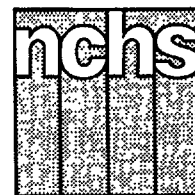


Monthly Vital Statistics Report



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

Births, Marriages, Divorces, and Deaths for August 1993

Mortality Surveillance System

pages 4-7

Malignant neoplasm of prostate:
Males 65 years and over by race

Malignant neoplasm of breast:
Females 45-74 years of age by race

State Maps

pages 8 and 9

Malignant neoplasms of genital organs: Males

Malignant neoplasm of breast: Females

Due to the availability of population estimates that are based on the results of the 1990 census enumeration, provisional rates for 1992 have been recomputed to permit a valid comparison with the 1993 provisional rates. Provisional birth, marriage, divorce, and death rates along with estimated death rates based on the Current Mortality Sample for 1992 have been recomputed, using revised population estimates based on the 1990 enumerated population. Therefore, all rates shown for 1992 are comparable with those for 1993.

United States during August 1993. This was a 5-percent increase from the provisional number of births reported for August 1992 (350,000). The birth rate, 16.7 live births per 1,000 population, was 3 percent higher than for August 1992. The fertility rate, 73.0 live births per 1,000 women aged 15-44 years, was 4 percent higher than the comparable rate for August 1992 (70.1). The seasonally adjusted fertility rate (69.0) was also 4 percent higher than the comparable rate for August 1992 (66.3).

During the first 8 months of 1993, an estimated 2,700,000 births occurred; a 1-percent decrease from the 2,725,000 reported for January-August 1992. The birth rate declined by 2 percent, from

Births

According to provisional reports, an estimated 367,000 births occurred in the

Provisional Vital Statistics for the United States

[Rates for infant deaths are deaths under 1 year per 1,000 live births; fertility rates are live births per 1,000 women aged 15-44 years; all other rates per 1,000 total population. Data are subject to monthly reporting variation; see Technical notes]

| Item | August | | | | January-August | | | | 12 months ending with August | | | |
|-------------------------------|---------|---------|-------|-------|----------------|-----------|------|------|------------------------------|-----------|-------|-------|
| | Number | | Rate | | Number | | Rate | | Number | | Rate | |
| | 1993 | 1992 | 1993 | 1992 | 1993 | 1992 | 1993 | 1992 | 1993 | 1992 | 1993 | 1992 |
| Live births | 367,000 | 350,000 | 16.7 | 16.2 | 2,700,000 | 2,725,000 | 15.8 | 16.1 | 4,059,000 | 4,112,000 | 15.8 | 16.2 |
| Fertility rate | ... | ... | 73.0 | 70.1 | ... | ... | 68.6 | 69.3 | ... | ... | 68.7 | 69.7 |
| Deaths | 180,000 | 172,000 | 8.2 | 7.9 | 1,524,000 | 1,466,000 | 8.9 | 8.6 | 2,235,000 | 2,179,000 | 8.7 | 8.6 |
| Infant deaths | 2,700 | 2,700 | 7.8 | 7.9 | 22,600 | 23,200 | 8.4 | 8.6 | 33,800 | 35,000 | 8.4 | 8.6 |
| Natural increase | 187,000 | 178,000 | 8.5 | 8.3 | 1,176,000 | 1,259,000 | 6.9 | 7.5 | 1,824,000 | 1,933,000 | 7.1 | 7.6 |
| Marriages | 257,000 | 242,000 | 11.7 | 11.2 | 1,551,000 | 1,556,000 | 9.1 | 9.1 | 2,357,000 | 2,357,000 | 9.2 | 9.3 |
| Divorces | 100,000 | 100,000 | 4.6 | 4.6 | 797,000 | 815,000 | 4.7 | 4.8 | 1,197,000 | 1,204,000 | 4.7 | 4.7 |
| Population base (in millions) | ... | ... | 258.2 | 255.3 | ... | ... | ... | ... | ... | ... | 256.9 | 254.1 |

NOTE: Figures include all revisions received from the States. Twelve-month figures for the current year reflect revisions received for previous months, and figures for earlier years may differ from those previously published. Rates for 1992 (except infant mortality) have been recomputed based on revised population estimates; see Technical notes.

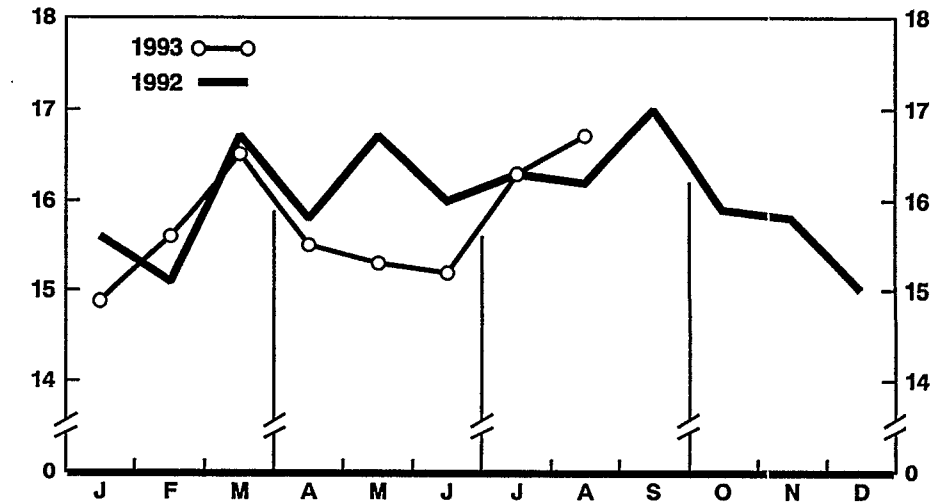


U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES
Public Health Service
Centers for Disease Control and Prevention
National Center for Health Statistics



16.1 in 1992 to 15.8 in 1993. The fertility rate for January–August 1993 was 68.6, 1 percent lower than the rate for the same period in 1992 (69.3).

An estimated 4,059,000 live births occurred in the 12-month period ending with August 1993, a decline of 1 percent from the 4,112,000 births reported for the same period a year earlier. The birth rate of 15.8 was 2 percent lower than the rate of 16.2 for the preceding 12 months. The fertility rate for the most recent 12-month period was 68.7, 1 percent lower than the rate for the 12 months ending with August 1992 (69.7). These lower rates continue the generally downward trend observed since early 1991.

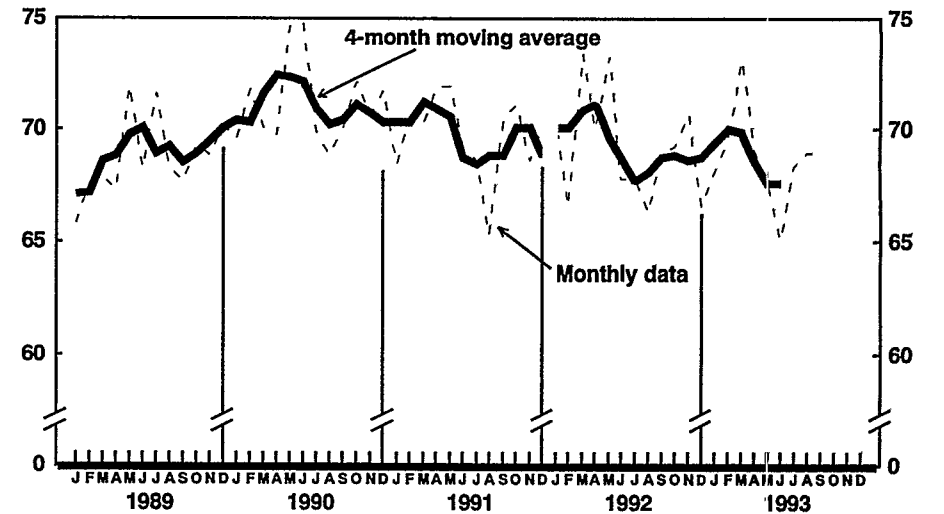


Provisional birth rates per 1,000 population by month: United States, 1992–93

Natural increase

As a result of natural increase, the excess of births over deaths, an estimated 187,000 people, or 8.5 persons per 1,000 population, were added to the population during August 1993.

For the 12-month period ending with August 1993, 1,824,000 persons were added to the population. This represents a rate of natural increase of 7.1, 7 percent lower than the rate of 7.6 for the preceding 12-month period. The decline in the rate of natural increase is due to a decrease in the birth rate and a rise in the death rate.



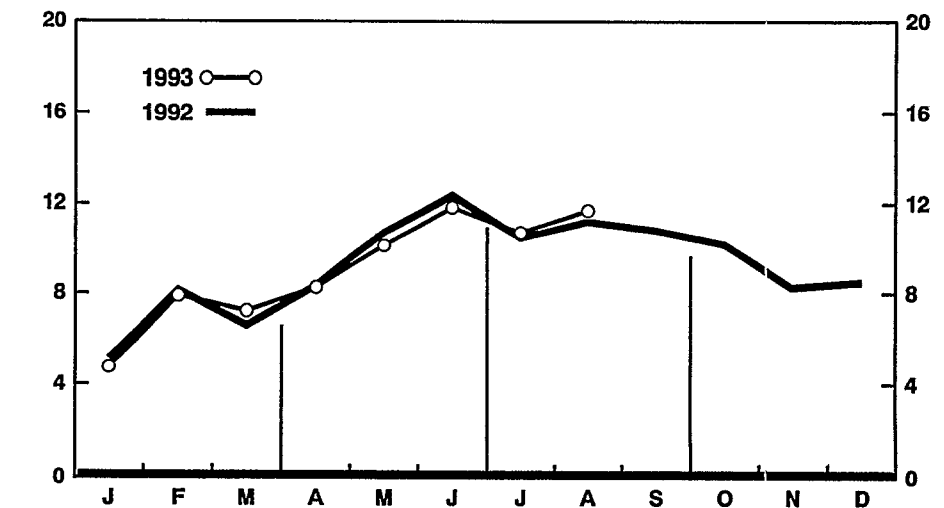
Provisional seasonally adjusted fertility rates per 1,000 women aged 15–44 years: United States, 1989–93

Marriages

There were an estimated 257,000 marriages performed in August 1993, 6 percent more than in August 1992 (242,000). The marriage rate per 1,000 population for August 1993 was 11.7 in 1993, 4 percent higher than for August 1992 (11.2).

Although the number and rate of marriages for August were higher in 1993 than in 1992, the number and rate of marriages for January–August were virtually the same for both years. The number of marriages for the period declined less than 1 percent, from 1,556,000 in 1992 to 1,551,000 in 1993, while the rate was constant at 9.1.

The number of marriages performed during the 12-month period ending with August 1993 (2,357,000) was unchanged from the same period a year earlier. However, because of an increase in the



Provisional marriage rates per 1,000 population by month: United States, 1992–93

population, the rate for the current period (9.2) was 1 percent lower than for the preceding 12 months (9.3).

Divorces

According to provisional data, the number of divorces (100,000) and the divorce rate (4.6 per 1,000 population) for August 1993 were identical to those of August 1992.

Divorces granted during the first 8 months of 1993 totaled 797,000, 2 percent fewer than for the same period a year earlier (815,000). The divorce rate for January–August was also 2 percent lower in 1993 (4.7) than in 1992 (4.8).

For the 12-month period ending with August 1993, there were an estimated 1,197,000 divorces, a 1-percent decline from the same period a year earlier (1,204,000). The divorce rate for the 12-month period remained unchanged at 4.7.

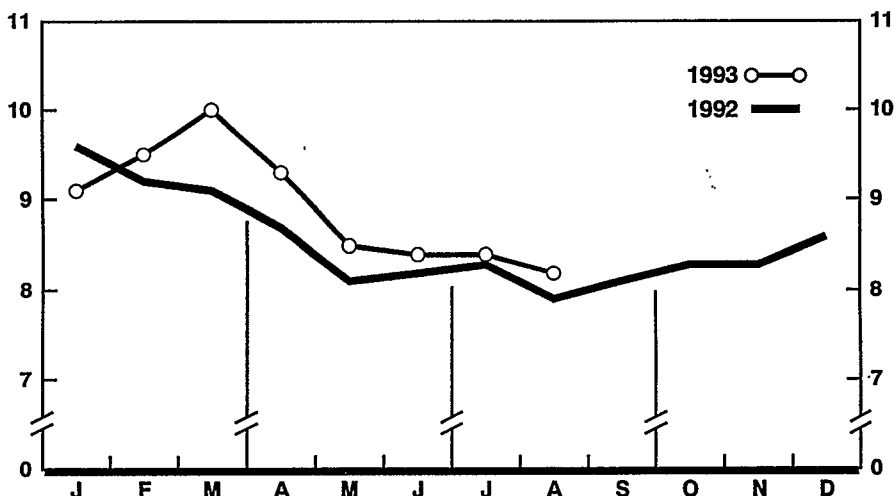
Deaths

For August 1993 there were an estimated 180,000 deaths in the United States. The death rate was 8.2 deaths per 1,000 population, 4 percent higher than the rate for August a year earlier. Among the 180,000 deaths for August 1993 were 2,700 deaths at ages under 1 year.

