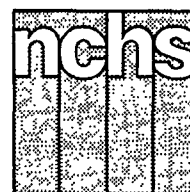


Monthly Vital Statistics Report



Provisional Data From the National Center for Health Statistics

Annual Summary of Births, Marriages, Divorces, and Deaths: United States, 1990

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Despite an increase in the number of divorces in 1990 the divorce rate remained the same as it was in 1988 and 1989.

The provisional number of deaths increased slightly from 1989. The age-adjusted death rate, however, decreased from 1989 to its lowest level ever in 1990. The infant mortality rate also declined to the lowest rate ever recorded for the United States, and life expectancy at birth reached a new record high. Age-adjusted death rates were lower in 1990 for three leading causes of death: Diseases of heart, Cerebrovascular diseases, and Atherosclerosis. Rates were higher in 1990 than in 1989 for Homicide and legal intervention and Human immunodeficiency virus infection (HIV infection).

Data for HIV infection reflected a 13-percent increase in the estimated number of deaths between 1989 and 1990, following a 29-percent increase between 1988 and 1989 and a 23-percent increase between 1987 and 1988. The age-adjusted death rate for 1990 increased 10 percent from the rate for 1989.

Births

An estimated 4,179,000 babies were born in the United States during 1990, 4 percent more than the number reported for 1989 (4,021,000) and the largest number reported since 1961.

The birth rate was 16.7 live births per 1,000 population, 3 percent higher than the provisional 1989 rate of 16.2 (table A). The fertility rate of 71.1 live births per 1,000 women aged 15-44 years was also 3 percent higher than the 1989 rate of 68.8 (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 birth and fertility rates have risen slightly in the last 3 years and are currently the highest they have been since 1971 and 1972, respectively.

The birth rates in 1990 were higher than in 1989 for 10 months, lower in July, and the same in August (table B). The fertility rates and the seasonally adjusted fertility rates in 1990 were higher than in 1989 for 11 months and lower in July (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 of women in the childbearing ages. The 3-percent increase in the general fertility rate between 1989 and 1990 indicates that there were increases in at least some of the age-specific birth rates. These increases, coupled with a small (less than 1 percent) increase in the number of women in the childbearing ages (15-44 years), resulted in the 4-percent rise in the number of births.

Highlights

The provisional number of live births for 1990 was higher than the number reported for 1989 and was the largest number reported since 1961. The birth rate per 1,000 population and the fertility rate per 1,000 women 15-44 years of age also increased in 1990 and were the highest they have been since the early 1970's.

In 1990 the provisional number of marriages increased 2 percent from the comparable figure for 1989. The slight rise in the marriage rate per 1,000 population in 1990 was the first increase since 1980.



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Public Health Service
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Table A. Vital statistics rates: United States, 1983-90

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

Rate	1990 (prov.)	1989 (prov.)	1988		1987 (final)	1986 (final)	1985 (final)	1984 (final)	1983 (final)
			(prov.)	(final)					
Birth	16.7	16.2	15.9	15.9	15.7	15.6	15.8	15.5	15.5
Death	8.6	8.7	8.8	8.8	8.7	8.7	8.7	8.6	8.6
Natural increase	8.1	7.5	7.1	7.1	7.0	6.9	7.1	6.9	6.9
Marriage	9.8	9.7	9.7	9.7	9.9	10.0	10.1	10.5	10.5
Divorce	4.7	4.7	4.8	4.7	4.8	4.9	5.0	5.0	4.9
Infant mortality	9.1	9.7	9.9	10.0	10.1	10.4	10.6	10.8	11.2

Table B. Live births, birth rates, and fertility rates, by month: United States, 1989 and 1990

[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	
	1990	1989	1990	1989	1990	1989
Total	4,179,000	4,021,000	16.7	16.2	71.1	68.8
January	330,000	311,000	15.6	14.8	66.4	62.9
February	316,000	296,000	16.5	15.6	70.2	66.1
March	342,000	330,000	16.1	15.7	68.7	66.6
April	330,000	317,000	16.1	15.6	68.5	66.0
May	368,000	352,000	17.3	16.7	73.9	70.9
June	361,000	327,000	17.5	16.1	74.7	68.2
July	364,000	372,000	17.1	17.6	72.9	74.9
August	362,000	358,000	17.0	17.0	72.6	72.1
September	362,000	348,000	17.5	17.0	74.8	72.4
October	361,000	348,000	16.9	16.4	72.2	69.9
November	333,000	322,000	16.1	15.7	68.8	66.9
December	350,000	341,000	16.3	16.1	70.0	68.5

Table C. Seasonally adjusted birth and fertility rates, by month: United States, 1989 and 1990

[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	
	1990	1989	1990	1989
January	16.3	15.5	69.6	65.8
February	16.9	16.0	71.8	67.6
March	16.4	16.0	70.1	67.9
April	16.4	15.9	69.8	67.3
May	17.5	16.9	74.7	71.9
June	17.5	16.1	74.8	68.3
July	16.4	16.8	69.9	71.6
August	16.1	16.1	68.9	68.4
September	16.4	15.9	70.0	67.7
October	16.9	16.3	72.1	69.4
November	16.5	16.2	70.6	68.9
December	16.8	16.5	71.7	70.2

According to projections prepared by the U.S. Bureau of the Census (1), the total number of women in the childbearing ages will continue to increase by less than 1 percent annually between 1990 and 1991 and will drop by less than 1 percent in 1992 and 1993. Thus, in order for the number of births to increase substantially during

these years, some age-specific birth rates will have to increase.

Provisional data by place of occurrence indicate that the number of births increased by 5 percent or more between 1989 and 1990 in three geographic divisions (East South Central, West South Central, and Pacific); increased by 3-4 percent in the Middle Atlantic, East

North Central, West North Central, South Atlantic, and Mountain divisions; and by only 1 percent in New England. Birth rates per 1,000 total population increased 5-7 percent in three divisions (East South Central, West South Central, and Pacific) and increased 2-3 percent in the rest of the divisions except New England where the rate remained the same.

Between 1989 and 1990 the provisional number of births increased in 42 States, declined in 7 States and the District of Columbia, and did not change in Nebraska. Birth rates increased in 38 States, declined in 9 States and the District of Columbia, and remained the same in 3 States.

Natural increase

During 1990 an estimated 2,017,000 persons were added to the population as a result of natural increase, the excess of births over deaths. The rate of natural increase was 8.1 persons per 1,000 population, 8 percent above the rate for 1989 (7.5). The increase was

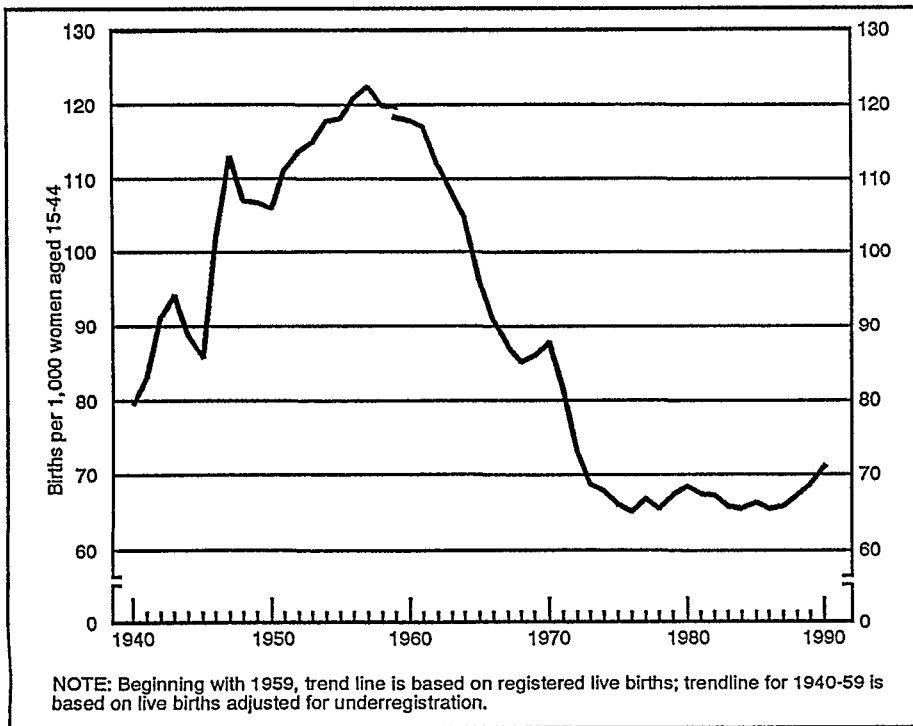


Figure 1. Fertility rates: United States, 1940-90

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

[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	
	1990	1989	1990	1989
Total	2,448,000	2,404,000	9.8	9.7
January	121,000	117,000	5.7	5.6
February	143,000	126,000	7.5	6.7
March	161,000	159,000	7.6	7.6
April	177,000	185,000	8.6	9.1
May	247,000	228,000	11.6	10.8
June	274,000	291,000	13.3	14.3
July	224,000	217,000	10.5	10.3
August	264,000	245,000	12.4	11.6
September	236,000	231,000	11.4	11.3
October	219,000	210,000	10.3	9.9
November	190,000	188,000	9.2	9.2
December	191,000	208,000	8.9	9.8

due largely to the increase in the birth rate.

Marriages

According to provisional data, the number of marriages performed in 1990 totaled 2,448,000, a 2-percent increase over 1989 (2,404,000) (table D). The marriage rate per 1,000 population was 9.8 in 1990, a slight increase over 1989 and 1988 (9.7). The number of marriages by month in 1990 exhibited the

usual pattern observed for previous years. Months with the fewest marriages were January (121,000), February (143,000), and March (161,000). June was the month with the most marriages (274,000), followed by August (264,000) and May (247,000).

In the last 25 years, marriage rates have twice gone through a period of increase followed by a period of decline (figure 2). In the early 1960's, marriage rates began to rise and continued through 1972 when the rate was 10.9.

Beginning in 1973, the rate declined for 4 consecutive years down to 9.9 in 1977. The rate increased again in the late 1970's to a relative peak of 10.6 in 1980-82. In 1983 marriage rates began declining again, falling to 9.7 in 1988-89. The increase in the marriage rate in 1990 to 9.8 marks the first increase since 1980.

Compared with 1989, 1990 marriage rates increased in 23 States, declined in 18 States, and remained the same in 7 States and the District of Columbia. Data were unavailable for 2 States, Illinois and Nevada.

Divorces

Divorces granted in 1990 totaled 1,175,000, 12,000 more than the number for 1989 (table E). Despite the increase in the number, the divorce rate per 1,000 population was the same in both years and the same as the final rate for 1988 (4.7). Although divorces typically do not have a predictable monthly pattern, June had the highest number of divorces and the highest divorce rate of any month in both 1989 and 1990.

The divorce rate has been steady for 3 consecutive years after two decades of much change (figure 2). In a 10-year period from 1966 to 1976, the divorce rate doubled from 2.5 to 5.0. In the remainder of the 1970's, the divorce rate climbed to its all-time peak of 5.3 in 1979. After reaching 5.3 again in 1981, the divorce rate began a general decline until reaching its current level.

Compared with 1989, the 1990 divorce rates were higher in 23 States and the District of Columbia, lower in 11 States, and the same in 12 States. Data were not available for Indiana and Louisiana for both 1989 and 1990 and for Illinois and California for 1990.

Deaths

During 1990 an estimated 2,162,000 deaths occurred in the United States, slightly higher than the 2,155,000 estimated number of deaths for 1989, but below the peak number of 2,167,999 deaths reported in the final count for 1988 (2). The provisional death rate for 1990 was 861.9 deaths per 100,000 population, 1 percent lower than the provisional rate for 1989 of 868.1. This

is the lowest death rate since 1982. The decrease in the death rate between 1989 and 1990 reflects lower mortality for a number of causes of death. The provisional age-adjusted death rate declined 2 percent from 1989 to 1990 from 524.1 deaths per 100,000 population in 1989 to 515.1 in 1990, the lowest age-adjusted rate ever 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 January, June, August, and September 1990 than for the same months in 1989. The rate for November was the same. For all other months of 1990, death rates were lower 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 1989 to 1990 for white females, black males, and black females. While the age-adjusted rate for white males also declined from 1989 to 1990, the change was not statistically significant. The lowest estimated age-adjusted death rate was for white females (372.8 deaths per 100,000 population), followed by black females (549.4), white males (642.7), and black males (956.9). Between 1989 and 1990 provisional death rates by age decreased for the following age groups: under 1 year, 5–14 years, 45–54 years, 55–64 years, 75–84 years, and 85 years and over. Changes in death rates for the other age groups between the 2 years were not statistically significant (table G).

