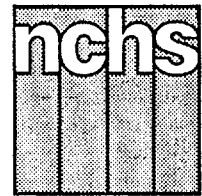


Monthly Vital Statistics Report



Final Data From the National Center for Health Statistics

Advance Report of Final Mortality Statistics, 1989

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Highlights

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

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

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

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

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

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

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death declined between 1988 and 1989, led by reductions for Atherosclerosis; Septicemia; and Nephritis, nephrotic syndrome, and nephrosis. Heart disease, the leading cause of death in the United States, and stroke, the third leading cause of death, continued their long-term declines. Mortality for Motor vehicle accidents, a component of Accidents and adverse effects, and for Pneumonia and influenza also declined between 1988 and 1989.

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

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

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

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

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

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

Deaths and death rates

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

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

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

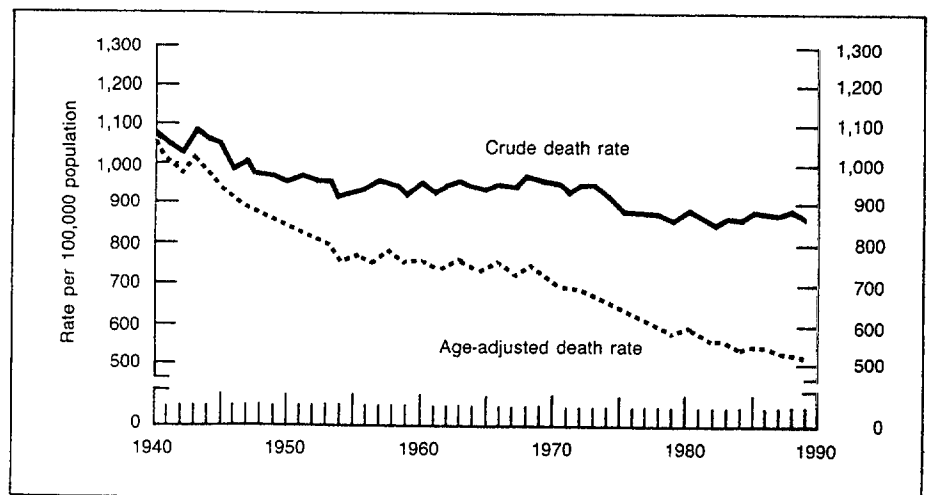


Figure 1. Crude and age-adjusted death rates: United States, 1940–89

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

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

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

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

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

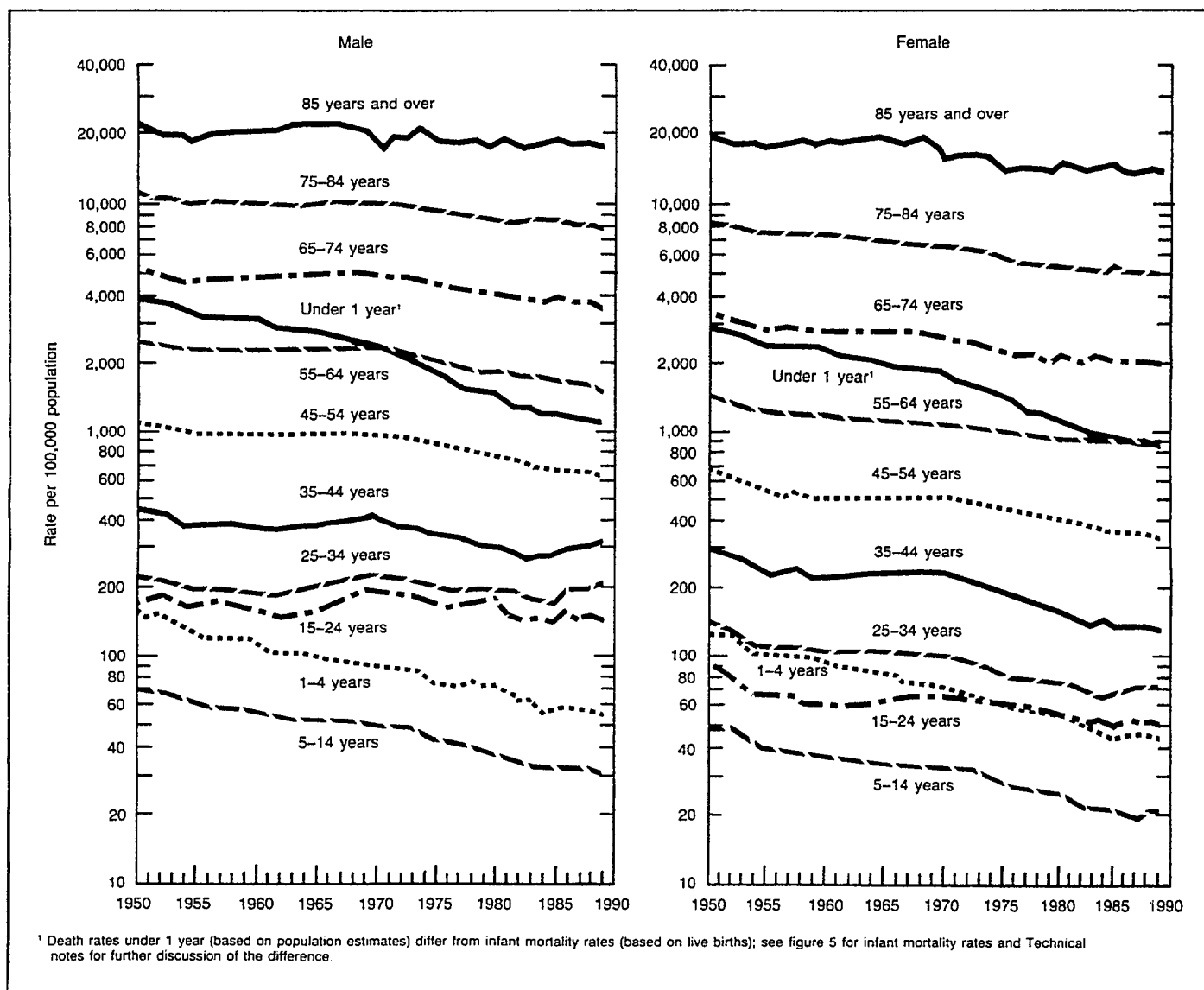


Figure 2. Death rates by age and sex: United States, 1950–89

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

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

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

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

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

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

Expectation of life at birth and at specified ages

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

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

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

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

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

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

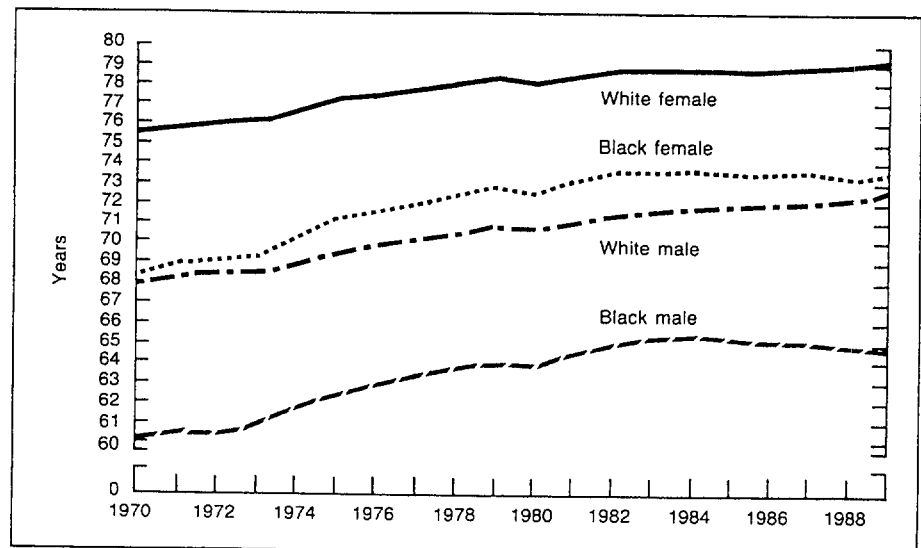


Figure 3. Life expectancy by sex: United States, 1970–89

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

Cause of death

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

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

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

[Rates per 100,000 population]

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

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

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

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

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

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

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

[Rates per 100,000 population]

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

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

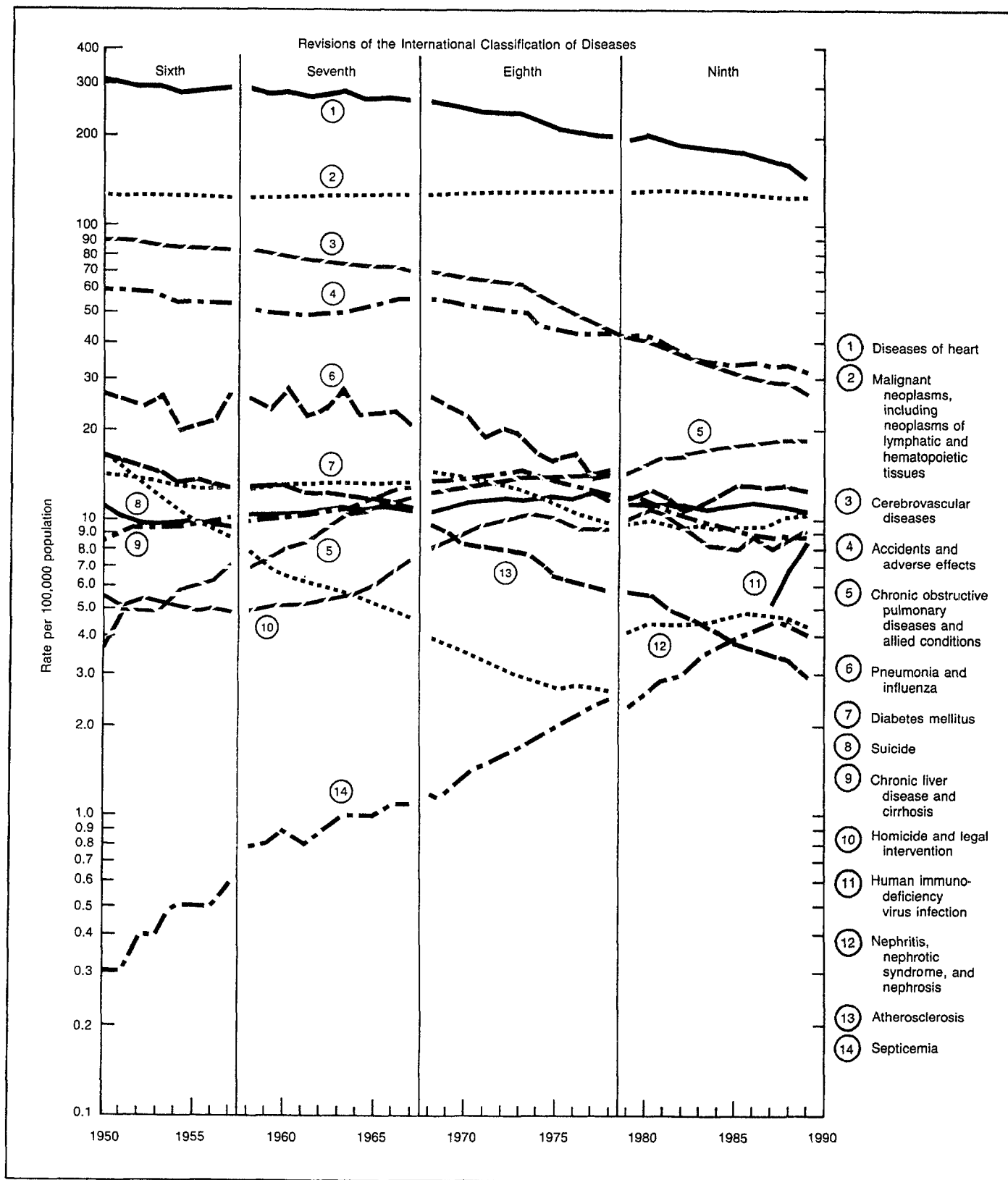


Figure 4. Age-adjusted death rates for 14 of the 15 leading causes of death, United States, 1950-89

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

HIV infection

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

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

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

Hispanic deaths

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

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

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

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

Drug-induced deaths

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

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

Alcohol-induced deaths

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

Marital status

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

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

Educational attainment

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

Infant mortality

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

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

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

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

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

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

¹Includes races other than white and black.

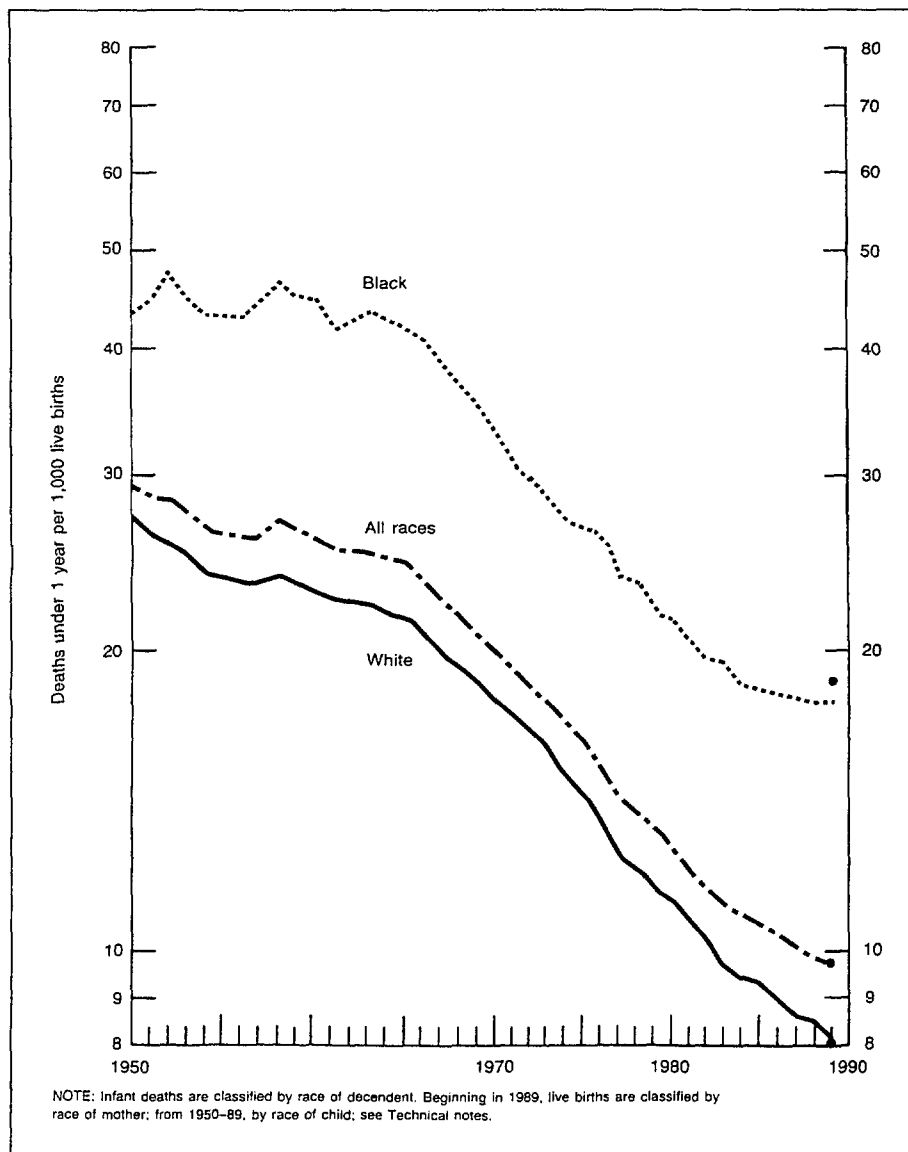


Figure 5. Infant mortality rates by race: United States, 1950-89

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Maternal mortality

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

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

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

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

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

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

Report of autopsy

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

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

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Symbols

---	Data not available
...	Category not applicable
-	Quantity zero
0.0	Quantity more than zero but less than 0.05
*	Figure does not meet standard of reliability or precision (estimate is based on fewer than 20 deaths in numerator or denominator)