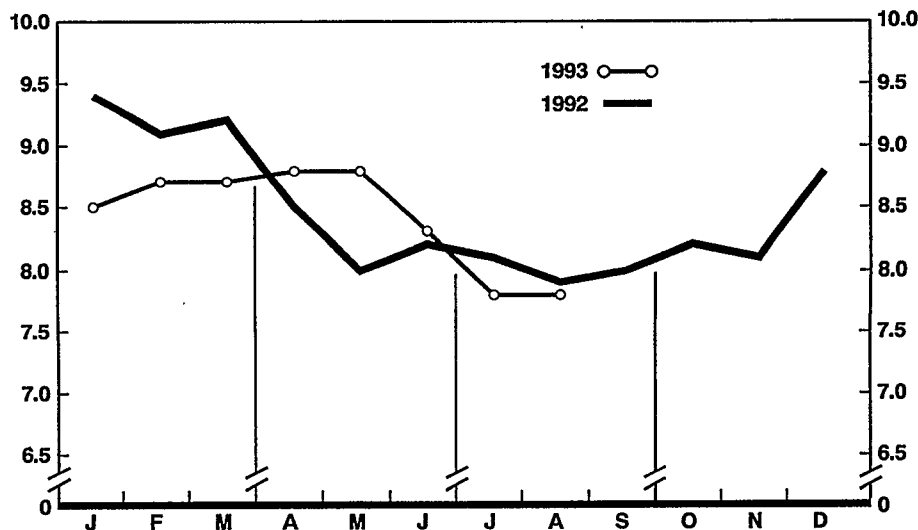
According to provisional statistics, there were 1,524,000 deaths during the first 8 months of 1993, 4 percent higher than the number estimated for January–August 1992 (1,466,000). The death rate, 8.9 per 1,000 population, was 3 percent higher than the January–August 1992 rate of 8.6. Among the 1,524,000 deaths for the first 8 months of 1993 were 22,600 deaths at ages under 1 year, yielding an infant mortality rate of 8.4 per 1,000 live births. This rate was 2 percent lower than the rate of 8.6 for the first 8 months of 1992.

The death rate for the 12 months ending with August 1993 was 8.7 deaths per 1,000 population, 1 percent higher than the rate of 8.6 for the comparable 12-month period a year earlier. The infant mortality rate for this 12-month period was 8.4 per 1,000 live births, 2 percent lower than the rate of 8.6 for the 12 months ending with August 1992.

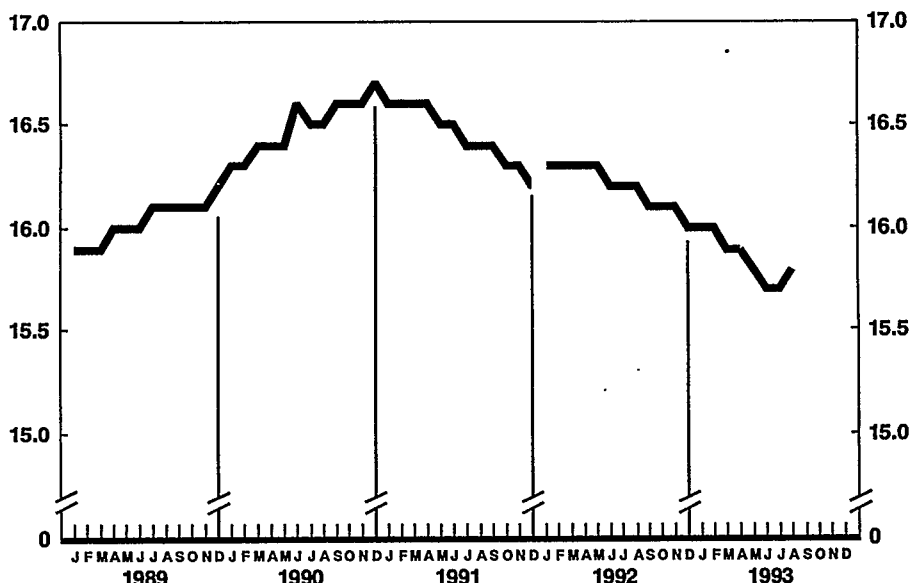
Current Mortality Sample, 12 months ending with July 1993—The provisional death rate for the 12 months ending with



Provisional death rates per 1,000 population by month: United States, 1992-93



Provisional Infant mortality rates per 1,000 live births by month: United States, 1992-93



Provisional birth rates per 1,000 population for successive 12-month periods ending with month indicated: United States, 1989-93

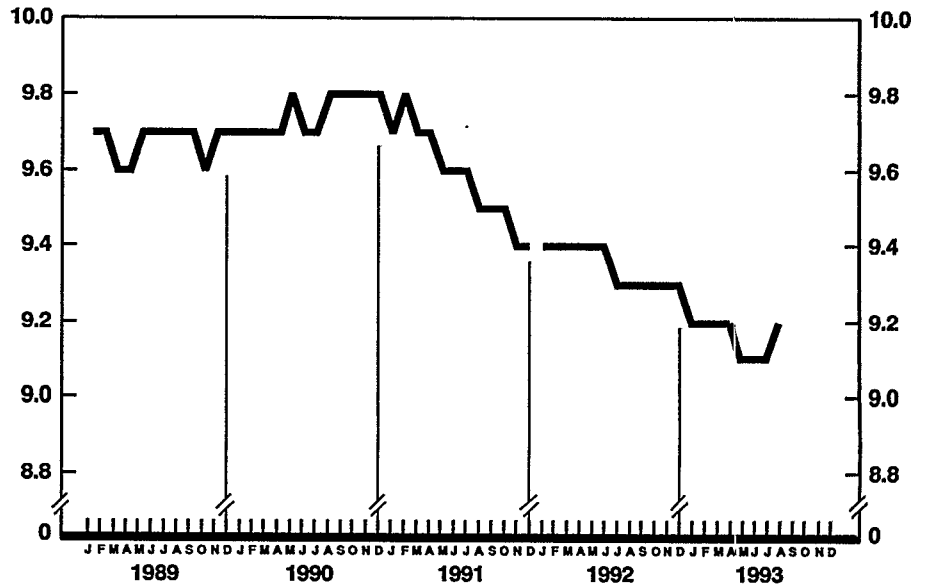
July 1993 was 867.3 deaths per 100,000 population, 1 percent higher than the rate of 858.5 for the 12-month period ending with July 1992. The provisional age-adjusted death rate for the 12-month period ending with July 1993 was 508.7 deaths per 100,000 U.S. standard million population, compared with a rate of 509.7 for the 12-month period ending with July 1992. The change in the age-adjusted death rate was not statistically significant. Age-adjusted death rates control for changes and variations in the age composition of the population; therefore, they are better indicators than crude rates for showing changes in mortality risk over time and for showing differences between race-sex groups within the population. Among the race-sex groups, the estimated age-adjusted death rates decreased for white males but increased for black females. By age the death rate for the total population decreased for the age group 55–64 years.

Among the major causes of death, the estimated death rate increased between the two successive 12-month periods for Chronic obstructive pulmonary diseases and Human immunodeficiency virus infection. The death rate decreased between the two successive 12-month periods for Accidents and adverse effects and Homicide and legal intervention.

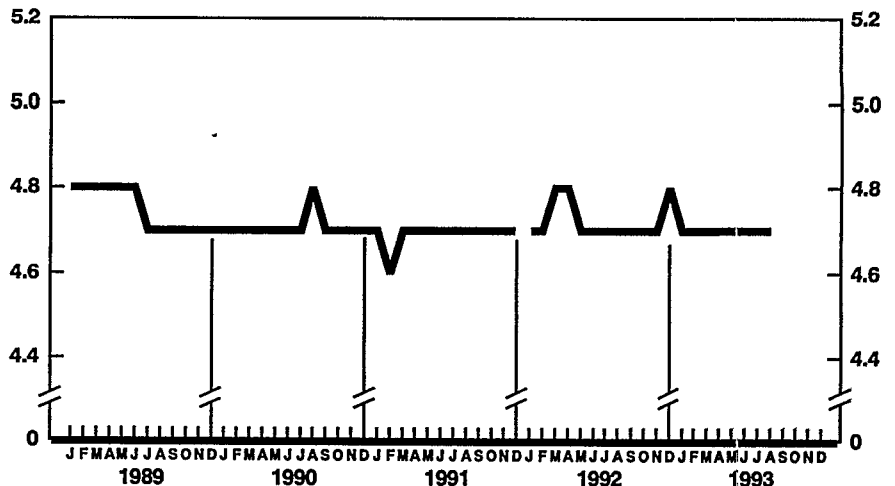
The infant mortality rate for the 12 months ending with July 1993 was 841.9 per 100,000 live births, 2 percent lower than the rate of 858.7 for the same 12-month period a year earlier. For infants under 28 days, the 12-month rate ending July 1993 was 526.9, compared with a rate of 538.3 for the 12-month period a year earlier. The infant mortality rate for infants 28 days to 11 months was 315.1, compared with a rate of 320.5 for the 12-month period ending with July 1992. The changes in the mortality rate for infants under 28 days and for those 28 days to 11 months were not statistically significant.

Mortality Surveillance System

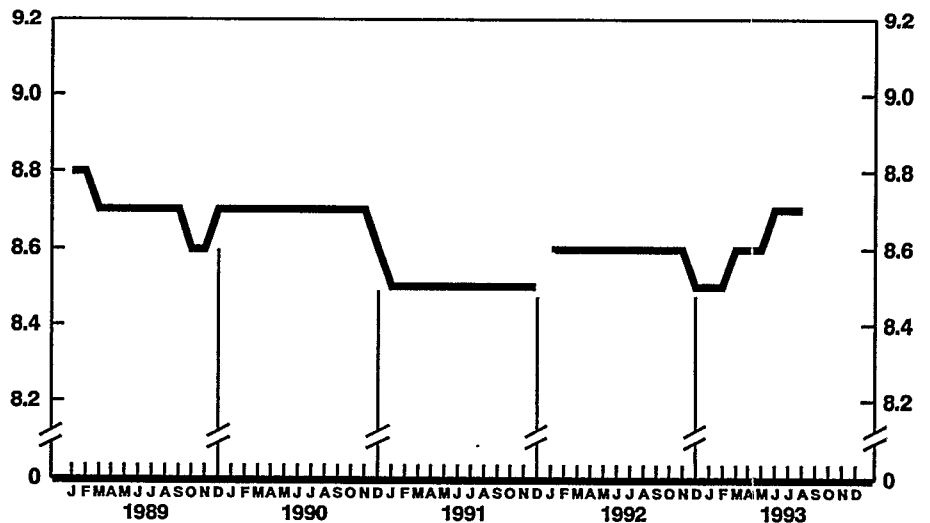
Discussed this month are recent trends in death rates for Malignant neoplasm of breast (breast cancer) for black and white women aged 45–74 years and Malignant neoplasm of prostate (prostate



Provisional marriage rates per 1,000 population for successive 12-month periods ending with month indicated: United States, 1989-93



Provisional divorce rates per 1,000 population for successive 12-month periods ending with month indicated: United States, 1989-93



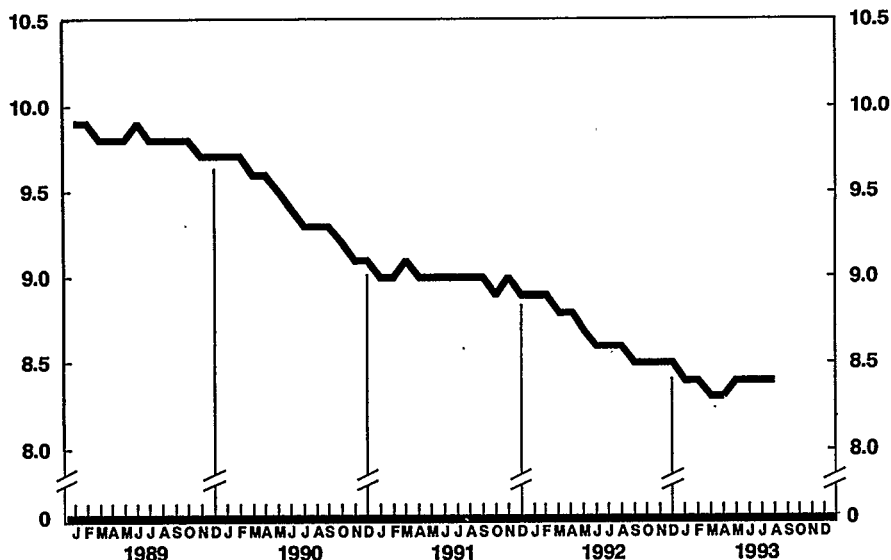
Provisional death rates per 1,000 population for successive 12-month periods ending with month indicated: United States, 1989-93

cancer) for black and white men aged 65 years and over. In this issue final mortality data are analyzed for data year 1991 and provisional data from January 1984 to June 1993.

In 1991 the latest year for which final mortality data are available, Malignant neoplasms, including neoplasms of lymphatic and hematopoietic tissues (cancer) was the leading cause of death for women aged 45–74 years and accounted for 131,360 deaths, or 38 percent of deaths from all causes for women in this age group. Breast cancer, a major cause of cancer mortality for women aged 45–74 years, accounted for 25,734 deaths, or 7 percent of all deaths and 20 percent of all cancer deaths for women in this age group. For black women aged 45–74, breast cancer accounted for 2,972 deaths, or 6 percent of all deaths and 19 percent of all cancer deaths. For white women in this age group, breast cancer accounted for 22,411 deaths, or 8 percent of all deaths and 20 percent of all cancer deaths.

Cancer was the second leading cause of death (after Diseases of heart) for men aged 65 years and over and accounted for 187,944 deaths, or 26 percent of all deaths for men in this age group. Prostate cancer, a major cause of cancer mortality for men aged 65 years and over, accounted for 30,626 deaths, or 4 percent of all deaths and 16 percent of all cancer deaths for men in this age group. For black men aged 65 years and over, prostate cancer accounted for 4,664 deaths, or 7 percent of all deaths and 24 percent of all cancer deaths. For white men in this age group, prostate cancer accounted for 25,698 deaths, or 4 percent of all deaths and 15 percent of all cancer deaths.

Based on 1991 final data, the prostate cancer death rate for black men aged 65 years and over was 2.1 times the rate for white men in this age group. For breast cancer the rate for black women aged 45–74 years was 1.1 times the rate for white women in this age group. Trends based on provisional data for breast cancer and prostate cancer for these demographic groups are presented in the Mortality Surveillance System charts and accompanying text that follow.

