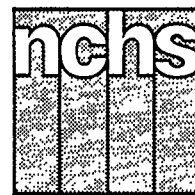


Monthly Vital Statistics Report



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

Births, Marriages, Divorces, and Deaths for June 1993

Mortality Surveillance System pages 5-7
Malignant neoplasms, including neoplasms of lymphatic and hematopoietic tissues: 65 years and over by sex and race
State Maps pages 8-9
Malignant neoplasms, including neoplasms of lymphatic and hematopoietic tissues by sex

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.

Births

According to provisional reports, an estimated 321,000 births occurred in the United States during June 1993. This was a 4-percent decrease from the provisional number of births reported for the same month a year earlier (333,000). The birth rate, 15.2 live births per 1,000 population, was 5 percent lower than the rate of 16.0 for June 1992. The fertility rate, 66.1 live births per 1,000 women aged 15-44 years, was 4 percent lower than the comparable rate for June 1992 (68.9). The seasonally adjusted fertility

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	June				January-June				12 months ending with June			
	Number		Rate		Number		Rate		Number		Rate	
	1993	1992	1993	1992	1993	1992	1993	1992	1993	1992	1993	1992
Live births	321,000	333,000	15.2	16.0	1,976,000	2,023,000	15.5	16.0	4,037,000	4,113,000	15.7	16.2
Fertility rate . . . . .	...	...	66.1	68.9	...	...	67.5	68.9	...	...	68.4	69.7
Deaths	178,000	172,000	8.4	8.2	1,161,000	1,114,000	9.1	8.8	2,223,000	2,178,000	8.7	8.6
Infant deaths	2,600	2,700	8.4	8.2	17,100	17,700	8.7	8.7	33,900	35,200	8.5	8.6
Natural increase	143,000	161,000	6.8	7.8	815,000	909,000	6.4	7.2	1,814,000	1,935,000	7.0	7.6
Marriages	253,000	256,000	12.0	12.3	1,062,000	1,085,000	8.4	8.6	2,338,000	2,372,000	9.1	9.4
Divorces	101,000	103,000	4.8	4.9	594,000	606,000	4.7	4.8	1,202,000	1,200,000	4.7	4.7
Population base (in millions) . . . . .	...	...	257.7	254.8	...	...	...	...	...	...	256.6	253.7

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
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National Center for Health Statistics



rate (65.1) was also 4 percent lower than the comparable rate for June 1992 (67.8).

During the first half of 1993, an estimated 1,976,000 births occurred, a 2-percent decrease from the 2,023,000 reported for the first half of 1992. The birth rate for this period decreased by 3 percent from 16.0 in 1992 to 15.5 in 1993. The fertility rate for the first 6 months of 1993 was 67.5, 2 percent lower than the rate for the first half of 1992 (68.9).

An estimated 4,037,000 live births occurred in the 12-month period ending with June 1993, a decline of 2 percent from the 4,113,000 births reported for the same period a year earlier. The birth rate of 15.7 was 3 percent lower than the rate of 16.2 for the preceding 12 months. The fertility rate for the most recent 12-month period was 68.4, 2 percent lower than the rate for the 12 months ending with June 1992 (69.7). These lower rates continue the generally downward trend observed since early 1991.

Natural increase

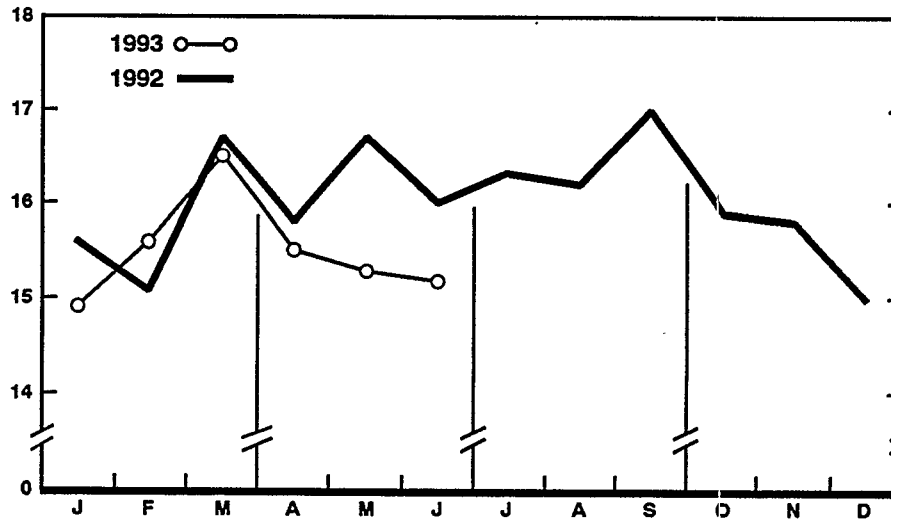
As a result of natural increase, the excess of births over deaths, an estimated 143,000 people, or 6.8 persons per 1,000 population, were added to the population during June 1993.

For the 12-month period ending with June 1993, 1,814,000 persons were added to the population. This represents a rate of natural increase of 7.0, 8 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.

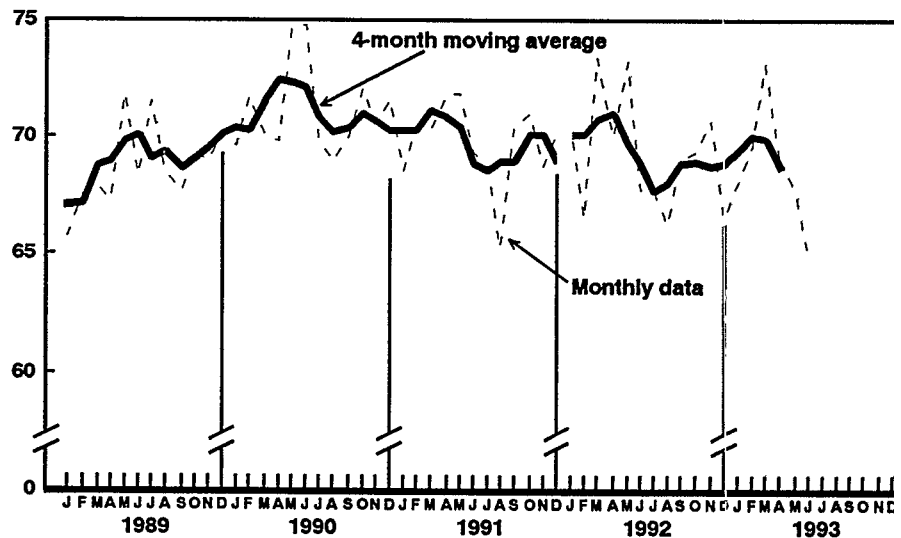
Marriages

The number of couples that married in June 1993 totaled 253,000, 1 percent fewer than in June 1992 (256,000). The marriage rate per 1,000 population for June was 2 percent lower in 1993 (12.0) than in 1992 (12.3). June usually has the highest marriage rate of any month.

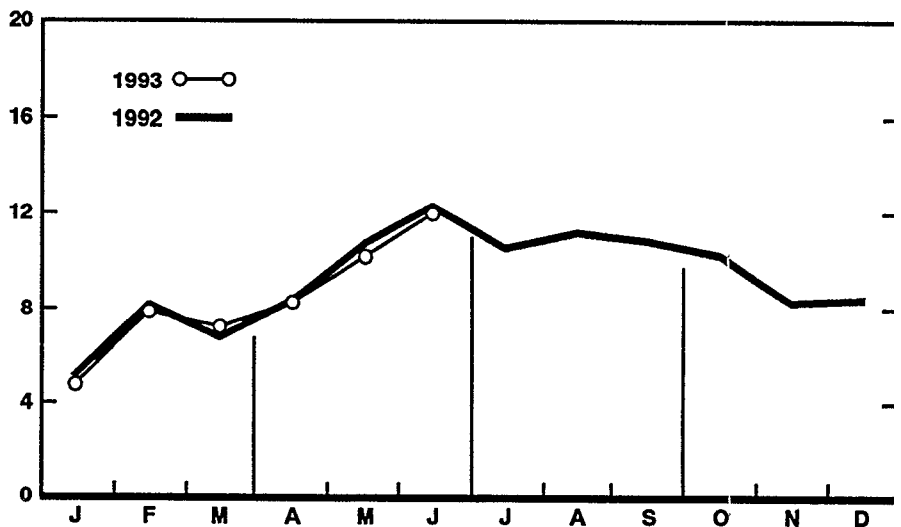
For the first half of 1993, the number of marriages and the marriage rate were 2 percent lower than for the



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



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



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

same period in 1992. The number of marriages for January–June dropped from 1,085,000 in 1992 to 1,062,000 in 1993, while the marriage rate dropped from 8.6 to 8.4.