Expectation of life

The expectation of life at birth in 1990 reached a new record high of 75.4 years. Provisional data showed that for the white population, from 1989 to 1990, life expectancy at birth remained the same for males, but increased by

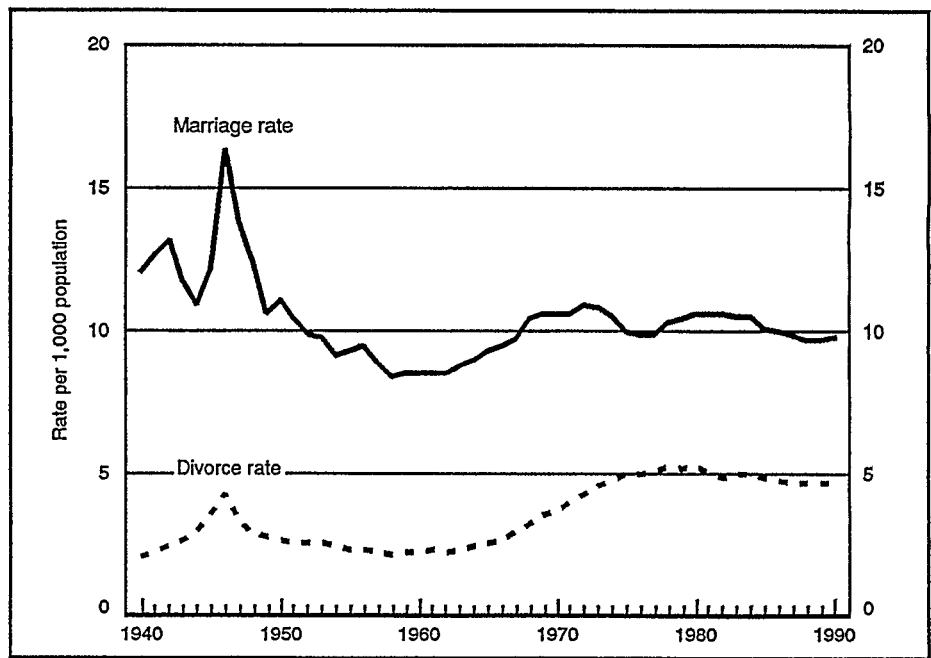


Figure 2. Marriage and divorce rates: United States, 1940–90

Table E. Divorces and divorce rates, by month: United States, 1989 and 1990

[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	
	1990	1989	1990	1989
Total	1,175,000	1,163,000	4.7	4.7
January	92,000	98,000	4.3	4.7
February	93,000	89,000	4.9	4.7
March	106,000	98,000	5.0	4.7
April	91,000	89,000	4.4	4.4
May	102,000	99,000	4.8	4.7
June	109,000	108,000	5.3	5.3
July	99,000	90,000	4.6	4.3
August	99,000	97,000	4.6	4.6
September	98,000	93,000	4.7	4.6
October	92,000	96,000	4.3	4.6
November	96,000	98,000	4.6	4.8
December	98,000	107,000	4.6	5.1

0.2 year for females. For the black population, life expectancy at birth increased by 0.8 year for males and by 0.5 year 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 that year.

Major causes of death

The 15 leading causes of death in 1990 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 1980 through 1990 have generally been the same, but the order has often varied. For 1990 the eight leading causes of death were the same causes and in the same order as for 1989. 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 1989 and 1990 were as follows: Homicide and legal

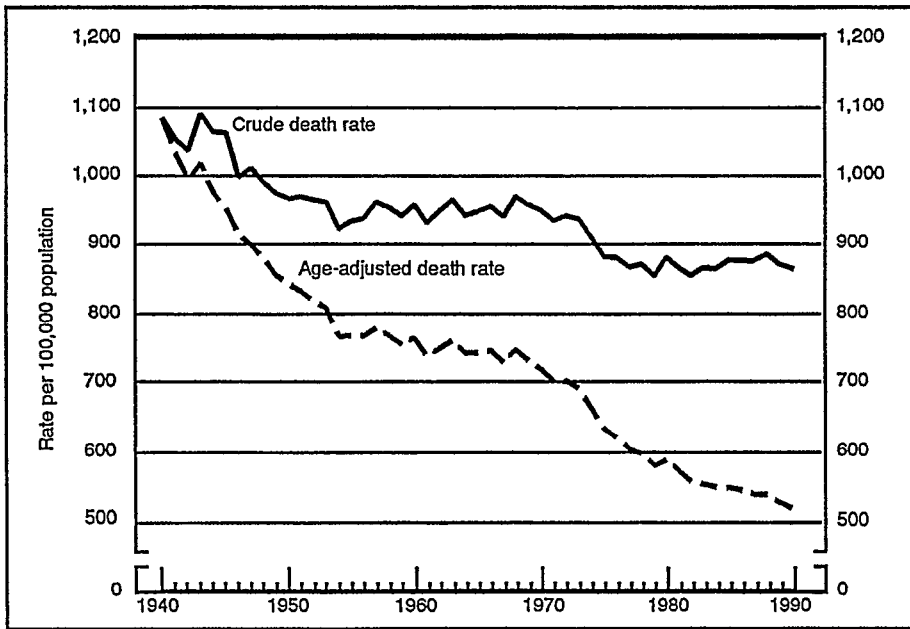


Figure 3. Crude and age-adjusted death rates: United States, 1940–90

Table F. Deaths and death rates, by month: United States, 1989 and 1990

[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	
	1990	1989	1990	1989
Total	2,162,000	2,155,000	8.6	8.7
January	213,000	194,000	10.0	9.2
February	182,000	186,000	9.5	9.8
March	193,000	194,000	9.1	9.2
April	182,000	182,000	8.9	9.0
May	180,000	183,000	8.5	8.7
June	169,000	166,000	8.2	8.1
July	173,000	176,000	8.1	8.4
August	170,000	166,000	8.0	7.9
September	168,000	164,000	8.1	8.0
October	178,000	177,000	8.3	8.4
November	169,000	169,000	8.2	8.2
December	185,000	198,000	8.6	9.3

intervention (the 10th leading cause of death in 1989) became the 9th leading cause of death, and Chronic liver disease and cirrhosis (the 9th leading cause of death in 1989) became the 10th leading cause of death. The ranks for Human immunodeficiency virus infection (HIV infection) and Nephritis, nephrotic syndrome, and nephrosis remained 11th and 12th, respectively, for 1990. Septicemia changed its rank from 14th to 13th between the 2 years; Certain conditions originating in the perinatal period from 15th to 14th; and Atherosclerosis from 13th 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 1990 than in 1989 for three leading causes, Diseases of heart, Cerebrovascular diseases, and Atherosclerosis. The age-adjusted death rates for Diseases

of heart, Cerebrovascular diseases, and Atherosclerosis have generally declined since 1950. Although there were very large decreases for Atherosclerosis between 1988 and 1989 and between 1989 and 1990, there are no known reasons for these changes (3).

Age-adjusted death rates were higher in 1990 than 1989 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 had reached a peak in 1980, declined until the mid-1980's, and has been increasing since then. For more information on HIV infection see the following section entitled "HIV infection." For the remaining nine leading causes of death, provisional data do not indicate a statistically significant change between 1989 and 1990. Although the age-adjusted death rate for Pneumonia and influenza did not increase significantly between 1989 and 1990, mortality from Pneumonia and influenza was elevated in both years when compared with years when there were no major outbreaks reported (4).

For the 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 infant mortality rate for Certain conditions originating in the perinatal period for 1990 (409.2 infant deaths per 100,000 live births) was lower than the 1989 rate (458.4).

HIV infection

On the basis of the Current Mortality Sample the estimated total number of deaths due to HIV infection during 1990 was 24,120 with a range of 23,190 to 25,050 (approximate 95-percent confidence interval). This number was 13 percent higher than the estimated number of deaths due to HIV infection in 1989, which was 21,360 with a range of 20,490 to 22,230. This increase, however, was smaller than either the 29-percent increase in the number of HIV infection deaths between

Table G. Estimated death rates by age for 1989 and 1990 and percent difference between 1989 and 1990: 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	1990	1989	Percent difference
All ages ¹	861.9	868.1	-0.7
Under 1 year ²	936.6	986.0	-5.0
1-4 years	44.2	43.8	0.9
5-14 years	24.1	26.6	-9.4
15-24 years	104.1	103.5	0.6
25-34 years	139.6	139.7	-0.1
35-44 years	221.1	221.0	0.0
45-54 years	463.1	479.1	-3.3
55-64 years	1,175.6	1,210.0	-2.8
65-74 years	2,607.4	2,628.2	-0.8
75-84 years	6,084.5	6,167.5	-1.3
85 years and over	14,784.4	15,083.2	-2.0

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

²Death 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, 1990

[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	2,162,000	861.9	100.0
1	Diseases of heart	725,010	289.0	33.5
2	Malignant neoplasms, including neoplasms of lymphatic and hematopoietic tissues	506,000	201.7	23.4
3	Cerebrovascular diseases	145,340	57.9	6.7
4	Accidents and adverse effects	93,550	37.3	4.3
...	Motor vehicle accidents	47,880	19.1	2.2
...	All other accidents and adverse effects	45,680	18.2	2.1
5	Chronic obstructive pulmonary diseases and allied conditions	88,980	35.5	4.1
6	Pneumonia and influenza	78,640	31.3	3.6
7	Diabetes mellitus	48,840	19.5	2.3
8	Suicide	30,780	12.3	1.4
9	Homicide and legal intervention	25,700	10.2	1.2
10	Chronic liver disease and cirrhosis	25,600	10.2	1.2
11	Human immunodeficiency virus infection	24,120	9.6	1.1
12	Nephritis, nephrotic syndrome, and nephrosis	20,860	8.3	1.0
13	Septicemia	19,750	7.9	0.9
14	Certain conditions originating in the perinatal period	17,520	7.0	0.8
15	Atherosclerosis	16,490	6.6	0.8
...	All other causes	295,100	117.6	13.6

1988 and 1989 or the 23-percent increase reported between 1987 and 1988 (2,5). Of the approximately 24,120 HIV infection deaths in 1990, 64 percent were for white males, 23 percent for black males, 5 percent for white females, and 7 percent 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 1989 and 1990 the age-adjusted death rate for HIV infection increased from 8.3 deaths per 100,000 population in 1989 to 9.1. It increased for each race-sex group and increased more for females (both white and black) than for males. The rank for this leading cause remained at 11th in 1990, the same as in 1989. The estimated numbers of deaths and death rates for HIV infection are shown in table 10 of this report.

Infant mortality

In 1990, 38,100 infant deaths were reported in the United States (table J). The infant mortality rate for 1990 was 908.0 per 100,000 live births, 7 percent lower than the rate of 973.3 for 1989. This is the lowest U.S. rate ever recorded (figure 5). The decline (7 percent) between 1989 and 1990 primarily reflects the decrease in the neonatal mortality rate (deaths of infants under 28 days per 100,000 live births) from 625.0 in 1989 to 574.7 in 1990. The change in the postneonatal mortality rate (28 days to 11 months) between 1989 and 1990 was not statistically significant. Among the causes of infant death in table 12, the infant mortality rate decreased between 1989 and 1990 for Respiratory distress syndrome.