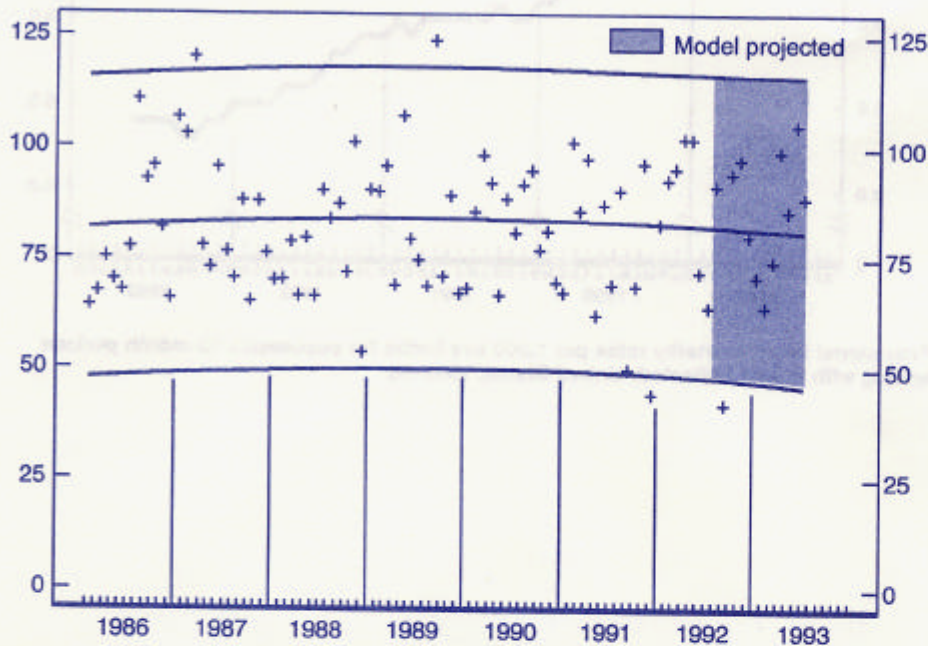


Provisional infant mortality rates per 1,000 live births for successive 12-month periods ending with month indicated: United States, 1989–93

Mortality Surveillance System charts

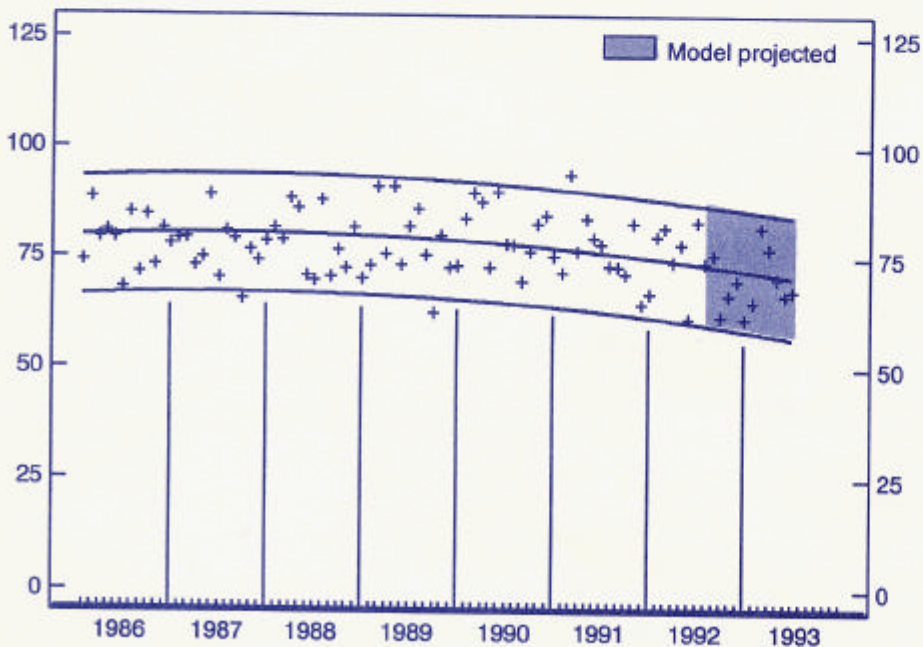
[Observed and fitted provisional monthly death rates and 95-percent prediction intervals. Model fitted using death rates for January 1984–June 1992; projected for July 1992–June 1993. See Technical notes]

Trends in mortality from Malignant neoplasm of female breast are presented in the charts below. Reduction of mortality from Malignant neoplasm of female breast is addressed in *Healthy People 2000* (objective 16.3) (1).



Provisional death rates per 100,000 black females 45–74 years of age for Malignant neoplasm of breast by month: United States, 1986–93

- For the modeled period, provisional death rates decreased slightly since 1990.
- For the projection period, observed provisional monthly death rates, except for one, fell within 95-percent prediction intervals.



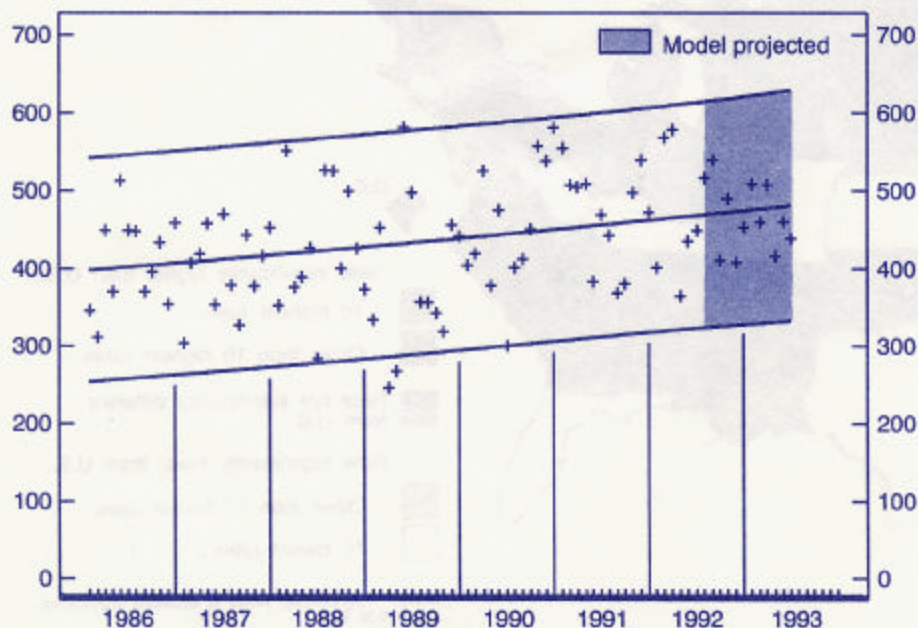
Provisional death rates per 100,000 white females 45–74 years of age for Malignant neoplasm of breast by month: United States, 1986–93

- For the modeled period, provisional death rates decreased since 1988.
- For the projection period, observed provisional monthly death rates fell within 95-percent prediction intervals.

Mortality Surveillance System charts—Con.

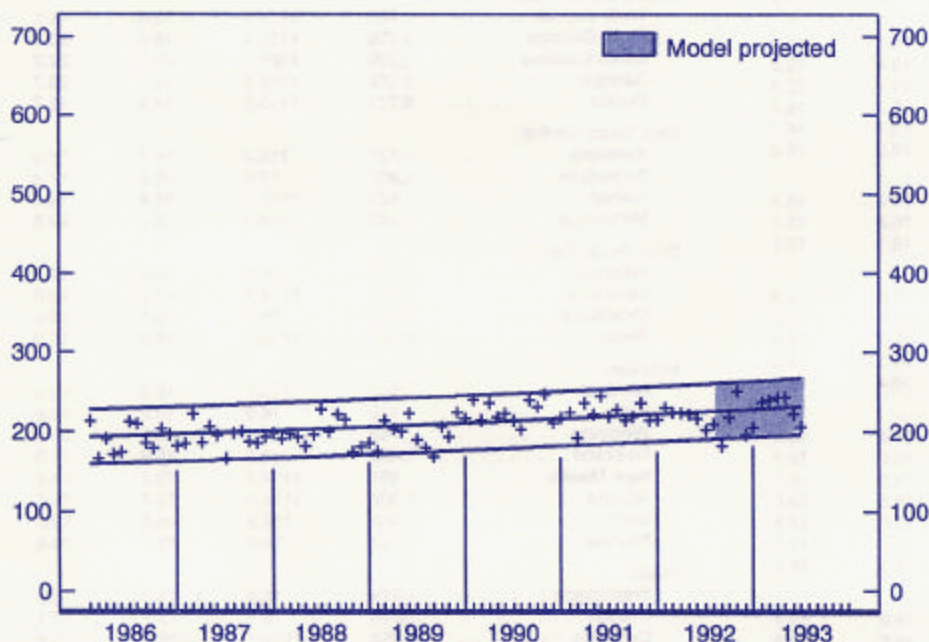
[Observed and fitted provisional monthly death rates and 95-percent prediction intervals. Model fitted using death rates for January 1984–June 1992; projected for July 1992–June 1993. See Technical notes]

No *Healthy People 2000* objective exists that addresses mortality from Malignant neoplasm of prostate.



Provisional death rates per 100,000 black males 65 years and over for Malignant neoplasm of prostate by month: United States, 1986–93

- For the modeled period, provisional death rates increased.
- For the projection period, observed provisional monthly death rates fell within 95-percent prediction intervals.

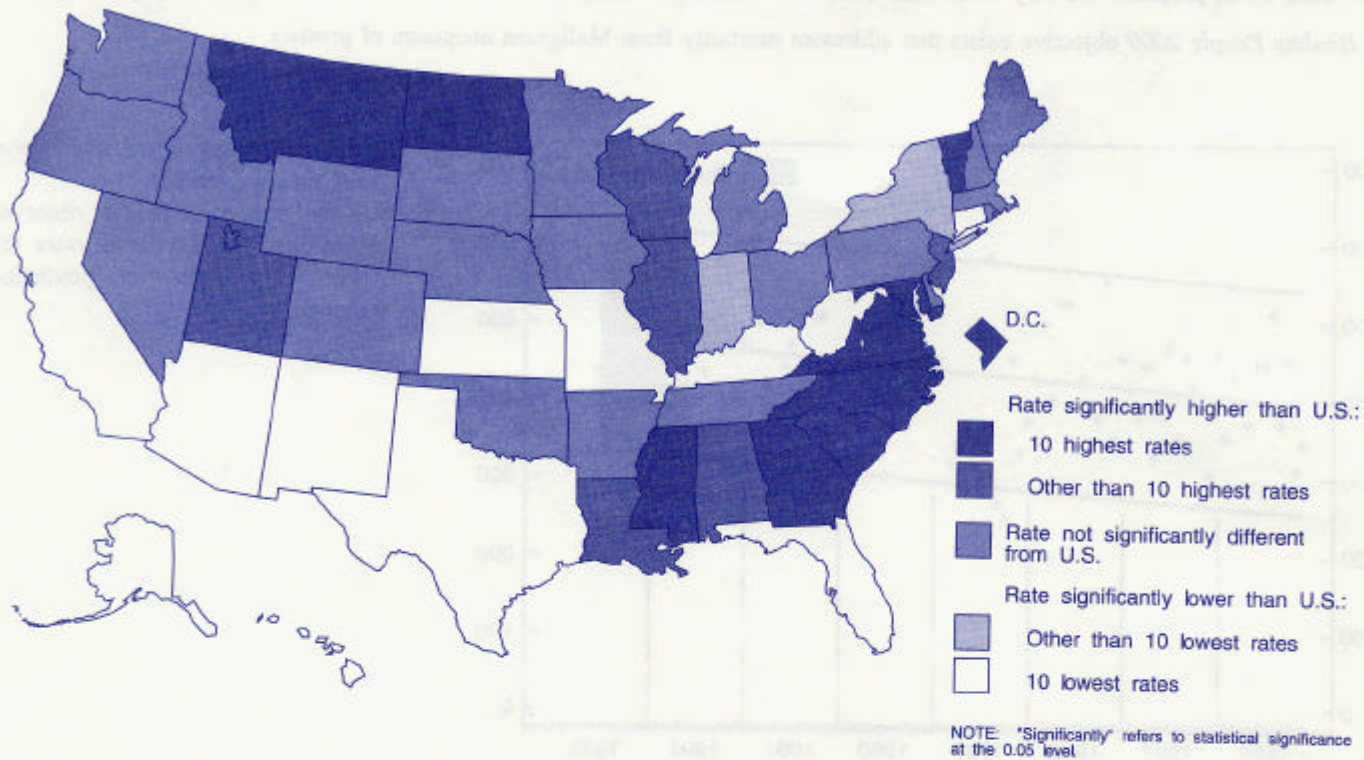


Provisional death rates per 100,000 white males 65 years and over for Malignant neoplasm of prostate by month: United States, 1986–93

- For the modeled period, provisional death rates increased.
- For the projection period, observed provisional monthly death rates, except for one, fell within 95-percent prediction intervals.