Marriages performed during the 12-month period ending with June 1993 totaled 2,338,000, a 1-percent decline compared with the number for the comparable period a year earlier (2,372,000). The marriage rate for the period dropped 3 percent, from 9.4 in 1992 to 9.1 in 1993.

Divorces

According to provisional estimates, the number of divorces and the divorce rate per 1,000 population were 2 percent lower in June 1993 than in June 1992. The number of divorces for June dropped from 103,000 in 1992 to 101,000 in 1993, while the divorce rate fell from 4.9 to 4.8.

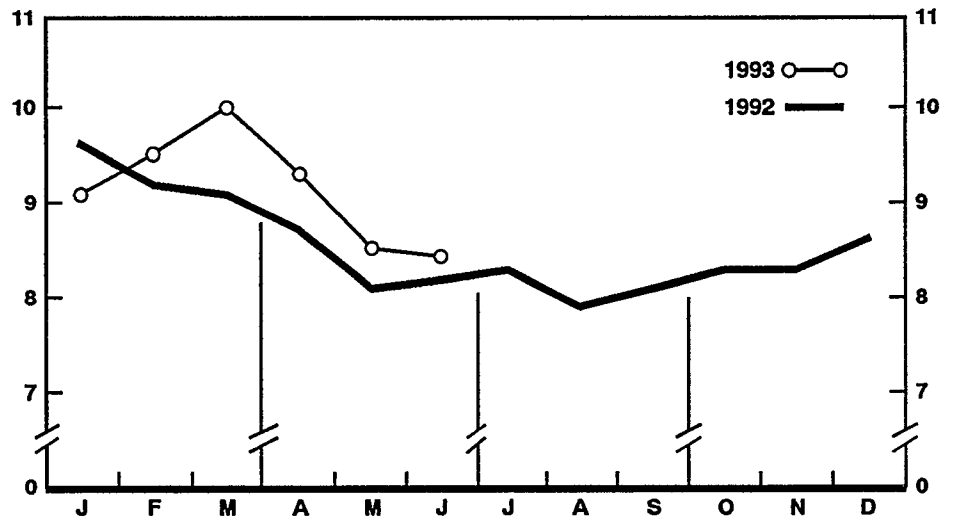
For the first half of 1993 the number of divorces totaled 594,000, 2 percent fewer than for the same period in 1992 (606,000). The divorce rate for the 6-month period also dropped 2 percent, from 4.8 in 1992 to 4.7 in 1993.

Divorces granted during the 12-month period ending with June 1993 numbered 1,202,000, slightly higher than the number for the same period a year earlier (1,200,000). The divorce rate for the period was 4.7 for both years.

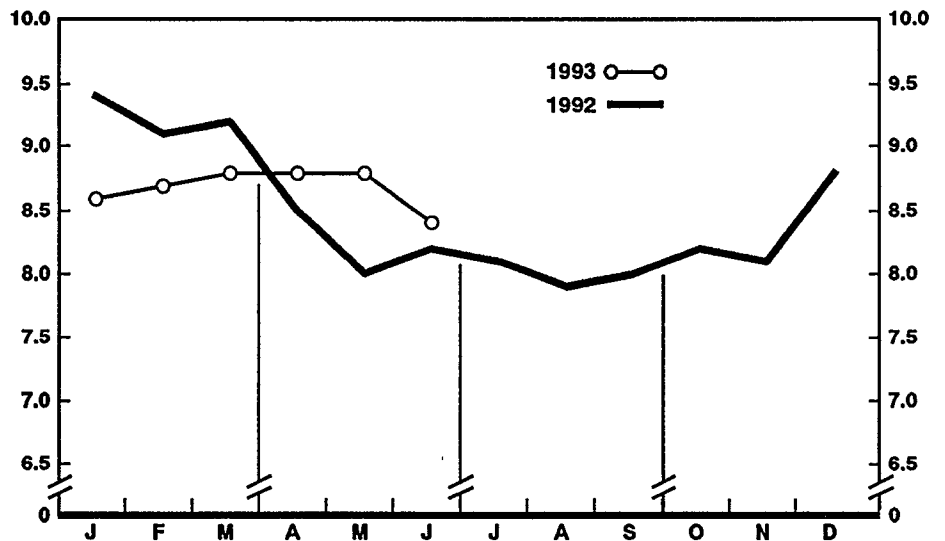
Deaths

For June 1993 an estimated 178,000 deaths occurred in the United States. The death rate was 8.4 deaths per 1,000 population, 2 percent higher than the rate for June a year earlier (8.2). Among the 178,000 deaths for June 1993 were 2,600 deaths at ages under 1 year.

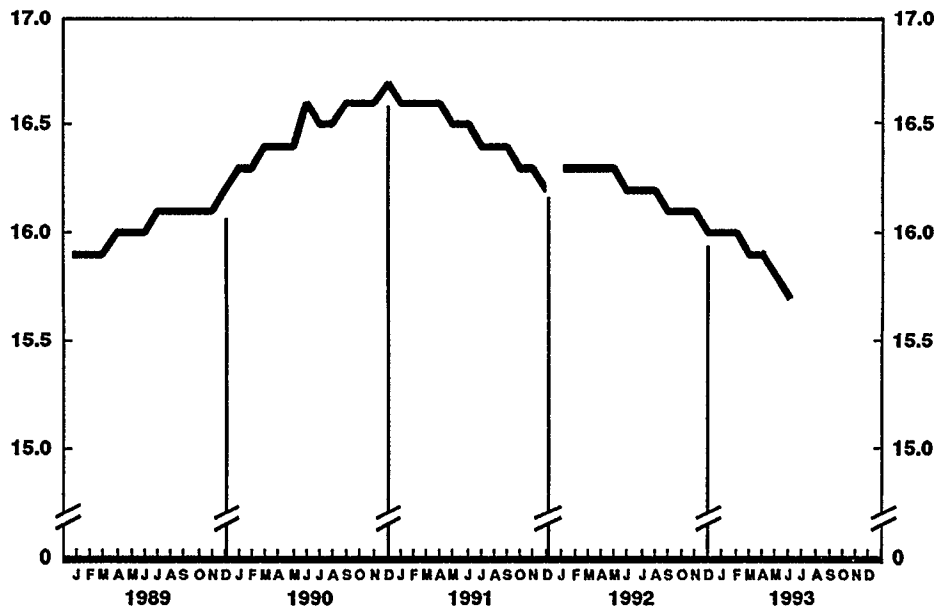
According to provisional statistics 1,161,000 deaths occurred during the first half of 1993, 4 percent higher than the number estimated for the first half of 1992 (1,114,000). The death rate, 9.1 per 1,000 population, was 3 percent higher than the January–June 1992 rate of 8.8. Among the 1,161,000 deaths for the first half of 1993 were 17,100 deaths at ages under 1 year,



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

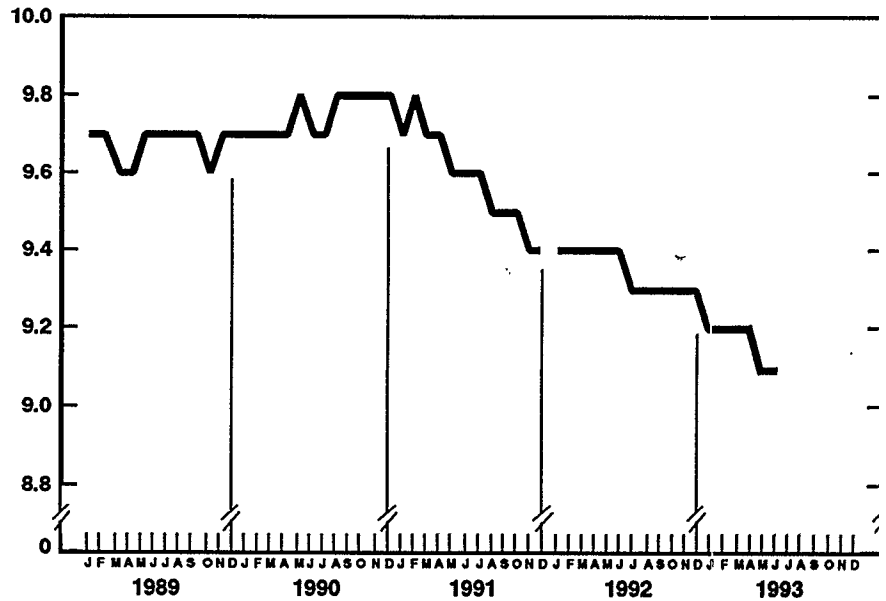
yielding an infant mortality rate of 8.7 per 1,000 live births, the same as the rate for the first half of 1992.