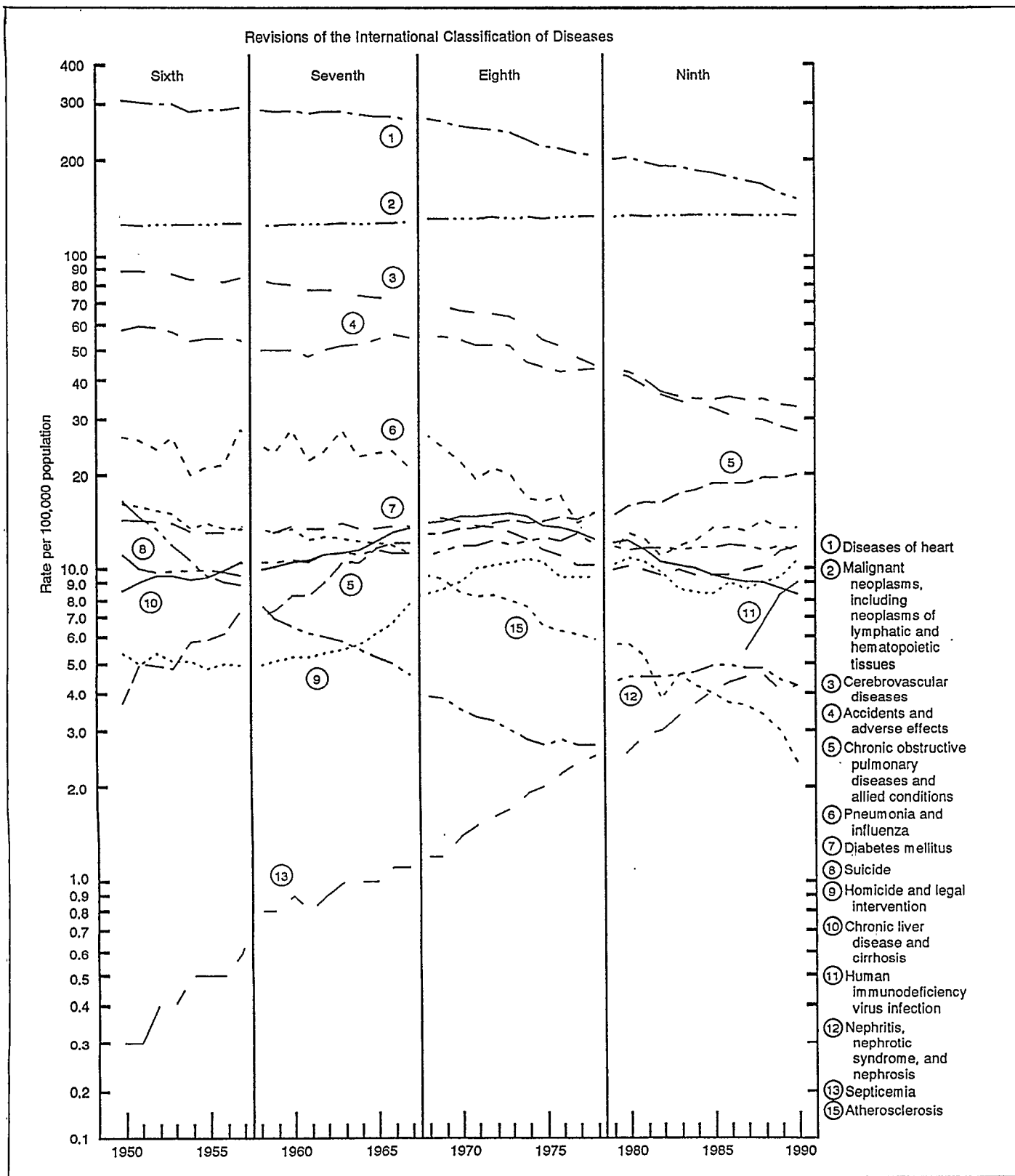


Figure 4. Age-adjusted death rates for 14 of the 15 leading causes of death: United States, 1950-90

Table J. Deaths under 1 year and infant mortality rates, by month: United States, 1989 and 1990

[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	
	1990	1989	1990	1989
Total	38,100	38,900	9.1	9.7
January	3,500	3,400	10.4	10.4
February	3,100	3,200	9.7	10.5
March	3,200	3,300	9.3	10.0
April	3,200	3,200	9.6	10.0
May	3,300	3,400	9.2	10.2
June	3,200	3,300	9.2	10.2
July	3,100	3,200	8.6	9.1
August	3,100	3,100	8.7	9.0
September	3,100	3,000	8.8	9.0
October	3,100	3,300	8.6	9.5
November	3,000	3,100	8.7	9.6
December	3,200	3,300	9.1	9.9

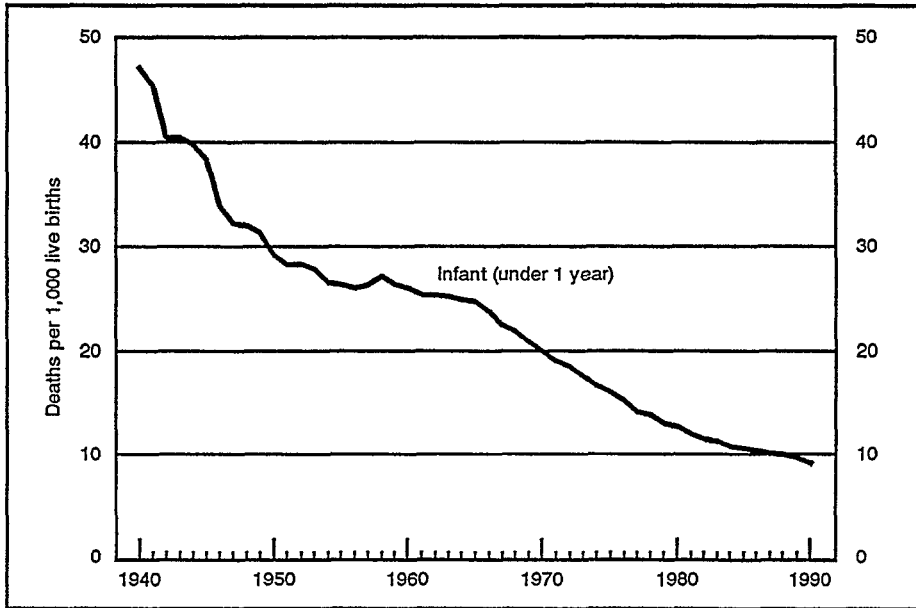


Figure 5. Infant mortality rates: United States, 1940–90

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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 standards of reliability or precision
-

Table 1. Live births and birth rates: Each division and State, 1989 and 1990

[Provisional number of events reported; see Technical notes. By State of occurrence. Figures include revisions and, therefore, may differ from those previously published. Rates per 1,000 population in specified area]

Area	Live births			
	1990		1989	
	Number	Rate	Number	Rate
New England	204,145	15.5	202,027	15.5
Maine	16,211	13.1	16,842	13.8
New Hampshire	16,927	15.0	17,946	16.2
Vermont	8,045	14.0	7,920	14.0
Massachusetts	95,066	16.0	96,457	16.3
Rhode Island	15,666	15.6	15,302	15.3
Connecticut	52,230	16.1	47,560	14.7
Middle Atlantic	594,883	15.7	578,025	15.3
New York	302,084	16.8	291,145	16.2
New Jersey	120,654	15.5	116,619	15.1
Pennsylvania	172,145	14.2	170,261	14.1
East North Central	673,457	15.8	649,459	15.4
Ohio	165,546	15.1	162,793	14.9
Indiana	85,202	15.1	82,764	14.8
Illinois	192,545	16.4	189,129	16.2
Michigan	157,674	16.9	142,673	15.4
Wisconsin	72,490	14.8	72,100	14.8
West North Central	275,609	15.3	267,762	15.0
Minnesota	68,353	15.5	66,593	15.3
Iowa	39,595	13.9	39,241	13.8
Missouri	83,085	16.0	80,126	15.5
North Dakota	10,483	16.0	10,862	16.5
South Dakota	10,912	15.2	10,991	15.4
Nebraska	24,317	15.0	24,317	15.1
Kansas	38,864	15.4	35,632	14.2
South Atlantic	705,114	16.1	678,784	15.7
Delaware	11,728	17.1	11,492	17.1
Maryland	75,557	15.9	67,550	14.4
District of Columbia	21,912	36.8	22,461	37.2
Virginia	96,665	15.6	93,453	15.3
West Virginia	23,202	12.6	23,079	12.4
North Carolina	105,230	15.8	102,817	15.6
South Carolina	56,521	15.9	55,214	15.7
Georgia	114,818	17.6	109,905	17.1
Florida	199,481	15.3	192,813	15.2
East South Central	244,572	15.8	231,994	15.1
Kentucky	56,753	15.2	52,591	14.1
Tennessee	77,821	15.6	76,780	15.5
Alabama	66,935	16.2	60,360	14.7
Mississippi	43,063	16.4	42,263	16.1
West South Central	483,507	17.8	451,625	16.7
Arkansas	35,499	14.7	34,997	14.5
Louisiana	71,913	16.5	68,813	15.7
Oklahoma	46,119	14.3	46,455	14.4
Texas	329,976	19.2	301,360	17.7
Mountain	242,892	17.7	235,645	17.4
Montana	11,482	14.2	11,394	14.1
Idaho	16,418	16.0	15,459	15.2
Wyoming	6,517	13.9	6,491	13.7
Colorado	53,238	16.0	52,863	15.9
New Mexico	28,252	18.3	27,324	17.9
Arizona	68,701	18.9	67,609	19.0
Utah	37,175	21.6	36,208	21.2
Nevada	21,109	18.1	18,297	16.5
Pacific	772,564	19.7	705,189	18.4
Washington	77,034	15.8	73,261	15.4
Oregon	45,851	15.9	43,835	15.5
California	617,704	20.7	557,003	19.2
Alaska	11,506	21.8	11,545	21.9
Hawaii	20,469	18.1	19,545	17.6

