991**

[Data are provisional, estimated from a 10-percent sample of deaths. Rates per 100,000 population in specified group. Figures may differ from those previously published. For explanation of asterisk preceding cause-of-death codes, information on standard errors of the estimates, and further discussion, see Technical notes]

Cause of death (Ninth Revision, International Classification of Diseases, 1975)	Year	Age											Age-adjusted rate <sup>b</sup>
		All ages <sup>1</sup>	Under 1 year <sup>2</sup>	1-14 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 . . . . .	1991	854.0	901.8	30.7	107.1	137.4	222.7	458.2	1,162.4	2,568.7	5,932.3	14,395.6	507.9
	1990	861.9	936.6	30.1	104.1	139.6	221.1	463.1	1,175.6	2,607.4	6,084.5	14,784.4	515.1
Diseases of heart . . . . .390-398,402,404-429	1991	283.3	20.3	1.1	3.0	7.3	30.1	118.7	354.3	850.5	2,229.2	6,306.5	146.1
	1990	289.0	17.9	1.1	2.4	7.6	30.2	117.9	357.2	885.8	2,344.3	6,451.4	150.3
Rheumatic fever and rheumatic heart disease . . . . .390-398	1991	2.4	*	*	*	*	0.5	1.5	3.8	8.8	18.8	29.7	1.4
	1990	2.5	*	*	*	*	0.6	2.0	4.2	8.9	20.8	25.0	1.6
Hypertensive heart disease . . . . .402	1991	8.7	*	*	*	0.5	1.4	5.7	13.6	26.6	60.6	172.5	4.9
	1990	8.7	*	*	*	*	1.3	5.2	12.9	27.6	63.8	177.9	4.8
Hypertensive heart and renal disease . . . . .404	1991	0.8	*	*	*	*	*	0.4	*	2.3	7.8	17.0	0.4
	1990	0.7	*	*	*	*	*	*	0.5	2.2	6.6	17.4	0.3
Ischemic heart disease . . . . .410-414	1991	188.8	*	*	0.3	2.5	16.2	75.1	240.0	586.7	1,531.0	4,079.1	97.0
	1990	195.1	*	*	*	2.7	16.8	76.4	242.1	617.4	1,624.5	4,246.0	101.0
Acute myocardial infarction . . . . .410	1991	92.2	*	*	*	1.5	9.9	45.9	138.3	314.2	760.4	1,558.0	50.8
	1990	96.5	*	*	*	1.5	10.1	46.2	143.3	337.6	819.8	1,615.4	53.6
Other acute and subacute forms of ischemic heart disease . . . . .411	1991	1.2	*	*	*	*	*	0.7	1.9	4.7	6.9	22.7	0.7
	1990	1.3	*	*	*	*	*	1.5	2.1	5.1	8.1	19.0	0.8
Angina pectoris . . . . .413	1991	0.4	*	*	*	*	*	*	*	1.0	3.0	7.6	0.2
	1990	0.3	*	*	*	*	*	*	*	0.9	2.4	8.9	0.1
Old myocardial infarction and other forms of chronic ischemic heart disease . . . . .412,414	1991	95.1	*	*	*	1.0	6.2	28.3	99.3	266.8	760.8	2,490.8	45.3
	1990	96.9	*	*	*	1.1	6.5	28.7	96.5	273.9	794.0	2,602.7	46.4
Other diseases of endocardium . . . . .424	1991	5.6	*	*	*	0.3	0.6	1.6	3.6	12.4	48.3	161.9	2.5
	1990	4.9	*	*	*	0.3	0.6	1.0	3.8	12.1	42.9	135.2	2.3
All other forms of heart disease . . . . .415-423,425-429	1991	77.1	19.5	1.0	2.3	3.9	11.3	34.4	93.0	213.7	562.6	1,846.0	39.9
	1990	77.1	17.2	1.0	1.9	4.3	10.8	33.1	93.7	217.6	585.7	1,850.0	40.3
Malignant neoplasms, including neoplasms of lymphatic and hematopoietic tissues . . . . .140-208	1991	202.9	*	3.3	5.8	12.3	43.2	154.2	433.2	855.0	1,367.3	1,716.6	132.6
	1990	201.7	*	3.0	4.8	12.7	43.2	155.7	440.7	857.3	1,348.7	1,702.1	133.0
Malignant neoplasms of lip, oral cavity, and pharynx . . . . .140-149	1991	3.0	*	*	*	*	0.8	3.8	8.8	11.8	14.6	17.9	2.2
	1990	3.1	*	*	*	*	0.9	3.6	9.4	12.6	14.9	21.8	2.3
Malignant neoplasms of digestive organs and peritoneum . . . . .150-159	1991	47.5	*	*	0.4	1.4	7.6	30.6	92.1	194.8	344.4	531.1	29.2
	1990	48.4	*	*	*	1.3	7.8	29.7	95.2	199.0	358.8	541.9	29.8
Malignant neoplasms of respiratory and intrathoracic organs . . . . .160-165	1991	58.7	*	*	*	0.8	7.2	45.5	155.6	295.7	360.5	260.1	40.3
	1990	57.3	*	*	*	0.9	6.3	47.2	159.9	287.6	341.1	239.3	39.9
Malignant neoplasm of breast . . . . .174-175	1991	17.5	*	*	*	1.6	8.5	22.0	42.3	61.5	91.5	145.5	12.4
	1990	18.0	*	*	*	1.2	8.3	23.9	43.5	65.9	93.2	143.7	12.9
Malignant neoplasms of genital organs . . . . .179-187	1991	23.4	*	*	*	1.2	3.9	10.8	33.2	92.1	199.7	296.5	13.5
	1990	23.1	*	*	*	1.2	4.1	11.2	30.9	94.6	198.7	284.3	13.4
Malignant neoplasms of urinary organs . . . . .188-189	1991	8.3	*	*	*	*	1.0	4.9	14.0	31.9	67.9	100.6	4.9
	1990	8.1	*	*	*	0.3	1.2	5.1	15.6	31.4	62.7	94.3	5.0
Malignant neoplasms of all other and unspecified sites . . . . .170-173,190-199	1991	24.6	*	1.8	2.0	3.3	8.0	23.1	52.9	93.6	151.2	184.9	17.1
	1990	24.3	*	1.3	2.0	3.8	9.0	21.7	50.5	93.5	142.6	207.0	16.7
Leukemia . . . . .204-208	1991	7.7	*	1.1	1.7	1.5	2.0	4.5	12.3	26.5	54.3	80.9	5.1
	1990	7.4	*	1.1	1.2	1.9	2.0	5.1	13.2	24.9	50.4	73.1	5.0
Other malignant neoplasms of lymphatic and hematopoietic tissues . . . . .200-203	1991	12.1	*	*	0.9	2.2	4.1	9.2	22.0	47.2	83.4	98.8	8.0
	1990	12.0	*	*	0.8	2.1	3.7	8.2	22.5	47.7	86.0	96.9	7.9
Cerebrovascular diseases . . . . .430-438	1991	56.8	*	0.3	0.5	1.8	6.7	16.7	46.8	139.0	486.6	1,525.9	26.5
	1990	57.9	*	0.3	0.8	1.9	6.6	19.7	46.5	144.5	501.5	1,573.9	27.6
Accidents and adverse effects . . . . .E800-E949	1991	36.2	22.0	12.5	45.1	35.3	28.6	27.5	30.9	48.3	105.8	244.0	31.7
	1990	37.3	20.7	12.4	45.7	36.0	31.3	29.3	34.5	44.7	107.4	267.2	32.7