The death rate for the 12 months ending with June 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 8.5 per 1,000 live births, compared with a rate of 8.6 for the 12 months ending with June 1992. The change in the infant mortality rate was not statistically significant.

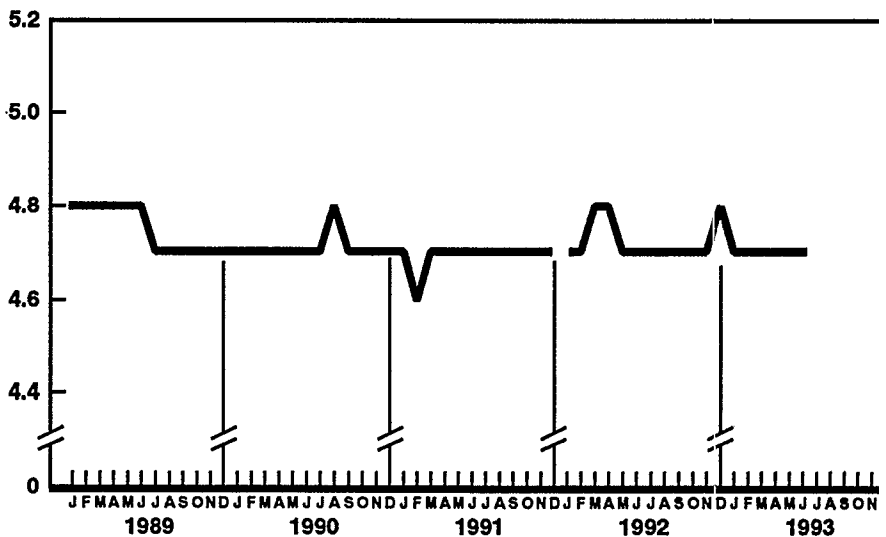
Current Mortality Sample, 12 months ending with May 1993—The provisional death rate for the 12 months ending with May 1993 was 864.9 deaths per 100,000 population, 1 percent higher than the rate of 857.6 for the 12-month period ending with May 1992. The provisional age-adjusted death rate for the 12-month period ending with May 1993 was 507.9 deaths per 100,000 U.S. standard million population, compared with a rate of 510.2 for the 12-month period ending with May 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 following age groups: 15–24 years and 55–64 years. The death rate increased for the age group 35–44 years.

Among the major causes of death the estimated death rate increased between the two successive 12-month periods for 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.

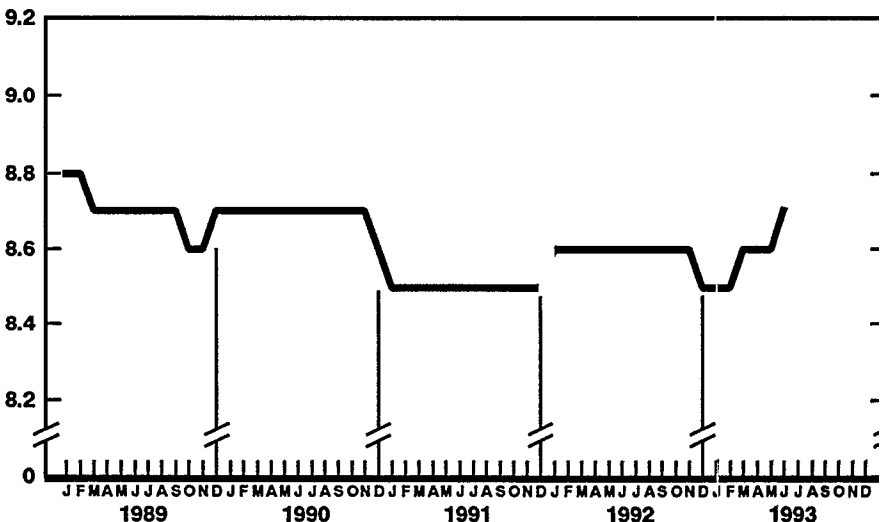
The infant mortality rate for the 12 months ending with May 1993 was 843.6 per 100,000 live births, 3 percent



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

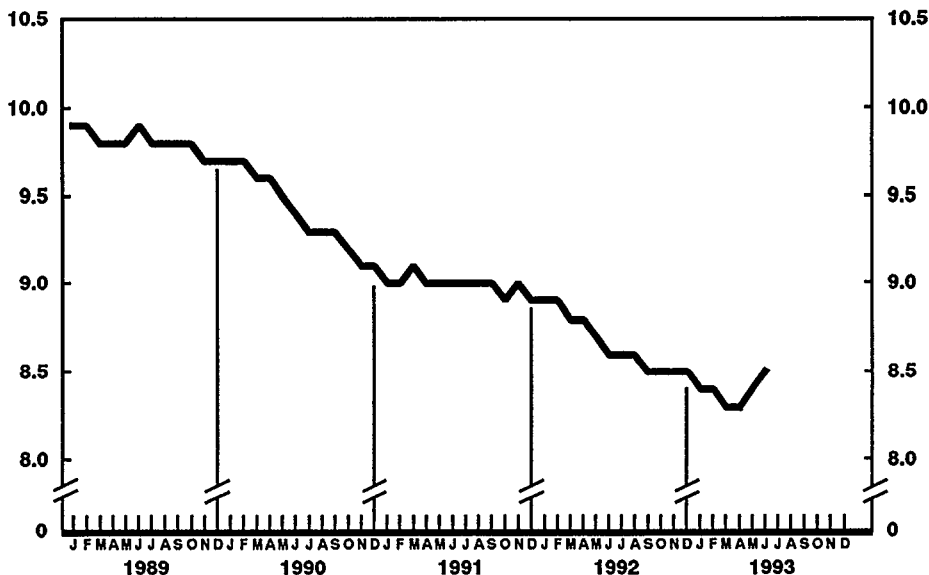
lower than the rate of 867.7 for the same 12-month period a year earlier. For infants under 28 days, the 12-month rate ending with May 1993 was 529.5, compared with a rate of 545.7 for the 12-month period a year earlier. The infant mortality rate for infants 28 days to 11 months was 314.1, compared with a rate of 322.0 for the 12-month period a year earlier. 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 neoplasms, including neoplasms of lymphatic and hematopoietic tissues (cancer) for the black and white populations by sex for ages 65 years and over. In this issue, final mortality data are analyzed for data year 1990 and provisional data from January 1984–December 1992.

In 1990, cancer was the second leading cause of death, after Diseases of heart, among persons aged 65 years and over for each of the four major race-sex groups, black and white females and black and white males. Among black women aged 65 years and over, cancer accounted for 14,318 deaths, or 19 percent of all deaths for these women and among white women, 146,089 deaths, or 20 percent of all deaths for this age-race-sex group. Among black men aged 65 years and over, cancer accounted for 18,915 deaths or 28 percent of all deaths for these men and among white men, 162,343 deaths or 25 percent of all deaths for this age-race-sex group.