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

Table 2. Marriages, divorces, and rates: Each division and State, 1989 and 1990

[Provisional number of events reported; see Technical notes. 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 ¹				Divorces			
	1990		1989		1990		1989	
	Number	Rate	Number	Rate	Number	Rate	Number	Rate
New England	112,240	8.5	117,905	9.0	44,006	3.4	45,218	3.5
Maine	11,773	9.5	12,420	10.2	5,275	4.3	5,708	4.7
New Hampshire	10,582	9.4	11,260	10.2	5,279	4.7	5,239	4.7
Vermont	6,144	10.7	6,016	10.6	2,616	4.5	2,473	4.4
Massachusetts	47,822	8.1	53,370	9.0	16,781	2.8	15,436	2.6
Rhode Island	8,113	8.1	8,235	8.3	3,754	3.7	3,627	3.6
Connecticut	27,806	8.6	26,604	8.2	10,301	3.2	12,735	3.9
Middle Atlantic	314,070	8.3	308,293	8.2	121,598	3.2	123,505	3.3
New York	169,264	9.4	161,834	9.0	57,863	3.2	59,520	3.3
New Jersey	58,012	7.5	60,551	7.8	23,612	3.0	25,644	3.3
Pennsylvania	86,794	7.2	85,908	7.1	40,123	3.3	38,341	3.2
East North Central	² 267,419	² 8.7	357,005	8.4	² 109,040	² 4.3	² 153,013	² 4.2
Ohio	95,827	8.7	98,136	9.0	50,989	4.7	49,273	4.5
Indiana	54,295	9.6	55,119	9.9	---	---	---	---
Illinois	---	---	85,720	7.4	---	---	45,892	3.9
Michigan	76,137	8.2	77,558	8.4	40,219	4.3	40,278	4.3
Wisconsin	41,160	8.4	40,472	8.3	17,832	3.6	17,570	3.6
West North Central	156,134	8.7	157,677	8.8	76,917	4.3	75,861	4.2
Minnesota	33,695	7.7	34,325	7.9	15,421	3.5	15,707	3.6
Iowa	24,813	8.7	24,266	8.5	11,060	3.9	9,975	3.5
Missouri	49,251	9.5	51,147	9.9	26,351	5.1	26,330	5.1
North Dakota	4,779	7.3	4,835	7.3	2,326	3.6	2,231	3.4
South Dakota	7,727	10.8	7,100	9.9	2,648	3.7	2,624	3.7
Nebraska	12,484	7.7	12,703	7.9	6,488	4.0	6,354	3.9
Kansas	23,385	9.2	23,301	9.3	12,623	5.0	12,640	5.0
South Atlantic	455,406	10.4	446,829	10.4	226,645	5.2	216,306	5.0
Delaware	5,628	8.2	5,940	8.8	2,985	4.4	2,987	4.4
Maryland	46,081	9.7	47,394	10.1	16,055	3.4	15,833	3.4
District of Columbia	4,716	7.9	4,795	7.9	3,257	5.5	2,398	4.0
Virginia	71,257	11.5	68,868	11.3	27,266	4.4	25,799	4.2
West Virginia	13,166	7.2	13,354	7.2	9,658	5.3	9,379	5.1
North Carolina	52,070	7.8	50,590	7.7	34,017	5.1	32,384	4.9
South Carolina	55,837	15.7	54,335	15.5	16,080	4.5	14,859	4.2
Georgia	64,359	9.8	63,108	9.8	35,672	5.5	32,705	5.1
Florida	142,292	10.9	138,445	10.9	81,655	6.3	79,962	6.3
East South Central	185,473	12.0	182,821	11.9	93,809	6.1	91,791	6.0
Kentucky	51,291	13.8	50,208	13.5	21,790	5.8	20,629	5.5
Tennessee	66,597	13.4	65,005	13.2	32,295	6.5	32,278	6.5
Alabama	43,263	10.5	43,317	10.5	25,280	6.1	26,122	6.3
Mississippi	24,322	9.3	24,291	9.3	14,444	5.5	12,762	4.9
West South Central	292,857	10.8	281,746	10.4	² 136,823	² 6.0	² 133,466	² 5.9
Arkansas	35,703	14.8	34,612	14.4	16,765	6.9	16,372	6.8
Louisiana	41,161	9.4	38,990	8.9	---	---	---	---
Oklahoma	33,162	10.3	33,112	10.3	24,919	7.7	23,050	7.1
Texas	182,831	10.7	175,032	10.3	95,139	5.5	94,044	5.5
Mountain	² 127,551	² 10.2	241,901	17.9	87,031	6.3	83,897	6.2
Montana	7,025	8.7	6,698	8.3	4,093	5.1	4,090	5.1
Idaho	14,977	14.6	13,082	12.9	6,634	6.5	6,043	6.0
Wyoming	4,843	10.3	4,624	9.7	3,095	6.6	3,040	6.4
Colorado	31,512	9.4	32,219	9.7	18,385	5.5	18,709	5.6
New Mexico	13,175	8.5	12,746	8.3	7,652	4.9	7,598	5.0
Arizona	37,007	10.2	35,738	10.1	25,096	6.9	23,153	6.5
Utah	19,012	11.0	18,642	10.9	8,786	5.1	8,088	4.7
Nevada	---	---	118,152	106.3	13,290	11.4	13,176	11.9
Pacific	334,420	8.5	325,059	8.5	² 52,746	² 5.6	176,272	4.6
Washington	48,642	10.0	43,684	9.2	28,773	5.9	27,311	5.7
Oregon	25,211	8.8	23,485	8.3	15,884	5.5	15,099	5.4
California	236,693	7.9	234,120	8.1	---	---	124,889	4.3
Alaska	5,730	10.8	5,786	11.0	2,921	5.5	3,331	6.3
Hawaii	18,144	16.1	17,984	16.2	5,168	4.6	5,642	5.1

¹Data are either marriages reported or marriage licenses issued; see Technical notes.

²Excludes 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. Deaths, death rates, and infant deaths: Each division and State, 1989 and 1990

[Provisional number of events reported; see Technical notes. By State of occurrence. Figures include revisions and, therefore, may differ from those previously published. Rates per 1,000 population in specified area]

Area	Deaths (all ages)				Infant deaths (under 1 year)	
	1990		1989		1990	1989
	Number	Rate	Number	Rate	Number	Number
New England	116,363	8.9	117,320	9.0	1,547	¹ 1,162
Maine	11,114	9.0	11,029	9.0	103	113
New Hampshire	8,300	7.3	8,391	7.6	99	125
Vermont	4,701	8.2	4,501	7.9	52	47
Massachusetts	55,669	9.4	55,472	9.4	772	723
Rhode Island	9,572	9.5	9,757	9.8	120	154
Connecticut	27,007	8.3	28,170	8.7	401	---
Middle Atlantic	359,499	9.5	363,176	9.6	¹ 2,743	5,805
New York	167,299	9.3	169,634	9.5	---	3,060
New Jersey	68,841	8.9	69,393	9.0	984	912
Pennsylvania	123,359	10.2	124,149	10.3	1,759	1,833
East North Central	370,347	8.7	369,841	8.7	6,789	6,731
Ohio	98,851	9.0	98,224	9.0	1,589	1,603
Indiana	50,312	8.9	49,421	8.8	818	811
Illinois	100,648	8.6	101,896	8.7	2,134	2,114
Michigan	77,836	8.4	77,660	8.4	1,654	1,565
Wisconsin	42,700	8.7	42,640	8.8	594	638
West North Central	164,888	9.2	164,478	9.2	2,317	2,333
Minnesota	35,041	8.0	34,484	7.9	527	466
Iowa	27,871	9.8	25,201	8.9	314	284
Missouri	52,835	10.2	55,648	10.8	805	913
North Dakota	6,032	9.2	5,865	8.9	90	86
South Dakota	6,406	8.9	6,535	9.1	97	100
Nebraska	14,966	9.2	15,226	9.5	202	197
Kansas	21,737	8.6	21,519	8.6	282	287
South Atlantic	396,873	9.1	394,285	9.1	7,328	7,424
Delaware	5,879	8.6	5,968	8.9	104	121
Maryland	38,403	8.1	38,078	8.1	594	615
District of Columbia	9,546	16.0	9,950	16.5	453	506
Virginia	47,613	7.7	46,342	7.6	960	887
West Virginia	19,531	10.6	19,472	10.5	223	212
North Carolina	57,884	8.7	57,859	8.8	1,156	1,168
South Carolina	28,944	8.1	28,958	8.2	649	686
Georgia	53,337	8.2	53,761	8.4	1,242	1,334
Florida	135,736	10.4	133,897	10.6	1,947	1,895
East South Central	148,739	9.6	143,249	9.3	2,481	2,462
Kentucky	34,913	9.4	34,005	9.1	456	451
Tennessee	48,248	9.7	47,454	9.6	864	842
Alabama	41,162	10.0	37,420	9.1	670	713
Mississippi	24,416	9.3	24,370	9.3	491	456
West South Central	219,619	8.1	215,141	8.0	4,136	4,362
Arkansas	24,735	10.2	24,519	10.2	333	310
Louisiana	37,155	8.5	36,221	8.3	774	776
Oklahoma	29,368	9.1	28,779	8.9	450	422
Texas	128,361	7.5	125,622	7.4	2,579	2,854
Mountain	98,964	7.2	96,645	7.2	2,055	2,100
Montana	6,848	8.5	6,682	8.3	84	97
Idaho	7,261	7.1	7,150	7.1	127	116
Wyoming	3,069	6.5	3,065	6.5	35	41
Colorado	22,033	6.6	21,764	6.6	490	514
New Mexico	10,934	7.1	10,525	6.9	237	221
Arizona	29,492	8.1	28,882	8.1	599	646
Utah	9,668	5.6	9,483	5.6	302	320
Nevada	9,659	8.3	9,094	8.2	181	145
Pacific	287,023	7.3	290,059	7.6	5,950	6,153
Washington	36,670	7.5	36,341	7.6	622	668
Oregon	25,811	9.0	27,469	9.7	343	347
California	215,269	7.2	217,489	7.5	4,719	4,869
Alaska	2,210	4.2	2,052	3.9	112	100
Hawaii	7,063	6.3	6,708	6.0	154	169

¹Excludes figures for State shown below as not available.

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

Table 4. Estimated deaths and death rates, by age, race, and sex: United States, 1990

[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 races			White			All other					
	Both sexes	Male	Female	Both sexes	Male	Female	Total			Black		
							Both sexes	Male	Female	Both sexes	Male	Female
	Number											
All ages	2,162,000	1,121,850	1,040,430	1,878,200	966,270	911,930	284,080	155,580	128,500	255,760	139,320	116,440
Under 1 year	38,100	21,580	16,510	26,280	15,040	11,240	11,810	6,540	5,270	10,890	6,000	4,890
1-4 years	6,630	3,740	2,890	4,800	2,700	2,100	1,830	1,040	790	1,560	850	710
5-14 years	8,620	5,330	3,290	6,590	4,060	2,530	2,030	1,270	760	1,720	1,090	630
15-24 years	37,380	28,370	9,010	27,690	20,780	6,910	9,690	7,590	2,100	8,660	6,850	1,810
25-34 years	61,070	45,040	16,030	44,030	32,990	11,040	17,040	12,050	4,990	15,500	11,000	4,500
35-44 years	83,750	57,310	26,440	62,090	42,860	19,230	21,660	14,450	7,210	19,720	13,140	6,580
45-54 years	118,210	74,610	43,600	93,430	59,090	34,340	24,780	15,520	9,260	22,330	14,150	8,180
55-59 years	97,260	59,150	38,110	80,130	49,450	30,680	17,130	9,700	7,430	15,720	8,880	6,840
60-64 years	154,580	93,660	60,920	129,900	79,970	49,930	24,680	13,690	10,990	22,510	12,530	9,980
65-69 years	219,270	129,420	89,850	189,020	112,720	76,300	30,250	16,700	13,550	27,150	14,870	12,280
70-74 years	261,720	147,020	114,700	232,440	131,250	101,190	29,280	15,770	13,510	26,330	14,090	12,240
75-79 years	306,570	161,200	145,370	275,490	145,420	130,070	31,080	15,780	15,300	27,840	13,940	13,900
80-84 years	300,850	140,420	160,430	273,620	128,010	145,610	27,230	12,410	14,820	24,190	10,770	13,420
85 years and over	467,040	154,190	312,850	431,960	141,450	290,510	35,080	12,740	22,340	31,260	10,910	20,350
Not stated	1,240	810	430	730	480	250	510	330	180	380	250	130
	Rate											
All ages ¹	861.9	917.2	809.3	891.6	937.2	847.9	706.2	809.5	611.7	820.4	941.5	711.0
Under 1 year ²	936.6	1,037.5	831.2	814.4	908.8	715.0	1,408.1	1,538.8	1,273.6	1,652.5	1,796.4	1,504.6
1-4 years	44.2	48.7	39.4	40.0	43.9	35.9	60.9	68.0	53.6	66.9	71.7	62.0
5-14 years	24.1	29.1	18.9	23.1	27.7	18.2	28.5	35.1	21.6	30.8	38.4	23.0
15-24 years	104.1	156.1	50.8	95.1	140.7	48.2	142.4	223.0	61.7	161.8	258.6	67.0
25-34 years	139.6	205.6	73.4	120.6	178.9	61.1	235.0	348.3	131.6	276.1	414.8	152.0
35-44 years	221.1	306.1	138.1	192.4	265.6	119.2	386.5	558.6	239.0	471.4	688.0	289.5
45-54 years	463.1	600.9	332.6	425.3	547.1	307.5	696.3	959.8	476.8	832.3	1,181.1	550.8
55-59 years	913.7	1,163.7	685.3	870.0	1,115.5	642.2	1,194.6	1,492.3	947.7	1,404.8	1,744.6	1,121.3
60-64 years	1,434.2	1,852.8	1,064.5	1,373.6	1,791.4	1,000.0	1,868.3	2,316.4	1,505.5	2,156.1	2,649.0	1,747.8
65-69 years	2,129.2	2,759.5	1,602.2	2,072.4	2,701.8	1,541.7	2,570.1	3,223.9	2,056.1	2,897.5	3,609.2	2,339.0
70-74 years	3,211.7	4,151.9	2,488.6	3,181.5	4,120.9	2,455.5	3,469.2	4,429.8	2,768.4	3,906.5	4,996.5	3,122.4
75-79 years	4,991.4	6,606.6	3,926.8	4,989.0	6,622.0	3,910.7	5,012.9	6,467.2	4,069.1	5,635.6	7,336.8	4,572.4
80-84 years	7,832.6	10,370.8	6,453.3	7,799.9	10,390.4	6,397.6	8,201.8	10,172.1	7,057.1	9,197.7	11,580.6	7,894.1
85 years and over	14,784.4	17,521.6	13,727.5	15,087.7	17,973.3	13,993.7	11,851.4	13,698.9	11,004.9	12,707.3	14,743.2	11,831.4