**Table 8. Provisional age-specific and age-adjusted death rates for the 15 leading causes and selected components: United States, 1990 and 1991—Con.**

[Data are provisional, estimated from a 10-percent sample of deaths. Rates per 100,000 population in specified group. Figures may differ from those previously published. For explanation of asterisk preceding cause-of-death codes, information on standard errors of the estimates, and further discussion, see Technical notes]

Cause of death (Ninth Revision, International Classification of Diseases, 1975)	Year	Age											Age- adjusted rate <sup>3</sup>
		All ages <sup>1</sup>	Under 1 year <sup>2</sup>	1-14 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	
Motor vehicle accidents . . . . .E810-E825	1991	17.8	4.7	6.0	33.9	23.0	15.2	14.2	13.7	18.1	28.2	30.6	17.7
	1990	19.1	3.4	6.0	35.9	23.4	17.4	16.1	17.4	18.3	27.3	30.7	18.9
All other accidents and adverse effects . . . . .E800-E807,E826-E949	1991	18.3	17.1	6.5	11.2	12.3	13.4	13.3	17.2	30.2	77.5	213.4	14.0
	1990	18.2	17.2	6.4	9.7	12.7	13.9	13.3	17.1	26.3	79.9	236.5	13.8
Chronic obstructive pulmonary diseases and allied conditions . . . .490-496	1991	35.2	*	0.4	0.6	0.8	1.8	7.4	46.4	152.1	323.9	436.2	19.4
	1990	35.5	*	*	0.5	0.7	1.5	9.0	48.5	150.3	334.0	442.5	19.7
Pneumonia and influenza. . . . .480-487	1991	29.6	15.1	0.6	0.7	1.7	3.5	5.5	17.0	51.9	233.6	1,003.0	12.6
	1990	31.3	14.5	0.4	0.7	1.7	4.1	6.0	18.5	53.6	250.3	1,104.1	13.5
Diabetes mellitus . . . . .250	1991	19.7	*	*	0.5	1.2	4.1	11.5	35.4	74.6	151.6	233.4	12.0
	1990	19.5	*	*	*	1.5	3.8	11.2	33.0	72.0	155.0	251.0	11.7
Suicide . . . . .E950-E959	1991	11.9	...	0.5	13.8	14.1	14.6	14.0	14.3	16.3	24.5	27.6	11.0
	1990	12.3	...	0.5	13.6	15.1	14.4	14.4	15.2	18.1	26.1	22.5	11.3
Human immunodeficiency virus infection. . . . .*042-*044	1991	11.8		0.7	1.8	22.1	31.6	18.0			3.9		11.2
	1990	9.6		0.7	1.6	19.3	25.7	12.7			3.2		9.1
Homicide and legal intervention . . . . .E960-E978	1991	10.8	8.2	1.9	24.1	18.9	11.7	7.9	5.6	4.5	4.1	4.5	11.3
	1990	10.2	8.4	1.8	21.1	18.3	12.0	8.0	4.9	3.5	3.8	4.1	10.6
Chronic liver disease and cirrhosis . . . . .571	1991	9.8	*	*	*	1.5	9.1	15.7	30.3	31.9	32.0	19.7	8.0
	1990	10.2	*	*	*	1.9	9.0	16.9	29.5	34.6	32.9	28.8	8.3
Nephritis, nephrotic syndrome, and nephrosis. . . . .580-589	1991	8.7	6.2	*	*	0.5	1.3	2.3	8.3	24.4	68.0	213.1	4.3
	1990	8.3	3.9	*	*	0.5	1.5	3.2	6.9	22.2	71.3	198.8	4.2
Septicemia . . . . .038	1991	7.7	7.9	0.3	*	0.6	1.6	3.4	7.9	20.2	58.9	171.9	4.1
	1990	7.9	7.9	0.2	*	0.7	1.6	2.8	8.5	20.8	62.2	180.8	4.2
Atherosclerosis . . . . .440	1991	6.7	*	*	*	*	*	0.7	2.6	11.4	51.5	270.4	2.5
	1990	6.6	*	*	*	*	*	0.7	2.5	10.7	48.2	284.0	2.4
Certain conditions originating in the perinatal period. . . . .760-779	1991	6.6	406.0	0.3	*	*	*	*	*	*	*	*	*
	1990	7.0	422.2	0.4	*	*	*	*	*	*	*	*	*

<sup>1</sup>Figures for age not stated are included in "All ages" but are not distributed among age groups.