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

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

Year	<i>All races</i>						<i>White</i>						<i>All other</i>		
							<i>Total</i>			<i>Black</i>					
	<i>Both sexes</i>	<i>Male</i>	<i>Female</i>	<i>Both sexes</i>	<i>Male</i>	<i>Female</i>	<i>Both sexes</i>	<i>Male</i>	<i>Female</i>	<i>Both sexes</i>	<i>Male</i>	<i>Female</i>			
Number															
1989	2,150,466	1,114,190	1,036,276	1,853,841	950,852	902,989	296,625	163,338	133,287	267,642	146,393	121,249			
1988	2,167,999	1,125,540	1,042,459	1,876,906	965,419	911,487	291,093	160,121	130,972	264,019	144,228	119,791			
1987	2,123,323	1,107,958	1,015,365	1,843,067	953,382	889,685	280,256	154,576	125,680	254,814	139,551	115,263			
1986	2,105,361	1,104,005	1,001,356	1,831,083	952,554	878,529	274,278	151,451	122,827	250,326	137,214	113,112			
1985	2,086,440	1,097,758	988,682	1,819,054	950,455	868,599	267,386	147,303	120,083	244,207	133,610	110,597			
1984	2,039,369	1,076,514	962,855	1,781,897	934,529	847,368	257,472	141,985	115,487	235,884	129,147	106,737			
1983	2,019,201	1,071,923	947,278	1,765,582	931,779	833,803	253,619	140,144	113,475	233,124	127,911	105,213			
1982	1,974,797	1,056,440	918,357	1,729,085	919,239	809,846	245,712	137,201	108,511	226,513	125,610	100,903			
1981	1,977,981	1,063,772	914,209	1,731,233	925,490	805,743	246,748	138,282	108,466	228,560	127,296	101,264			
1980	1,989,841	1,075,078	914,763	1,738,607	933,878	804,729	251,234	141,200	110,034	233,135	130,138	102,997			
1979	1,913,841	1,044,959	868,882	1,676,145	910,137	766,008	237,696	135,822	102,874	220,818	124,433	96,385			
1978	1,927,788	1,055,290	872,498	1,689,722	920,123	769,599	238,066	135,167	102,899	221,340	124,663	96,677			
1977	1,899,597	1,046,243	853,354	1,664,100	912,670	751,430	235,497	133,573	101,924	220,076	123,894	96,182			
1976	1,909,440	1,051,983	857,457	1,674,989	918,589	756,400	234,451	133,394	101,057	219,442	123,977	95,465			
1975	1,892,879	1,050,819	842,060	1,660,366	917,804	742,562	232,513	133,015	99,498	217,932	123,770	94,162			
1970	1,921,031	1,078,478	842,553	1,682,096	942,437	739,659	238,935	136,041	102,894	225,647	127,540	98,107			
1960	1,711,982	975,648	736,334	1,505,335	860,857	644,478	206,647	114,791	91,856	196,010	107,701	88,309			
1950	1,452,454	827,749	624,705	1,276,085	731,366	544,719	176,369	96,383	79,986	169,606	92,004	77,602			
1940	1,417,269	791,003	626,266	1,231,223	690,901	540,322	186,046	100,102	85,944	178,743	95,517	83,226			
Death rate															
1989	866.3	921.0	814.3	887.2	930.2	846.0	755.2	870.8	649.5	872.9	1,006.5	752.4			
1988	882.0	940.0	826.9	905.1	952.2	860.0	757.5	872.7	652.2	874.2	1,006.8	754.5			
1987	872.4	934.7	813.1	895.5	947.8	845.5	745.8	861.5	640.0	856.9	989.5	737.3			
1986	873.2	940.7	809.3	896.2	954.4	840.7	745.6	862.7	638.8	854.2	987.7	733.9			
1985	873.9	945.0	806.6	897.1	960.0	837.1	743.3	858.6	638.1	845.7	976.8	727.7			
1984	862.3	935.9	792.7	885.2	951.1	822.3	731.5	846.4	627.0	828.5	958.1	712.0			
1983	862.8	942.6	787.4	884.6	957.4	815.3	736.6	854.9	629.2	830.5	963.3	711.2			
1982	852.0	938.0	770.7	872.9	951.8	797.9	728.9	854.8	614.5	819.2	960.4	692.4			
1981	862.4	954.5	775.4	880.3	965.1	799.6	755.0	889.4	633.0	841.7	991.6	707.3			
1980	878.3	976.9	785.3	892.5	983.3	806.1	791.7	936.5	660.6	875.4	1,034.1	733.3			
1979	852.2	957.5	752.7	865.2	963.3	771.8	771.0	920.3	635.7	839.3	999.6	695.3			
1978	868.0	977.5	764.5	880.2	982.7	782.7	790.0	943.2	651.0	855.1	1,016.8	709.5			
1977	864.4	978.9	756.0	874.6	983.0	771.3	798.6	951.7	659.6	864.0	1,026.0	718.0			
1976	877.6	993.8	767.6	887.7	997.3	783.1	812.1	969.8	668.6	875.0	1,041.6	724.5			
1975	878.5	1,002.0	761.4	886.9	1,004.1	775.1	823.1	987.6	673.1	882.5	1,055.4	726.1			
1970	945.3	1,090.3	807.8	946.3	1,086.7	812.6	938.4	1,115.9	775.3	999.3	1,186.6	829.2			
1960	954.7	1,104.5	809.2	947.8	1,098.5	800.9	1,008.5	1,152.0	872.6	1,038.6	1,181.7	905.0			
1950	963.8	1,106.1	823.5	945.7	1,089.5	803.3	1,119.4	1,251.1	993.5	---	---	---			
1940	1,076.4	1,197.4	954.6	1,041.5	1,162.2	919.4	1,382.8	1,513.7	1,256.2	---	---	---			
Age-adjusted death rate ¹															
1989	523.0	678.7	395.3	496.1	644.2	374.9	684.8	896.4	515.0	783.1	1,032.1	585.6			
1988	535.5	696.7	404.4	509.8	664.3	384.4	692.5	904.3	523.5	788.8	1,037.8	593.1			
1987	535.5	698.6	403.3	511.1	668.2	384.1	688.0	898.1	520.1	778.6	1,023.2	586.2			
1986	541.7	709.1	406.6	518.0	679.8	387.7	693.1	905.7	524.0	781.0	1,026.9	588.2			
1985	546.1	716.8	409.4	523.1	688.7	390.6	697.8	910.4	530.0	779.9	1,024.0	589.1			
1984	545.9	716.7	409.6	523.6	689.9	391.3	694.5	904.4	529.0	771.9	1,011.7	585.3			
1983	550.5	725.3	411.5	528.0	698.4	392.7	703.1	916.3	535.2	777.9	1,019.6	590.4			
1982	553.8	733.1	411.2	531.8	706.0	393.3	704.6	928.4	529.3	778.7	1,035.0	581.4			
1981	568.2	753.3	420.4	544.6	724.4	401.4	732.6	964.3	549.3	803.9	1,067.7	599.1			
1980	585.8	777.2	432.6	559.4	745.3	411.1	774.2	1,015.1	582.6	842.5	1,112.8	631.1			
1979	577.0	768.6	423.1	551.9	738.4	402.5	757.1	994.8	566.9	812.1	1,073.3	605.0			
1978	595.0	791.4	437.4	569.5	761.1	416.4	780.0	1,021.0	585.8	831.8	1,093.9	622.7			
1977	602.1	801.3	441.8	575.7	770.6	419.6	796.7	1,036.1	601.8	849.3	1,112.1	639.6			
1976	618.5	820.9	455.0	591.3	789.3	432.5	818.5	1,063.4	618.3	870.5	1,138.3	654.5			
1975	630.4	837.2	462.5	602.2	804.3	439.0	840.6	1,090.1	634.5	890.8	1,163.0	670.6			
1970	714.3	931.6	532.5	679.6	893.4	501.7	983.4	1,231.4	770.8	1,044.0	1,318.6	814.4			
1960	760.9	949.3	590.6	727.0	917.7	555.0	1,046.1	1,211.0	893.3	1,073.3	1,246.1	916.9			
1950	841.5	1,001.6	688.4	800.4	963.1	645.0	1,225.7	1,358.5	1,095.7	---	---	---			
1940	1,076.1	1,213.0	938.9	1,017.2	1,155.1	879.0	1,634.7	1,764.4	1,504.7	---	---	---			

¹For method of computation, see Technical notes.

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

[Rates per 100,000 population in specified group]

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

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

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

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

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

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

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

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

¹Deaths based on a 50-percent sample.

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

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

Cause of death (Ninth Revision International Classification of Diseases, 1975)	Year	Age											Age-adjusted rate ³	
		All ages ¹	Under 1 year ²	1-4 years	5-14 years	15-24 years	25-34 years	35-44 years	45-54 years	55-64 years	65-74 years	75-84 years		85 years and over
All causes	1989	866.3	1,005.2	49.2	25.4	99.9	138.1	221.7	475.0	1,204.4	2,646.7	6,138.8	15,034.8	523.0
	1988	882.0	1,008.3	50.9	25.8	102.1	135.4	219.6	486.2	1,235.6	2,729.8	6,321.3	15,594.0	535.5
	1979	852.2	1,332.9	64.2	31.5	114.8	133.0	229.8	589.7	1,338.0	2,929.0	6,496.6	14,962.4	577.0
Diseases of heart390-398,402,404-429	1989	295.6	19.7	1.9	0.8	2.6	7.9	32.3	124.2	376.7	911.8	2,400.6	6,701.6	155.9
	1988	311.3	22.6	2.4	0.9	2.9	8.2	34.2	131.4	400.9	984.1	2,542.7	7,098.1	166.3
	1979	326.5	20.2	2.1	0.8	2.6	8.4	45.3	184.6	499.0	1,199.8	2,925.2	7,310.9	199.5
Rheumatic fever and rheumatic heart disease390-398	1989	2.5	*	*	*	0.1	0.2	0.7	1.6	4.0	9.2	19.7	27.2	1.5
	1988	2.6	*	*	*	0.1	0.3	0.6	1.8	4.6	10.2	20.5	27.4	1.7
	1979	3.5	*	*	*	0.2	0.4	1.4	3.9	8.0	16.0	20.6	25.2	2.6
Hypertensive heart disease402	1989	8.4	*	*	*	*	0.3	1.6	5.7	13.6	25.8	63.3	163.5	4.8
	1988	8.5	*	*	*	0.1	0.3	1.5	5.7	13.9	27.5	63.3	160.0	4.9
	1979	9.3	*	*	*	*	0.4	1.9	7.0	16.2	35.7	79.6	170.3	6.0
Hypertensive heart and renal disease404	1989	1.0	*	*	*	*	0.1	0.3	0.9	2.6	8.7	24.2	0.5	
	1988	1.0	*	*	*	*	*	0.1	0.3	1.0	2.6	9.2	25.4	0.5
	1979	1.6	*	*	*	*	*	0.2	0.4	1.4	5.1	16.8	50.9	0.9
Ischemic heart disease410-414	1989	200.6	0.8	*	*	0.3	2.6	18.0	80.3	255.3	638.6	1,670.2	4,465.8	105.1
	1988	207.3	0.8	*	*	0.3	2.7	19.3	84.3	266.9	676.7	1,738.5	4,616.9	110.2
	1979	245.5	0.7	*	*	0.3	3.6	30.1	136.1	381.0	926.6	2,224.8	5,376.1	149.7
Acute myocardial infarction410	1989	99.5	*	*	*	0.2	1.5	10.4	48.4	150.0	355.8	836.9	1,695.5	55.9
	1988	100.9	*	*	*	0.2	1.5	11.4	50.4	155.2	374.6	854.3	1,652.2	57.8
	1979	133.8	*	*	*	0.2	2.4	21.1	94.6	258.9	577.2	1,135.2	1,916.3	88.2
Other acute and subacute forms of ischemic heart disease411	1989	1.4	*	*	*	*	0.1	0.3	1.0	2.7	4.5	9.0	23.6	0.8
	1988	1.4	*	*	*	*	0.1	0.3	1.1	2.5	4.8	9.3	24.0	0.8
	1979	2.1	*	*	*	*	0.1	0.5	2.0	4.8	8.2	15.3	30.2	1.5
Angina pectoris413	1989	0.4	*	*	*	*	*	*	0.2	0.4	1.2	3.8	10.7	0.2
	1988	0.4	*	*	*	*	*	*	0.1	0.4	1.4	3.7	10.0	0.2
	1979	0.2	*	*	*	*	*	*	0.1	0.3	0.9	2.1	4.6	0.1
Old myocardial infarction and other forms of chronic ischemic heart disease412,414	1989	99.4	*	*	*	0.1	1.1	7.2	30.8	102.2	277.1	820.6	2,736.0	48.2
	1988	104.6	*	*	*	0.1	1.1	7.5	32.7	108.8	296.0	871.2	2,930.7	51.4
	1979	109.4	*	*	*	0.1	1.0	8.4	39.3	117.0	340.3	1,072.2	3,424.9	59.9
Other diseases of endocardium424	1989	4.9	*	*	*	0.1	0.4	0.7	1.3	4.2	12.8	44.3	125.3	2.4
	1988	4.8	*	*	*	0.1	0.3	0.7	1.4	4.4	13.5	43.3	117.9	2.4
	1979	2.9	*	*	*	0.1	0.2	0.6	1.5	4.3	11.6	27.5	47.1	1.8
All other forms of heart disease415-423,425-429	1989	78.2	18.2	1.8	0.7	2.0	4.3	11.3	35.0	98.7	222.8	594.3	1,895.6	41.5
	1988	87.1	21.2	2.2	0.8	2.3	4.6	12.0	37.9	110.1	253.6	667.9	2,150.5	46.5
	1979	63.7	19.0	2.0	0.7	1.9	3.7	11.0	35.7	88.1	204.8	555.9	1,641.4	38.4
Malignant neoplasms, including neoplasms of lymphatic and hematopoietic tissues140-208	1989	199.9	2.7	3.4	3.3	5.1	12.1	43.1	157.2	445.1	852.6	1,338.1	1,662.3	133.0
	1988	197.3	2.3	3.7	3.2	5.1	11.9	44.2	160.4	447.3	842.7	1,313.3	1,638.9	132.7
	1979	179.6	3.4	4.6	4.4	6.1	13.3	48.3	181.4	429.4	800.0	1,207.6	1,522.9	130.8
Malignant neoplasms of lip, oral cavity, and pharynx140-149	1989	3.3	*	*	*	0.1	0.1	0.8	3.8	10.2	13.4	15.7	19.7	2.4
	1988	3.3	*	*	*	0.1	0.1	0.8	4.2	9.9	13.9	16.6	19.6	2.5
	1979	3.8	*	*	*	0.1	0.2	1.1	5.6	11.8	16.3	18.1	23.7	3.0
Malignant neoplasms of digestive organs and peritoneum150-159	1989	48.2	*	*	0.1	0.3	1.5	6.9	30.2	94.8	202.3	360.8	537.0	30.0
	1988	47.8	*	*	*	0.3	1.4	7.3	30.7	96.2	200.7	357.2	532.4	30.0
	1979	48.6	*	*	0.1	0.3	1.8	8.2	36.3	103.9	221.9	388.7	547.8	33.1

See footnotes at end of table.

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

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

Cause of death (Ninth Revision International Classification of Diseases, 1975)	Year	Age											Age-adjusted rate ³	
		All ages ¹	Under 1 year ²	1–4 years	5–14 years	15–24 years	25–34 years	35–44 years	45–54 years	55–64 years	65–74 years	75–84 years		85 years and over
Malignant neoplasms of respiratory and intrathoracic organs 160–165	1989	57.3	*	*	*	0.1	0.7	7.2	48.7	162.3	287.0	336.5	232.2	40.3
	1988	56.2	*	*	*	0.1	0.7	7.6	50.0	162.2	280.0	324.2	228.5	39.9
	1979	45.9	*	*	*	0.1	0.8	9.8	56.0	140.9	231.0	238.1	170.3	35.2
Malignant neoplasm of breast 174–175	1989	17.4	*	*	*	*	1.5	9.0	23.0	41.8	62.1	92.6	135.0	12.5
	1988	17.3	*	*	*	*	1.5	8.9	23.4	43.4	61.3	90.1	133.6	12.6
	1979	15.4	*	*	*	*	1.6	9.1	25.3	41.3	56.6	77.4	114.2	12.2
Malignant neoplasms of genital organs 179–187	1989	22.1	*	*	*	0.3	1.4	3.8	10.9	33.6	89.5	187.0	274.1	13.1
	1988	21.7	*	*	*	0.3	1.3	3.7	11.0	33.7	89.3	184.6	262.7	13.0
	1979	20.2	*	*	*	0.5	1.6	4.7	14.5	35.6	88.3	176.0	252.0	13.6
Malignant neoplasms of urinary organs 188–189	1989	8.2	*	0.2	0.1	0.1	0.2	1.0	5.0	15.4	33.1	64.0	94.3	5.0
	1988	7.9	*	0.1	0.1	0.1	0.2	1.0	4.9	14.6	33.2	61.6	92.8	4.9
	1979	7.8	*	0.2	0.2	0.1	0.2	1.1	5.7	15.1	34.6	65.6	97.0	5.2
Malignant neoplasms of all other and unspecified sites 170–173,190–199	1989	24.6	1.3	1.8	1.6	1.9	3.5	8.5	22.8	53.7	93.6	147.9	200.6	17.2
	1988	24.9	1.2	1.9	1.5	1.9	3.5	8.8	23.3	55.5	95.4	148.8	201.4	17.5
	1979	21.6	1.7	2.2	1.7	2.3	3.7	8.6	24.0	49.8	86.4	130.2	175.8	16.4
Leukemia. 204–208	1989	7.4	0.8	1.1	1.2	1.4	1.6	2.3	4.6	11.7	26.2	50.3	73.7	4.9
	1988	7.2	0.5	1.3	1.2	1.4	1.3	2.5	4.7	11.0	24.4	50.6	75.7	4.8
	1979	7.3	0.8	1.3	1.5	1.3	1.5	2.5	5.0	11.7	25.7	50.2	77.3	5.3
Other malignant neoplasms of lymphatic and hematopoietic tissues 200–203	1989	11.5	*	0.2	0.3	0.8	1.8	3.5	8.2	21.6	45.5	83.3	95.7	7.6
	1988	11.1	*	0.2	0.3	0.8	1.8	3.4	8.2	20.8	44.5	79.6	92.2	7.4
	1979	9.1	*	0.3	0.4	0.9	1.8	3.0	8.6	19.5	39.5	63.1	66.0	6.7
Cerebrovascular diseases 430–438	1989	58.6	3.2	0.3	0.2	0.6	2.1	6.4	18.4	48.8	144.7	519.8	1,631.0	28.0
	1988	61.2	3.9	0.4	0.2	0.7	2.2	6.9	19.2	51.3	154.7	553.6	1,707.4	29.7
	1979	75.5	4.6	0.3	0.3	0.9	2.6	9.1	26.4	68.1	226.9	793.8	2,264.9	41.6
Accidents and adverse effects E800–E949	1989	38.3	25.2	18.7	11.6	45.8	37.8	32.5	30.1	35.0	48.5	105.1	255.2	33.8
	1988	39.5	24.3	19.6	12.2	49.5	38.3	32.8	31.1	35.1	50.1	106.5	267.3	35.0
	1979	46.9	31.5	26.5	16.1	62.6	45.7	38.4	39.4	43.5	58.8	117.8	276.0	42.9
Motor vehicle accidents E810–E825	1989	19.2	5.5	6.8	6.4	35.4	23.4	17.3	15.6	15.8	19.1	29.8	28.8	18.9
	1988	20.0	5.6	6.9	7.0	38.5	23.9	17.4	15.8	15.7	19.2	30.2	29.1	19.7
	1979	23.8	6.5	9.8	8.3	45.6	28.8	21.0	18.6	18.2	20.7	28.7	24.4	23.2
All other accidents and adverse effects E800–E807,E826–E949	1989	19.1	19.8	11.9	5.2	10.4	14.4	15.2	14.5	19.2	29.4	75.3	226.4	14.9
	1988	19.5	18.7	12.7	5.2	11.0	14.4	15.3	15.3	19.4	31.0	76.4	238.2	15.3
	1979	23.1	25.0	16.7	7.7	17.0	16.9	17.4	20.8	25.2	38.1	89.2	251.6	19.6
Chronic obstructive pulmonary diseases and allied conditions 490–496	1989	34.0	1.2	0.4	0.3	0.5	0.7	1.7	9.2	49.8	148.9	313.8	403.5	19.4
	1988	33.7	1.4	0.3	0.3	0.5	0.7	1.8	9.3	48.8	151.9	313.0	394.3	19.4
	1979	22.2	1.9	0.5	0.2	0.3	0.5	1.7	9.3	40.2	117.0	200.6	230.2	14.6
Pneumonia and influenza 480–487	1989	30.8	16.1	1.5	0.3	0.7	2.0	3.9	6.9	18.0	57.3	246.1	1,083.3	13.7
	1988	31.6	16.6	1.3	0.4	0.7	1.9	3.8	7.3	18.9	59.9	257.1	1,124.5	14.2
	1979	20.1	33.0	2.0	0.6	0.8	1.5	3.2	7.1	16.4	47.8	184.2	694.9	11.2
Diabetes mellitus 250	1989	18.9	*	*	0.1	0.4	1.6	3.9	11.2	32.1	72.4	145.1	245.6	11.5
	1988	16.4	*	*	0.1	0.3	1.5	4.0	10.4	28.0	62.0	125.0	222.1	10.1
	1979	14.8	*	0.1	0.1	0.4	1.4	3.6	9.0	25.8	61.3	130.3	211.6	9.8
Suicide. E950–E959	1989	12.2	...	...	0.7	13.3	15.0	14.6	14.6	15.5	18.0	23.1	22.8	11.3
	1988	12.4	...	...	0.7	13.2	15.4	14.8	14.6	15.6	18.4	25.9	20.5	11.4
	1979	12.1	...	...	0.4	12.4	16.3	15.4	16.5	16.6	17.8	20.8	17.9	11.7
Chronic liver disease and cirrhosis 571	1989	10.8	*	*	*	0.2	2.2	9.9	19.0	31.3	35.7	34.2	23.1	8.9
	1988	10.7	0.5	*	*	0.1	2.4	10.1	19.8	32.0	35.0	32.4	20.0	9.0
	1979	13.2	1.0	*	*	0.2	3.4	13.9	31.0	40.9	41.8	28.3	18.1	12.0

See footnotes at end of table.