Final 3-year total number of deaths and average annual age-adjusted death rates and 95-percent confidence limits for Malignant neoplasms of genital organs for males: United States and each State, 1988-90

[Data are final by State of residence]

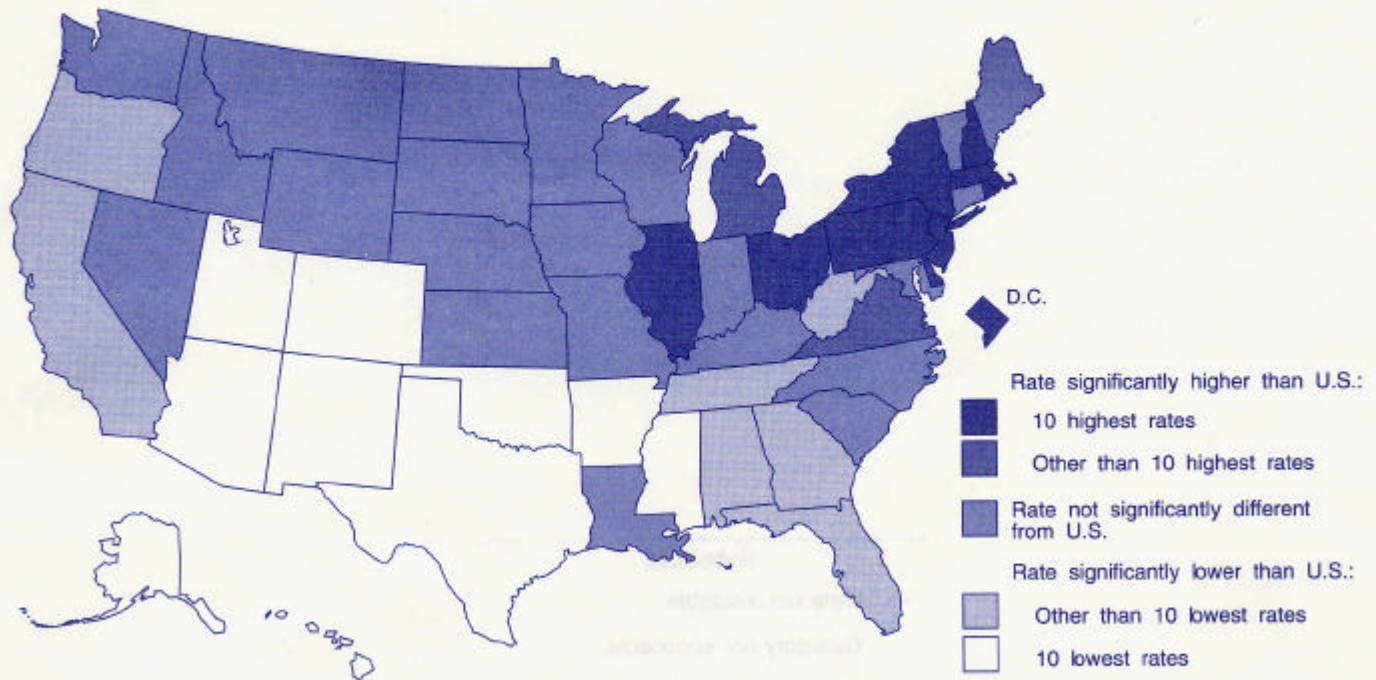


| Area | Deaths, 3-year total (final) | Age-adjusted rate (final) | 95-percent confidence limits | | Area | Deaths, 3-year total (final) | Age-adjusted rate (final) | 95-percent confidence limits | |
|--------------------------------|------------------------------------|---------------------------------|---------------------------------|-------|--------------------------|------------------------------------|---------------------------------|---------------------------------|-------|
| | | | Lower | Upper | | | | Lower | Upper |
| United States | 93,630 | 16.4 | 16.3 | 16.5 | South Atlantic—Con. | | | | |
| New England | | | | | West Virginia | 705 | ††14.5 | 13.4 | 15.6 |
| Maine | 529 | 17.2 | 15.7 | 18.7 | North Carolina | 2,726 | ††19.8 | 19.0 | 20.6 |
| New Hampshire | 385 | 17.2 | 15.4 | 19.0 | South Carolina | 1,380 | ††21.1 | 20.0 | 22.2 |
| Vermont | 250 | ††20.3 | 17.7 | 22.9 | Georgia | 2,202 | ††19.9 | 19.1 | 20.7 |
| Massachusetts | 2,307 | 16.0 | 15.3 | 16.7 | Florida | 6,777 | ††15.3 | 14.9 | 15.7 |
| Rhode Island | 405 | 15.2 | 13.7 | 16.7 | East South Central | | | | |
| Connecticut | 1,202 | ††15.1 | 14.2 | 16.0 | Kentucky | 1,321 | †15.3 | 14.4 | 16.2 |
| Middle Atlantic | | | | | Tennessee | 1,897 | 17.0 | 16.2 | 17.8 |
| New York | 6,696 | †15.9 | 15.5 | 16.3 | Alabama | 1,635 | ††17.7 | 16.8 | 18.6 |
| New Jersey | 3,187 | ††17.4 | 16.8 | 18.0 | Mississippi | 1,162 | ††19.4 | 18.2 | 20.6 |
| Pennsylvania | 5,320 | 16.6 | 16.1 | 17.1 | West South Central | | | | |
| East North Central | | | | | Arkansas | 1,111 | 16.7 | 15.7 | 17.7 |
| Ohio | 4,167 | 16.5 | 16.0 | 17.0 | Louisiana | 1,543 | ††18.1 | 17.2 | 19.0 |
| Indiana | 1,949 | †15.5 | 14.8 | 16.2 | Oklahoma | 1,257 | 16.0 | 15.1 | 16.9 |
| Illinois | 4,364 | †17.0 | 16.5 | 17.5 | Texas | 4,701 | ††14.8 | 14.4 | 15.2 |
| Michigan | 3,393 | 16.9 | 16.3 | 17.5 | Mountain | | | | |
| Wisconsin | 2,145 | †17.2 | 16.4 | 18.0 | Montana | 383 | †18.5 | 16.6 | 20.4 |
| West North Central | | | | | Idaho | 416 | 16.9 | 15.2 | 18.6 |
| Minnesota | 1,866 | 17.2 | 16.4 | 18.0 | Wyoming | 162 | 17.5 | 14.8 | 20.2 |
| Iowa | 1,285 | 15.9 | 15.0 | 16.8 | Colorado | 1,054 | 16.9 | 15.9 | 17.9 |
| Missouri | 1,982 | ††15.0 | 14.3 | 15.7 | New Mexico | 454 | ††14.4 | 13.0 | 15.8 |
| North Dakota | 400 | ††20.8 | 18.6 | 23.0 | Arizona | 1,307 | ††14.5 | 13.7 | 15.3 |
| South Dakota | 332 | 15.9 | 14.0 | 17.8 | Utah | 532 | †18.2 | 16.6 | 19.8 |
| Nebraska | 677 | 15.8 | 14.5 | 17.1 | Nevada | 342 | 15.0 | 13.4 | 16.6 |
| Kansas | 987 | †15.1 | 14.1 | 16.1 | Pacific | | | | |
| South Atlantic | | | | | Washington | 1,715 | 15.8 | 15.0 | 16.6 |
| Delaware | 254 | 17.2 | 15.0 | 19.4 | Oregon | 1,210 | 16.1 | 15.1 | 17.1 |
| Maryland | 1,747 | ††19.4 | 18.5 | 20.3 | California | 8,930 | ††15.3 | 15.0 | 15.6 |
| District of Columbia | 377 | ††29.5 | 26.4 | 32.6 | Alaska | 56 | ††11.2 | 7.9 | 14.5 |
| Virginia | 2,178 | ††18.8 | 18.0 | 19.6 | Hawaii | 268 | ††10.3 | 9.0 | 11.6 |

NOTE: Data are final. Rates per 100,000 U.S. standard million population; see Technical notes. The symbols † and †† denote statistical significance of the difference between the U.S. and State rates at the 0.05 and 0.01 levels, respectively. For method of computation of rates, confidence limits, and tests of statistical significance, see Technical notes.

Final 3-year total number of deaths and average annual age-adjusted death rates and 95-percent confidence limits for Malignant neoplasm of breast for females: United States and each State, 1988-90

[Data are final by State of residence]



NOTE: "Significantly" refers to statistical significance at the 0.05 level.

| Area | Deaths, 3-year total (final) | Age-adjusted rate (final) | 95-percent confidence limits | | Area | Deaths, 3-year total (final) | Age-adjusted rate (final) | 95-percent confidence limits | |
|--------------------------------|------------------------------------|---------------------------------|---------------------------------|-------|---------------------------|------------------------------------|---------------------------------|---------------------------------|-------|
| | | | Lower | Upper | | | | Lower | Upper |
| United States | 128,400 | 23.2 | 23.1 | 23.3 | South Atlantic—Con. | | | | |
| New England | | | | | West Virginia | 972 | †21.4 | 19.9 | 22.9 |
| Maine | 674 | 23.0 | 21.0 | 25.0 | North Carolina | 3,260 | 22.5 | 21.7 | 23.3 |
| New Hampshire | 626 | ††26.2 | 23.9 | 28.5 | South Carolina | 1,620 | 22.9 | 21.7 | 24.1 |
| Vermont | 299 | 24.0 | 21.0 | 27.0 | Georgia | 2,705 | ††21.6 | 20.7 | 22.5 |
| Massachusetts | 3,764 | ††24.8 | 23.9 | 25.7 | Florida | 7,778 | ††22.2 | 21.6 | 22.8 |
| Rhode Island | 671 | ††26.7 | 24.4 | 29.0 | East South Central | | | | |
| Connecticut | 1,887 | 22.7 | 21.6 | 23.8 | Kentucky | 1,869 | 22.6 | 21.5 | 23.7 |
| Middle Atlantic | | | | | Tennessee | 2,382 | ††21.7 | 20.8 | 22.6 |
| New York | 11,349 | ††26.0 | 25.5 | 26.5 | Alabama | 1,967 | ††21.9 | 20.8 | 23.0 |
| New Jersey | 4,996 | ††26.5 | 25.7 | 27.3 | Mississippi | 1,121 | ††21.0 | 19.7 | 22.3 |
| Pennsylvania | 7,914 | ††25.2 | 24.6 | 25.8 | West South Central | | | | |
| East North Central | | | | | Arkansas | 1,169 | ††20.4 | 19.1 | 21.7 |
| Ohio | 6,276 | ††24.8 | 24.1 | 25.5 | Louisiana | 2,033 | 23.6 | 22.5 | 24.7 |
| Indiana | 2,960 | 23.6 | 22.7 | 24.5 | Oklahoma | 1,496 | ††20.9 | 19.7 | 22.1 |
| Illinois | 6,427 | ††24.9 | 24.2 | 25.6 | Texas | 6,404 | ††19.9 | 19.4 | 20.4 |
| Michigan | 4,847 | ††24.2 | 23.5 | 24.9 | Mountain | | | | |
| Wisconsin | 2,677 | 23.2 | 22.2 | 24.2 | Montana | 382 | 21.2 | 18.8 | 23.6 |
| West North Central | | | | | Idaho | 428 | 21.4 | 19.2 | 23.6 |
| Minnesota | 2,228 | 22.8 | 21.7 | 23.9 | Wyoming | 188 | 20.7 | 17.5 | 23.9 |
| Iowa | 1,619 | 22.1 | 20.8 | 23.4 | Colorado | 1,324 | ††20.4 | 19.2 | 21.6 |
| Missouri | 2,894 | 23.2 | 22.2 | 24.2 | New Mexico | 574 | ††19.2 | 17.5 | 20.9 |
| North Dakota | 331 | 21.6 | 18.9 | 24.3 | Arizona | 1,591 | ††20.2 | 19.1 | 21.3 |
| South Dakota | 362 | 22.0 | 19.3 | 24.7 | Utah | 520 | ††19.0 | 17.2 | 20.8 |
| Nebraska | 901 | 23.0 | 21.3 | 24.7 | Nevada | 487 | 22.0 | 20.0 | 24.0 |
| Kansas | 1,345 | 22.8 | 21.4 | 24.2 | Pacific | | | | |
| South Atlantic | | | | | Washington | 2,301 | 22.7 | 21.7 | 23.7 |
| Delaware | 421 | ††28.6 | 25.6 | 31.6 | Oregon | 1,404 | ††21.4 | 20.1 | 22.7 |
| Maryland | 2,400 | 23.9 | 22.9 | 24.9 | California | 12,688 | ††22.4 | 22.0 | 22.8 |
| District of Columbia | 435 | ††30.5 | 27.3 | 33.7 | Alaska | 113 | ††19.5 | 15.8 | 23.2 |
| Virginia | 3,012 | †24.2 | 23.3 | 25.1 | Hawaii | 309 | ††15.3 | 13.5 | 17.1 |

NOTE: Data are final. Rates per 100,000 U.S. standard million population; see Technical notes. The symbols † and †† denote statistical significance of the difference between the U.S. and State rates at the 0.05 and 0.01 levels, respectively. For method of computation of rates, confidence limits, and tests of statistical significance, see Technical notes.