<sup>2</sup>Death rates under 1 year (based on population estimates) differ from infant mortality rates (based on live births); see table 12 for infant mortality rates by cause and Technical notes for discussion of the difference.

<sup>3</sup>For method of computation, see Technical notes.

<sup>4</sup>Because deaths from this cause occur primarily among infants, age-adjusted rates are not shown; see text.

Table 9. Provisional number of deaths and death rates for 72 selected causes: United States, 1990 and 1991

[Data are provisional, estimated from a 10-percent sample of deaths. Rates per 100,000 population. Figures may differ from those previously published. Due to rounding of estimates, figures may not add to totals. For explanation of asterisk preceding cause-of-death codes, information on standard errors of the estimates, and further discussion, see Technical notes]

Cause of death (Ninth Revision, International Classification of Diseases, 1975)	Number		Rate	
	1991	1990	1991	1990
All causes . . . . .	2,165,000	2,162,000	854.0	861.9
Shigellosis and amebiasis . . . . .004-006	20	—	*	*
Certain other intestinal infections . . . . .007-009	660	420	0.3	0.2
Tuberculosis . . . . .010-018	1,740	1,760	0.7	0.7
Tuberculosis of respiratory system . . . . .010-012	1,210	1,280	0.5	0.5
Other tuberculosis . . . . .013-018	530	480	0.2	0.2
Whooping cough . . . . .033	—	20	*	*
Streptococcal sore throat, scarlatina, and erysipelas . . . . .034-035	10	10	*	*
Meningococcal infection . . . . .036	260	180	0.1	0.1
Septicemia . . . . .038	19,450	19,750	7.7	7.9
Acute poliomyelitis . . . . .045	10	—	*	*
Measles . . . . .055	20	70	*	*
Viral hepatitis . . . . .070	1,920	1,660	0.8	0.7
Syphilis . . . . .090-097	130	110	0.1	0.0
All other infectious and parasitic diseases <sup>1</sup> . . . . .001-003,005,020-032,037, 039-041,*042-*044, 046-054,056-066,071-088,098-139	36,870	32,230	14.5	12.8
Malignant neoplasms, including neoplasms of lymphatic and hematopoietic tissues . . . . .140-208	514,310	506,000	202.9	201.7
Malignant neoplasms of lip, oral cavity, and pharynx . . . . .140-149	7,550	7,860	3.0	3.1
Malignant neoplasms of digestive organs and peritoneum . . . . .150-159	120,410	121,320	47.5	48.4
Malignant neoplasms of respiratory and intrathoracic organs . . . . .160-165	148,830	143,780	58.7	57.3
Malignant neoplasm of breast . . . . .174-175	44,450	45,090	17.5	18.0
Malignant neoplasms of genital organs . . . . .179-187	59,380	57,970	23.4	23.1
Malignant neoplasms of urinary organs . . . . .188-189	20,960	20,360	8.3	8.1
Malignant neoplasms of all other and unspecified sites . . . . .170-173,190-199	62,470	60,920	24.6	24.3
Leukemia . . . . .204-208	19,630	18,670	7.7	7.4
Other malignant neoplasms of lymphatic and hematopoietic tissues . . . . .200-203	30,630	30,050	12.1	12.0
Benign neoplasms, carcinoma in situ, and neoplasms of uncertain behavior and of unspecified nature . . . . .210-239	6,970	7,040	2.7	2.8
Diabetes mellitus . . . . .250	49,980	48,840	19.7	19.5
Nutritional deficiencies . . . . .260-269	3,160	3,060	1.2	1.2
Anemias . . . . .280-285	4,150	4,220	1.6	1.7
Meningitis . . . . .320-322	730	1,150	0.3	0.5
Major cardiovascular diseases . . . . .390-448	913,350	920,420	360.3	366.9
Diseases of heart . . . . .390-398,402,404-429	718,090	725,010	283.3	289.0
Rheumatic fever and rheumatic heart disease . . . . .390-398	6,020	6,280	2.4	2.5
Hypertensive heart disease . . . . .402	22,020	21,770	8.7	8.7
Hypertensive heart and renal disease . . . . .404	2,040	1,840	0.8	0.7
Ischemic heart disease . . . . .410-414	478,530	489,340	188.8	195.1
Acute myocardial infarction . . . . .410	233,600	242,200	92.2	96.5
Other acute and subacute forms of ischemic heart disease . . . . .411	3,060	3,340	1.2	1.3
Angina pectoris . . . . .413	900	740	0.4	0.3
Old myocardial infarction and other forms of chronic ischemic heart disease . . . . .412,414	240,970	243,050	95.1	96.9
Other diseases of endocardium . . . . .424	14,150	12,270	5.6	4.9
All other forms of heart disease . . . . .415-423,425-429	195,320	193,510	77.1	77.1
Hypertension with or without renal disease . . . . .401,403	9,220	9,180	3.6	3.7
Cerebrovascular diseases . . . . .430-438	144,070	145,340	56.8	57.9
Intracerebral and other intracranial hemorrhage . . . . .431-432	21,000	20,980	8.3	8.4
Cerebral thrombosis and unspecified occlusion of cerebral arteries . . . . .434.0,434.9	17,950	18,360	7.1	7.3
Cerebral embolism . . . . .434.1	690	660	0.3	0.3
All other and late effects of cerebrovascular diseases . . . . .430,433,435-438	104,420	105,340	41.2	42.0
Atherosclerosis . . . . .440	17,060	16,490	6.7	6.6
Other diseases of arteries, arterioles, and capillaries . . . . .441-448	24,910	24,400	9.8	9.7
Acute bronchitis and bronchiolitis . . . . .466	580	550	0.2	0.2
Pneumonia and influenza . . . . .480-487	74,980	78,640	29.6	31.3
Pneumonia . . . . .480-486	73,990	76,720	29.2	30.6
Influenza . . . . .487	990	1,910	0.4	0.8
Chronic obstructive pulmonary diseases and allied conditions . . . . .490-496	89,130	88,980	35.2	35.5
Bronchitis, chronic and unspecified . . . . .490-491	3,970	3,350	1.6	1.3
Emphysema . . . . .492	16,550	16,470	6.5	6.6
Asthma . . . . .493	4,520	4,600	1.8	1.8
Other chronic obstructive pulmonary diseases and allied conditions . . . . .494-496	64,090	64,560	25.3	25.7
Ulcer of stomach and duodenum . . . . .531-533	6,410	6,190	2.5	2.5
Appendicitis . . . . .540-543	470	430	0.2	0.2
Hernia of abdominal cavity and intestinal obstruction without mention of hernia . . . . .550-553,560	5,800	5,580	2.3	2.2
Chronic liver disease and cirrhosis . . . . .571	24,740	25,600	9.8	10.2
Cholelithiasis and other disorders of gallbladder . . . . .574-575	3,030	3,040	1.2	1.2
Nephritis, nephrotic syndrome, and nephrosis . . . . .580-589	22,020	20,860	8.7	8.3
Acute glomerulonephritis and nephrotic syndrome . . . . .580-581	300	330	0.1	0.1
Chronic glomerulonephritis, nephritis and nephropathy, not specified as acute or chronic, and renal sclerosis, unspecified . . . . .582-583,587	1,460	1,380	0.6	0.6
Renal failure, disorders resulting from impaired renal function, and small kidney of unknown cause . . . . .584-586,588-589	20,250	19,150	8.0	7.6