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

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

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

³For method of computation, see Technical notes.

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

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

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

Rank order ¹	Cause of death, race, and sex (Ninth Revision International Classification of Diseases, 1975)	Number	Rate	Rank order ¹	Cause of death, race, and sex (Ninth Revision International Classification of Diseases, 1975)	Number	Rate
All races, both sexes				All other, male—Con.			
...	All causes	2,150,466	866.3	7	Pneumonia and influenza480–487	4,809	25.6
1	Diseases of heart.390–398,402,404–429	733,867	295.6	8	Chronic obstructive pulmonary diseases and allied conditions490–496	4,132	22.0
2	Malignant neoplasms, including neoplasms of lymphatic and hematopoietic tissues . . .140–208	496,152	199.9	9	Certain conditions originating in the perinatal period760–779	4,085	21.8
3	Cerebrovascular diseases430–438	145,551	58.6	10	Diabetes mellitus250	3,448	18.4
4	Accidents and adverse effectsE800–E949	95,028	38.3	...	All other causesResidual	34,079	181.7
...	Motor vehicle accidentsE810–E825	47,575	19.2	All other, female			
...	All other accidents and adverse effectsE800–E807,E826–E949	47,453	19.1	...	All causes	133,287	649.5
5	Chronic obstructive pulmonary diseases and allied conditions490–496	84,344	34.0	1	Diseases of heart.390–398,402,404–429	42,196	205.6
6	Pneumonia and influenza480–487	76,550	30.8	2	Malignant neoplasms, including neoplasms of lymphatic and hematopoietic tissues . . .140–208	26,988	131.5
7	Diabetes mellitus250	46,833	18.9	3	Cerebrovascular diseases430–438	11,277	55.0
8	Suicide.E950–E959	30,232	12.2	4	Diabetes mellitus250	5,332	26.0
9	Chronic liver disease and cirrhosis571	26,694	10.8	5	Accidents and adverse effectsE800–E949	4,668	22.7
10	Homicide and legal interventionE960–E978	22,909	9.2	...	Motor vehicle accidentsE810–E825	2,001	9.8
...	All other causesResidual	392,306	158.0	...	All other accidents and adverse effectsE800–E807,E826–E949	2,667	13.0
White, male				6	Pneumonia and influenza480–487	3,888	18.9
...	All causes	950,852	930.2	7	Certain conditions originating in the perinatal period760–779	3,361	16.4
1	Diseases of heart.390–398,402,404–429	325,397	318.3	8	Chronic obstructive pulmonary diseases and allied conditions490–496	2,331	11.4
2	Malignant neoplasms, including neoplasms of lymphatic and hematopoietic tissues . . .140–208	228,301	223.3	9	Nephritis, nephrotic syndrome, and nephrosis580–589	2,284	11.1
3	Accidents and adverse effectsE800–E949	52,691	51.5	10	Homicide and legal interventionE960–E978	2,252	11.0
...	Motor vehicle accidentsE810–E825	27,621	27.0	...	All other causesResidual	28,710	139.9
...	All other accidents and adverse effectsE800–E807,E826–E949	25,070	24.5	Black, male ²			
4	Cerebrovascular diseases430–438	48,563	47.5	...	All causes	146,393	1,006.5
5	Chronic obstructive pulmonary diseases and allied conditions490–496	44,046	43.1	1	Diseases of heart.390–398,402,404–429	38,321	263.5
6	Pneumonia and influenza480–487	30,892	30.2	2	Malignant neoplasms, including neoplasms of lymphatic and hematopoietic tissues . . .140–208	31,452	216.2
7	Suicide.E950–E959	21,858	21.4	3	Accidents and adverse effectsE800–E949	9,503	65.3
8	Diabetes mellitus250	16,282	15.9	...	Motor vehicle accidentsE810–E825	4,120	28.3
9	Chronic liver disease and cirrhosis571	14,414	14.1	...	All other accidents and adverse effectsE800–E807,E826–E949	5,383	37.0
10	Human immunodeficiency virus infection*042–*044	14,114	13.8	4	Homicide and legal interventionE960–E978	8,888	61.1
...	All other causesResidual	154,294	150.9	5	Cerebrovascular diseases430–438	7,739	53.2
White, female				6	Human immunodeficiency virus infection*042–*044	5,475	37.6
...	All causes	902,989	846.0	7	Pneumonia and influenza480–487	4,168	28.7
1	Diseases of heart.390–398,402,404–429	323,469	303.0	8	Certain conditions originating in the perinatal period760–779	3,813	26.2
2	Malignant neoplasms, including neoplasms of lymphatic and hematopoietic tissues . . .140–208	205,855	192.9	9	Chronic obstructive pulmonary diseases and allied conditions490–496	3,593	24.7
3	Cerebrovascular diseases430–438	76,953	72.1	10	Diabetes mellitus250	3,072	21.1
4	Pneumonia and influenza480–487	36,961	34.6	...	All other causesResidual	30,369	208.8
5	Chronic obstructive pulmonary diseases and allied conditions490–496	33,835	31.7	Black, female ²			
6	Accidents and adverse effectsE800–E949	26,448	24.8	...	All causes	121,249	752.4
...	Motor vehicle accidentsE810–E825	12,870	12.1	1	Diseases of heart.390–398,402,404–429	39,110	242.7
...	All other accidents and adverse effectsE800–E807,E826–E949	13,578	12.7	2	Malignant neoplasms, including neoplasms of lymphatic and hematopoietic tissues . . .140–208	24,112	149.6
7	Diabetes mellitus250	21,771	20.4	3	Cerebrovascular diseases430–438	10,240	63.5
8	Atherosclerosis440	11,139	10.4	4	Diabetes mellitus250	4,883	30.3
9	Septicemia038	8,829	8.3	5	Accidents and adverse effectsE800–E949	3,901	24.2
10	Nephritis, nephrotic syndrome, and nephrosis580–589	8,514	8.0	...	Motor vehicle accidentsE810–E825	1,491	9.3
...	All other causesResidual	149,215	139.8	...	All other accidents and adverse effectsE800–E807,E826–E949	2,410	15.0
All other, male				6	Pneumonia and influenza480–487	3,417	21.2
...	All causes	163,338	870.8	7	Certain conditions originating in the perinatal period760–779	3,152	19.6
1	Diseases of heart.390–398,402,404–429	42,805	228.2	8	Nephritis, nephrotic syndrome, and nephrosis580–589	2,119	13.1
2	Malignant neoplasms, including neoplasms of lymphatic and hematopoietic tissues . . .140–208	35,008	186.6	9	Chronic obstructive pulmonary diseases and allied conditions490–496	2,078	12.9
3	Accidents and adverse effectsE800–E949	11,221	59.8	10	Homicide and legal interventionE960–E978	2,074	12.9
...	Motor vehicle accidentsE810–E825	5,083	27.1	...	All other causesResidual	26,163	162.4
...	All other accidents and adverse effectsE800–E807,E826–E949	6,138	32.7				
4	Homicide and legal interventionE960–E978	9,349	49.8				
5	Cerebrovascular diseases430–438	8,758	46.7				
6	Human immunodeficiency virus infection*042–*044	5,644	30.1				

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

²Black included in All other.

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

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

Rank order ¹	Cause of death and age (Ninth Revision International Classification of Diseases, 1975)	Number	Rate	Rank order ¹	Cause of death and age (Ninth Revision International Classification of Diseases, 1975)	Number	Rate
1-4 years				25-44 years			
...	All causes	7,292	49.2	...	All causes	141,443	176.1
1	Accidents and adverse effects E800-E949	2,774	18.7	1	Accidents and adverse effects E800-E949	28,429	35.4
...	Motor vehicle accidents E810-E825	1,005	6.8	...	Motor vehicle accidents E810-E825	16,571	20.6
...	All other accidents and adverse effects E800-E807, E826-E949	1,769	11.9	...	All other accidents and adverse effects E800-E807, E826-E949	11,858	14.8
2	Congenital anomalies 740-759	928	6.3	2	Malignant neoplasms, including neoplasms of lymphatic and hematopoietic tissues . . . 140-208	21,056	26.2
3	Malignant neoplasms, including neoplasms of lymphatic and hematopoietic tissues . . . 140-208	506	3.4	3	Human immunodeficiency virus infection. *042-*044	16,322	20.3
4	Homicide and legal intervention E960-E978	393	2.7	4	Diseases of heart. 390-398, 402, 404-429	15,244	19.0
5	Diseases of heart. 390-398, 402, 404-429	281	1.9	5	Suicide. E950-E959	11,896	14.8
6	Pneumonia and influenza 480-487	228	1.5	6	Homicide and legal intervention E960-E978	11,154	13.9
7	Certain conditions originating in the perinatal period 760-779	134	0.9	7	Chronic liver disease and cirrhosis 571	4,584	5.7
8	Human immunodeficiency virus infection. *042-*044	112	0.8	8	Cerebrovascular diseases 430-438	3,267	4.1
9	Meningitis. 320-322	99	0.7	9	Pneumonia and influenza 480-487	2,296	2.9
10	Septicemia 038	94	0.6	10	Diabetes mellitus 250	2,119	2.6
...	All other causes Residual	1,743	11.8	...	All other causes Residual	25,076	31.2
5-14 years				45-64 years			
...	All causes	8,914	25.4	...	All causes	378,324	813.8
1	Accidents and adverse effects E800-E949	4,090	11.6	1	Malignant neoplasms, including neoplasms of lymphatic and hematopoietic tissues . . . 140-208	135,249	290.9
...	Motor vehicle accidents E810-E825	2,266	6.4	2	Diseases of heart. 390-398, 402, 404-429	112,273	241.5
...	All other accidents and adverse effects E800-E807, E826-E949	1,824	5.2	3	Cerebrovascular diseases 430-438	15,124	32.5
2	Malignant neoplasms, including neoplasms of lymphatic and hematopoietic tissues . . . 140-208	1,155	3.3	4	Accidents and adverse effects E800-E949	15,046	32.4
3	Homicide and legal intervention E960-E978	510	1.5	...	Motor vehicle accidents E810-E825	7,287	15.7
4	Congenital anomalies 740-759	480	1.4	...	All other accidents and adverse effects E800-E807, E826-E949	7,759	16.7
5	Diseases of heart. 390-398, 402, 404-429	295	0.8	5	Chronic obstructive pulmonary diseases and allied conditions 490-496	13,031	28.0
6	Suicide. E950-E959	240	0.7	6	Chronic liver disease and cirrhosis 571	11,477	24.7
7	Pneumonia and influenza 480-487	122	0.3	7	Diabetes mellitus 250	9,726	20.9
8	Chronic obstructive pulmonary diseases and allied conditions 490-496	113	0.3	8	Suicide. E950-E959	6,984	15.0
9	Benign neoplasms, carcinoma in situ, and neoplasms of uncertain behavior and of unspecified nature. 210-239	85	0.2	9	Pneumonia and influenza 480-487	5,587	12.0
10	Cerebrovascular diseases 430-438	83	0.2	10	Human immunodeficiency virus infection. *042-*044	4,429	9.5
...	All other causes Residual	1,741	5.0	...	All other causes Residual	49,398	106.3
15-24 years				65 years and over			
...	All causes	36,488	99.9	...	All causes	1,537,788	4,963.0
1	Accidents and adverse effects E800-E949	16,738	45.8	1	Diseases of heart. 390-398, 402, 404-429	603,968	1,949.2
...	Motor vehicle accidents E810-E825	12,941	35.4	2	Malignant neoplasms, including neoplasms of lymphatic and hematopoietic tissues . . . 140-208	336,206	1,085.1
...	All other accidents and adverse effects E800-E807, E826-E949	3,797	10.4	3	Cerebrovascular diseases 430-438	126,660	408.8
2	Homicide and legal intervention E960-E978	6,185	16.9	4	Chronic obstructive pulmonary diseases and allied conditions 490-496	69,965	225.8
3	Suicide. E950-E959	4,870	13.3	5	Pneumonia and influenza 480-487	67,395	217.5
4	Malignant neoplasms, including neoplasms of lymphatic and hematopoietic tissues . . . 140-208	1,851	5.1	6	Diabetes mellitus 250	34,798	112.3
5	Diseases of heart. 390-398, 402, 404-429	938	2.6	7	Accidents and adverse effects E800-E949	26,832	86.6
6	Human immunodeficiency virus infection. *042-*044	613	1.7	...	Motor vehicle accidents E810-E825	7,251	23.4
7	Congenital anomalies 740-759	474	1.3	...	All other accidents and adverse effects E800-E807, E826-E949	19,581	63.2
8	Pneumonia and influenza 480-487	271	0.7	8	Atherosclerosis. E800-E807, E826-E949	18,413	59.4
9	Cerebrovascular diseases 430-438	232	0.6	9	Nephritis, nephrotic syndrome, and nephrosis 580-589	17,508	56.5
10	Chronic obstructive pulmonary diseases and allied conditions 490-496	176	0.5	10	Septicemia 038	15,428	49.8
...	All other causes Residual	4,140	11.3	...	All other causes Residual	220,615	712.0

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

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

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

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

Cerebral thrombosis and unspecified occlusion of cerebral arteries434.0,434.9	19,799	16	8	10	20	38	119	345	1,195	3,423	6,990	7,632	3
Cerebral embolism434.1	681	—	2	—	1	1	9	15	54	152	277	170	—
All other and late effects of cerebrovascular diseases430,433,435–438	104,392	61	18	36	118	554	1,327	2,511	6,294	17,896	37,164	38,404	9
Atherosclerosis440	19,357	1	1	1	2	5	44	168	721	2,348	5,761	10,304	1
Other diseases of arteries, arterioles, and capillaries441–448	24,297	17	7	12	60	194	429	779	2,699	7,109	8,266	4,721	4
Acute bronchitis and bronchiolitis466	633	73	21	4	3	10	7	20	35	100	175	183	2
Pneumonia and influenza480–487	76,550	636	228	122	271	881	1,415	1,707	3,880	10,418	24,022	32,955	15
Pneumonia480–486	74,957	624	220	108	255	866	1,384	1,676	3,808	10,246	23,591	32,164	15
Influenza487	1,593	12	8	14	16	15	31	31	72	172	431	791	—
Chronic obstructive pulmonary diseases and allied conditions490–496	84,344	48	55	113	176	318	632	2,283	10,748	27,065	30,627	12,273	6
Bronchitis, chronic and unspecified490–491	3,759	30	26	10	9	17	30	98	398	979	1,277	885	—
Emphysema492	15,467	7	1	1	3	7	63	401	2,318	5,595	5,485	1,586	—
Asthma493	4,869	6	26	95	148	256	346	472	743	1,208	1,094	473	2
Other chronic obstructive pulmonary diseases and allied conditions494–496	60,249	5	2	7	16	38	193	1,312	7,289	19,283	22,771	9,329	4
Ulcer of stomach and duodenum531–533	6,455	12	3	4	11	40	143	269	611	1,383	2,169	1,809	1
Appendicitis540–543	451	2	—	16	18	17	13	35	53	111	112	74	—
Hernia of abdominal cavity and intestinal obstruction without mention of hernia550–553,560	5,530	88	26	24	14	54	95	121	365	891	1,852	2,000	—
Chronic liver disease and cirrhosis571	26,694	18	6	7	57	981	3,603	4,721	6,756	6,492	3,340	704	9
Cholelithiasis and other disorders of gallbladder574–575	3,048	3	2	—	4	20	48	85	227	590	1,032	1,037	—
Nephritis, nephrotic syndrome, and nephrosis580–589	21,118	198	15	20	70	258	465	713	1,866	4,415	7,133	5,960	5
Acute glomerulonephritis and nephrotic syndrome580–581	310	8	3	4	4	7	14	9	32	70	109	50	—
Chronic glomerulonephritis, nephritis and nephropathy, not specified as acute or chronic, and renal sclerosis, unspecified582–583,587	1,517	4	3	4	13	36	57	61	151	313	479	395	1
Renal failure, disorders resulting from impaired renal function, and small kidney of unknown cause584–586,588–589	19,291	186	9	12	53	215	394	643	1,683	4,032	6,545	5,515	4
Infections of kidney590	1,414	6	—	—	10	25	34	39	80	228	468	523	1
Hyperplasia of prostate600	449	—	—	—	—	—	3	3	13	60	184	186	—
Complications of pregnancy, childbirth, and the puerperium630–676	320	...	...	—	99	169	50	2	...	...	...	...	—
Pregnancy with abortive outcome630–638	50	...	...	—	19	25	6	—	...	...	...	...	—
Other complications of pregnancy, childbirth, and the puerperium640–676	270	...	...	—	80	144	44	2	...	...	...	...	—
Congenital anomalies740–759	12,897	8,120	928	480	474	483	402	395	428	513	450	218	6
Certain conditions originating in the perinatal period760–779	18,752	18,564	134	23	7	6	6	2	2	3	1	—	4
Birth trauma, intrauterine hypoxia, birth asphyxia, and respiratory distress syndrome767–769	4,631	4,578	31	9	4	4	3	—	1	1	—	—	—
Other conditions originating in the perinatal period760–766,770–779	14,121	13,986	103	14	3	2	3	2	1	2	1	—	4
Symptoms, signs, and ill-defined conditions780–799	26,988	6,627	285	181	736	1,969	2,231	1,512	1,999	3,089	3,899	4,369	91
All other diseasesResidual	171,472	1,623	892	1,062	1,924	4,160	6,928	8,475	15,935	32,245	51,522	46,686	20
Accidents and adverse effectsE800–E949	95,028	996	2,774	4,090	16,738	16,574	11,855	7,494	7,552	8,812	10,256	7,764	123
Motor vehicle accidentsE810–E825	47,575	216	1,005	2,266	12,941	10,269	6,302	3,879	3,408	3,465	2,909	877	38
All other accidents and adverse effectsE800–E807,E826–E949	47,453	780	1,769	1,824	3,797	6,305	5,553	3,615	4,144	5,347	7,347	6,887	85
SuicideE950–E959	30,232	...	...	240	4,870	6,565	5,331	3,642	3,342	3,275	2,259	694	14
Homicide and legal interventionE960–E978	22,909	335	393	510	6,185	7,135	4,019	1,885	1,085	740	409	130	83
All other external causesE980–E999	2,700	51	56	49	345	760	668	278	193	146	97	37	20