Symbols

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

Table 1. Provisional number of live births, marriages, deaths, infant deaths, and rates by month: United States, January 1992–August 1993

[Data are provisional and are subject to monthly reporting variation; see Technical notes]

| Period | Live births | | | | Marriages | | Deaths | | Infant deaths | |
|---------------------|-------------|---------------------------|---------------------------------------|----------------------------------|-----------|---------------------------|---------|---------------------------|---------------|----------------------------|
| | Number | Rate per 1,000 population | Rate per 1,000 women aged 15–44 years | | Number | Rate per 1,000 population | Number | Rate per 1,000 population | Number | Rate per 1,000 live births |
| | | | Unadjusted | Seasonally adjusted ¹ | | | | | | |
| 1992: | | | | | | | | | | |
| January | 334,000 | 15.6 | 66.9 | 70.4 | 112,000 | 5.2 | 207,000 | 9.6 | 3,200 | 9.4 |
| February | 304,000 | 15.1 | 65.1 | 66.6 | 166,000 | 8.2 | 185,000 | 9.2 | 2,900 | 9.1 |
| March | 360,000 | 16.7 | 72.0 | 73.4 | 145,000 | 6.7 | 195,000 | 9.1 | 3,200 | 9.2 |
| April | 330,000 | 15.8 | 68.3 | 70.0 | 175,000 | 8.4 | 181,000 | 8.7 | 2,800 | 8.5 |
| May | 361,000 | 16.7 | 72.2 | 73.2 | 231,000 | 10.7 | 175,000 | 8.1 | 2,800 | 8.0 |
| June | 333,000 | 16.0 | 68.9 | 67.8 | 256,000 | 12.3 | 172,000 | 8.2 | 2,700 | 8.2 |
| July | 352,000 | 16.3 | 70.5 | 67.8 | 228,000 | 10.5 | 180,000 | 8.3 | 2,800 | 8.1 |
| August | 350,000 | 16.2 | 70.1 | 66.3 | 242,000 | 11.2 | 172,000 | 7.9 | 2,700 | 7.9 |
| September | 357,000 | 17.0 | 73.7 | 69.0 | 227,000 | 10.8 | 169,000 | 8.1 | 2,700 | 8.0 |
| October | 345,000 | 15.9 | 69.1 | 69.3 | 221,000 | 10.2 | 181,000 | 8.3 | 2,900 | 8.2 |
| November | 332,000 | 15.8 | 68.6 | 70.7 | 174,000 | 8.3 | 175,000 | 8.3 | 2,700 | 8.1 |
| December | 325,000 | 15.0 | 65.0 | 66.6 | 184,000 | 8.5 | 186,000 | 8.6 | 2,900 | 8.8 |
| 1993: | | | | | | | | | | |
| January | 325,000 | 14.9 | 64.7 | 68.1 | 103,000 | 4.8 | 198,000 | 9.1 | 2,900 | 8.5 |
| February | 308,000 | 15.6 | 68.0 | 69.6 | 154,000 | 7.9 | 187,000 | 9.5 | 2,700 | 8.7 |
| March | 360,000 | 16.5 | 71.7 | 73.1 | 157,000 | 7.3 | 217,000 | 10.0 | 3,100 | 8.7 |
| April | 328,000 | 15.5 | 67.5 | 69.1 | 174,000 | 8.3 | 196,000 | 9.3 | 2,900 | 8.8 |
| May | 335,000 | 15.3 | 66.8 | 67.7 | 221,000 | 10.1 | 185,000 | 8.5 | 2,900 | 8.8 |
| June | 321,000 | 15.2 | 66.1 | 65.1 | 251,000 | 11.8 | 178,000 | 8.4 | 2,600 | 8.3 |
| July | 357,000 | 16.3 | 71.2 | 68.4 | 235,000 | 10.7 | 184,000 | 8.4 | 2,800 | 7.8 |
| August | 367,000 | 16.7 | 73.0 | 69.0 | 257,000 | 11.7 | 180,000 | 8.2 | 2,700 | 7.8 |

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

NOTES: Figures include all revisions received from the States and, therefore, may differ from those previously published. Rates for 1992 (except infant mortality) have been recomputed based on revised population estimates; see Technical notes.

Table 2. Provisional number of live births and deaths: each division and State, August 1992 and 1993, and cumulative figures, 1991-93

[Data are estimates by State of residence; see Technical notes]

Table with columns for Area, Live Births (August, January-August) for 1993, 1992, and 1991, and Deaths (August, January-August) for 1993, 1992, and 1991. Rows list various states and regions including New England, Middle Atlantic, East North Central, West North Central, South Atlantic, East South Central, West South Central, Mountain, and Pacific.

¹Excludes figures for State(s) shown below as not available.

²Figures include adjustments for varying length of reporting periods; see Technical notes.

NOTES: Figures include all revisions received from the States. Cumulative figures for the current year reflect revisions received for previous months, and figures for earlier years may differ from those previously published.

Table 4. Provisional number of deaths under 1 year and infant mortality rates: each division and State, 12 months ending with August 1992 and 1993

[Data are estimates by State of residence; see Technical notes. Infant mortality rates are deaths under 1 year per 1,000 live births in specified area]

| Area | 12 months ending with August | | | |
|-----------------------------------|------------------------------|------|--------|------|
| | 1993 | | 1992 | |
| | Number | Rate | Number | Rate |
| New England | 1,807 | 16.5 | 1,233 | 6.5 |
| Maine | --- | --- | 104 | 6.5 |
| New Hampshire | 84 | 5.4 | 89 | 5.5 |
| Vermont | 44 | 5.9 | 53 | 6.9 |
| Massachusetts | 548 | 6.3 | 529 | 6.0 |
| Rhode Island | 131 | 9.0 | 110 | 7.5 |
| Connecticut | --- | --- | 348 | 7.3 |
| Middle Atlantic | 4,921 | 8.6 | 4,931 | 8.6 |
| New York | 2,502 | 8.8 | 2,409 | 8.4 |
| New Jersey | 997 | 8.1 | 1,032 | 8.8 |
| Pennsylvania | 1,422 | 8.8 | 1,490 | 9.0 |
| East North Central | 6,046 | 9.3 | 6,279 | 9.5 |
| Ohio | 1,407 | 8.6 | 1,437 | 8.6 |
| Indiana | 812 | 9.6 | 795 | 9.4 |
| Illinois | 1,913 | 10.0 | 2,013 | 10.4 |
| Michigan | 1,369 | 9.5 | 1,507 | 10.3 |
| Wisconsin | 545 | 7.8 | 527 | 7.4 |
| West North Central | 2,005 | 7.8 | 2,204 | 8.4 |
| Minnesota | 455 | 7.1 | 473 | 7.1 |
| Iowa | 241 | 6.5 | 308 | 8.0 |
| Missouri | 664 | 8.8 | 722 | 9.2 |
| North Dakota | 59 | 6.7 | 82 | 9.2 |
| South Dakota | 103 | 9.4 | 117 | 10.5 |
| Nebraska | 172 | 7.6 | 186 | 7.9 |
| Kansas | 311 | 8.6 | 316 | 8.6 |
| South Atlantic | 6,506 | 9.6 | 6,604 | 9.6 |
| Delaware | 99 | 9.2 | 117 | 10.7 |
| Maryland | 688 | 9.1 | 691 | 8.5 |
| District of Columbia | 163 | 16.5 | 195 | 19.9 |
| Virginia | 910 | 9.5 | 852 | 8.7 |
| West Virginia | 214 | 9.8 | 192 | 8.6 |
| North Carolina | 1,072 | 10.7 | 1,073 | 10.4 |
| South Carolina | 529 | 9.6 | 632 | 11.1 |
| Georgia | 1,139 | 10.2 | 1,175 | 10.6 |
| Florida | 1,692 | 8.7 | 1,677 | 8.7 |
| East South Central | 2,401 | 10.2 | 2,346 | 10.1 |
| Kentucky | 500 | 9.5 | 429 | 7.9 |
| Tennessee | 720 | 9.5 | 747 | 10.3 |
| Alabama | 640 | 10.0 | 693 | 10.9 |
| Mississippi | 541 | 12.6 | 477 | 11.1 |
| West South Central | 3,848 | 8.0 | 4,043 | 8.3 |
| Arkansas | 324 | 9.3 | 345 | 9.8 |
| Louisiana | 694 | 9.9 | 683 | 9.1 |
| Oklahoma | 424 | 9.0 | 450 | 9.6 |
| Texas ² | 2,406 | 7.3 | 2,565 | 7.8 |
| Mountain | 1,874 | 7.7 | 1,909 | 7.7 |
| Montana | 81 | 7.1 | 106 | 9.1 |
| Idaho | 151 | 8.7 | 122 | 7.0 |
| Wyoming | 63 | 9.5 | 53 | 7.7 |
| Colorado | 425 | 7.7 | 419 | 7.7 |
| New Mexico | 227 | 8.0 | 252 | 9.0 |
| Arizona | 556 | 8.2 | 578 | 8.3 |
| Utah | 236 | 6.4 | 226 | 6.1 |
| Nevada | 135 | 6.5 | 153 | 6.7 |
| Pacific | 14,481 | 16.7 | 5,277 | 7.0 |
| Washington | --- | --- | 524 | 7.3 |
| Oregon | 319 | 7.4 | 297 | 7.0 |
| California ² | 3,943 | 6.7 | 4,233 | 7.0 |
| Alaska | 85 | 8.0 | 92 | 7.9 |
| Hawaii | 134 | 6.8 | 131 | 6.5 |

¹Excludes figures for State(s) shown below as not available.²Figures include adjustments for varying length of reporting periods; see Technical notes.

NOTES: Figures include all revisions received from the States. Figures for the current year reflect revisions received for previous months, and figures for earlier years may differ from those previously published.

Table 5. Provisional number of deaths and death rates, by age, race, and sex, and age-adjusted death rates by race and sex: United States, July 1992 and 1993, cumulative figures for 1992 and 1993, and 12 months ending with July 1992 and 1993—Con.

[Data are provisional, estimated from a 10-percent sample of deaths. Age-specific rates on an annual basis per 100,000 population in specified group; age-adjusted rates per 100,000 U.S. standard million population; see Technical notes. Due to rounding of estimates, figures may not add to totals. For method of computation and information on standard errors of the estimates, see Technical notes]

| Age, race, and sex | July | | | | January–July | | | | 12 months ending with July | | | |
|--|--------|----------|--------|----------|--------------|----------------------|--------|----------------------|----------------------------|----------------------|---------|----------------------|
| | 1993 | | 1992 | | 1993 | | 1992 | | 1993 | | 1992 | |
| | Number | Rate | Number | Rate | Number | Rate | Number | Rate | Number | Rate | Number | Rate |
| Black female | | | | | | | | | | | | |
| All ages | 10,780 | 750.4 | 10,720 | 760.4 | 76,220 | 778.9 | 72,430 | 750.9 | 127,540 | 758.8 | 121,710 | 736.0 |
| Under 1 year | 460 | 124.3 | 580 | 160.1 | 2,610 | ² 1,409.0 | 2,950 | ² 1,611.8 | 4,780 | ² 1,503.1 | 5,130 | ² 1,628.6 |
| 1–4 years | | | | | 530 | 74.1 | 530 | 75.4 | 810 | 65.9 | 860 | 71.5 |
| 5–14 years | | | | | 510 | 31.5 | 420 | 26.4 | 790 | 28.5 | 830 | 30.4 |
| 15–24 years | | | | | 160 | 70.5 | 120 | 53.1 | 1,200 | 77.3 | 1,050 | 67.7 |
| 25–34 years | 350 | 142.6 | 350 | 142.3 | 2,610 | 155.4 | 2,530 | 149.5 | 4,630 | 160.1 | 4,380 | 150.5 |
| 35–44 years | 760 | 343.6 | 870 | 407.9 | 5,130 | 341.5 | 4,790 | 329.8 | 8,430 | 327.3 | 7,980 | 321.4 |
| 45–54 years | 940 | 691.7 | 850 | 656.3 | 6,120 | 665.4 | 5,550 | 629.0 | 10,100 | 642.9 | 9,420 | 627.2 |
| 55–64 years | 1,250 | 1,262.2 | 1,530 | 1,568.0 | 9,750 | 1,444.3 | 9,770 | 1,460.3 | 16,790 | 1,447.4 | 16,220 | 1,412.9 |
| 65–74 years | 2,350 | 2,975.2 | 1,970 | 2,539.2 | 16,210 | 3,012.2 | 14,340 | 2,700.0 | 26,610 | 2,879.9 | 24,470 | 2,689.0 |
| 75–84 years | 2,760 | 6,225.4 | 2,390 | 5,489.8 | 17,920 | 5,938.3 | 16,670 | 5,597.8 | 29,700 | 5,733.6 | 27,820 | 5,454.9 |
| 85 years and over | 1,750 | 11,910.3 | 2,050 | 14,492.9 | 13,580 | 13,585.2 | 13,790 | 14,229.8 | 22,720 | 13,286.5 | 22,530 | 13,572.3 |
| Not stated | 10 | ... | — | ... | 40 | ... | 40 | ... | 60 | ... | 70 | ... |
| Age-adjusted rate ³ | ... | 578.1 | ... | 585.7 | ... | 599.2 | ... | 574.9 | ... | 585.4 | ... | 567.0 |

¹Includes races other than white and black.

²Death rates under 1 year (based on population estimates) differ from infant mortality rates (based on live births); see table 8 for infant mortality rates.

³For method of computation, see Technical notes.

NOTES: Figures include all revisions received from the States. Cumulative and 12-month figures for the current year reflect revisions received for previous months, and figures for earlier years may differ from those previously published. Rates for 1992 have been recomputed based on revised population estimates; see Technical notes.

