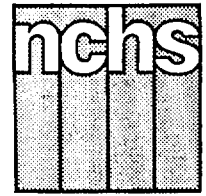


# Monthly Vital Statistics Report



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

## Advance Report of Final Mortality Statistics, 1990

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### Highlights

In 1990, 2,148,463 deaths were registered in the United States, 19,536 fewer than the record high number of 2,167,999 deaths recorded in 1988 and

2,003 fewer deaths than in 1989. The death rate for 1990 was 863.8 deaths per 100,000 population, 1 percent below the rate of 871.3 in 1989 and 3 percent below the rate in 1988. Provisional data for 1991 suggest that the death rate continued to decline.

The age-adjusted death rate, which eliminates the effects of the aging of the population, was at a record low of 520.2 per 100,000 population, 1.5 percent below the 1989 rate of 528.0 and 4 percent below the 1988 rate of 539.9. The age-adjusted rate decreased for the white and black populations between 1989 and 1990. For most of the 10-year age groups for males and all of the age groups for females, death rates declined between 1989 and 1990, but they increased for males aged 15–24 years, 35–44 years, and slightly for those aged 85 years and over. The cause of death contributing most to the increase in death rates for the white population and the black population aged 15–24 years was Homicide and legal intervention; and

for the white population aged 35–44 years, Human immunodeficiency virus infection (HIV infection).

In 1990, life expectancy at birth reached a record high of 75.4 years. The difference in life expectancy for males and females widened 0.2 years in 1990 after narrowing between 1984 and 1989. Women currently are expected to outlive men by an average of 7.0 years. For the white and black populations, life expectancy increased, narrowing the gap between the two race groups from 7.1 in 1989 to 7.0 years in 1990. Although life expectancy for black males increased in 1990 for the first time since 1984, it is still below the peak attained in 1984.

As in previous years, the first four leading causes of death accounted for almost 70 percent of deaths—Diseases of heart; Malignant neoplasms, including neoplasms of lymphatic and hematopoietic tissues (cancer); Cerebrovascular diseases (stroke); and Accidents and adverse effects. Age-adjusted death rates for 7 of the 15

### Acknowledgments

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leading causes of death declined between 1989 and 1990, led by reductions for Atherosclerosis. Heart disease, the leading cause of death in the United States, and stroke, the third leading cause of death, continued their long-term declines. Mortality for Motor vehicle accidents, a component of Accidents and adverse effects, also declined between 1989 and 1990.

Increases in age-adjusted death rates for leading causes of death between 1989 and 1990 were led by HIV infection and Homicide and legal intervention. Mortality from HIV infection, which became the 10th leading cause of death in the United States, increased by 13 percent; and from Homicide and legal intervention, the 11th leading cause, by 9 percent. Age-adjusted death rates also increased for Suicide (1.8 percent); Pneumonia and influenza (1.4 percent); Diabetes mellitus (0.9 percent); Chronic pulmonary diseases and allied conditions (0.5 percent); and Malignant neoplasms, including neoplasms of lymphatic and hematopoietic tissues (0.4 percent). Among other causes, the age-adjusted death rate for alcohol-induced causes decreased by 1 percent between 1989 and 1990, while the rate for drug-induced causes fell by 12 percent.

The age-adjusted death rate for males was about 74 percent higher than that for females for all causes of death combined. For each of the 15 leading causes of death, male mortality also was higher. The greatest sex differential was for HIV infection, where the age-adjusted rate for males was 8.4 times that for females. The smallest sex differential was for Diabetes mellitus, with a male-to-female ratio of 1.1.

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

were Chronic obstructive pulmonary diseases and allied conditions and Suicide.

In 1990, there were differences in the leading causes of death between the Hispanic and the non-Hispanic white populations in an area comprised of 45 States, New York State (excluding New York City), and the District of Columbia. Although the two leading causes of death—Diseases of heart and cancer—were the same for the two population groups, substantial differences exist in the ranking of other leading causes.

The infant mortality rate (9.2 infant deaths per 1,000 live births) reached a record low in 1990. The decline in the rate occurred for white and black infants. Neonatal mortality rates declined for white infants while postneonatal mortality rates declined for white and black infants. In 1990, the infant mortality rate for black infants remained at more than twice that for white infants. The ratio of black-to-white infant mortality rates has increased since the early 1970's when the mortality rates for black infants was 1.8 times that for white infants.

### Deaths and death rates

Death rates and life table values for 1990 are based on the 1990 census enumeration. All death rates and life table values for 1981–89 contained in this report have been revised, using intercensal population estimates based on the 1990 census of population. Therefore, they are not comparable with the death rates and life table values in previous National Center for Health Statistics (NCHS) reports and publications containing those data for 1981–89 (see Technical notes).

In 1990, a total of 2,148,463 deaths occurred in the United States, 19,536 fewer than in 1988 and 2,003 fewer deaths than in 1989. The 1988 total of 2,167,999 deaths is the largest final number ever recorded. The decrease in the number of deaths between 1989 and 1990 reflects lower mortality for a number of age groups and causes of death. The death rate for 1990, 863.8 per 100,000 population, was 3 percent lower than the rate of 886.7 in 1988.

Provisional data for 1991 suggest that the death rate continued to decline (1).

The age-adjusted death rate of 520.2 deaths per 100,000 population in 1990 was a record low, about 4 percent below the rate of 539.9 for 1988 and 11 percent below the rate for 1980 (figure 1). Age-adjusted death rates show what the level of mortality would be if no changes occurred in the age composition of the population from year to year. Thus, they are better indicators than unadjusted death rates for showing changes in the risk of death over a duration when the age distribution of the population is changing. Also, they are better indicators of risk when comparisons of mortality are being made for sex or race subgroups of the population that have different age compositions. Since 1980, the age-adjusted death rate has decreased every year except 1985 and 1988, years when major influenza outbreaks increased mortality in the United States.

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

Between 1989 and 1990, death rates for both sexes combined declined for all of the 10-year age groups except 15–24 and 35–44 years (table A). The largest decrease (7 percent) occurred for the age group 5–14 years, and the largest increase (2 percent) occurred for those aged 15–24 years.

For the white population, death rates declined between 1989 and 1990 for all age groups except 15–24 and 35–44 years. The largest decrease (6 percent) occurred for those aged 5–14 years, and the largest increase (1 percent) occurred for those aged 35–44 years. For the black population, death rates declined for all age groups except those aged 15–24 and 25–34 years. The largest decline occurred for the age group 1–4 years (6 percent), and the largest increase occurred for those aged 15–24 years (6 percent).

The death rate for males also declined between 1989 and 1990 for all age groups except 15–24, 25–34, 35–44 years, and 85 years and over. The largest increase was for those aged 15–24 years, although the change for males aged 85 years and over was very

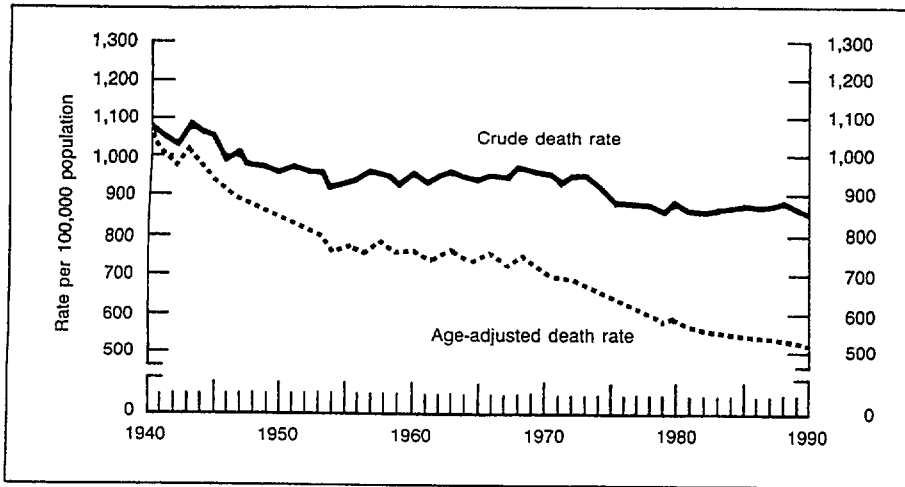


Figure 1. Crude and age-adjusted death rates: United States, 1940–90

Table A. Percent change in death rates between 1989 and 1990 by age, race, and sex: United States

Age	Total	White	Black	Male	Female
Percent change					
All ages	-0.9	-0.6	-1.9	-0.9	-0.8
Under 1 year <sup>1</sup>	-5.4	-5.6	-4.1	-4.5	-6.7
1–4 years	-6.0	-5.9	-5.9	-4.4	-7.9
5–14 years	-6.6	-6.3	-5.2	-6.6	-6.3
15–24 years	1.6	0.2	6.1	3.5	-3.7
25–34 years	-0.6	-1.1	0.6	0.0	-2.0
35–44 years	0.5	1.0	-1.7	0.9	-0.7
45–54 years	-1.4	-1.0	-2.5	-1.9	-0.5
55–64 years	-2.2	-2.1	-2.6	-2.6	-1.7
65–74 years	-1.7	-1.5	-3.1	-1.9	-1.4
75–84 years	-1.3	-1.1	-2.5	-0.9	-1.7
85 years and over	-0.5	-0.5	-0.2	0.2	-0.8

<sup>1</sup>Death rates under 1 year (based on population estimates) differ from infant mortality rates (based on live births); see table E for 1990 infant mortality rates and Technical notes for further discussion of the difference.

small. The increase in death rates between 1989 and 1990 for males aged 35–44 years (0.9 percent) continued the increase begun between 1983 and 1984, a reversal of the downward trend for this age group since the late 1960's (figure 2 and table A). The death rate for males aged 25–34 years was unchanged.

The largest decreases for males were for those aged 5–14 years (7 percent), under 1 year (5 percent), and 1–4 years (4 percent). Death rates for the younger population aged 1–14 years are subject to substantial fluctuation from year to year because of the relatively small number of deaths occurring in these age groups. Death rates at these ages are very low compared with other ages.

For females, death rates declined between 1989 and 1990 for all age

groups. This pattern is consistent with the general downward trend in age-specific rates for females observed since 1950. The largest decreases in death rates between 1989 and 1990 occurred for females aged 1–4 years (8 percent), under 1 year (7 percent), and 5–14 years (6 percent).

Age-adjusted death rates for white males decreased by 1 percent between 1989 and 1990 and for white females by 2 percent. The age-adjusted death rate decreased by 2 percent for black males and females. Age-adjusted death rates have decreased almost every year since 1980 for white males and females, resulting in record low rates in 1990. Rates increased from 1985 through 1989 for black males before decreasing in 1990. Rates for black females have fluctuated since 1979.

In 1990, the age-adjusted death rate for males of all races was 1.7 times that for females. In 1950 the male-to-female ratio was 1.5. The 1970 ratio (1.7) increased to 1.8 during the late 1970's until 1987 when the ratio again declined to 1.7. For 1990, the ratio between male and female age-adjusted death rates was 1.7 for the white population and 1.8 for the black population.

In 1990, the age-adjusted death rate for the black population was 1.6 times that for the white population, the same ratio that has prevailed since 1987. From 1960 through 1986, the ratio was 1.5.

### Expectation of life at birth and at specified ages

In 1990, the average expectation of life at birth reached a record high of 75.4 years. This continued the general upward trend in life expectancy in the United States.

The expectation of life at birth for 1990 represents the average number of years that a group of infants would live if the infants were to experience throughout life the age-specific death rates prevailing in 1990. In 1990 life expectancy for females was 78.8 years compared with 71.8 years for males; both figures represent increases over 1989. The difference in life expectancy between the sexes was 7.0 years in 1990, higher than the difference of 6.8 years in 1989. Historically, the difference in life expectancy between the sexes has narrowed since 1979, in contrast to widening from 1900 to 1972 (table 4). The difference was 6.8 years in 1989 compared with 7.1 in 1984, 7.8 years in 1975, 7.7 and 7.8 years throughout the period 1972–79, 6.5 years in 1960, and 2.0 years in 1900.

Between 1989 and 1990, life expectancy for the white population increased from 75.9 years to a record high of 76.1, and for the black population from 68.8 years to 69.1 years. Although the difference in life expectancy between the white and black populations narrowed from 7.6 years in 1970 to 5.7 years in 1982, it increased to 7.1 years in 1989 before declining to 7.0 years in 1990. Although life expectancy for black males increased

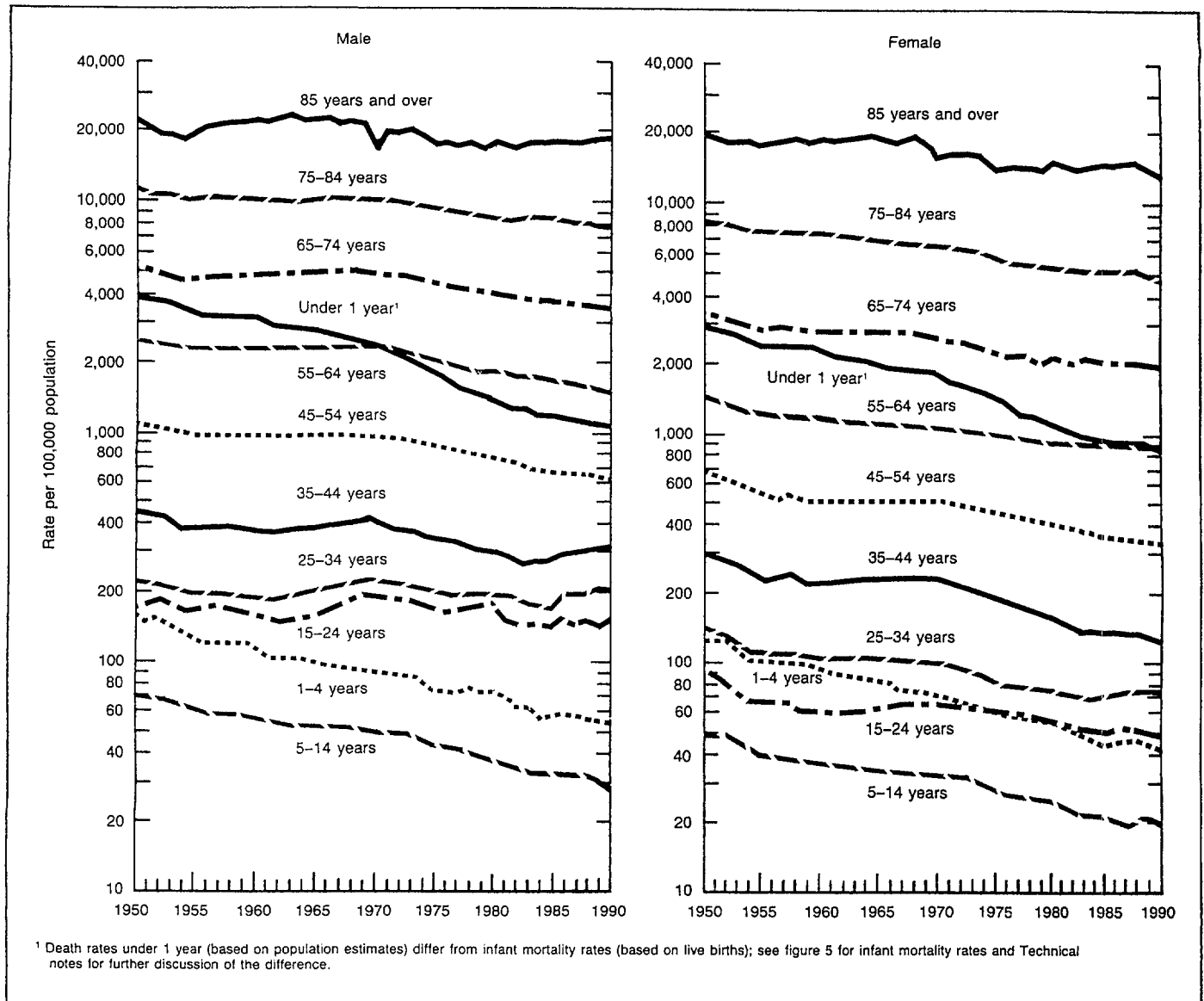


Figure 2. Death rates by age and sex: United States, 1950-90

for the first time since 1984, it is still 0.8 years below the peak life expectancy of 65.3 years attained in 1984.

Among the four race-sex groups, white females continued to have the highest life expectancy at birth (79.4 years), followed by black females (73.6 years), white males (72.7 years), and black males (64.5) (figure 3). Between 1989 and 1990, life expectancy increased for black males (from 64.3 years in 1989 to 64.5 years in 1990) and for black females (from 73.3 in 1989 to 73.6 in 1990). Before 1990, life expectancy for black males declined every year from 1984 through 1989. Life expectancy for black females has fluctuated since 1982, showing no clear trend. Overall, the largest gain in life

expectancy between 1980 and 1990 was for white males (2.0 years), followed by white females (1.3 years), black females (1.1 years), and black males (0.7 years).

The 1990 life table may be used to compare life expectancies at any age from birth onward. For example, a person who has reached age 65 years may look forward to living to an older age, on the average, than one who has reached 50 years. On the basis of mortality experienced in 1990, a person aged 50 years could expect to live an average of 29.0 more years for a total of 79.0 years, and a person aged 65 years could expect to live an average of 17.2 more years for a total of 82.2 years.

## Cause of death

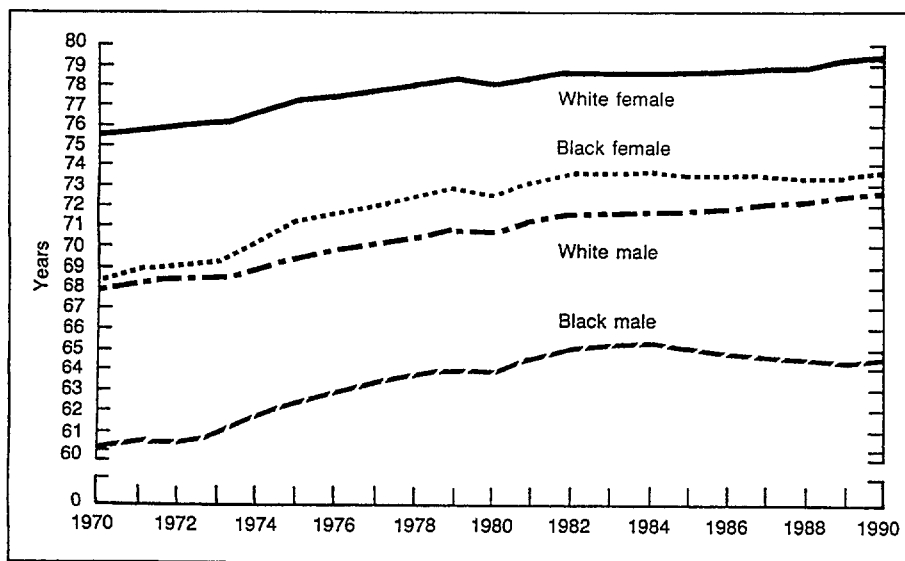
Deaths assigned to the 15 leading causes accounted for 86 percent of the total number of deaths in 1990 (table B). (For ranking procedures, see Technical notes.) The ranking of the first 9 of the 15 leading causes of death for 1990 was unchanged from the list based on data for 1989. The other six leading causes of death were the same as for 1989; however, the rankings changed for four of the six. HIV infection, the 11th leading cause in 1989, increased to 10th in 1990. Septicemia, the 14th leading cause in 1989, increased to 13th in 1990. Nephritis, nephrotic syndrome, and nephrosis and

**Table B. Death rates and percent of total deaths for the 15 leading causes of death: United States, 1990**

[Rates per 100,000 population]

Rank order <sup>1</sup>	Cause of death (Ninth Revision International Classification of Diseases, 1975)	Rate	Percent of total deaths
All races, both sexes			
...	All causes . . . . .	863.8	100.0
1	Diseases of heart . . . . .	289.5	33.5
2	Malignant neoplasms, including neoplasms of lymphatic and hematopoietic tissues . . . . .	203.2	23.5
3	Cerebrovascular diseases . . . . .	57.9	6.7
4	Accidents and adverse effects . . . . .	37.0	4.3
...	Motor vehicle accidents . . . . .	18.8	2.2
...	All other accidents and adverse effects . . . . .	18.2	2.1
5	Chronic obstructive pulmonary diseases and allied conditions . . . . .	34.9	4.0
6	Pneumonia and influenza . . . . .	32.0	3.7
7	Diabetes mellitus . . . . .	19.2	2.2
8	Suicide . . . . .	12.4	1.4
9	Chronic liver disease and cirrhosis . . . . .	10.4	1.2
10	Human immunodeficiency virus infection . . . . .	10.1	1.2
11	Homicide and legal intervention . . . . .	10.0	1.2
12	Nephritis, nephrotic syndrome, and nephrosis . . . . .	8.3	1.0
13	Septicemia . . . . .	7.7	0.9
14	Atherosclerosis . . . . .	7.3	0.8
15	Certain conditions originating in the perinatal period . . . . .	7.1	0.8
...	All other causes . . . . .	116.9	13.5

<sup>1</sup>Rank based on number of deaths; see Technical notes.



**Figure 3. Life expectancy by sex: United States, 1970-90**

Certain conditions originating in the perinatal period retained the same ranks. Homicide and legal intervention decreased in rank from 10th to 11th, and Atherosclerosis decreased from 13th to 14th.

Trends in mortality based on age-adjusted death rates are shown in figure 4 and table C for 14 of the 15 leading causes. Because deaths from Certain conditions originating in the perinatal period occur mainly among

infants under 1 year, age-adjusted rates for this cause are not discussed.

For seven of the leading causes of death, the age-adjusted death rates decreased between 1989 and 1990 (table C). These causes were Diseases of heart; Cerebrovascular diseases; Accidents and adverse effects; Chronic liver disease and cirrhosis; Nephritis, nephrotic syndrome, and nephrosis; Septicemia; and Atherosclerosis. The largest decline was for Atherosclerosis

(10 percent). The declines for Diseases of heart, Cerebrovascular diseases, and Atherosclerosis are consistent with the generally downward trends observed since 1950. Accidents and adverse effects has exhibited a general downward trend since 1968, while Chronic liver disease and cirrhosis has exhibited a downward trend since 1973. Death rates for Pneumonia and influenza increased slightly (1.4 percent) in 1990, a year of excess influenza-associated mortality in the elderly (2). Pneumonia and influenza, which had a general downward trend for 1969-82, has shown an upward trend since the early 1980's, marked by the periodic effects of outbreaks that have occurred each year (except 1987) since 1982. Septicemia decreased in 1989 and 1990, in contrast to the upward trend since 1950.

Increases in the age-adjusted death rates between 1989 and 1990 occurred for seven of the leading causes of death—Malignant neoplasms, including neoplasms of lymphatic and hematopoietic tissues; Chronic obstructive pulmonary diseases and allied conditions; Pneumonia and influenza; Diabetes mellitus; Suicide; HIV infection; and Homicide and legal intervention. The largest increase for 1990, 13 percent, was for HIV infection, which showed a smaller increase than in 1989 (30 percent) or in 1988 (22 percent). The age-adjusted death rate for Diabetes mellitus showed a much smaller increase for 1990 (1.0 percent) compared to the 14 percent increase in 1989. Diabetes mortality decreased from the late 1960's throughout the 1970's and remained at a plateau until 1988. The age-adjusted death rate for Homicide and legal intervention increased by 9 percent between 1989 and 1990, but the rate was still 6 percent lower than the record high of 1980. The age-adjusted death rate for Chronic obstructive pulmonary diseases and allied conditions increased slightly between 1989 and 1990 (1 percent), continuing the long-term upward trend for this cause of death. There continued to be a large decrease in the age-adjusted death rate for Atherosclerosis; a decrease of 10 percent

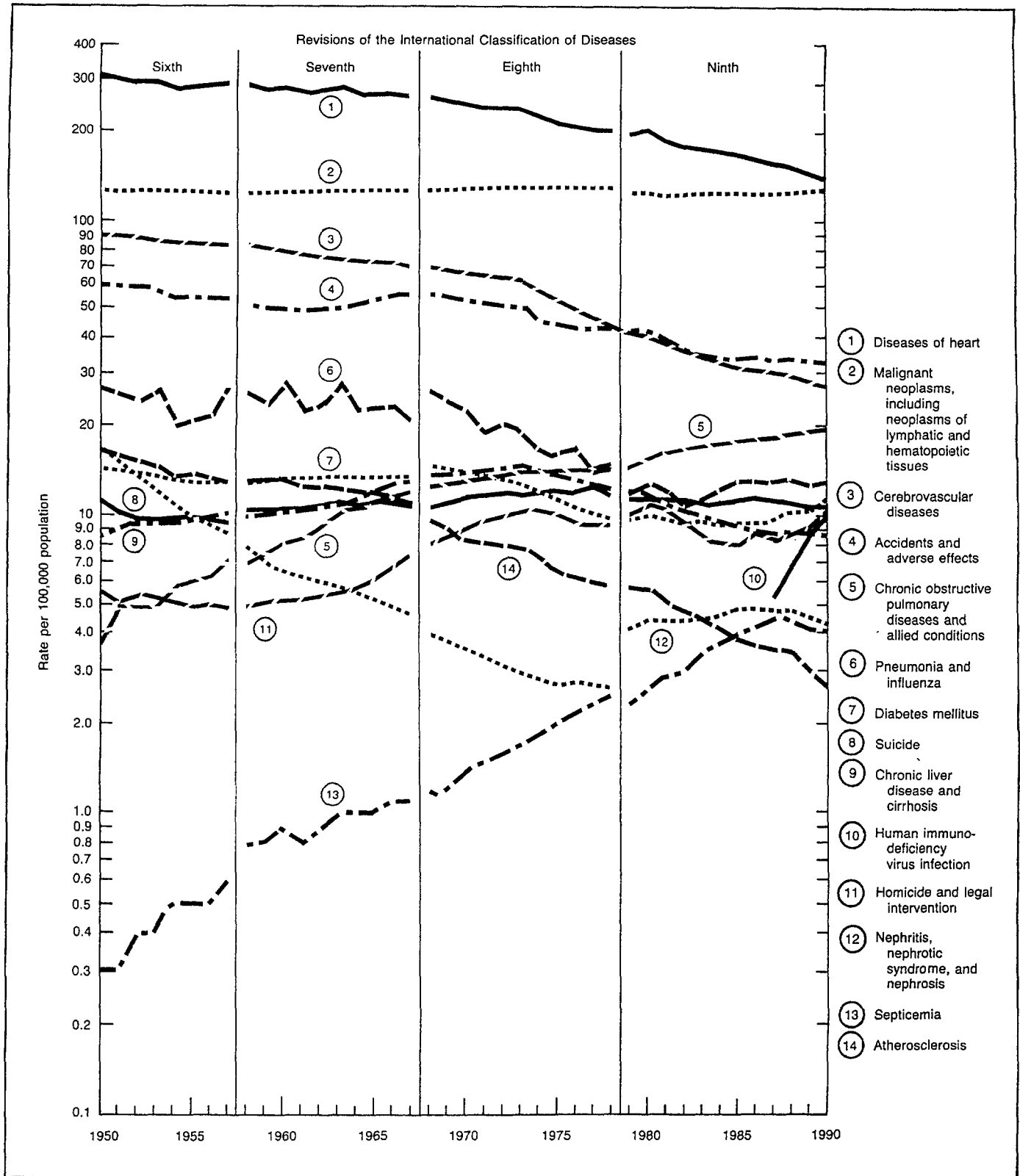


Figure 4. Age-adjusted rates for 14 of the 15 leading causes of death: United States, 1950–90

**Table C. Age-adjusted death rates for 1990 and percent changes in age-adjusted death rates for the 15 leading causes of death from 1989 to 1990 and 1979 to 1990: United States**

[Rates per 100,000 population]

Rank order <sup>1</sup>	Cause of death (Ninth Revision International Classification of Diseases, 1975)	Age-adjusted death rates for 1990	Percent change from—	
			1989 to 1990	1979 to 1990
...	All causes . . . . .	520.2	-1.5	-9.8
1	Diseases of heart . . . . .	152.0	-3.5	-23.8
2	Malignant neoplasms, including neoplasms of lymphatic and hematopoietic tissues . . . . .	135.0	0.4	3.2
3	Cerebrovascular diseases . . . . .	27.7	-2.1	-33.4
4	Accidents and adverse effects . . . . .	32.5	-4.1	-24.2
...	Motor vehicle accidents . . . . .	18.5	-4.1	-20.3
...	All other accidents and adverse effects . . . . .	14.0	-6.7	-28.6
5	Chronic obstructive pulmonary diseases and allied conditions . . . . .	19.7	0.5	34.9
6	Pneumonia and influenza . . . . .	14.0	1.4	25.0
7	Diabetes mellitus . . . . .	11.7	0.9	19.4
8	Suicide . . . . .	11.5	1.8	-1.7
9	Chronic liver disease and cirrhosis . . . . .	8.6	-4.4	-28.3
10	Human immunodeficiency virus infection . . . . .	9.8	12.6	...
11	Homicide and legal intervention . . . . .	10.2	8.5	...
12	Nephritis, nephrotic syndrome, and nephrosis . . . . .	4.3	-4.4	...
13	Septicemia . . . . .	4.1	-2.4	78.3
14	Atherosclerosis . . . . .	2.7	-10.0	-52.6
15	Certain conditions originating in the perinatal period <sup>2</sup> . . . . .	...	-8.5	-37.0

<sup>1</sup>Rank based on number of deaths; see Technical notes.

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

occurred between 1989 and 1990, although it was not as large as the decrease of 14 percent between 1988 and 1989. The very large decrease in mortality for Atherosclerosis and the very large increase for Diabetes mellitus that occurred between 1988 and 1989 may reflect in part changes in the way in which physicians report causes of death on the death certificate (3).

Mortality levels for each of the 15 leading causes of death were higher for males than for females (table D). Ten of the leading causes of death showed differentials in which death rates for males were at least 1.5 times those for females. The age-adjusted death rate for HIV infection, in which the death rate for males was 8.4 times that for females, was the largest differential. Other large differentials were for Suicide (4.2); Homicide and legal intervention (3.9); Accidents and adverse effects (2.7); Chronic liver disease and cirrhosis (2.3); Diseases of heart and Chronic obstructive pulmonary diseases and allied conditions (1.9 each); Pneumonia and influenza (1.7); Nephritis, nephrotic syndrome, and nephrosis (1.5); and Malignant neoplasms, including neoplasms of lymphatic and hematopoietic tissues

(1.5). The smallest sex difference in mortality was for Diabetes mellitus, with a male-to-female ratio of 1.1.

For females, the age-adjusted death rate for all causes combined decreased by 2 percent between 1989 and 1990. Decreases in rates occurred for six of the leading causes of death—

Atherosclerosis, Accidents and adverse effects, Chronic liver disease and cirrhosis, Diseases of heart, Septicemia, and Cerebrovascular diseases. Increases in rates occurred for five leading causes led by HIV infection; Homicide and legal intervention; Pneumonia and influenza; Diabetes mellitus; and Malignant neoplasms, including neoplasms of lymphatic and hematopoietic tissues. Rates for three causes were unchanged—Chronic obstructive pulmonary diseases and allied conditions; Suicide; and Nephritis, nephrotic syndrome, and nephrosis. Among the leading causes of death, HIV infection had the largest percent increase in age-adjusted rates between 1989 and 1990 for women, 16.7 percent.