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

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

Cause of death (Ninth Revision International Classification of Diseases, 1975)	All ages ¹	Under 1 year ²	1-4 years	5-14 years	15-24 years	25-34 years	35-44 years	45-54 years	55-64 years	65-74 years	75-84 years	85 years and over
All causes	866.3	1,005.2	49.2	25.4	99.9	138.1	221.7	475.0	1,204.4	2,646.7	6,138.8	15,034.8
Shigellosis and amebiasis004,006	0.0	*	*	*	*	*	*	*	*	*	*	*
Certain other intestinal infections007-009	0.1	2.3	*	*	*	*	*	*	0.1	0.3	0.7	2.3
Tuberculosis010-018	0.8	*	*	*	0.1	0.3	0.5	0.8	1.3	2.3	4.8	8.0
Tuberculosis of respiratory system010-012	0.6	*	*	*	*	0.2	0.4	0.6	1.0	1.9	3.9	6.9
Other tuberculosis013-018	0.2	*	*	*	*	0.1	0.1	0.2	0.3	0.5	0.9	1.1
Whooping cough033	*	*	*	*	*	*	*	*	*	*	*	*
Streptococcal sore throat, scarlatina, and erysipelas034-035	*	*	*	*	*	*	*	*	*	*	*	*
Meningococcal infection036	0.1	1.5	0.3	0.1	0.1	*	*	*	*	*	*	*
Septicemia038	7.8	7.4	0.6	0.1	0.2	0.7	1.6	3.1	7.8	20.2	62.6	185.7
Acute poliomyelitis045	*	*	*	*	*	*	*	*	*	*	*	*
Measles055	0.0	*	*	*	*	*	*	*	*	*	*	*
Viral hepatitis070	0.6	*	*	*	0.2	0.3	0.5	0.7	1.1	2.0	2.6	2.4
Syphilis090-097	0.0	*	*	*	*	*	*	*	*	*	0.2	*
All other infectious and parasitic diseases001-003,005,020-032,037,039-041,*042-*044,046-054,056-066,071-088,098-139	11.8	10.0	1.5	0.4	2.2	19.2	25.7	15.8	9.7	9.7	14.1	22.7
Malignant neoplasms, including neoplasms of lymphatic and hematopoietic tissues140-208	199.9	2.7	3.4	3.3	5.1	12.1	43.1	157.2	445.1	852.6	1,338.1	1,662.3
Malignant neoplasms of lip, oral cavity, and pharynx140-149	3.3	*	*	*	0.1	0.1	0.8	3.8	10.2	13.4	15.7	19.7
Malignant neoplasms of digestive organs and peritoneum150-159	48.2	*	*	0.1	0.3	1.5	6.9	30.2	94.8	202.3	360.8	537.0
Malignant neoplasms of respiratory and intrathoracic organs160-165	57.3	*	*	*	0.1	0.7	7.2	48.7	162.3	287.0	336.5	232.2
Malignant neoplasm of breast174-175	17.4	*	*	*	*	1.5	9.0	23.0	41.8	62.1	92.6	135.0
Malignant neoplasms of genital organs179-187	22.1	*	*	*	0.3	1.4	3.8	10.9	33.6	89.5	187.0	274.1
Malignant neoplasms of urinary organs188-189	8.2	*	0.2	0.1	0.1	0.2	1.0	5.0	15.4	33.1	64.0	94.3
Malignant neoplasms of all other and unspecified sites170-173,190-199	24.6	1.3	1.8	1.6	1.9	3.5	8.5	22.8	53.7	93.6	147.9	200.6
Leukemia204-208	7.4	0.8	1.1	1.2	1.4	1.6	2.3	4.6	11.7	26.2	50.3	73.7
Other malignant neoplasms of lymphatic and hematopoietic tissues200-203	11.5	*	0.2	0.3	0.8	1.8	3.5	8.2	21.6	45.5	83.3	95.7
Benign neoplasms, carcinoma in situ, and neoplasms of uncertain behavior and of unspecified nature210-239	2.7	1.4	0.4	0.2	0.2	0.4	0.8	1.6	3.8	8.5	20.5	39.0
Diabetes mellitus250	18.9	*	*	0.1	0.4	1.6	3.9	11.2	32.1	72.4	145.1	245.6
Nutritional deficiencies260-269	1.2	*	*	*	*	*	0.1	0.2	0.6	1.9	9.6	50.2
Anemias280-285	1.6	1.0	0.3	0.1	0.3	0.4	0.5	0.7	1.2	3.5	11.4	39.7
Meningitis320-322	0.4	5.8	0.7	0.1	0.1	0.1	0.2	0.3	0.5	0.9	1.2	2.1
Major cardiovascular diseases390-448	375.4	23.4	2.2	1.1	3.4	10.6	40.5	147.9	445.4	1,119.1	3,093.4	8,908.0
Diseases of heart390-398,402,404-429	295.6	19.7	1.9	0.8	2.6	7.9	32.3	124.2	376.7	911.8	2,400.6	6,701.6
Rheumatic fever and rheumatic heart disease390-398	2.5	*	*	*	0.1	0.2	0.7	1.6	4.0	9.2	19.7	27.2
Hypertensive heart disease402	8.4	*	*	*	*	0.3	1.6	5.7	13.6	25.8	63.3	163.5
Hypertensive heart and renal disease404	1.0	*	*	*	*	0.1	0.3	0.9	2.6	8.7	24.2	
Ischemic heart disease410-414	200.6	0.8	*	*	0.3	2.6	18.0	80.3	255.3	638.6	1,670.2	4,465.8
Acute myocardial infarction410	99.5	*	*	*	0.2	1.5	10.4	48.4	150.0	355.8	836.9	1,695.5
Other acute and subacute forms of ischemic heart disease411	1.4	*	*	*	*	0.1	0.3	1.0	2.7	4.5	9.0	23.6
Angina pectoris413	0.4	*	*	*	*	*	*	0.2	0.4	1.2	3.8	10.7
Old myocardial infarction and other forms of chronic ischemic heart disease412,414	99.4	*	*	*	0.1	1.1	7.2	30.8	102.2	277.1	820.6	2,736.0
Other diseases of endocardium424	4.9	*	*	*	0.1	0.4	0.7	1.3	4.2	12.8	44.3	125.3
All other forms of heart disease415-423,425-429	78.2	18.2	1.8	0.7	2.0	4.3	11.3	35.0	98.7	222.8	594.3	1,895.6
Hypertension with or without renal disease401,403	3.5	*	*	*	*	0.2	0.5	1.5	4.0	10.5	29.3	81.5
Cerebrovascular diseases430-438	58.6	3.2	0.3	0.2	0.6	2.1	6.4	18.4	48.8	144.7	519.8	1,631.0

See footnotes at end of table.

Intracerebral and other intracranial hemorrhage431-432	8.3	1.3	*	0.1	0.3	0.7	2.5	6.9	13.9	26.6	64.6	112.0
Cerebral thrombosis and unspecified occlusion of cerebral arteries434.0,434.9	8.0	*	*	*	0.1	0.1	0.3	1.4	5.5	18.8	71.6	250.9
Cerebral embolism434.1	0.3	*	*	*	*	*	*	*	0.3	0.8	2.8	5.6
All other and late effects of cerebrovascular diseases430,433,435-438	42.1	1.5	*	0.1	0.3	1.3	3.6	10.1	29.1	98.4	380.7	1,262.5
Atherosclerosis440	7.8	*	*	*	*	*	0.1	0.7	3.3	12.9	59.0	338.7
Other diseases of arteries, arterioles, and capillaries441-448	9.8	*	*	*	0.2	0.4	1.2	3.1	12.5	39.1	84.7	155.2
Acute bronchitis and bronchiolitis466	0.3	1.9	0.1	*	*	*	*	0.1	0.2	0.5	1.8	6.0
Pneumonia and influenza480-487	30.8	16.1	1.5	0.3	0.7	2.0	3.9	6.9	18.0	57.3	246.1	1,083.3
Pneumonia480-486	30.2	15.8	1.5	0.3	0.7	2.0	3.8	6.7	17.6	56.4	241.7	1,057.3
Influenza487	0.6	*	*	*	*	*	0.1	0.1	0.3	0.9	4.4	26.0
Chronic obstructive pulmonary diseases and allied conditions490-496	34.0	1.2	0.4	0.3	0.5	0.7	1.7	9.2	49.8	148.9	313.8	403.5
Bronchitis, chronic and unspecified490-491	1.5	0.8	0.2	*	*	*	0.1	0.4	1.8	5.4	13.1	29.1
Emphysema492	6.2	*	*	*	*	*	0.2	1.6	10.7	30.8	56.2	52.1
Asthma493	2.0	*	0.2	0.3	0.4	0.6	0.9	1.9	3.4	6.6	11.2	15.5
Other chronic obstructive pulmonary diseases and allied conditions494-496	24.3	*	*	*	*	0.1	0.5	5.3	33.8	106.1	233.3	306.7
Ulcer of stomach and duodenum531-533	2.6	*	*	*	*	0.1	0.4	1.1	2.8	7.6	22.2	59.5
Appendicitis540-543	0.2	*	*	*	*	*	*	0.1	0.2	0.6	1.1	2.4
Hernia of abdominal cavity and intestinal obstruction without mention of hernia550-553,560	2.2	2.2	0.2	0.1	*	0.1	0.3	0.5	1.7	4.9	19.0	65.7
Chronic liver disease and cirrhosis571	10.8	*	*	*	0.2	2.2	9.9	19.0	31.3	35.7	34.2	23.1
Cholelithiasis and other disorders of gallbladder574-575	1.2	*	*	*	*	0.0	0.1	0.3	1.1	3.2	10.6	34.1
Nephritis, nephrotic syndrome, and nephrosis580-589	8.5	5.0	*	0.1	0.2	0.6	1.3	2.9	8.6	24.3	73.1	195.9
Acute glomerulonephritis and nephrotic syndrome580-581	0.1	*	*	*	*	*	*	*	0.1	0.4	1.1	1.6
Chronic glomerulonephritis, nephritis and nephropathy, not specified as acute or chronic, and renal sclerosis, unspecified582-583,587	0.6	*	*	*	*	0.1	0.2	0.2	0.7	1.7	4.9	13.0
Renal failure, disorders resulting from impaired renal function, and small kidney of unknown cause584-586,588-589	7.8	4.7	*	*	0.1	0.5	1.1	2.6	7.8	22.2	67.1	181.3
Infections of kidney590	0.6	*	*	*	*	0.1	0.1	0.2	0.4	1.3	4.8	17.2
Hyperplasia of prostate600	0.2	*	*	*	*	*	*	*	*	0.3	1.9	6.1
Complications of pregnancy, childbirth, and the puerperium630-676	0.1	...	...	*	0.3	0.4	0.1	*	...	...	...	...
Pregnancy with abortive outcome630-638	0.0	...	...	*	*	0.1	*	*	...	...	...	...
Other complications of pregnancy, childbirth, and the puerperium640-676	0.1	...	...	*	0.2	0.3	0.1	*	...	...	...	...
Congenital anomalies740-759	5.2	205.8	6.3	1.4	1.3	1.1	1.1	1.6	2.0	2.8	4.6	7.2
Certain conditions originating in the perinatal period760-779	7.6	470.6	0.9	0.1	*	*	*	*	*	*	*	*
Birth trauma, intrauterine hypoxia, birth asphyxia, and respiratory distress syndrome767-769	1.9	116.0	0.2	*	*	*	*	*	*	*	*	*
Other conditions originating in the perinatal period760-766,770-779	5.7	354.5	0.7	*	*	*	*	*	*	*	*	*
Symptoms, signs, and ill-defined conditions780-799	10.9	168.0	1.9	0.5	2.0	4.5	6.1	6.1	9.3	17.0	39.9	143.6
All other diseasesResidual	69.1	41.1	6.0	3.0	5.3	9.5	19.0	34.0	73.8	177.3	527.8	1,534.7
Accidents and adverse effectsE800-E949	38.3	25.2	18.7	11.6	45.8	37.8	32.5	30.1	35.0	48.5	105.1	255.2
Motor vehicle accidentsE810-E825	19.2	5.5	6.8	6.4	35.4	23.4	17.3	15.6	15.8	19.1	29.8	28.8
All other accidents and adverse effectsE800-E807,E826-E949	19.1	19.8	11.9	5.2	10.4	14.4	15.2	14.5	19.2	29.4	75.3	226.4
SuicideE950-E959	12.2	...	...	0.7	13.3	15.0	14.6	14.6	15.5	18.0	23.1	22.8
Homicide and legal interventionE960-E978	9.2	8.5	2.7	1.5	16.9	16.3	11.0	7.6	5.0	4.1	4.2	4.3
All other external causesE980-E999	1.1	1.3	0.4	0.1	0.9	1.7	1.8	1.1	0.9	0.8	1.0	1.2

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

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

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

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

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

Hypertension with or without renal disease	401,403	8,766	3,771	4,995	6,649	2,819	3,830	2,117	952	1,165	1,997	892	1,105
Cerebrovascular diseases	430-438	145,551	57,321	88,230	125,516	48,563	76,953	20,035	8,758	11,277	17,979	7,739	10,240
Intracerebral and other intracranial hemorrhage	431-432	20,679	9,471	11,208	16,818	7,485	9,333	3,861	1,986	1,875	3,324	1,712	1,612
Cerebral thrombosis and unspecified occlusion of cerebral arteries	434.0,434.9	19,799	7,656	12,143	17,495	6,673	10,822	2,304	983	1,321	2,109	882	1,227
Cerebral embolism	434.1	681	257	424	615	221	394	66	36	30	57	29	28
All other and late effects of cerebrovascular diseases	430,433,435-438	104,392	39,937	64,455	90,588	34,184	56,404	13,804	5,753	8,051	12,489	5,116	7,373
Atherosclerosis	440	19,357	7,254	12,103	17,791	6,652	11,139	1,566	602	964	1,436	547	889
Other diseases of arteries, arterioles, and capillaries	441-448	24,297	14,447	9,850	21,988	13,279	8,709	2,309	1,168	1,141	2,058	1,009	1,049
Acute bronchitis and bronchiolitis	466	633	288	345	544	241	303	89	47	42	79	39	40
Pneumonia and influenza	480-487	76,550	35,701	40,849	67,853	30,892	36,961	8,697	4,809	3,888	7,585	4,168	3,417
Pneumonia	480-486	74,957	35,151	39,806	66,344	30,379	35,965	8,613	4,772	3,841	7,521	4,141	3,380
Influenza	487	1,593	550	1,043	1,509	513	996	84	37	47	64	27	37
Chronic obstructive pulmonary diseases and allied conditions	490-496	84,344	48,178	36,166	77,881	44,046	33,835	6,463	4,132	2,331	5,671	3,593	2,078
Bronchitis, chronic and unspecified	490-491	3,759	1,956	1,803	3,522	1,823	1,699	237	133	104	207	113	94
Empysema	492	15,467	9,294	6,173	14,590	8,665	5,925	877	629	248	765	547	218
Asthma	493	4,869	1,848	3,021	3,761	1,352	2,409	1,108	496	612	984	434	550
Other chronic obstructive pulmonary diseases and allied conditions	494-496	60,249	35,080	25,169	56,008	32,206	23,802	4,241	2,874	1,367	3,715	2,499	1,216
Ulcer of stomach and duodenum	531-533	6,455	3,145	3,310	5,664	2,701	2,963	791	444	347	665	362	303
Appendicitis	540-543	451	237	214	354	185	169	97	52	45	89	47	42
Hernia of abdominal cavity and intestinal obstruction without mention of hernia	550-553,560	5,530	2,047	3,483	4,791	1,711	3,080	739	336	403	683	315	368
Chronic liver disease and cirrhosis	571	26,694	17,310	9,384	22,211	14,414	7,797	4,483	2,896	1,587	3,851	2,517	1,334
Cholelithiasis and other disorders of gallbladder	574-575	3,048	1,336	1,712	2,738	1,210	1,528	310	126	184	255	102	153
Nephritis, nephrotic syndrome, and nephrosis	580-589	21,118	10,320	10,798	16,607	8,093	8,514	4,511	2,227	2,284	4,166	2,047	2,119
Acute glomerulonephritis and nephrotic syndrome	580-581	310	160	150	241	126	115	69	34	35	66	33	33
Chronic glomerulonephritis, nephritis and nephropathy, not specified as acute or chronic, and renal sclerosis, unspecified	582-583,587	1,517	733	784	1,201	590	611	316	143	173	295	137	158
Renal failure, disorders resulting from impaired renal function, and small kidney of unknown cause	584-586,588-589	19,291	9,427	9,864	15,165	7,377	7,788	4,126	2,050	2,076	3,805	1,877	1,928
Infections of kidney	590	1,414	435	979	1,203	358	845	211	77	134	194	68	126
Hyperplasia of prostate	600	449	449	...	375	375	...	74	74	...	70	70	...
Complications of pregnancy, childbirth, and the puerperium	630-676	320	...	320	180	...	180	140	...	140	124	...	124
Pregnancy with abortive outcome	630-638	50	...	50	21	...	21	29	...	29	26	...	26
Other complications of pregnancy, childbirth, and the puerperium	640-676	270	...	270	159	...	159	111	...	111	98	...	98
Congenital anomalies	740-759	12,897	6,812	6,085	10,291	5,444	4,847	2,606	1,368	1,238	2,179	1,143	1,036
Certain conditions originating in the perinatal period	760-779	18,752	10,511	8,241	11,306	6,426	4,880	7,446	4,085	3,361	6,965	3,813	3,152
Birth trauma, intrauterine hypoxia, birth asphyxia, and respiratory distress syndrome	767-769	4,631	2,803	1,828	3,037	1,844	1,193	1,594	959	635	1,467	877	590
Other conditions originating in the perinatal period	760-766,770-779	14,121	7,708	6,413	8,269	4,582	3,687	5,852	3,126	2,726	5,498	2,936	2,562
Symptoms, signs, and ill-defined conditions	780-799	26,988	15,205	11,783	20,597	11,361	9,236	6,391	3,844	2,547	5,835	3,496	2,339
All other diseases	Residual	171,472	79,288	92,184	147,014	66,907	80,107	24,458	12,381	12,077	22,334	11,199	11,135
Accidents and adverse effects	E800-E949	95,028	63,912	31,116	79,139	52,691	26,448	15,889	11,221	4,668	13,404	9,503	3,901
Motor vehicle accidents	E810-E825	47,575	32,704	14,871	40,491	27,621	12,870	7,084	5,083	2,001	5,611	4,120	1,491
All other accidents and adverse effects	E800-E807,E826-E949	47,453	31,208	16,245	38,648	25,070	13,578	8,805	6,138	2,667	7,793	5,383	2,410
Suicide	E950-E959	30,232	24,102	6,130	27,424	21,858	5,566	2,808	2,244	564	2,153	1,771	382
Homicide and legal intervention	E960-E978	22,909	17,686	5,223	11,308	8,337	2,971	11,601	9,349	2,252	10,962	8,888	2,074
All other external causes	E980-E999	2,700	1,956	744	1,973	1,414	559	727	542	185	664	492	172