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

²Death 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, and 1980-90

[Data for 1989 and 1990 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 census years 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 ¹	Under 1 year ²	1-4 years	5-14 years	15-24 years	25-34 years	35-44 years	45-54 years	55-64 years	65-74 years	75-84 years	85 years and over	Age- adjusted rate ³
All races, both sexes													
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	868.1	986.0	43.8	26.6	103.5	139.7	221.0	479.1	1,210.0	2,628.2	6,167.5	15,083.2	524.1
1988 ⁴	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 ⁴	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 ⁴	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 ⁴	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
1984 ⁴	862.3	1,085.6	51.9	26.7	96.8	121.1	204.8	521.1	1,287.8	2,848.1	6,399.3	15,223.6	545.9
1983 ⁴	862.8	1,107.3	55.9	26.9	96.0	121.4	201.9	535.7	1,299.5	2,874.3	6,441.5	15,168.0	550.5
1982 ⁴	852.0	1,164.2	57.6	28.3	101.0	125.2	207.4	549.7	1,297.9	2,885.2	6,329.8	15,048.3	553.8
1981 ⁴	862.4	1,207.3	60.2	29.4	107.1	132.1	221.3	573.5	1,322.1	2,922.3	6,429.9	15,379.7	568.2
1980 ⁴	878.3	1,288.3	63.9	30.6	115.4	135.5	227.9	584.0	1,346.3	2,994.9	6,926.6	15,980.3	585.8
1970 ⁴	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 ⁴	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													
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	922.0	1,076.7	46.6	32.3	152.0	203.3	301.7	628.2	1,569.8	3,414.6	7,950.4	17,695.3	679.6
1988 ⁴	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 ⁴	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 ⁴	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 ⁴	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
1984 ⁴	935.9	1,198.2	57.0	32.1	141.6	173.9	270.2	676.6	1,705.2	3,813.0	8,445.9	18,119.1	716.7
1983 ⁴	942.6	1,223.7	63.3	32.5	140.4	174.6	265.8	694.5	1,725.6	3,885.4	8,539.1	17,977.4	725.3
1982 ⁴	938.0	1,291.5	63.3	34.1	149.2	180.6	272.6	720.4	1,736.1	3,929.2	8,391.4	17,782.0	733.1
1981 ⁴	954.5	1,331.8	67.3	35.7	158.3	190.6	291.9	751.7	1,774.7	3,994.6	8,519.6	18,138.2	753.3
1980 ⁴	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 ⁴	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 ⁴	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													
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	816.9	890.9	40.8	20.6	53.9	75.9	142.2	337.9	887.8	1,997.1	5,083.4	14,070.3	396.4
1988 ⁴	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 ⁴	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 ⁴	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 ⁴	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
1984 ⁴	792.7	967.5	46.5	21.1	51.1	68.5	141.5	374.6	918.4	2,096.4	5,188.2	14,053.9	409.7
1983 ⁴	787.4	985.4	48.3	21.0	50.7	68.9	140.2	386.0	923.8	2,092.3	5,200.0	14,010.6	411.5
1982 ⁴	770.7	1,030.8	51.6	22.3	51.6	70.4	144.4	389.9	913.9	2,084.7	5,120.7	13,895.2	411.2
1981 ⁴	775.4	1,076.7	52.8	22.8	54.8	74.3	153.2	406.9	925.2	2,100.6	5,201.0	14,202.5	420.4
1980 ⁴	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 ⁴	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 ⁴	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													
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	893.3	819.2	39.0	24.5	95.8	119.1	191.1	434.1	1,153.3	2,573.2	6,155.4	15,362.5	500.0
1988 ⁴	905.1	832.0	45.7	23.9	95.1	116.2	188.0	438.8	1,173.0	2,667.6	6,282.9	15,875.6	509.8
1987 ⁴	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 ⁴	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 ⁴	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
1984 ⁴	885.2	931.8	46.9	25.4	94.7	107.2	179.1	477.1	1,223.7	2,784.6	6,367.2	15,508.3	523.6
1983 ⁴	884.6	948.1	50.8	25.6	93.2	107.6	177.8	490.8	1,233.0	2,808.0	6,415.6	15,477.4	528.0
1982 ⁴	872.9	1,018.5	52.8	27.0	98.3	110.2	182.7	504.0	1,233.3	2,822.3	6,329.3	15,296.9	531.8
1981 ⁴	880.3	1,062.0	54.3	28.0	104.6	116.2	192.5	524.9	1,255.7	2,855.9	6,423.4	15,628.0	544.6
1980 ⁴	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 ⁴	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 ⁴	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													
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	934.6	910.0	42.0	30.3	139.0	173.4	260.4	563.8	1,497.5	3,348.0	7,943.6	18,110.4	647.9
1988 ⁴	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 ⁴	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 ⁴	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

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, and 1980-90—Con.

[Data for 1989 and 1990 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 census years 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 ¹	Under 1 year ²	1-4 years	5-14 years	15-24 years	25-34 years	35-44 years	45-54 years	55-64 years	65-74 years	75-84 years	85 years and over	Age-adjusted rate ³
1985 ⁴	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
1984 ⁴	951.1	1,038.4	51.8	30.5	138.8	154.3	235.1	617.9	1,625.5	3,745.3	8,459.1	18,552.7	689.9
1983 ⁴	957.4	1,052.9	57.3	31.1	137.0	154.8	232.9	636.5	1,642.9	3,816.1	8,556.9	18,443.3	698.4
1982 ⁴	951.8	1,135.5	58.2	32.5	145.6	158.7	238.6	659.9	1,654.6	3,859.8	8,444.7	18,123.1	706.0
1981 ⁴	965.1	1,182.0	60.5	34.2	154.5	167.3	252.4	686.5	1,692.0	3,926.9	8,565.2	18,454.0	724.4
1980 ⁴	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 ⁴	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 ⁴	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													
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	853.8	722.9	35.9	18.3	51.4	63.8	122.0	308.7	841.2	1,946.8	5,072.3	14,317.0	378.8
1988 ⁴	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 ⁴	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 ⁴	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 ⁴	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
1984 ⁴	822.3	818.5	41.6	20.0	49.6	59.5	123.9	341.9	864.9	2,032.5	5,140.0	14,319.6	391.3
1983 ⁴	815.3	837.6	43.9	19.7	48.3	60.1	123.4	351.0	867.8	2,024.7	5,162.2	14,278.3	392.7
1982 ⁴	797.9	895.2	47.0	21.2	49.5	61.3	127.7	355.1	859.8	2,022.9	5,100.7	14,123.9	393.3
1981 ⁴	799.6	935.4	47.7	21.6	53.2	64.7	133.6	370.9	869.4	2,032.8	5,176.3	14,438.2	401.4
1980 ⁴	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 ⁴	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 ⁴	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
All other, both sexes													
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	733.8	1,661.1	63.0	35.2	137.0	244.9	395.7	760.1	1,603.9	3,083.7	6,283.1	12,338.1	665.8
1988 ⁴	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 ⁴	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 ⁴	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 ⁴	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
1984 ⁴	731.5	1,755.4	73.6	32.4	106.7	197.3	369.1	811.2	1,797.7	3,408.2	6,721.9	11,996.5	694.5
1983 ⁴	736.6	1,802.0	78.5	32.7	109.4	198.6	357.6	838.7	1,841.1	3,464.5	6,695.1	11,796.8	703.1
1982 ⁴	728.9	1,745.5	78.4	34.3	114.4	210.3	367.1	868.2	1,840.0	3,458.5	6,340.4	12,159.6	704.6
1981 ⁴	755.0	1,786.5	87.3	35.6	120.0	226.2	408.2	921.0	1,890.8	3,531.9	6,478.6	12,547.9	732.6
1980 ⁴	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 ⁴	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 ⁴	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
All other, male													
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	853.0	1,758.2	65.3	40.5	209.6	365.9	564.2	1,062.7	2,100.7	3,981.1	8,014.1	14,146.1	878.6
1988 ⁴	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 ⁴	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 ⁴	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 ⁴	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
1984 ⁴	846.4	1,905.2	79.5	39.0	155.7	289.1	513.2	1,095.0	2,370.5	4,426.4	8,320.3	14,128.4	904.4
1983 ⁴	854.9	1,976.3	89.5	38.7	157.2	292.9	495.5	1,117.4	2,431.9	4,521.8	8,398.0	13,478.4	916.3
1982 ⁴	854.8	1,921.1	85.7	41.2	167.8	313.0	509.5	1,176.7	2,457.7	4,571.7	7,918.1	14,386.4	928.4
1981 ⁴	889.4	1,934.3	98.8	43.0	178.5	338.8	567.5	1,255.7	2,522.6	4,626.0	8,056.0	14,685.9	964.3
1980 ⁴	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 ⁴	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 ⁴	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
All other, female													
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	624.9	1,561.0	60.6	29.8	64.5	134.7	252.0	507.5	1,196.2	2,402.2	5,208.5	11,500.0	495.7
1988 ⁴	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 ⁴	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 ⁴	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 ⁴	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
1984 ⁴	627.0	1,603.0	67.4	25.7	58.4	115.3	246.3	575.9	1,328.8	2,648.8	5,691.1	11,104.7	529.0
1983 ⁴	629.2	1,618.9	67.2	26.5	62.4	115.1	240.8	607.5	1,359.4	2,682.6	5,607.8	10,944.5	535.2
1982 ⁴	614.5	1,560.7	71.0	27.3	61.7	119.1	245.4	615.7	1,346.8	2,637.3	5,329.5	11,130.5	529.3
1981 ⁴	633.0	1,634.5	75.6	28.2	62.8	127.3	272.4	646.1	1,383.1	2,715.2	5,463.9	11,371.7	549.4
1980 ⁴	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

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, and 1980-90—Con.

[Data for 1989 and 1990 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 census years 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 ¹	Under 1 year ²	1-4 years	5-14 years	15-24 years	25-34 years	35-44 years	45-54 years	55-64 years	65-74 years	75-84 years	85 years and over	Age-adjusted rate ³
1970 ⁴	775.3	3,169.4	123.3	42.3	108.8	215.7	490.5	979.4	1,886.9	3,675.6	6,392.6	10,288.9	770.8
1960 ⁴	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
Black, both sexes													
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	848.1	1,899.8	69.6	38.5	150.1	286.5	485.4	904.1	1,825.2	3,504.1	6,970.4	13,110.2	761.2
1988 ⁴	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 ⁴	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 ⁴	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 ⁴	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
1984 ⁴	828.5	1,964.1	78.8	35.2	111.9	226.7	435.9	932.4	2,016.0	3,740.0	7,254.4	12,468.9	771.9
1983 ⁴	830.5	2,032.9	85.3	34.5	114.4	226.1	417.2	956.6	2,059.7	3,773.6	7,215.8	12,320.9	777.9
1982 ⁴	819.2	1,963.2	84.9	36.9	118.7	240.4	429.9	987.3	2,053.9	3,769.2	6,773.3	12,792.4	778.7
1981 ⁴	841.7	1,992.7	93.6	37.7	124.3	255.9	470.5	1,041.1	2,094.4	3,816.3	6,904.8	13,073.7	803.9
1980 ⁴	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 ⁴	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 ⁴	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
Black, male													
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	984.5	1,993.6	73.6	44.5	235.7	432.9	701.2	1,288.9	2,371.3	4,516.3	8,902.9	14,958.3	1,010.0
1988 ⁴	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 ⁴	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 ⁴	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 ⁴	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
1984 ⁴	958.1	2,136.6	85.2	42.4	163.9	335.6	616.0	1,273.5	2,658.3	4,874.5	9,023.0	14,642.9	1,011.7
1983 ⁴	963.3	2,243.4	96.8	40.9	165.0	335.8	586.5	1,287.3	2,713.1	4,949.3	9,100.0	14,155.6	1,019.6
1982 ⁴	960.4	2,168.9	93.4	44.4	175.4	360.3	606.7	1,352.1	2,758.1	5,040.1	8,477.2	15,117.9	1,035.0
1981 ⁴	991.6	2,164.8	105.3	45.2	186.7	387.1	667.9	1,432.5	2,804.1	5,046.3	8,635.1	15,396.4	1,067.7
1980 ⁴	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 ⁴	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 ⁴	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
Black, female													
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	725.0	1,803.3	65.4	32.3	66.5	155.4	304.6	593.2	1,373.6	2,744.7	5,812.5	12,224.2	564.6
1988 ⁴	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 ⁴	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 ⁴	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 ⁴	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
1984 ⁴	712.0	1,789.1	72.2	27.8	61.6	130.6	285.7	655.0	1,489.7	2,907.4	6,184.1	11,439.1	585.3
1983 ⁴	711.2	1,818.6	73.6	28.0	65.6	130.0	276.1	685.8	1,526.3	2,930.6	6,064.6	11,329.5	590.4
1982 ⁴	692.4	1,760.1	76.4	29.4	63.5	134.8	282.7	693.1	1,498.3	2,863.0	5,708.5	11,660.0	581.4
1981 ⁴	707.3	1,823.4	81.6	30.0	64.0	141.1	306.1	723.9	1,527.9	2,929.7	5,822.3	11,933.0	599.1
1980 ⁴	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 ⁴	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 ⁴	905.0	4,162.2	173.3	53.8	107.5	273.2	588.5	1,177.0	2,510.9	4,064.2	6,730.0	13,052.6	916.9

¹Figures for age not stated are included in "All ages" but are not distributed among age groups.
²Death 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.
³For method of computation, see Technical notes.
⁴Data are final; see Technical notes.