For males, the age-adjusted death rate for all causes combined declined by 1 percent between 1989 and 1990. Decreases occurred in the rates for six of the leading causes of death—Atherosclerosis; Chronic liver disease and cirrhosis; Nephritis, nephrotic syndrome, and nephrosis; Accidents and adverse effects; Diseases of heart; and Cerebrovascular diseases. Increases in the age-adjusted death rate occurred for HIV infection; Homicide and legal intervention; Pneumonia and influenza; Suicide; Chronic obstructive pulmonary diseases and allied conditions;

**Table D. Ratio of age-adjusted death rates for the 15 leading causes of death by sex and race: United States, 1990**

Rank order <sup>1</sup>	Cause of death, race, and sex (Ninth Revision International Classification of Diseases, 1975)	Ratio of—	
		Male to female	Black to white
...	All causes . . . . .	1.74	1.60
1	Diseases of heart . . . . .	1.90	1.45
2	Malignant neoplasms, including neoplasms of lymphatic and hematopoietic tissues . . . . .	1.48	1.38
3	Cerebrovascular diseases . . . . .	1.18	1.90
4	Accidents and adverse effects . . . . .	2.66	1.25
...	Motor vehicle accidents . . . . .	2.46	0.99
...	All other accidents and adverse effects . . . . .	3.01	1.61
5	Chronic obstructive pulmonary diseases and allied conditions . . . . .	1.85	0.84
6	Pneumonia and influenza . . . . .	1.68	1.48
7	Diabetes mellitus . . . . .	1.11	2.38
8	Suicide . . . . .	4.22	0.57
9	Chronic liver disease and cirrhosis . . . . .	2.30	1.71
10	Human immunodeficiency virus infection . . . . .	8.43	3.21
11	Homicide and legal intervention . . . . .	3.88	6.69
12	Nephritis, nephrotic syndrome, and nephrosis . . . . .	1.50	3.00
13	Septicemia . . . . .	1.40	2.71
14	Atherosclerosis . . . . .	1.33	1.15
15	Certain conditions originating in the perinatal period <sup>2</sup> . . . . .	1.25	3.10

<sup>1</sup>Rank based on number of deaths; see Technical notes.

<sup>2</sup>Inasmuch as deaths from these causes occur mainly among infants, ratios are based on infant mortality rates instead of age-adjusted death rates.

Diabetes mellitus; and Malignant neoplasms, including neoplasms of lymphatic and hematopoietic tissues. For males, the largest increase was for HIV infection (12 percent). Between 1989 and 1990 the age-adjusted death rate for Motor vehicle accidents continued the decline observed between 1988 and 1989. The increase in the death rate for males aged 15–24 years between 1989 and 1990 was principally due to a 23-percent increase for Homicide and legal intervention for this age group (from 26.8 to 32.9 per 100,000 population). For males aged 35–44 years, the increase was primarily due to a 15-percent increase in death rates due to HIV infection.

Mortality was higher for the black population than for the white population for most of the leading causes (table D). The largest differential was for Homicide and legal intervention, for which the age-adjusted death rate for the black population was 6.7 times that of the white population. Other causes for which the differential was large include HIV infection (3.2); Nephritis, nephrotic syndrome, and nephrosis (3.0); Septicemia (2.7); Diabetes mellitus (2.4); Cerebrovascular diseases (1.9); Chronic liver disease and cirrhosis (1.7); Pneumonia and influenza (1.5); and Diseases of heart (1.5). Age-adjusted rates for the black population were lower than those for the white population for two leading causes of death—Chronic obstructive pulmonary diseases and allied conditions and Suicide.

For the white population, decreases in age-adjusted rates occurred for seven leading causes of death. The largest decrease was for Atherosclerosis (10 percent). Of the leading causes that increased for the white population, the largest increases were for HIV infection (12.7 percent) and Homicide and legal intervention (9.3 percent). The increase in the death rate for the white population aged 15–24 years between 1989 and 1990 was primarily due to an increase in the rate for Homicide and legal intervention (from 8.2 to 9.9) for this age group. For those aged 35–44 years, the increase in the death rate was primarily due to HIV infection.

For the black population, age-adjusted death rates were lower in 1990 than in 1989 for 10 of the leading causes, including Accidents and adverse effects (8.5 percent); Nephritis, nephrotic syndrome, and nephrosis (8.5 percent); Diseases of heart (4.7 percent); Cerebrovascular diseases (4.3 percent); Chronic liver disease and cirrhosis (4.2 percent); Septicemia (4 percent); Atherosclerosis (3.1 percent); Suicide (2.8 percent); Pneumonia and influenza (2.5 percent); and Chronic obstructive pulmonary diseases and allied conditions (1.7 percent). Of the leading causes that increased for the black population, the largest increase was for HIV infection (11.7 percent). Other increases were for Homicide and legal intervention (9.7 percent); Malignant neoplasms, including neoplasms of lymphatic and hematopoietic tissues (1.4 percent); and Diabetes mellitus (1.2 percent). The increase in the death rate for the black population aged 15–24 years between 1989 and 1990 was primarily due to an increase in the rate for Homicide and legal intervention (from 65.4 to 78.2).

#### HIV infection

In 1990, there were 25,188 deaths due to HIV infection, 14 percent more than the 22,082 deaths recorded in 1989. Of these deaths, 64 percent (16,106 deaths) were for white males, 24 percent (6,097 deaths) for black males, 6 percent (1,633 deaths) for black females, and 5 percent (1,149 deaths) for white females (table 14). The largest numbers for males and females were for age groups 25–34 and 35–44 years. Although the numbers of deaths were greatest for white males, the age-adjusted death rates and almost all age-specific death rates were highest for black males, followed by white males, black females, and white females.

Overall, HIV infection was ranked as the 10th leading cause of death in 1990. For the black population it ranked 7th, and for the white population it ranked 10th among the leading causes of death. For males of all races combined, HIV infection was the eighth leading cause of death; for

females it did not rank among the 10 leading causes.

By age, HIV infection ranked among the 10 leading causes for ages 1–4, 5–14, 15–24, 25–44, and 45–64 years. HIV infection ranked 8th for ages 1–4 years, 10th for ages 5–14 years, 6th for ages 15–24 years, 3rd for ages 25–44 years, 10th for ages 45–64 years. Although HIV infection was the 8th leading cause for ages 1–4 years, the number of deaths due to this cause was relatively small—123 deaths, or 2 percent of deaths from all causes for that age group.

#### Hispanic deaths

Leading causes of death for all age groups combined for the Hispanic population differ from those for the non-Hispanic white population in an area comprised of 45 States, New York State (excluding New York City), and the District of Columbia (table 17) (see Technical notes). Although the two leading causes of death—Diseases of heart and Malignant neoplasms, including neoplasms of lymphatic and hematopoietic tissues—are the same for both groups, they accounted for three-fifths of all deaths in 1990 for the non-Hispanic white population but for only two-fifths of the deaths for the Hispanic population.

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

Differences in ranking the leading causes of death between the two population groups largely reflect differences in age composition between the two groups; within broad age groups, leading causes are similar. However,



even within age categories some differences exist. Homicide and legal intervention consistently ranked higher for the Hispanic population than for the non-Hispanic white population for all age groups under 45 years. HIV infection for the Hispanic population aged 15–24, 25–44, and 45–64 consistently ranked higher than for the non-Hispanic white population for these same age groups. Diabetes mellitus and Chronic liver disease and cirrhosis ranked higher for Hispanics aged 45–64 years.

### Drug-induced deaths

In 1990, a total of 9,463 persons died of drug-induced causes in the United States (table 18). The category drug-induced causes includes not only deaths from dependent and nondependent use of drugs (legal and illegal use), but also poisoning from medically prescribed and other drugs; it excludes accidents, homicides, and other causes indirectly related to drug use (for drug-induced causes, see Technical notes). The age-adjusted death rate for drug-induced causes in 1990 was 3.6 deaths per 100,000 population. The rate increased by 32 percent from 1983 to 1988, then declined 2 percent in 1989 and 12 percent in 1990. The age-adjusted death rate for drug-induced causes for males was 1.8 times the rate for females, and the rate for the black population was 1.7 times that for the white population.

### Alcohol-induced deaths

In 1990, a total of 19,757 persons died of alcohol-induced causes in the United States (table 19). The category alcohol-induced causes includes not only deaths from dependent and nondependent use of alcohol, but also accidental poisoning by alcohol; it excludes accidents, homicides, and other causes indirectly related to alcohol use (for alcohol-induced causes, see Technical notes). The age-adjusted death rate for alcohol-induced causes in 1990 was 7.2 deaths per 100,000 population, which is lower than the rate of 7.3 for the previous year. The rate decreased by 20 percent from 1980 to 1986, increased by

9 percent from 1986 to 1989, then decreased by 1 percent in 1990. The age-adjusted death rate for alcohol-induced causes for males was 3.4 times the rate for females, and the rate for the black population was 2.6 times the rate for the white population.

### Marital status

About 90 percent of the persons who died in 1990 had been married (table 20). The proportion was larger for females (92 percent) than for males (87 percent) and for the white population (90 percent) than for the black population (81 percent). The proportion who were widowed at the time of death was considerably greater for women (57 percent) than for men (18 percent) but about the same for both major race groups: 38 percent of the white population and 33 percent of the black population.

### Educational attainment

About 55 percent of the persons who died in 1990 had completed high school in an area comprised of 28 States and the District of Columbia (table 21), (see Technical notes). The percent was about the same for males (54 percent) and females (57 percent), and similar for the white population (56 percent) compared to the black population (53 percent). About the same proportion of white females (57 percent) and white males (55 percent) who died in 1990 had completed high school. The proportion who had completed 4 years of college was similar for white females (3.8 percent) and for white males (2.4 percent). A greater proportion of black females (60 percent) had completed high school than black males (51 percent). Slightly more black females (2.9 percent) than black males (1 percent) had completed 4 years of college at the time of death.

### Infant mortality

A change in the tabulation by race of live births beginning with data for 1989 affects infant mortality rates by race, because counts of live births comprise the denominator of infant

mortality rates. The tabulation of race for live births changed from race of child to race of mother (see Technical notes). As a result, infant mortality rates by race for 1989 and 1990 are not comparable with those of previous years. In general, changing the basis for tabulating birth data from race of child to race of mother results in more white births and fewer black births and births of other races. Therefore, infant mortality rates based on live births tabulated by race of mother tend to be lower for white infants and higher for black infants and infants of other races than they are when computed on the basis of live births tabulated by race of child. (For additional detail, see Technical notes.)

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

In 1990, there were 38,351 deaths of infants under 1 year of age, (table E) compared with 39,655 in the previous year. The infant mortality rate of 9.2 infant deaths per 1,000 live births was the lowest final rate ever recorded for the United States; it represented a decline of 6 percent from the rate of 9.8 for the previous year. In 1990, the mortality rate for white infants declined 6 percent (8.1 in 1989, compared with 7.6 in 1990) and for black infants, by 3 percent (18.6 in 1989, compared with 18.0 in 1990).

In 1990, the infant mortality rate for black infants (18.0) was 2.4 times the rate for white infants (7.6), slightly

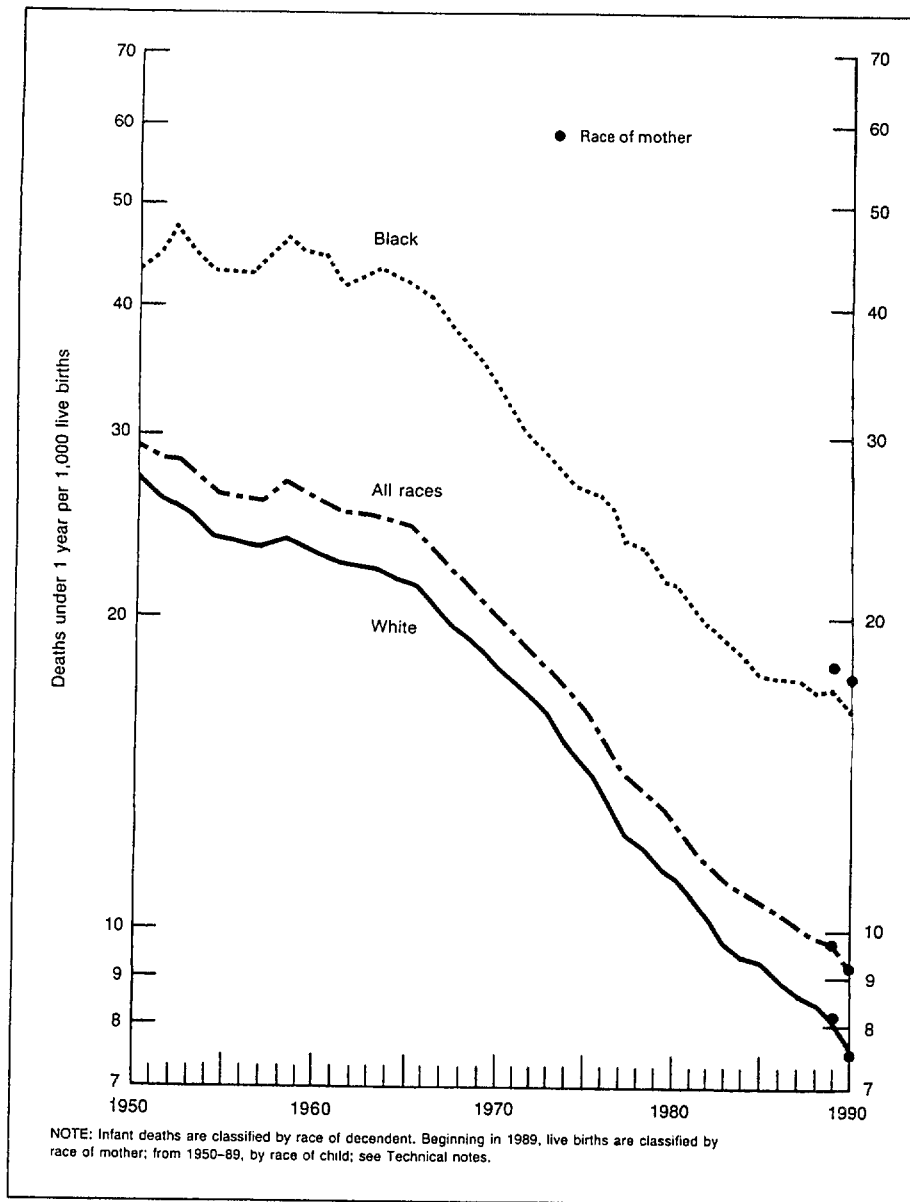


Figure 5. Infant mortality rates by race: United States, 1950-90

Table E. Infant, neonatal, and postneonatal deaths and mortality rates by race and sex: United States, 1990

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

Race and sex	Infant		Neonatal		Postneonatal	
	Number	Rate	Number	Rate	Number	Rate
All races <sup>1</sup>	38,351	922.3	24,309	584.6	14,042	337.7
Male	21,856	1026.3	13,839	649.9	8,017	376.5
Female	16,495	813.1	10,470	516.1	6,025	297.0
White	24,883	756.3	15,751	478.7	9,132	277.5
Male	14,371	851.3	9,075	537.6	5,296	313.7
Female	10,512	656.1	6,676	416.7	3,836	239.4
Black	12,290	1795.9	7,905	1155.1	4,385	640.8
Male	6,811	1962.4	4,405	1269.2	2,406	693.2
Female	5,479	1624.6	3,500	1037.8	1,979	586.8

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

higher than the ratio of 2.3 in the previous year. When based on live births by race of child, the ratio of black-to-white infant mortality in 1990 was 2.2; the ratio has increased since the early 1970's, when it was 1.8.

Between 1989 and 1990, the neonatal mortality rate declined by 6.5 percent, from 6.2 to 5.8 deaths for infants under 28 days per 1,000 live births. For white infants the rate declined from 5.1 to 4.8, while for black infants, the change in the rate between the two successive years was not statistically significant (11.9 in 1989 compared with 11.6 in 1990). Neonatal mortality rates historically have declined for both races—an average annual decrease of 4 percent per year for white infants compared with 3 percent for black infants between 1960 and 1990 by race of child.

The postneonatal mortality rate—deaths to infants 28 days-11 months per 1,000 live births—declined 5.6 percent for 1990 from 3.6 to 3.4 deaths. For white infants the postneonatal mortality rate declined 3 percent, from 2.9 to 2.8 deaths per 1,000 live births, while for black infants the rate declined 4 percent, from 6.7 in 1989 to 6.4 in 1990. This follows the historical trend, by race of child, of more rapid declines in postneonatal mortality for black than for white infants. From 1960 to 1990 postneonatal mortality declined by an average of 3 percent per year for black infants compared with 2 percent for white infants.

Although the list of the 10 leading causes of infant death was unchanged in 1990, the rankings for 2 of the leading causes of infant death changed slightly between 1989 and 1990. Newborn affected by complications of placenta, cord, and membranes increased from the seventh leading cause in 1989 to the sixth. Accidents and adverse effects, the sixth leading cause in 1989, decreased to the seventh. Among the 10 leading causes of infant death, the first 4—Congenital anomalies, Sudden infant death syndrome, Disorders relating to short gestation and unspecified low birthweight, and Respiratory distress syndrome—accounted for just over half (54 percent) of all infant deaths in 1990; and the remaining 6

causes accounted for only 15 percent of all infant deaths.

Between 1989 and 1990, the infant mortality rate decreased for 8 of the 10 leading causes of infant death and increased for the other 2 causes. The largest decreases were for Respiratory distress syndrome (24 percent), Accidents and adverse effects (9 percent), and Sudden infant death syndrome (7 percent). The two increases were for Newborn affected by maternal complications of pregnancy (5 percent) and Intrauterine hypoxia and birth asphyxia (2 percent).

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

Although the difference between black and white infant mortality rates varied by cause, the risk was higher for black than for white infants for all the leading causes. Expressed as the ratio of the infant mortality rate for black infants to that for white infants, the leading causes ranked beginning with the highest ratio are: Disorders relating to short gestation and unspecified low birthweight (4.6); Pneumonia and influenza (3.0); Respiratory distress syndrome and Newborn affected by maternal complications of pregnancy (2.6 each); Infections specific to the perinatal period (2.5); Accidents and adverse effects (2.3); Intrauterine hypoxia and birth asphyxia (2.2); Newborn affected by complications of placenta, cord, and membranes (2.1);

Sudden infant death syndrome (2.1); and Congenital anomalies (1.1).

### Hispanic infant mortality

The infant mortality rate was 7.8 deaths to Hispanic infants under 1 year of age per 1,000 live births in an area comprised of 45 States, New York State (excluding New York City), and the District of Columbia. This was 5 percent higher than the rate of 7.4 for non-Hispanic white infants (table 26). Among specified subgroups of the Hispanic population, the mortality rate for Mexican infants was 7.7 deaths to infants under 1 year of age per 1,000 live births, 10.2 for Puerto Rican infants, and 7.6 for Cuban infants. Infant mortality rates by specified Hispanic origin and race for non-Hispanic origin may be somewhat understated (see Technical notes).

### Maternal mortality

In 1990, 343 women were reported to have died of maternal causes (table F) compared with 320 in 1989. As in previous years, the number does not include all deaths occurring to pregnant women, but only those deaths assigned to Complications of pregnancy, childbirth, and the puerperium (ICD-9 Nos. 630-676). The maternal mortality rate for 1990 was 8.2 deaths per 100,000 live births compared with a rate of 7.9 in 1989. The difference in the rate between the 2 years was not statistically significant.

Black women have a higher risk of maternal death than white women. In 1990, the maternal mortality rate for black women was 22.4, 4.1 times the

rate of 5.4 for white women. The change in the tabulation by race of live births beginning with data for 1989 affects maternal mortality rates by race as it does infant mortality rates, because counts of live births comprise the denominator of maternal mortality rates (see Technical notes).

### Report of autopsy

For 1990, all States requested information on the death certificate as to whether autopsies were performed. They were reported as performed on 239,591 deaths, or 11.2 percent of the deaths that occurred in 1990, a reduction from the 11.5 percent reported for the previous year (table 28). This continues the downward trend in the percent of deaths autopsied. The percent autopsied for all causes of death combined is heavily influenced by the low rates for the three leading causes of death—Diseases of heart (8 percent); Malignant neoplasms, including neoplasms of lymphatic and hematopoietic tissues (4 percent); and Cerebrovascular diseases (4 percent). Among the 15 leading causes of death, the highest percents reported were for traumatic causes—Homicide and legal intervention (97 percent), Suicide (55 percent), and Accidents and adverse effects (50 percent). For nontraumatic causes, the highest percents were for Certain conditions originating in the perinatal period (24 percent), Chronic liver disease and cirrhosis (17 percent), and HIV infection (10 percent).

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**Table F. Maternal deaths and maternal mortality rates by race: United States, 1990**

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

Race	Number	Rate
All races . . . . .	343	8.2
White . . . . .	177	5.4
All other . . . . .	166	19.1
Black . . . . .	153	22.4

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**Table 1. Deaths, death rates, and age-adjusted death rates, by race and sex: United States, 1940, 1950, 1960, 1970, and 1975–90**

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

Year	All races						All other					
	All races			White			Total			Black		
	Both sexes	Male	Female	Both sexes	Male	Female	Both sexes	Male	Female	Both sexes	Male	Female
Number												
1990	2,148,463	1,113,417	1,035,046	1,853,254	950,812	902,442	295,209	162,605	132,604	265,498	145,359	120,139
1989	2,150,466	1,114,190	1,036,276	1,853,841	950,852	902,989	296,625	163,338	133,287	267,642	146,393	121,249
1988	2,167,999	1,125,540	1,042,459	1,876,906	965,419	911,487	291,093	160,121	130,972	264,019	144,228	119,791
1987	2,123,323	1,107,958	1,015,365	1,843,067	953,382	889,685	280,256	154,576	125,680	254,814	139,551	115,263
1986	2,105,361	1,104,005	1,001,356	1,831,083	952,554	878,529	274,278	151,451	122,827	250,326	137,214	113,112
1985	2,086,440	1,097,758	988,682	1,819,054	950,455	868,599	267,386	147,303	120,083	244,207	133,610	110,597
1984	2,039,369	1,076,514	962,855	1,781,897	934,529	847,368	257,472	141,985	115,487	235,884	129,147	106,737
1983	2,019,201	1,071,923	947,278	1,765,582	931,779	833,803	253,619	140,144	113,475	233,124	127,911	105,213
1982	1,974,797	1,056,440	918,357	1,729,085	919,239	809,846	245,712	137,201	108,511	226,513	125,610	100,903
1981	1,977,981	1,063,772	914,209	1,731,233	925,490	805,743	246,748	138,282	108,466	228,560	127,296	101,264
1980	1,989,841	1,075,078	914,763	1,738,607	933,878	804,729	251,234	141,200	110,034	233,135	130,138	102,997
1979	1,913,841	1,044,959	868,882	1,676,145	910,137	766,008	237,696	134,822	102,874	220,818	124,433	96,385
1978	1,927,788	1,055,290	872,498	1,689,722	920,123	769,599	238,066	135,167	102,899	221,340	124,663	96,677
1977	1,899,597	1,046,243	853,354	1,664,100	912,670	751,430	235,497	133,573	101,924	220,076	123,894	96,182
1976	1,909,440	1,051,983	857,457	1,674,989	918,589	756,400	234,451	133,394	101,057	219,442	123,977	95,465
1975	1,892,879	1,050,819	842,060	1,660,366	917,804	742,562	232,513	133,015	99,498	217,932	123,770	94,162
1970	1,921,031	1,078,478	842,553	1,682,096	942,437	739,659	238,935	136,041	102,894	225,647	127,540	98,107
1960	1,711,982	975,648	736,334	1,505,335	860,857	644,478	206,647	114,791	91,856	196,010	107,701	88,309
1950	1,452,454	827,749	624,705	1,276,085	731,366	544,719	176,369	96,383	79,986	169,606	92,004	77,602
1940	1,417,269	791,003	626,266	1,231,223	690,901	540,322	186,046	100,102	85,944	178,743	95,517	83,226
Death rate												
1990	863.8	918.4	812.0	888.0	930.9	846.9	737.9	851.5	634.2	871.0	1,008.0	747.9
1989 <sup>2</sup>	871.3	926.3	818.9	893.2	936.5	851.8	755.2	871.5	649.0	887.9	1,026.7	763.2
1988 <sup>2</sup>	886.7	945.1	831.2	910.5	957.9	865.3	758.6	875.0	652.5	888.3	1,026.1	764.6
1987 <sup>2</sup>	876.4	939.3	816.7	900.1	952.7	849.8	747.0	864.1	640.2	868.9	1,006.2	745.7
1986 <sup>2</sup>	876.7	944.7	812.3	900.1	958.6	844.3	747.3	865.8	639.3	864.9	1,002.6	741.5
1985 <sup>2</sup>	876.9	948.6	809.1	900.4	963.6	840.1	745.0	861.7	638.8	854.8	989.3	734.2
1984 <sup>2</sup>	864.8	938.8	794.7	887.8	954.1	824.6	733.2	849.3	627.6	836.1	968.5	717.4
1983 <sup>2</sup>	863.7	943.2	788.4	885.4	957.7	816.4	737.9	856.9	629.8	836.6	971.2	715.9
1982 <sup>2</sup>	852.4	938.4	771.2	873.1	951.8	798.2	730.7	857.8	615.4	823.4	966.2	695.5
1981 <sup>2</sup>	862.0	954.0	775.0	880.4	965.2	799.8	751.6	885.7	630.0	842.4	992.6	707.7
1980	878.3	976.9	785.3	892.5	983.3	806.1	791.7	936.5	660.6	875.4	1,034.1	733.3
1979	852.2	957.5	752.7	865.2	963.3	771.8	771.0	920.3	635.7	839.3	999.6	695.3
1978	868.0	977.5	764.5	880.2	982.7	782.7	790.0	943.2	651.0	855.1	1,016.8	709.5
1977	864.4	978.9	756.0	874.6	983.0	771.3	798.6	951.7	659.6	864.0	1,026.0	718.0
1976	877.6	993.8	767.6	887.7	997.3	783.1	812.1	969.8	668.6	875.0	1,041.6	724.5
1975	878.5	1,002.0	761.4	886.9	1,004.1	775.1	823.1	987.6	673.1	882.5	1,055.4	726.1
1970	945.3	1,090.3	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 <sup>1</sup>												
1990	520.2	680.2	390.6	492.8	644.3	369.9	686.7	910.2	512.5	789.2	1,061.3	581.6
1989 <sup>2</sup>	528.0	689.3	397.3	499.6	652.2	376.0	703.9	932.5	525.4	805.9	1,082.8	594.3
1988 <sup>2</sup>	539.9	706.1	406.1	512.8	671.3	385.3	710.1	938.2	532.7	809.7	1,083.0	601.0
1987 <sup>2</sup>	539.2	706.8	404.6	513.7	674.2	384.8	702.7	927.8	527.4	796.4	1,063.6	592.4
1986 <sup>2</sup>	544.8	716.2	407.6	520.1	684.9	388.1	706.3	931.6	530.7	796.8	1,061.9	594.1
1985 <sup>2</sup>	548.9	723.0	410.3	524.9	693.3	391.0	709.1	931.8	535.7	793.6	1,053.4	594.8
1984 <sup>2</sup>	548.1	721.6	410.5	525.2	693.6	391.7	703.3	921.4	533.5	783.3	1,035.9	590.1
1983 <sup>2</sup>	552.5	729.4	412.5	529.4	701.6	393.3	710.8	928.6	540.1	787.4	1,037.5	595.3
1982 <sup>2</sup>	554.7	734.2	411.9	532.3	706.8	393.6	708.9	930.7	533.8	782.1	1,035.4	585.9
1981 <sup>2</sup>	568.6	753.8	420.8	544.8	724.8	401.5	734.0	964.1	551.5	807.0	1,068.8	602.7
1980	585.8	777.2	432.6	559.4	745.3	411.1	774.2	1,015.1	582.6	842.5	1,112.8	631.1
1979	577.0	768.6	423.1	551.9	738.4	402.5	757.1	994.8	566.9	812.1	1,073.3	605.0
1978	595.0	791.4	437.4	569.5	761.1	416.4	780.0	1,021.0	585.8	831.8	1,093.9	622.7
1977	602.1	801.3	441.8	575.7	770.6	419.6	796.7	1,036.1	601.8	849.3	1,112.1	639.6
1976	618.5	820.9	455.0	591.3	789.3	432.5	818.5	1,063.4	618.3	870.5	1,138.3	654.5
1975	630.4	837.2	462.5	602.2	804.3	439.0	840.6	1,090.1	634.5	890.8	1,163.0	670.6
1970	714.3	931.6	532.5	679.6	893.4	501.7	983.4	1,231.4	770.8	1,044.0	1,318.6	814.4
1960	760.9	949.3	590.6	727.0	917.7	555.0	1,046.1	1,211.0	893.3	1,073.3	1,246.1	916.9
1950	841.5	1,001.6	688.4	800.4	963.1	645.0	1,225.7	1,358.5	1,095.7	---	---	---
1940	1,076.1	1,213.0	938.9	1,017.2	1,155.1	879.0	1,634.7	1,764.4	1,504.7	---	---	---

<sup>1</sup>For method of computation, see Technical notes.

<sup>2</sup>Rates are revised and, therefore, may differ from those published in *Advance Report of Final Mortality Statistics* for 1989 and earlier years; see Technical notes.