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

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

Cause of death (Ninth Revision International Classification of Diseases, 1975)	All races			White			All other					
							Total			Black		
	Both sexes	Male	Female	Both sexes	Male	Female	Both sexes	Male	Female	Both sexes	Male	Female
All causes	866.3	921.0	814.3	887.2	930.2	846.0	755.2	870.8	649.5	872.9	1,006.5	752.4
Shigellosis and amebiasis004,006	0.0	*	*	*	*	*	*	*	*	*	*	*
Certain other intestinal infections007-009	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.3	0.2	0.3	0.3	0.2
Tuberculosis010-018	0.8	1.1	0.5	0.6	0.7	0.4	2.1	3.0	1.3	2.3	3.3	1.4
Tuberculosis of respiratory system010-012	0.6	0.9	0.4	0.4	0.6	0.3	1.6	2.4	0.8	1.7	2.7	0.9
Other tuberculosis013-018	0.2	0.2	0.2	0.1	0.1	0.1	0.5	0.6	0.4	0.6	0.7	0.5
Whooping cough033	*	*	*	*	*	*	*	*	*	*	*	*
Streptococcal sore throat, scarlatina, and erysipelas034-035	*	*	*	*	*	*	*	*	*	*	*	*
Meningococcal infection036	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.2	0.2	0.2	0.2
Septicemia038	7.8	7.0	8.5	7.4	6.6	8.3	9.6	9.4	9.8	11.6	11.3	11.9
Acute poliomyelitis045	*	*	*	*	*	*	*	*	*	*	*	*
Measles055	0.0	*	*	*	*	*	*	*	*	*	*	*
Viral hepatitis070	0.6	0.7	0.5	0.6	0.7	0.5	0.7	0.9	0.6	0.7	0.7	0.6
Syphilis090-097	0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.2	0.1	0.2	0.2	0.1
All other infectious and parasitic diseases001-003,005,020-032,037,039-041,*042-*044,046-054,056-066,071-088,098-139	11.8	19.6	4.3	9.9	16.8	3.2	21.9	34.9	10.0	26.9	43.2	12.2
Malignant neoplasms, including neoplasms of lymphatic and hematopoietic tissues140-208	199.9	217.6	183.0	207.8	223.3	192.9	157.8	186.6	131.5	181.2	216.2	149.6
Malignant neoplasms of lip, oral cavity, and pharynx140-149	3.3	4.4	2.2	3.2	4.2	2.2	3.6	5.6	1.8	4.1	6.5	1.9
Malignant neoplasms of digestive organs and peritoneum150-159	48.2	52.2	44.4	49.2	52.7	45.8	43.0	49.7	36.9	47.9	54.9	41.6
Malignant neoplasms of respiratory and intrathoracic organs160-165	57.3	76.8	38.8	60.0	79.1	41.6	43.3	64.5	23.9	50.6	76.4	27.4
Malignant neoplasm of breast174-175	17.4	0.2	33.7	18.3	0.3	35.6	12.4	0.2	23.6	14.5	0.2	27.3
Malignant neoplasms of genital organs179-187	22.1	25.7	18.7	22.3	25.5	19.2	21.3	27.3	15.9	25.3	33.3	18.1
Malignant neoplasms of urinary organs188-189	8.2	10.7	5.7	8.8	11.6	6.0	4.9	6.0	3.9	5.7	6.9	4.5
Malignant neoplasms of all other and unspecified sites170-173,190-199	24.6	27.0	22.3	26.0	28.4	23.8	16.9	19.3	14.7	19.3	22.2	16.7
Leukemia204-208	7.4	8.3	6.4	7.9	8.8	7.0	4.6	5.5	3.8	5.0	6.0	4.2
Other malignant neoplasms of lymphatic and hematopoietic tissues200-203	11.5	12.2	10.8	12.2	12.8	11.6	7.7	8.7	6.9	8.8	9.9	7.8
Benign neoplasms, carcinoma in situ, and neoplasms of uncertain behavior and of unspecified nature210-239	2.7	2.5	2.9	2.8	2.6	3.0	2.1	1.9	2.3	2.4	2.2	2.6
Diabetes mellitus250	18.9	16.3	21.3	18.2	15.9	20.4	22.4	18.4	26.0	25.9	21.1	30.3
Nutritional deficiencies260-269	1.2	0.9	1.5	1.2	0.9	1.6	1.2	1.1	1.3	1.4	1.3	1.6
Anemias280-285	1.6	1.4	1.8	1.5	1.2	1.7	2.3	2.2	2.4	2.8	2.8	2.8
Meningitis320-322	0.4	0.5	0.4	0.3	0.4	0.3	0.9	1.1	0.8	1.1	1.3	0.9
Major cardiovascular diseases390-448	375.4	372.8	377.8	392.8	388.1	397.3	282.7	289.4	276.5	329.1	333.5	325.1
Diseases of heart390-398,402,404-429	295.6	304.3	287.3	310.5	318.3	303.0	216.4	228.2	205.6	252.5	263.5	242.7
Rheumatic fever and rheumatic heart disease390-398	2.5	1.6	3.3	2.6	1.6	3.6	1.4	1.1	1.8	1.5	1.2	1.7
Hypertensive heart disease402	8.4	7.4	9.5	7.2	5.9	8.4	15.2	15.1	15.2	18.5	18.5	18.6
Hypertensive heart and renal disease404	1.0	0.8	1.1	0.8	0.6	1.0	1.8	1.6	1.9	2.1	1.9	2.3
Ischemic heart disease410-414	200.6	212.9	189.0	216.2	229.3	203.7	117.7	123.5	112.3	135.0	139.2	131.1
Acute myocardial infarction410	99.5	111.0	88.5	106.8	119.6	94.6	60.4	64.3	56.8	69.1	72.5	66.1
Other acute and subacute forms of ischemic heart disease411	1.4	1.6	1.2	1.4	1.6	1.2	1.4	1.6	1.2	1.6	1.9	1.4
Angina pectoris413	0.4	0.4	0.5	0.5	0.4	0.5	0.3	0.3	0.3	0.3	0.3	0.3
Old myocardial infarction and other forms of chronic ischemic heart disease412,414	99.4	99.9	98.8	107.6	107.7	107.4	55.6	57.3	54.1	63.9	64.5	63.3
Other diseases of endocardium424	4.9	4.4	5.4	5.4	4.7	6.0	2.5	2.5	2.5	2.8	2.8	2.8
All other forms of heart disease415-423,425-429	78.2	77.4	79.1	78.3	76.1	80.4	77.9	84.4	71.9	92.7	100.0	86.1

Hypertension with or without renal disease401,403	3.5	3.1	3.9	3.2	2.8	3.6	5.4	5.1	5.7	6.5	6.1	6.9
Cerebrovascular diseases430-438	58.6	47.4	69.3	60.1	47.5	72.1	51.0	46.7	55.0	58.6	53.2	63.5
Intracerebral and other intracranial												
hemorrhage431-432	8.3	7.8	8.8	8.0	7.3	8.7	9.8	10.6	9.1	10.8	11.8	10.0
Cerebral thrombosis and unspecified												
occlusion of cerebral arteries434.0,434.9	8.0	6.3	9.5	8.4	6.5	10.1	5.9	5.2	6.4	6.9	6.1	7.6
Cerebral embolism434.1	0.3	0.2	0.3	0.3	0.2	0.4	0.2	0.2	0.1	0.2	0.2	0.2
All other and late effects of cerebrovascular												
diseases430,433,435-438	42.1	33.0	50.6	43.4	33.4	52.8	35.1	30.7	39.2	40.7	35.2	45.8
Atherosclerosis440	7.8	6.0	9.5	8.5	6.5	10.4	4.0	3.2	4.7	4.7	3.8	5.5
Other diseases of arteries, arterioles,												
and capillaries441-448	9.8	11.9	7.7	10.5	13.0	8.2	5.9	6.2	5.6	6.7	6.9	6.5
Acute bronchitis and bronchiolitis466	0.3	0.2	0.3	0.3	0.2	0.3	0.2	0.3	0.2	0.3	0.3	0.2
Pneumonia and influenza480-487	30.8	29.5	32.1	32.5	30.2	34.6	22.1	25.6	18.9	24.7	28.7	21.2
Pneumonia480-486	30.2	29.1	31.3	31.7	29.7	33.7	21.9	25.4	18.7	24.5	28.5	21.0
Influenza487	0.6	0.5	0.8	0.7	0.5	0.9	0.2	0.2	0.2	0.2	0.2	0.2
Chronic obstructive pulmonary diseases												
and allied conditions490-496	34.0	39.8	28.4	37.3	43.1	31.7	16.5	22.0	11.4	18.5	24.7	12.9
Bronchitis, chronic and unspecified490-491	1.5	1.6	1.4	1.7	1.8	1.6	0.6	0.7	0.5	0.7	0.8	0.6
Emphysema492	6.2	7.7	4.9	7.0	8.5	5.6	2.2	3.4	1.2	2.5	3.8	1.4
Asthma493	2.0	1.5	2.4	1.8	1.3	2.3	2.8	2.6	3.0	3.2	3.0	3.4
Other chronic obstructive pulmonary diseases												
and allied conditions494-496	24.3	29.0	19.8	26.8	31.5	22.3	10.8	15.3	6.7	12.1	17.2	7.5
Ulcer of stomach and duodenum531-533	2.6	2.6	2.6	2.7	2.6	2.8	2.0	2.4	1.7	2.2	2.5	1.9
Appendicitis540-543	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.2	0.3	0.3	0.3
Hernia of abdominal cavity and intestinal												
obstruction without mention of hernia550-553,560	2.2	1.7	2.7	2.3	1.7	2.9	1.9	1.8	2.0	2.2	2.2	2.3
Chronic liver disease and cirrhosis571	10.8	14.3	7.4	10.6	14.1	7.3	11.4	15.4	7.7	12.6	17.3	8.3
Cholelithiasis and other disorders of												
gallbladder574-575	1.2	1.1	1.3	1.3	1.2	1.4	0.8	0.7	0.9	0.8	0.7	0.9
Nephritis, nephrotic syndrome, and nephrosis580-589	8.5	8.5	8.5	7.9	7.9	8.0	11.5	11.9	11.1	13.6	14.1	13.1
Acute glomerulonephritis and nephrotic												
syndrome580-581	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2
Chronic glomerulonephritis, nephritis and												
nephropathy, not specified as acute or chronic,												
and renal sclerosis, unspecified582-583,587	0.6	0.6	0.6	0.6	0.6	0.6	0.8	0.8	0.8	1.0	0.9	1.0
Renal failure, disorders resulting from impaired												
renal function, and small kidney of												
unknown cause584-586,588-589	7.8	7.8	7.8	7.3	7.2	7.3	10.5	10.9	10.1	12.4	12.9	12.0
Infections of kidney590	0.6	0.4	0.8	0.6	0.4	0.8	0.5	0.4	0.7	0.6	0.5	0.8
Hyperplasia of prostate600	0.2	0.4	...	0.2	0.4	...	0.2	0.4	...	0.2	0.5	...
Complications of pregnancy, childbirth,												
and the puerperium630-676	0.1	...	0.3	0.1	...	0.2	0.4	...	0.7	0.4	...	0.8
Pregnancy with abortive outcome630-638	0.0	...	0.0	0.0	...	0.0	0.1	...	0.1	0.1	...	0.2
Other complications of pregnancy, childbirth,												
and the puerperium640-676	0.1	...	0.2	0.1	...	0.1	0.3	...	0.5	0.3	...	0.6
Congenital anomalies740-759	5.2	5.6	4.8	4.9	5.3	4.5	6.6	7.3	6.0	7.1	7.9	6.4
Certain conditions originating in the perinatal												
period760-779	7.6	8.7	6.5	5.4	6.3	4.6	19.0	21.8	16.4	22.7	26.2	19.6
Birth trauma, intrauterine hypoxia, birth												
asphyxia, and respiratory distress syndrome . . .767-769	1.9	2.3	1.4	1.5	1.8	1.1	4.1	5.1	3.1	4.8	6.0	3.7
Other conditions originating in the perinatal												
period760-766,770-779	5.7	6.4	5.0	4.0	4.5	3.5	14.9	16.7	13.3	17.9	20.2	15.9
Symptoms, signs, and ill-defined conditions780-799	10.9	12.6	9.3	9.9	11.1	8.7	16.3	20.5	12.4	19.0	24.0	14.5
All other diseasesResidual	69.1	65.5	72.4	70.4	65.5	75.1	62.3	66.0	58.9	72.8	77.0	69.1
Accidents and adverse effectsE800-E949	38.3	52.8	24.5	37.9	51.5	24.8	40.5	59.8	22.7	43.7	65.3	24.2
Motor vehicle accidentsE810-E825	19.2	27.0	11.7	19.4	27.0	12.1	18.0	27.1	9.8	18.3	28.3	9.3
All other accidents and adverse												
effectsE800-E807,E826-E949	19.1	25.8	12.8	18.5	24.5	12.7	22.4	32.7	13.0	25.4	37.0	15.0
SuicideE950-E959	12.2	19.9	4.8	13.1	21.4	5.2	7.1	12.0	2.7	7.0	12.2	2.4
Homicide and legal interventionE960-E978	9.2	14.6	4.1	5.4	8.2	2.8	29.5	49.8	11.0	35.8	61.1	12.9
All other external causesE980-E999	1.1	1.6	0.6	0.9	1.4	0.5	1.9	2.9	0.9	2.2	3.4	1.1