Based on 1990 final data, the death rate for cancer for black men aged 65 years and over was 1.4 times the rate for white men and 2.1 times the rate for black women in this age group; for black women aged 65 years and over, the rate was 1.1 times the rate for white women in this age group. The rate for white men was 1.6 times the rate for white women. Trends based on provisional data for cancer for these demographic groups are presented in the Mortality Surveillance System charts and accompanying

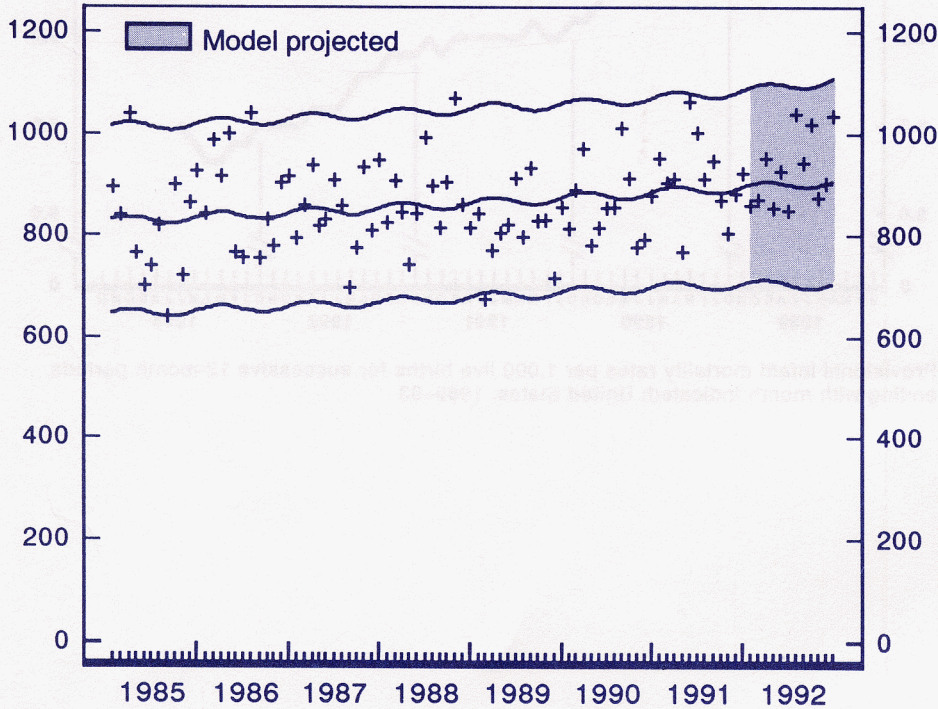


Provisional infant mortality rates per 1,000 live births for successive 12-month periods ending with month indicated: United States, 1989–93

Mortality Surveillance System charts

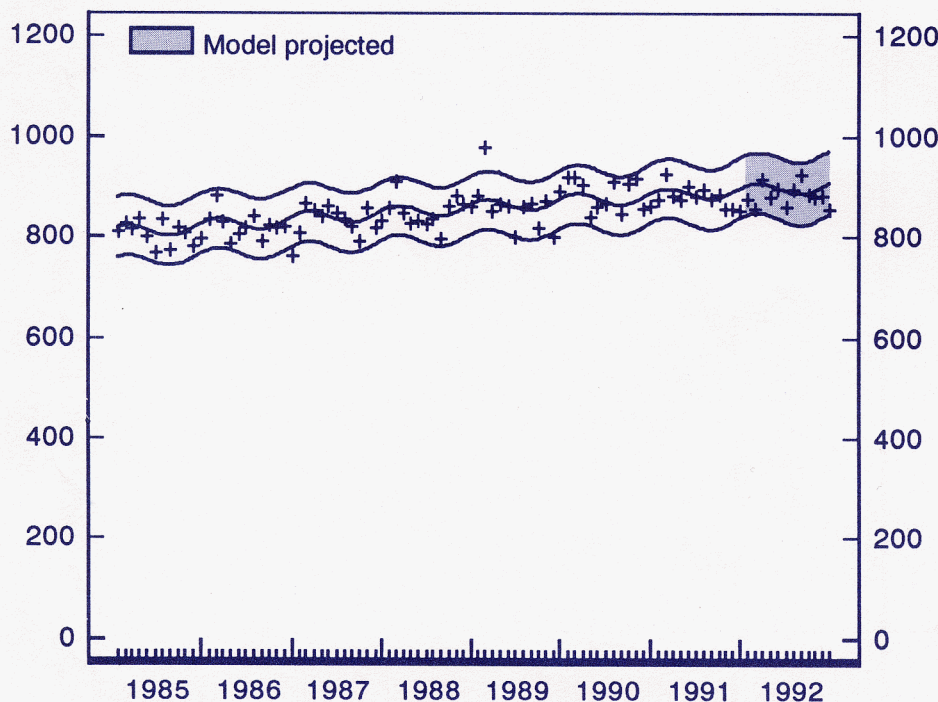
[Observed and fitted provisional monthly death rates and 95-percent prediction intervals. Model fitted using death rates for January 1984–December 1991; projected for January 1992–December 1992. See Technical notes]

Trends in mortality from Malignant neoplasms, including neoplasms of lymphatic and hematopoietic tissues (cancer) are presented in the charts below. Reversing the rise of mortality from cancer is addressed in *Healthy People 2000* (objectives 2.2 and 16.1) (1).



- 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 black females 65 years of age and over for Malignant neoplasms, including neoplasms of lymphatic and hematopoietic tissues, by month: United States, 1985–92

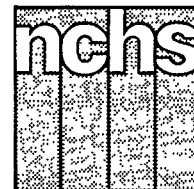


- For the modeled period, provisional death rates increased.
- For the projection period, observed provisional monthly death rates fell within 95-percent prediction intervals.
- Mortality shows a seasonal pattern with death rates higher in winter.

Provisional death rates per 100,000 white females 65 years of age and over for Malignant neoplasms, including neoplasms of lymphatic and hematopoietic tissues, by month: United States, 1985–92

Vol. 42, No. 6 • December 22, 1993

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 June 1993

Please substitute this page for page 7 of the *Monthly Vital Statistics Report*, Vol. 42, No. 6, November 19, 1993. The vertical scales have been corrected.

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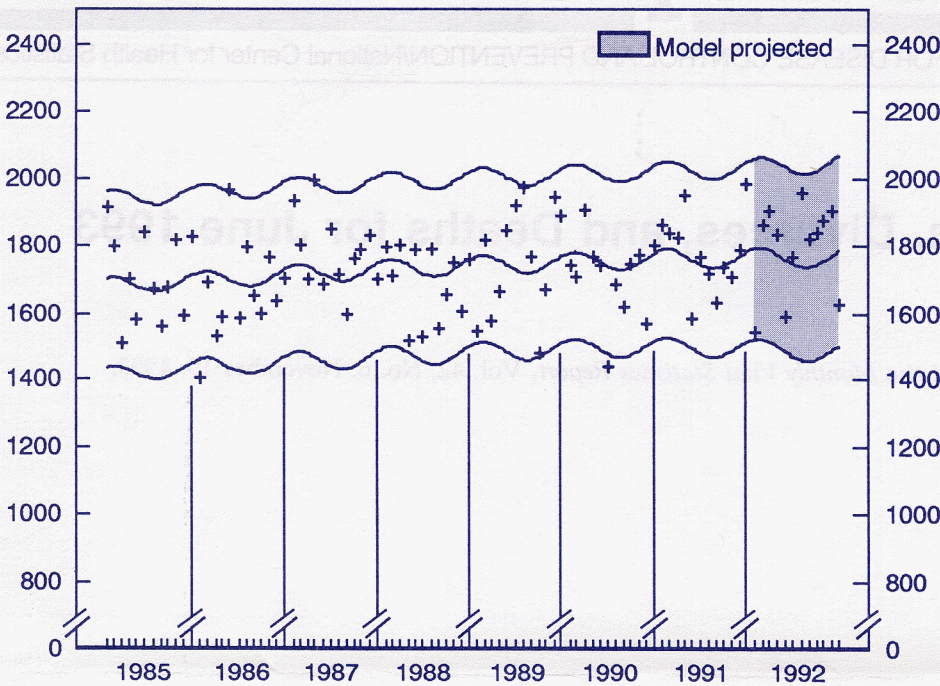
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Mortality Surveillance System charts – Con.