Table 2. Deaths and death rates, by age, race, and sex: United States, 1990

[Rates per 100,000 population in specified group]

Age	All other											
	All races			White			Total			Black		
	Both sexes	Male	Female	Both sexes	Male	Female	Both sexes	Male	Female	Both sexes	Male	Female
	Number											
All ages . . . . .	2,148,463	1,113,417	1,035,046	1,853,254	950,812	902,442	295,209	162,605	132,604	265,498	145,359	120,139
Under 1 year . . . . .	38,351	21,856	16,495	24,883	14,371	10,512	13,468	7,485	5,983	12,290	6,811	5,479
1-4 years . . . . .	6,931	3,969	2,962	4,866	2,784	2,082	2,065	1,185	880	1,768	999	769
5-9 years . . . . .	3,995	2,363	1,632	2,949	1,750	1,199	1,046	613	433	876	512	364
10-14 years . . . . .	4,441	2,764	1,677	3,323	2,070	1,253	1,118	694	424	963	601	362
15-19 years . . . . .	15,711	11,671	4,040	11,678	8,515	3,163	4,033	3,156	877	3,467	2,737	730
20-24 years . . . . .	21,022	16,202	4,820	15,230	11,693	3,537	5,792	4,509	1,283	5,119	3,994	1,125
25-29 years . . . . .	26,579	19,794	6,785	19,018	14,309	4,709	7,561	5,485	2,076	6,838	4,949	1,889
30-34 years . . . . .	33,512	24,263	9,249	23,737	17,522	6,215	9,775	6,741	3,034	8,965	6,220	2,745
35-39 years . . . . .	39,093	27,601	11,492	27,949	20,054	7,895	11,144	7,547	3,597	10,175	6,910	3,265
40-44 years . . . . .	44,469	29,861	14,608	33,074	22,380	10,694	11,395	7,481	3,914	10,356	6,817	3,539
45-49 years . . . . .	51,856	33,097	18,759	39,788	25,485	14,303	12,068	7,612	4,456	10,920	6,931	3,989
50-54 years . . . . .	66,752	41,557	25,195	52,364	32,805	19,559	14,388	8,752	5,636	12,951	7,888	5,063
55-59 years . . . . .	97,865	60,527	37,338	79,196	49,456	29,740	18,669	11,071	7,598	16,852	10,055	6,797
60-64 years . . . . .	154,831	94,119	60,712	129,901	79,857	50,044	24,930	14,262	10,668	22,621	12,938	9,683
65-69 years . . . . .	217,333	128,356	88,977	186,667	111,237	75,430	30,666	17,119	13,547	27,665	15,350	12,315
70-74 years . . . . .	260,616	147,711	112,905	229,536	130,930	98,606	31,080	16,781	14,299	28,022	15,000	13,022
75-79 years . . . . .	301,114	157,873	143,241	269,085	141,699	127,386	32,029	16,174	15,855	28,681	14,235	14,446
80-84 years . . . . .	300,325	137,533	162,792	272,644	124,811	147,833	27,681	12,722	14,959	24,756	11,058	13,698
85 years and over . . . . .	463,105	151,897	311,208	426,982	138,807	288,175	36,123	13,090	23,033	32,047	11,236	20,811
Not stated . . . . .	562	403	159	384	277	107	178	126	52	166	118	48
	Rate											
All ages <sup>1</sup> . . . . .	863.8	918.4	812.0	888.0	930.9	846.9	737.9	851.5	634.2	871.0	1,008.0	747.9
Under 1 year <sup>2</sup> . . . . .	971.9	1,082.8	855.7	795.7	896.1	690.0	1,645.0	1,805.1	1,480.7	1,925.9	2,112.4	1,735.5
1-4 years . . . . .	46.8	52.4	41.0	41.1	45.9	36.1	69.3	78.5	59.9	76.8	85.8	67.6
5-9 years . . . . .	22.2	25.6	18.5	20.3	23.5	17.0	29.6	34.3	24.8	32.3	37.3	27.2
10-14 years . . . . .	26.0	31.6	20.2	24.3	29.5	18.8	33.0	40.4	25.3	36.6	45.2	27.8
15-19 years . . . . .	87.9	127.2	46.4	81.4	115.4	45.4	114.2	176.0	50.5	127.7	199.7	54.3
20-24 years . . . . .	109.9	166.3	51.3	97.4	146.0	46.4	165.8	260.2	72.8	192.8	307.4	83.0
25-29 years . . . . .	124.6	184.9	63.9	107.8	160.3	54.1	204.9	308.9	108.5	246.0	374.2	129.7
30-34 years . . . . .	153.5	223.4	84.3	130.5	191.6	68.7	268.3	392.5	157.6	329.9	489.8	189.6
35-39 years . . . . .	197.0	280.7	114.8	167.8	240.4	95.0	348.9	506.3	211.2	431.3	631.5	258.1
40-44 years . . . . .	252.8	344.2	163.9	220.5	299.3	142.1	440.3	623.4	282.0	550.4	785.5	349.1
45-49 years . . . . .	377.3	491.1	267.8	336.4	435.6	239.4	629.3	857.1	432.9	772.7	1,074.8	519.1
50-54 years . . . . .	590.0	756.5	432.9	537.4	687.3	393.4	917.2	1,215.6	664.1	1,099.9	1,487.5	782.3
55-59 years . . . . .	933.2	1,208.5	681.5	867.3	1,122.9	629.2	1,376.2	1,832.8	1,009.6	1,619.0	2,185.9	1,170.1
60-64 years . . . . .	1,457.2	1,902.7	1,069.1	1,384.8	1,811.2	1,006.6	2,003.0	2,652.6	1,509.0	2,327.8	3,094.1	1,749.1
65-69 years . . . . .	2,159.1	2,847.6	1,600.8	2,077.8	2,748.3	1,528.0	2,834.6	3,721.5	2,178.5	3,218.0	4,256.2	2,467.7
70-74 years . . . . .	3,266.0	4,345.4	2,465.0	3,192.0	4,251.2	2,398.5	3,940.9	5,252.7	3,047.7	4,391.6	5,929.6	3,381.4
75-79 years . . . . .	4,933.9	6,608.6	3,856.7	4,876.2	6,544.8	3,798.8	5,478.9	7,225.9	4,395.0	5,931.5	7,966.1	4,738.9
80-84 years . . . . .	7,682.8	10,143.8	6,376.0	7,645.1	10,129.3	6,333.7	8,075.5	10,289.1	6,826.5	8,587.4	11,243.4	7,212.1
85 years and over . . . . .	15,327.4	18,056.6	14,274.3	15,465.0	18,268.3	14,400.6	13,868.8	16,080.9	12,863.1	14,394.6	16,954.9	13,309.5

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

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

Table 3. Abridged life table for the total population, 1990

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

Age interval  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	0.0093	100,000	927	99,210	7,535,219	75.4
1-5	0.0018	99,073	183	395,863	7,436,009	75.1
5-10	0.0011	98,890	110	494,150	7,040,146	71.2
10-15	0.0013	98,780	127	493,654	6,545,996	66.3
15-20	0.0044	98,653	430	492,290	6,052,342	61.3
20-25	0.0055	98,223	539	489,794	5,560,052	56.6
25-30	0.0062	97,684	607	486,901	5,070,258	51.9
30-35	0.0077	97,077	743	483,571	4,583,357	47.2
35-40	0.0099	96,334	952	479,425	4,099,786	42.6
40-45	0.0126	95,382	1,203	474,117	3,620,361	38.0
45-50	0.0187	94,179	1,759	466,820	3,146,244	33.4
50-55	0.0290	92,420	2,685	455,809	2,679,424	29.0
55-60	0.0457	89,735	4,101	439,012	2,223,615	24.8
60-65	0.0706	85,634	6,044	413,879	1,784,603	20.8
65-70	0.1029	79,590	8,186	378,369	1,370,724	17.2
70-75	0.1519	71,404	10,847	330,846	992,355	13.9
75-80	0.2211	60,557	13,389	270,129	661,509	10.9
80-85	0.3239	47,168	15,276	197,857	391,380	8.3
85 and over	1.0000	31,892	31,892	193,523	193,523	6.1

Table 4. Life expectancy at birth by race and sex: United States, 1940, 1950, 1960, and 1970-90

Year	All other											
	All races			White			Total			Black		
	Both sexes	Male	Female	Both sexes	Male	Female	Both sexes	Male	Female	Both sexes	Male	Female
1990	75.4	71.8	78.8	76.1	72.7	79.4	71.2	67.0	75.2	69.1	64.5	73.6
1989 <sup>1</sup>	75.1	71.7	78.5	75.9	72.5	79.2	70.9	66.7	74.9	68.8	64.3	73.3
1988 <sup>1</sup>	74.9	71.4	78.3	75.6	72.2	78.9	70.8	66.7	74.8	68.9	64.4	73.2
1987 <sup>1</sup>	74.9	71.4	78.3	75.6	72.1	78.9	71.0	66.9	75.0	69.1	64.7	73.4
1986 <sup>1</sup>	74.7	71.2	78.2	75.4	71.9	78.8	70.9	66.8	74.9	69.1	64.8	73.4
1985 <sup>1</sup>	74.7	71.1	78.2	75.3	71.8	78.7	71.0	67.0	74.8	69.3	65.0	73.4
1984 <sup>1</sup>	74.7	71.1	78.2	75.3	71.8	78.7	71.1	67.2	74.9	69.5	65.3	73.6
1983 <sup>1</sup>	74.6	71.0	78.1	75.2	71.6	78.7	70.9	67.0	74.7	69.4	65.2	73.5
1982 <sup>1</sup>	74.5	70.8	78.1	75.1	71.5	78.7	70.9	66.8	74.9	69.4	65.1	73.6
1981 <sup>1</sup>	74.1	70.4	77.8	74.8	71.1	78.4	70.3	66.2	74.4	68.9	64.5	73.2
1980	73.7	70.0	77.4	74.4	70.7	78.1	69.5	65.3	73.6	68.1	63.8	72.5
1979	73.9	70.0	77.8	74.6	70.8	78.4	69.8	65.4	74.1	68.5	64.0	72.9
1978	73.5	69.6	77.3	74.1	70.4	78.0	69.3	65.0	73.5	68.1	63.7	72.4
1977	73.3	69.5	77.2	74.0	70.2	77.9	68.9	64.7	73.2	67.7	63.4	72.0
1976	72.9	69.1	76.8	73.6	69.9	77.5	68.4	64.2	72.7	67.2	62.9	71.6
1975	72.6	68.8	76.6	73.4	69.5	77.3	68.0	63.7	72.4	66.8	62.4	71.3
1974	72.0	68.2	75.9	72.8	69.0	76.7	67.1	62.9	71.3	66.0	61.7	70.3
1973	71.4	67.6	75.3	72.2	68.5	76.1	66.1	62.0	70.3	65.0	60.9	69.3
1972 <sup>2</sup>	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	---	---	---

<sup>1</sup>Life table values are revised and, therefore, may differ from those published in *Advance Report of Final Mortality Statistics* for 1989 and earlier years; see Technical notes.<sup>2</sup>Deaths based on a 50-percent sample.



**Table 5. Age-specific and age-adjusted death rates for the 15 leading causes in 1990 and selected components: United States, 1979, 1989, and 1990**

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

Cause of death (Ninth Revision International Classification of Diseases, 1975)	Year	Age											Age-adjusted rate <sup>3</sup>	
		All ages <sup>1</sup>	Under 1 year <sup>2</sup>	1-4 years	5-14 years	15-24 years	25-34 years	35-44 years	45-54 years	55-64 years	65-74 years	75-84 years		85 years and over
All causes . . . . .	1990	863.8	971.9	46.8	24.0	99.2	139.2	223.2	473.4	1,196.9	2,648.6	6,007.2	15,327.4	520.2
	1989	871.3	1,027.9	49.8	25.7	97.6	140.0	222.2	480.1	1,224.3	2,693.8	6,083.3	15,409.6	528.0
	1979	852.2	1,332.9	64.2	31.5	114.8	133.0	229.8	589.7	1,338.0	2,929.0	6,496.6	14,962.4	577.0
Diseases of heart. . . . .390-398,402,404-429	1990	289.5	20.1	1.9	0.9	2.5	7.6	31.4	120.5	367.3	894.3	2,295.7	6,739.9	152.0
	1989	297.3	20.1	1.9	0.8	2.5	8.0	32.4	125.5	383.0	928.1	2,378.9	6,868.7	157.5
	1979	326.5	20.2	2.1	0.8	2.6	8.4	45.3	184.6	499.0	1,199.8	2,925.2	7,310.9	199.5
Rheumatic fever and rheumatic heart disease . . .390-398	1990	2.4	*	*	*	0.1	0.2	0.7	1.5	4.1	9.0	18.7	29.3	1.5
	1989	2.5	*	*	*	0.1	0.2	0.7	1.6	4.0	9.3	19.5	27.9	1.5
	1979	3.5	*	*	*	0.2	0.4	1.4	3.9	8.0	16.0	20.6	25.2	2.6
Hypertensive heart disease. . . . .402	1990	8.5	*	*	*	*	0.3	1.6	5.6	13.3	26.3	60.9	173.4	4.8
	1989	8.5	*	*	*	*	0.3	1.6	5.8	13.9	26.3	62.7	167.6	4.9
	1979	9.3	*	*	*	*	0.4	1.9	7.0	16.2	35.7	79.6	170.3	6.0
Hypertensive heart and renal disease . . . . .404	1990	1.0	*	*	*	*	0.0	0.1	0.3	1.0	2.8	8.1	22.6	0.5
	1989	1.0	*	*	*	*	0.0	0.1	0.3	0.9	2.7	8.7	24.8	0.5
	1979	1.6	*	*	*	*	*	0.2	0.4	1.4	5.1	16.8	50.9	0.9
Ischemic heart disease . . . . .410-414	1990	196.7	0.7	*	*	0.3	2.5	17.3	77.7	248.6	627.0	1,602.5	4,498.1	102.6
	1989	201.8	0.9	*	*	0.3	2.6	18.0	81.2	259.5	650.0	1,655.2	4,577.2	106.2
	1979	245.5	0.7	*	*	0.3	3.6	30.1	136.1	381.0	926.6	2,224.8	5,376.1	149.7
Acute myocardial infarction . . . . .410	1990	96.1	*	*	*	0.2	1.4	10.0	46.5	144.3	342.1	793.6	1,695.5	53.7
	1989	100.1	*	*	*	0.2	1.5	10.5	48.9	152.5	362.1	829.3	1,737.8	56.5
	1979	133.8	*	*	*	0.2	2.4	21.1	94.6	258.9	577.2	1,135.2	1,916.3	88.2
Other acute and subacute forms of ischemic heart disease . . . . .411	1990	1.3	*	*	*	0.1	0.3	1.3	2.7	4.5	8.6	21.2	0.9	
	1989	1.4	*	*	*	0.1	0.3	1.0	2.7	4.6	8.9	24.2	0.8	
	1979	2.1	*	*	*	0.1	0.5	2.0	4.8	8.2	15.3	30.2	1.5	
Angina pectoris. . . . .413	1990	0.4	*	*	*	*	*	0.1	0.3	1.3	3.6	11.9	0.2	
	1989	0.4	*	*	*	*	*	0.2	0.4	1.3	3.7	11.0	0.2	
	1979	0.2	*	*	*	*	*	0.1	0.3	0.9	2.1	4.6	0.1	
Old myocardial infarction and other forms of chronic ischemic heart disease . . . . .412,414	1990	98.8	*	*	*	0.1	1.0	7.0	29.7	101.3	279.0	796.7	2,769.4	47.8
	1989	99.9	*	*	*	0.1	1.1	7.2	31.1	103.9	282.0	813.2	2,804.2	48.7
	1979	109.4	*	*	*	0.1	1.0	8.4	39.3	117.0	340.3	1,072.2	3,424.9	59.9
Other diseases of endocardium . . . . .424	1990	5.2	*	*	*	0.1	0.3	0.6	1.6	4.5	13.3	46.0	140.2	2.5
	1989	4.9	*	*	*	0.1	0.4	0.7	1.3	4.3	13.0	43.9	128.4	2.4
	1979	2.9	*	*	*	0.1	0.2	0.6	1.5	4.3	11.6	27.5	47.1	1.8
All other forms of heart disease . . . . .415-423,425-429	1990	75.8	18.8	1.8	0.8	1.9	4.3	11.1	33.9	95.8	215.9	559.5	1,876.4	40.1
	1989	78.7	18.6	1.8	0.7	2.0	4.4	11.3	35.3	100.3	226.8	588.9	1,942.9	41.9
	1979	63.7	19.0	2.0	0.7	1.9	3.7	11.0	35.7	88.1	204.8	555.9	1,641.4	38.4
Malignant neoplasms, including neoplasms of lymphatic and hematopoietic tissues. . . . .140-208	1990	203.2	2.3	3.5	3.1	4.9	12.6	43.3	158.9	449.6	872.3	1,348.5	1,752.9	135.0
	1989	201.0	2.8	3.5	3.3	5.0	12.3	43.2	158.9	452.5	867.8	1,326.0	1,703.7	134.5
	1979	179.6	3.4	4.6	4.4	6.1	13.3	48.3	181.4	429.4	800.0	1,207.6	1,522.9	130.8
Malignant neoplasms of lip, oral cavity, and pharynx . . . . .140-149	1990	3.4	*	*	*	0.1	0.2	0.8	3.7	10.1	14.1	17.0	23.1	2.4
	1989	3.3	*	*	*	0.1	0.1	0.8	3.8	10.4	13.6	15.5	20.1	2.4
	1979	3.8	*	*	*	0.1	0.2	1.1	5.6	11.8	16.3	18.1	23.7	3.0
Malignant neoplasms of digestive organs and peritoneum . . . . .150-159	1990	48.6	*	0.2	*	0.3	1.5	7.2	31.6	95.1	203.1	358.6	553.8	30.2
	1989	48.5	*	*	0.1	0.3	1.5	6.9	30.5	96.4	205.9	357.6	550.4	30.3
	1979	48.6	*	*	0.1	0.3	1.8	8.2	36.3	103.9	221.9	388.7	547.8	33.1
Malignant neoplasms of respiratory and intrathoracic organs . . . . .160-165	1990	58.9	*	*	*	0.1	0.8	7.2	48.8	166.5	298.1	344.1	252.9	41.4
	1989	57.6	*	*	*	0.1	0.7	7.3	49.3	165.0	292.1	333.5	238.0	40.8
	1979	45.9	*	*	*	0.1	0.8	9.8	56.0	140.9	231.0	238.1	170.3	35.2

See footnotes at end of table.



Homicide and legal intervention . . . . .E960-E978	1990	10.0	8.4	2.6	1.5	19.9	17.7	11.8	7.6	5.0	3.8	4.3	4.6	10.2
	1989	9.3	8.7	2.7	1.5	16.5	16.5	11.0	7.7	5.1	4.1	4.2	4.4	9.4
	1979	10.0	5.0	2.5	1.1	14.5	18.2	14.3	10.8	7.0	5.4	4.8	5.0	10.2
Nephritis, nephrotic syndrome, and nephrosis . . . .580-589	1990	8.3	3.8	0.2	0.1	0.2	0.5	1.4	2.9	8.2	23.9	69.7	199.1	4.3
	1989	8.6	5.1	*	0.1	0.2	0.6	1.3	2.9	8.8	24.7	72.4	200.8	4.5
	1979	7.0	6.4	0.2	0.2	0.3	0.7	1.5	3.7	8.5	23.7	64.7	155.2	4.3
Septicemia . . . . .038	1990	7.7	6.8	0.7	0.1	0.2	0.7	1.5	3.1	8.0	20.9	60.2	183.7	4.1
	1989	7.8	7.5	0.6	0.1	0.2	0.7	1.7	3.2	8.0	20.5	62.1	190.4	4.2
	1979	3.6	7.6	0.5	0.1	0.2	0.4	0.8	2.2	4.9	12.4	29.7	70.3	2.3
Atherosclerosis. . . . .440	1990	7.3	*	*	*	*	*	0.1	0.6	3.2	12.3	53.2	318.0	2.7
	1989	7.8	*	*	*	*	*	0.1	0.7	3.4	13.1	58.5	347.2	3.0
	1979	12.8	*	*	*	*	*	0.1	0.9	4.8	24.4	125.3	649.1	5.7
Certain conditions originating in the perinatal period . . . . .760-779	1990	7.1	443.0	0.9	0.1	*	*	*	*	*	*	*	*	(4)
	1989	7.6	481.2	0.9	0.1	*	*	*	*	*	*	*	*	(4)
	1979	10.4	680.7	0.6	*	*	*	*	*	*	*	*	*	(4)

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

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

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

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

NOTE: Rates for 1989 have been revised; see Technical notes.

**Table 6. Deaths and death rates for the 10 leading causes of death in specified race-sex groups: United States, 1990**

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

Rank order <sup>1</sup>	Cause of death, race, and sex (Ninth Revision International Classification of Diseases, 1975)	Number	Rate	Rank order <sup>1</sup>	Cause of death, race, and sex (Ninth Revision International Classification of Diseases, 1975)	Number	Rate
All races, both sexes				All other, male—Con.			
...	All causes . . . . .	2,148,463	863.8	6	Human immunodeficiency virus infection . . . . . *042–*044	6,280	32.9
1	Diseases of heart . . . . .390–398,402,404–429	720,058	289.5	7	Pneumonia and influenza . . . . .480–487	4,797	25.1
2	Malignant neoplasms, including neoplasms of lymphatic and hematopoietic tissues . .140–208	505,322	203.2	8	Chronic obstructive pulmonary diseases and allied conditions . . . . .490–496	4,182	21.9
3	Cerebrovascular diseases. . . . .430–438	144,088	57.9	9	Certain conditions originating in the perinatal period . . . . .760–779	4,001	21.0
4	Accidents and adverse effects . . . . .E800–E949	91,983	37.0	10	Diabetes mellitus . . . . .250	3,449	18.1
...	Motor vehicle accidents . . . . .E810–E825	46,814	18.8	...	All other causes . . . . .Residual	33,075	173.2
...	All other accidents and adverse effects . . . . .E800–E807,E826–E949	45,169	18.2	All other, female			
5	Chronic obstructive pulmonary diseases and allied conditions . . . . .490–496	86,679	34.9	...	All causes . . . . .	132,604	634.2
6	Pneumonia and influenza . . . . .480–487	79,513	32.0	1	Diseases of heart . . . . .390–398,402,404–429	41,268	197.4
7	Diabetes mellitus . . . . .250	47,664	19.2	2	Malignant neoplasms, including neoplasms of lymphatic and hematopoietic tissues . .140–208	28,062	134.2
8	Suicide . . . . .E950–E959	30,906	12.4	3	Cerebrovascular diseases. . . . .430–438	10,889	52.1
9	Chronic liver disease and cirrhosis . . . . .571	25,815	10.4	4	Diabetes mellitus . . . . .250	5,519	26.4
10	Human immunodeficiency virus infection . . . . .*042–*044	25,188	10.1	5	Accidents and adverse effects . . . . .E800–E949	4,459	21.3
...	All other causes . . . . .Residual	391,247	157.3	...	Motor vehicle accidents . . . . .E810–E825	2,045	9.8
White, male				...	All other accidents and adverse effects . . . . .E800–E807,E826–E949	2,414	11.5
...	All causes . . . . .	950,812	930.9	6	Pneumonia and influenza . . . . .480–487	3,910	18.7
1	Diseases of heart . . . . .390–398,402,404–429	319,362	312.7	7	Certain conditions originating in the perinatal period . . . . .760–779	3,167	15.1
2	Malignant neoplasms, including neoplasms of lymphatic and hematopoietic tissues . .140–208	232,608	227.7	8	Homicide and legal intervention . . . . .E960–E978	2,322	11.1
3	Accidents and adverse effects . . . . .E800–E949	51,348	50.3	9	Chronic obstructive pulmonary diseases and allied conditions . . . . .490–496	2,318	11.1
...	Motor vehicle accidents . . . . .E810–E825	27,288	26.7	10	Nephritis, nephrotic syndrome, and nephrosis . . . . .580–589	2,209	10.6
...	All other accidents and adverse effects . . . . .E800–E807,E826–E949	24,060	23.6	...	All other causes . . . . .Residual	28,481	136.2
4	Cerebrovascular diseases. . . . .430–438	48,024	47.0	Black, male <sup>2</sup>			
5	Chronic obstructive pulmonary diseases and allied conditions . . . . .490–496	45,234	44.3	...	All causes . . . . .	145,359	1,008.0
6	Pneumonia and influenza . . . . .480–487	32,101	31.4	1	Diseases of heart . . . . .390–398,402,404–429	37,038	256.8
7	Suicide . . . . .E950–E959	22,448	22.0	2	Malignant neoplasms, including neoplasms of lymphatic and hematopoietic tissues . .140–208	31,995	221.9
8	Diabetes mellitus . . . . .250	16,817	16.5	3	Homicide and legal intervention . . . . .E960–E978	9,981	69.2
9	Human immunodeficiency virus infection . . . . .*042–*044	16,106	15.8	4	Accidents and adverse effects . . . . .E800–E949	8,756	60.7
10	Chronic liver disease and cirrhosis . . . . .571	13,889	13.6	...	Motor vehicle accidents . . . . .E810–E825	4,046	28.1
...	All other causes . . . . .Residual	152,875	149.7	...	All other accidents and adverse effects . . . . .E800–E807,E826–E949	4,710	32.7
White, female				5	Cerebrovascular diseases. . . . .430–438	7,653	53.1
...	All causes . . . . .	902,442	846.9	6	Human immunodeficiency virus infection . . . . .*042–*044	6,097	42.3
1	Diseases of heart . . . . .390–398,402,404–429	318,002	298.4	7	Pneumonia and influenza . . . . .480–487	4,161	28.9
2	Malignant neoplasms, including neoplasms of lymphatic and hematopoietic tissues . .140–208	208,977	196.1	8	Certain conditions originating in the perinatal period . . . . .760–779	3,762	26.1
3	Cerebrovascular diseases. . . . .430–438	76,502	71.8	9	Chronic obstructive pulmonary diseases and allied conditions . . . . .490–496	3,628	25.2
4	Pneumonia and influenza . . . . .480–487	38,705	36.3	10	Diabetes mellitus . . . . .250	3,049	21.1
5	Chronic obstructive pulmonary diseases and allied conditions . . . . .490–496	34,945	32.8	...	All other causes . . . . .Residual	29,239	202.8
6	Accidents and adverse effects . . . . .E800–E949	25,586	24.0	Black, female <sup>2</sup>			
...	Motor vehicle accidents . . . . .E810–E825	12,363	11.6	...	All causes . . . . .	120,139	747.9
...	All other accidents and adverse effects . . . . .E800–E807,E826–E949	13,223	12.4	1	Diseases of heart . . . . .390–398,402,404–429	38,073	237.0
7	Diabetes mellitus . . . . .250	21,879	20.5	2	Malignant neoplasms, including neoplasms of lymphatic and hematopoietic tissues . .140–208	25,082	156.1
8	Atherosclerosis . . . . .440	10,315	9.7	3	Cerebrovascular diseases. . . . .430–438	9,754	60.7
9	Septicemia . . . . .038	8,670	8.1	4	Diabetes mellitus . . . . .250	5,065	31.5
10	Nephritis, nephrotic syndrome, and nephrosis . . . . .580–589	8,550	8.0	5	Accidents and adverse effects . . . . .E800–E949	3,663	22.8
...	All other causes . . . . .Residual	150,311	141.1	...	Motor vehicle accidents . . . . .E810–E825	1,514	9.4
All other, male				...	All other accidents and adverse effects . . . . .E800–E807,E826–E949	2,149	13.4
...	All causes . . . . .	162,605	851.5	6	Pneumonia and influenza . . . . .480–487	3,402	21.2
1	Diseases of heart . . . . .390–398,402,404–429	41,426	216.9	7	Certain conditions originating in the perinatal period . . . . .760–779	2,982	18.6
2	Malignant neoplasms, including neoplasms of lymphatic and hematopoietic tissues . .140–208	35,675	186.8	8	Homicide and legal intervention . . . . .E960–E978	2,163	13.5
3	Accidents and adverse effects . . . . .E800–E949	10,590	55.5	9	Nephritis, nephrotic syndrome, and nephrosis . . . . .580–589	2,049	12.8
...	Motor vehicle accidents . . . . .E810–E825	5,118	26.8	10	Chronic obstructive pulmonary diseases and allied conditions . . . . .490–496	2,027	12.6
...	All other accidents and adverse effects . . . . .E800–E807,E826–E949	5,472	28.7	...	All other causes . . . . .Residual	25,879	161.1
4	Homicide and legal intervention . . . . .E960–E978	10,457	54.8				
5	Cerebrovascular diseases. . . . .430–438	8,673	45.4				

<sup>1</sup>Rank based on number of deaths; see Technical notes.

<sup>2</sup>Black included in All other.

**Table 7. Deaths and death rates for the 10 leading causes of death in specified age groups: United States, 1990**

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

Rank order <sup>1</sup>	Cause of death and age (Ninth Revision International Classification of Diseases, 1975)	Number	Rate	Rank order <sup>1</sup>	Cause of death and age (Ninth Revision International Classification of Diseases, 1975)	Number	Rate
1-4 years				25-44 years			
...	All causes . . . . .	6,931	46.8	...	All causes . . . . .	143,653	178.2
1	Accidents and adverse effects . . . . .E800-E949	2,566	17.3	1	Accidents and adverse effects . . . . .E800-E949	27,663	34.3
...	Motor vehicle accidents . . . . .E810-E825	928	6.3	...	Motor vehicle accidents . . . . .E810-E825	16,488	20.5
...	All other accidents and adverse effects . . . . .E800-E807,E826-E949	1,638	11.1	...	All other accidents and adverse effects . . . . .E800-E807,E826-E949	11,175	13.9
2	Congenital anomalies . . . . .740-759	896	6.0	2	Malignant neoplasms, including neoplasms of lymphatic and hematopoietic tissues . . . . .140-208	21,650	26.9
3	Malignant neoplasms, including neoplasms of lymphatic and hematopoietic tissues . . . . .140-208	513	3.5	3	Human immunodeficiency virus infection . . . . .*042-*044	18,748	23.3
4	Homicide and legal intervention . . . . .E960-E978	378	2.6	4	Diseases of heart . . . . .390-398,402,404-429	15,045	18.7
5	Diseases of heart . . . . .390-398,402,404-429	282	1.9	5	Suicide . . . . .E950-E959	12,267	15.2
6	Pneumonia and influenza . . . . .480-487	171	1.2	6	Homicide and legal intervention . . . . .E960-E978	12,060	15.0
7	Certain conditions originating in the perinatal period . . . . .760-779	134	0.9	7	Chronic liver disease and cirrhosis . . . . .571	4,505	5.6
8	Human immunodeficiency virus infection . . . . .*042-*044	123	0.8	8	Cerebrovascular diseases . . . . .430-438	3,352	4.2
9	Septicemia . . . . .038	100	0.7	9	Diabetes mellitus . . . . .250	2,184	2.7
10	Meningitis . . . . .320-322	81	0.5	10	Pneumonia and influenza . . . . .480-487	2,178	2.7
...	All other causes . . . . .Residual	1,687	11.4	...	All other causes . . . . .Residual	24,001	29.8
5-14 years				45-64 years			
...	All causes . . . . .	8,436	24.0	...	All causes . . . . .	371,304	804.2
1	Accidents and adverse effects . . . . .E800-E949	3,650	10.4	1	Malignant neoplasms, including neoplasms of lymphatic and hematopoietic tissues . . . . .140-208	134,742	291.8
...	Motor vehicle accidents . . . . .E810-E825	2,059	5.9	2	Diseases of heart . . . . .390-398,402,404-429	107,750	233.4
...	All other accidents and adverse effects . . . . .E800-E807,E826-E949	1,591	4.5	3	Cerebrovascular diseases . . . . .430-438	14,814	32.1
2	Malignant neoplasms, including neoplasms of lymphatic and hematopoietic tissues . . . . .140-208	1,094	3.1	4	Accidents and adverse effects . . . . .E800-E949	14,607	31.6
3	Homicide and legal intervention . . . . .E960-E978	512	1.5	...	Motor vehicle accidents . . . . .E810-E825	7,282	15.8
4	Congenital anomalies . . . . .740-759	468	1.3	...	All other accidents and adverse effects . . . . .E800-E807,E826-E949	7,325	15.9
5	Diseases of heart . . . . .390-398,402,404-429	308	0.9	5	Chronic obstructive pulmonary diseases and allied conditions . . . . .490-496	12,605	27.3
6	Suicide . . . . .E950-E959	264	0.8	6	Chronic liver disease and cirrhosis . . . . .571	10,806	23.4
7	Pneumonia and influenza . . . . .480-487	134	0.4	7	Diabetes mellitus . . . . .250	9,803	21.2
8	Chronic obstructive pulmonary diseases and allied conditions . . . . .490-496	115	0.3	8	Suicide . . . . .E950-E959	7,101	15.4
9	Benign neoplasms, carcinoma in situ, and neoplasms of uncertain behavior and of unspecified nature . . . . .210-239	100	0.3	9	Pneumonia and influenza . . . . .480-487	5,673	12.3
10	Human immunodeficiency virus infection . . . . .*042-*044	84	0.2	10	Human immunodeficiency virus infection . . . . .*042-*044	5,126	11.1
...	All other causes . . . . .Residual	1,707	4.9	...	All other causes . . . . .Residual	48,277	104.6
15-24 years				65 years and over			
...	All causes . . . . .	36,733	99.2	...	All causes . . . . .	1,542,493	4,963.2
1	Accidents and adverse effects . . . . .E800-E949	16,241	43.9	1	Diseases of heart . . . . .390-398,402,404-429	594,858	1,914.0
...	Motor vehicle accidents . . . . .E810-E825	12,607	34.1	2	Malignant neoplasms, including neoplasms of lymphatic and hematopoietic tissues . . . . .140-208	345,387	1,111.3
...	All other accidents and adverse effects . . . . .E800-E807,E826-E949	3,634	9.8	3	Cerebrovascular diseases . . . . .430-438	125,409	403.5
2	Homicide and legal intervention . . . . .E960-E978	7,354	19.9	4	Chronic obstructive pulmonary diseases and allied conditions . . . . .490-496	72,755	234.1
3	Suicide . . . . .E950-E959	4,869	13.2	5	Pneumonia and influenza . . . . .480-487	70,485	226.8
4	Malignant neoplasms, including neoplasms of lymphatic and hematopoietic tissues . . . . .140-208	1,819	4.9	6	Diabetes mellitus . . . . .250	35,523	114.3
5	Diseases of heart . . . . .390-398,402,404-429	917	2.5	7	Accidents and adverse effects . . . . .E800-E949	26,213	84.3
6	Human immunodeficiency virus infection . . . . .*042-*044	541	1.5	...	Motor vehicle accidents . . . . .E810-E825	7,210	23.2
7	Congenital anomalies . . . . .740-759	491	1.3	...	All other accidents and adverse effects . . . . .E800-E807,E826-E949	19,003	61.1
8	Cerebrovascular diseases . . . . .430-438	234	0.6	8	Nephritis, nephrotic syndrome, and nephrosis . . . . .580-589	17,306	55.7
9	Pneumonia and influenza . . . . .480-487	231	0.6	9	Atherosclerosis . . . . .440	17,158	55.2
10	Chronic obstructive pulmonary diseases and allied conditions . . . . .490-496	178	0.5	10	Septicemia . . . . .038	15,351	49.4
...	All other causes . . . . .Residual	3,858	10.4	...	All other causes . . . . .Residual	222,048	2,045.9

<sup>1</sup>Rank based on number of deaths; see Technical notes.