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

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

Cause of death (Ninth Revision International Classification of Diseases, 1975)	All races						All other					
	All races			White			Total			Black		
	Both sexes	Male	Female	Both sexes	Male	Female	Both sexes	Male	Female	Both sexes	Male	Female
All causes	523.0	678.7	395.3	496.1	644.2	374.9	684.8	896.4	515.0	783.1	1,032.1	585.6
Shigellosis and amebiasis . . . . .	.004,006	0.0	*	*	*	*	*	*	*	*	*	*
Certain other intestinal infections . . . . .	.007-009	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.1	0.2	0.3	0.1
Tuberculosis . . . . .	.010-018	0.6	0.8	0.3	0.3	0.5	2.0	3.2	1.1	2.3	3.6	1.2
Tuberculosis of respiratory system . . . . .	.010-012	0.4	0.7	0.2	0.3	0.4	1.5	2.5	0.7	1.7	2.9	0.8
Other tuberculosis . . . . .	.013-018	0.1	0.2	0.1	0.1	0.1	0.5	0.7	0.4	0.6	0.7	0.4
Whooping cough . . . . .	.033	*	*	*	*	*	*	*	*	*	*	*
Streptococcal sore throat, scarlatina, and erysipelas . . . . .	.034-035	*	*	*	*	*	*	*	*	*	*	*
Meningococcal infection . . . . .	.036	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.1
Septicemia . . . . .	.038	4.1	4.8	3.6	3.6	4.1	8.1	9.4	7.1	9.6	11.2	8.4
Acute poliomyelitis . . . . .	.045	*	*	*	*	*	*	*	*	*	*	*
Measles . . . . .	.055	0.0	*	*	*	*	*	*	*	*	*	*
Viral hepatitis . . . . .	.070	0.5	0.7	0.3	0.4	0.6	0.8	1.0	0.6	0.7	0.8	0.6
Syphilis . . . . .	.090-097	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.1	0.2	0.2	0.1
All other infectious and parasitic diseases . . . . .	.001-003,005,020-032,037,039-041,*042-*044, 046-054,056-066,071-088,098-139	10.8	18.5	3.4	8.8	15.5	22.0	36.5	9.6	27.6	46.2	11.8
Malignant neoplasms, including neoplasms of lymphatic and hematopoietic tissues . . . . .	.140-208	133.0	162.4	111.7	130.2	157.2	152.6	201.4	116.7	172.7	230.6	130.9
Malignant neoplasms of lip, oral cavity, and pharynx . . . . .	.140-149	2.4	3.6	1.3	2.1	3.2	3.9	6.6	1.7	4.4	7.6	1.9
Malignant neoplasms of digestive organs and peritoneum . . . . .	.150-159	30.0	38.6	23.1	28.5	36.5	40.5	53.9	30.3	44.4	59.0	33.3
Malignant neoplasms of respiratory and intrathoracic organs . . . . .	.160-165	40.3	59.3	25.4	39.7	57.4	44.0	72.3	22.4	50.9	84.6	25.4
Malignant neoplasm of breast . . . . .	.174-175	12.5	0.2	23.0	12.5	0.2	22.9	0.2	22.6	14.7	0.3	26.0
Malignant neoplasms of genital organs . . . . .	.179-187	13.1	16.1	12.0	12.4	14.9	18.7	26.1	14.3	21.7	31.3	16.0
Malignant neoplasms of urinary organs . . . . .	.188-189	5.0	7.7	3.0	5.1	7.8	4.5	6.3	3.2	5.1	7.1	3.6
Malignant neoplasms of all other and unspecified sites . . . . .	.170-173,190-199	17.2	21.3	13.8	17.2	21.3	16.5	21.1	13.0	18.6	24.0	14.5
Leukemia . . . . .	.204-208	4.9	6.3	3.9	5.0	6.4	4.3	5.7	3.3	4.6	6.1	3.5
Other malignant neoplasms of lymphatic and hematopoietic tissues . . . . .	.200-203	7.6	9.4	6.2	7.6	9.3	7.4	9.3	5.9	8.3	10.5	6.6
Benign neoplasms, carcinoma in situ, and neoplasms of uncertain behavior and of unspecified nature . . . . .	.210-239	1.7	1.9	1.5	1.6	1.8	1.9	2.0	1.9	2.1	2.3	2.1
Diabetes mellitus . . . . .	.250	11.5	12.0	11.0	10.3	11.0	20.7	19.9	21.2	23.7	22.6	24.2
Nutritional deficiencies . . . . .	.260-269	0.5	0.5	0.5	0.4	0.5	0.8	1.0	0.7	1.0	1.1	0.8
Anemias . . . . .	.280-285	0.9	1.0	0.9	0.7	0.8	2.1	2.2	2.0	2.5	2.7	2.4
Meningitis . . . . .	.320-322	0.4	0.4	0.3	0.3	0.3	0.9	1.1	0.7	1.0	1.3	0.8
Major cardiovascular diseases . . . . .	.390-448	194.2	254.2	146.1	186.7	247.4	244.4	300.3	200.7	280.1	343.7	230.7
Diseases of heart . . . . .	.390-398,402,404-429	155.9	210.2	112.3	151.0	205.9	188.4	237.9	149.7	216.4	272.6	172.9
Rheumatic fever and rheumatic heart disease . . . . .	.390-398	1.5	1.2	1.8	1.5	1.1	1.4	1.2	1.6	1.5	1.3	1.6
Hypertensive heart disease . . . . .	.402	4.8	5.5	4.1	3.6	4.1	14.2	16.7	12.1	17.2	20.3	14.6
Hypertensive heart and renal disease . . . . .	.404	0.5	0.5	0.4	0.3	0.4	1.5	1.7	1.4	1.8	2.0	1.6
Ischemic heart disease . . . . .	.410-414	105.1	146.3	72.4	105.3	148.2	100.9	128.0	79.8	113.5	142.9	90.9
Acute myocardial infarction . . . . .	.410	55.9	78.8	37.5	56.1	80.0	53.4	67.7	42.3	60.0	75.4	48.1
Other acute and subacute forms of ischemic heart disease . . . . .	.411	0.8	1.2	0.5	0.8	1.1	1.3	1.7	0.9	1.5	2.0	1.1
Angina pectoris . . . . .	.413	0.2	0.3	0.2	0.2	0.2	0.2	0.3	0.2	0.3	0.3	0.2
Old myocardial infarction and other forms of chronic ischemic heart disease . . . . .	.412,414	48.2	66.0	34.2	48.3	66.8	46.0	58.4	36.4	51.8	65.3	41.5
Other diseases of endocardium . . . . .	.424	2.4	2.9	2.1	2.4	2.9	2.1	2.5	1.8	2.4	2.8	2.0

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

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

[Rates per 100,000 population in specified group]

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

¹Includes figures for subcategories not shown.

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

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

Year, race, and sex	Age												Age-adjusted rate ³
	All ages ¹	Under 1 year ²	1–4 years	5–14 years	15–24 years	25–34 years	35–44 years	45–54 years	55–64 years	65–74 years	75–84 years	85 years and over	
1989													Number
All races	22,082	120	112	64	613	7,759	8,563	3,285	1,144	327	70	12	...
Male	19,758	54	53	41	502	6,806	7,840	3,083	1,054	260	44	8	...
Female	2,324	66	59	23	111	953	723	202	90	67	26	4	...
White	15,095	52	44	41	364	5,137	5,827	2,446	860	249	60	10	...
Male	14,114	27	13	29	312	4,752	5,572	2,354	807	197	40	6	...
Female	981	25	31	12	52	385	255	92	53	52	20	4	...
All other	6,987	68	68	23	249	2,622	2,736	839	284	78	10	2	...
Male	5,644	27	40	12	190	2,054	2,268	729	247	63	4	2	...
Female	1,343	41	28	11	59	568	468	110	37	15	6	–	...
Black	6,795	68	68	22	242	2,559	2,661	809	272	76	10	1	...
Male	5,475	27	40	12	184	1,997	2,201	701	239	62	4	1	...
Female	1,320	41	28	10	58	562	460	108	33	14	6	–	...
1988													
All races	16,602	81	114	54	535	6,036	6,184	2,352	867	286	79	11	...
Male	14,811	49	62	34	447	5,279	5,656	2,214	784	223	53	8	...
Female	1,791	32	52	20	88	757	528	138	83	63	26	3	...
White	11,267	33	48	30	322	3,907	4,221	1,748	646	232	68	10	...
Male	10,479	23	26	23	282	3,599	4,015	1,682	595	179	46	7	...
Female	788	10	22	7	40	308	206	66	51	53	22	3	...
All other	5,335	48	66	24	213	2,129	1,963	604	221	54	11	1	...
Male	4,332	26	36	11	165	1,680	1,641	532	189	44	7	1	...
Female	1,003	22	30	13	48	449	322	72	32	10	4	–	...
Black	5,197	48	66	23	209	2,080	1,912	587	208	52	10	1	...
Male	4,202	26	36	10	161	1,632	1,592	517	178	42	7	1	...
Female	995	22	30	13	48	448	320	70	30	10	3	–	...
1989													Rate
All races	8.9	3.0	0.8	0.2	1.7	17.7	23.5	13.2	5.3	1.8	0.7	*	8.7
Male	16.3	2.7	0.7	0.2	2.7	31.0	43.5	25.5	10.3	3.2	1.2	*	15.7
Female	1.8	3.4	0.8	0.1	0.6	4.4	3.9	1.6	0.8	0.7	0.4	*	1.8
White	7.2	1.6	0.4	0.1	1.2	14.0	18.7	11.4	4.6	1.5	0.7	*	7.0
Male	13.8	1.7	*	0.2	2.1	25.6	35.8	22.3	9.0	2.7	1.2	*	13.1
Female	0.9	1.6	0.5	*	0.4	2.1	1.6	0.8	0.5	0.6	0.4	*	0.9
All other	17.8	8.7	2.3	0.3	3.7	36.6	51.4	24.4	10.5	4.0	*	*	18.0
Male	30.1	6.8	2.7	*	5.6	60.1	92.5	46.7	20.2	7.4	*	*	31.5
Female	6.5	10.6	2.0	*	1.7	15.2	16.3	5.9	2.5	*	*	*	6.4
Black	22.2	11.0	3.0	0.4	4.5	45.9	66.8	30.9	12.6	4.8	*	*	22.9
Male	37.6	8.6	3.5	*	6.9	75.9	121.1	59.9	24.5	9.2	*	*	40.3
Female	8.2	13.4	2.5	*	2.1	19.1	21.2	7.5	2.8	*	*	*	8.1
1988													
All races	6.8	2.1	0.8	0.2	1.4	13.8	17.5	9.7	4.0	1.6	0.8	*	6.6
Male	12.4	2.5	0.8	0.2	2.4	24.2	32.5	18.8	7.6	2.8	1.5	*	12.0
Female	1.4	1.7	0.7	0.1	0.5	3.5	3.0	1.1	0.7	0.6	0.4	*	1.4
White	5.4	1.1	0.4	0.1	1.1	10.7	14.0	8.4	3.4	1.5	0.8	*	5.3
Male	10.3	1.4	0.4	0.2	1.8	19.5	26.7	16.4	6.5	2.5	1.4	*	9.9
Female	0.7	*	0.4	*	0.3	1.7	1.4	0.6	0.5	0.6	0.4	*	0.7
All other	13.9	6.5	2.3	0.4	3.1	30.2	38.7	18.2	8.3	2.8	*	*	14.1
Male	23.6	6.9	2.5	*	4.8	50.0	70.4	35.2	15.7	5.4	*	*	24.8
Female	5.0	6.0	2.2	*	1.4	12.1	11.8	4.0	2.2	*	*	*	4.9
Black	17.2	8.1	3.0	0.4	3.8	37.8	50.2	23.0	9.7	3.4	*	*	17.9
Male	29.3	8.7	3.2	*	5.9	62.8	91.7	45.2	18.4	6.4	*	*	31.6
Female	6.3	7.5	2.8	*	1.7	15.4	15.4	5.0	2.6	*	*	*	6.2

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

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

³ For method of computation, see Technical notes.

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

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

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

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

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

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

¹Includes races other than white and black.²Includes deaths that occurred in States that did not report Hispanic origin on the death certificate.

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

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

Hispanic			White non-Hispanic		
Rank order	Cause of death and age (Ninth Revision International Classification of Diseases, 1975)	Number	Rank order	Cause of death and age (Ninth Revision International Classification of Diseases, 1975)	Number
All ages ¹			All ages ¹		
...	All causes	76,379	...	All causes	1,612,878
1	Diseases of heart390-398,402,404-429	19,054	1	Diseases of heart390-398,402,404-429	572,231
2	Malignant neoplasms, including neoplasms of lymphatic and hematopoietic tissues140-208	13,366	2	Malignant neoplasms, including neoplasms of lymphatic and hematopoietic tissues140-208	381,088
3	Accidents and adverse effectsE800-E949	7,062	3	Cerebrovascular diseases430-438	110,903
...	Motor vehicle accidentsE810-E825	4,141	4	Chronic obstructive pulmonary diseases and allied conditions490-496	69,620
...	All other accidents and adverse effectsE800-E807,E826-E949	2,921	5	Accidents and adverse effectsE800-E949	65,008
4	Cerebrovascular diseases430-438	3,801	...	Motor vehicle accidentsE810-E825	32,939
5	Homicide and legal interventionE960-E978	3,448	...	All other accidents and adverse effectsE800-E807,E826-E949	32,069
6	Human immunodeficiency virus infection*042-*044	3,099	6	Pneumonia and influenza480-487	59,672
7	Diabetes mellitus250	2,450	7	Diabetes mellitus250	32,449
8	Pneumonia and influenza480-487	2,342	8	SuicideE950-E959	23,351
9	Chronic liver disease and cirrhosis571	2,290	9	Chronic liver disease and cirrhosis571	18,192
10	Certain conditions originating in the perinatal period760-779	2,006	10	Atherosclerosis440	15,753
...	All other causesResidual	17,461	...	All other causesResidual	264,611
1-14 years			1-14 years		
...	All causes	1,785	...	All causes	9,019
1	Accidents and adverse effectsE800-E949	706	1	Accidents and adverse effectsE800-E949	4,008
...	Motor vehicle accidentsE810-E825	385	...	Motor vehicle accidentsE810-E825	2,026
...	All other accidents and adverse effectsE800-E807,E826-E949	321	...	All other accidents and adverse effectsE800-E807,E826-E949	1,982
2	Malignant neoplasms, including neoplasms of lymphatic and hematopoietic tissues140-208	189	2	Malignant neoplasms, including neoplasms of lymphatic and hematopoietic tissues140-208	1,032
3	Congenital anomalies740-759	168	3	Congenital anomalies740-759	833
4	Homicide and legal interventionE960-E978	109	4	Homicide and legal interventionE960-E978	319
5	Diseases of heart390-398,402,404-429	56	5	Diseases of heart390-398,402,404-429	277
6	Pneumonia and influenza480-487	40	6	Pneumonia and influenza480-487	177
7	Human immunodeficiency virus infection*042-*044	37	7	SuicideE950-E959	168
8	SuicideE950-E959	17	8	Benign neoplasms, carcinoma in situ, and neoplasms of uncertain behavior and of unspecified nature210-239	91
9	Meningococcal infection036	16	9	Chronic obstructive pulmonary diseases and allied conditions490-496	76
9	Benign neoplasms, carcinoma in situ, and neoplasms of uncertain behavior and of unspecified nature . .210-239	16	9	Certain conditions originating in the perinatal period760-779	76
9	Certain conditions originating in the perinatal period760-779	16	...	All other causesResidual	1,962
...	All other causesResidual	415	...	All other causesResidual	1,962
15-24 years			15-24 years		
...	All causes	4,291	...	All causes	20,475
1	Accidents and adverse effectsE800-E949	1,816	1	Accidents and adverse effectsE800-E949	11,182
...	Motor vehicle accidentsE810-E825	1,352	...	Motor vehicle accidentsE810-E825	8,940
...	All other accidents and adverse effectsE800-E807,E826-E949	464	...	All other accidents and adverse effectsE800-E807,E826-E949	2,242
2	Homicide and legal interventionE960-E978	1,131	2	SuicideE950-E959	3,360
3	SuicideE950-E959	404	3	Homicide and legal interventionE960-E978	1,192
4	Malignant neoplasms, including neoplasms of lymphatic and hematopoietic tissues140-208	191	4	Malignant neoplasms, including neoplasms of lymphatic and hematopoietic tissues140-208	1,155
5	Human immunodeficiency virus infection*042-*044	109	5	Diseases of heart390-398,402,404-429	485
6	Diseases of heart390-398,402,404-429	86	6	Congenital anomalies740-759	318
7	Pneumonia and influenza480-487	26	7	Human immunodeficiency virus infection*042-*044	239
8	Cerebrovascular diseases430-438	24	8	Pneumonia and influenza480-487	138
8	Congenital anomalies740-759	24	9	Cerebrovascular diseases430-438	124
10	Diabetes mellitus250	14	10	Chronic obstructive pulmonary diseases and allied conditions490-496	85
...	All other causesResidual	466	...	All other causesResidual	2,197

See footnote at end of table.

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

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

Hispanic			White non-Hispanic		
Rank order	Cause of death and age (Ninth Revision International Classification of Diseases, 1975)	Number	Rank order	Cause of death and age (Ninth Revision International Classification of Diseases, 1975)	Number
25–44 years			25–44 years		
...	All causes	13,183	...	All causes	80,195
1	Accidents and adverse effectsE800–E949	2,779	1	Accidents and adverse effectsE800–E949	18,245
...	Motor vehicle accidentsE810–E825	1,581	...	Motor vehicle accidentsE810–E825	10,983
...	All other accidents and adverse effectsE800–E807,E826–E949	1,198	...	All other accidents and adverse effectsE800–E807,E826–E949	7,262
2	Human immunodeficiency virus infection*042–*044	2,364	2	Malignant neoplasms, including neoplasms of lymphatic and hematopoietic tissues140–208	14,061
3	Homicide and legal interventionE960–E978	1,768	3	Diseases of heart.390–398,402,404–429	9,007
4	Malignant neoplasms, including neoplasms of lymphatic and hematopoietic tissues140–208	1,169	4	Suicide.E950–E959	8,802
5	Diseases of heart.390–398,402,404–429	829	5	Human immunodeficiency virus infection*042–*044	8,077
6	Suicide.E950–E959	707	6	Homicide and legal interventionE960–E978	3,282
7	Chronic liver disease and cirrhosis571	564	7	Chronic liver disease and cirrhosis571	2,394
8	Cerebrovascular diseases430–438	275	8	Cerebrovascular diseases430–438	1,593
9	Pneumonia and influenza480–487	190	9	Diabetes mellitus250	1,344
10	Diabetes mellitus250	130	10	Pneumonia and influenza480–487	1,055
...	All other causesResidual	2,408	...	All other causesResidual	12,335
45–64 years			45–64 years		
...	All causes	16,253	...	All causes	261,852
1	Malignant neoplasms, including neoplasms of lymphatic and hematopoietic tissues140–208	4,284	1	Malignant neoplasms, including neoplasms of lymphatic and hematopoietic tissues140–208	98,837
2	Diseases of heart.390–398,402,404–429	4,202	2	Diseases of heart.390–398,402,404–429	78,040
3	Chronic liver disease and cirrhosis571	1,088	3	Accidents and adverse effectsE800–E949	10,102
4	Accidents and adverse effectsE800–E949	913	...	Motor vehicle accidentsE810–E825	5,078
...	Motor vehicle accidentsE810–E825	501	...	All other accidents and adverse effectsE800–E807,E826–E949	5,024
...	All other accidents and adverse effectsE800–E807,E826–E949	412	3	Chronic obstructive pulmonary diseases and allied conditions490–496	10,102
5	Cerebrovascular diseases430–438	800	5	Cerebrovascular diseases430–438	8,991
6	Diabetes mellitus250	709	6	Chronic liver disease and cirrhosis571	7,526
7	Human immunodeficiency virus infection*042–*044	526	7	Diabetes mellitus250	5,811
8	Pneumonia and influenza480–487	332	8	Suicide.E950–E959	5,687
9	Homicide and legal interventionE960–E978	325	9	Pneumonia and influenza480–487	3,474
10	Chronic obstructive pulmonary diseases and allied conditions490–496	301	10	Human immunodeficiency virus infection*042–*044	2,596
...	All other causesResidual	2,773	...	All other causesResidual	30,686
65 years and over			65 years and over		
...	All causes	36,362	...	All causes	1,222,142
1	Diseases of heart.390–398,402,404–429	13,800	1	Diseases of heart.390–398,402,404–429	484,002
2	Malignant neoplasms, including neoplasms of lymphatic and hematopoietic tissues140–208	7,520	2	Malignant neoplasms, including neoplasms of lymphatic and hematopoietic tissues140–208	265,925
3	Cerebrovascular diseases430–438	2,672	3	Cerebrovascular diseases430–438	100,065
4	Pneumonia and influenza480–487	1,670	4	Chronic obstructive pulmonary diseases and allied conditions490–496	58,865
5	Diabetes mellitus250	1,591	5	Pneumonia and influenza480–487	54,538
6	Chronic obstructive pulmonary disease and allied conditions490–496	1,256	6	Diabetes mellitus250	25,193
7	Accidents and adverse effectsE800–E949	711	7	Accidents and adverse effectsE800–E949	20,966
...	Motor vehicle accidentsE810–E825	279	...	Motor vehicle accidentsE810–E825	5,783
...	All other accidents and adverse effectsE800–E807,E826–E949	432	...	All other accidents and adverse effectsE800–E807,E826–E949	15,183
8	Chronic liver disease and cirrhosis571	619	8	Atherosclerosis440	15,080
9	Nephritis, nephrotic syndrome, and nephrosis580–589	549	9	Nephritis, nephrotic syndrome, and nephrosis580–589	12,467
10	Septicemia038	428	10	Septicemia038	10,942
...	All other causesResidual	5,546	...	All other causesResidual	174,099

¹Includes deaths under 1 year of age.