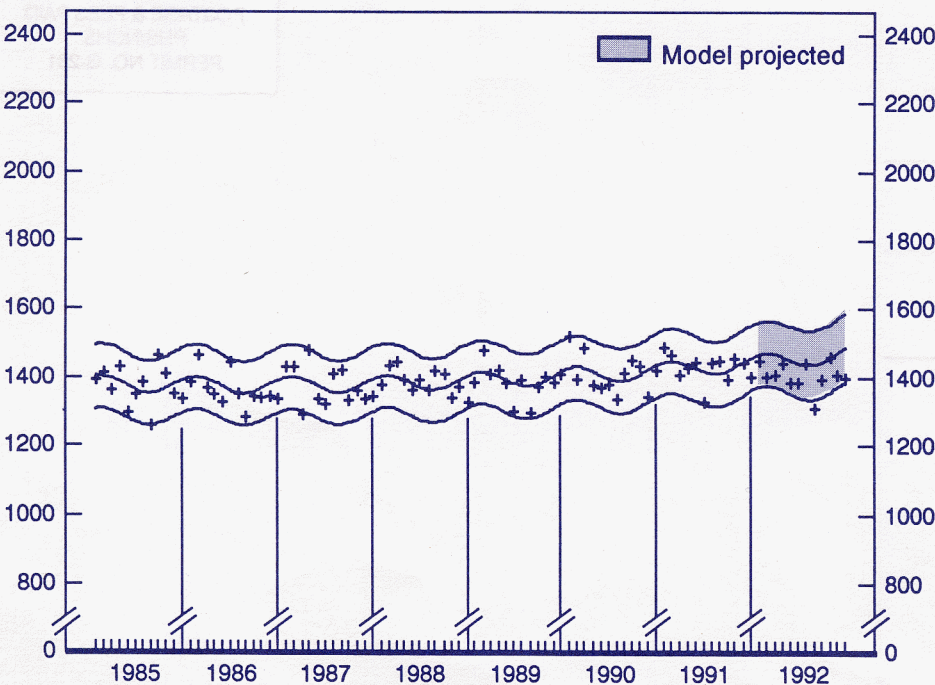
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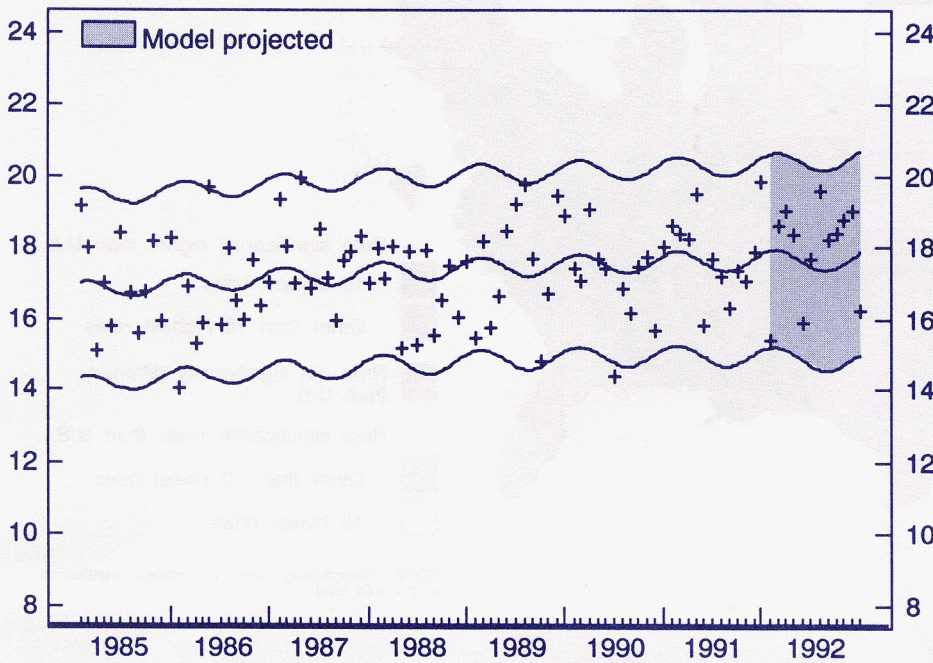
Provisional death rates per 100,000 white males 65 years of age and over for Malignant neoplasms, including neoplasms of lymphatic and hematopoietic tissues, by month: United States, 1985–92

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Mortality Surveillance System charts – Con.

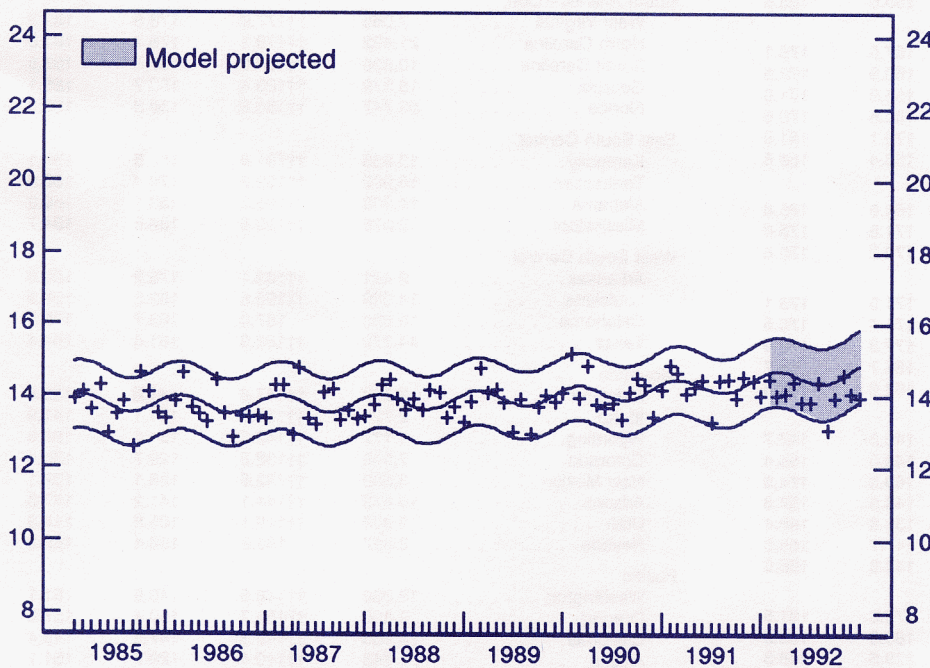
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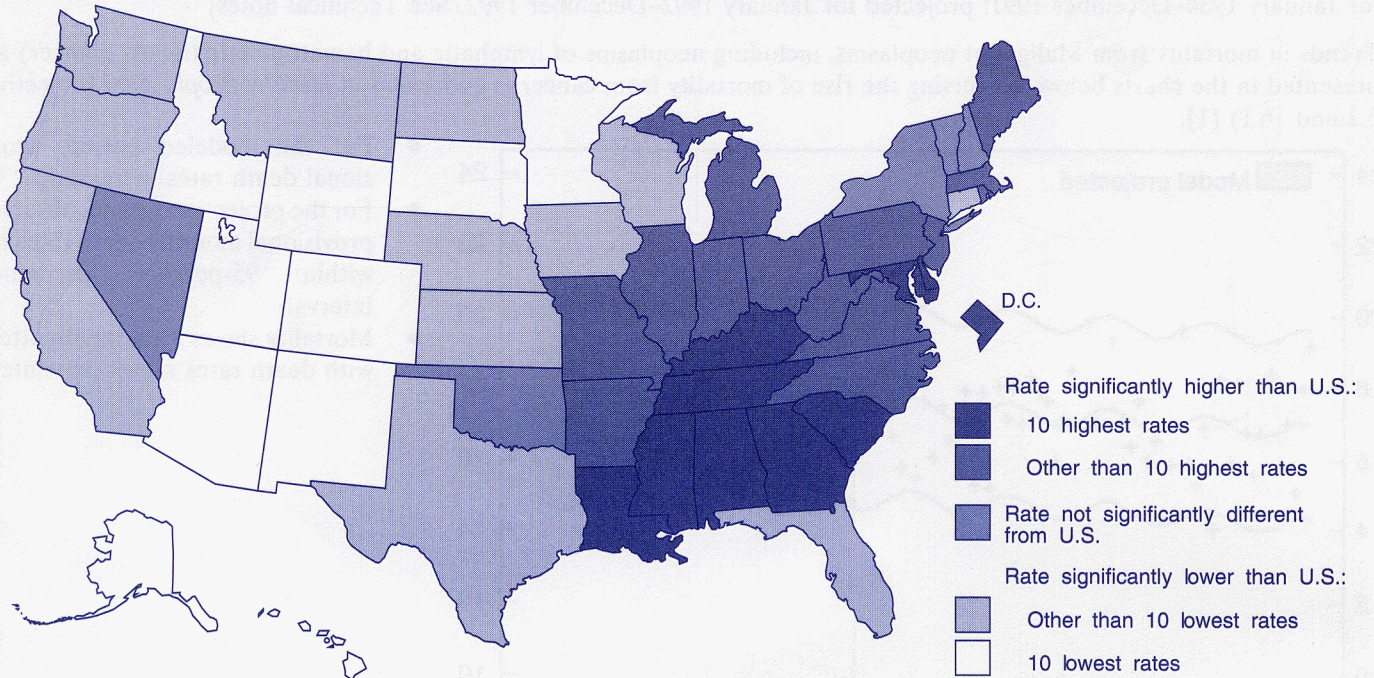