Table 6. Provisional number of deaths and death rates for 72 selected causes and Human immunodeficiency virus infection: United States, July 1992 and 1993, cumulative figures 1992 and 1993, and 12 months ending with July 1992 and 1993

[Data are provisional, estimated from a 10-percent sample of deaths. Rates on an annual basis per 100,000 estimated population. Due to rounding of estimates, figures may not add to totals. For method of computation and information on standard errors of the estimates, see Technical notes. For explanation of the asterisk preceding cause-of-death codes, see Technical notes]

| Cause of death (Ninth Revision International Classification of Diseases, 1975) | July | | January–July | | | | 12 months ending with July | | | | | |
|--|--|--------|--------------|--------|-----------|---------|----------------------------|---------|-----------|---------|-----------|---------|
| | 1993 | | 1992 | | 1993 | | 1992 | | 1993 | | 1992 | |
| | Number | Rate | Number | Rate | Number | Rate | Number | Rate | Number | Rate | Number | Rate |
| All causes | 184,000 | 838.6 | 180,000 | 833.9 | 1,344,000 | 900.0 | 1,294,000 | 874.5 | 2,227,000 | 867.3 | 2,179,000 | 858.5 |
| Shigellosis and amebiasis | .004,006 | — | * | — | * | — | * | — | * | — | * | — |
| Certain other intestinal infections | .007–009 | 40 | * | 30 | * | 370 | 0.2 | 440 | 0.3 | 680 | 0.3 | 690 |
| Tuberculosis | .010–018 | 150 | 0.7 | 140 | 0.6 | 1,030 | 0.7 | 770 | 0.5 | 1,620 | 0.6 | 1,410 |
| Tuberculosis of respiratory system | .010–012 | 130 | 0.6 | 100 | * | 830 | 0.6 | 600 | 0.4 | 1,300 | 0.5 | 1,070 |
| Other tuberculosis | .013–018 | 20 | * | 40 | * | 190 | 0.1 | 170 | 0.1 | 320 | 0.1 | 340 |
| Whooping cough | .033 | — | * | — | * | 10 | * | — | * | 20 | * | — |
| Streptococcal sore throat, scarlatina, and erysipelas | .034–035 | — | * | — | * | — | * | — | * | — | * | 10 |
| Meningococcal infection | .036 | 10 | * | — | * | 180 | 0.1 | 110 | 0.1 | 300 | 0.1 | 210 |
| Septicemia | .038 | 1,860 | 8.5 | 1,640 | 7.6 | 12,060 | 8.1 | 12,030 | 8.1 | 19,950 | 7.8 | 20,180 |
| Acute poliomyelitis | .045 | — | * | — | * | — | * | — | * | — | * | — |
| Measles | .055 | — | * | — | * | — | * | — | * | — | * | 10 |
| Viral hepatitis | .070 | 150 | 0.7 | 130 | 0.6 | 1,440 | 1.0 | 1,060 | 0.7 | 2,320 | 0.9 | 1,860 |
| Syphilis | .090–097 | 20 | * | — | * | 40 | * | 60 | * | 50 | * | 130 |
| All other infectious and parasitic diseases ¹ | .001–003,005,020–032,037,039–041,*042–*044,046–054,056–066,071–088,098–139 | 3,500 | 16.0 | 3,300 | 15.3 | 25,190 | 16.9 | 22,190 | 15.0 | 41,960 | 16.3 | 37,170 |
| Malignant neoplasms, including neoplasms of lymphatic and hematopoietic tissues | .140–208 | 44,530 | 203.3 | 45,300 | 209.7 | 307,050 | 205.5 | 303,080 | 204.8 | 524,500 | 204.3 | 518,520 |
| Malignant neoplasms of lip, oral cavity, and pharynx | .140–149 | 620 | 2.8 | 670 | 3.1 | 4,630 | 3.1 | 4,540 | 3.1 | 8,110 | 3.2 | 7,670 |
| Malignant neoplasms of digestive organs and peritoneum | .150–159 | 10,350 | 47.2 | 10,870 | 50.3 | 70,410 | 47.1 | 71,020 | 48.0 | 121,010 | 47.1 | 121,350 |
| Malignant neoplasms of respiratory and intrathoracic organs | .160–165 | 13,410 | 61.2 | 12,560 | 58.1 | 89,530 | 59.9 | 87,790 | 59.3 | 153,180 | 59.7 | 150,400 |
| Malignant neoplasm of breast | .174–175 | 3,750 | 17.1 | 3,800 | 17.6 | 26,120 | 17.5 | 26,330 | 17.8 | 43,980 | 17.1 | 44,100 |
| Malignant neoplasms of genital organs | .179–187 | 4,940 | 22.5 | 5,020 | 23.2 | 35,380 | 23.7 | 34,160 | 23.1 | 59,930 | 23.3 | 58,540 |
| Malignant neoplasms of urinary organs | .188–189 | 1,820 | 8.3 | 1,950 | 9.0 | 12,760 | 8.5 | 13,220 | 8.9 | 21,770 | 8.5 | 21,640 |
| Malignant neoplasms of all other and unspecified sites | .170–173,190–199 | 5,540 | 25.3 | 5,380 | 24.9 | 38,100 | 25.5 | 36,440 | 24.6 | 64,780 | 25.2 | 63,400 |
| Leukemia | .204–208 | 1,410 | 6.4 | 1,960 | 9.1 | 11,060 | 7.4 | 11,120 | 7.5 | 19,160 | 7.5 | 19,480 |
| Other malignant neoplasms of lymphatic and hematopoietic tissues | .200–203 | 2,670 | 12.2 | 3,100 | 14.3 | 19,060 | 12.8 | 18,450 | 12.5 | 32,570 | 12.7 | 31,930 |
| Benign neoplasms, carcinoma in situ, and neoplasms of uncertain behavior and of unspecified nature | .210–239 | 550 | 2.5 | 710 | 3.3 | 4,540 | 3.0 | 4,420 | 3.0 | 7,550 | 2.9 | 7,660 |
| Diabetes mellitus | .250 | 4,040 | 18.4 | 4,230 | 19.6 | 32,550 | 21.8 | 30,500 | 20.6 | 52,280 | 20.4 | 50,870 |
| Nutritional deficiencies | .260–269 | 250 | 1.1 | 240 | 1.1 | 1,870 | 1.2 | 1,790 | 1.2 | 3,180 | 1.2 | 3,150 |
| Anemias | .280–285 | 370 | 1.7 | 350 | 1.6 | 2,660 | 1.8 | 2,310 | 1.6 | 4,320 | 1.7 | 4,110 |
| Meningitis | .320–322 | 50 | * | 50 | * | 480 | 0.3 | 470 | 0.3 | 740 | 0.3 | 740 |
| Major cardiovascular diseases | .390–448 | 75,010 | 342.4 | 74,050 | 342.7 | 564,910 | 378.2 | 545,960 | 368.9 | 931,070 | 362.6 | 913,800 |
| Diseases of heart | .390–398,402,404–429 | 59,280 | 270.6 | 58,030 | 268.6 | 442,820 | 296.5 | 430,440 | 290.8 | 731,360 | 284.9 | 719,860 |
| Rheumatic fever and rheumatic heart disease | .390–398 | 430 | 2.0 | 500 | 2.3 | 3,360 | 2.3 | 3,560 | 2.4 | 5,770 | 2.2 | 5,670 |
| Hypertensive heart disease | .402 | 2,220 | 10.1 | 1,860 | 8.6 | 14,630 | 9.8 | 13,010 | 8.8 | 23,970 | 9.3 | 21,620 |
| Hypertensive heart and renal disease | .404 | 150 | 0.7 | 230 | 1.1 | 1,290 | 0.9 | 1,340 | 0.9 | 2,260 | 0.9 | 2,120 |
| Ischemic heart disease | .410–414 | 38,620 | 176.3 | 37,960 | 175.7 | 291,980 | 195.5 | 285,860 | 193.1 | 484,030 | 188.5 | 479,240 |
| Acute myocardial infarction | .410 | 18,410 | 84.0 | 17,740 | 82.1 | 135,570 | 90.8 | 137,730 | 93.1 | 227,150 | 88.5 | 232,600 |
| Other acute and subacute forms of ischemic heart disease | .411 | 250 | 1.1 | 250 | 1.2 | 1,750 | 1.2 | 1,800 | 1.2 | 2,790 | 1.1 | 3,110 |
| Angina pectoris | .413 | 50 | * | 110 | 0.5 | 410 | 0.3 | 620 | 0.4 | 820 | 0.3 | 970 |
| Old myocardial infarction and other forms of chronic ischemic heart disease | .412,414 | 19,900 | 90.8 | 19,860 | 91.9 | 154,250 | 103.3 | 145,720 | 98.5 | 253,270 | 98.6 | 242,560 |
| Other diseases of endocardium | .424 | 1,010 | 4.6 | 1,050 | 4.9 | 8,410 | 5.6 | 8,990 | 6.1 | 14,350 | 5.6 | 14,250 |
| All other forms of heart disease | .415–423,425–429 | 16,850 | 76.9 | 16,440 | 76.1 | 123,150 | 82.4 | 117,680 | 79.5 | 200,980 | 78.3 | 196,950 |
| Hypertension with or without renal disease | .401,403 | 370 | 4.0 | 1,030 | 4.8 | 6,310 | 4.2 | 5,710 | 3.9 | 10,240 | 4.0 | 9,130 |
| Cerebrovascular diseases | .430–438 | 11,600 | 52.9 | 11,880 | 55.0 | 89,510 | 59.9 | 85,830 | 58.0 | 147,000 | 57.3 | 143,430 |
| Intracerebral and other intracranial hemorrhage | .431–432 | 1,640 | 7.5 | 1,700 | 7.9 | 13,090 | 8.8 | 12,420 | 8.4 | 21,680 | 8.4 | 20,990 |
| Cerebral thrombosis and unspecified occlusion of cerebral arteries | .434,0,434.9 | 1,370 | 6.3 | 1,320 | 6.1 | 9,540 | 6.4 | 9,040 | 6.1 | 15,830 | 6.2 | 15,590 |
| Cerebral embolism | .434.1 | 30 | * | 70 | * | 310 | 0.2 | 420 | 0.3 | 580 | 0.2 | 630 |
| All other and late effects of cerebrovascular diseases | .430,433,435–438 | 8,560 | 39.1 | 8,780 | 40.6 | 66,570 | 44.6 | 63,950 | 43.2 | 108,910 | 42.4 | 106,220 |

| | | | | | | | | | | | | | |
|--|----------------------|--------|------|--------|------|---------|------|---------|------|---------|------|---------|------|
| Atherosclerosis | .440 | 1,250 | 5.7 | 1,300 | 6.0 | 10,260 | 6.9 | 9,520 | 6.4 | 16,860 | 6.6 | 16,410 | 6.5 |
| Other diseases of arteries, arterioles, and capillaries. | .441-448 | 2,000 | 9.1 | 1,810 | 8.4 | 16,010 | 10.7 | 14,450 | 9.8 | 25,620 | 10.0 | 24,970 | 9.8 |
| Acute bronchitis and bronchiolitis | .466 | 20 | * | 20 | * | 390 | 0.2 | 300 | 0.2 | 590 | 0.2 | 510 | 0.2 |
| Pneumonia and influenza | .480-487 | 5,440 | 24.8 | 5,510 | 25.5 | 50,250 | 33.6 | 48,340 | 32.7 | 77,760 | 30.3 | 76,530 | 30.1 |
| Pneumonia | .480-486 | 5,430 | 24.8 | 5,510 | 25.5 | 49,560 | 33.2 | 47,260 | 31.9 | 77,010 | 30.0 | 74,990 | 29.5 |
| Influenza | .487 | 10 | * | — | * | 690 | 0.5 | 1,080 | 0.7 | 750 | 0.3 | 1,540 | 0.6 |
| Chronic obstructive pulmonary diseases and allied conditions | .490-496 | 7,640 | 34.9 | 6,480 | 30.0 | 63,180 | 42.3 | 56,860 | 38.4 | 97,400 | 37.9 | 90,400 | 35.6 |
| Bronchitis, chronic and unspecified | .490-491 | 180 | 0.8 | 230 | 1.1 | 2,200 | 1.5 | 2,490 | 1.7 | 3,580 | 1.4 | 3,910 | 1.5 |
| Emphysema. | .492 | 1,600 | 7.3 | 1,190 | 5.5 | 11,620 | 7.8 | 10,070 | 6.8 | 18,190 | 7.1 | 16,520 | 6.5 |
| Asthma. | .493 | 460 | 2.1 | 370 | 1.7 | 3,200 | 2.1 | 3,010 | 2.0 | 4,840 | 1.9 | 4,780 | 1.9 |
| Other chronic obstructive pulmonary diseases and allied conditions | .494-496 | 5,400 | 24.6 | 4,700 | 21.7 | 46,170 | 30.9 | 41,290 | 27.9 | 70,790 | 27.6 | 65,200 | 25.7 |
| Ulcer of stomach and duodenum | .531-533 | 490 | 2.2 | 440 | 2.0 | 3,480 | 2.3 | 3,470 | 2.3 | 5,780 | 2.3 | 5,840 | 2.3 |
| Appendicitis | .540-543 | 20 | * | 20 | * | 280 | 0.2 | 220 | 0.1 | 360 | 0.1 | 360 | 0.1 |
| Hernia of abdominal cavity and intestinal obstruction without mention of hernia | .550-553,560 | 370 | 1.7 | 500 | 2.3 | 3,190 | 2.1 | 3,350 | 2.3 | 5,720 | 2.2 | 5,720 | 2.3 |
| Chronic liver disease and cirrhosis | .571 | 1,930 | 8.8 | 2,130 | 9.9 | 14,030 | 9.4 | 14,250 | 9.6 | 24,650 | 9.6 | 24,570 | 9.7 |
| Cholelithiasis and other disorders of gallbladder | .574-575 | 190 | 0.9 | 350 | 1.6 | 1,550 | 1.0 | 1,930 | 1.3 | 2,620 | 1.0 | 3,120 | 1.2 |
| Nephritis and nephrotic syndrome, and nephrosis | .580-589 | 1,890 | 8.6 | 1,710 | 7.9 | 15,270 | 10.2 | 13,620 | 9.2 | 24,590 | 9.6 | 23,300 | 9.2 |
| Acute glomerulonephritis and nephrotic syndrome | .580-581 | 30 | * | 30 | * | 190 | 0.1 | 210 | 0.1 | 250 | 0.1 | 300 | 0.1 |
| Chronic glomerulonephritis, nephritis and nephropathy, not specified as acute or chronic, and renal sclerosis, unspecified | .582-583,587 | 100 | * | 70 | * | 930 | 0.6 | 930 | 0.6 | 1,490 | 0.6 | 1,550 | 0.6 |
| Renal failure, disorders resulting from impaired renal function, and small kidney of unknown cause | .584-586,588-589 | 1,760 | 8.0 | 1,610 | 7.4 | 14,150 | 9.5 | 12,480 | 8.4 | 22,840 | 8.9 | 21,440 | 8.4 |
| Infections of kidney | .590 | 160 | 0.7 | 110 | 0.5 | 670 | 0.4 | 650 | 0.4 | 1,080 | 0.4 | 1,050 | 0.4 |
| Hyperplasia of prostate | .600 | 10 | * | 40 | * | 250 | 0.2 | 210 | 0.1 | 360 | 0.1 | 310 | 0.1 |
| Complications of pregnancy, childbirth, and the puerperium | .630-676 | 10 | * | 30 | * | 170 | 0.1 | 110 | 0.1 | 340 | 0.1 | 260 | 0.1 |
| Pregnancy with abortive outcome | .630-638 | — | * | — | * | 30 | * | 10 | * | 50 | * | 20 | * |
| Other complications of pregnancy, childbirth, and the puerperium | .640-676 | 10 | * | 30 | * | 140 | 0.1 | 100 | * | 280 | 0.1 | 240 | 0.1 |
| Congenital anomalies | .740-759 | 900 | 4.1 | 1,000 | 4.6 | 6,680 | 4.5 | 7,280 | 4.9 | 11,820 | 4.6 | 12,000 | 4.7 |
| Certain conditions originating in the perinatal period | .760-779 | 1,390 | 6.3 | 1,400 | 6.5 | 9,010 | 6.0 | 9,160 | 6.2 | 15,460 | 6.0 | 15,670 | 6.2 |
| Birth trauma, intrauterine hypoxia, birth asphyxia, and respiratory distress syndrome | .767-769 | 170 | 0.8 | 290 | 1.3 | 1,610 | 1.1 | 1,830 | 1.2 | 2,940 | 1.1 | 2,990 | 1.2 |
| Other conditions originating in the perinatal period | .760-766,770-779 | 1,220 | 5.6 | 1,110 | 5.1 | 7,400 | 4.9 | 7,330 | 5.0 | 12,530 | 4.9 | 12,680 | 5.0 |
| Symptoms, signs, and ill-defined conditions | .780-799 | 3,270 | 14.9 | 3,100 | 14.3 | 23,660 | 15.8 | 21,100 | 14.2 | 38,130 | 14.9 | 36,380 | 14.3 |
| All other diseases | Residual | 15,840 | 72.3 | 13,890 | 64.3 | 116,750 | 78.2 | 106,110 | 71.7 | 189,520 | 73.8 | 178,510 | 70.3 |
| Accidents and adverse effects | .E800-E949 | 8,480 | 38.7 | 7,860 | 36.4 | 48,510 | 32.5 | 48,490 | 32.7 | 84,380 | 32.9 | 86,660 | 34.1 |
| Motor vehicle accidents. | .E810-E825 | 3,730 | 17.0 | 3,930 | 18.2 | 21,910 | 14.7 | 23,060 | 15.6 | 39,890 | 15.5 | 42,350 | 16.7 |
| All other accidents and adverse effects | .E800-E807,E826-E949 | 4,750 | 21.7 | 3,930 | 18.2 | 26,600 | 17.8 | 25,440 | 17.2 | 44,490 | 17.3 | 44,300 | 17.5 |
| Suicide | .E950-E959 | 2,400 | 10.9 | 2,820 | 13.0 | 17,000 | 11.4 | 17,290 | 11.7 | 28,420 | 11.1 | 28,960 | 11.4 |
| Homicide and legal intervention | .E960-E978 | 2,500 | 11.4 | 2,350 | 10.9 | 14,150 | 9.5 | 15,250 | 10.3 | 24,690 | 9.6 | 26,710 | 10.5 |
| All other external causes | .E980-E999 | 210 | 1.0 | 210 | 1.0 | 1,520 | 1.0 | 1,160 | 0.8 | 2,460 | 1.0 | 2,030 | 0.8 |
| Human immunodeficiency virus infection ² | *042-*044 | 2,950 | 13.5 | 2,720 | 12.6 | 20,950 | 14.0 | 18,320 | 12.4 | 34,940 | 13.6 | 30,710 | 12.1 |