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

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

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

¹For method of computation, see Technical notes.

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

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

Year	All races			White			All other					
							Total			Black		
	Both sexes	Male	Female	Both sexes	Male	Female	Both sexes	Male	Female	Both sexes	Male	Female
Number												
1989	19,810	14,960	4,850	14,832	11,307	3,525	4,978	3,653	1,325	4,400	3,263	1,137
1988	18,872	14,206	4,666	14,035	10,681	3,354	4,837	3,525	1,312	4,294	3,159	1,135
1987	17,819	13,461	4,358	13,361	10,172	3,189	4,458	3,289	1,169	4,055	3,028	1,027
1986	17,425	12,986	4,439	13,198	9,864	3,334	4,227	3,122	1,105	3,853	2,862	991
1985	17,741	13,216	4,525	13,216	9,922	3,294	4,525	3,294	1,231	4,114	3,030	1,084
1984	17,606	12,995	4,611	13,384	9,986	3,398	4,222	3,009	1,213	3,776	2,710	1,066
1983	17,400	12,812	4,588	13,288	9,863	3,425	4,112	2,949	1,163	3,708	2,668	1,040
1982	17,541	12,903	4,638	13,527	10,042	3,485	4,014	2,861	1,153	3,603	2,573	1,030
1981	18,660	13,600	5,060	14,199	10,441	3,758	4,461	3,159	1,302	4,000	2,858	1,142
1980	19,765	14,447	5,318	14,815	10,936	3,879	4,950	3,511	1,439	4,451	3,170	1,281
1979	18,951	13,788	5,163	14,334	10,513	3,821	4,617	3,275	1,342	4,132	2,953	1,179
Age-adjusted death rate ¹												
1989	7.2	11.5	3.4	6.1	9.8	2.8	14.1	22.9	6.9	16.2	26.8	7.6
1988	7.0	11.1	3.3	5.9	9.4	2.7	14.2	22.8	7.0	16.2	26.6	7.7
1987	6.8	10.8	3.1	5.7	9.1	2.6	13.4	21.9	6.4	15.6	26.0	7.2
1986	6.7	10.5	3.2	5.7	8.9	2.7	13.0	21.4	6.2	15.1	25.0	7.0
1985	6.9	10.9	3.4	5.8	9.1	2.8	14.5	23.3	7.2	16.6	27.2	7.9
1984	7.0	10.8	3.4	5.9	9.3	2.9	13.9	22.1	7.3	15.6	25.0	7.9
1983	7.0	10.8	3.5	5.9	9.3	2.9	14.0	22.3	7.2	15.6	25.1	8.0
1982	7.2	11.2	3.6	6.1	9.7	3.0	14.2	22.6	7.4	15.7	25.3	8.1
1981	7.8	12.0	4.0	6.5	10.2	3.3	16.4	25.8	8.8	17.9	28.7	9.3
1980	8.4	13.0	4.3	6.9	10.8	3.5	18.8	29.5	10.0	20.4	32.4	10.6
1979	8.2	12.6	4.3	6.8	10.6	3.5	18.1	28.3	9.7	19.2	30.4	10.1

¹For method of computation, see Technical notes.

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

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

¹Excludes figures for age not stated.

²Denominators of percent distribution exclude deaths of persons of unknown marital status.

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

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

¹Excludes figures for age not stated.

²Denominators of percent distribution exclude deaths of persons of unknown educational attainment.

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

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

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

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

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

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

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

Cause of death (Ninth Revision International Classification of Diseases, 1975)	All races ¹			All races ¹		
	White	Black	Black	White	Black	Black
	Number			Rate		
All causes	39,655	25,794	12,527	981.3	808.0	1,861.0
Certain intestinal infections008-009	92	38	49	2.3	1.2	6.4
Whooping cough033	9	7	2	*	*	*
Meningococcal infection036	58	43	12	1.4	1.3	*
Septicemia038	290	173	110	7.2	5.4	16.3
Viral diseases045-079	139	89	40	3.4	2.8	5.9
Congenital syphilis090	19	4	15	*	*	*
Remainder of infectious and parasitic diseases001,007,010-032,034-035, 037,039-041,*042-*044,080-088,091-139	274	143	124	6.8	4.5	18.4
Malignant neoplasms, including neoplasms of lymphatic and hematopoietic tissues140-208	107	92	15	2.6	2.9	*
Benign neoplasms, carcinoma in situ, and neoplasms of uncertain behavior and of unspecified nature210-239	56	39	15	1.4	1.2	*
Diseases of thymus gland254	6	5	-	*	*	*
Cystic fibrosis277.0	15	11	4	*	*	*
Diseases of blood and blood-forming organs280-289	90	48	33	2.2	1.5	4.9
Meningitis320-322	229	128	87	5.7	4.0	12.9
Other diseases of nervous system and sense organs323-389	492	363	109	12.2	11.4	16.2
Acute upper respiratory infections460-465	34	29	4	0.8	0.9	*
Bronchitis and bronchiolitis466,490-491	103	58	37	2.5	1.8	5.5
Pneumonia and influenza480-487	636	396	210	15.7	12.4	31.2
Pneumonia480-486	624	386	208	15.4	12.1	30.9
Influenza487	12	10	2	*	*	*
Remainder of diseases of respiratory system470-478,492-519	384	230	139	9.5	7.2	20.6
Hernia of abdominal cavity and intestinal obstruction without mention of hernia550-553,560	88	57	27	2.2	1.8	4.0
Gastritis, duodenitis, and noninfective enteritis and colitis535,555-558	100	48	51	2.5	1.5	7.6
Remainder of diseases of digestive system520-534,536-543,562-579	171	96	69	4.2	3.0	10.3
Congenital anomalies740-759	8,120	6,312	1,498	200.9	197.7	222.5
Anencephalus and similar anomalies740	460	387	56	11.4	12.1	8.3
Spina bifida741	73	63	7	1.8	2.0	*
Congenital hydrocephalus742.3	172	119	44	4.3	3.7	6.5
Other congenital anomalies of central nervous system and eye742.0-742.2,742.4-742.9,743	314	244	54	7.8	7.6	8.0
Congenital anomalies of heart745-746	2,559	1,983	479	63.3	62.1	71.2
Other congenital anomalies of circulatory system747	491	354	124	12.2	11.1	18.4
Congenital anomalies of respiratory system748	1,256	954	261	31.1	29.9	38.8
Congenital anomalies of digestive system749-751	111	82	26	2.7	2.6	3.9
Congenital anomalies of genitourinary system752-753	473	388	77	11.7	12.2	11.4
Congenital anomalies of musculoskeletal system754-756	543	431	92	13.4	13.5	13.7
Down's syndrome758.0	93	72	18	2.3	2.3	*
Other chromosomal anomalies758.1-758.9	897	713	135	22.2	22.3	20.1
All other and unspecified congenital anomalies744,757,759	678	522	125	16.8	16.4	18.6
Certain conditions originating in the perinatal period760-779	18,564	11,181	6,907	459.4	350.2	1,026.1
Newborn affected by maternal conditions which may be unrelated to present pregnancy760	199	104	87	4.9	3.3	12.9
Newborn affected by maternal complications of pregnancy761	1,534	987	516	38.0	30.9	76.7
Newborn affected by complications of placenta, cord, and membranes762	984	672	288	24.4	21.1	42.8
Newborn affected by other complications of labor and delivery763	68	41	24	1.7	1.3	3.6
Slow fetal growth and fetal malnutrition764	30	22	7	0.7	0.7	*
Disorders relating to short gestation and unspecified low birthweight765	3,931	1,981	1,867	97.3	62.1	277.4
Disorders relating to long gestation and high birthweight766	1	1	-	*	*	*
Birth trauma767	222	147	70	5.5	4.6	10.4
Intrauterine hypoxia and birth asphyxia768	725	466	227	17.9	14.6	33.7
Fetal distress in liveborn infant768.2-768.4	193	131	50	4.8	4.1	7.4
Birth asphyxia768.5-768.9	532	335	177	13.2	10.5	26.3
Respiratory distress syndrome769	3,631	2,384	1,159	89.9	74.7	172.2
Other respiratory conditions of newborn770	3,344	2,013	1,238	82.8	63.1	183.9
Infections specific to the perinatal period771	892	571	300	22.1	17.9	44.6
Neonatal hemorrhage772	263	168	89	6.5	5.3	13.2
Hemolytic disease of newborn, due to isoimmunization, and other perinatal jaundice773-774	37	22	15	0.9	0.7	*
Syndrome of "infant of a diabetic mother" and neonatal diabetes mellitus775.0-775.1	10	8	2	*	*	*
Hemorrhagic disease of newborn776.0	3	-	3	*	*	*
All other and ill-defined conditions originating in the perinatal period775.2-775.9,776.1-779	2,690	1,594	1,015	66.6	49.9	150.8
Symptoms, signs, and ill-defined conditions780-799	6,627	4,323	2,017	164.0	135.4	299.6
Sudden infant death syndrome798.0	5,634	3,773	1,617	139.4	118.2	240.2
Symptoms, signs, and all other ill-defined conditions780-797,798.1-799	993	550	400	24.6	17.2	59.4

See footnote at end of table.

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

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

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

¹Includes races other than white and black.

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

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

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

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

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

Race, sex, and area	Total deaths		Infant deaths (under 1 year)		Neonatal deaths (under 28 days)	
	Number	Rate ¹	Number	Rate ²	Number	Rate ²
United States	2,150,466	866.3	39,655	9.8	25,168	6.2
Male	1,114,190	921.0	22,361	10.8	14,059	6.8
Female	1,036,276	814.3	17,294	8.8	11,109	5.6
White	1,853,841	887.2	25,794	8.1	16,428	5.1
Male	950,852	930.2	14,760	9.0	9,273	5.7
Female	902,989	846.0	11,034	7.1	7,155	4.6
All other	296,625	755.2	13,861	16.3	8,740	10.3
Male	163,338	870.8	7,601	17.6	4,786	11.1
Female	133,287	649.5	6,260	15.0	3,954	9.5
Black	267,642	872.9	12,527	18.6	8,021	11.9
Male	146,393	1,006.5	6,842	20.0	4,387	12.8
Female	121,249	752.4	5,685	17.2	3,634	11.0
New England	115,965	888.9	1,618	8.1	1,133	5.7
Maine	11,185	915.3	129	7.4	89	5.1
New Hampshire	8,472	765.3	142	8.0	89	5.0
Vermont	4,586	808.8	59	6.9	41	4.8
Massachusetts	53,922	911.9	704	7.7	484	5.3
Rhode Island	9,557	957.6	151	10.2	115	7.8
Connecticut	28,243	872.0	433	8.8	315	6.4
Middle Atlantic	366,845	972.4	5,943	10.2	4,024	6.9
New York	171,679	956.4	3,094	10.6	2,090	7.2
New Jersey	71,455	923.7	1,135	9.3	751	6.2
Pennsylvania	123,711	1,027.5	1,714	10.2	1,183	7.0
East North Central	372,051	879.6	7,012	10.7	4,463	6.8
Ohio	98,375	901.9	1,624	9.9	1,033	6.3
Indiana	49,094	877.8	855	10.2	540	6.5
Illinois	103,366	886.7	2,235	11.7	1,428	7.5
Michigan	78,861	850.4	1,646	11.1	1,071	7.2
Wisconsin	42,355	870.2	652	9.1	391	5.4
West North Central	161,074	902.3	2,288	8.5	1,341	5.0
Minnesota	34,307	788.1	478	7.1	278	4.1
Iowa	27,195	957.6	323	8.3	214	5.5
Missouri	50,426	977.4	771	9.9	462	5.9
North Dakota	5,510	834.8	77	8.0	45	4.7
South Dakota	6,549	915.9	106	9.6	51	4.6
Nebraska	14,800	918.7	192	7.9	108	4.5
Kansas	22,287	886.9	341	8.8	183	4.7
South Atlantic	390,693	906.1	7,531	11.0	4,997	7.3
Delaware	5,843	868.2	127	11.8	92	8.6
Maryland	38,353	817.1	809	10.3	509	6.5
District of Columbia	7,649	1,266.4	270	22.9	188	15.9
Virginia	47,172	773.6	969	10.0	687	7.1
West Virginia	19,558	1,053.2	209	9.4	139	6.3
North Carolina	57,477	874.7	1,156	11.3	775	7.6
South Carolina	29,618	843.3	733	12.8	467	8.1
Georgia	52,258	812.0	1,358	12.3	887	8.0
Florida	132,765	1,047.8	1,900	9.8	1,253	6.5
East South Central	145,242	942.8	2,539	10.9	1,595	6.9
Kentucky	35,398	949.8	494	9.2	283	5.3
Tennessee	45,452	920.1	790	10.8	500	6.8
Alabama	39,006	947.2	755	12.1	502	8.0
Mississippi	25,386	968.6	500	11.6	310	7.2
West South Central	217,006	803.6	4,420	9.5	2,709	5.8
Arkansas	24,647	1,024.4	366	10.2	216	6.0
Louisiana	37,665	859.5	832	11.4	529	7.3
Oklahoma	29,816	924.8	405	8.5	234	4.9
Texas	124,878	735.0	2,817	9.2	1,730	5.6
Mountain	95,293	705.1	2,109	8.9	1,224	5.2
Montana	6,755	838.1	132	11.3	65	5.6
Idaho	7,468	736.5	154	9.7	100	6.3
Wyoming	3,254	685.1	65	9.4	36	5.2
Colorado	21,144	637.4	461	8.7	272	5.2
New Mexico	10,572	691.9	233	8.5	146	5.3
Arizona	28,212	793.4	620	9.2	371	5.5
Utah	9,239	541.2	285	8.0	158	4.4
Nevada	8,649	778.5	159	8.1	76	3.9
Pacific	286,297	747.8	6,195	8.6	3,682	5.1
Washington	36,163	759.6	691	9.2	381	5.1
Oregon	24,918	883.6	368	8.9	208	5.0
California	216,619	745.3	4,869	8.5	2,961	5.2
Alaska	2,095	397.5	107	9.2	50	4.3
Hawaii	6,502	584.7	160	8.3	82	4.2

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

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

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

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

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

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

²Includes races other than white and black.

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

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

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

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

Cause of death (Ninth Revision International Classification of Diseases, 1975)	All races	All other		All races	All other			
		White	Total		White	Black		
Number								
Complications of pregnancy, childbirth, and the puerperium	320	180	140	124	7.9	5.6	16.5	18.4
Pregnancy with abortive outcome	50	21	29	26	1.2	0.7	3.4	3.9
Ectopic pregnancy	34	14	20	19	0.8	*	2.4	*
Spontaneous abortion	3	1	2	–	*	*	*	*
Legally induced abortion	3	1	2	2	*	*	*	*
Illegally induced abortion	–	–	–	–	*	*	*	*
Other pregnancy with abortive outcome	10	5	5	5	*	*	*	*
Direct obstetric causes	241	144	97	85	6.0	4.5	11.4	12.6
Hemorrhage of pregnancy and childbirth	43	30	13	10	1.1	0.9	*	*
Toxemia of pregnancy	58	29	29	27	1.4	0.9	3.4	4.0
Obstructed labor	–	–	–	–	*	*	*	*
Complications of the puerperium	89	60	29	26	2.2	1.9	3.4	3.9
Other direct obstetric causes	51	25	26	22	1.3	0.8	3.1	3.3
Indirect obstetric causes	29	15	14	13	0.7	*	*	*
Delivery in a completely normal case	–	–	–	–	*	*	*	*

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

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

Rank order ¹	Cause of death (Ninth Revision International Classification of Diseases, 1975)	Total deaths	Reported autopsy	
			Number	Percent
...	All causes	2,150,466	247,251	11.5
1	Diseases of heart390-398,402,404-429	733,867	57,359	7.8
2	Malignant neoplasms, including neoplasms of lymphatic and hematopoietic tissues140-208	496,152	19,101	3.8
3	Cerebrovascular diseases430-438	145,551	5,333	3.7
4	Accidents and adverse effectsE800-E949	95,028	47,943	50.5
...	Motor vehicle accidentsE810-E825	47,575	25,031	52.6
...	All other accidents and adverse effectsE800-E807,E826-E949	47,453	22,912	48.3
5	Chronic obstructive pulmonary diseases and allied conditions490-496	84,344	4,137	4.9
6	Pneumonia and influenza480-487	76,550	6,050	7.9
7	Diabetes mellitus.250	46,833	2,158	4.6
8	SuicideE950-E959	30,232	16,917	56.0
9	Chronic liver disease and cirrhosis571	26,694	4,777	17.9
10	Homicide and legal interventionE960-E978	22,909	22,147	96.7
11	Human immunodeficiency virus infection*042-*044	22,082	2,500	11.3
12	Nephritis, nephrotic syndrome, and nephrosis580-589	21,118	1,065	5.0
13	Atherosclerosis440	19,357	541	2.8
14	Septicemia038	19,333	1,676	8.7
15	Certain conditions originating in the perinatal period760-779	18,752	4,301	22.9
...	All other causesResidual	291,664	51,246	17.6

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

Technical notes

Nature and sources of data

Data shown in this report are based on information from all death certificates filed in the 50 States and the District of Columbia. Beginning with data year 1989 the U.S. Standard Certificate of Death was revised (3). Among the major changes were the addition of a new item on educational attainment and changes to improve the medical certification of cause of death. These changes include additional lines to report causes of death as well as more complete instructions with examples for properly completing the cause of death. In addition, for the first time, the U.S. Standard Certificate of Death includes a question on the Hispanic origin of the decedent. A number of States had previously included the Hispanic-origin item on their certificates, resulting in data shown in this report for years prior to 1989.