**Table 8. Deaths from 72 selected causes by age: United States, 1990**

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

Cause of death (Ninth Revision International Classification of Diseases, 1975)	All ages	Under 1 year	1-4 years	5-14 years	15-24 years	25-34 years	35-44 years	45-54 years	55-64 years	65-74 years	75-84 years	85 years and over	Not stated
All causes	2,148,463	38,351	6,931	8,436	36,733	60,091	83,562	118,608	252,696	477,949	601,439	463,105	562
Shigellosis and amebiasis . . . . .004,006	15	-	3	1	-	2	-	1	2	1	4	1	-
Certain other intestinal infections . . . . .007-009	415	98	13	6	2	7	13	10	20	51	94	101	-
Tuberculosis . . . . .010-018	1,810	2	6	3	23	144	178	188	269	382	406	209	-
Tuberculosis of respiratory system . . . . .010-012	1,378	1	1	1	13	95	131	129	191	307	335	174	-
Other tuberculosis . . . . .013-018	432	1	5	2	10	49	47	59	78	75	71	35	-
Whooping cough . . . . .033	12	11	1	-	-	-	-	-	-	-	-	-	-
Streptococcal sore throat, scarlatina, and erysipelas . . . . .034-035	14	2	-	-	1	1	-	2	1	2	2	3	-
Meningococcal infection . . . . .036	215	50	38	18	32	15	14	8	13	11	10	6	-
Septicemia . . . . .038	19,169	267	100	46	84	303	557	767	1,690	3,776	6,024	5,551	4
Acute poliomyelitis . . . . .045	-	-	-	-	-	-	-	-	-	-	-	-	-
Measles . . . . .055	64	11	29	4	7	10	3	-	-	-	-	-	-
Viral hepatitis . . . . .070	1,578	4	4	2	38	114	224	189	248	397	293	65	-
Syphilis . . . . .090-097	106	25	1	-	2	8	7	9	7	9	25	13	-
All other infectious and parasitic diseases . . . . .001-003,005,020-032,037,039-041,*042-*044,046-054,056-066,071-088,098-139	32,214	370	222	192	728	9,107	11,107	4,496	2,238	1,749	1,334	657	14
Malignant neoplasms, including neoplasms of lymphatic and hematopoietic tissues . . . . .140-208	505,322	90	513	1,094	1,819	5,427	16,223	39,823	94,919	157,413	135,011	52,963	27
Malignant neoplasms of lip, oral cavity, and pharynx . . . . .140-149	8,405	-	1	5	23	65	308	928	2,138	2,537	1,703	697	-
Malignant neoplasms of digestive organs and peritoneum . . . . .150-159	120,765	8	25	15	107	627	2,688	7,930	20,069	36,651	35,907	16,732	6
Malignant neoplasms of respiratory and intrathoracic organs . . . . .160-165	146,386	4	3	13	40	340	2,703	12,236	35,162	53,789	34,451	7,640	5
Malignant neoplasm of breast . . . . .174-175	43,663	-	-	-	15	629	3,380	5,855	8,834	11,410	9,228	4,310	2
Malignant neoplasms genital organs . . . . .179-187	57,487	2	-	5	107	583	1,505	2,842	7,245	16,966	19,399	8,830	3
Malignant neoplasms of urinary organs . . . . .188-189	20,654	-	20	32	24	108	388	1,253	3,317	6,016	6,435	3,060	1
Malignant neoplasms of all other and unspecified sites . . . . .170-173,190-199	60,221	52	279	561	675	1,561	3,157	5,461	11,134	16,793	14,385	6,156	7
Leukemia . . . . .204-208	18,574	24	170	382	535	668	872	1,207	2,443	4,754	5,123	2,393	3
Other malignant neoplasms of lymphatic and hematopoietic tissues . . . . .200-203	29,167	-	15	81	293	846	1,222	2,111	4,577	8,497	8,380	3,145	-
Benign neoplasms, carcinoma in situ, and neoplasms of uncertain behavior and of unspecified nature . . . . .210-239	6,752	71	75	100	93	213	296	399	755	1,529	2,006	1,214	1
Diabetes mellitus . . . . .250	47,664	4	7	24	115	674	1,510	2,834	6,969	13,280	14,537	7,706	4
Nutritional deficiencies . . . . .260-269	3,017	16	4	1	9	14	31	45	125	331	908	1,532	1
Anemias . . . . .280-285	4,092	29	51	51	124	187	195	156	272	604	1,124	1,299	-
Meningitis . . . . .320-322	1,017	197	81	37	29	53	88	81	116	146	128	61	-
Major cardiovascular diseases . . . . .390-448	916,007	963	335	401	1,224	4,480	14,760	36,242	91,820	198,744	296,718	270,197	123
Diseases of heart . . . . .390-398,402,404-429	720,058	794	282	308	917	3,290	11,755	30,204	77,546	161,373	229,844	203,641	104
Rheumatic fever and rheumatic heart disease . . . . .390-398	6,018	7	2	8	35	102	253	374	858	1,624	1,871	884	-
Hypertensive heart disease . . . . .402	21,072	-	1	2	16	148	608	1,399	2,810	4,745	6,099	5,239	5
Hypertensive heart and renal disease . . . . .404	2,377	1	-	-	7	21	55	85	211	501	814	682	-
Ischemic heart disease . . . . .410-414	489,171	26	9	19	113	1,063	6,475	19,457	52,481	113,139	160,442	135,906	41
Acute myocardial infarction . . . . .410	239,008	16	5	10	71	607	3,745	11,661	30,457	61,739	79,454	51,228	15
Other acute and subacute forms of ischemic heart disease . . . . .411	3,333	-	-	-	3	22	110	320	560	811	864	642	1
Angina pectoris . . . . .413	1,070	-	-	1	1	4	17	22	72	236	357	360	-
Old myocardial infarction and other forms of chronic ischemic heart disease . . . . .412,414	245,760	10	4	8	38	430	2,603	7,454	21,392	50,353	79,767	83,676	25
Other diseases of endocardium . . . . .424	13,004	17	7	14	34	119	224	397	954	2,396	4,604	4,236	2
All other forms of heart disease . . . . .415-423,425-429	188,416	743	263	265	712	1,837	4,140	8,492	20,232	38,968	56,014	56,694	56
Hypertension with or without renal disease . . . . .401,403	9,169	5	1	2	10	46	181	397	895	1,988	3,003	2,639	2
Cerebrovascular diseases . . . . .430-438	144,088	148	45	73	234	937	2,415	4,690	10,124	26,054	49,988	49,367	13
Intracerebral and other intracranial hemorrhage . . . . .431-432	20,575	61	12	19	83	315	916	1,730	2,853	4,968	6,344	3,270	4

Cerebral thrombosis and unspecified occlusion of cerebral arteries . . . . .434.0,434.9	18,261	15	7	11	20	47	161	364	1,097	3,145	6,458	6,935	1
Cerebral embolism . . . . .434.1	651	—	—	—	—	6	4	18	42	139	267	175	—
All other and late effects of cerebrovascular diseases . . . . .430,433,435–438	104,601	72	26	43	131	569	1,334	2,578	6,132	17,802	36,919	38,987	8
Atherosclerosis . . . . .440	18,047	1	—	1	1	14	33	162	674	2,220	5,331	9,607	3
Other diseases of arteries, arterioles, and capillaries . . . . .441–448	24,645	15	7	17	62	193	376	789	2,581	7,109	8,552	4,943	1
Acute bronchitis and bronchiolitis . . . . .466	633	75	18	6	5	5	17	11	49	90	157	200	—
Pneumonia and influenza . . . . .480–487	79,513	634	171	134	231	762	1,416	1,751	3,922	10,665	25,377	34,443	7
Pneumonia . . . . .480–486	77,415	627	161	122	226	756	1,402	1,717	3,826	10,419	24,753	33,399	7
Influenza . . . . .487	2,098	7	10	12	5	6	14	34	96	246	624	1,044	—
Chronic obstructive pulmonary diseases and allied conditions . . . . .490–496	86,679	55	55	115	178	300	608	2,277	10,328	27,518	32,145	13,092	8
Bronchitis, chronic and unspecified . . . . .490–491	3,600	39	23	7	7	19	38	95	386	898	1,271	817	—
Emphysema . . . . .492	15,706	—	1	—	1	13	71	417	2,213	5,642	5,671	1,677	—
Asthma . . . . .493	4,819	12	24	102	160	237	332	502	738	1,125	1,074	512	1
Other chronic obstructive pulmonary diseases and allied conditions . . . . .494–496	62,554	4	7	6	10	31	167	1,263	6,991	19,853	24,129	10,086	7
Ulcer of stomach and duodenum . . . . .531–533	6,186	9	3	4	11	57	126	252	576	1,360	2,023	1,764	1
Appendicitis . . . . .540–543	438	5	7	13	11	12	30	32	55	92	114	67	—
Hernia of abdominal cavity and intestinal obstruction without mention of hernia . . . . .550–553,560	5,838	87	23	27	22	32	97	135	334	883	1,980	2,217	1
Chronic liver disease and cirrhosis . . . . .571	25,815	16	7	7	44	889	3,616	4,500	6,306	6,290	3,419	706	15
Cholelithiasis and other disorders of gallbladder . . . . .574–575	3,022	3	—	1	5	22	43	67	212	630	1,027	1,010	2
Nephritis, nephrotic syndrome, and nephrosis . . . . .580–589	20,764	151	24	20	57	215	531	724	1,736	4,312	6,978	6,016	—
Acute glomerulonephritis and nephrotic syndrome . . . . .580–581	296	10	5	3	3	7	11	18	25	59	82	73	—
Chronic glomerulonephritis, nephritis and nephropathy, not specified as acute or chronic, and renal sclerosis, unspecified . . . . .582–583,587	1,521	1	4	6	11	31	72	74	134	307	495	386	—
Renal failure, disorders resulting from impaired renal function, and small kidney of unknown cause . . . . .584–586,588–589	18,947	140	15	11	43	177	448	632	1,577	3,946	6,401	5,557	—
Infections of kidney . . . . .590	1,296	6	1	—	9	8	34	44	93	199	436	466	—
Hyperplasia of prostate . . . . .600	455	—	—	—	—	—	—	—	17	58	180	200	—
Complications of pregnancy, childbirth, and the puerperium . . . . .630–676	343	...	...	—	107	160	73	3	...	...	...	...	—
Pregnancy with abortive outcome . . . . .630–638	57	...	...	—	19	26	11	1	...	...	...	...	—
Other complications of pregnancy, childbirth, and the puerperium . . . . .640–676	286	...	...	—	88	134	62	2	...	...	...	...	—
Congenital anomalies . . . . .740–759	13,085	8,239	896	468	491	473	454	364	412	547	478	259	4
Certain conditions originating in the perinatal period . . . . .760–779	17,674	17,482	134	29	5	6	2	2	1	1	1	4	7
Birth trauma, intrauterine hypoxia, birth asphyxia, and respiratory distress syndrome . . . . .767–769	3,871	3,819	28	16	3	3	1	1	—	—	—	—	—
Other conditions originating in the perinatal period . . . . .760–766,770–779	13,803	13,663	106	13	2	3	1	1	1	1	1	4	7
Symptoms, signs, and ill-defined conditions . . . . .780–799	24,137	6,409	270	123	711	1,693	2,015	1,352	1,701	2,579	3,398	3,801	85
All other diseases . . . . .Residual	172,891	1,655	864	1,030	1,742	3,908	6,865	8,596	15,643	31,856	52,053	48,661	18
Accidents and adverse effects . . . . .E800–E949	91,983	930	2,566	3,650	16,241	15,950	11,713	7,375	7,232	8,405	10,041	7,767	113
Motor vehicle accidents . . . . .E810–E825	46,814	195	928	2,059	12,607	10,170	6,318	3,917	3,365	3,350	2,917	943	45
All other accidents and adverse effects . . . . .E800–E807,E826–E949	45,169	735	1,638	1,591	3,634	5,780	5,395	3,458	3,867	5,055	7,124	6,824	68
Suicide . . . . .E950–E959	30,906	...	...	264	4,869	6,550	5,717	3,718	3,383	3,230	2,493	671	11
Homicide and legal intervention . . . . .E960–E978	24,932	332	378	512	7,354	7,643	4,417	1,892	1,055	682	430	139	98
All other external causes . . . . .E980–E999	2,390	53	31	53	310	647	582	263	177	127	85	44	18

Table 9. Death rates for 72 selected causes by age: United States, 1990

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

Cause of death (Ninth Revision International Classification of Diseases, 1975)	All ages <sup>1</sup>	Under 1 year <sup>2</sup>	1-4 years	5-14 years	15-24 years	25-34 years	35-44 years	45-54 years	55-64 years	65-74 years	75-84 years	85 years and over
All causes . . . . .	863.8	971.9	46.8	24.0	99.2	139.2	223.2	473.4	1,196.9	2,648.6	6,007.2	15,327.4
Shigellosis and amebiasis . . . . .004,006	*	*	*	*	*	*	*	*	*	*	*	*
Certain other intestinal infections . . . . .007-009	0.2	2.5	*	*	*	*	*	*	0.1	0.3	0.9	3.3
Tuberculosis . . . . .010-018	0.7	*	*	*	0.1	0.3	0.5	0.8	1.3	2.1	4.1	6.9
Tuberculosis of respiratory system . . . . .010-012	0.6	*	*	*	*	0.2	0.3	0.5	0.9	1.7	3.3	5.8
Other tuberculosis . . . . .013-018	0.2	*	*	*	*	0.1	0.1	0.2	0.4	0.4	0.7	1.2
Whooping cough . . . . .033	*	*	*	*	*	*	*	*	*	*	*	*
Streptococcal sore throat, scarlatina, and erysipelas . . . . .034-035	*	*	*	*	*	*	*	*	*	*	*	*
Meningococcal infection . . . . .036	0.1	1.3	0.3	*	0.1	*	*	*	*	*	*	*
Septicemia . . . . .038	7.7	6.8	0.7	0.1	0.2	0.7	1.5	3.1	8.0	20.9	60.2	183.7
Acute poliomyelitis . . . . .045	*	*	*	*	*	*	*	*	*	*	*	*
Measles . . . . .055	0.0	*	0.2	*	*	*	*	*	*	*	*	*
Viral hepatitis . . . . .070	0.6	*	*	*	0.1	0.3	0.6	0.8	1.2	2.2	2.9	2.2
Syphilis . . . . .090-097	0.0	0.6	*	*	*	*	*	*	*	*	0.2	*
All other infectious and parasitic diseases . . . . .001-003,005,020-032,037,039-041,*042-*044,046-054,056-066,071-088,098-139	13.0	9.4	1.5	0.5	2.0	21.1	29.7	17.9	10.6	9.7	13.3	21.7
Malignant neoplasms, including neoplasms of lymphatic and hematopoietic tissues . . . . .140-208	203.2	2.3	3.5	3.1	4.9	12.6	43.3	158.9	449.6	872.3	1,348.5	1,752.9
Malignant neoplasms of lip, oral cavity, and pharynx . . . . .140-149	3.4	*	*	*	0.1	0.2	0.8	3.7	10.1	14.1	17.0	23.1
Malignant neoplasms of digestive organs and peritoneum . . . . .150-159	48.6	*	0.2	*	0.3	1.5	7.2	31.6	95.1	203.1	358.6	553.8
Malignant neoplasms of respiratory and intrathoracic organs . . . . .160-165	58.9	*	*	*	0.1	0.8	7.2	48.8	166.5	298.1	344.1	252.9
Malignant neoplasm of breast . . . . .174-175	17.6	*	*	*	1.5	9.0	23.4	41.8	63.2	92.2	142.6	142.6
Malignant neoplasms of genital organs . . . . .179-187	23.1	*	*	*	0.3	1.4	4.0	11.3	34.3	94.0	193.8	292.2
Malignant neoplasms of urinary organs . . . . .188-189	8.3	*	0.1	0.1	0.1	0.3	1.0	5.0	15.7	33.3	64.3	101.3
Malignant neoplasms of all other and unspecified sites . . . . .170-173,190-199	24.2	1.3	1.9	1.6	1.8	3.6	8.4	21.8	52.7	93.1	143.7	203.7
Leukemia . . . . .204-208	7.5	0.6	1.1	1.1	1.4	1.5	2.3	4.8	11.6	26.3	51.2	79.2
Other malignant neoplasms of lymphatic and hematopoietic tissues . . . . .200-203	11.7	*	*	0.2	0.8	2.0	3.3	8.4	21.7	47.1	83.7	104.1
Benign neoplasms, carcinoma in situ, and neoplasms of uncertain behavior and of unspecified nature . . . . .210-239	2.7	1.8	0.5	0.3	0.3	0.5	0.8	1.6	3.6	8.5	20.0	40.2
Diabetes mellitus . . . . .250	19.2	*	*	0.1	0.3	1.6	4.0	11.3	33.0	73.6	145.2	255.0
Nutritional deficiencies . . . . .260-269	1.2	*	*	*	*	*	0.1	0.2	0.6	1.8	9.1	50.7
Anemias . . . . .280-285	1.6	0.7	0.3	0.1	0.3	0.4	0.5	0.6	1.3	3.3	11.2	43.0
Meningitis . . . . .320-322	0.4	5.0	0.5	0.1	0.1	0.1	0.2	0.3	0.5	0.8	1.3	2.0
Major cardiovascular diseases . . . . .390-448	368.3	24.4	2.3	1.1	3.3	10.4	39.4	144.6	434.9	1,101.3	2,963.6	8,942.7
Diseases of heart . . . . .390-398,402,404-429	289.5	20.1	1.9	0.9	2.5	7.6	31.4	120.5	367.3	894.3	2,295.7	6,739.9
Rheumatic fever and rheumatic heart disease . . . . .390-398	2.4	*	*	*	0.1	0.2	0.7	1.5	4.1	9.0	18.7	29.3
Hypertensive heart disease . . . . .402	8.5	*	*	*	*	0.3	1.6	5.6	13.3	26.3	60.9	173.4
Hypertensive heart and renal disease . . . . .404	1.0	*	*	*	*	0.0	0.1	0.3	1.0	2.8	8.1	22.6
Ischemic heart disease . . . . .410-414	196.7	0.7	*	*	0.3	2.5	17.3	77.7	248.6	627.0	1,602.5	4,498.1
Acute myocardial infarction . . . . .410	96.1	*	*	*	0.2	1.4	10.0	46.5	144.3	342.1	793.6	1,695.5
Other acute and subacute forms of ischemic heart disease . . . . .411	1.3	*	*	*	*	0.1	0.3	1.3	2.7	4.5	8.6	21.2
Angina pectoris . . . . .413	0.4	*	*	*	*	*	*	0.1	0.3	1.3	3.6	11.9
Old myocardial infarction and other forms of chronic ischemic heart disease . . . . .412,414	98.8	*	*	*	0.1	1.0	7.0	29.7	101.3	279.0	796.7	2,769.4
Other diseases of endocardium . . . . .424	5.2	*	*	*	0.1	0.3	0.6	1.6	4.5	13.3	46.0	140.2
All other forms of heart disease . . . . .415-423,425-429	75.8	18.8	1.8	0.8	1.9	4.3	11.1	33.9	95.8	215.9	559.5	1,876.4
Hypertension with or without renal disease . . . . .401,403	3.7	*	*	*	*	0.1	0.5	1.6	4.2	11.0	30.0	87.3
Cerebrovascular diseases . . . . .430-438	57.9	3.8	0.3	0.2	0.6	2.2	6.5	18.7	48.0	144.4	499.3	1,633.9
Intracerebral and other intracranial hemorrhage . . . . .431-432	8.3	1.5	*	*	0.2	0.7	2.4	6.9	13.5	27.5	63.4	108.2
Cerebral thrombosis and unspecified occlusion of cerebral arteries . . . . .434.0,434.9	7.3	*	*	*	0.1	0.1	0.4	1.5	5.2	17.4	64.5	229.5
Cerebral embolism . . . . .434.1	0.3	*	*	*	*	*	*	*	0.2	0.8	2.7	5.8
All other and late effects of cerebrovascular diseases . . . . .430,433,435-438	42.1	1.8	0.2	0.1	0.4	1.3	3.6	10.3	29.0	98.7	368.7	1,290.4
Atherosclerosis . . . . .440	7.3	*	*	*	*	*	0.1	0.6	3.2	12.3	53.2	318.0



Other diseases of arteries, arterioles, and capillaries . . . . .	.441-448	9.9	*	*	*	0.2	0.4	1.0	3.1	12.2	39.4	85.4	163.6
Acute bronchitis and bronchiolitis . . . . .	.466	0.3	1.9	*	*	*	*	*	*	0.2	0.5	1.6	6.6
Pneumonia and influenza . . . . .	.480-487	32.0	16.1	1.2	0.4	0.6	1.8	3.8	7.0	18.6	59.1	253.5	1,140.0
Pneumonia . . . . .	.480-486	31.1	15.9	1.1	0.3	0.6	1.8	3.7	6.9	18.1	57.7	247.2	1,105.4
Influenza . . . . .	.487	0.8	*	*	*	*	*	*	0.1	0.5	1.4	6.2	34.6
Chronic obstructive pulmonary diseases and allied conditions . . . . .	.490-496	34.9	1.4	0.4	0.3	0.5	0.7	1.6	9.1	48.9	152.5	321.1	433.3
Bronchitis, chronic and unspecified . . . . .	.490-491	1.4	1.0	0.2	*	*	*	0.1	0.4	1.8	5.0	12.7	27.0
Emphysema . . . . .	.492	6.3	*	*	*	*	*	0.2	1.7	10.5	31.3	56.6	55.5
Asthma . . . . .	.493	1.9	*	0.2	0.3	0.4	0.5	0.9	2.0	3.5	6.2	10.7	16.9
Other chronic obstructive pulmonary diseases and allied conditions . . . . .	.494-496	25.2	*	*	*	*	0.1	0.4	5.0	33.1	110.0	241.0	333.8
Ulcer of stomach and duodenum . . . . .	.531-533	2.5	*	*	*	*	0.1	0.3	1.0	2.7	7.5	20.2	58.4
Appendicitis . . . . .	.540-543	0.2	*	*	*	*	*	0.1	0.1	0.3	0.5	1.1	2.2
Hernia of abdominal cavity and intestinal obstruction without mention of hernia . . . . .	.550-553,560	2.3	2.2	0.2	0.1	0.1	0.1	0.3	0.5	1.6	4.9	19.8	73.4
Chronic liver disease and cirrhosis . . . . .	.571	10.4	*	*	*	0.1	2.1	9.7	18.0	29.9	34.9	34.1	23.4
Cholelithiasis and other disorders of gallbladder . . . . .	.574-575	1.2	*	*	*	*	0.1	0.1	0.3	1.0	3.5	10.3	33.4
Nephritis, nephrotic syndrome, and nephrosis . . . . .	.580-589	8.3	3.8	0.2	0.1	0.2	0.5	1.4	2.9	8.2	23.9	69.7	199.1
Acute glomerulonephritis and nephrotic syndrome . . . . .	.580-581	0.1	*	*	*	*	*	*	*	0.1	0.3	0.8	2.4
Chronic glomerulonephritis, nephritis and nephropathy, not specified as acute or chronic, and renal sclerosis, unspecified . . . . .	.582-583,587	0.6	*	*	*	*	0.1	0.2	0.3	0.6	1.7	4.9	12.8
Renal failure, disorders resulting from impaired renal function, and small kidney of unknown cause . . . . .	.584-586,588-589	7.6	3.5	*	*	0.1	0.4	1.2	2.5	7.5	21.9	63.9	183.9
Infections of kidney . . . . .	.590	0.5	*	*	*	*	*	0.1	0.2	0.4	1.1	4.4	15.4
Hyperplasia of prostate . . . . .	.600	0.2	*	*	*	*	*	*	*	*	0.3	1.8	6.6
Complications of pregnancy, childbirth, and the puerperium . . . . .	.630-676	0.1	...	...	*	0.3	0.4	0.2	*	...	...	...	...
Pregnancy with abortive outcome . . . . .	.630-638	0.0	...	...	*	*	0.1	*	*	...	...	...	...
Other complications of pregnancy, childbirth, and the puerperium . . . . .	.640-676	0.1	...	...	*	0.2	0.3	0.2	*	...	...	...	...
Congenital anomalies . . . . .	.740-759	5.3	208.8	6.0	1.3	1.3	1.1	1.2	1.5	2.0	3.0	4.8	8.6
Certain conditions originating in the perinatal period . . . . .	.760-779	7.1	443.0	0.9	0.1	*	*	*	*	*	*	*	*
Birth trauma, intrauterine hypoxia, birth asphyxia, and respiratory distress syndrome . . . . .	.767-769	1.6	96.8	0.2	*	*	*	*	*	*	*	*	*
Other conditions originating in the perinatal period . . . . .	.760-766,770-779	5.5	346.3	0.7	*	*	*	*	*	*	*	*	*
Symptoms, signs, and ill-defined conditions . . . . .	.780-799	9.7	162.4	1.8	0.4	1.9	3.9	5.4	5.4	8.1	14.3	33.9	125.8
All other diseases . . . . .	.Residual	69.5	41.9	5.8	2.9	4.7	9.1	18.3	34.3	74.1	176.5	519.9	1,610.5
Accidents and adverse effects . . . . .	.E800-E949	37.0	23.6	17.3	10.4	43.9	37.0	31.3	29.4	34.3	46.6	100.3	257.1
Motor vehicle accidents . . . . .	.E810-E825	18.8	4.9	6.3	5.9	34.1	23.6	16.9	15.6	15.9	18.6	29.1	31.2
All other accidents and adverse effects . . . . .	.E800-E807,E826-E949	18.2	18.6	11.1	4.5	9.8	13.4	14.4	13.8	18.3	28.0	71.2	225.9
Suicide . . . . .	.E950-E959	12.4	...	...	0.8	13.2	15.2	15.3	14.8	16.0	17.9	24.9	22.2
Homicide and legal intervention . . . . .	.E960-E978	10.0	8.4	2.6	1.5	19.9	17.7	11.8	7.6	5.0	3.8	4.3	4.6
All other external causes . . . . .	.E980-E999	1.0	1.3	0.2	0.2	0.8	1.5	1.6	1.0	0.8	0.7	0.8	1.5

<sup>1</sup>Figures for age not stated included in All ages but not distributed among age groups.  
<sup>2</sup>Death rates under 1 year (based on population estimates) differ from infant mortality rates (based on live births); see tables E and 22-26 for infant mortality rates, and Technical notes for further discussion of the difference.