See footnote at end of table.

Table 9. Provisional number of deaths and death rates for 72 selected causes: United States, 1990 and 1991—Con.

[Data are provisional, estimated from a 10-percent sample of deaths. Rates per 100,000 population. Figures may differ from those previously published. Due to rounding of estimates, figures may not add to totals. For explanation of asterisk preceding cause-of-death codes, information on standard errors of the estimates, and further discussion, see Technical notes]

Cause of death (Ninth Revision, International Classification of Diseases, 1975)	Number		Rate	
	1991	1990	1991	1990
Infections of kidney . . . . .590	1,260	1,100	0.5	0.4
Hyperplasia of prostate . . . . .600	340	300	0.1	0.1
Complications of pregnancy, childbirth, and the puerperium . . . . .630-676	300	330	0.1	0.1
Pregnancy with abortive outcome . . . . .630-638	60	80	*	*
Other complications of pregnancy, childbirth, and the puerperium . . . . .640-676	240	250	0.1	0.1
Congenital anomalies . . . . .740-759	11,810	13,390	4.7	5.3
Certain conditions originating in the perinatal period . . . . .760-779	16,620	17,520	6.6	7.0
Birth trauma, intrauterine hypoxia, birth asphyxia, and respiratory distress syndrome . . . . .767-769	3,250	3,520	1.3	1.4
Other conditions originating in the perinatal period . . . . .760-766,770-779	13,370	14,010	5.3	5.6
Symptoms, signs, and ill-defined conditions . . . . .780-799	23,550	26,310	9.3	10.5
All other diseases . . . . .Residual	178,300	174,130	70.3	69.4
Accidents and adverse effects . . . . .E800-E949	91,700	93,550	36.2	37.3
Motor vehicle accidents . . . . .E810-E825	45,240	47,880	17.8	19.1
All other accidents and adverse effects . . . . .E800-E807,E826-E949	46,460	45,680	18.3	18.2
Suicide . . . . .E950-E959	30,200	30,780	11.9	12.3
Homicide and legal intervention . . . . .E960-E978	27,440	25,700	10.8	10.2
All other external causes . . . . .E980-E999	2,320	2,310	0.9	0.9

<sup>1</sup>Includes data for Human immunodeficiency virus infection (category numbers \*042-\*044); see table 10 and Technical notes.

**Table 10. Provisional number of deaths and death rates for Human immunodeficiency virus infection by age, race, and sex and age-adjusted rates by race and sex: United States, 1990 and 1991**

[Data are provisional, estimated from a 10-percent sample of deaths. Rates per 100,000 population in specified group. Figures may differ from those previously published. Due to rounding of estimates, figures may not add to totals. For information on standard errors of the estimates and further discussion, see Technical notes. Data are based on deaths assigned to category numbers \*042--\*044; see Technical notes]