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Provisional death rates per 100,000 white males 65 years of age and over for Malignant neoplasms, including neoplasms of lymphatic and hematopoietic tissues, by month: United States, 1985–92

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

[Data are final by State of residence]



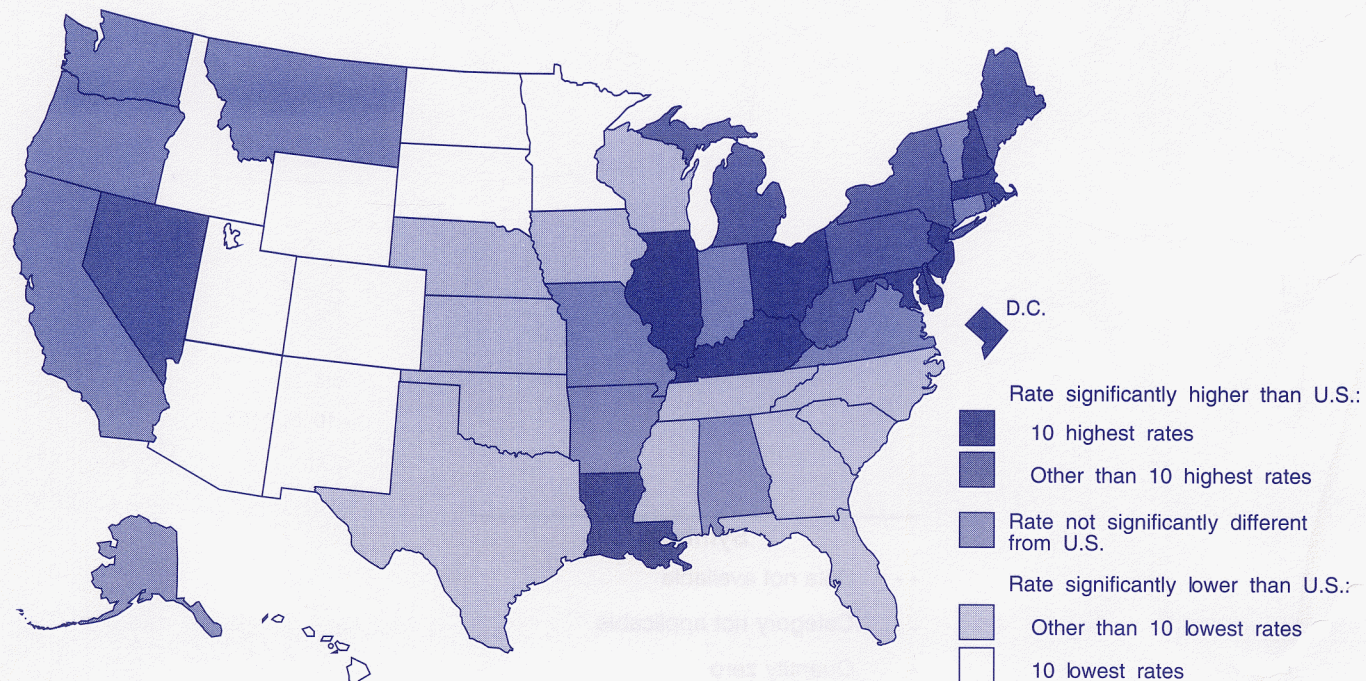
NOTE: "Significantly" refers to statistical significance at the 0.05 level

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	789,680	165.4	165.0	165.8	South Atlantic—Con.				
New England					West Virginia	7,065	††177.9	173.6	182.2
Maine	4,402	††172.8	167.5	178.1	North Carolina	21,492	††179.1	176.7	181.5
New Hampshire	3,289	166.7	160.9	172.5	South Carolina	10,826	††184.0	180.5	187.5
Vermont	1,722	163.9	155.9	171.9	Georgia	18,379	††183.4	180.7	186.1
Massachusetts	20,135	†168.2	165.8	170.6	Florida	53,747	††160.8	159.3	162.3
Rhode Island	3,775	††176.0	170.1	181.9	East South Central				
Connecticut	10,647	††156.5	153.4	159.6	Kentucky	13,533	††191.8	188.5	195.1
Middle Atlantic					Tennessee	16,902	††182.2	179.4	185.0
New York	58,190	164.2	162.8	165.6	Alabama	14,308	††186.2	183.1	189.3
New Jersey	27,379	††173.7	171.6	175.8	Mississippi	9,075	††190.6	186.5	194.7
Pennsylvania	45,518	††171.9	170.2	173.6	West South Central				
East North Central					Arkansas	9,421	††182.1	178.2	186.0
Ohio	36,744	††173.3	171.5	175.1	Louisiana	14,089	††195.6	192.3	198.9
Indiana	18,391	††174.0	171.4	176.6	Oklahoma	10,698	167.0	163.7	170.3
Illinois	37,718	††174.1	172.3	175.9	Texas	44,772	††162.9	161.4	164.4
Michigan	28,961	†167.7	165.7	169.7	Mountain				
Wisconsin	15,942	††156.2	153.6	158.8	Montana	2,557	††147.6	141.6	153.6
West North Central					Idaho	2,725	††136.5	131.1	141.9
Minnesota	12,691	††145.0	142.3	147.7	Wyoming	1,177	††142.3	134.1	150.5
Iowa	9,693	††152.2	149.0	155.4	Colorado	7,346	††132.8	129.7	135.9
Missouri	18,218	††171.9	169.3	174.5	New Mexico	3,569	††132.6	128.1	137.1
North Dakota	2,206	††150.7	143.8	157.6	Arizona	10,673	††144.1	141.2	147.0
South Dakota	2,243	††140.1	133.8	146.4	Utah	2,834	††110.1	105.9	114.3
Nebraska	5,154	††152.1	147.7	156.5	Nevada	3,557	163.8	158.4	169.2
Kansas	7,945	††152.4	148.8	156.0	Pacific				
South Atlantic					Washington	13,690	††148.5	145.9	151.1
Delaware	2,333	††183.9	176.3	191.5	Oregon	9,400	††153.7	150.4	157.0
Maryland	15,150	††186.3	183.3	189.3	California	74,906	††148.3	147.2	149.4
District of Columbia	2,581	††238.9	229.5	248.3	Alaska	743	††140.4	129.7	151.1
Virginia	18,425	††177.1	174.5	179.7	Hawaii	2,744	††127.2	122.2	132.2