Mortality statistics are based on information coded by the National Center for Health Statistics (NCHS) from copies of the original certificates received from the State registration offices and on State-coded data provided to NCHS through the Vital Statistics Cooperative Program (VSCP). In 1989 all the States and the District of Columbia participated in this program and submitted part or all of the mortality data for 1989 on computer tape to NCHS. The following 23 States in the VSCP submitted precoded medical data for all deaths on computer tapes: California, Colorado, Florida, Iowa, Kansas, Louisiana, Maine, Maryland, Massachusetts, Michigan, Minnesota, Mississippi, Nebraska, New Hampshire, New York State (excluding New York City), North Carolina, Pennsylvania, South Carolina, Texas, Vermont, Virginia, Washington, and Wisconsin. In addition, two States—Georgia and Indiana—submitted precoded medical data on computer tape for part of the year. NCHS also contracted with Colorado and Kansas to precode medical data for all deaths on computer tape for five States—Alaska, Delaware, Idaho, North Dakota, and Wyoming. Vermont subcontracted with Pennsylvania to code their medical data. The remaining 20 VSCP States, New

York City, and the District of Columbia submitted copies of the original certificates from which NCHS coded the medical data. In addition, Georgia and Indiana submitted copies of the original certificates from which NCHS coded the medical data for part of the year. For 1989 all States submitted precoded demographic data for all deaths.

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

Cause-of-death classification

The mortality statistics presented here were compiled in accordance with the World Health Organization (WHO) regulations, which specify that member nations classify causes of death by the current *Manual of the International Statistical Classification of Diseases, Injuries, and Causes of Death* (4). Causes of death for 1979–89 were classified according to this manual. For earlier years, causes of death were classified according to the revisions then in use—1968–78, Eighth Revision; 1958–67, Seventh Revision; and 1949–57, Sixth Revision. Changes in classification of causes of death due to these revisions may result in discontinuities in cause-of-death trends. Consequently, cause-of-death comparisons between revisions require consideration of comparability ratios and, where available, estimates of their standard errors. Comparability ratios between the Eighth and Ninth Revisions, between the Seventh and Eighth Revisions, and between the Sixth and Seventh Revisions may be found in other NCHS reports (5–7).

Besides specifying the classification, WHO regulations outline the form of medical certification and the procedures to be used in coding cause of death. Cause-of-death data presented in this publication were coded by procedures outlined in annual issues of the *NCHS Instruction Manual* (8).

In this report tabulations of cause-of-death statistics are based solely on

the underlying cause of death. The underlying cause is defined by WHO as the disease or injury that initiated the train of events leading directly to death or as the circumstances of the accident or violence that produced the fatal injury. It is selected from the conditions entered by the physician in the cause-of-death section of the death certificate. When more than one cause or condition is entered by the physician, the underlying cause is determined by the sequence of conditions on the certificate, provisions of the International Classification of Diseases (ICD), and associated selection rules. In general, more medical information is reported on death certificates than is directly reflected in the underlying cause of death.

Codes for HIV infection

Beginning with data for 1987, NCHS introduced category numbers *042–*044 for classifying and coding Human immunodeficiency virus (HIV) infection. The asterisk before the category numbers indicates that these codes are not part of the Ninth Revision of the International Classification of Diseases (ICD-9). Deaths classified to HIV infection for 1988 and 1989 are shown in table 14. They are included, but not shown separately, in the category All other infectious and parasitic diseases in the List of 72 Selected Causes of Death and in the category Remainder of infectious and parasitic diseases in the List of 61 Selected Causes of Infant Death. Prior to 1987, deaths involving HIV infection were classified to Deficiency of cell-mediated immunity (ICD-9 No. 279.1), contained in the category All other diseases; to Pneumocystosis (ICD-9 No. 136.3), contained in the category All other infectious and parasitic diseases; to Malignant neoplasms, including neoplasms of lymphatic and hematopoietic tissues; and to a number of other causes. As a consequence, cause-of-death data beginning with 1987 are not strictly comparable with data for previous years.

For data years 1983–86 acquired immunodeficiency syndrome (AIDS) and HIV infection, when reported on

the death certificate, were assigned to the category Deficiency of cell-mediated immunity (ICD-9 No. 279.1). Because the selection rules for underlying cause of death were developed prior to the identification of AIDS, other conditions mentioned on the death certificate and not category No. 279.1 were often selected as the underlying cause of death during this period. Also, this category was not uniquely specific for HIV conditions. As mentioned in more detail in previous reports for 1984–86 (9–11) the number of death certificates that had mention of conditions coded to ICD-9 No. 279.1 was 2,943 for 1984, 6,040 for 1985, and 10,900 for 1986. It is believed that HIV infection was involved in most of these deaths.

Drug-induced deaths

Causes of death attributable to drug-induced mortality include ICD-9 No. 292, Drug psychoses; No. 304, Drug dependence; Nos. 305.2–305.9, Nondependent use of drugs, not including alcohol and tobacco; Nos. E850–E858, Accidental poisoning by drugs, medicaments and biologicals; Nos. E950.0–E950.5, Suicide by drugs, medicaments and biologicals; No. E962.0, Assault from poisoning by drugs and medicaments; and Nos. E980.0–E980.5, Poisoning by drugs, medicaments and biologicals, undetermined whether accidentally or purposely inflicted. Drug-induced causes exclude accidents, homicides, and other causes indirectly related to drug use.

Alcohol-induced deaths

Causes of death attributable to alcohol-induced mortality include ICD-9 No. 291, Alcoholic psychoses; No. 303, Alcohol dependence syndrome; No. 305.0, Nondependent abuse of alcohol; No. 357.5, Alcoholic polyneuropathy; No. 425.5, Alcoholic cardiomyopathy; No. 535.3, Alcoholic gastritis; Nos. 571.0–571.3, Chronic liver disease and cirrhosis, specified as alcoholic; No. 790.3, Excessive blood level of alcohol; and No. E860, Accidental poisoning by alcohol, not elsewhere classified. Alcohol-induced

causes exclude accidents, homicides, and other causes indirectly related to alcohol use.

Educational attainment

Beginning with the 1989 data year, mortality data on educational attainment are being tabulated from information reported on the death certificate. As a result of the revision of the U.S. Standard Certificate of Death (3), this item was added to the certificates of a large number of States. Mortality data on educational attainment for 1989 are based on deaths to residents of 21 reporting States whose data were at least 90 percent complete on a place-of-occurrence basis. The 21 reporting States are Arizona, California, Colorado, Delaware, Florida, Hawaii, Idaho, Illinois, Iowa, Kansas, Michigan, Minnesota, Missouri, Montana, New Hampshire, Oregon, South Carolina, Utah, Vermont, Wisconsin, and Wyoming.

Quality of reporting of cause of death

One index of the quality of reporting causes of death is the proportion of death certificates coded to the Ninth Revision chapter XVI, Symptoms, signs, and ill-defined conditions (ICD-9 Nos. 780–799). Although there are deaths for which it is not possible to determine the underlying cause, this proportion indicates the care and consideration given to the certification by the medical certifier. It may also be used as a rough measure of the specificity of the medical diagnoses made by the certifier in various areas. In 1989 a record low of 1.25 percent of all reported deaths in the United States were assigned to this category compared with 1.43 percent for 1988. However, trends in the percent of deaths assigned to this category vary by age. Although the percent of deaths from this cause for all ages combined has generally remained stable between 1980 and 1988, a slight increase in the percent occurred for the age group 5–14 years and decreases occurred for all the age groups 55 years and over. However, between 1988 and 1989, the percent decreased for almost all age groups.

Population bases for computing rates

The population used for computing rates shown in this report (furnished by the U.S. Bureau of the Census) represents the population residing in the specified area. Death rates for 1989 are based on population estimates as of July 1, 1989 (12,13). The estimates are based on the 1980 census counts. The 1980 census counts by race were modified to be consistent with U.S. Office of Management and Budget categories and historical categories for death data. The modification procedures are discussed in detail in a report of the U.S. Bureau of the Census (14).

Population estimates used to compute death rates for 1984–89 incorporate new estimation procedures for net migration and net undocumented immigration. Death rates for 1989 are comparable with those for 1984–88 but are not strictly comparable with those of previous years. Although trends in death rates for the total population are not substantially affected, caution should be used in comparing differences in death rates for the period 1984–89 with those of previous years for certain age-race-sex subgroups (9,15).

Infant mortality rates shown in figure 5 and tables E and 22–26 are the most commonly used index for measuring the risk of dying during the first year of life. They are calculated by dividing the number of infant deaths in a calendar year by the number of live births registered for the same period and are presented as rates per 1,000 or per 100,000 live births. Infant mortality rates use the number of live births in the denominator to approximate the population at risk of dying before the first birthday.

In contrast to infant mortality rates based on live births, infant death rates shown in figure 2 and tables A, 2, 5, 9, and 14 are based on the estimated population under 1 year of age. Infant death rates that appear in tabulations of age-specific death rates are calculated by dividing the number of infant deaths in a calendar year by the midyear population of infants under 1 year of age (estimated from births

occurring in the 12-month period ending with June) and are presented as rates per 100,000 population in this age group. Due to differences in the denominators, infant death rates may differ from infant mortality rates.

Race for infant and maternal mortality rates

Changes instituted by NCHS in the way in which live births are tabulated by race beginning with the 1989 data year affect infant and maternal mortality rates by race and their comparability with rates for 1988 and previous years. Because live births comprise the denominator of both infant and maternal mortality rates, changes in the number of live births by race affect the magnitude of the rate, if corresponding changes are not made in the number of infant and maternal deaths (the numerator of the rate). No changes were made in the way in which infant deaths and maternal deaths are tabulated by race that parallel the changes made for live births.

As noted in detail in the "Advance Report of Final Natality Statistics" (16), beginning with the 1989 data year, data on live births are being tabulated primarily by race of mother, as reported directly on the birth certificate. In previous years birth tabulations were by race of child, as determined statistically by an algorithm based on information reported for the mother and father. Briefly, in cases of mixed parentage where only one parent was white, the child was assigned to the other parent's race. When neither parent was white, the child was assigned the race of the father, except if either parent was Hawaiian, the child was assigned to Hawaiian. If race was not reported for one parent, the child was assigned the race of the parent for whom race was given.

The change in the tabulation of live births by race reflects three factors over the past two decades: the topical content of the birth certificate has been expanded to include considerable health and demographic information related to the mother, the increasing incidence of interracial parentage, and

the growing proportion of births for which no information on the father is reported.

Quantitatively, the change in the basis for tabulating live births by race results in more white births and fewer births to the black population and to other races. As a consequence, infant mortality rates and maternal mortality rates under the new classification tend to be lower for white infants and higher for infants of other races than they are when computed by the previous method of tabulating live births by race of child (table I). Although rates under the new classification for white infant and maternal deaths are lower by 1 to 3 percent than under the previous classification, they are 5 percent higher for black infant and maternal deaths. Rates for other races under the new classification are also higher than rates under the previous classification.

The change in the race classification of live births presents challenges to those analyzing infant and maternal mortality data, particularly trend data. To facilitate continuity and ease of interpretation, key published tables for 1989 and 1990, including all trend tables, will show data computed on the basis of live births tabulated by both race of mother and race of child. This will make it possible to distinguish the effects of this change from real changes in the data. The text in this report focuses on live birth data tabulated by race of mother except where trends are discussed. In the latter case the analysis is based on data tabulated by race of child.

Cause-of-death rankings

The cause-of-death rankings shown in figure 4 and tables B-D, 5-7, 17, and 28 are based on the List of 72 Selected Causes of Death and HIV

infection (ICD-9 Nos. *042-*044) the cause-of-death ranking for infants in table 24 is based on the List of 61 Selected Causes of Infant Death and HIV infection. HIV infection was added to the lists of rankable causes effective with data year 1987.

The group titles Major cardiovascular diseases and Symptoms, signs, and ill-defined conditions are not ranked from the List of 72 Selected Causes; Certain conditions originating in the perinatal period and Symptoms, signs, and ill-defined conditions are not ranked from the List of 61 Selected Causes of Infant Death. In addition, category titles that begin with the words "Other" and "All Other" are not ranked to determine the leading causes of death. When one of the titles that represents a subtotal is ranked (for example, Tuberculosis), its component parts are not ranked (in this case, Tuberculosis of respiratory system and Other tuberculosis).

Age-adjusted rates

The age-adjusted rates presented in this report were computed by the direct method, that is, by applying the age-specific death rates for a given cause of death to the standard population distributed by age. The total population as enumerated in 1940 was selected as the standard. By using the same standard population, the rates for the total population and for each race-sex group were adjusted separately. The age-adjusted rates were based on 10-year age groups. It is important not to compare age-adjusted death rates with crude rates.

Random variation

Although the mortality data in this report (except data for 1972) are not subject to sampling error, they may be

Table I. Ratio of infant, neonatal, postneonatal, and maternal mortality rates by race for live births tabulated according to race of mother to those by race for live births tabulated according to race of child: United States, 1989

Race	Infant	Neonatal	Postneonatal	Maternal
Total	1.00	1.00	1.00	1.00
White	0.99	0.98	0.97	0.98
Black	1.05	1.05	1.05	1.05
Other	1.13	1.14	1.13	1.14

affected by random variation in the number of deaths involved. When the number of events is small (perhaps less than 100) and the probability of such an event is small, considerable caution must be observed in interpreting the data. Such infrequent events may be assumed to follow a Poisson probability distribution. For this distribution, a simple approximation may be used to estimate the confidence interval as follows:

If N is the number of registered deaths in the population and R is the corresponding rate, the chances are 19 in 20 (approximate 95-percent confidence interval) that

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

cover the "true" number of events.

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

cover the "true" rate.

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

$$3. \quad 2\sqrt{\frac{R_1^2}{N_1} + \frac{R_2^2}{N_2}}$$

Additional information on random variation may be found in the Technical Appendix of *Vital Statistics of the United States*, vol II (17).

Infant and maternal mortality rates—Comparisons made in the text between infant, neonatal, postneonatal, and maternal mortality rates, unless otherwise specified, are statistically significant at the 0.05 level of significance. Lack of comment in the text about any two rates does not mean that the difference was tested and found not to be significant at this level.

Rates, proportions, and ratios

Beginning in 1989 an asterisk is shown in place of a rate based on 20 or fewer deaths. These rates have a relative standard error of 23 percent or more and are, therefore, considered statistically unreliable. For age-adjusted death rates this criterion is applied to the sum of the age-specific deaths.

Life tables

U.S. abridged life tables are constructed by reference to a standard life table (18).

Hispanic origin

As a result of changes in State death certificates, the reporting areas for mortality data by Hispanic or ethnic origin of decedent expanded beginning in 1989. The number of reporting States increased from 26 States and the District of Columbia in 1988 to 44 States and the District of Columbia in 1989. For 1989 mortality data for the Hispanic-origin population are based on deaths to residents of 44 reporting States and the District of Columbia whose data were at least 90 percent complete on a place-of-occurrence basis and considered to be sufficiently comparable to be used for analysis. The 44 reporting States are Alabama, Alaska, Arizona, Arkansas, California, Colorado, Delaware, Florida, Georgia, Hawaii, Idaho, Illinois, Indiana, Iowa, Kansas, Kentucky, Maine, Massachusetts, Michigan, Minnesota, Mississippi, Missouri, Montana, Nebraska, Nevada, New Jersey, New Mexico, New York (including New York City), North Carolina, North Dakota, Ohio, Oregon, Pennsylvania, Rhode Island, South Carolina, South Dakota, Tennessee, Texas, Utah, Vermont, Washington, West Virginia, Wisconsin, and Wyoming.

Infant mortality rates for Hispanic-origin population are based on numbers of resident infant deaths reported to be of Hispanic origin and

numbers of resident live births by Hispanic origin of mother for 43 reporting States and the District of Columbia. The 43 States are Alabama, Alaska, Arizona, Arkansas, California, Colorado, Delaware, Florida, Georgia, Hawaii, Idaho, Illinois, Indiana, Iowa, Kansas, Kentucky, Maine, Massachusetts, Michigan, Minnesota, Mississippi, Missouri, Montana, Nebraska, Nevada, New Jersey, New Mexico, New York (including New York City), North Carolina, North Dakota, Ohio, Oregon, Pennsylvania, South Carolina, South Dakota, Tennessee, Texas, Utah, Vermont, Washington, West Virginia, Wisconsin, and Wyoming. In computing infant mortality rates, deaths and live births of unknown origin are not distributed among the specified Hispanic and non-Hispanic groups. Because the percent of infant deaths of unknown origin was 2.6 percent, and the percent of live births of unknown origin was 1.1 percent in the reporting area for 1989, infant mortality rates by specified Hispanic origin and race for non-Hispanic origin may be somewhat underestimated.

Small numbers of infant deaths for specific Hispanic-origin groups can result in infant mortality rates subject to relatively large random variation (see the section, "Random variation").

In 1980 the 43 and the 44 reporting States and the District of Columbia accounted for about 97 percent of the Hispanic population in the United States, including about 99 percent of the Mexican population, 94 percent of the Puerto Rican population, 97 percent of the Cuban population, and 94 percent of the "Other Hispanic" population (19).

Computation of percent distributions

Deaths of persons of unknown marital status and unknown educational attainment were subtracted from figures for total deaths used as denominators before percent distributions were computed.

This report represents summary tabulations from the final mortality statistics for 1989. More detailed tabulations for 1989 will be published in *Vital Statistics of the United States, 1989* Volume II – Mortality. Prior to the publication of that volume, the National Center for Health Statistics will respond to requests for unpublished data whenever possible.

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