¹Includes data for deaths due to Human immunodeficiency virus infection (category numbers *042-*044) shown separately below; see Technical notes.

²Included in All other infectious and parasitic diseases shown above.

NOTES: Figures include all revisions received from the States. Cumulative and 12-month figures for the current year reflect revisions received for previous months, and figures for earlier years may differ from those previously published. Rates for 1992 have been recomputed based on revised population estimates; see Technical notes.

Table 7. Provisional number of deaths and death rates for 16 selected subcategories of Malignant neoplasms, including neoplasms of lymphatic and hematopoietic tissues: United States, July 1992 and 1993, cumulative figures 1992 and 1993, and 12 months ending with July 1992 and 1993

[Data are provisional, estimated from a 10-percent sample of deaths. Rates on an annual basis per 100,000 estimated population. Due to rounding of estimates, figures may not add to totals. For method of computation and information on standard errors of the estimates, see Technical notes]

| Cause of death (Ninth Revision International Classification of Diseases, 1975) | July | | January–July | | | | 12 months ending with July | | | | | | |
|--|---------|--------|--------------|--------|--------|---------|----------------------------|---------|--------|---------|--------|---------|-------|
| | 1993 | | 1992 | | 1993 | | 1992 | | 1993 | | 1992 | | |
| | Number | Rate | Number | Rate | Number | Rate | Number | Rate | Number | Rate | Number | Rate | |
| Malignant neoplasms, including neoplasms of lymphatic and hematopoietic tissues ¹ | 140-208 | 44,530 | 203.3 | 45,300 | 209.7 | 307,050 | 205.5 | 303,080 | 204.8 | 524,500 | 204.3 | 518,520 | 204.3 |
| Malignant neoplasm of esophagus | 150 | 940 | 4.3 | 960 | 4.4 | 5,750 | 3.8 | 6,160 | 4.1 | 10,190 | 4.0 | 9,910 | 3.9 |
| Malignant neoplasm of stomach | 151 | 1,350 | 6.2 | 1,200 | 5.5 | 8,100 | 5.4 | 7,730 | 5.2 | 13,330 | 5.2 | 13,790 | 5.4 |
| Malignant neoplasms of colon, rectum, rectosigmoid junction, and anus | 153,154 | 4,810 | 22.0 | 5,130 | 23.7 | 32,440 | 21.7 | 33,730 | 22.8 | 55,890 | 21.8 | 57,280 | 22.6 |
| Malignant neoplasm of pancreas | 157 | 1,930 | 8.8 | 2,250 | 10.4 | 15,030 | 10.1 | 14,830 | 10.0 | 26,060 | 10.1 | 25,240 | 9.9 |
| Malignant neoplasms of trachea, bronchus, and lung | 162 | 12,840 | 58.6 | 12,190 | 56.4 | 86,660 | 58.0 | 85,090 | 57.5 | 148,090 | 57.7 | 145,500 | 57.3 |
| Malignant melanoma of skin | 172 | 550 | 2.5 | 670 | 3.1 | 3,780 | 2.5 | 3,960 | 2.7 | 6,580 | 2.6 | 6,810 | 2.7 |
| Malignant neoplasm of cervix uteri | 180 | 440 | 2.0 | 390 | 1.8 | 2,700 | 1.8 | 2,420 | 1.6 | 4,550 | 1.8 | 4,160 | 1.6 |
| Malignant neoplasms of body of uterus and of uterus, part unspecified | 179,182 | 340 | 1.5 | 540 | 2.5 | 3,350 | 2.2 | 3,740 | 2.5 | 6,000 | 2.3 | 6,010 | 2.4 |
| Malignant neoplasm of ovary | 183.0 | 1,020 | 4.7 | 1,110 | 5.1 | 7,540 | 5.0 | 7,340 | 5.0 | 12,900 | 5.0 | 12,730 | 5.0 |
| Malignant neoplasm of prostate | 185 | 3,040 | 13.9 | 2,830 | 13.1 | 20,820 | 13.9 | 19,550 | 13.2 | 34,850 | 13.6 | 33,740 | 13.3 |
| Malignant neoplasm of bladder | 188 | 980 | 4.5 | 910 | 4.2 | 6,440 | 4.3 | 6,590 | 4.4 | 10,860 | 4.2 | 10,790 | 4.3 |
| Malignant neoplasms of kidney and other and unspecified urinary organs | 189 | 840 | 3.8 | 1,040 | 4.8 | 6,320 | 4.2 | 6,630 | 4.5 | 10,900 | 4.2 | 10,860 | 4.3 |
| Malignant neoplasms of brain and other and unspecified parts of nervous system | 191,192 | 1,000 | 4.6 | 890 | 4.1 | 6,640 | 4.4 | 6,060 | 4.1 | 11,180 | 4.4 | 11,150 | 4.4 |
| Hodgkin's disease | 201 | 100 | * | 120 | 0.6 | 950 | 0.6 | 930 | 0.6 | 1,650 | 0.6 | 1,720 | 0.7 |
| Malignant lymphoma other than Hodgkin's disease | 200,202 | 1,780 | 8.1 | 2,050 | 9.5 | 12,260 | 8.2 | 11,910 | 8.0 | 21,090 | 8.2 | 20,460 | 8.1 |
| Multiple myeloma and other immunoproliferative neoplasms | 203 | 790 | 3.6 | 920 | 4.3 | 5,850 | 3.9 | 5,610 | 3.8 | 9,830 | 3.8 | 9,750 | 3.8 |

¹Includes figures for subcategories not shown below.

NOTES: Figures include all revisions received from the States. Cumulative and 12-month figures for the current year reflect revisions received for previous months, and figures for earlier years may differ from those previously published. Rates for 1992 have been recomputed based on revised population estimates; see Technical notes.

Table 8. Provisional number of deaths under 1 year and infant mortality rates, by age and for 10 selected causes: United States, July 1992 and 1993, cumulative figures 1992 and 1993, and 12 months ending with July 1992 and 1993

[Data are provisional, estimated from a 10-percent sample of deaths. Rates on an annual basis per 100,000 live births. Due to rounding of estimates, figures may not add to totals. For method of computation and information on standard errors of the estimates, see Technical notes]

| Age and cause of death (Ninth Revision International Classification of Diseases, 1975) | July | | January–July | | | | 12 months ending with July | | | | | | |
|--|----------------------|-------|--------------|-------|--------|-------|----------------------------|-------|--------|-------|--------|-------|-------|
| | 1993 | | 1992 | | 1993 | | 1992 | | 1993 | | 1992 | | |
| | Number | Rate | Number | Rate | Number | Rate | Number | Rate | Number | Rate | Number | Rate | |
| Total, under 1 year | 2,800 | 784.8 | 2,800 | 807.0 | 19,900 | 853.4 | 20,500 | 864.4 | 33,800 | 841.9 | 35,000 | 858.7 | |
| Under 28 days | 1,820 | 518.1 | 1,890 | 540.6 | 12,230 | 525.3 | 12,860 | 542.7 | 21,170 | 526.9 | 21,970 | 538.3 | |
| 28 days to 11 months | 940 | 267.6 | 930 | 266.0 | 7,640 | 328.1 | 7,630 | 322.0 | 12,660 | 315.1 | 13,080 | 320.5 | |
| Certain gastrointestinal diseases | .008-009,535,555-558 | 20 | * | 20 | * | 110 | 4.7 | 220 | 9.3 | 230 | 5.7 | 320 | 7.8 |
| Pneumonia and influenza | 480-487 | 40 | * | 80 | * | 350 | 15.0 | 410 | 17.3 | 560 | 13.9 | 600 | 14.7 |
| Congenital anomalies | 740-759 | 530 | 150.9 | 570 | 163.1 | 3,830 | 164.5 | 4,340 | 183.1 | 6,990 | 174.0 | 7,320 | 179.3 |
| Disorders relating to short gestation and unspecified low birthweight | 765 | 420 | 119.6 | 350 | 100.1 | 2,430 | 104.4 | 2,190 | 92.4 | 4,030 | 100.3 | 3,930 | 96.3 |
| Birth trauma | 767 | 20 | * | 10 | * | 90 | * | 100 | * | 150 | 3.7 | 190 | 4.7 |
| Intrauterine hypoxia and birth asphyxia | 769 | 50 | * | 60 | * | 360 | 16.3 | 330 | 13.9 | 740 | 18.4 | 590 | 14.5 |
| Respiratory distress syndrome | 769 | 100 | * | 220 | 62.9 | 1,120 | 48.1 | 1,360 | 57.4 | 2,020 | 50.3 | 2,140 | 52.4 |
| Other conditions originating in the perinatal period | 760-764,766,770-779 | 790 | 224.9 | 760 | 217.4 | 4,860 | 208.7 | 5,030 | 212.3 | 8,340 | 207.6 | 8,590 | 210.5 |
| Sudden infant death syndrome | 798.0 | 410 | 116.7 | 260 | 74.4 | 2,780 | 119.4 | 2,480 | 104.6 | 4,490 | 111.7 | 4,340 | 106.3 |
| All other causes | Residual | 370 | 105.3 | 510 | 145.9 | 3,910 | 167.9 | 4,030 | 170.1 | 6,290 | 156.5 | 7,040 | 172.5 |

NOTES: Figures include all revisions received from the States. Cumulative and 12-month figures for the current year reflect revisions received for previous months, and figures for earlier years may differ from those previously published.

Technical notes

Nature and sources of data

Data in this report are provisional unless otherwise specified and include only events occurring within the United States. Mortality data exclude fetal deaths.