Table 6. Provisional abridged life table for the total population: United States, 1990

[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
						Average number of years of life remaining at beginning of age interval
		Proportion of persons alive at beginning of age interval dying during interval	Number living at beginning of age interval	Number dying during age interval	In the age interval	In this and all subsequent age intervals
Period of life between 2 exact ages stated in years (1)	(2)	(3)	(4)	(5)	(6)	(7)
x to $x+n$	nq_x	l_x	n^d_x	n^l_x	T_x	e_x
0-1	0.0098	100,000	979	99,165	7,543,705	75.4
1-5	0.0017	99,021	172	395,681	7,444,540	75.2
5-10	0.0011	98,849	110	493,945	7,048,859	71.3
10-15	0.0013	98,739	127	493,449	6,554,914	66.4
15-20	0.0046	98,612	455	492,028	6,061,465	61.5
20-25	0.0057	98,157	562	489,408	5,569,437	56.7
25-30	0.0061	97,595	600	486,474	5,080,029	52.1
30-35	0.0077	96,995	751	483,142	4,593,555	47.4
35-40	0.0097	96,244	930	479,027	4,110,413	42.7
40-45	0.0127	95,314	1,207	473,768	3,631,386	38.1
45-50	0.0181	94,107	1,707	466,580	3,157,618	33.6
50-55	0.0286	92,400	2,641	455,812	2,691,038	29.1
55-60	0.0448	89,759	4,019	439,325	2,235,226	24.9
60-65	0.0695	85,740	5,960	414,607	1,795,901	20.9
65-70	0.1015	79,780	8,099	379,527	1,381,294	17.3
70-75	0.1496	71,681	10,722	332,532	1,001,767	14.0
75-80	0.2234	60,959	13,620	271,576	669,235	11.0
80-85	0.3292	47,339	15,586	197,941	397,659	8.4
85 and over	1.0000	31,753	31,753	199,718	199,718	6.3

Table 7. Average length of life in years, by race and sex: United States, 1950, 1960, 1970, 1975-90

[Provisional data for 1989 and 1990 based on a 10-percent sample of deaths; for all other years, based on final data. For further discussion, see Technical notes]

Year	All races			White			All other					
							Total			Black		
	Both sexes	Male	Female	Both sexes	Male	Female	Both sexes	Male	Female	Both sexes	Male	Female
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	75.2	71.8	78.5	75.9	72.6	79.1	71.7	67.5	75.7	69.7	65.2	74.0
1988 ¹	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 ¹	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 ¹	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 ¹	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 ¹	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 ¹	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 ¹	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 ¹	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 ¹	73.7	70.0	77.4	74.4	70.7	78.1	69.5	65.3	73.6	68.1	63.8	72.5
1979 ¹	73.9	70.0	77.8	74.6	70.8	78.4	69.8	65.4	74.1	68.5	64.0	72.9
1978 ¹	73.5	69.6	77.3	74.1	70.4	78.0	69.3	65.0	73.5	68.1	63.7	72.4
1977 ¹	73.3	69.5	77.2	74.0	70.2	77.9	68.9	64.7	73.2	67.7	63.4	72.0
1976 ¹	72.9	69.1	76.8	73.6	69.9	77.5	68.4	64.2	72.7	67.2	62.9	71.6
1975 ¹	72.6	68.8	76.6	73.4	69.5	77.3	68.0	63.7	72.4	66.8	62.4	71.3
1970 ¹	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 ¹	69.7	66.6	73.1	70.6	67.4	74.1	63.6	61.1	66.3	---	---	---
1950 ¹	68.2	65.6	71.1	69.1	66.5	72.2	60.8	59.1	62.9	---	---	---

¹Data are final; see Technical notes.

Table 8. Estimated age-specific and age-adjusted death rates for the 15 leading causes and selected components: United States, 1989 and 1990

[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 ³	
		All ages ¹	Under 1 year ²	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	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
	1989	868.1	986.0	31.7	103.5	139.7	221.0	479.1	1,210.0	2,628.2	6,167.5	15,083.2	524.1
Diseases of heart 390-398,402,404-429	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
	1989	296.3	18.8	1.1	2.1	7.5	30.8	124.6	377.8	910.1	2,412.5	6,742.6	155.9
Rheumatic fever and rheumatic heart disease 390-398	1990	2.5	-	0.0	0.1	0.2	0.6	2.0	4.2	8.9	20.8	25.0	1.6
	1989	2.4	-	0.0	0.1	0.3	0.7	1.6	4.2	9.1	19.3	23.3	1.5
Hypertensive heart disease 402	1990	8.7	-	-	0.1	0.2	1.3	5.2	12.9	27.6	63.8	177.9	4.8
	1989	8.5	-	-	0.0	0.3	1.6	6.0	13.2	27.1	65.9	152.9	4.9
Hypertensive heart and renal disease 404	1990	0.7	-	-	0.0	-	0.1	0.2	0.5	2.2	6.6	17.4	0.3
	1989	0.9	-	-	-	0.0	0.1	0.2	1.0	2.9	7.3	18.1	0.4
Ischemic heart disease 410-414	1990	195.1	0.7	0.0	0.2	2.7	16.8	76.4	242.1	617.4	1,624.5	4,246.0	101.0
	1989	200.6	0.3	0.0	0.2	2.1	17.8	80.1	255.0	635.4	1,676.7	4,473.0	104.9
Acute myocardial infarction 410	1990	96.5	0.5	-	0.1	1.5	10.1	46.2	143.3	337.6	819.8	1,615.4	53.6
	1989	99.5	-	-	0.1	1.1	10.5	48.3	147.6	356.1	841.7	1,703.2	55.7
Other acute and subacute forms of ischemic heart disease 411	1990	1.3	-	-	-	0.1	0.2	1.5	2.1	5.1	8.1	19.0	0.8
	1989	1.3	-	-	-	0.1	0.2	0.8	3.0	4.0	8.8	24.7	0.8
Angina pectoris 413	1990	0.3	-	-	-	-	0.0	0.0	0.2	0.9	2.4	8.9	0.1
	1989	0.4	-	-	-	-	0.0	0.2	0.3	1.2	2.8	10.2	0.2
Old myocardial infarction and other forms of chronic ischemic heart disease 412,414	1990	96.9	0.2	0.0	0.1	1.1	6.5	28.7	96.5	273.9	794.0	2,602.7	46.4
	1989	99.3	0.3	0.0	0.0	0.9	7.0	30.8	104.1	274.2	823.4	2,735.0	48.2
Other diseases of endocardium 424	1990	4.9	-	0.1	0.1	0.3	0.6	1.0	3.8	12.1	42.9	135.2	2.3
	1989	4.7	0.3	-	0.1	0.3	0.9	1.4	3.7	12.6	45.0	113.4	2.4
All other forms of heart disease 415-423,425-429	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
	1989	79.2	18.3	1.0	1.8	4.4	9.8	35.3	100.7	223.0	598.4	1,961.5	41.8
Malignant neoplasms, including neoplasms of lymphatic and hematopoietic tissues 140-208	1990	201.7	2.2	3.0	4.8	12.7	43.2	155.7	440.7	857.3	1,348.7	1,702.1	133.0
	1989	200.3	1.5	3.2	5.3	13.3	45.0	158.5	451.4	843.5	1,338.4	1,655.2	133.7
Malignant neoplasms of lip, oral cavity, and pharynx 140-149	1990	3.1	-	-	0.1	0.1	0.9	3.6	9.4	12.6	14.9	21.8	2.3
	1989	3.3	-	-	0.1	0.1	0.8	3.7	10.6	14.2	14.3	17.4	2.4
Malignant neoplasms of digestive organs and peritoneum 150-159	1990	48.4	0.2	0.1	0.2	1.3	7.8	29.7	95.2	199.0	358.8	541.9	29.8
	1989	48.0	-	0.1	0.3	1.4	8.0	30.9	94.4	205.0	355.9	508.2	30.1
Malignant neoplasms of respiratory and intrathoracic organs 160-165	1990	57.3	0.2	0.0	0.1	0.9	6.3	47.2	159.9	287.6	341.1	239.3	39.9
	1989	57.0	-	-	0.1	0.7	7.3	48.6	164.7	279.2	333.9	248.8	40.1
Malignant neoplasm of breast 174-175	1990	18.0	-	-	0.1	1.2	8.3	23.9	43.5	65.9	93.2	143.7	12.9
	1989	17.6	-	-	0.0	1.8	9.2	22.8	45.2	60.7	91.4	137.1	12.8
Malignant neoplasms of genital organs 179-187	1990	23.1	-	0.0	0.3	1.2	4.1	11.2	30.9	94.6	198.7	284.3	13.4
	1989	21.6	-	0.0	0.3	1.3	3.8	10.4	34.2	84.4	184.4	269.2	12.8
Malignant neoplasms of urinary organs 188-189	1990	8.1	-	0.1	0.1	0.3	1.2	5.1	15.6	31.4	62.7	94.3	5.0
	1989	8.1	-	0.0	0.1	0.2	1.0	5.3	14.2	33.2	63.7	98.0	4.9
Malignant neoplasms of all other and unspecified sites 170-173,190-199	1990	24.3	1.5	1.3	2.0	3.8	9.0	21.7	50.5	93.5	142.6	207.0	16.7
	1989	25.2	1.0	1.7	1.9	3.4	8.9	23.7	54.8	94.4	154.2	207.1	17.6
Leukemia 204-208	1990	7.4	0.2	1.1	1.2	1.9	2.0	5.1	13.2	24.9	50.4	73.1	5.0
	1989	7.6	0.5	1.2	1.7	1.8	2.1	4.9	11.7	26.1	54.3	74.6	5.1
Other malignant neoplasms of lymphatic and hematopoietic tissues 200-203	1990	12.0	-	0.2	0.8	2.1	3.7	8.2	22.5	47.7	86.0	96.9	7.9
	1989	11.9	-	0.3	0.8	2.6	3.9	8.4	21.6	46.3	86.3	94.3	7.9
Cerebrovascular diseases 430-438	1990	57.9	2.5	0.3	0.8	1.9	6.6	19.7	46.5	144.5	501.5	1,573.9	27.6
	1989	59.4	2.8	0.3	0.4	1.9	6.7	18.1	50.6	147.6	530.2	1,632.8	28.5