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 neoplasms, including neoplasms of lymphatic and hematopoietic tissues 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	696,842	112.2	111.9	112.5	South Atlantic—Con.				
New England					West Virginia	6,070	††117.0	113.7	120.3
Maine	3,936	††118.4	114.2	122.6	North Carolina	17,418	††107.0	105.3	108.7
New Hampshire	3,119	††119.2	114.5	123.9	South Carolina	8,604	††108.6	106.1	111.1
Vermont	1,529	†112.4	106.0	118.8	Georgia	14,665	††106.3	104.4	108.2
Massachusetts	20,095	††118.7	116.8	120.6	Florida	43,902	††108.4	107.2	109.6
Rhode Island	3,504	††117.4	112.8	122.0	East South Central				
Connecticut	10,158	†110.9	108.5	113.3	Kentucky	11,176	††121.3	118.8	123.8
Middle Atlantic					Tennessee	13,588	††108.9	106.9	110.9
New York	56,993	††117.3	116.2	118.4	Alabama	11,416	†110.0	107.8	112.2
New Jersey	25,795	††122.3	120.6	124.0	Mississippi	6,796	††106.9	104.0	109.8
Pennsylvania	41,996	††117.3	116.0	118.6	West South Central				
East North Central					Arkansas	7,216	†110.6	107.7	113.5
Ohio	33,467	††118.6	117.2	120.0	Louisiana	11,524	††119.5	117.1	121.9
Indiana	15,985	†114.0	112.0	116.0	Oklahoma	9,037	††107.6	105.1	110.1
Illinois	34,144	††118.5	117.1	119.9	Texas	37,181	††104.3	103.1	105.5
Michigan	25,734	††115.9	114.3	117.5	Mountain				
Wisconsin	13,978	††107.9	105.8	110.0	Montana	2,185	†107.6	102.5	112.7
West North Central					Idaho	2,278	††100.3	95.7	104.9
Minnesota	11,556	††103.6	101.4	105.8	Wyoming	1,006	††100.7	93.9	107.5
Iowa	8,760	††104.2	101.6	106.8	Colorado	6,746	††96.3	93.8	98.8
Missouri	15,946	†112.6	110.6	114.6	New Mexico	3,125	††96.8	93.1	100.5
North Dakota	1,775	††102.6	96.9	108.3	Arizona	8,902	††101.0	98.7	103.3
South Dakota	1,920	††96.7	91.5	101.9	Utah	2,497	††83.4	79.8	87.0
Nebraska	4,618	††105.6	102.0	109.2	Nevada	2,808	††117.9	113.4	122.4
Kansas	7,081	††104.8	101.9	107.7	Pacific				
South Atlantic					Washington	12,365	†110.8	108.6	113.0
Delaware	2,034	††128.2	122.1	134.3	Oregon	8,298	†112.3	109.6	115.0
Maryland	13,470	††123.7	121.5	125.9	California	69,959	†111.5	110.6	112.4
District of Columbia	2,297	††143.6	137.0	150.2	Alaska	616	†106.8	98.2	115.4
Virginia	15,560	†113.4	111.5	115.3	Hawaii	2,014	††88.8	84.7	92.9

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)
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Table 1. Provisional number of live births, marriages, deaths, infant deaths, and rates, by month: United States, January 1992–June 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 women aged 15–44 years		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	8.6
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	7.2	217,000	10.0	3,100	8.8
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	220,000	10.1	185,000	8.5	2,900	8.8
June	321,000	15.2	66.1	65.1	253,000	12.0	178,000	8.4	2,600	8.4

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).

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

[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 June			
	1993		1992	
	Number	Rate	Number	Rate
New England	1,881	16.5	1,285	6.8
Maine	83	5.4	107	6.5
New Hampshire	76	5.2	85	5.4
Vermont	46	6.0	52	6.8
Massachusetts	545	6.5	566	6.5
Rhode Island	131	9.0	111	7.6
Connecticut	---	---	364	7.6
Middle Atlantic	4,962	8.8	4,926	8.6
New York	2,533	9.1	2,411	8.3
New Jersey	1,016	8.3	1,034	8.8
Pennsylvania	1,413	8.7	1,481	8.9
East North Central	6,033	9.2	6,289	9.5
Ohio	1,380	8.3	1,475	8.9
Indiana	828	9.7	798	9.7
Illinois	1,890	9.8	1,989	10.3
Michigan	1,407	9.9	1,483	9.9
Wisconsin	528	7.6	544	7.6
West North Central	2,079	8.1	2,220	8.4
Minnesota	481	7.5	482	7.2
Iowa	250	6.7	306	8.2
Missouri	690	9.2	716	9.2
North Dakota	59	6.7	75	8.4
South Dakota	113	10.1	110	9.9
Nebraska	168	7.5	194	8.2
Kansas	318	8.7	337	9.0
South Atlantic	6,561	9.7	6,643	9.7
Delaware	91	8.5	125	11.4
Maryland	702	9.2	650	8.0
District of Columbia	180	18.1	195	19.7
Virginia	934	9.7	846	8.7
West Virginia	224	10.0	197	8.9
North Carolina	1,069	10.6	1,090	10.6
South Carolina	554	10.0	623	10.9
Georgia	1,116	10.0	1,183	10.7
Florida	1,691	8.8	1,734	9.0
East South Central	2,321	9.9	2,354	10.2
Kentucky	471	8.9	446	8.2
Tennessee	698	9.5	740	10.3
Alabama	640	10.1	690	11.0
Mississippi	512	11.8	478	11.1
West South Central	3,812	8.0	4,065	8.5
Arkansas	312	9.1	364	10.3
Louisiana	672	9.7	728	9.6
Oklahoma	440	9.3	451	9.5
Texas ²	2,388	7.4	2,522	7.8
Mountain	1,917	7.7	1,917	7.8
Montana	83	7.4	103	8.7
Idaho	154	8.7	126	7.3
Wyoming	70	10.6	48	7.1
Colorado	429	7.9	429	7.7
New Mexico	218	7.7	270	9.7
Arizona	575	8.3	566	8.3
Utah	246	6.7	216	5.9
Nevada	142	6.3	159	6.8
Pacific	14,457	16.8	5,466	7.2
Washington	---	---	538	7.4
Oregon	312	7.5	302	7.1
California ²	3,923	6.7	4,406	7.2
Alaska	86	8.0	89	7.9
Hawaii	136	6.9	131	6.6

¹Excludes figures for State shown below as not available.

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

NOTE: 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, May 1992 and 1993, cumulative figures for 1992 and 1993, and 12 months ending with May 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	May				January–May				12 months ending with May			
	1993		1992		1993		1992		1993		1992	
	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate
Black female												
All ages	10,080	703.5	10,110	719.0	55,440	796.4	52,190	759.1	127,000	757.6	120,710	731.8
Under 1 year	} 610	165.5	540	149.5	1,980	² 1,506.9	2,100	² 1,604.4	5,000	² 1,577.3	5,150	² 1,645.4
1–4 years					430	84.5	380	75.9	860	70.3	850	70.9
5–14 years					350	30.4	280	24.7	770	27.8	780	28.7
15–24 years					140	61.7	150	66.4	850	77.8	770	70.5
25–34 years	400	162.9	270	109.7	1,960	163.8	1,830	151.5	4,680	161.7	4,390	150.8
35–44 years	610	277.2	510	240.7	3,670	343.7	3,300	319.4	8,460	330.2	7,540	305.3
45–54 years	800	592.4	870	675.8	4,180	640.5	3,980	633.8	9,740	624.8	9,120	613.3
55–64 years	1,470	1,486.9	1,300	1,334.6	7,310	1,521.7	6,840	1,433.7	17,280	1,492.2	15,810	1,378.4
65–74 years	2,060	2,613.7	2,200	2,844.9	11,660	3,047.7	10,400	2,746.8	26,010	2,821.0	24,820	2,736.5
75–84 years	2,260	5,117.2	2,520	5,822.4	12,980	6,043.0	12,140	5,720.2	29,290	5,665.4	28,050	5,510.8
85 years and over	1,730	11,774.2	1,730	12,230.6	10,030	14,112.8	10,130	14,677.6	22,820	13,345.0	22,120	13,325.3
Not stated	—	...	10	...	30	...	40	...	50	...	80	...
Age-adjusted rate ³ . . . . .	...	548.5	...	554.5	...	611.2	...	578.0	...	584.5	...	563.0

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.