**Table 10. Deaths from 72 selected causes by race and sex: United States, 1990**

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

Cause of death (Ninth Revision International Classification of Diseases, 1975)	All races			White			All other					
	Both sexes	Male	Female	Both sexes	Male	Female	Total			Black		
							Both sexes	Male	Female	Both sexes	Male	Female
All causes . . . . .	2,148,463	1,113,417	1,035,046	1,853,254	950,812	902,442	295,209	162,605	132,604	265,498	145,359	120,139
Shigellosis and amebiasis . . . . .004,006	15	5	10	11	5	6	4	—	4	2	—	2
Certain other intestinal infections . . . . .007-009	415	180	235	342	141	201	73	39	34	67	34	33
Tuberculosis . . . . .010-018	1,810	1,147	663	1,033	630	403	777	517	260	668	446	222
Tuberculosis of respiratory system . . . . .010-012	1,378	907	471	812	518	294	566	389	177	491	341	150
Other tuberculosis . . . . .013-018	432	240	192	221	112	109	211	128	83	177	105	72
Whooping cough . . . . .033	12	4	8	9	3	6	3	1	2	3	1	2
Streptococcal sore throat, scarlatina, and erysipelas . . . . .034-035	14	6	8	12	4	8	2	2	—	2	2	—
Meningococcal infection . . . . .036	215	113	102	166	80	86	49	33	16	43	28	15
Septicemia . . . . .038	19,169	8,542	10,627	15,456	6,786	8,670	3,713	1,756	1,957	3,465	1,624	1,841
Acute poliomyelitis . . . . .045	—	—	—	—	—	—	—	—	—	—	—	—
Measles . . . . .055	64	34	30	43	23	20	21	11	10	10	5	5
Viral hepatitis . . . . .070	1,578	927	651	1,265	755	510	313	172	141	212	105	107
Syphilis . . . . .090-097	106	63	43	41	21	20	65	42	23	64	41	23
All other infectious and parasitic diseases . . . . .001-003,005,020-032,037,039-041,*042-*044, 046-054,056-066,071-088,098-139	32,214	26,301	5,913	22,658	19,131	3,527	9,556	7,170	2,386	9,198	6,890	2,308
Malignant neoplasms, including neoplasms of lymphatic and hematopoietic tissues . . . . .140-208	505,322	268,283	237,039	441,585	232,608	208,977	63,737	35,675	28,062	57,077	31,995	25,082
Malignant neoplasms of lip, oral cavity, and pharynx . . . . .140-149	8,405	5,636	2,769	6,918	4,515	2,403	1,487	1,121	366	1,311	1,000	311
Malignant neoplasms of digestive organs and peritoneum . . . . .150-159	120,765	63,920	56,845	103,530	54,515	49,015	17,235	9,405	7,830	14,933	8,001	6,932
Malignant neoplasms of respiratory and intrathoracic organs . . . . .160-165	146,386	94,950	51,436	128,927	82,714	46,213	17,459	12,236	5,223	15,913	11,219	4,694
Malignant neoplasm of breast . . . . .174-175	43,663	272	43,391	38,513	227	38,286	5,150	45	5,105	4,703	44	4,659
Malignant neoplasms of genital organs . . . . .179-187	57,487	32,929	24,558	48,635	27,412	21,223	8,852	5,517	3,335	8,195	5,226	2,969
Malignant neoplasms of urinary organs . . . . .188-189	20,654	13,181	7,473	18,694	12,047	6,647	1,960	1,134	826	1,792	1,029	763
Malignant neoplasms of all other and unspecified sites . . . . .170-173,190-199	60,221	31,891	28,330	53,613	28,366	25,247	6,608	3,525	3,083	5,866	3,130	2,736
Leukemia . . . . .204-208	18,574	10,192	8,382	16,722	9,189	7,533	1,852	1,003	849	1,591	854	737
Other malignant neoplasms of lymphatic and hematopoietic tissues . . . . .200-203	29,167	15,312	13,855	26,033	13,623	12,410	3,134	1,689	1,445	2,773	1,492	1,281
Benign neoplasms, carcinoma in situ, and neoplasms of uncertain behavior and of unspecified nature . . . . .210-239	6,752	3,012	3,740	5,908	2,658	3,250	844	354	490	747	316	431
Diabetes mellitus . . . . .250	47,664	20,266	27,398	38,696	16,817	21,879	8,968	3,449	5,519	8,114	3,049	5,065
Nutritional deficiencies . . . . .260-269	3,017	1,108	1,909	2,546	903	1,643	471	205	266	433	189	244
Anemias . . . . .280-285	4,092	1,770	2,322	3,136	1,274	1,862	956	496	460	887	460	427
Meningitis . . . . .320-322	1,017	545	472	705	371	334	312	174	138	284	159	125
Major cardiovascular diseases . . . . .390-448	916,007	442,737	473,270	807,688	389,824	417,864	108,319	52,913	55,406	98,068	47,209	50,859
Diseases of heart . . . . .390-398,402,404-429	720,058	360,788	359,270	637,364	319,362	318,002	82,694	41,426	41,268	75,111	37,038	38,073
Rheumatic fever and rheumatic heart disease . . . . .390-398	6,018	1,830	4,188	5,483	1,655	3,828	535	175	360	436	146	290
Hypertensive heart disease . . . . .402	21,072	8,822	12,250	15,165	6,077	9,088	5,907	2,745	3,162	5,636	2,608	3,028
Hypertensive heart and renal disease . . . . .404	2,377	959	1,418	1,648	648	1,000	729	311	418	707	300	407
Ischemic heart disease . . . . .410-414	489,171	252,597	236,574	443,859	229,937	213,922	45,312	22,660	22,652	40,571	19,858	20,713
Acute myocardial infarction . . . . .410	239,008	129,483	109,525	216,252	117,850	98,402	22,756	11,633	11,123	20,436	10,260	10,176
Other acute and subacute forms of ischemic heart disease . . . . .411	3,333	1,968	1,365	2,807	1,667	1,140	526	301	225	479	272	207
Angina pectoris . . . . .413	1,070	443	627	959	391	568	111	52	59	103	48	55
Old myocardial infarction and other forms of chronic ischemic heart disease . . . . .412,414	245,760	120,703	125,057	223,841	110,029	113,812	21,919	10,674	11,245	19,553	9,278	10,275
Other diseases of endocardium . . . . .424	13,004	5,500	7,504	11,951	5,023	6,928	1,053	477	576	924	414	510
All other forms of heart disease . . . . .415-423,425-429	188,416	91,080	97,336	159,258	76,022	83,236	29,158	15,058	14,100	26,837	13,712	13,125
Hypertension with or without renal disease . . . . .401,403	9,169	3,833	5,336	6,960	2,862	4,098	2,209	971	1,238	2,109	919	1,190
Cerebrovascular diseases . . . . .430-438	144,088	56,697	87,391	124,526	48,024	76,502	19,562	8,673	10,889	17,407	7,653	9,754
Intracerebral and other intracranial hemorrhage . . . . .431-432	20,575	9,227	11,348	16,776	7,252	9,524	3,799	1,975	1,824	3,227	1,665	1,562
Cerebral thrombosis and unspecified occlusion of cerebral arteries . . . . .434,0,434,9	18,261	7,032	11,229	16,079	6,087	9,992	2,182	945	1,237	1,977	851	1,126

Cerebral embolism . . . . .	.434.1	651	263	388	604	240	364	47	23	24	39	20	19
All other and late effects of cerebrovascular diseases . . . . .	.430,433,435-438	104,601	40,175	64,426	91,067	34,445	56,622	13,534	5,730	7,804	12,164	5,117	7,047
Atherosclerosis . . . . .	.440	18,047	6,859	11,188	16,547	6,232	10,315	1,500	627	873	1,380	563	817
Other diseases of arteries, arterioles, and capillaries . . . . .	.441-448	24,645	14,560	10,085	22,291	13,344	8,947	2,354	1,216	1,138	2,061	1,036	1,025
Acute bronchitis and bronchiolitis . . . . .	.466	633	269	364	559	233	326	74	36	38	64	33	31
Pneumonia and influenza . . . . .	.480-487	79,513	36,898	42,615	70,806	32,101	38,705	8,707	4,797	3,910	7,563	4,161	3,402
Pneumonia . . . . .	.480-486	77,415	36,099	41,316	68,807	31,350	37,457	8,608	4,749	3,859	7,473	4,115	3,358
Influenza . . . . .	.487	2,098	799	1,299	1,999	751	1,248	99	48	51	90	46	44
Chronic obstructive pulmonary diseases and allied conditions . . . . .	.490-496	86,679	49,416	37,263	80,179	45,234	34,945	6,500	4,182	2,318	5,655	3,628	2,027
Bronchitis, chronic and unspecified . . . . .	.490-491	3,600	1,878	1,722	3,365	1,726	1,639	235	152	83	190	125	65
Emphysema . . . . .	.492	15,706	9,408	6,298	14,828	8,769	6,059	878	639	239	763	552	211
Asthma . . . . .	.493	4,819	1,885	2,934	3,696	1,358	2,338	1,123	527	596	986	460	526
Other chronic obstructive pulmonary diseases and allied conditions . . . . .	.494-496	62,554	36,245	26,309	58,290	33,381	24,909	4,264	2,864	1,400	3,716	2,491	1,225
Ulcer of stomach and duodenum . . . . .	.531-533	6,186	2,973	3,213	5,517	2,594	2,923	669	379	290	582	332	250
Appendicitis . . . . .	.540-543	438	257	181	357	212	145	81	45	36	71	39	32
Hernia of abdominal cavity and intestinal obstruction without mention of hernia . . . . .	.550-553,560	5,838	2,132	3,706	5,089	1,787	3,302	749	345	404	697	319	378
Chronic liver disease and cirrhosis . . . . .	.571	25,815	16,627	9,188	21,478	13,889	7,589	4,337	2,738	1,599	3,753	2,393	1,360
Cholelithiasis and other disorders of gallbladder . . . . .	.574-575	3,022	1,280	1,742	2,722	1,156	1,566	300	124	176	244	96	148
Nephritis, nephrotic syndrome, and nephrosis . . . . .	.580-589	20,764	10,005	10,759	16,571	8,021	8,550	4,193	1,984	2,209	3,855	1,806	2,049
Acute glomerulonephritis and nephrotic syndrome . . . . .	.580-581	296	145	151	249	118	131	47	27	20	42	24	18
Chronic glomerulonephritis, nephritis and nephropathy, not specified as acute or chronic, and renal sclerosis, unspecified . . . . .	.582-583,587	1,521	763	758	1,191	590	601	330	173	157	300	156	144
Renal failure, disorders resulting from impaired renal function, and small kidney of unknown cause . . . . .	.584-586,588-589	18,947	9,097	9,850	15,131	7,313	7,818	3,816	1,784	2,032	3,513	1,626	1,887
Infections of kidney . . . . .	.590	1,296	404	892	1,134	339	795	162	65	97	138	57	81
Hyperplasia of prostate . . . . .	.600	455	455	...	402	402	...	53	53	...	48	48	...
Complications of pregnancy, childbirth, and the puerperium . . . . .	.630-676	343	...	343	177	...	177	166	...	166	153	...	153
Pregnancy with abortive outcome . . . . .	.630-638	57	...	57	23	...	23	34	...	34	33	...	33
Other complications of pregnancy, childbirth, and the puerperium . . . . .	.640-676	286	...	286	154	...	154	132	...	132	120	...	120
Congenital anomalies . . . . .	.740-759	13,085	7,050	6,035	10,502	5,667	4,835	2,583	1,383	1,200	2,177	1,174	1,003
Certain conditions originating in the perinatal period . . . . .	.760-779	17,674	10,056	7,618	10,506	6,055	4,451	7,168	4,001	3,167	6,744	3,762	2,982
Birth trauma, intrauterine hypoxia, birth asphyxia, and respiratory distress syndrome . . . . .	.767-769	3,871	2,311	1,560	2,498	1,487	1,011	1,373	824	549	1,276	766	510
Other conditions originating in the perinatal period . . . . .	.760-766,770-779	13,803	7,745	6,058	8,008	4,568	3,440	5,795	3,177	2,618	5,468	2,996	2,472
Symptoms, signs, and ill-defined conditions . . . . .	.780-799	24,137	13,533	10,604	18,058	9,951	8,107	6,079	3,582	2,497	5,505	3,215	2,290
All other diseases . . . . .	.Residual	172,891	79,020	93,871	148,904	66,879	82,025	23,987	12,141	11,846	21,737	10,908	10,829
Accidents and adverse effects . . . . .	.E800-E949	91,983	61,938	30,045	76,934	51,348	25,586	15,049	10,590	4,459	12,419	8,756	3,663
Motor vehicle accidents . . . . .	.E810-E825	46,814	32,406	14,408	39,651	27,288	12,363	7,163	5,118	2,045	5,560	4,046	1,514
All other accidents and adverse effects . . . . .	.E800-E807,E826-E949	45,169	29,532	15,637	37,283	24,060	13,223	7,886	5,472	2,414	6,859	4,710	2,149
Suicide . . . . .	.E950-E959	30,906	24,724	6,182	28,086	22,448	5,638	2,820	2,276	544	2,111	1,737	374
Homicide and legal intervention . . . . .	.E960-E978	24,932	19,604	5,328	12,153	9,147	3,006	12,779	10,457	2,322	12,144	9,981	2,163
All other external causes . . . . .	.E980-E999	2,390	1,733	657	1,820	1,315	505	570	418	152	494	361	133

Table 11. Death rates for 72 selected causes by race and sex: United States, 1990

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

Cause of death (Ninth Revision International Classification of Diseases, 1975)	All races						White						All other						
	Both sexes		Male		Female		Both sexes		Male		Female		Both sexes		Male		Female		
All causes	863.8	918.4	812.0	888.0	930.9	846.9	737.9	851.5	634.2	871.0	1,008.0	747.9							
Shigellosis and amebiasis . . . . .004,006	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Certain other intestinal infections . . . . .007-009	0.2	0.1	0.2	0.2	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	
Tuberculosis . . . . .010-018	0.7	0.9	0.5	0.5	0.6	0.4	1.9	2.7	1.2	2.2	3.1	1.4							
Tuberculosis of respiratory system . . . . .010-012	0.6	0.7	0.4	0.4	0.5	0.3	1.4	2.0	0.8	1.6	2.4	0.9							
Other tuberculosis . . . . .013-018	0.2	0.2	0.2	0.1	0.1	0.1	0.5	0.7	0.4	0.6	0.7	0.4							
Whooping 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	0.2	*							
Septicemia . . . . .038	7.7	7.0	8.3	7.4	6.6	8.1	9.3	9.2	9.4	11.4	11.3	11.5							
Acute poliomyelitis . . . . .045	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Measles . . . . .055	0.0	0.0	0.0	0.0	0.0	0.0	0.1	*	*	*	*	*	*	*	*	*	*	*	
Viral hepatitis . . . . .070	0.6	0.8	0.5	0.6	0.7	0.5	0.8	0.9	0.7	0.7	0.7	0.7							
Syphilis . . . . .090-097	0.0	0.1	0.0	0.0	0.0	0.0	0.2	0.2	0.1	0.2	0.3	0.1							
All other infectious and parasitic diseases . . . . .001-003,005,020-032,037, 039-041,*042-*044,046-054,056-066,071-088,098-139	13.0	21.7	4.6	10.9	18.7	3.3	23.9	37.5	11.4	30.2	47.8	14.4							
Malignant neoplasms, including neoplasms of lymphatic and hematopoietic tissues . . . . .140-208	203.2	221.3	186.0	211.6	227.7	196.1	159.3	186.8	134.2	187.2	221.9	156.1							
Malignant neoplasms of lip, oral cavity, and pharynx . . . . .140-149	3.4	4.6	2.2	3.3	4.4	2.3	3.7	5.9	1.8	4.3	6.9	1.9							
Malignant neoplasms of digestive organs and peritoneum . . . . .150-159	48.6	52.7	44.6	49.6	53.4	46.0	43.1	49.2	37.4	49.0	55.5	43.2							
Malignant neoplasms of respiratory and intrathoracic organs . . . . .160-165	58.9	78.3	40.4	61.8	81.0	43.4	43.6	64.1	25.0	52.2	77.8	29.2							
Malignant neoplasm of breast . . . . .174-175	17.6	0.2	34.0	18.5	0.2	35.9	12.9	0.2	24.4	15.4	0.3	29.0							
Malignant neoplasms of genital organs . . . . .179-187	23.1	27.2	19.3	23.3	26.8	19.9	22.1	28.9	15.9	26.9	36.2	18.5							
Malignant neoplasms of urinary organs . . . . .188-189	8.3	10.9	5.9	9.0	11.8	6.2	4.9	5.9	4.0	5.9	7.1	4.8							
Malignant neoplasms of all other and unspecified sites . . . . .170-173,190-199	24.2	26.3	22.2	25.7	27.8	23.7	16.5	18.5	14.7	19.2	21.7	17.0							
Leukemia . . . . .204-208	7.5	8.4	6.6	8.0	9.0	7.1	4.6	5.3	4.1	5.2	5.9	4.6							
Other malignant neoplasms of lymphatic and hematopoietic tissues . . . . .200-203	11.7	12.6	10.9	12.5	13.3	11.6	7.8	8.8	6.9	9.1	10.3	8.0							
Benign neoplasms, carcinoma in situ, and neoplasms of uncertain behavior and of unspecified nature . . . . .210-239	2.7	2.5	2.9	2.8	2.6	3.0	2.1	1.9	2.3	2.5	2.2	2.7							
Diabetes mellitus . . . . .250	19.2	16.7	21.5	18.5	16.5	20.5	22.4	18.1	26.4	26.6	21.1	31.5							
Nutritional deficiencies . . . . .260-269	1.2	0.9	1.5	1.2	0.9	1.5	1.2	1.1	1.3	1.4	1.3	1.5							
Anemias . . . . .280-285	1.6	1.5	1.8	1.5	1.2	1.7	2.4	2.6	2.2	2.9	3.2	2.7							
Meningitis . . . . .320-322	0.4	0.4	0.4	0.3	0.4	0.3	0.8	0.9	0.7	0.9	1.1	0.8							
Major cardiovascular diseases . . . . .390-448	368.3	365.2	371.3	387.0	381.6	392.1	270.8	277.1	265.0	321.7	327.4	316.6							
Diseases of heart . . . . .390-398,402,404-429	289.5	297.6	281.8	305.4	312.7	298.4	206.7	216.9	197.4	246.4	256.8	237.0							
Rheumatic fever and rheumatic heart disease . . . . .390-398	2.4	1.5	3.3	2.6	1.6	3.6	1.3	0.9	1.7	1.4	1.0	1.8							
Hypertensive heart disease . . . . .402	8.5	7.3	9.6	7.3	5.9	8.5	14.8	14.4	15.1	18.5	18.1	18.9							
Hypertensive heart and renal disease . . . . .404	1.0	0.8	1.1	0.8	0.6	0.9	1.8	1.6	2.0	2.3	2.1	2.5							
Ischemic heart disease . . . . .410-414	196.7	208.3	185.6	212.7	225.1	200.8	113.3	118.7	108.3	133.1	137.7	128.9							
Acute myocardial infarction . . . . .410	96.1	106.8	85.9	103.6	115.4	92.3	56.9	60.9	53.2	67.0	71.1	63.4							
Other acute and subacute forms of ischemic heart disease . . . . .411	1.3	1.6	1.1	1.3	1.6	1.1	1.3	1.6	1.1	1.6	1.9	1.3							
Angina pectoris . . . . .413	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 disease . . . . .412,414	98.8	99.6	98.1	107.3	107.7	106.8	54.8	55.9	53.8	64.1	64.3	64.0							
Other diseases of endocardium . . . . .424	5.2	4.5	5.9	5.7	4.9	6.5	2.6	2.5	2.8	3.0	2.9	3.2							
All other forms of heart disease . . . . .415-423,425-429	75.8	75.1	76.4	76.3	74.4	78.1	72.9	78.9	67.4	88.0	95.1	81.7							
Hypertension with or without renal disease . . . . .401,403	3.7	3.2	4.2	3.3	2.8	3.8	5.5	5.1	5.9	6.9	6.4	7.4							
Cerebrovascular diseases . . . . .430-438	57.9	46.8	68.6	59.7	47.0	71.8	48.9	45.4	52.1	57.1	53.1	60.7							
Intracerebral and other intracranial hemorrhage . . . . .431-432	8.3	7.6	8.9	8.0	7.1	8.9	9.5	10.3	8.7	10.6	11.5	9.7							
Cerebral thrombosis and unspecified occlusion of cerebral arteries . . . . .434.0,434.9	7.3	5.8	8.8	7.7	6.0	9.4	5.5	4.9	5.9	6.5	5.9	7.0							
Cerebral embolism . . . . .434.1	0.3	0.2	0.3	0.3	0.2	0.3	0.1	0.1	0.1	0.1	0.1	*							

All other and late effects of cerebrovascular diseases . . . . .430,433,435-438	42.1	33.1	50.5	43.6	33.7	53.1	33.8	30.0	37.3	39.9	35.5	43.9
Atherosclerosis . . . . .440	7.3	5.7	8.8	7.9	6.1	9.7	3.7	3.3	4.2	4.5	3.9	5.1
Other diseases of arteries, arterioles, and capillaries . . . . .441-448	9.9	12.0	7.9	10.7	13.1	8.4	5.9	6.4	5.4	6.8	7.2	6.4
Acute bronchitis and bronchiolitis . . . . .466	0.3	0.2	0.3	0.3	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.2
Pneumonia and influenza . . . . .480-487	32.0	30.4	33.4	33.9	31.4	36.3	21.8	25.1	18.7	24.8	28.9	21.2
Pneumonia . . . . .480-486	31.1	29.8	32.4	33.0	30.7	35.2	21.5	24.9	18.5	24.5	28.5	20.9
Influenza . . . . .487	0.8	0.7	1.0	1.0	0.7	1.2	0.2	0.3	0.2	0.3	0.3	0.3
Chronic obstructive pulmonary diseases and allied conditions . . . . .490-496	34.9	40.8	29.2	38.4	44.3	32.8	16.2	21.9	11.1	18.6	25.2	12.6
Bronchitis, chronic and unspecified . . . . .490-491	1.4	1.5	1.4	1.6	1.7	1.5	0.6	0.8	0.4	0.6	0.9	0.4
Emphysema . . . . .492	6.3	7.8	4.9	7.1	8.6	5.7	2.2	3.3	1.1	2.5	3.8	1.3
Asthma . . . . .493	1.9	1.6	2.3	1.8	1.3	2.2	2.8	2.8	2.9	3.2	3.2	3.3
Other chronic obstructive pulmonary diseases and allied conditions . . . . .494-496	25.2	29.9	20.6	27.9	32.7	23.4	10.7	15.0	6.7	12.2	17.3	7.6
Ulcer of stomach and duodenum . . . . .531-533	2.5	2.5	2.5	2.6	2.5	2.7	1.7	2.0	1.4	1.9	2.3	1.6
Appendicitis . . . . .540-543	0.2	0.2	0.1	0.2	0.2	0.1	0.2	0.2	0.2	0.2	0.3	0.2
Hernia of abdominal cavity and intestinal obstruction without mention of hernia . . . . .550-553,560	2.3	1.8	2.9	2.4	1.7	3.1	1.9	1.8	1.9	2.3	2.2	2.4
Chronic liver disease and cirrhosis . . . . .571	10.4	13.7	7.2	10.3	13.6	7.1	10.8	14.3	7.6	12.3	16.6	8.5
Cholelithiasis and other disorders of gallbladder . . . . .574-575	1.2	1.1	1.4	1.3	1.1	1.5	0.7	0.6	0.8	0.8	0.7	0.9
Nephritis, nephrotic syndrome, and nephrosis . . . . .580-589	8.3	8.3	8.4	7.9	7.9	8.0	10.5	10.4	10.6	12.6	12.5	12.8
Acute glomerulonephritis and nephrotic syndrome . . . . .580-581	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	*
Chronic glomerulonephritis, nephritis and nephropathy, not specified as acute or chronic, and renal sclerosis, unspecified . . . . .582-583,587	0.6	0.6	0.6	0.6	0.6	0.6	0.8	0.9	0.8	1.0	1.1	0.9
Renal failure, disorders resulting from impaired renal function, and small kidney of unknown cause . . . . .584-586,588-589	7.6	7.5	7.7	7.2	7.2	7.3	9.5	9.3	9.7	11.5	11.3	11.7
Infections of kidney . . . . .590	0.5	0.3	0.7	0.5	0.3	0.7	0.4	0.3	0.5	0.5	0.4	0.5
Hyperplasia of prostate . . . . .600	0.2	0.4	...	0.2	0.4	...	0.1	0.3	...	0.2	0.3	...
Complications of pregnancy, childbirth, and the puerperium . . . . .630-676	0.1	...	0.3	0.1	...	0.2	0.4	...	0.8	0.5	...	1.0
Pregnancy with abortive outcome . . . . .630-638	0.0	...	0.0	0.0	...	0.0	0.1	...	0.2	0.1	...	0.2
Other complications of pregnancy, childbirth, and the puerperium . . . . .640-676	0.1	...	0.2	0.1	...	0.1	0.3	...	0.6	0.4	...	0.7
Congenital anomalies . . . . .740-759	5.3	5.8	4.7	5.0	5.5	4.5	6.5	7.2	5.7	7.1	8.1	6.2
Certain conditions originating in the perinatal period . . . . .760-779	7.1	8.3	6.0	5.0	5.9	4.2	17.9	21.0	15.1	22.1	26.1	18.6
Birth trauma, intrauterine hypoxia, birth asphyxia, and respiratory distress syndrome . . . . .767-769	1.6	1.9	1.2	1.2	1.5	0.9	3.4	4.3	2.6	4.2	5.3	3.2
Other conditions originating in the perinatal period . . . . .760-766,770-779	5.5	6.4	4.8	3.8	4.5	3.2	14.5	16.6	12.5	17.9	20.8	15.4
Symptoms, signs, and ill-defined conditions . . . . .780-799	9.7	11.2	8.3	8.7	9.7	7.6	15.2	18.8	11.9	18.1	22.3	14.3
All other diseases . . . . .Residual	69.5	65.2	73.6	71.3	65.5	77.0	60.0	63.6	56.7	71.3	75.6	67.4
Accidents and adverse effects . . . . .E800-E949	37.0	51.1	23.6	36.9	50.3	24.0	37.6	55.5	21.3	40.7	60.7	22.8
Motor vehicle accidents . . . . .E810-E825	18.8	26.7	11.3	19.0	26.7	11.6	17.9	26.8	9.8	18.2	28.1	9.4
All other accidents and adverse effects . . . . .E800-E807,E826-E949	18.2	24.4	12.3	17.9	23.6	12.4	19.7	28.7	11.5	22.5	32.7	13.4
Suicide . . . . .E950-E959	12.4	20.4	4.8	13.5	22.0	5.3	7.0	11.9	2.6	6.9	12.0	2.3
Homicide and legal intervention . . . . .E960-E978	10.0	16.2	4.2	5.8	9.0	2.8	31.9	54.8	11.1	39.8	69.2	13.5
All other external causes . . . . .E980-E999	1.0	1.4	0.5	0.9	1.3	0.5	1.4	2.2	0.7	1.6	2.5	0.8



All other and late effects of cerebrovascular diseases . . . . .430,433,435-438	19.1	20.6	18.0	17.8	19.3	16.7	28.6	31.6	26.4	32.2	36.4	29.3
Atherosclerosis . . . . .440	2.7	3.2	2.4	2.7	3.2	2.4	2.7	3.1	2.4	3.1	3.6	2.7
Other diseases of arteries, arterioles, and capillaries . . . . .441-448	5.4	8.2	3.4	5.4	8.3	3.3	5.3	7.0	4.1	5.9	7.7	4.6
Acute bronchitis and bronchiolitis . . . . .466	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.1	0.2	0.2	0.1
Pneumonia and influenza . . . . .480-487	14.0	18.5	11.0	13.4	17.5	10.6	17.9	25.4	12.6	19.8	28.7	13.7
Pneumonia . . . . .480-486	13.7	18.1	10.7	13.0	17.0	10.3	17.7	25.1	12.4	19.6	28.4	13.5
Influenza . . . . .487	0.3	0.4	0.3	0.3	0.4	0.3	0.2	0.2	0.1	0.2	0.3	0.1
Chronic obstructive pulmonary diseases and allied conditions . . . . .490-496	19.7	27.2	14.7	20.1	27.4	15.2	15.2	23.6	9.6	16.9	26.5	10.7
Bronchitis, chronic and unspecified . . . . .490-491	0.8	1.0	0.6	0.8	1.0	0.6	0.5	0.8	0.3	0.5	0.9	0.3
Emphysema . . . . .492	3.7	5.3	2.6	3.9	5.5	2.8	2.1	3.7	1.0	2.3	4.1	1.1
Asthma . . . . .493	1.4	1.3	1.5	1.2	1.0	1.3	2.9	3.0	2.8	3.4	3.5	3.3
Other chronic obstructive pulmonary diseases and allied conditions . . . . .494-496	13.7	19.6	9.9	14.2	19.9	10.4	9.7	16.1	5.5	10.7	17.9	6.0
Ulcer of stomach and duodenum . . . . .531-533	1.3	1.7	1.0	1.2	1.6	1.0	1.6	2.2	1.1	1.7	2.5	1.2
Appendicitis . . . . .540-543	0.1	0.2	0.1	0.1	0.1	0.1	0.2	0.3	0.2	0.2	0.3	0.1
Hernia of abdominal cavity and intestinal obstruction without mention of hernia . . . . .550-553,560	1.1	1.1	1.1	1.0	1.0	1.0	1.6	1.8	1.4	1.8	2.2	1.5
Chronic liver disease and cirrhosis . . . . .571	8.6	12.2	5.3	8.0	11.5	4.8	12.0	17.2	7.9	13.7	20.0	8.7
Cholelithiasis and other disorders of gallbladder . . . . .574-575	0.6	0.7	0.5	0.6	0.7	0.5	0.6	0.7	0.6	0.6	0.7	0.6
Nephritis, nephrotic syndrome, and nephrosis . . . . .580-589	4.3	5.4	3.6	3.6	4.6	3.0	9.3	10.9	8.1	10.8	12.9	9.4
Acute glomerulonephritis and nephrotic syndrome . . . . .580-581	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.1	0.1	0.2	*
Chronic glomerulonephritis, nephritis and nephropathy, not specified as acute or chronic, and renal sclerosis, unspecified . . . . .582-583,587	0.3	0.4	0.3	0.3	0.4	0.2	0.7	1.0	0.6	0.8	1.1	0.6
Renal failure, disorders resulting from impaired renal function, and small kidney of unknown cause . . . . .584-586,588-589	3.9	4.8	3.3	3.3	4.2	2.7	8.5	9.8	7.5	9.8	11.6	8.6
Infections of kidney . . . . .590	0.2	0.2	0.3	0.2	0.2	0.3	0.3	0.4	0.3	0.3	0.4	0.3
Hyperplasia of prostate . . . . .600	0.1	0.2	...	0.1	0.2	...	0.1	0.3	...	0.1	0.3	...
Complications of pregnancy, childbirth, and the puerperium . . . . .630-676	0.1	...	0.3	0.1	...	0.2	0.4	...	0.8	0.5	...	0.9
Pregnancy with abortive outcome . . . . .630-638	0.0	...	0.0	0.0	...	0.0	0.1	...	0.2	0.1	...	0.2
Other complications of pregnancy, childbirth, and the puerperium . . . . .640-676	0.1	...	0.2	0.1	...	0.1	0.3	...	0.6	0.4	...	0.7
Congenital anomalies . . . . .740-759	5.0	5.4	4.6	4.9	5.3	4.5	5.2	5.7	4.8	5.7	6.2	5.2
Certain conditions originating in the perinatal period . . . . .760-779	6.9	7.6	6.1	5.2	5.8	4.5	13.4	14.8	12.0	16.2	17.9	14.5
Birth trauma, intrauterine hypoxia, birth asphyxia, and respiratory distress syndrome . . . . .767-769	1.5	1.8	1.2	1.2	1.4	1.0	2.6	3.1	2.1	3.1	3.6	2.5
Other conditions originating in the perinatal period . . . . .760-766,770-779	5.4	5.9	4.8	3.9	4.4	3.5	10.9	11.8	10.0	13.2	14.3	12.0
Symptoms, signs, and ill-defined conditions . . . . .780-799	7.3	9.4	5.4	6.2	8.0	4.5	13.2	17.4	9.6	15.5	20.6	11.2
All other diseases . . . . .Residual	38.4	46.1	32.3	35.9	42.9	30.2	54.4	67.9	44.0	63.0	79.7	50.5
Accidents and adverse effects . . . . .E800-E949	32.5	47.7	17.9	31.8	46.4	17.6	36.8	56.7	19.6	39.7	62.4	20.4
Motor vehicle accidents . . . . .E810-E825	18.5	26.3	10.7	18.6	26.3	11.0	18.0	27.3	9.7	18.4	28.9	9.3
All other accidents and adverse effects . . . . .E800-E807,E826-E949	14.0	21.4	7.1	13.2	20.1	6.6	18.8	29.4	9.8	21.3	33.6	11.1
Suicide . . . . .E950-E959	11.5	19.0	4.5	12.2	20.1	4.8	7.1	12.1	2.6	7.0	12.4	2.4
Homicide and legal intervention . . . . .E960-E978	10.2	16.3	4.2	5.9	8.9	2.8	31.4	53.9	10.7	39.5	68.7	13.0
All other external causes . . . . .E980-E999	0.9	1.4	0.5	0.8	1.2	0.4	1.4	2.2	0.7	1.6	2.5	0.7