Accidents and adverse effects.	E800-E949	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
		1989	38.2	28.4	13.3	47.7	36.1	29.9	29.8	34.1	49.1	108.9	277.1	33.5
Motor vehicle accidents	E810-E825	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
		1989	19.7	6.1	7.0	36.8	23.2	16.3	17.1	16.5	19.7	32.5	30.9	19.4
All other accidents and adverse effects.	E800-E807,E826-E949	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
		1989	18.5	22.3	6.3	10.9	12.9	13.6	12.7	17.6	29.4	76.4	246.2	14.1
Chronic obstructive pulmonary diseases and allied conditions	490-496	1990	35.5	1.0	0.2	0.5	0.7	1.5	9.0	48.5	150.3	334.0	442.5	19.7
		1989	34.0	1.5	0.3	0.5	0.8	2.1	9.6	48.9	147.2	314.7	407.0	19.4
Pneumonia and influenza	480-487	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
		1989	30.3	12.7	0.6	0.8	1.7	3.6	6.1	18.0	55.5	242.5	1,082.5	13.3
Diabetes mellitus.	250	1990	19.5	-	0.1	0.2	1.5	3.8	11.2	33.0	72.0	155.0	251.0	11.7
		1989	18.8	-	0.0	0.3	1.7	4.1	11.2	30.9	70.3	143.2	263.0	11.3
Suicide.	E950-E959	1990	12.3	...	0.5	13.6	15.1	14.4	14.4	15.2	18.1	26.1	22.5	11.3
		1989	12.6	...	0.5	13.8	15.8	14.7	16.0	16.2	17.4	23.5	22.7	11.7
Homicide and legal intervention	E960-E978	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
		1989	9.3	8.1	1.7	16.7	17.2	10.6	7.5	5.2	4.2	4.2	3.6	9.4
Chronic liver disease and cirrhosis.	571	1990	10.2	0.2	-	0.1	1.9	9.0	16.9	29.5	34.6	32.9	28.8	8.3
		1989	10.6	-	0.0	0.1	2.3	9.4	18.2	30.2	35.5	35.8	27.6	8.7
Human immunodeficiency virus infection	*042-*044	1990	9.6	0.7		1.6	19.3	25.7	12.7	3.2			9.1	
		1989	8.6	0.5		1.4	16.9	23.6	12.0	3.0			8.3	
Nephritis, nephrotic syndrome, and nephrosis.	580-589	1990	8.3	3.9	0.1	0.1	0.5	1.5	3.2	6.9	22.2	71.3	198.8	4.2
		1989	8.6	5.6	0.1	0.3	0.6	1.2	2.9	8.7	24.0	71.9	204.8	4.4
Septicemia.	038	1990	7.9	7.9	0.2	0.3	0.7	1.6	2.8	8.5	20.8	62.2	180.8	4.2
		1989	7.7	6.1	0.1	0.3	0.9	1.7	3.1	7.6	20.6	62.1	178.5	4.1
Certain conditions originating in the perinatal period.	760-779	1990	7.0	422.2	0.4	0.1	0.0	0.0	0.1	0.0	-	-	0.3	(1)
		1989	7.5	464.4	0.3	0.0	0.1	-	0.0	-	-	-	-	(1)
Atherosclerosis	440	1990	6.6	-	-	-	-	0.1	0.7	2.5	10.7	48.2	284.0	2.4
		1989	7.7	-	-	-	0.0	0.1	0.8	3.9	12.6	60.2	324.1	3.0

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

²Death 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.

³For method of computation, see Technical notes.

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

Table 9. Estimated deaths and death rates for 72 selected causes: United States, 1989 and 1990

[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	
	1990	1989	1990	1989
All causes	2,162,000	2,155,000	861.9	868.1
Shigellosis and amebiasis 004,006	—	10	—	0.0
Certain other intestinal infections 007-009	420	450	0.2	0.2
Tuberculosis 010-018	1,760	1,750	0.7	0.7
Tuberculosis of respiratory system 010-012	1,280	1,370	0.5	0.6
Other tuberculosis 013-018	480	380	0.2	0.2
Whooping cough 033	20	40	0.0	0.0
Streptococcal sore throat, scarlatina, and erysipelas 034-035	10	—	0.0	—
Meningococcal infection 036	180	380	0.1	0.2
Septicemia 038	19,750	19,080	7.9	7.7
Acute poliomyelitis 045	—	—	—	—
Measles 055	70	30	0.0	0.0
Viral hepatitis 070	1,660	1,380	0.7	0.6
Syphilis 090-097	110	110	0.0	0.0
All other infectious and parasitic diseases ¹ 001-003,005,020-032,037,039-041,*042-044,046-054,056-066,071-088,098-139	32,230	28,510	12.8	11.5
Malignant neoplasms, including neoplasms of lymphatic and hematopoietic tissues 140-208	506,000	497,220	201.7	200.3
Malignant neoplasms of lip, oral cavity, and pharynx 140-149	7,860	8,100	3.1	3.3
Malignant neoplasms of digestive organs and peritoneum 150-159	121,320	119,240	48.4	48.0
Malignant neoplasms of respiratory and intrathoracic organs 160-165	143,780	141,590	57.3	57.0
Malignant neoplasm of breast 174-175	45,090	43,700	18.0	17.6
Malignant neoplasms of genital organs 179-187	57,970	53,570	23.1	21.6
Malignant neoplasms of urinary organs 188-189	20,360	20,130	8.1	8.1
Malignant neoplasms of all other and unspecified sites 170-173,190-199	60,920	62,590	24.3	25.2
Leukemia 204-208	18,670	18,850	7.4	7.6
Other malignant neoplasms of lymphatic and hematopoietic tissues 200-203	30,050	29,450	12.0	11.9
Benign neoplasms, carcinoma in situ, and neoplasms of uncertain behavior and of unspecified nature 210-239	7,040	7,100	2.8	2.9
Diabetes mellitus 250	48,840	46,560	19.5	18.8
Nutritional deficiencies 260-269	3,060	3,080	1.2	1.2
Anemias 280-285	4,220	3,930	1.7	1.6
Meningitis 320-322	1,150	1,040	0.5	0.4
Major cardiovascular diseases 390-448	920,420	934,300	366.9	376.4
Diseases of heart 390-398,402,404-429	725,010	735,450	289.0	296.3
Rheumatic fever and rheumatic heart disease 390-398	6,280	6,000	2.5	2.4
Hypertensive heart disease 402	21,770	21,050	8.7	8.5
Hypertensive heart and renal disease 404	1,840	2,130	0.7	0.9
Ischemic heart disease 410-414	489,340	497,850	195.1	200.6
Acute myocardial infarction 410	242,200	247,020	96.5	99.5
Other acute and subacute forms of ischemic heart disease 411	3,340	3,320	1.3	1.3
Angina pectoris 413	740	910	0.3	0.4
Old myocardial infarction and other forms of chronic ischemic heart disease 412,414	243,050	246,600	96.9	99.3
Other diseases of endocardium 424	12,270	11,790	4.9	4.7
All other forms of heart disease 415-423,425-429	193,510	196,640	77.1	79.2
Hypertension with or without renal disease 401,403	9,180	8,450	3.7	3.4
Cerebrovascular diseases 430-438	145,340	147,470	57.9	59.4
Intracerebral and other intracranial hemorrhage 431-432	20,980	21,100	8.4	8.5
Cerebral thrombosis and unspecified occlusion of cerebral arteries 434.0,434.9	18,360	19,860	7.3	8.0
Cerebral embolism 434.1	660	700	0.3	0.3
All other and late effects of cerebrovascular diseases 430,433,435-438	105,340	105,800	42.0	42.6
Atherosclerosis 440	16,490	19,120	6.6	7.7
Other diseases of arteries, arterioles, and capillaries 441-448	24,400	23,820	9.7	9.6
Acute bronchitis and bronchiolitis 466	550	500	0.2	0.2
Pneumonia and influenza 480-487	78,640	75,240	31.3	30.3
Pneumonia 480-486	76,720	73,880	30.6	29.8
Influenza 487	1,910	1,370	0.8	0.6
Chronic obstructive pulmonary diseases and allied conditions 490-496	88,980	84,350	35.5	34.0
Bronchitis, chronic and unspecified 490-491	3,350	3,720	1.3	1.5
Emphysema 492	16,470	15,520	6.6	6.3
Asthma 493	4,600	5,150	1.8	2.1
Other chronic obstructive pulmonary diseases and allied conditions 494-496	64,560	59,960	25.7	24.2
Ulcer of stomach and duodenum 531-533	6,190	6,590	2.5	2.7
Appendicitis 540-543	430	420	0.2	0.2

Table 9. Estimated deaths and death rates for 72 selected causes: United States, 1989 and 1990—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	
	1990	1989	1990	1989
Hernia of abdominal cavity and intestinal obstruction without mention of hernia 550-553,560	5,580	5,350	2.2	2.2
Chronic liver disease and cirrhosis 571	25,600	26,380	10.2	10.6
Cholelithiasis and other disorders of gallbladder 574-575	3,040	2,960	1.2	1.2
Nephritis, nephrotic syndrome, and nephrosis 580-589	20,860	21,230	8.3	8.6
Acute glomerulonephritis and nephrotic syndrome 580-581	330	260	0.1	0.1
Chronic glomerulonephritis, nephritis and nephropathy, not specified as acute or chronic, and renal sclerosis, unspecified 582-583,587	1,380	1,500	0.6	0.6
Renal failure, disorders resulting from impaired renal function, and small kidney of unknown cause 584-586,588-589	19,150	19,470	7.6	7.8
Infections of kidney 590	1,100	1,250	0.4	0.5
Hyperplasia of prostate 600	300	410	0.1	0.2
Complications of pregnancy, childbirth, and the puerperium 630-676	330	260	0.1	0.1
Pregnancy with abortive outcome 630-638	80	30	0.0	0.0
Other complications of pregnancy, childbirth, and the puerperium 640-676	250	230	0.1	0.1
Congenital anomalies 740-759	13,390	12,680	5.3	5.1
Certain conditions originating in the perinatal period 760-779	17,520	18,540	7.0	7.5
Birth trauma, intrauterine hypoxia, birth asphyxia, and respiratory distress syndrome 767-769	3,520	4,470	1.4	1.8
Other conditions originating in the perinatal period 760-766,770-779	14,010	14,080	5.6	5.7
Symptoms, signs, and ill-defined conditions 780-799	26,310	29,830	10.5	12.0
All other diseases Residual	174,130	172,380	69.4	69.4
Accidents and adverse effects E800-E949	93,550	94,780	37.3	38.2
Motor vehicle accidents E810-E825	47,880	48,800	19.1	19.7
All other accidents and adverse effects E800-E807,E826-E949	45,680	45,980	18.2	18.5
Suicide E950-E959	30,780	31,210	12.3	12.6
Homicide and legal intervention E960-E978	25,700	23,020	10.2	9.3
All other external causes E980-E999	2,310	2,580	0.9	1.0

¹Includes data for Human Immunodeficiency virus infection (category numbers *042-*044); see table 10 and Technical notes.