Sex and age	All races <sup>1</sup>				White				Black			
	1991		1990		1991		1990		1991		1990	
	Number	Rate <sup>2</sup>	Number	Rate <sup>2</sup>	Number	Rate <sup>2</sup>	Number	Rate <sup>2</sup>	Number	Rate <sup>2</sup>	Number	Rate <sup>2</sup>
<b>Both sexes</b>												
All ages . . . . .	29,850	11.8	24,120	9.6	19,940	9.4	16,580	7.9	9,620	30.4	7,320	23.5
Under 15 years . . . . .	370	0.7	390	0.7	180	0.4	140	0.3	190	2.2	240	2.8
15-24 years . . . . .	650	1.8	580	1.6	370	1.3	270	0.9	260	4.9	310	5.8
25-34 years . . . . .	9,590	22.1	8,460	19.3	6,250	17.3	5,720	15.7	3,260	58.0	2,660	47.4
35-44 years . . . . .	12,450	31.6	9,730	25.7	8,490	25.4	6,680	20.7	3,830	86.9	2,960	70.8
45-54 years . . . . .	4,700	18.0	3,240	12.7	3,200	14.3	2,510	11.4	1,490	54.6	710	26.5
55 years and over . . . . .	2,060	3.9	1,690	3.2	1,440	3.0	1,240	2.6	590	12.1	430	9.0
Not stated . . . . .	20	...	20	...	10	...	10	...	10	...	10	...
Age-adjusted rate <sup>3</sup> . . . . .	...	11.2	...	9.1	...	8.8	...	7.4	...	31.2	...	23.8
<b>Male</b>												
All ages . . . . .	26,130	21.1	21,140	17.3	18,290	17.6	15,360	14.9	7,590	50.4	5,590	37.8
Under 15 years . . . . .	230	0.8	260	0.9	100	*	110	0.5	110	2.5	140	3.2
15-24 years . . . . .	490	2.7	410	2.3	320	2.2	220	1.5	160	6.1	190	7.2
25-34 years . . . . .	8,100	37.3	7,220	33.0	5,640	30.9	5,180	28.1	2,390	89.9	1,960	73.9
35-44 years . . . . .	11,280	57.9	8,740	46.7	7,950	47.4	6,350	39.4	3,200	158.8	2,320	121.5
45-54 years . . . . .	4,250	33.5	3,040	24.5	3,030	27.5	2,390	22.1	1,220	100.2	630	52.6
55 years and over . . . . .	1,760	7.6	1,450	6.3	1,240	6.0	1,090	5.3	500	24.2	340	16.7
Not stated . . . . .	20	...	20	...	10	...	10	...	10	...	10	...
Age-adjusted rate <sup>3</sup> . . . . .	...	19.9	...	16.3	...	16.2	...	13.8	...	53.8	...	39.7
<b>Female</b>												
All ages . . . . .	3,710	2.9	2,980	2.3	1,650	1.5	1,220	1.1	2,030	12.2	1,730	10.6
Under 15 years . . . . .	150	0.6	130	0.5	70	*	30	*	70	*	100	*
15-24 years . . . . .	160	0.9	170	1.0	50	*	50	*	100	*	120	4.4
25-34 years . . . . .	1,490	6.9	1,240	5.7	610	3.4	540	3.0	860	29.0	690	23.3
35-44 years . . . . .	1,180	5.9	990	5.2	540	3.2	330	2.0	620	25.9	640	28.2
45-54 years . . . . .	450	3.4	200	1.5	180	1.6	120	1.1	270	17.9	80	*
55 years and over . . . . .	300	1.0	240	0.8	200	0.8	150	0.6	90	*	90	*
Not stated . . . . .	—	...	—	...	—	...	—	...	—	...	—	...
Age-adjusted rate <sup>3</sup> . . . . .	...	2.8	...	2.3	...	1.5	...	1.1	...	12.0	...	10.2

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

<sup>2</sup>Figures for age not stated are included in "All ages" but are not distributed among age groups.

<sup>3</sup>For method of computation, see Technical notes.

**Table 11. Infant mortality rates, by race and sex: United States, 1960, 1970, and 1980–91**

[Rates per 1,000 live births in specified group. For further discussion, see Technical notes]

Year	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
Provisional												
1991	8.9	---	---	---	---	---	---	---	---	---	---	---
1990	9.1	---	---	---	---	---	---	---	---	---	---	---
1989	9.7	---	---	---	---	---	---	---	---	---	---	---
1988	9.9	---	---	---	---	---	---	---	---	---	---	---
Final												
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
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
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

**Table 12. Number of infant deaths and infant mortality rates, by age and for 10 selected causes of death: United States, 1988–91**

[Provisional data for 1989–91 are estimated from a 10-percent sample of deaths. Rates per 100,000 live births. Figures may differ from those previously published. For information on standard errors of the estimates and further discussion, see Technical notes]

Age and cause of death (Ninth Revision, International Classification of Diseases, 1975)	1991		1990		1989		1988
	Number (prov.)	Rate (prov.)	Number (prov.)	Rate (prov.)	Rate (prov.)	Rate (final)	Rate (final)
Total, under 1 year	36,500	892.8	38,100	908.0	973.3	981.3	995.3
Under 28 days	22,640	554.2	24,110	574.7	625.0	622.8	631.5
28 days to 11 months	13,830	338.6	13,980	333.3	348.3	358.5	363.7
Certain gastrointestinal diseases . . . . .008–009,535,555–558	320	7.8	210	5.0	5.8	4.8	4.8
Pneumonia and influenza . . . . .480–487	610	14.9	590	14.1	12.5	15.7	16.4
Congenital anomalies . . . . .740–759	7,600	186.0	8,610	205.2	204.7	200.9	208.2
Disorders relating to short gestation and unspecified low birth weight. . . . .765	4,500	110.2	3,990	95.1	100.1	97.3	83.6
Birth trauma . . . . .767	160	3.9	170	4.1	4.3	5.5	5.5
Intrauterine hypoxia and birth asphyxia. . . . .768	730	17.9	790	18.8	19.5	17.9	19.9
Respiratory distress syndrome . . . . .769	2,300	56.3	2,480	59.1	86.6	89.9	81.4
Other conditions originating in the perinatal period. . . . .760–764,766,770–779	8,730	213.7	9,740	232.2	248.0	248.8	271.0
Sudden infant death syndrome . . . . .798.0	5,170	126.6	5,410	129.0	126.4	139.4	140.1
All other causes . . . . .Residual	6,340	155.2	6,100	145.4	165.6	311.1	164.5

## Technical Notes

### Nature and sources of data

All data for 1990 and 1991 in this report are provisional. Data for all other years are final, unless specified as provisional. Data in this report include only events occurring within the United States. Beginning with 1970, final birth and mortality statistics exclude data for births and deaths to nonresidents of the United States.

Beginning with this publication, provisional birth, death, and infant death figures for all years shown in tables 1 and 3 for each State are based on monthly estimates by State of residence. These estimates are derived by applying adjustment ratios to the actual counts of certificates for all events occurring in the State and received in registration offices during a 1-month period regardless of date of the event. The adjustment ratios for each data year represent the observed relationship between final State occurrence and residence figures for the 3 most recent years for which final data were available, expressed as a single ratio for each State. As in previous years, provisional State marriage and divorce figures are based on the actual count of all events occurring in the State (State of occurrence) that were received in the registration offices during the 1-month period. Prior to the 1991 data year, provisional data for all events were by State of occurrence.