Birth, death, and infant death figures in tables 2 and 4 for each State are estimates by State of residence. These estimates are derived by applying adjustment ratios to the actual counts of certificates for all events occurring in the State and received in registration offices during a 1-month period regardless of date of the event. The adjustment ratios for each data year represent the observed relationship between final State occurrence and residence figures for the 3 most recent years for which final data were available, expressed as a single ratio for each State. As in previous years, monthly State marriage and divorce figures represent the actual count of all events occurring in the State (State of occurrence) that were received in the registration offices during the 1-month period. Delay in the receipt of certificates in a registration office may result in a low State figure for a given month followed by a high figure for the month(s) in which the delayed records are received. Data for previous months and cumulative data include revised figures received from the States.

Figures for births, deaths, and infant deaths for California in tables 2 and 4 contain adjustments for varying length of State reporting periods. Beginning with data for February 1991, figures for Texas for all events in tables 2-4 also are adjusted for varying length of State reporting periods. Before February 1991 data for Texas were reported for monthly periods. The figures for both States are adjusted by the ratio between the number of days in the data month and the number of days in the State reporting period. The adjusted figures are included in the U.S. totals.

Beginning with data for January 1991, U.S. totals for births, deaths, and infant deaths are based on the State estimates by State of residence and, therefore, in effect, exclude events to nonresidents of the United States. Events to nonresidents of the United States are

included in all marriage and divorce figures. The effect of excluding events to nonresidents from the U.S. totals is small.

Provisional totals for the United States include estimates for State data shown as not available. Provisional totals for births and marriages for the entire United States include adjustments for observed differences between provisional and final monthly figures.

Divorce figures include reported annulments. The monthly national divorce estimate is obtained by multiplying the total for the reporting areas by the ratio observed between the most recent final annual divorce total for the United States and the provisional total for the reporting areas combined.

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

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

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

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 at the 0.05 level if it exceeds

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

Additional information on random variation in numbers of events, rates, and ratios may be found in the technical

appendixes of *Vital Statistics of the United States, 1988*, Volumes I and II.

Rates

Rates are on an annual basis and, except for infant mortality rates, are per 1,000 or 100,000 estimated population residing in the United States. The populations used for computing these rates are furnished by the U.S. Bureau of the Census. The population bases used to compute rates for 1992 and 1993 were based on the 1990 Census enumeration (not adjusted for undercount) comparable to those used for 1990 and 1991 final data. Population bases were *not* the same as those used for the *Monthly Vital Statistics Report* for each month from January through December 1992; therefore, the rates may not be the same as those previously published. Monthly rates are based on populations estimated for the specific month. Year-to-date rates are averages of monthly rates that have been weighted by the number of days in the corresponding months. Rates for 12-month periods are the sum of events for the period per population estimated at the midpoint of the period.

Infant mortality rates are deaths under 1 year of age for the specified period (monthly, year-to-date, or 12-month period) per 1,000 or 100,000 live births. Births used for computing monthly and year-to-date infant mortality rates are adjusted for monthly variation in the number of births. Births used to compute 12-month rates do not contain this adjustment. Births used for computing infant mortality rates are not corrected for observed differences between provisional and final monthly figures as described earlier in *Nature and sources of data*. Because monthly infant mortality rates are based on relatively few events, they are highly variable. Therefore, comparisons of monthly infant mortality rates should be interpreted cautiously; see *Random variation*.

Age-adjusted death rates are used to make comparisons of relative mortality risks across groups and over time. However, they should be viewed as constructs or indexes rather than as direct or actual measures of mortality risk. Statistically, they are weighted averages of the age-specific death rates, where the weights

represent the fixed population proportions by age. See chapter 5 of an earlier report (2). The age-adjusted death rates presented in this report were computed by the direct method, that is, by applying age-specific death rates to the U.S. standard million population (3). See also chapter 10 of an earlier report (2). Age groups in table 5 of this report were used to compute the age-adjusted rates shown in that table. The age-adjusted death rates on which the State maps are based and that are shown with the State maps were computed from average annual age-specific death rates in 10-year age groups for the specified 3-year period. The average annual age-specific death rates were computed by dividing the number of deaths in an age group for the 3-year period by three times the population in that age group estimated at the midpoint of the period (4). It is important not to compare age-adjusted rates with crude rates.

Current Mortality Sample

The Current Mortality Sample (CMS) is a 10-percent systematic sample of death certificates drawn each month after the certificates are counted in the State registration offices. Deaths and death rates by age, race, sex, and cause are based on the sample. Because of the additional time required to select and process the certificates, data based on the CMS are published 1 month after publication of the U.S. and State counts. Complete information concerning the underlying cause of death is sometimes not available when the sample is drawn. As a result, estimates based on sample counts for certain causes are biased. Correction for bias is shown in the annual summary (issue No. 13 in this series) for each year.

Estimated numbers of deaths and death rates based on the sample were proportionately adjusted to be consistent with estimates based on the count of death certificates received in State registration offices.

HIV infection—Beginning with data for 1987, the National Center for Health Statistics 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*. Deaths classified to these categories are included in All other infectious and parasitic diseases in the List of 72 Selected Causes of Death and are also shown separately at the bottom of table 6.

Sampling variability—Because the estimates of deaths and death rates presented in this report (with the exception of total deaths and deaths under 1 year) are based on a sample of death certificates, they are subject to sampling variability. The estimated relative standard error in the following table is a measure of the sampling error of the estimated number of deaths (or of the estimated death rate) expressed as a percent of the estimate. The first column refers to monthly estimates; the second to annual; cumulative year-to-date totals fall between the two.

The chances are about 2 in 3 that the percent difference between an estimate and the result of a complete count is less than the percent shown. The chances are about 19 in 20 that the percent difference is less than twice the percent shown. A figure based on 100 or fewer estimated deaths has a relative standard error of 30 percent or more and is, therefore, considered unreliable. A rate based on 100 or fewer estimated deaths has been replaced by an asterisk.

Unless otherwise specified, comparisons made in the text between death rates

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

| Estimated number of deaths | Relative standard error of estimate (as percent) | |
|----------------------------|--|--------------------------------------|
| | 170,000 estimated deaths each month | 2,000,000 estimated deaths each year |
| 10 | 94.9 | 94.9 |
| 20 | 67.1 | 67.1 |
| 50 | 42.4 | 42.4 |
| 100 | 30.0 | 30.0 |
| 200 | 21.2 | 21.2 |
| 500 | 13.4 | 13.4 |
| 1,000 | 9.5 | 9.5 |
| 2,000 | 6.7 | 6.7 |
| 5,000 | 4.2 | 4.2 |
| 10,000 | 2.9 | 3.0 |
| 20,000 | 2.0 | 2.1 |
| 50,000 | 1.1 | 1.3 |
| 100,000 | 0.6 | 0.9 |
| 200,000 | ... | 0.6 |
| 500,000 | ... | 0.4 |
| 1,000,000 | ... | 0.2 |

based on the CMS were statistically significant at the 0.05 level of significance. Lack of comment in the text about any two rates does not mean that the difference was tested and found not to be significant at this level.

Mortality Surveillance System—The Mortality Surveillance System (MSS) charts are based entirely on monthly provisional data from the CMS. Where sample size permits, age-race-sex comparisons are made for the causes of death. Where sample size is too small, only age-sex comparisons are made. A time series regression model of the following form was used:

$$Y(t) = A_0 + A_1t + A_2t^2 + C \cos(2\pi t/12) + S \sin(2\pi t/12) + \epsilon_t$$

where

- $Y(t)$ = monthly death rate at time t
- t = month number
- A_0 = coefficient, which, together with C determines the Y-intercept
- A_1 = coefficient of t
- A_2 = coefficient of t^2
- C, S = coefficients of the harmonic terms
- ϵ_t = error terms, assumed to be independent and normally distributed with means 0 and constant variances,

and $\cos(2\pi t/12)$ and $\sin(2\pi t/12)$ are 12-month period harmonic functions.

The coefficients of this model were estimated using provisional monthly death rates from January 1984 through the month that is 12 months prior to the latest month shown in the chart. The graph of the estimated equation and 95-percent prediction intervals is shown from January 1986 through the month that is 12 months prior to the latest month shown in the chart; the graph for the subsequent 12 months is projected (5). Symbols in each chart represent actual monthly death rates based on the CMS. In some cases, the data are converted by the natural logarithm before fitting the model. For graphical purposes, the data are converted back to rates by the inverse of the natural logarithm. This procedure has the advantage of avoiding negative prediction intervals for the model. The models, parameter estimates, and statistical tests for lack of fit are available on request for the charts published in

the MSS. Time series regression models have been used previously to describe trends in mortality data (6-8). A list of MSS cause-of-death topics and comparable *Healthy People 2000* (1) objectives is presented on the back of this report.

State maps

Unlike other data presented in this report, the State maps are based on final instead of provisional data. The age-adjusted death rates used to produce the State maps were computed by using a 3-year total number of deaths for 1988-90 and the 1989 population estimated as of July 1, 1989 (4). Assigning the States into the given categories on the maps was carried out in two steps: a) determining whether the State age-adjusted death rate differed significantly from the corresponding U.S. rate at the 0.05 level of significance; b) then grouping the State rates found to be significantly different from the U.S. rate into the four categories: 10 highest State rates of those significantly greater than the U.S. rate, remaining State rates significantly greater than the U.S. rate, 10 lowest State rates of those significantly lower than the U.S. rate, and remaining State rates significantly lower than the U.S. rate. Age-adjusted death rates and the corresponding 95-percent confidence intervals are shown in the tables. The symbols “†” and “††” in the tables are used to denote State rates that differ significantly from the U.S. rate at the 0.05 and 0.01 levels of significance, respectively. Different procedures were used to determine tests of statistical significance and confidence intervals, depending on the number of deaths.

For 50 deaths or more, the standard normal Z statistic was used to perform the significance test:

$$Z = (R'_s - R'_{us}) / \sqrt{S^2(R'_s) + S^2(R'_{us})}$$

where

R'_s = age-adjusted rate for 1988-90 for the given State per 100,000 standard population

R'_{us} = age-adjusted rate for 1988-90 for the United States per 100,000 standard population

$S^2(R'_s)$ = estimated variance of the age-adjusted death rate for 1988-90 for the State

$S^2(R'_{us})$ = estimated variance of the age-adjusted death rate for 1988-90 for the United States

The variance of the age-adjusted death rate was computed in terms of the variances of age-specific death rates (9) under the assumption that the age-specific death rates are binomial proportions (10). The 95-percent confidence limits were estimated as follows:

$$\text{Lower limit} = R'_s - 1.96 \cdot S(R'_s)$$

and

$$\text{Upper limit} = R'_s + 1.96 \cdot S(R'_s)$$

For 1-49 deaths, the lower and upper 95-percent confidence limits were estimated as described elsewhere (11). The difference between the State and U.S. age-adjusted rates was determined to be statistically significant at the 0.05 or 0.01 level if the rates' respective 95-percent or 99-percent confidence limits did not overlap.

For zero deaths, the following test statistic (λ) was used to perform the significance test:

$$\lambda = \left[\sum_{x=1}^n M_{x(us)} \cdot P_{x(s)} \right] / 100,000$$

where

$M_{x(us)}$ = age-specific death rate per 100,000 population in the x^{th} age group for the United States

$P_{x(s)}$ = population in the x^{th} age group for the given State

n = number of age groups = 11.

The difference between the State and U.S. age-adjusted rates was determined to

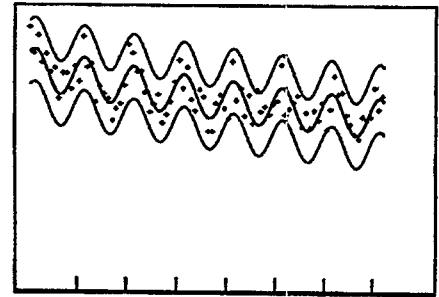
be statistically significant at 0.05 level if $3.00 \leq \lambda < 4.61$. The difference between the State and U.S. age-adjusted rates was determined to be statistically significant at 0.01 level if $\lambda \geq 4.61$ (12). For zero deaths, confidence limits for the age-adjusted death rates are not applicable.

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Mortality Surveillance System topics

| <i>MVSR issue</i> | <i>Cause-of-death</i> | <i>Healthy People 2000 Objective Number</i> |
|-------------------|--|---|
| Vol. 41 No. 9 | Malignant neoplasms of digestive organs and peritoneum | 16.5 |
| Vol. 41 No. 10 | Suicide | 6.1 (7.2) |
| Vol. 41 No. 11 | Accidents and adverse effects, Homicide and legal intervention | 9.1, 7.1 |
| Vol. 41 No. 12 | Infant mortality, Neonatal mortality, Postneonatal mortality, and Sudden infant death syndrome | 14.1 |
| Vol. 42 No. 1 | Human immunodeficiency virus infection | (¹) |
| Vol. 42 No. 2 | Cerebrovascular diseases | 15.2 |
| Vol. 42 No. 3 | Chronic obstructive pulmonary diseases and allied conditions | 3.3 |
| Vol. 42 No. 4 | Diabetes mellitus | 17.9 |
| Vol. 42 No. 5 | Diseases of heart | 1.1 (2.1, 3.1, 15.1) |
| Vol. 42 No. 6 | Malignant neoplasms including neoplasms of lymphatic and hematopoietic tissues | 2.2 (16.1) |
| Vol. 42 No. 7 | Malignant neoplasms of trachea, bronchus, and lung | 3.2 (16.2) |
| Vol. 42 No. 8 | Malignant neoplasm of prostate, Malignant neoplasm of breast | (²), 16.3 |



¹No *Healthy People 2000* objective exists that addresses mortality from this cause. See Chapter 18 for objectives related to Human immunodeficiency virus infection

²No *Healthy People 2000* objective exists that addresses mortality from Malignant neoplasm of prostate.

NOTE: The cause-of-death categories used in *Healthy People 2000* objective(s) may differ from those used in NCHS Mortality Tabulation Lists.

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