Table 10. Estimated deaths and death rates for Human immunodeficiency virus infection by age, race, and sex and age-adjusted rates by race and sex: United States, 1989 and 1990

[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 ¹				White				Black			
	1990		1989		1990		1989		1990		1989	
	Number	Rate ²	Number	Rate ²	Number	Rate ²	Number	Rate ²	Number	Rate ²	Number	Rate ²
Both sexes												
All ages	24,120	9.6	21,360	8.6	16,580	7.9	14,730	7.0	7,320	23.5	6,470	21.1
Under 15 years	390	0.7	250	0.5	140	0.3	140	0.3	240	2.8	110	1.3
15-24 years	580	1.6	500	1.4	270	0.9	320	1.1	310	5.8	180	3.3
25-34 years	8,460	19.3	7,400	16.9	5,720	15.7	4,810	13.1	2,660	47.4	2,540	45.6
35-44 years	9,730	25.7	8,620	23.6	6,680	20.7	6,060	19.4	2,960	70.8	2,480	62.2
45-54 years	3,240	12.7	2,990	12.0	2,510	11.4	2,170	10.1	710	26.5	800	30.6
55 years and over	1,690	3.2	1,570	3.0	1,240	2.6	1,220	2.6	430	9.0	340	7.2
Not stated	20	...	20	...	10	...	10	...	10	...	10	...
Age-adjusted rate ³ . . . . .	...	9.1	...	8.3	...	7.4	...	6.7	...	23.8	...	21.7
Male												
All ages	21,140	17.3	19,060	15.8	15,360	14.9	13,750	13.5	5,590	37.8	5,140	35.3
Under 15 years	260	0.9	110	0.4	110	0.5	70	0.3	140	3.2	40	0.9
15-24 years	410	2.3	420	2.3	220	1.5	270	1.8	190	7.2	150	5.6
25-34 years	7,220	33.0	6,490	29.6	5,180	28.1	4,450	24.0	1,960	73.9	1,990	75.6
35-44 years	8,740	46.7	7,860	43.6	6,350	39.4	5,790	37.2	2,320	121.5	1,990	109.5
45-54 years	3,040	24.5	2,780	23.0	2,390	22.1	2,090	19.8	630	52.6	670	57.3
55 years and over	1,450	6.3	1,390	6.1	1,090	5.3	1,070	5.3	340	16.7	300	15.0
Not stated	20	...	10	...	10	...	10	...	10	...	-	...
Age-adjusted rate ³ . . . . .	...	16.3	...	15.0	...	13.8	...	12.6	...	39.7	...	37.7
Female												
All ages	2,980	2.3	2,300	1.8	1,220	1.1	970	0.9	1,730	10.6	1,330	8.3
Under 15 years	130	0.5	140	0.5	30	0.1	70	0.3	100	2.4	70	1.7
15-24 years	170	1.0	80	0.4	50	0.3	50	0.3	120	4.4	30	1.1
25-34 years	1,240	5.7	910	4.2	540	3.0	360	2.0	690	23.3	550	18.7
35-44 years	990	5.2	760	4.1	330	2.0	270	1.7	640	28.2	490	22.6
45-54 years	200	1.5	210	1.6	120	1.1	80	0.7	80	5.4	130	9.0
55 years and over	240	0.8	180	0.6	150	0.6	140	0.5	90	3.3	40	1.5
Not stated	-	...	10	...	-	...	-	...	-	...	10	...
Age-adjusted rate ³ . . . . .	...	2.3	...	1.7	...	1.1	...	0.8	...	10.2	...	8.1

¹ Includes races other than white and black.

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

³ For method of computation, see Technical notes.

Table 11. Infant mortality rates, by race and sex: United States, 1960, 1970, and 1980-90

[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												
1990	9.1	---	---	---	---	---	---	---	---	---	---	---
1989	9.7	---	---	---	---	---	---	---	---	---	---	---
1988	9.9	---	---	---	---	---	---	---	---	---	---	---
1987	10.0	---	---	---	---	---	---	---	---	---	---	---
Final												
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. Infant mortality rates, by age and for 10 selected causes of death: United States, 1987-90

[Provisional data for 1987-90 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)	1990 (prov.)	1989 (prov.)	1988		1987 (final)
			(prov.)	(final)	
Total, under 1 year	908.0	973.3	992.9	995.3	1,008.2
Under 28 days	574.7	625.0	641.7	631.5	646.5
28 days to 11 months	333.3	348.3	351.5	363.7	361.8
Certain gastrointestinal diseases 008-009,535,555-558	5.0	5.8	4.4	4.8	5.3
Pneumonia and influenza 480-487	14.1	12.5	14.4	16.4	17.7
Congenital anomalies 740-759	205.2	204.7	207.2	208.2	207.0
Disorders relating to short gestation and unspecified low birth weight 765	95.1	100.1	90.9	83.6	88.0
Birth trauma 767	4.1	4.3	4.6	5.5	6.5
Intrauterine hypoxia and birth asphyxia 768	18.8	19.5	20.3	19.9	20.8
Respiratory distress syndrome 769	59.1	86.6	80.4	81.4	86.2
Other conditions originating in the perinatal period 760-764,766,770-779	232.2	248.0	273.2	271.0	272.9
Sudden infant death syndrome 798.0	129.0	126.4	117.4	140.1	137.3
All other causes Residual	145.4	165.6	179.7	164.5	166.5

Technical Notes

Nature and sources of data

All data for 1989 and 1990 in this report are provisional. Data for all other years are final, unless specified as provisional. Data for the United States as a whole refer to events occurring within the United States; other data refer to events occurring within the reporting areas shown.

Beginning with 1970, final birth and mortality statistics exclude data for births and deaths to nonresidents of the United States. Data for nonresidents are included in provisional data. All mortality figures exclude fetal deaths.

Provisional or estimated figures for births, marriages, divorces, deaths, and infant deaths, except data estimated from the Current Mortality Sample, summarize data from monthly reports of the numbers of birth, marriage, divorce, and death certificates received in registration offices between two dates a month apart regardless of the month or year when the events occurred. As a result, provisional monthly figures do not strictly reflect the number of events occurring in each month.

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, see below), they may be affected by random variation. When the number of events is small (perhaps less than 100) and the probability of such an event is small, considerable caution must be observed in interpreting the data. Such infrequent events may be assumed to follow a Poisson probability distribution. For this distribution

a simple approximation may be used to estimate the 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

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

covers the "true" number of events.

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

covers the "true" rate.

If the rate R_1 corresponding to N_1 events is compared with the rate R_2 corresponding to N_2 events, the difference between the two rates may be regarded as statistically significant if it exceeds

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

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. U.S. birth figures contain adjustments made to data for California because of varying length of reporting periods.

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.

Divorces

Provisional divorce data, including reported annulments, are shown for the areas reporting divorce data monthly. Divorce figures for the United States for 1989 and 1990 are estimated from a summary of monthly reports from 48 States and the District of Columbia. These areas contained over 95 percent of the population of the United States as enumerated in 1980. 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 monthly figures. U.S. figures for deaths and infant deaths contain adjustments made to data for California because of varying length of reporting periods.

Current mortality sample

Estimated deaths and death rates for 1989 and 1990 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 1990 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

Table I. Percent of death certificates received in the sample each month, by month of occurrence: United States, 1990

Month	Deaths occurring in—		
	Same month	Previous month	All other months
January	75.0	18.5	6.5
February	63.9	23.6	12.5
March	69.9	22.5	7.7
April	66.4	22.9	10.6
May	64.1	21.7	14.2
June	66.9	24.0	9.1
July	68.5	24.2	7.3
August	68.8	22.9	8.3
September	66.7	24.1	9.2
October	69.6	22.7	7.6
November	69.8	23.6	6.6
December	69.0	23.3	7.7

not occurring in the sample month. For the sample exclusive of California, the percent of the sample deaths occurring in the current month constitutes 75 percent of the total as opposed to 68 percent of the entire sample. As for the year of occurrence, 96 percent of the 215,843 transcripts in the 1990 sample were for deaths occurring in 1990 and 4 percent for deaths occurring in 1989.

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 (6). 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 1990 were adjusted for bias based on the experience of 3 years—1986, 1987, and 1988. 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

Table II. Causes of death corrected for bias and adjusted weights for all ages and for under 1 year: United States, 1990

Cause of death ¹ (Ninth Revision International Classification of Diseases, 1975)	Adjusted weight
All ages	
Other tuberculosis	12.31
All other infectious and parasitic diseases	² 10.31
039-041,*042-*044,046-054,056-066,071-088,098-139	
Malignant neoplasms of all other and unspecified sites	9.76
Benign neoplasms, carcinoma in situ, and neoplasms of uncertain behavior and of unspecified nature	8.99
Diabetes mellitus	10.21
Hypertensive heart disease	10.28
Hypertension with or without renal disease	10.65
Intracerebral and other Intracranial hemorrhage	10.28
Cerebral thrombosis and unspecified occlusion of cerebral arteries	10.28
Atherosclerosis	9.33
Bronchitis, chronic and unspecified	10.79
Ulcer of stomach and duodenum	10.62
Renal failure, disorders resulting from impaired renal function, and small kidney of unknown cause	9.70
Symptoms, signs, and ill-defined conditions	³ 7.31
All other diseases	10.14
Motor vehicle accidents	10.26
All other accidents and adverse effects	10.18
Suicide	10.37
Homicide and legal intervention	10.45
All other external causes	12.08
Under 1 year	
All other infectious and parasitic diseases	⁴ 12.74
001-003,005,020-032,037,039-041,*042-*044,046-054,056-066,071-088,098-139	
Symptoms, signs, and ill-defined conditions	⁵ 9.11

¹Causes 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.

²This weight is an average of the weights of 10.00 for Human Immunodeficiency virus (HIV) Infection (category numbers *042-*044) and 11.37 for the remainder of this category weighted by the number of deaths in the 1990 Current Mortality Sample from HIV infection and the remainder of the category.

³This weight is an average of the weights of 10.72 for Sudden infant death syndrome (SIDS) (category number 798.0) and 6.77 for the remainder of the category weighted by the number of deaths in the 1990 Current Mortality Sample from SIDS and the remainder of the category.

⁴This weight is an average of the weights of 10.00 for HIV infection and 15.48 for the remainder of the category weighted by the number of deaths in the 1990 Current Mortality Sample from HIV infection and the remainder of the category.

⁵This weight is an average of the weights of 10.72 for SIDS and 5.12 for the remainder of the category weighted by the number of deaths in the 1990 Current Mortality Sample from SIDS and the remainder of the category.

an adjusted weight, a weight of 10 was used. The adjusted weights that were applied to the 1990 sample for all ages and for ages under 1 year are shown in table II.

The 1989 cause-of-death data in this report were adjusted for bias using data for 1985, 1986, and 1987. Therefore, the adjusted weights for 1990 data are not the same as those used for 1989 (5).

Sampling variability—Because the estimates of deaths and death rates presented in this report (with the exception of 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. Special caution should be used in interpreting figures based on 100 or fewer estimated deaths; these estimates have relative standard errors of 30 percent or more and are therefore considered unreliable.

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.

The relative standard error of a ratio estimate for a given cause of death corrected for bias for all ages 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 (215,843 for 1990)

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 (6,405,922 for 1986–88)

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 (2,162,000 for 1990)

Data required to compute relative standard errors for 1989 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

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

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

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 1979–90 were classified according to the Ninth Revision (7). 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. For information about comparability ratios between the Eighth and Ninth Revisions, see *Monthly Vital Statistics Report*, Volume 28, Number 11 Supplement (8).

For information about comparability ratios between the Seventh and Eighth Revisions, see *Vital and Health Statistics*, Series 2, Number 66 (9). 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*, Volume 51, Number 4 (10).

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* (11).

Codes for HIV infection—Beginning with data for 1987, NCHS introduced category numbers *042–*044 for classifying and coding human immunodeficiency virus (HIV) infection, formerly referred to as human T-cell lymphotropic virus-III/lymphadenopathy-associated virus (HTLV-III/LAV) 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 of this report estimated deaths and death rates for Human immunodeficiency virus infection are shown for 1989 and 1990 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 1989 and 1990 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 List of 72 Selected Causes of Death and the category Human immunodeficiency virus infection (*042-*044). The List of 72 Selected Causes of Death was adapted from one of the special lists for mortality tabulations recommended by the World Health Organization for use with the Ninth Revision of the International Classification of Diseases. Two 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. The remaining category titles are ranked according to the number of deaths for 1990 to determine the leading causes of death. When one of the titles that represents a subtotal is ranked (for example, Tuberculosis), its component parts (in this case, Tuberculosis of respiratory system and Other tuberculosis) are not ranked.

Age-adjusted rates

The age-adjusted rates presented in this report were computed by the direct method, that is, by applying the age-specific death rates for a 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 1989 and 1990. 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.

Life tables

U.S. abridged life tables are constructed by reference to a standard life table (12). For explanation of the columns of the life table, see *Vital Statistics of the United States, 1988*, Volume II, Section 6 (13).

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* (14).

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 are unpublished estimates provided by the U.S. Bureau of the Census.

Beginning with 1984 data in this report, population estimates incorporate new estimates for net migration and net undocumented immigration. As a result, rates for 1984–90 are not strictly comparable with those for previous years, although trends for the total population and most age-race-sex groups are not substantially affected. Additional information has been published by the U.S. Bureau of the Census (15).

The U.S. Bureau of the Census has conducted extensive research to evaluate the coverage of the U.S. population (including undercount and overcount and misstatement of age, race, and sex) in the last four decennial censuses—1950, 1960, 1970, and 1980 (16–18). These evaluative studies 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, that the net undercounts and overcounts are substantial, and that they vary among subgroups of the population, net census undercounts and overcounts can have consequences for vital statistics measures (16).

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