Figures for births, deaths, and infant deaths for all years for California shown in tables 1 and 3 contain adjustments for varying length of State reporting periods. Beginning with data for February 1991, figures for Texas for all events shown in tables 1-3 are also adjusted for varying length of State reporting periods. Prior to February 1991, data for Texas were reported for monthly periods. The figures for both States are adjusted by the ratio between the number of days in the data month and the number of days in the State reporting period. The adjusted figures for California and Texas shown in tables 1-3 are included in the U.S. totals.

Beginning with data for 1991, provisional U.S. totals for births, deaths, and infant deaths are based on the State estimates by State of residence (described above) and, therefore, in effect, exclude events to nonresidents of the United States. Events to nonresidents of the United States are included in all marriage and divorce figures as well as in the U.S. birth, death, and infant death figures for 1990 and previous years. The effect of excluding events to nonresidents from the U.S. totals is small. Provisional totals for all events for the United States include estimates for State data shown as not available.

Delay in the receipt of certificates in a registration office may result in a low count for a given month, followed by a high count for the month(s) in which the delayed records are received. Although this occasionally may result in large fluctuations in State counts for a given event, the effect on provisional monthly totals for the United States is usually small. Data include revisions received from the States and, therefore, may differ from those previously published.

Although the counts in this report are not subject to sampling variability (except the Current Mortality Sample), they may be affected by random variation. When the number of events is small and the probability of such an event is small, considerable caution must be observed in interpreting the data. Such infrequent events may be assumed to follow a Poisson probability distribution. For this distribution a simple approximation may be used to estimate the random variation, as follows.

If  $N$  is the number of events in the population and  $R$  is the corresponding rate, the chances are 19 in 20 that

$$1. \quad N - 2\sqrt{N} \text{ and } N + 2\sqrt{N}$$

covers the "true" number of events.

$$2. \quad R - 2 \frac{R}{\sqrt{N}} \text{ and } R + 2 \frac{R}{\sqrt{N}}$$

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

$$2 \sqrt{\frac{R_1^2}{N_1} + \frac{R_2^2}{N_2}}$$

Additional information on random variation in numbers of events, rates, and ratios may be found in the technical appendixes of *Vital Statistics of the United States, 1988*, Volumes I and II.

### Natality

Monthly estimates of births for the entire United States are based on the monthly reports adjusted for observed differences from final monthly figures. State figures are not adjusted in this manner.

### Marriages

Monthly estimates of marriages for the entire United States are based on the monthly reports adjusted for observed differences from final monthly figures. State figures are not adjusted in this manner. For most States, data represent marriages performed. For New Mexico, New York City, and some counties of Arizona, data are marriage licenses issued.

Provisional marriage data are shown for the areas reporting marriage data monthly. Marriage figures for the United States for 1990 and 1991 are estimated from a summary of monthly reports.

### Divorces

Provisional divorce data, including reported annulments, are shown for the areas reporting divorce data monthly. Divorce figures for the United States for 1990 and 1991 are estimated from a summary of monthly reports. Indiana and Louisiana do not report divorces on a provisional basis.

### Mortality

Monthly estimates of deaths for the entire United States are based on monthly reports; they are not adjusted for observed differences from final

Table I. Percent of death certificates received in the sample each month, by month of occurrence: United States, 1991

Month	Deaths occurring in—		
	Same month	Previous month	All other months
January . . . . .	71.0	20.9	8.1
February . . . . .	65.9	24.7	9.4
March . . . . .	67.9	22.8	9.3
April . . . . .	62.3	25.2	12.5
May . . . . .	67.2	24.3	8.5
June . . . . .	64.8	25.6	9.5
July . . . . .	65.0	26.3	8.8
August . . . . .	65.0	25.5	9.5
September . . . . .	65.5	26.4	8.2
October . . . . .	66.4	23.6	10.0
November . . . . .	66.0	25.4	8.6
December . . . . .	67.2	26.1	6.7

monthly figures. All mortality data exclude fetal deaths.

### Current Mortality Sample

Estimated deaths and death rates for 1990 and 1991 by age, race, sex, and cause and provisional life table figures were derived from the Current Mortality Sample. The Current Mortality Sample is a 10-percent systematic sample of death certificates received each month in the vital statistics offices in the 50 States, the District of Columbia, and the independent registration area of New York City. The sample for each of these areas consists of one-tenth of the death certificates received in the office between a given date and the same date of the following month. All death certificates received during the 1-month period are sampled regardless of the month or year in which the death occurred. As a result, the monthly sample is not strictly comparable to a sample on a month-of-occurrence basis. The proportions of death certificates received in the samples for each month of 1991 representing deaths occurring in the current month and those occurring in other months are shown in table I.

Because of the way in which death certificates are processed in California, this State contributes a high proportion of the certificates for deaths not occurring in the sample month. For the sample exclusive of California, the percent of the sample deaths occurring in the current month constitutes 73 percent of the total as opposed to 66 percent of the entire sample. As for

Table II. Causes of death corrected for bias and adjusted weights for ages 1 year and over and for under 1 year: United States, 1991