**Table 13. Deaths and death rates from 16 selected subcategories of Malignant neoplasms, including neoplasms of lymphatic and hematopoietic tissues, by race and sex: United States, 1990**

[Rates per 100,000 population in specified group]

Cause of death (Ninth Revision International Classification of Diseases, 1975)	All other											
	All races			White			Total			Black		
	Both sexes	Male	Female	Both sexes	Male	Female	Both sexes	Male	Female	Both sexes	Male	Female
	Number											
Malignant neoplasms, including neoplasms of lymphatic and hematopoietic tissues <sup>1</sup> . . . . . 140-208	505,322	268,283	237,039	441,585	232,608	208,977	63,737	35,675	28,062	57,077	31,995	25,082
Malignant neoplasm of esophagus . . . . . 150	9,719	7,213	2,506	7,599	5,661	1,938	2,120	1,552	568	1,974	1,433	541
Malignant neoplasm of stomach . . . . . 151	14,073	8,336	5,737	11,309	6,690	4,619	2,764	1,646	1,118	2,258	1,341	917
Malignant neoplasms of colon, rectum, rectosigmoid junction, and anus . . . . . 153,154	56,525	28,173	28,352	49,858	24,943	24,915	6,667	3,230	3,437	5,998	2,863	3,135
Malignant neoplasm of pancreas . . . . . 157	25,082	12,199	12,883	21,728	10,582	11,146	3,354	1,617	1,737	3,023	1,442	1,581
Malignant neoplasms of trachea, bronchus, and lung . . . . . 162	141,285	91,091	50,194	124,650	79,488	45,162	16,635	11,603	5,032	15,144	10,632	4,512
Malignant melanoma of skin . . . . . 172	6,420	3,844	2,576	6,290	3,778	2,512	130	66	64	106	51	55
Malignant neoplasm of cervix uteri . . . . . 180	4,627	...	4,627	3,511	...	3,511	1,116	...	1,116	972	...	972
Malignant neoplasms of body of uterus and of uterus, part unspecified . . . . . 179,182	6,028	...	6,028	5,066	...	5,066	962	...	962	893	...	893
Malignant neoplasm of ovary . . . . . 183.0	12,566	...	12,566	11,469	...	11,469	1,097	...	1,097	959	...	959
Malignant neoplasm of prostate . . . . . 185	32,378	32,378	...	26,917	26,917	...	5,461	5,461	...	5,181	5,181	...
Malignant neoplasm of bladder . . . . . 188	10,341	6,910	3,431	9,430	6,403	3,027	911	507	404	847	466	381
Malignant neoplasms of kidney and other and unspecified urinary organs . . . . . 189	10,313	6,271	4,042	9,264	5,644	3,620	1,049	627	422	945	563	382
Malignant neoplasms of brain and other and unspecified parts of nervous system . . . . . 191,192	11,630	6,339	5,291	10,814	5,890	4,924	816	449	367	691	372	319
Hodgkin's disease . . . . . 201	1,632	956	676	1,471	853	618	161	103	58	148	96	52
Malignant lymphoma other than Hodgkin's disease . . . . . 200,202	18,601	9,795	8,806	17,185	9,005	8,180	1,416	790	626	1,172	651	521
Multiple myeloma and other immunoproliferative neoplasms . . . . . 203	8,934	4,561	4,373	7,377	3,765	3,612	1,557	796	761	1,453	745	708
	Rate											
Malignant neoplasms, including neoplasms of lymphatic and hematopoietic tissues <sup>1</sup> . . . . . 140-208	203.2	221.3	186.0	211.6	227.7	196.1	159.3	186.8	134.2	187.2	221.9	156.1
Malignant neoplasm of esophagus . . . . . 150	3.9	5.9	2.0	3.6	5.5	1.8	5.3	8.1	2.7	6.5	9.9	3.4
Malignant neoplasm of stomach . . . . . 151	5.7	6.9	4.5	5.4	6.5	4.3	6.9	8.6	5.3	7.4	9.3	5.7
Malignant neoplasms of colon, rectum, rectosigmoid junction, and anus . . . . . 153,154	22.7	23.2	22.2	23.9	24.4	23.4	16.7	16.9	16.4	19.7	19.9	19.5
Malignant neoplasm of pancreas . . . . . 157	10.1	10.1	10.1	10.4	10.4	10.5	8.4	8.5	8.3	9.9	10.0	9.8
Malignant neoplasms of trachea, bronchus, and lung . . . . . 162	56.8	75.1	39.4	59.7	77.8	42.4	41.6	60.8	24.1	49.7	73.7	28.1
Malignant melanoma of skin . . . . . 172	2.6	3.2	2.0	3.0	3.7	2.4	0.3	0.3	0.3	0.3	0.4	0.3
Malignant neoplasm of cervix uteri . . . . . 180	1.9	...	3.6	1.7	...	3.3	2.8	...	5.3	3.2	...	6.1
Malignant neoplasms of body of uterus and of uterus, part unspecified . . . . . 179,182	2.4	...	4.7	2.4	...	4.8	2.4	...	4.6	2.9	...	5.6
Malignant neoplasm of ovary . . . . . 183.0	5.1	...	9.9	5.5	...	10.8	2.7	...	5.2	3.1	...	6.0
Malignant neoplasm of prostate . . . . . 185	13.0	26.7	...	12.9	26.4	...	13.7	28.6	...	17.0	35.9	...
Malignant neoplasm of bladder . . . . . 188	4.2	5.7	2.7	4.5	6.3	2.8	2.3	2.7	1.9	2.8	3.2	2.4
Malignant neoplasms of kidney and other and unspecified urinary organs . . . . . 189	4.1	5.2	3.2	4.4	5.5	3.4	2.6	3.3	2.0	3.1	3.9	2.4
Malignant neoplasms of brain and other and unspecified parts of nervous system . . . . . 191,192	4.7	5.2	4.2	5.2	5.8	4.6	2.0	2.4	1.8	2.3	2.6	2.0
Hodgkin's disease . . . . . 201	0.7	0.8	0.5	0.7	0.8	0.6	0.4	0.5	0.3	0.5	0.7	0.3
Malignant lymphoma other than Hodgkin's disease . . . . . 200,202	7.5	8.1	6.9	8.2	8.8	7.7	3.5	4.1	3.0	3.8	4.5	3.2
Multiple myeloma and other immunoproliferative neoplasms . . . . . 203	3.6	3.8	3.4	3.5	3.7	3.4	3.9	4.2	3.6	4.8	5.2	4.4

<sup>1</sup>Includes figures for subcategories not shown.



**Table 14. Deaths and death rates by 10-year age groups and age-adjusted death rates for Human immunodeficiency virus infection, by race and sex: United States, 1989–90**

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

Year, race, and sex	Age												Age-adjusted rate <sup>3</sup>
	All ages <sup>1</sup>	Under 1 year <sup>2</sup>	1–4 years	5–14 years	15–24 years	25–34 years	35–44 years	45–54 years	55–64 years	65–74 years	75–84 years	85 years and over	
1990													
	Number												
All races . . . . .	25,188	106	123	84	541	8,483	10,265	3,812	1,314	369	66	12	...
Male . . . . .	22,386	48	62	45	412	7,433	9,284	3,565	1,191	289	42	4	...
Female . . . . .	2,802	58	61	39	129	1,050	981	247	123	80	24	8	...
White . . . . .	17,255	30	46	28	312	5,619	7,080	2,848	950	274	52	8	...
Male . . . . .	16,106	18	19	15	256	5,196	6,716	2,742	880	220	35	1	...
Female . . . . .	1,149	12	27	13	56	423	364	106	70	54	17	7	...
All other . . . . .	7,933	76	77	56	229	2,864	3,185	964	364	95	14	4	...
Male . . . . .	6,280	30	43	30	156	2,237	2,568	823	311	69	7	3	...
Female . . . . .	1,653	46	34	26	73	627	617	141	53	26	7	1	...
Black . . . . .	7,730	76	76	54	226	2,802	3,100	930	353	90	14	4	...
Male . . . . .	6,097	30	42	29	153	2,180	2,493	789	303	65	7	3	...
Female . . . . .	1,633	46	34	25	73	622	607	141	50	25	7	1	...
1989													
All races . . . . .	22,082	120	112	64	613	7,759	8,563	3,285	1,144	327	70	12	...
Male . . . . .	19,758	54	53	41	502	6,806	7,840	3,083	1,054	260	44	8	...
Female . . . . .	2,324	66	59	23	111	953	723	202	90	67	26	4	...
White . . . . .	15,095	52	44	41	364	5,137	5,827	2,446	860	249	60	10	...
Male . . . . .	14,114	27	13	29	312	4,752	5,572	2,354	807	197	40	6	...
Female . . . . .	981	25	31	12	52	385	255	92	53	52	20	4	...
All other . . . . .	6,987	68	68	23	249	2,622	2,736	839	284	78	10	2	...
Male . . . . .	5,644	27	40	12	190	2,054	2,268	729	247	63	4	2	...
Female . . . . .	1,343	41	28	11	59	568	468	110	37	15	6	—	...
Black . . . . .	6,795	68	68	22	242	2,559	2,661	809	272	76	10	1	...
Male . . . . .	5,475	27	40	12	184	1,997	2,201	701	239	62	4	1	...
Female . . . . .	1,320	41	28	10	58	562	460	108	33	14	6	—	...
1990													
	Rate												
All races . . . . .	10.1	2.7	0.8	0.2	1.5	19.7	27.4	15.2	6.2	2.0	0.7	*	9.8
Male . . . . .	18.5	2.4	0.8	0.3	2.2	34.5	50.2	29.1	12.0	3.7	1.1	*	17.7
Female . . . . .	2.2	3.0	0.8	0.2	0.7	4.9	5.2	1.9	1.1	0.8	0.4	*	2.1
White . . . . .	8.3	1.0	0.4	0.1	1.0	15.7	22.4	13.2	5.1	1.7	0.6	*	8.0
Male . . . . .	15.8	*	*	*	1.7	28.8	42.5	25.8	10.0	3.1	1.0	*	15.0
Female . . . . .	1.1	*	0.5	*	0.4	2.4	2.3	1.0	0.7	0.6	*	*	1.1
All other . . . . .	19.8	9.3	2.6	0.8	3.3	39.1	55.1	27.7	14.0	5.1	*	*	19.7
Male . . . . .	32.9	7.2	2.8	0.9	4.4	64.0	95.4	51.2	27.2	8.9	*	*	33.6
Female . . . . .	7.9	11.4	2.3	0.8	2.1	16.3	20.0	7.5	3.6	2.4	*	*	7.6
Black . . . . .	25.4	11.9	3.3	1.0	4.2	51.0	73.1	35.9	17.5	6.0	*	*	25.7
Male . . . . .	42.3	9.3	3.6	1.1	5.7	84.1	127.1	67.1	34.5	10.6	*	*	44.2
Female . . . . .	10.2	14.6	3.0	0.9	2.7	21.4	26.6	10.0	4.4	2.8	*	*	9.9
1989													
All races . . . . .	8.9	3.1	0.8	0.2	1.6	17.9	23.5	13.3	5.4	1.8	0.7	*	8.7
Male . . . . .	16.4	2.7	0.7	0.2	2.6	31.5	43.6	25.6	10.5	3.3	1.2	*	15.8
Female . . . . .	1.8	3.5	0.8	0.1	0.6	4.4	3.9	1.6	0.8	0.7	0.4	*	1.8
White . . . . .	7.3	1.7	0.4	0.1	1.2	14.3	18.9	11.5	4.6	1.6	0.7	*	7.1
Male . . . . .	13.9	1.7	*	0.2	2.0	26.2	36.1	22.5	9.1	2.8	1.2	*	13.2
Female . . . . .	0.9	1.7	0.5	*	0.4	2.2	1.6	0.9	0.5	0.6	0.4	*	0.9
All other . . . . .	17.8	8.5	2.3	0.3	3.6	36.2	49.4	24.7	11.0	4.2	*	*	17.7
Male . . . . .	30.1	6.7	2.7	*	5.4	59.5	88.1	46.5	21.8	8.2	*	*	30.9
Female . . . . .	6.5	10.4	2.0	*	1.7	14.9	15.8	6.0	2.6	*	*	*	6.3
Black . . . . .	22.5	10.9	3.0	0.4	4.5	46.8	65.3	31.7	13.5	5.1	*	*	23.0
Male . . . . .	38.4	8.6	3.5	*	6.8	77.4	116.9	60.6	27.1	10.2	*	*	40.3
Female . . . . .	8.3	13.3	2.5	*	2.1	19.4	21.0	7.7	2.9	*	*	*	8.1

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

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

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

NOTE: Rates for 1989 have been revised; see Technical notes.

Table 15. Deaths and death rates for major causes of death for the United States, each division, and State; and by race and sex for the United States, 1990

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

Race, sex, and area	Diseases of heart (390-398, 402, 404-429)		Malignant neoplasms, including neoplasms of lymphatic and hematopoietic tissues (140-208)		Cerebrovascular diseases (430-438)		Accidents and adverse effects (E800-E949)		Motor vehicle accidents (E810-E825)		Suicide (E950-E959)	
	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate
United States . . . . .	720,058	289.5	505,322	203.2	144,088	57.9	91,983	37.0	46,814	18.8	30,906	12.4
Male . . . . .	360,788	297.6	268,283	221.3	56,697	46.8	61,938	51.1	32,406	26.7	24,724	20.4
Female . . . . .	359,270	281.8	237,039	186.0	87,391	68.6	30,045	23.6	14,408	11.3	6,182	4.8
White . . . . .	637,364	305.4	441,585	211.6	124,526	59.7	76,934	36.9	39,651	19.0	28,086	13.5
Male . . . . .	319,362	312.7	232,608	227.7	48,024	47.0	51,348	50.3	27,288	26.7	22,448	22.0
Female . . . . .	318,002	298.4	208,977	196.1	76,502	71.8	25,586	24.0	12,363	11.6	5,638	5.3
All other . . . . .	82,694	206.7	63,737	159.3	19,562	48.9	15,049	37.6	7,163	17.9	2,820	7.0
Male . . . . .	41,426	216.9	35,675	186.8	8,673	45.4	10,590	55.5	5,118	26.8	2,276	11.9
Female . . . . .	41,268	197.4	28,062	134.2	10,889	52.1	4,459	21.3	2,045	9.8	544	2.6
Black . . . . .	75,111	246.4	57,077	187.2	17,407	57.1	12,419	40.7	5,560	18.2	2,111	6.9
Male . . . . .	37,038	256.8	31,995	221.9	7,653	53.1	8,756	60.7	4,046	28.1	1,737	12.0
Female . . . . .	38,073	237.0	25,082	156.1	9,754	60.7	3,663	22.8	1,514	9.4	374	2.3
New England . . . . .	38,702	293.0	28,740	217.6	7,138	54.0	3,710	28.1	1,667	12.6	1,342	10.2
Maine . . . . .	3,697	301.1	2,792	227.4	719	58.6	413	33.6	210	17.1	155	12.6
New Hampshire . . . . .	2,792	251.7	2,122	191.3	561	50.6	326	29.4	164	14.8	149	13.4
Vermont . . . . .	1,426	253.4	1,136	201.9	301	53.5	194	34.5	90	16.0	84	14.9
Massachusetts . . . . .	17,754	295.1	13,444	223.5	3,301	54.9	1,543	25.6	680	11.3	528	8.8
Rhode Island . . . . .	3,437	342.5	2,427	241.9	557	55.5	280	27.9	104	10.4	127	12.7
Connecticut . . . . .	9,596	291.9	6,819	207.4	1,699	51.7	954	29.0	419	12.7	299	9.1
Middle Atlantic . . . . .	130,782	347.8	86,196	229.2	20,463	54.4	11,280	30.0	5,185	13.8	3,572	9.5
New York . . . . .	63,629	353.7	38,415	213.5	8,761	48.7	5,061	28.1	2,409	13.4	1,553	8.6
New Jersey . . . . .	23,659	306.1	17,931	232.0	3,977	51.4	2,094	27.1	936	12.1	567	7.3
Pennsylvania . . . . .	43,494	366.1	29,850	251.2	7,725	65.0	4,125	34.7	1,840	15.5	1,452	12.2
East North Central . . . . .	129,171	307.5	88,818	211.4	24,984	59.5	14,534	34.6	7,157	17.0	4,767	11.3
Ohio . . . . .	34,665	319.6	23,973	221.0	6,306	58.1	3,678	33.9	1,729	15.9	1,188	11.0
Indiana . . . . .	16,968	306.1	11,662	210.3	3,698	66.7	2,058	37.1	1,088	19.6	728	13.1
Illinois . . . . .	35,300	308.8	24,439	213.8	6,707	58.7	3,984	34.9	1,845	16.1	1,158	10.1
Michigan . . . . .	27,626	297.2	18,449	198.5	5,108	55.0	3,162	34.0	1,687	18.1	1,073	11.5
Wisconsin . . . . .	14,612	298.7	10,295	210.5	3,165	64.7	1,652	33.8	808	16.5	620	12.7
West North Central . . . . .	55,171	312.4	36,845	208.6	12,040	68.2	6,750	38.2	3,275	18.5	2,271	12.9
Minnesota . . . . .	10,777	246.3	8,122	185.6	2,837	64.8	1,465	33.5	660	15.1	546	12.5
Iowa . . . . .	9,585	345.2	6,076	218.8	2,042	73.5	1,046	37.7	492	17.7	336	12.1
Missouri . . . . .	17,824	348.3	11,608	226.8	3,446	67.3	2,171	42.4	1,082	21.1	708	13.8
North Dakota . . . . .	1,949	305.1	1,339	209.6	426	66.7	233	36.5	120	18.8	73	11.4
South Dakota . . . . .	2,330	334.8	1,365	196.1	508	73.0	327	47.0	163	23.4	91	13.1
Nebraska . . . . .	5,039	319.3	3,299	209.0	1,074	68.0	576	36.5	283	17.9	220	13.9
Kansas . . . . .	7,667	309.5	5,036	203.3	1,707	68.9	932	37.6	475	19.2	297	12.0
South Atlantic . . . . .	128,259	294.4	93,831	215.4	26,832	61.6	17,525	40.2	9,384	21.5	5,950	13.7
Delaware . . . . .	1,894	284.3	1,501	225.3	324	48.6	243	36.5	142	21.3	80	12.0
Maryland . . . . .	11,902	248.9	9,832	205.6	2,229	46.6	1,419	29.7	702	14.7	486	10.2
District of Columbia . . . . .	1,887	310.9	1,547	254.9	374	61.6	199	32.8	71	11.7	37	6.1
Virginia . . . . .	15,399	248.9	11,624	187.9	3,520	56.9	2,194	35.5	1,059	17.1	799	12.9
West Virginia . . . . .	7,099	395.8	4,408	245.8	1,182	65.9	844	47.1	472	26.3	219	12.2
North Carolina . . . . .	18,564	280.1	13,229	199.6	4,459	67.3	2,914	44.0	1,467	22.1	929	14.0
South Carolina . . . . .	9,333	267.7	6,791	194.8	2,425	69.5	1,668	47.8	942	27.0	434	12.4
Georgia . . . . .	16,339	252.2	11,035	170.3	3,821	59.0	2,874	44.4	1,650	25.5	880	13.6
Florida . . . . .	45,842	354.3	33,864	261.7	8,498	65.7	5,170	40.0	2,879	22.3	2,086	16.1
East South Central . . . . .	49,494	326.1	32,901	216.8	10,730	70.7	7,832	51.6	4,166	27.5	2,005	13.2
Kentucky . . . . .	11,882	322.4	8,426	228.6	2,429	65.9	1,693	45.9	858	23.3	549	14.9
Tennessee . . . . .	15,498	317.8	10,493	215.1	3,588	73.6	2,321	47.6	1,210	24.8	653	13.4
Alabama . . . . .	12,894	319.1	8,657	214.3	2,897	71.7	2,325	57.5	1,241	30.7	514	12.7
Mississippi . . . . .	9,220	358.3	5,325	206.9	1,816	70.6	1,493	58.0	857	33.3	289	11.2
West South Central . . . . .	70,850	265.3	49,686	186.1	15,122	56.6	10,827	40.5	5,688	21.3	3,449	12.9
Arkansas . . . . .	7,991	339.9	5,702	242.6	2,076	88.3	1,184	50.4	633	26.9	293	12.5
Louisiana . . . . .	12,422	294.4	8,695	206.0	2,396	56.8	1,927	45.7	979	23.2	558	13.2
Oklahoma . . . . .	10,882	345.9	6,656	211.6	2,196	69.8	1,350	42.9	717	22.8	392	12.5
Texas . . . . .	39,555	232.9	28,633	168.6	8,454	49.8	6,366	37.5	3,359	19.8	2,206	13.0

**Table 15. Deaths and death rates for major causes of death for the United States, each division, and State; and by race and sex for the United States, 1990—Con.**

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

Race, sex, and area	Diseases of heart (390–398, 402, 404–429)		Malignant neoplasms, including neoplasms of lymphatic and hematopoietic tissues (140–208)		Cerebrovascular diseases (430–438)		Accidents and adverse effects (E800–E949)		Motor vehicle accidents (E810–E825)		Suicide (E950–E959)	
	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate
Mountain . . . . .	28,720	210.3	22,140	162.1	6,054	44.3	5,708	41.8	3,088	22.6	2,521	18.5
Montana . . . . .	1,979	247.7	1,621	202.9	493	61.7	398	49.8	205	25.7	167	20.9
Idaho . . . . .	2,212	219.7	1,738	172.6	548	54.4	477	47.4	250	24.8	192	19.1
Wyoming . . . . .	972	214.3	731	161.2	211	46.5	203	44.8	99	21.8	81	17.9
Colorado . . . . .	6,144	186.5	4,935	149.8	1,325	40.2	1,128	34.2	574	17.4	554	16.8
New Mexico . . . . .	3,003	198.2	2,265	149.5	554	36.6	798	52.7	455	30.0	283	18.7
Arizona . . . . .	8,807	240.3	6,837	186.5	1,735	47.3	1,628	44.4	893	24.4	686	18.7
Utah . . . . .	2,739	159.0	1,765	102.4	675	39.2	563	32.7	292	16.9	264	15.3
Nevada . . . . .	2,864	238.3	2,248	187.0	513	42.7	513	42.7	320	26.6	294	24.5
Pacific . . . . .	88,909	227.2	66,165	169.1	20,725	53.0	13,817	35.3	7,204	18.4	5,029	12.9
Washington . . . . .	11,238	230.9	9,004	185.0	2,724	56.0	1,788	36.7	912	18.7	677	13.9
Oregon . . . . .	7,599	267.4	6,050	212.9	1,883	66.2	1,143	40.2	559	19.7	449	15.8
California . . . . .	67,560	227.0	48,986	164.6	15,485	52.0	10,172	34.2	5,454	18.3	3,708	12.5
Alaska . . . . .	444	80.7	470	85.4	103	18.7	393	71.4	100	18.2	70	12.7
Hawaii . . . . .	2,068	186.6	1,655	149.3	530	47.8	321	29.0	179	16.2	125	11.3

NOTE: Caution should be used in comparing crude death rates by State. Death rates are affected by the population composition of the area.

**Table 16. Deaths by age according to specified Hispanic origin, race for non-Hispanic origin, and sex: Total of 45 States, New York State (excluding New York City), and the District of Columbia, 1990**

[For a listing of States, see Technical notes]

Hispanic origin, race for non-Hispanic origin, and sex	Total	Under 1 year	1–4 years	5–14 years	15–24 years	25–34 years	35–44 years	45–54 years	55–64 years	65–74 years	75–84 years	85 years and over	Not stated
All origins . . . . .	1,970,337	35,030	6,354	7,752	33,298	53,444	74,137	107,419	231,828	441,097	553,839	425,603	536
Male . . . . .	1,021,783	19,970	3,658	4,701	25,231	39,210	50,790	67,474	142,096	255,489	272,737	140,037	390
Female . . . . .	948,554	15,060	2,696	3,051	8,067	14,234	23,347	39,945	89,732	185,608	281,102	285,566	146
Hispanic . . . . .	68,673	4,228	836	823	4,085	5,418	5,159	5,371	8,790	11,911	12,772	9,186	94
Male . . . . .	41,012	2,373	484	503	3,377	4,412	3,906	3,548	5,452	6,693	6,457	3,721	86
Female . . . . .	27,661	1,855	352	320	708	1,006	1,253	1,823	3,338	5,218	6,315	5,465	8
Mexican . . . . .	40,624	2,952	566	550	2,940	3,314	2,882	3,118	5,298	7,001	6,971	4,978	54
Male . . . . .	24,642	1,656	329	340	2,477	2,772	2,153	2,042	3,247	3,976	3,564	2,038	48
Female . . . . .	15,982	1,296	237	210	463	542	729	1,076	2,051	3,025	3,407	2,940	6
Puerto Rican . . . . .	5,159	363	77	70	259	554	588	509	701	793	804	438	3
Male . . . . .	3,146	205	48	46	195	413	450	341	442	430	400	174	2
Female . . . . .	2,013	158	29	24	64	141	138	168	259	363	404	264	1
Cuban . . . . .	7,181	81	19	19	62	259	357	497	936	1,478	2,086	1,385	2
Male . . . . .	4,063	45	8	12	47	216	298	363	628	901	1,029	514	2
Female . . . . .	3,118	36	11	7	15	43	59	134	308	577	1,057	871	—
Central and South American . . . . .	4,122	295	76	71	361	562	510	414	464	488	533	344	4
Male . . . . .	2,417	166	46	40	308	441	364	243	254	212	218	121	4
Female . . . . .	1,705	129	30	31	53	121	146	171	210	276	315	223	—
Other and unknown Hispanic . . . . .	11,587	537	98	113	463	729	822	833	1,391	2,151	2,378	2,041	31
Male . . . . .	6,744	301	53	65	350	570	641	559	881	1,174	1,246	874	30
Female . . . . .	4,843	236	45	48	113	159	181	274	510	977	1,132	1,167	1
Non-Hispanic <sup>1</sup> . . . . .	1,887,983	30,231	5,458	6,847	28,915	47,459	68,225	101,065	221,162	426,225	537,899	414,249	248
Male . . . . .	972,814	17,283	3,143	4,154	21,614	34,355	46,325	63,257	135,373	246,978	264,628	135,544	160
Female . . . . .	915,169	12,948	2,315	2,693	7,301	13,104	21,900	37,808	85,789	179,247	273,271	278,705	88
White . . . . .	1,636,015	18,745	3,681	4,973	20,683	33,167	49,794	78,902	183,892	372,947	486,026	383,063	142
Male . . . . .	834,188	10,908	2,130	3,021	15,212	24,279	34,115	49,593	113,647	217,569	239,405	124,220	89
Female . . . . .	801,827	7,837	1,551	1,952	5,471	8,888	15,679	29,309	70,245	155,378	246,621	258,843	53
Black . . . . .	225,718	10,465	1,512	1,591	7,140	12,959	16,680	19,892	33,621	47,928	46,309	27,524	97
Male . . . . .	123,446	5,791	848	967	5,584	9,164	11,087	12,314	19,652	26,283	22,023	9,668	65
Female . . . . .	102,272	4,674	664	624	1,556	3,795	5,593	7,578	13,969	21,645	24,286	17,856	32
Not stated <sup>2</sup> . . . . .	13,681	571	60	82	298	567	753	983	1,876	2,961	3,168	2,168	194
Male . . . . .	7,957	314	31	44	240	443	559	669	1,271	1,818	1,652	772	144
Female . . . . .	5,724	257	29	38	58	124	194	314	605	1,143	1,516	1,396	50

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

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

Table 17. Deaths for the 10 leading causes of death for Hispanic and white non-Hispanic origin, for specified age groups: Total of 45 States, New York State (excluding New York City), and the District of Columbia, 1990

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

Hispanic			White non-Hispanic		
Rank order	Cause of death and age (Ninth Revision International Classification of Diseases, 1975)	Number	Rank order	Cause of death and age (Ninth Revision International Classification of Diseases, 1975)	Number
All ages <sup>1</sup>			All ages <sup>1</sup>		
...	All causes	68,673	...	All causes	1,636,015
1	Diseases of heart . . . . .390-398,402,404-429	16,903	1	Diseases of heart . . . . .390-398,402,404-429	564,903
2	Malignant neoplasms, including neoplasms of lymphatic and hematopoietic tissues . . . .140-208	12,759	2	Malignant neoplasms, including neoplasms of lymphatic and hematopoietic tissues . . . .140-208	395,245
3	Accidents and adverse effects . . . . .E800-E949	6,634	3	Cerebrovascular diseases . . . . .430-438	112,810
...	Motor vehicle accidents . . . . .E810-E825	4,084	4	Chronic obstructive pulmonary diseases and allied conditions . . . . .490-496	73,444
...	All other accidents and adverse effects . . . . .E800-E807,E826-E949	2,550	5	Accidents and adverse effects . . . . .E800-E949	64,668
4	Cerebrovascular diseases . . . . .430-438	3,655	...	Motor vehicle accidents . . . . .E810-E825	32,931
5	Homicide and legal intervention . . . . .E960-E978	3,259	...	All other accidents and adverse effects . . . . .E800-E807,E826-E949	31,737
6	Diabetes mellitus . . . . .250	2,501	6	Pneumonia and influenza . . . . .480-487	62,357
7	Pneumonia and influenza . . . . .480-487	2,106	7	Diabetes mellitus . . . . .250	33,527
8	Human immunodeficiency virus infection . . . . .*042-*044	2,099	8	Suicide . . . . .E950-E959	24,895
9	Chronic liver disease and cirrhosis . . . . .571	2,037	9	Chronic liver disease and cirrhosis . . . . .571	17,780
10	Certain conditions originating in the perinatal period . . . . .760-779	1,808	10	Atherosclerosis . . . . .440	15,049
...	All other causes . . . . .Residual	14,912	...	All other causes . . . . .Residual	271,337
1-14 years			1-14 years		
...	All causes	1,659	...	All causes	8,654
1	Accidents and adverse effects . . . . .E800-E949	663	1	Accidents and adverse effects . . . . .E800-E949	3,627
...	Motor vehicle accidents . . . . .E810-E825	344	...	Motor vehicle accidents . . . . .E810-E825	1,797
...	All other accidents and adverse effects . . . . .E800-E807,E826-E949	319	...	All other accidents and adverse effects . . . . .E800-E807,E826-E949	1,830
2	Malignant neoplasms, including neoplasms of lymphatic and hematopoietic tissues . . . .140-208	183	2	Malignant neoplasms, including neoplasms of lymphatic and hematopoietic tissues . . . .140-208	1,038
3	Congenital anomalies . . . . .740-759	156	3	Congenital anomalies . . . . .740-759	832
4	Homicide and legal intervention . . . . .E960-E978	137	4	Diseases of heart . . . . .390-398,402,404-429	327
5	Diseases of heart . . . . .390-398,402,404-429	44	5	Homicide and legal intervention . . . . .E960-E978	283
6	Pneumonia and influenza . . . . .480-487	27	6	Suicide . . . . .E950-E959	186
7	Certain conditions originating in the perinatal period . . . . .760-779	21	7	Pneumonia and influenza . . . . .480-487	171
8	Suicide . . . . .E950-E959	20	8	Benign neoplasms, carcinoma in situ, and neoplasms of uncertain behavior and of unspecified nature . . . . .210-239	121
9	Cerebrovascular diseases . . . . .430-438	17	9	Septicemia . . . . .038	81
10	Septicemia . . . . .038	16	10	Certain conditions originating in the perinatal period . . . . .760-779	76
...	All other causes . . . . .Residual	375	...	All other causes . . . . .Residual	1,912
15-24 years			15-24 years		
...	All causes	4,085	...	All causes	20,683
1	Accidents and adverse effects . . . . .E800-E949	1,731	1	Accidents and adverse effects . . . . .E800-E949	11,159
...	Motor vehicle accidents . . . . .E810-E825	1,315	...	Motor vehicle accidents . . . . .E810-E825	8,923
...	All other accidents and adverse effects . . . . .E800-E807,E826-E949	416	...	All other accidents and adverse effects . . . . .E800-E807,E826-E949	2,236
2	Homicide and legal intervention . . . . .E960-E978	1,225	2	Suicide . . . . .E950-E959	3,528
3	Suicide . . . . .E950-E959	384	3	Homicide and legal intervention . . . . .E960-E978	1,316
4	Malignant neoplasms, including neoplasms of lymphatic and hematopoietic tissues . . . .140-208	170	4	Malignant neoplasms, including neoplasms of lymphatic and hematopoietic tissues . . . .140-208	1,191
5	Diseases of heart . . . . .390-398,402,404-429	71	5	Diseases of heart . . . . .390-398,402,404-429	495
6	Human immunodeficiency virus infection . . . . .*042-*044	62	6	Congenital anomalies . . . . .740-759	310
7	Congenital anomalies . . . . .740-759	37	7	Human immunodeficiency virus infection . *042-*044	193
8	Cerebrovascular diseases . . . . .430-438	31	8	Cerebrovascular diseases . . . . .430-438	134
9	Pneumonia and influenza . . . . .480-487	19	9	Pneumonia and influenza . . . . .480-487	118
10	Complications of pregnancy, childbirth, and the puerperium . . . . .630-676	13	10	Chronic obstructive pulmonary diseases and allied conditions . . . . .490-496	89
...	All other causes . . . . .Residual	342	...	All other causes . . . . .Residual	2,150

See footnote at end of table.