Cause of death <sup>1</sup> (Ninth Revision International Classification of Diseases, 1975)	Adjusted weight	
	1 year and over	Under 1 year
Other tuberculosis . . . . .	.013-018	12.60
Human immunodeficiency virus infection . . . . .	.*042-.*044	10.34
All other infectious and parasitic diseases excluding HIV infection . . . . .	.001-003,005,020-032,037,039-041,046-054,056-066,071-088,098-139	11.18
Malignant neoplasms of all other and unspecified sites . . . . .	.170-173,190-199	9.69
Other malignant neoplasms of lymphatic and hematopoietic tissues . . . . .	.200-203	9.69
Benign neoplasms, carcinoma in situ, and neoplasms of uncertain behavior and of unspecified nature . . . . .	.210-239	8.82
Hypertensive heart disease . . . . .	.402	10.27
Other diseases of endocardium . . . . .	.424	10.44
Hypertension with or without renal disease . . . . .	.401,403	10.75
Intracerebral and other intracranial hemorrhage . . . . .	.431-432	10.27
Cerebral thrombosis and unspecified occlusion of cerebral arteries . . . . .	.434,0,434,9	10.28
Bronchitis, chronic and unspecified . . . . .	.490-491	10.61
Ulcer of stomach and duodenum . . . . .	.531-533	10.46
Renal failure, disorders resulting from impaired renal function, and small kidney of unknown cause . . . . .	.584-586,588-589	9.57
Symptoms, signs, and ill-defined conditions . . . . .	.780-799	6.06
All other diseases . . . . .	.Residual	10.10
Motor vehicle accidents . . . . .	.E810-E825	10.26
All other accidents and adverse effects . . . . .	.E800-E807,E826-E949	10.33
Suicide . . . . .	.E950-E959	10.36
Homicide and legal intervention . . . . .	.E960-E978	10.45
All other external causes . . . . .	.E980-E999	12.18
Under 1 year		
All other infectious and parasitic diseases excluding HIV infection . . . . .	.001-003,005,020-032,037,039-041,046-054,056-066,071-088,098-139	16.18
Major cardiovascular diseases . . . . .	.390-448	...
Diseases of heart . . . . .	.390-398,402,404-429	...
Rheumatic fever and rheumatic heart disease . . . . .	.390-398	11.48
Hypertensive heart disease . . . . .	.402	11.48
Hypertensive heart and renal disease . . . . .	.404	11.48
Ischemic heart disease . . . . .	.410-414	...
Acute myocardial infarction . . . . .	.410	11.48
Other acute and subacute forms of ischemic heart disease . . . . .	.411	11.48
Angina pectoris . . . . .	.413	11.48
Old myocardial infarction and other forms of chronic ischemic heart disease . . . . .	.412,414	11.48
Other diseases of endocardium . . . . .	.424	11.48
All other forms of heart disease . . . . .	.415-423,425-429	11.48
Hypertension with or without renal disease . . . . .	.401,403	11.48
Cerebrovascular diseases . . . . .	.430-438	...
Intracerebral and other intracranial hemorrhage . . . . .	.431-432	11.48
Cerebral thrombosis and unspecified occlusion of cerebral arteries . . . . .	.434,0,434,9	11.48
Cerebral embolism . . . . .	.434,1	11.48
All other and late effects of cerebrovascular diseases . . . . .	.430,433,435-438	11.48
Atherosclerosis . . . . .	.440	11.48
Other diseases of arteries, arterioles, and capillaries . . . . .	.441-448	11.48
Sudden infant death syndrome . . . . .	.798,0	11.62
Symptoms, signs, and ill-defined conditions excluding Sudden infant death syndrome . . . . .	.780-797,798.1-799	4.97

<sup>1</sup>Causes of death eligible to have an adjusted weight were those that had 100 or more deaths based on final data and 10 or more sample deaths for each of the data years used for the ratio.

the year of occurrence, 97 percent of the 215,398 transcripts in the 1991 sample were for deaths occurring in 1991 and 3 percent for deaths occurring in 1990.

*Correction for bias and adjustment to provisional counts*—The sample data are corrected for cause-of-death bias and adjusted to provisional counts of deaths and infant deaths using rules and methodology described in the

annual summary for 1978 (7). As a result, the estimates shown in this report may differ from those published earlier. The Current Mortality Sample is selected at a specified time each month. Complete information concerning the underlying cause of death is sometimes not available in the State offices when the sample is drawn but is available later when copies of the final death certificates are processed. As a



result, estimates based on sample counts for certain causes are recurrently biased estimates of final counts.

The data for 1991 were adjusted for bias based on the experience of 3 years—1987, 1988, and 1989. If for a given cause the sample count for these years departed from one-tenth of the final count by more than would be expected on the basis of sampling variability alone, the sample deaths for this cause were corrected by using an adjusted weight. For all causes without an adjusted weight, a weight of 10 was used. The adjusted weights that were applied to the 1991 sample for ages 1 year and over and for ages under 1 year are shown in table II.

The 1990 cause-of-death data in this report were adjusted for bias using data for 1986, 1987, and 1988. Therefore, the adjusted weights for 1991 data are not the same as those used for 1990 (5).

**Sampling variability**—Because the estimates of deaths and death rates for 1990 and 1991 presented in this report (except total deaths and deaths under 1 year for the United States and geographic subdivisions) are based on a sample of the death certificates, they are subject to sampling variability. The estimated relative standard errors shown in this report are measures of the sampling errors of the estimated numbers of deaths (or of the estimated death rates) expressed as percents of the estimates. The chances are about two in three that the percent difference between an estimate and the result of a complete count is less than the percent shown. The chances are about 19 in 20 that the percent difference is less than twice the percent shown. Figures based on 100 or fewer estimated deaths have relative standard errors of 30 percent or more and are therefore considered unreliable. Rates based on 100 or fewer estimated deaths are replaced by an (\*).

Two methods are used for estimating relative standard errors—one for the ratio estimates for the causes of death corrected for bias and the other for estimates for the remaining causes of death or for given age-race-sex groups.

Table III. Relative standard errors for estimated numbers of deaths from the Current Mortality Sample expressed as a percent of the estimate

Estimated number of deaths	Relative standard error (as percent)	Estimated number of deaths	Relative standard error (as percent)
10	94.9	900	10.0
20	67.1	1,000	9.5
50	42.4	2,000	6.7
100	30.0	5,000	4.2
200	21.2	10,000	3.0
300	17.3	20,000	2.1
400	15.0	50,000	1.3
500	13.4	100,000	0.9
600	12.2	200,000	0.6
700	11.3	500,000	0.4
800	10.6	1,000,000	0.2

The relative standard error of a ratio estimate for a given cause of death corrected for bias for ages 1 year and over or for under 1 year is computed as follows:

$$V = 300 \sqrt{\frac{1}{10} \left( \frac{1}{x} - \frac{1}{D} \right) + \left( \frac{1}{Y} - \frac{1}{M} \right)}$$

where  $V$  = relative standard error (in percent) of the estimate  $X$  where

$X$  = the estimated number of deaths (or estimated death rate) from a given cause corrected for bias

$x$  = the number of deaths in the sample from the given cause

$D$  = the total number of death certificates in the sample for the specified year (215,398 for 1991)

$Y$  = the final number of deaths from the given cause occurring in the 3 years used for bias correction combined

$M$  = the final number of all deaths occurring in the 3 years used for bias correction combined (6,451,397 for 1987–89)

The relative standard errors for the remaining estimates for given causes of death not requiring a correction for bias or for a given age-race-sex group are computed as follows:

$$V = 300 \sqrt{\frac{1}{X} - \frac{1}{N}}$$

where  $V$  = the relative standard error

(in percent) of the estimate  $X$  where

$X$  = the estimated number of deaths (or estimated death rate) from a given cause or for an age-race-sex group

$N$  = the provisional count of deaths for the specified year (2,165,000 for 1991)

Data required to compute relative standard errors for 1990 are given in an earlier report (5). For easy reference, the relative standard errors due to sampling for estimates for a given age-race-sex group or for a given cause of death not requiring a correction for bias are shown in table III.

Comparisons made in the text between death rates based on the Current Mortality Sample, unless otherwise specified, were 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.

### Cause-of-death classification

The mortality statistics presented here were compiled in accordance with World Health Organization regulations, which specify that member nations classify causes of death in accordance with the current revision of the International Statistical Classification of Diseases, Injuries, and Causes of Death.

Causes of death for 1979–91 were classified according to the Ninth Revision (8). For years prior to 1979, causes of death were classified according to the revision then in use. 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 the comparability ratios and, where available, estimates of their standard errors. Information about comparability ratios between the Eighth and Ninth Revisions, can be found in the *Monthly Vital Statistics Report* (9).

For information about comparability ratios between the Seventh and Eighth Revisions, see *Vital and Health Statistics*, Series 2, Number 66 (10). For a list of other reports on the effects of revisions of the international lists on mortality statistics tabulated by cause, see *Vital Statistics—Special Reports* (11).

Besides specifying the classification, the World Health Organization regulations outline the form of medical certification and the coding procedures to be used. In general, when more than one cause of death is reported, the cause designated by the certifying physician as the underlying cause of death is the cause tabulated.

Causes of death for data presented in this publication were coded by procedures outlined in issues of Part 2a of the *NCHS Instruction Manual* (12).

*Codes for HIV infection*—Beginning with data for 1987, the National Center for Health Statistics (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). In table 10 estimated deaths and death rates for HIV infection are shown for 1990 and 1991 by age, race, and sex. These estimates are based on data from the Current Mortality Sample and therefore are subject to the sampling variability discussed above. Deaths classified to these categories for 1990 and 1991 also are included in All other infectious and parasitic diseases in the List of 72 Selected Causes of Death shown in table 9. For 1986 and previous years, deaths involving HIV infection were

classified to a number of other causes. Therefore, beginning with 1987 cause-of-death data are not strictly comparable with data for earlier years.

### Cause-of-death ranking

Cause-of-death ranking is based on the number of deaths for 1991 classified according to the List of 72 Selected Causes of Death and the category Human immunodeficiency virus (HIV) infection (\*042–\*044). HIV infection was added to the list of rankable causes effective with data year 1987. The group titles—Major cardiovascular diseases and Symptoms, signs, and ill-defined conditions—are not ranked. In addition, category titles that begin with the words “Other” and “All other” are not ranked. 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).

### Life tables

U.S. abridged life tables are constructed by reference to a standard life table (13). For explanation of the columns of the life table, see *Vital Statistics of the United States* (14).

### Infant mortality

Infant mortality rates shown in figure 5 and tables A, J, 11, and 12 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 tables G, 4, 5, and 8 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 estimated mid-year population of persons under 1 year of age (based on 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.

### Seasonal adjustment

The method of seasonal adjustment used for birth and fertility rates is described in *The X-11 Variant of the Census Method II Seasonal Adjustment Program* (15).

### Rates

Rates are on an annual basis and, except for infant mortality rates, are per 1,000 or 100,000 estimated population residing in the United States.

Infant mortality rates are infant deaths for the specified period (monthly and annually) per 1,000 or 100,000 live births. Births used for computing monthly rates are adjusted for monthly variation in the number of births; births used to compute 12-month rates do not contain this adjustment. Births used for computing infant mortality rates are not corrected for observed differences between provisional and final monthly figures as described in the Natality section.

The age-adjusted death rates presented in this report are computed by the direct method, that is, by applying the age-specific death rates for a specified group or cause of death to the standard population distributed by age. The total population as enumerated in 1940 was selected as the standard. The age-adjusted rates were based on 10-year age groups except those by specified causes for 1990 and 1991. The age-adjusted rates by specified cause in tables 8 and 10 were based on age groups shown in the given table. It is important not to compare age-adjusted death rates with crude rates.

### Population bases for computing rates

The annual populations used for computing rates shown in this report (furnished by the U.S. Bureau of the Census) represent the population residing in the specified area. Populations for 1940, 1950, 1960, 1970, and 1980 were enumerated as of April 1; all other annual populations were estimated as of July 1. Monthly

populations were estimated as of the first of the month except for the female population 15–44 years of age, which was estimated as of the 15th of the month.

The annual and monthly populations for 1990 and 1991 are unpublished estimates provided by the U.S. Bureau of the Census. The population estimates are based on the 1980 Census of Population and do not reflect the results of the 1990 census enumeration.

Evaluative studies conducted by the U.S. Bureau of the Census (16–18) indicate that there is differential coverage in the censuses among the population groups; that is, some age, race, and sex groups are more completely enumerated than others. To the extent that the estimates of net census undercounts and overcounts are valid, they can have consequences for vital statistics measures (16).

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