**Table 17. Deaths for the 10 leading causes of death for Hispanic and white non-Hispanic origin, for specified age groups: Total of 45 States, New York State (excluding New York City), and the District of Columbia, 1990—Con.**

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

Hispanic			White non-Hispanic		
Rank order	Cause of death and age (Ninth Revision International Classification of Diseases, 1975)	Number	Rank order	Cause of death and age (Ninth Revision International Classification of Diseases, 1975)	Number
25-44 years			25-44 years		
...	All causes	10,577	...	All causes	82,961
1	Accidents and adverse effects . . . . .E800-E949	2,591	1	Accidents and adverse effects . . . . .E800-E949	18,253
...	Motor vehicle accidents . . . . .E810-E825	1,591	...	Motor vehicle accidents . . . . .E810-E825	11,230
...	All other accidents and adverse effects . . . . .E800-E807,E826-E949	1,000	...	All other accidents and adverse effects . . . . .E800-E807,E826-E949	7,023
2	Human immunodeficiency virus infection . . . . . *042-*044	1,641	2	Malignant neoplasms, including neoplasms of lymphatic and hematopoietic tissues . . . . .140-208	14,844
3	Homicide and legal intervention . . . . .E960-E978	1,537	3	Suicide . . . . .E950-E959	9,521
4	Malignant neoplasms, including neoplasms of lymphatic and hematopoietic tissues . . . . .140-208	1,078	4	Diseases of heart . . . . .390-398,402,404-429	9,190
5	Suicide . . . . .E950-E959	648	5	Human immunodeficiency virus infection . . . . . *042-*044	8,796
6	Diseases of heart . . . . .390-398,402,404-429	628	6	Homicide and legal intervention . . . . .E960-E978	3,521
7	Chronic liver disease and cirrhosis . . . . .571	516	7	Chronic liver disease and cirrhosis . . . . .571	2,414
8	Cerebrovascular diseases . . . . .430-438	259	8	Cerebrovascular diseases . . . . .430-438	1,704
9	Pneumonia and influenza . . . . .480-487	118	9	Diabetes mellitus . . . . .250	1,428
10	Diabetes mellitus . . . . .250	97	10	Pneumonia and influenza . . . . .480-487	1,000
...	All other causes . . . . .Residual	1,464	...	All other causes . . . . .Residual	12,290
45-64 years			45-64 years		
...	All causes	14,161	...	All causes	262,794
1	Malignant neoplasms, including neoplasms of lymphatic and hematopoietic tissues . . . . .140-208	4,065	1	Malignant neoplasms, including neoplasms of lymphatic and hematopoietic tissues . . . . .140-208	100,513
2	Diseases of heart . . . . .390-398,402,404-429	3,656	2	Diseases of heart . . . . .390-398,402,404-429	76,664
3	Chronic liver disease and cirrhosis . . . . .571	953	3	Accidents and adverse effects . . . . .E800-E949	10,165
4	Accidents and adverse effects . . . . .E800-E949	880	...	Motor vehicle accidents . . . . .E810-E825	5,111
...	Motor vehicle accidents . . . . .E810-E825	529	...	All other accidents and adverse effects . . . . .E800-E807,E826-E949	5,054
...	All other accidents and adverse effects . . . . .E800-E807,E826-E949	351	4	Chronic obstructive pulmonary diseases and allied conditions . . . . .490-496	10,114
5	Cerebrovascular diseases . . . . .430-438	716	5	Cerebrovascular diseases . . . . .430-438	9,125
6	Diabetes mellitus . . . . .250	685	6	Chronic liver disease and cirrhosis . . . . .571	7,077
7	Human immunodeficiency virus infection . . . . . *042-*044	351	7	Suicide . . . . .E950-E959	5,986
8	Homicide and legal intervention . . . . .E960-E978	261	8	Diabetes mellitus . . . . .250	5,985
9	Suicide . . . . .E950-E959	231	9	Pneumonia and influenza . . . . .480-487	3,666
10	Pneumonia and influenza . . . . .480-487	223	10	Human immunodeficiency virus infection . . . . . *042-*044	2,717
...	All other causes . . . . .Residual	2,140	...	All other causes . . . . .Residual	30,782
65 years and over			65 years and over		
...	All causes	33,869	...	All causes	1,242,036
1	Diseases of heart . . . . .390-398,402,404-429	12,419	1	Diseases of heart . . . . .390-398,402,404-429	477,813
2	Malignant neoplasms, including neoplasms of lymphatic and hematopoietic tissues . . . . .140-208	7,252	2	Malignant neoplasms, including neoplasms of lymphatic and hematopoietic tissues . . . . .140-208	277,594
3	Cerebrovascular diseases . . . . .430-438	2,622	3	Cerebrovascular diseases . . . . .430-438	101,701
4	Diabetes mellitus . . . . .250	1,710	4	Chronic obstructive pulmonary diseases and allied conditions . . . . .490-496	62,663
5	Pneumonia and influenza . . . . .480-487	1,633	5	Pneumonia and influenza . . . . .480-487	57,142
6	Chronic obstructive pulmonary diseases and allied conditions . . . . .490-496	1,201	6	Diabetes mellitus . . . . .250	26,029
7	Accidents and adverse effects . . . . .E800-E949	611	7	Accidents and adverse effects . . . . .E800-E949	20,974
...	Motor vehicle accidents . . . . .E810-E825	251	...	Motor vehicle accidents . . . . .E810-E825	5,749
...	All other accidents and adverse effects . . . . .E800-E807,E826-E949	360	...	All other accidents and adverse effects . . . . .E800-E807,E826-E949	15,225
8	Chronic liver disease and cirrhosis . . . . .571	552	8	Atherosclerosis . . . . .440	14,386
9	Nephritis, nephrotic syndrome, and nephrosis . . . . .580-589	471	9	Nephritis, nephrotic syndrome, and nephrosis . . . . .580-589	12,727
10	Septicemia . . . . .038	392	10	Septicemia . . . . .038	11,214
...	All other causes . . . . .Residual	5,006	...	All other causes . . . . .Residual	179,793

<sup>1</sup>Includes deaths under 1 year of age.

**Table 18. Deaths and age-adjusted death rates for drug-induced causes, by race and sex: United States, 1979–90**

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

Year	All races			White			All other					
							Total			Black		
	Both sexes	Male	Female	Both sexes	Male	Female	Both sexes	Male	Female	Both sexes	Male	Female
	Number											
1990	9,463	5,897	3,566	7,603	4,646	2,957	1,860	1,251	609	1,703	1,155	548
1989	10,710	6,895	3,815	8,336	5,249	3,087	2,374	1,646	728	2,236	1,570	666
1988	10,917	7,004	3,913	8,409	5,234	3,175	2,508	1,770	738	2,395	1,700	695
1987	9,796	6,146	3,650	7,547	4,600	2,947	2,249	1,546	703	2,101	1,465	636
1986	9,976	6,284	3,692	7,948	4,885	3,063	2,028	1,399	629	1,906	1,335	571
1985	8,663	5,342	3,321	6,946	4,172	2,774	1,717	1,170	547	1,600	1,107	493
1984	7,892	4,640	3,252	6,309	3,587	2,722	1,583	1,053	530	1,480	997	483
1983	7,492	4,145	3,347	6,187	3,378	2,809	1,305	767	538	1,194	724	470
1982	7,310	4,130	3,180	5,991	3,251	2,740	1,319	879	440	1,212	822	390
1981	7,106	3,835	3,271	5,863	3,042	2,821	1,243	793	450	1,152	751	401
1980	6,900	3,771	3,129	5,814	3,088	2,726	1,086	683	403	1,006	648	358
1979	7,101	3,656	3,445	6,116	3,077	3,039	985	579	406	897	540	357
	Age-adjusted death rate <sup>1</sup>											
1990	3.6	4.6	2.6	3.3	4.2	2.5	4.6	6.7	2.8	5.7	8.4	3.4
1989 <sup>2</sup>	4.1	5.4	2.8	3.7	4.8	2.6	6.0	8.9	3.4	7.5	11.4	4.1
1988 <sup>2</sup>	4.2	5.6	2.9	3.8	4.9	2.7	6.6	10.0	3.6	8.3	12.9	4.4
1987 <sup>2</sup>	3.8	5.0	2.7	3.4	4.3	2.5	6.0	9.0	3.5	7.4	11.3	4.1
1986 <sup>2</sup>	4.0	5.2	2.8	3.7	4.7	2.7	5.6	8.4	3.2	6.9	10.5	3.7
1985 <sup>2</sup>	3.5	4.5	2.6	3.3	4.0	2.5	4.9	7.2	2.9	5.9	8.9	3.3
1984 <sup>2</sup>	3.2	3.9	2.6	3.0	3.5	2.5	4.6	6.7	2.9	5.5	8.2	3.3
1983 <sup>2</sup>	3.1	3.6	2.6	3.0	3.3	2.5	4.0	5.1	3.0	4.6	6.1	3.3
1982 <sup>2</sup>	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 <sup>2</sup>	3.1	3.4	2.7	2.9	3.1	2.7	4.0	5.5	2.7	4.6	6.6	2.9
1980	3.0	3.4	2.6	2.9	3.2	2.6	3.7	4.9	2.5	4.1	5.8	2.7
1979	3.1	3.4	2.9	3.1	3.2	3.0	3.4	4.3	2.6	3.7	4.9	2.7

<sup>1</sup>For method of computation, see Technical notes.

<sup>2</sup>Rates are revised and, therefore, may differ from those published in *Advance Report of Final Mortality Statistics* for 1989 and earlier years; see Technical notes.

**Table 19. Deaths and age-adjusted death rates for alcohol-induced causes, by race and sex: United States, 1979–90**

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

Year	All races			White			All other					
							Total			Black		
	Both sexes	Male	Female	Both sexes	Male	Female	Both sexes	Male	Female	Both sexes	Male	Female
	Number											
1990	19,757	14,842	4,915	14,904	11,334	3,570	4,853	3,508	1,345	4,337	3,172	1,165
1989	19,810	14,960	4,850	14,832	11,307	3,525	4,978	3,653	1,325	4,400	3,283	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 <sup>1</sup>											
1990	7.2	11.4	3.4	6.2	9.9	2.8	13.6	22.0	6.8	16.1	26.6	7.7
1989 <sup>2</sup>	7.3	11.7	3.4	6.2	9.9	2.8	14.3	23.3	6.9	16.6	27.7	7.8
1988 <sup>2</sup>	7.1	11.3	3.3	5.9	9.5	2.7	14.3	23.2	7.0	16.6	27.3	7.9
1987 <sup>2</sup>	6.8	10.9	3.2	5.8	9.2	2.6	13.5	22.2	6.5	15.9	26.7	7.3
1986 <sup>2</sup>	6.7	10.6	3.3	5.7	9.0	2.7	13.1	21.6	6.2	15.3	25.5	7.1
1985 <sup>2</sup>	7.0	11.0	3.4	5.8	9.2	2.8	14.6	23.5	7.2	16.8	27.7	8.0
1984 <sup>2</sup>	7.0	10.9	3.5	5.9	9.3	2.9	14.0	22.2	7.3	15.7	25.4	8.0
1983 <sup>2</sup>	7.0	10.9	3.5	6.0	9.3	2.9	14.0	22.3	7.3	15.8	25.4	8.0
1982 <sup>2</sup>	7.2	11.2	3.6	6.2	9.7	3.0	14.2	22.4	7.4	15.7	25.1	8.1
1981 <sup>2</sup>	7.8	12.0	4.1	6.6	10.2	3.3	16.3	25.6	8.7	17.9	28.5	9.3
1980	8.4	13.0	4.3	6.9	10.8	3.5	18.8	29.5	10.0	20.4	32.4	10.6
1979	8.2	12.6	4.3	6.8	10.6	3.5	18.1	28.3	9.7	19.2	30.4	10.1

<sup>1</sup>For method of computation, see Technical notes.

<sup>2</sup>Rates are revised and, therefore, may differ from those published in *Advance Report of Final Mortality Statistics* for 1989 and earlier years; see Technical notes.

Table 20. Deaths and percent distribution of deaths for ages 15 years and over, by marital status, race, and sex: United States, 1990

Marital status	All other											
	All races			White			Total			Black		
	Both sexes	Male	Female	Both sexes	Male	Female	Both sexes	Male	Female	Both sexes	Male	Female
	Number <sup>1</sup>											
Total	2,094,183	1,082,062	1,012,121	1,816,849	929,560	887,289	277,334	152,502	124,832	249,435	136,318	113,117
Never married	223,871	140,378	83,493	173,341	105,092	68,249	50,530	35,286	15,244	46,638	32,342	14,296
Ever married	1,859,521	933,941	925,580	1,636,124	819,232	816,892	223,397	114,709	108,688	199,537	101,583	97,954
Married	913,817	641,733	272,084	810,107	569,965	240,142	103,710	71,768	31,942	89,731	62,046	27,685
Widowed	770,161	191,283	578,878	680,091	165,840	514,251	90,070	25,443	64,627	82,302	23,305	58,997
Divorced	175,543	100,925	74,618	145,926	83,427	62,499	29,617	17,498	12,119	27,504	16,232	11,272
Not stated	10,791	7,743	3,048	7,384	5,236	2,148	3,407	2,507	900	3,260	2,393	867
	Percent distribution <sup>2</sup>											
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Never married	10.7	13.1	8.3	9.6	11.4	7.7	18.4	23.5	12.3	18.9	24.1	12.7
Ever married	89.3	86.9	91.7	90.4	88.6	92.3	81.6	76.5	87.7	81.1	75.9	87.3
Married	43.9	59.7	27.0	44.8	61.7	27.1	37.9	47.8	25.8	36.5	46.3	24.7
Widowed	37.0	17.8	57.4	37.6	17.9	58.1	32.9	17.0	52.1	33.4	17.4	52.6
Divorced	8.4	9.4	7.4	8.1	9.0	7.1	10.8	11.7	9.8	11.2	12.1	10.0

<sup>1</sup>Excludes figures for age not stated.

<sup>2</sup>Denominators of percent distribution exclude deaths of persons of unknown marital status.

Table 21. Deaths and percent distribution of deaths for ages 15 years and over, by educational attainment, race, and sex: Total of 28 States and the District of Columbia, 1990

Years of school completed	All other											
	All races			White			Total			Black		
	Both sexes	Male	Female	Both sexes	Male	Female	Both sexes	Male	Female	Both sexes	Male	Female
	Number <sup>1</sup>											
Total	22,684	17,333	5,351	17,164	12,988	4,176	5,520	4,345	1,175	4,727	3,756	971
0-8 years	1,800	1,400	400	1,511	1,190	321	289	210	79	225	165	60
9-11 years	8,047	6,250	1,797	5,849	4,435	1,414	2,198	1,815	383	1,931	1,617	314
12 years	8,385	6,524	1,861	6,240	4,835	1,405	2,145	1,689	456	1,884	1,491	393
13-15 years	3,129	2,215	914	2,521	1,780	741	608	435	173	457	324	133
16 years or more	536	346	190	451	298	153	85	48	37	62	35	27
Not stated	787	598	189	592	450	142	195	148	47	168	124	44
	Percent distribution <sup>2</sup>											
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
0-8 years	8.2	8.4	7.7	9.1	9.5	8.0	5.4	5.0	7.0	4.9	4.5	6.5
9-11 years	36.7	37.3	34.8	35.3	35.4	35.1	41.3	43.2	34.0	42.4	44.5	33.9
12 years	38.3	39.0	36.1	37.7	38.6	34.8	40.3	40.2	40.4	41.3	41.1	42.4
13-15 years	14.3	13.2	17.7	15.2	14.2	18.4	11.4	10.4	15.3	10.0	8.9	14.3
16 years or more	2.4	2.1	3.7	2.7	2.4	3.8	1.6	1.1	3.3	1.4	1.0	2.9

<sup>1</sup>Excludes figures for age not stated.

<sup>2</sup>Denominators of percent distribution exclude deaths of persons of unknown educational attainment.

Table 22. Infant, neonatal, and postneonatal mortality rates, by race and sex: United States, 1940, 1950, 1960, 1970, and 1975–90

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

Year	All other											
	All races			White			Total			Black		
	Both sexes	Male	Female	Both sexes	Male	Female	Both sexes	Male	Female	Both sexes	Male	Female
Race of mother <sup>1</sup>												
1990	9.2	10.3	8.1	7.6	8.5	6.6	15.5	17.0	14.0	18.0	19.6	16.2
1989	9.8	10.8	8.8	8.1	9.0	7.1	16.3	17.6	15.0	18.6	20.0	17.2
Race of child <sup>2</sup>												
1990	9.2	10.3	8.1	7.7	8.7	6.7	14.4	15.8	13.1	17.0	18.5	15.3
1989	9.8	10.8	8.8	8.2	9.2	7.2	15.2	16.4	14.0	17.7	19.0	16.3
1988	10.0	11.0	8.9	8.5	9.5	7.4	15.0	16.2	13.8	17.6	19.0	16.1
1987	10.1	11.2	8.9	8.6	9.6	7.6	15.4	16.9	13.9	17.9	19.6	16.0
1986	10.4	11.5	9.1	8.9	10.0	7.8	15.7	17.3	14.0	18.0	20.0	16.0
1985	10.6	11.9	9.3	9.3	10.6	8.0	15.8	17.2	14.4	18.2	19.9	16.5
1984	10.8	11.9	9.6	9.4	10.5	8.3	16.1	17.3	14.8	18.4	19.8	16.9
1983	11.2	12.3	10.0	9.7	10.8	8.6	16.8	18.3	15.2	19.2	21.1	17.2
1982	11.5	12.8	10.2	10.1	11.2	8.9	17.3	18.9	15.5	19.6	21.5	17.7
1981	11.9	13.1	10.7	10.5	11.7	9.2	17.8	19.2	16.3	20.0	21.7	18.3
1980	12.6	13.9	11.2	11.0	12.3	9.6	19.1	20.7	17.5	21.4	23.3	19.4
1979	13.1	14.5	11.6	11.4	12.8	9.9	19.8	21.5	18.1	21.8	23.7	19.8
1978	13.8	15.3	12.2	12.0	13.4	10.6	21.1	23.1	18.9	23.1	25.4	20.8
1977	14.1	15.8	12.4	12.3	13.9	10.7	21.7	23.7	19.6	23.6	25.9	21.3
1976	15.2	16.8	13.6	13.3	14.8	11.7	23.5	25.5	21.4	25.5	27.8	23.2
1975	16.1	17.9	14.2	14.2	15.9	12.3	24.2	26.2	22.2	26.2	28.3	24.0
1970	20.0	22.4	17.5	17.8	20.0	15.4	30.9	34.2	27.5	32.6	36.2	29.0
1960	26.0	29.3	22.6	22.9	26.0	19.6	43.2	47.9	38.5	44.3	49.1	39.4
1950	29.2	32.8	25.5	26.8	30.2	23.1	44.5	48.9	39.9	43.9	48.3	39.4
1940	47.0	52.5	41.3	43.2	48.3	37.8	73.8	82.2	65.2	72.9	81.1	64.6
Race of mother <sup>1</sup>												
1990	5.8	6.5	5.2	4.8	5.4	4.2	9.9	10.8	8.9	11.6	12.7	10.4
1989	6.2	6.8	5.6	5.1	5.7	4.6	10.3	11.1	9.5	11.9	12.8	11.0
Race of child <sup>2</sup>												
1990	5.8	6.5	5.2	4.9	5.5	4.3	9.2	10.0	8.3	10.9	12.0	9.8
1989	6.2	6.8	5.6	5.2	5.8	4.7	9.6	10.3	8.9	11.3	12.2	10.4
1988	6.3	6.9	5.7	5.4	5.9	4.8	9.7	10.5	8.8	11.5	12.5	10.4
1987	6.5	7.1	5.8	5.5	6.1	4.9	10.0	11.0	9.0	11.7	12.9	10.5
1986	6.7	7.4	6.0	5.8	6.4	5.1	10.1	11.1	9.1	11.7	13.0	10.5
1985	7.0	7.8	6.1	6.1	6.9	5.3	10.3	11.3	9.4	12.1	13.2	10.9
1984	7.0	7.7	6.3	6.2	6.8	5.5	10.2	11.0	9.5	11.8	12.7	10.9
1983	7.3	8.0	6.5	6.4	7.1	5.7	10.8	11.7	9.7	12.4	13.6	11.2
1982	7.7	8.5	6.9	6.8	7.5	6.0	11.3	12.4	10.3	13.1	14.3	11.8
1981	8.0	8.8	7.2	7.1	7.8	6.3	11.8	12.8	10.9	13.4	14.6	12.3
1980	8.5	9.3	7.6	7.5	8.3	6.6	12.5	13.5	11.5	14.1	15.3	12.8
1979	8.9	9.8	7.9	7.9	8.8	6.9	12.9	13.9	11.8	14.3	15.5	13.1
1978	9.5	10.5	8.4	8.4	9.3	7.4	14.0	15.5	12.4	15.5	17.2	13.7
1977	9.9	11.0	8.7	8.7	9.8	7.6	14.7	16.0	13.3	16.1	17.6	14.5
1976	10.9	12.0	9.7	9.7	10.7	8.5	16.3	17.7	14.9	17.9	19.5	16.3
1975	11.6	12.9	10.2	10.4	11.7	9.0	16.8	18.2	15.3	18.3	19.8	16.8
1970	15.1	17.0	13.1	13.8	15.5	11.9	21.4	23.9	18.9	22.8	25.4	20.1
1960	18.7	21.2	16.1	17.2	19.7	14.7	26.9	30.0	23.6	27.8	31.1	24.5
1950	20.5	23.3	17.5	19.4	22.2	16.4	27.5	30.8	24.2	27.8	31.1	24.4
1940	28.8	32.6	24.7	27.2	30.9	23.3	39.7	44.9	34.5	39.9	44.8	34.9
Race of mother <sup>1</sup>												
1990	3.4	3.8	3.0	2.8	3.1	2.4	5.7	6.2	5.1	6.4	6.9	5.9
1989	3.6	4.0	3.1	2.9	3.4	2.5	6.0	6.5	5.5	6.7	7.2	6.2
Race of child <sup>2</sup>												
1990	3.4	3.8	3.0	2.8	3.2	2.4	5.3	5.7	4.8	6.1	6.5	5.5
1989	3.6	4.0	3.1	3.0	3.4	2.5	5.6	6.1	5.2	6.4	6.8	5.9
1988	3.6	4.0	3.2	3.1	3.6	2.7	5.4	5.7	5.0	6.2	6.6	5.8
1987	3.6	4.1	3.2	3.1	3.6	2.7	5.4	5.9	4.9	6.1	6.8	5.5
1986	3.6	4.1	3.1	3.1	3.6	2.7	5.6	6.2	4.9	6.3	7.0	5.6
1985	3.7	4.2	3.2	3.2	3.7	2.7	5.5	6.0	5.0	6.1	6.7	5.6
1984	3.8	4.2	3.3	3.3	3.7	2.8	5.8	6.3	5.3	6.5	7.1	5.9
1983	3.9	4.3	3.4	3.3	3.7	2.9	6.0	6.6	5.4	6.8	7.4	6.1
1982	3.8	4.3	3.3	3.3	3.7	2.8	5.9	6.5	5.3	6.6	7.3	5.9
1981	3.9	4.3	3.5	3.4	3.8	3.0	6.0	6.5	5.4	6.6	7.1	6.0
1980	4.1	4.6	3.6	3.5	4.0	3.0	6.6	7.2	6.0	7.3	7.9	6.6
1979	4.2	4.7	3.7	3.5	4.0	3.0	6.9	7.6	6.3	7.5	8.2	6.7
1978	4.3	4.7	3.9	3.6	4.0	3.2	7.0	7.6	6.5	7.6	8.2	7.0
1977	4.2	4.8	3.7	3.6	4.1	3.1	7.0	7.7	6.3	7.6	8.3	6.8
1976	4.3	4.8	3.8	3.6	4.1	3.2	7.2	7.8	6.5	7.6	8.4	6.9
1975	4.5	4.9	4.0	3.8	4.2	3.3	7.5	8.0	6.9	7.9	8.5	7.2
1970	4.9	5.4	4.4	4.0	4.4	3.5	9.5	10.3	8.6	9.9	10.8	8.9
1960	7.3	8.1	6.5	5.7	6.3	4.9	16.4	17.8	14.8	16.5	18.0	14.9
1950	8.7	9.4	8.0	7.4	8.0	6.7	16.9	18.1	15.7	16.1	17.2	15.0
1940	18.3	19.9	16.6	16.0	17.5	14.5	34.1	37.3	30.7	33.0	36.4	29.7

<sup>1</sup>Infant deaths based on race of decedent, and live births based on race of mother; see Technical notes.

<sup>2</sup>Infant deaths based on race of decedent, and live births based on race of child; see Technical notes.



Table 23. Deaths under 1 year and infant mortality rates for 61 selected causes by race: United States, 1990

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

Cause of death (Ninth Revision International Classification of Diseases, 1975)	All races <sup>1</sup>			All races <sup>1</sup>		
	White	Black	Rate	White	Black	Rate
All causes	38,351	24,883	12,290	922.3	756.3	1,795.9
Certain intestinal infections . . . . .008-009	98	54	41	2.4	1.6	6.0
Whooping cough . . . . .033	11	8	3	*	*	*
Meningococcal infection . . . . .036	50	37	11	1.2	1.1	*
Septicemia . . . . .038	267	156	100	6.4	4.7	14.6
Viral diseases . . . . .045-079	157	105	41	3.8	3.2	6.0
Congenital syphilis . . . . .090	25	3	22	0.6	*	2.5
Remainder of infectious and parasitic diseases . . . . .001,007, 010-032,034-035,037,039-041,*042-*044,080-088,091-139	232	104	125	5.6	3.2	18.3
Malignant neoplasms, including neoplasms of lymphatic and hematopoietic tissues . . . . .140-208	90	69	17	2.2	2.1	*
Benign neoplasms, carcinoma in situ, and neoplasms of uncertain behavior and of unspecified nature . . . . .210-239	71	57	14	1.7	1.7	*
Diseases of thymus gland . . . . .254	2	1	-	*	*	*
Cystic fibrosis . . . . .277.0	9	6	3	*	*	*
Diseases of blood and blood-forming organs . . . . .280-289	83	50	24	2.0	1.5	3.5
Meningitis . . . . .320-322	197	111	74	4.7	3.4	10.8
Other diseases of nervous system and sense organs . . . . .323-389	462	357	91	11.1	10.9	13.3
Acute upper respiratory infections . . . . .460-465	33	28	3	0.8	0.9	*
Bronchitis and bronchiolitis . . . . .466,490-491	114	66	42	2.7	2.0	6.1
Pneumonia and influenza . . . . .480-487	634	375	235	15.2	11.4	34.3
Pneumonia . . . . .480-486	627	368	235	15.1	11.2	34.3
Influenza . . . . .487	7	7	-	*	*	*
Remainder of diseases of respiratory system . . . . .470-478,492-519	390	251	128	9.4	7.6	18.7
Hernia of abdominal cavity and intestinal obstruction without mention of hernia . . . . .550-553,560	87	59	26	2.1	1.8	3.8
Gastritis, duodenitis, and noninfective enteritis and colitis . . . . .535,555-558	126	69	49	3.0	2.1	7.2
Remainder of diseases of digestive system . . . . .520-534,536-543,562-579	185	130	53	4.4	4.0	7.7
Congenital anomalies . . . . .740-759	8,239	6,418	1,530	198.1	195.1	223.6
Anencephalus and similar anomalies . . . . .740	470	366	79	11.3	11.1	11.5
Spina bifida . . . . .741	80	65	13	1.9	2.0	*
Congenital hydrocephalus . . . . .742.3	189	143	39	4.5	4.3	5.7
Other congenital anomalies of central nervous system and eye . . . . .742.0-742.2,742.4-742.9,743	357	279	65	8.6	8.5	9.5
Congenital anomalies of heart . . . . .745-746	2,601	2,018	494	62.6	61.3	72.2
Other congenital anomalies of circulatory system . . . . .747	509	376	114	12.2	11.4	16.7
Congenital anomalies of respiratory system . . . . .748	1,162	913	215	27.9	27.7	31.4
Congenital anomalies of digestive system . . . . .749-751	143	102	31	3.4	3.1	4.5
Congenital anomalies of genitourinary system . . . . .752-753	485	390	85	11.7	11.9	12.4
Congenital anomalies of musculoskeletal system . . . . .754-756	544	420	108	13.1	12.8	15.8
Down's syndrome . . . . .758.0	111	84	23	2.7	2.6	3.4
Other chromosomal anomalies . . . . .758.1-758.9	885	725	126	21.3	22.0	18.4
All other and unspecified congenital anomalies . . . . .744,757,759	703	537	138	16.9	16.3	20.2
Certain conditions originating in the perinatal period . . . . .760-779	17,482	10,378	6,688	420.4	315.4	977.3
Newborn affected by maternal conditions which may be unrelated to present pregnancy . . . . .760	227	127	98	5.5	3.9	14.3
Newborn affected by maternal complications of pregnancy . . . . .761	1,655	1,044	571	39.8	31.7	83.4
Newborn affected by complications of placenta, cord, and membranes . . . . .762	975	657	291	23.4	20.0	42.5
Newborn affected by other complications of labor and delivery . . . . .763	74	53	19	1.8	1.6	*
Slow fetal growth and fetal malnutrition . . . . .764	30	19	11	0.7	*	*
Disorders relating to short gestation and unspecified low birthweight . . . . .765	4,013	2,004	1,912	96.5	60.9	279.4
Disorders relating to long gestation and high birthweight . . . . .766	1	-	1	*	*	*
Birth trauma . . . . .767	207	152	52	5.0	4.6	7.6
Intrauterine hypoxia and birth asphyxia . . . . .768	762	505	231	18.3	15.3	33.8
Fetal distress in liveborn infant . . . . .768.2-768.4	222	158	55	5.3	4.8	8.0
Birth asphyxia . . . . .768.5-768.9	540	347	176	13.0	10.5	25.7
Respiratory distress syndrome . . . . .769	2,850	1,798	984	68.5	54.6	143.8
Other respiratory conditions of newborn . . . . .770	2,957	1,768	1,115	71.1	53.7	162.9
Infections specific to the perinatal period . . . . .771	875	569	291	21.0	17.3	42.5
Neonatal hemorrhage . . . . .772	305	186	111	7.3	5.7	16.2
Hemolytic disease of newborn, due to isoimmunization, and other perinatal jaundice . . . . .773-774	44	28	15	1.1	0.9	*
Syndrome of "infant of a diabetic mother" and neonatal diabetes mellitus . . . . .775.0-775.1	13	12	1	*	*	*
Hemorrhagic disease of newborn . . . . .776.0	1	1	-	*	*	*
All other and ill-defined conditions originating in the perinatal period . . . . .775.2-775.9,776.1-779	2,493	1,455	985	60.0	44.2	143.9
Symptoms, signs, and ill-defined conditions . . . . .780-799	6,409	4,161	2,014	154.1	126.5	294.3
Sudden infant death syndrome . . . . .798.0	5,417	3,643	1,578	130.3	110.7	230.6
Symptoms, signs, and all other ill-defined conditions . . . . .780-797,798.1-799	992	518	436	23.9	15.7	63.7

See footnote at end of table.

**Table 23. Deaths under 1 year and infant mortality rates for 61 selected causes by race: United States, 1990—Con.**

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

Cause of death (Ninth Revision International Classification of Diseases, 1975)	All races <sup>1</sup>			All races <sup>1</sup>		
	White	Black	Rate	White	Black	Rate
Accidents and adverse effects . . . . .E800–E949	930	609	289	22.4	18.5	42.2
Inhalation and ingestion of food or other object						
causing obstruction of respiratory tract or suffocation . . . . .E911–E912	165	107	50	4.0	3.3	7.3
Accidental mechanical suffocation . . . . .E913	240	143	90	5.8	4.3	13.2
Other accidental causes and adverse effects . . . . .E800–E910,E914–E949	525	359	149	12.6	10.9	21.8
Homicide . . . . .E960–E969	332	181	141	8.0	5.5	20.6
Child battering and other maltreatment . . . . .E967	153	85	64	3.7	2.6	9.4
Other homicide . . . . .E960–E966,E968–E969	179	96	77	4.3	2.9	11.3
All other causes . . . . .Residual	1,636	1,040	526	39.3	31.6	76.9

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

**Table 24. Deaths under 1 year and infant mortality rates for the 10 leading causes of infant death: United States, 1990**

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

Rank order <sup>1</sup>	Cause of death (Ninth Revision International Classification of Diseases, 1975)	Number	Rate
All races <sup>2</sup>			
...	All causes . . . . .	38,351	922.3
1	Congenital anomalies . . . . .740–759	8,239	198.1
2	Sudden infant death syndrome . . . . .798.0	5,417	130.3
3	Disorders relating to short gestation and unspecified low birthweight . . . . .765	4,013	96.5
4	Respiratory distress syndrome . . . . .769	2,850	68.5
5	Newborn affected by maternal complications of pregnancy . . . . .761	1,655	39.8
6	Newborn affected by complications of placenta, cord, and membranes . . . . .762	975	23.4
7	Accidents and adverse effects . . . . .E800–E949	930	22.4
8	Infections specific to the perinatal period . . . . .771	875	21.0
9	Intrauterine hypoxia and birth asphyxia . . . . .768	762	18.3
10	Pneumonia and influenza . . . . .480–487	634	15.2
...	All other causes . . . . .Residual	12,001	288.6
White			
...	All causes . . . . .	24,883	756.3
1	Congenital anomalies . . . . .740–759	6,418	195.1
2	Sudden infant death syndrome . . . . .798.0	3,643	110.7
3	Disorders relating to short gestation and unspecified low birthweight . . . . .765	2,004	60.9
4	Respiratory distress syndrome . . . . .769	1,798	54.6
5	Newborn affected by maternal complications of pregnancy . . . . .761	1,044	31.7
6	Newborn affected by complications of placenta, cord, and membranes . . . . .762	657	20.0
7	Accidents and adverse effects . . . . .E800–E949	609	18.5
8	Infections specific to the perinatal period . . . . .771	569	17.3
9	Intrauterine hypoxia and birth asphyxia . . . . .768	505	15.3
10	Pneumonia and influenza . . . . .480–487	375	11.4
...	All other causes . . . . .Residual	7,261	220.7
Black			
...	All causes . . . . .	12,290	1,795.9
1	Disorders relating to short gestation and unspecified low birthweight . . . . .765	1,912	279.4
2	Sudden infant death syndrome . . . . .798.0	1,578	230.6
3	Congenital anomalies . . . . .740–759	1,530	223.6
4	Respiratory distress syndrome . . . . .769	984	143.8
5	Newborn affected by maternal complications of pregnancy . . . . .761	571	83.4
6	Infections specific to the perinatal period . . . . .771	291	42.5
7	Newborn affected by complications of placenta, cord, and membranes . . . . .762	291	42.5
8	Accidents and adverse effects . . . . .E800–E949	289	42.2
9	Pneumonia and influenza . . . . .480–487	235	34.3
10	Intrauterine hypoxia and birth asphyxia . . . . .768	231	33.8
...	All other causes . . . . .Residual	4,378	639.7

<sup>1</sup>Rank based on number of deaths; see Technical notes.

<sup>2</sup>Includes races other than white and black.

Table 25. Total deaths and death rates, and infant and neonatal deaths and mortality rates for the United States, each division, and State; and by race and sex for the United States, 1990

Race, sex, and area	Total deaths		Infant deaths (under 1 year)		Neonatal deaths (under 28 days)	
	Number	Rate <sup>1</sup>	Number	Rate <sup>2</sup>	Number	Rate <sup>2</sup>
United States . . . . .	2,148,463	863.8	38,351	9.2	24,309	5.8
Male . . . . .	1,113,417	918.4	21,856	10.3	13,839	6.5
Female . . . . .	1,035,046	812.0	16,495	8.1	10,470	5.2
White . . . . .	1,853,254	888.0	24,883	7.6	15,751	4.8
Male . . . . .	950,812	930.9	14,371	8.5	9,075	5.4
Female . . . . .	902,442	846.9	10,512	6.6	6,676	4.2
All other . . . . .	295,209	737.9	13,468	15.5	8,558	9.9
Male . . . . .	162,605	851.5	7,485	17.0	4,764	10.8
Female . . . . .	132,604	634.2	5,983	14.0	3,794	8.9
Black . . . . .	265,498	871.0	12,290	18.0	7,905	11.6
Male . . . . .	145,359	1008.0	6,811	19.6	4,405	12.7
Female . . . . .	120,139	747.9	5,479	16.2	3,500	10.4
New England . . . . .	114,551	867.4	1,457	7.2	992	4.9
Maine . . . . .	11,106	904.5	108	6.2	79	4.6
New Hampshire . . . . .	8,488	765.2	125	7.1	67	3.8
Vermont . . . . .	4,595	816.5	53	6.4	30	3.6
Massachusetts . . . . .	53,179	883.9	650	7.0	448	4.8
Rhode Island . . . . .	9,576	954.3	123	8.1	89	5.9
Connecticut . . . . .	27,607	839.9	398	7.9	279	5.6
Middle Atlantic . . . . .	361,270	960.8	5,596	9.5	3,768	6.4
New York . . . . .	168,936	939.0	2,851	9.6	1,931	6.5
New Jersey . . . . .	70,383	910.5	1,102	9.0	749	6.1
Pennsylvania . . . . .	121,951	1026.4	1,643	9.6	1,088	6.3
East North Central . . . . .	372,874	887.6	6,814	10.1	4,370	6.5
Ohio . . . . .	98,822	911.0	1,640	9.8	1,043	6.2
Indiana . . . . .	49,569	894.1	831	9.6	530	6.1
Illinois . . . . .	103,006	901.1	2,104	10.7	1,377	7.0
Michigan . . . . .	78,744	847.1	1,641	10.7	1,075	7.0
Wisconsin . . . . .	42,733	873.6	598	8.2	345	4.7
West North Central . . . . .	161,089	912.2	2,279	8.4	1,361	5.0
Minnesota . . . . .	34,776	794.9	496	7.3	295	4.3
Iowa . . . . .	26,884	968.2	319	8.1	185	4.7
Missouri . . . . .	50,377	984.5	748	9.4	451	5.7
North Dakota . . . . .	5,678	888.9	74	8.0	51	5.5
South Dakota . . . . .	6,326	908.9	111	10.1	59	5.4
Nebraska . . . . .	14,769	935.7	202	8.3	120	4.9
Kansas . . . . .	22,279	899.2	329	8.4	200	5.1
South Atlantic . . . . .	392,113	900.0	7,461	10.7	4,978	7.1
Delaware . . . . .	5,764	865.2	112	10.1	77	6.9
Maryland . . . . .	38,413	803.4	766	9.5	502	6.3
District of Columbia . . . . .	7,313	1205.0	245	20.7	180	15.2
Virginia . . . . .	48,013	776.0	1,013	10.2	695	7.0
West Virginia . . . . .	19,385	1080.9	223	9.9	143	6.3
North Carolina . . . . .	57,315	864.7	1,109	10.6	764	7.3
South Carolina . . . . .	29,715	852.2	683	11.7	465	7.9
Georgia . . . . .	51,810	799.8	1,392	12.4	917	8.1
Florida . . . . .	134,385	1038.7	1,918	9.6	1,235	6.2
East South Central . . . . .	145,901	961.4	2,449	10.4	1,542	6.5
Kentucky . . . . .	35,078	951.8	461	8.5	258	4.7
Tennessee . . . . .	46,315	949.6	771	10.3	490	6.5
Alabama . . . . .	39,381	974.6	688	10.8	462	7.3
Mississippi . . . . .	25,127	976.5	529	12.1	332	7.6
West South Central . . . . .	218,080	816.7	4,125	8.7	2,480	5.2
Arkansas . . . . .	24,652	1048.7	336	9.2	195	5.3
Louisiana . . . . .	37,571	890.3	799	11.1	484	6.7
Oklahoma . . . . .	30,378	965.7	438	9.2	235	4.9
Texas . . . . .	125,479	738.7	2,552	8.1	1,566	4.9
Mountain . . . . .	97,023	710.3	2,088	8.6	1,193	4.9
Montana . . . . .	6,861	858.6	105	9.0	53	4.6
Idaho . . . . .	7,452	740.2	143	8.7	73	4.4
Wyoming . . . . .	3,203	706.1	60	8.6	27	3.9
Colorado . . . . .	21,583	655.1	472	8.8	276	5.2
New Mexico . . . . .	10,625	701.3	246	9.0	145	5.3
Arizona . . . . .	28,789	785.5	610	8.8	377	5.5
Utah . . . . .	9,192	533.5	271	7.5	139	3.8
Nevada . . . . .	9,318	775.3	181	8.4	103	4.8
Pacific . . . . .	285,562	729.8	6,082	7.9	3,625	4.7
Washington . . . . .	37,087	762.1	621	7.8	332	4.2
Oregon . . . . .	25,136	884.3	354	8.3	180	4.2
California . . . . .	214,369	720.3	4,844	7.9	2,966	4.8
Alaska . . . . .	2,188	397.8	125	10.5	61	5.1
Hawaii . . . . .	6,782	612.0	138	6.7	86	4.2

<sup>1</sup>Per 100,000 population in each race-sex group and area.

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

NOTE: Caution should be used in comparing crude death rates by State. Death rates are affected by the population composition of the area.

**Table 26. Infant, neonatal, and postneonatal deaths and mortality rates, by specified Hispanic origin and race for non-Hispanic origin: Total of 45 States, New York State (excluding New York City), and the District of Columbia, 1990**

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

Age	All origins	Hispanic					Non-Hispanic			Not stated <sup>3</sup>
		Total	Mexican	Puerto Rican	Cuban	Other Hispanic <sup>1</sup>	Total <sup>2</sup>	White	Black	
Number										
Under 1 year . . . . .	35,030	4,228	2,952	363	81	832	30,231	18,745	10,465	571
Under 28 days . . . . .	22,202	2,706	1,873	249	60	524	19,044	11,792	6,698	452
28 days–11 months . . . . .	12,828	1,522	1,079	114	21	308	11,187	6,953	3,767	119
Rate										
Under 1 year . . . . .	<sup>4</sup> 9.1	7.8	7.7	10.2	7.6	7.2	9.3	7.4	17.9	...
Under 28 days . . . . .	<sup>4</sup> 5.8	5.0	4.9	7.0	5.6	4.5	5.8	4.7	11.4	...
28 days–11 months . . . . .	<sup>4</sup> 3.3	2.8	2.8	3.2	2.0	2.6	3.4	2.8	6.4	...

<sup>1</sup>Includes Central and South American and other and unknown Hispanic.  
<sup>2</sup>Includes races other than white and black.  
<sup>3</sup>Includes infant deaths that occurred in States that did not report Hispanic origin on the death certificate.  
<sup>4</sup>Figures for origin not stated included in All origins but not distributed among origin groups.

**Table 27. Maternal deaths and maternal mortality rates for selected causes by race: United States, 1990**

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

Cause of death (Ninth Revision International Classification of Diseases, 1975)	All races	All other		All races	All other		
		White	Total		White	Total	
Number							
Complications of pregnancy, childbirth, and the puerperium . . . . .	343	177	166	153	8.2	5.4	19.1
Pregnancy with abortive outcome . . . . .	57	23	34	33	1.4	0.7	3.9
Ectopic pregnancy . . . . .	41	14	27	26	1	*	3.1
Spontaneous abortion . . . . .	6	4	2	2	*	*	*
Legally induced abortion . . . . .	1	–	1	1	*	*	*
Illegally induced abortion . . . . .	1	–	–	–	*	*	*
Other pregnancy with abortive outcome . . . . .	8	4	4	4	*	*	*
Direct obstetric causes . . . . .	265	140	125	113	6.4	4.3	14.4
Hemorrhage of pregnancy and childbirth . . . . .	44	26	18	17	1.1	0.8	*
Toxemia of pregnancy . . . . .	64	34	30	27	1.5	1	3.5
Obstructed labor . . . . .	–	–	–	–	*	*	*
Complications of the puerperium . . . . .	99	51	48	43	2.4	1.6	5.5
Other direct obstetric causes . . . . .	58	29	29	26	1.4	0.9	3.3
Indirect obstetric causes . . . . .	21	14	7	7	0.5	*	*
Delivery in a completely normal case . . . . .	–	–	–	–	*	*	*
Rate							

Table 28. Number of autopsies and percent of deaths for which autopsies were reported for 15 leading causes of death: United States, 1990

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

Rank order <sup>1</sup>	Cause of death (Ninth Revision International Classification of Diseases, 1975)	Total deaths	Reported autopsy	
			Number	Percent
...	All causes	2,148,463	239,591	11.2
1	Diseases of heart . . . . .390-398,402,404-429	720,058	54,542	7.6
2	Malignant neoplasms, including neoplasms of lymphatic and hematopoietic tissues . . . . .140-208	505,322	17,906	3.5
3	Cerebrovascular diseases . . . . .430-438	144,088	5,163	3.6
4	Accidents and adverse effects . . . . .E800-E949	91,983	46,353	50.4
...	Motor vehicle accidents . . . . .E810-E825	46,814	24,810	53
...	All other accidents and adverse effects . . . . .E800-E807,E826-E949	45,169	21,543	47.7
5	Chronic obstructive pulmonary diseases and allied conditions. . . . .490-496	86,679	3,948	4.6
6	Pneumonia and influenza . . . . .480-487	79,513	5,643	7.1
7	Diabetes mellitus . . . . .250	47,664	2,085	4.4
8	Suicide . . . . .E950-E959	30,906	17,016	55.1
9	Chronic liver disease and cirrhosis . . . . .571	25,815	4,372	16.9
10	Human immunodeficiency virus infection . . . . .*042-*044	25,188	2,625	10.4
11	Homicide and legal intervention. . . . .E960-E978	24,932	24,166	96.9
12	Nephritis, nephrotic syndrome, and nephrosis . . . . .580-589	20,764	1,022	4.9
13	Septicemia. . . . .038	19,169	1,641	8.6
14	Atherosclerosis . . . . .440	18,047	458	2.5
15	Certain conditions originating in the perinatal period. . . . .760-779	17,674	4,152	23.5
...	All other causes . . . . .Residual	290,661	48,499	16.7

<sup>1</sup>Rank based on number of deaths; see Technical notes.

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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)
-

## Technical notes

### Nature and sources of data

Data shown in this report are based on information from all death certificates filed in the 50 States and the District of Columbia. The U.S. Standard Certificate of Death was revised in 1989; for additional details see the 1989 revision of the U.S. standard certificates and reports, and *Technical Appendix from Vital Statistics of the United States, vol II (4,5)*.

Mortality statistics are based on information coded by the States and provided to the National Center for Health Statistics (NCHS) through the Vital Statistics Cooperative Program (VSCP) and from copies of the original certificates received from the State registration offices. In 1990 all the States and the District of Columbia participated in this program and submitted part or all of the mortality data for 1990 on computer tape to NCHS. The 25 States in the VSCP that submitted precoded medical data for all deaths on computer tapes are California, Colorado, Florida, Georgia, Indiana, Iowa, Kansas, Louisiana, Maine, Maryland, Massachusetts, Michigan, Minnesota, Mississippi, Nebraska, New Hampshire, New York State (excluding New York City), North Carolina, Pennsylvania, South Carolina, Texas, Vermont, Virginia, Washington, and Wisconsin. NCHS also contracted with Colorado and Kansas to precode medical data for all deaths on computer tape for Alaska, Delaware, Idaho, North Dakota, and Wyoming. Vermont subcontracted with Pennsylvania to code its medical data. The remaining 20 VSCP States, New York City, and the District of Columbia submitted copies of the original certificates from which NCHS coded the medical data. For 1990 all States submitted precoded demographic data for all deaths.

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

### Cause-of-death classification

The mortality statistics presented here were compiled in accordance with the World Health Organization (WHO) regulations, which specify that member nations classify causes of death by the current *Manual of the International Statistical Classification of Diseases, Injuries, and Causes of Death (6)*. Causes of death for 1979–90 were classified according to the manual. For earlier years, causes of death were classified according to the revisions then in use—1968–78, Eighth Revision; 1958–67, Seventh Revision; and 1949–57, Sixth Revision. Changes in classification of causes of death due to these revisions may result in discontinuities in cause-of-death trends. Consequently, cause-of-death comparisons among revisions require consideration of comparability ratios and, where available, estimates of their standard errors. Comparability ratios between the Eighth and Ninth Revisions, between the Seventh and Eighth Revisions, and between the Sixth and Seventh Revisions may be found in other NCHS reports (7–9).

Besides specifying the classification, WHO regulations outline the form of medical certification and the procedures to be used in coding cause of death. Cause-of-death data presented in this publication were coded by procedures outlined in annual issues of the *NCHS Instructional Manual (10–15)*.

Before 1968, mortality medical data were based on manual coding of an underlying cause of death for each certificate in accordance with WHO rules. Effective with data year 1968, NCHS converted to computerized coding of the underlying cause and manual coding of all causes (multiple causes) on the death certificate. In this system, called “Automated Classification of Medical Entities” (ACME) (13), the multiple cause codes serve as inputs to the computer software that employs WHO rules to select the underlying cause. Since 1968, many States also have implemented ACME

and provide multiple cause and underlying cause data to NCHS in electronic form.

Beginning with data year 1990, another computer system is being implemented. This system, called “Mortality Medical Indexing, Classification, and Retrieval” (MICAR) (14,15), automates the coding of the multiple causes of death. In addition, MICAR ultimately will provide much more detailed information on the diseases reported on death certificates than is available through the International Classification of Diseases (ICD) code structure. In this first year of implementation, only about 5 percent (94,372) of the Nation’s death records were multiple cause coded using MICAR with subsequent processing through ACME. This includes a portion of the records for Alabama, Kentucky, Oregon, Rhode Island, and West Virginia. The remainder of the national file was processed by either NCHS or the State using only the ACME system.

In this report, tabulations of cause-of-death statistics are based solely on the underlying cause of death. The underlying cause is defined by WHO as the disease or injury that initiated the sequence of events leading directly to death or as the circumstances of the accident or violence that produced the fatal injury. It is selected from the conditions entered by the physician in the cause-of-death section of the death certificate. When more than one cause or condition is entered by the physician, the underlying cause is determined by the sequence of conditions on the certificate, provisions of the ICD, and associated selection rules. Generally, more medical information is reported on death certificates than is directly reflected in the underlying cause of death.

### Codes for HIV infection

Beginning with data for 1987, NCHS introduced category numbers

\*042–\*044 for classifying and coding Human immunodeficiency virus (HIV) infection. The asterisk before the category numbers indicates that these codes are not part of the Ninth Revision of the International Classification of Diseases (ICD-9). Deaths classified to HIV infection for 1989–90 are shown in table 14. They are included, but not shown separately, in the category All other infectious and parasitic diseases in the List of 72 Selected Causes of Death and in the category Remainder of infectious and parasitic diseases in the List of 61 Selected Causes of Infant Deaths. Before 1987, deaths involving HIV infection were classified to Deficiency of cell-mediated immunity (ICD 279.1), contained in the category All other diseases; to Pneumocystosis (ICD-9 No. 136.3), contained in the category All other infectious and parasitic diseases; to Malignant neoplasms, including neoplasms of lymphatic and hematopoietic tissues; and to a number of other causes. As a consequence, cause-of-death data beginning with 1987 are not strictly comparable with data for previous years.

For data years 1983–86, acquired immunodeficiency syndrome (AIDS) and HIV infection, when reported on the death certificate, were assigned to the category Deficiency of cell-mediated immunity (ICD-9 No. 279.1). Because the selection rules for underlying cause of death were developed before the identification of AIDS, other conditions mentioned on the death certificate and not category No. 279.1 were often selected as the underlying cause of death during this period. Also, this category was not uniquely specific for HIV conditions. As mentioned in more detail in previous reports for 1984–86 (16–18) the number of death certificates that had mention of conditions coded to ICD-9 No. 279.1 was 2,943 for 1984, 6,040 for 1985, and 10,900 for 1986. It is believed that HIV infection was involved in most of these deaths.

### Drug-induced deaths

Causes of death attributable to drug-induced mortality include ICD-9 No. 292, Drug psychoses; No. 304,

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

### Alcohol-induced deaths

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

### Educational attainment

Beginning with the 1989 data year, mortality data on educational attainment are being tabulated from information reported on the death certificate. As a result of the revision of the U.S. Standard Certificate of Death (4), this item was added to the certificates of numerous States. Mortality data on educational attainment for 1990 are based on deaths to residents of the 28 States and the District of Columbia whose data were at least 90 percent complete on a place-of-occurrence basis. These 28 States are Alabama, Arizona, California, Colorado, Delaware, Florida, Hawaii, Idaho, Illinois, Iowa, Kansas, Massachusetts, Michigan, Minnesota, Missouri, Montana, Nebraska, New Hampshire, North Dakota, Ohio,

Oregon, Pennsylvania, South Carolina, Texas, Utah, Vermont, Wisconsin, and Wyoming.

### Quality of reporting of cause-of-death

One index of the quality of reporting causes of death is the proportion of death certificates coded to the Ninth Revision Chapter XVI Symptoms, signs, and ill-defined conditions (ICD-9 Nos. 780–799). Although deaths occur for which the underlying causes are impossible to determine, this proportion indicates the care and consideration given to the certification by the medical certifier. This proportion also may be used as a rough measure of the specificity of the medical diagnoses made by the certifier in various areas. In 1990, a record low of 1.12 percent of all reported deaths in the United States were assigned to Symptoms, signs, and ill-defined conditions (ICD-9 Nos. 780–799) compared with 1.25 percent for 1989. However, trends in the percent of deaths assigned to this category vary by age. Although the percent of deaths from this cause for all ages combined generally has remained stable since 1980, decreases have occurred for the age group 55–64 years since 1983; for age group 65–74 years since 1982; for age group 75–84 years since 1986; and for 10-year age groups from 15 to 54 years since 1988. Between 1989 and 1990, the percent decreased for all age groups, except for those under 1 year of age, which was unchanged.

### Population bases for computing rates

The population used for computing death rates and life tables shown in this report (furnished by the U.S. Bureau of the Census) represents the population residing in the specified area. The populations for 1990 are based on the April 1, 1990 census enumeration. Death rates and life tables for 1981–89 have been recomputed, based on revised populations that are consistent with the 1990 census levels (19,20). They are, therefore, not comparable with death rates and life table values published in the



*Advance Reports of Final Mortality Statistics*, in *Vital Statistics of the United States, Volume II, Mortality*, and in other NCHS publications for those years.

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

In contrast to infant mortality rates based on live births, infant death rates shown in figure 2 and tables A, 2, 5, 9, and 14 are based on the estimated population under 1 year of age. For intercensal years infant death rates that appear in tabulations of age-specific death rates are calculated by dividing the number of infant deaths in a calendar year by the midyear population of infants under 1 year of age (estimated from births occurring in the 12-month period ending with June) and are presented as rates per 100,000 population in this age group. Because of differences in the denominators, infant death rates may differ from infant mortality rates.

### Race for Infant and Maternal Mortality Rates

Beginning with the 1989 data year, the method of tabulating live births by race was changed from race of child to race of mother. This change affects infant and maternal mortality rates because live births comprise the denominator of these rates. In 1989 and 1990, as in previous years, infant and maternal deaths continue to be tabulated by the race of the decedent.

As noted in detail in Technical Appendix to *Vital Statistics of the United States, Volume I, Natality* (21), beginning with 1989, live births are tabulated primarily by race of mother, as reported directly on the birth certificate. Before 1989 birth tabulations

were by race of child, as determined statistically by an algorithm based on race as reported for the mother and father. Briefly, in cases of mixed parentage where only one parent was white, the child was assigned to the other parent's race. When neither parent was white, the child was assigned the race of the father, except if either parent was Hawaiian, the child was assigned to Hawaiian. If race was not reported for one parent, the child was assigned the race of the parent for whom race was given.

The change in tabulating live births by race reflects three factors over the past two decades—the topical content of the birth certificate has been expanded to include considerable health and demographic information related to the mother, the increasing incidence of interracial parentage, and the growing proportion of births for which no information on the father is reported.

Quantitatively, the change in the basis for tabulating live births by race results in more white births and fewer black births and births of other races. Consequently, infant and maternal mortality rates under the new tabulating procedure tend to be about 2 percent lower for white infants and about 5 percent higher for black infants than they are when computed by the previous method of tabulating live births by race of child. Rates for most other minority races also are higher when computed by race of mother (5).

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

### Cause-of-death rankings

The cause-of-death rankings shown in figure 4 and tables B–D, 5–7, 17, and 28 are based on the List of 72 Selected Causes of Death and HIV infection (ICD-9 Nos. \*042–\*044). The cause-of-death ranking for infants in table 24 is based on the List of 61 Selected Causes of Infant Death and HIV infection. HIV infection was added to the lists of rankable causes effective with data year 1987.

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

### Age-adjusted rates

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

### Random variation

Although the mortality data in this report (except data for 1972) are not subject to sampling error, they may be affected by random variation in the number of deaths involved. When the number of events is small (perhaps less than 100) and the probability of such

an event is small, considerable caution must be observed in interpreting the data. Such infrequent events may be assumed to follow a Poisson probability distribution. For this distribution, a simple approximation may be used to estimate the confidence interval, as follows:

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

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

covers the "true" number of events.

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

covers the "true" rate.

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

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

Additional information on random variation may be found in the Technical Appendix of *Vital Statistics of the United States*, Volume II (5).

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

### Rates, proportions, and ratios

Beginning with 1989 data, an asterisk is shown in place of a rate

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

### Life tables

U.S. abridged life tables are constructed by reference to a standard life table (22).

### Hispanic origin

For 1990 mortality data for the Hispanic-origin population are based on deaths to residents of 45 States, New York State (excluding New York City), and the District of Columbia whose data were at least 90 percent complete on a place-of-occurrence basis and considered to be sufficiently comparable to be used for analysis. The 45 States are Alabama, Alaska, Arizona, Arkansas, California, Colorado, Delaware, Florida, Georgia, Hawaii, Idaho, Illinois, Indiana, Iowa, Kansas, Kentucky, Maine, Maryland, Massachusetts, Michigan, Minnesota, Mississippi, Missouri, Montana, Nebraska, Nevada, New Jersey, New Mexico, North Carolina, North Dakota, Ohio, Oregon, Pennsylvania, Rhode Island, South Carolina, South Dakota, Tennessee, Texas, Utah, Vermont, Virginia, Washington, West Virginia, Wisconsin, and Wyoming. Data for New York City are excluded for 1990 because more than 10 percent of its death certificates were coded to "unknown origin." Because about half of the deaths to Puerto Ricans are accounted for by New York City, the resulting mortality data may not be comparable with that of previous years.

Infant mortality rates for the Hispanic-origin population are based on numbers of resident infant deaths

reported to be of Hispanic-origin and numbers of resident live births by Hispanic origin of mother for 45 States, New York State (excluding New York City), and the District of Columbia. The 45 States are the same as listed above. In computing infant mortality rates, deaths and live births of unknown origin are not distributed among the specified Hispanic and non-Hispanic groups. Because the percent of infant deaths of unknown origin was 1.6 and the percent of live births of unknown origin was 1.0 in the reporting area for 1990, infant mortality rates by specified Hispanic origin and race for non-Hispanic origin may be somewhat underestimated.

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

In 1990 the 45 States, New York State (excluding New York City), and the District of Columbia accounted for about 89 percent of the Hispanic population in the United States, including about 99 percent of the Mexican population, 58 percent of the Puerto Rican population, 92 percent of the Cuban population, and 81 percent of the "Other Hispanic" population (23).

### Computation of percent distributions

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



This report represents summary tabulations from the final mortality statistics for 1990. More detailed tabulations for 1990 will be published in *Vital Statistics of the United States, 1990* Volume II—Mortality. Prior to the publication of that volume, the National Center for Health Statistics will respond to requests for unpublished data whenever possible.

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