NOTE: 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, May 1992 and 1993, cumulative figures 1992 and 1993, and 12 months ending with May 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)	May		January–May				12 months ending with May						
	1993		1992		1993		1992		1993		1992		
	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate	
All causes	185,000	846.2	175,000	812.4	983,000	924.5	942,000	893.0	2,217,000	864.9	2,174,000	857.6	
Shigellosis and amebiasis	—	*	—	*	—	*	—	*	—	*	—	*	
Certain other intestinal infections . . . . .	.007–009	30	40	*	270	0.2	340	0.3	680	0.3	700	0.3	
Tuberculosis . . . . .	.010–018	100	110	0.5	690	0.6	550	0.5	1,500	0.6	1,430	0.6	
Tuberculosis of respiratory system . . . . .	.010–012	70	100	*	560	0.5	440	0.4	1,180	0.5	1,070	0.4	
Other tuberculosis . . . . .	.013–018	30	10	*	130	0.1	110	0.1	320	0.1	360	0.1	
Whooping cough . . . . .	.033	—	—	*	10	*	—	*	20	*	—	*	
Streptococcal sore throat, scarlatina, and erysipelas . . . . .	.034–035	—	—	*	—	*	—	*	—	*	10	*	
Meningococcal infection . . . . .	.036	20	20	*	150	0.1	100	*	280	0.1	240	0.1	
Septicemia . . . . .	.038	1,440	6.6	1,530	7.1	8,720	8.2	8,770	8.3	19,870	7.8	19,790	7.8
Acute poliomyelitis . . . . .	.045	—	—	*	—	*	—	*	—	*	—	*	
Measles . . . . .	.055	—	—	*	—	*	—	*	—	*	10	*	
Viral hepatitis . . . . .	.070	240	1.1	120	0.6	1,060	1.0	790	0.8	2,210	0.9	1,930	0.8
Syphilis . . . . .	.090–097	10	*	—	*	20	*	40	*	50	*	120	0.0
All other infectious and parasitic diseases ¹ . . . . .	.001–003,005,020–032,037,039–041,*042–*044,046–054,056–066,071–088,098–139	3,630	16.6	2,830	13.1	17,860	16.8	15,820	15.0	41,000	16.0	36,930	14.6
Malignant neoplasms, including neoplasms of lymphatic and hematopoietic tissues . . . . .	.140–208	42,700	195.3	43,370	201.1	220,730	207.6	215,660	204.4	525,600	205.0	515,690	203.5
Malignant neoplasms of lip, oral cavity, and pharynx . . . . .	.140–149	650	3.0	620	2.9	3,360	3.2	3,230	3.1	8,150	3.2	7,490	3.0
Malignant neoplasms of digestive organs and peritoneum . . . . .	.150–159	10,160	46.5	10,330	47.9	50,130	47.1	50,180	47.5	121,560	47.4	120,350	47.5
Malignant neoplasms of respiratory and intrathoracic organs . . . . .	.160–165	12,080	55.2	12,620	58.5	64,320	60.5	63,190	59.9	152,570	59.5	150,270	59.3
Malignant neoplasm of breast . . . . .	.174–175	3,770	17.2	3,210	14.9	19,030	17.9	18,840	17.9	44,380	17.3	44,150	17.4
Malignant neoplasms of genital organs . . . . .	.179–187	4,930	22.5	4,960	23.0	25,810	24.3	24,660	23.4	59,860	23.4	59,020	23.3
Malignant neoplasms of urinary organs . . . . .	.188–189	1,290	5.9	1,990	9.2	9,050	8.5	9,270	8.8	22,000	8.6	20,860	8.2
Malignant neoplasms of all other and unspecified sites . . . . .	.170–173,190–199	5,420	24.8	5,460	25.3	27,150	25.5	25,780	24.4	64,500	25.2	62,910	24.8
Leukemia . . . . .	.204–208	1,620	7.4	1,610	7.5	8,220	7.7	7,630	7.2	19,820	7.7	19,150	7.6
Other malignant neoplasms of lymphatic and hematopoietic tissues . . . . .	.200–203	2,780	12.7	2,570	11.9	13,650	12.8	12,860	12.2	32,750	12.8	31,480	12.4
Benign neoplasms, carcinoma in situ, and neoplasms of uncertain behavior and of unspecified nature . . . . .	.210–239	690	3.2	540	2.5	3,270	3.1	3,100	2.9	7,590	3.0	7,500	3.0
Diabetes mellitus . . . . .	.250	4,660	21.3	4,090	19.0	24,230	22.8	22,540	21.4	51,910	20.3	50,770	20.0
Nutritional deficiencies . . . . .	.260–269	360	1.6	310	1.4	1,400	1.3	1,340	1.3	3,160	1.2	3,160	1.2
Anemias . . . . .	.280–285	370	1.7	320	1.5	1,930	1.8	1,570	1.5	4,330	1.7	4,110	1.6
Meningitis . . . . .	.320–322	50	*	70	*	380	0.4	360	0.3	750	0.3	710	0.3
Major cardiovascular diseases . . . . .	.390–448	76,510	350.0	73,400	340.4	416,490	391.8	400,140	379.2	928,460	362.2	911,130	359.5
Diseases of heart . . . . .	.390–398,402–429	59,730	273.2	57,970	268.9	325,770	306.5	315,700	299.2	729,050	284.4	717,330	283.0
Rheumatic fever and rheumatic heart disease . . . . .	.390–398	510	2.3	480	2.2	2,500	2.4	2,660	2.5	5,810	2.3	5,790	2.3
Hypertensive heart disease . . . . .	.402	1,860	8.5	1,740	8.1	10,420	9.8	9,400	8.9	23,360	9.1	21,440	8.5
Hypertensive heart and renal disease . . . . .	.404	160	0.7	150	0.7	950	0.9	900	0.9	2,350	0.9	2,020	0.8
Ischemic heart disease . . . . .	.410–414	39,350	180.0	38,480	178.5	215,520	202.7	210,060	199.1	483,370	188.6	478,000	188.6
Acute myocardial infarction . . . . .	.410	18,130	82.9	18,470	85.7	99,440	93.5	101,680	96.3	227,070	88.6	232,450	91.7
Other acute and subacute forms of ischemic heart disease . . . . .	.411	200	0.9	230	1.1	1,200	1.1	1,250	1.2	2,780	1.1	3,070	1.2
Angina pectoris . . . . .	.413	20	*	40	*	290	0.3	430	0.4	890	0.3	940	0.4
Old myocardial infarction and other forms of chronic ischemic heart disease . . . . .	.412,414	21,000	96.1	19,730	91.5	114,580	107.8	106,700	101.1	252,620	98.5	241,540	95.3
Other diseases of endocardium . . . . .	.424	1,180	5.4	1,320	6.1	6,340	6.0	6,720	6.4	14,560	5.7	14,120	5.6
All other forms of heart disease . . . . .	.415–423,425–429	16,660	76.2	15,810	73.3	90,050	84.7	85,950	81.4	199,610	77.9	195,960	77.3
Hypertension with or without renal disease . . . . .	.401,403	790	3.6	690	3.2	4,490	4.2	3,830	3.6	10,300	4.0	8,500	3.4
Cerebrovascular diseases . . . . .	.430–438	12,560	57.4	11,430	53.0	66,690	62.7	62,770	59.5	147,240	57.4	143,290	56.5
Intracerebral and other intracranial hemorrhage . . . . .	.431–432	1,830	8.4	1,600	7.4	9,870	9.3	9,140	8.7	21,750	8.5	20,710	8.2
Cerebral thrombosis and unspecified occlusion of cerebral arteries . . . . .	.434,0,434.9	1,350	6.2	1,120	5.2	6,990	6.6	6,520	6.2	15,800	6.2	15,670	6.2
Cerebral embolism . . . . .	.434.1	60	*	50	*	240	0.2	340	0.3	590	0.2	690	0.3
All other and late effects of cerebrovascular diseases . . . . .	.430,433,435–438	9,320	42.6	8,660	40.2	49,590	46.6	46,780	44.3	109,090	42.6	106,220	41.9

Atherosclerosis . . . . .	.440	1,150	5.3	1,340	6.2	7,700	7.2	6,990	6.6	16,830	6.6	16,650	6.6
Other diseases of arteries, arterioles, and capillaries . . . . .	.441-448	2,290	10.5	1,960	9.1	11,830	11.1	10,850	10.3	25,040	9.8	25,350	10.0
Acute bronchitis and bronchiolitis . . . . .	.466	10	*	20	*	320	0.3	250	0.2	570	0.2	530	0.2
Pneumonia and influenza . . . . .	.480-487	6,620	30.3	5,630	26.1	39,240	36.9	37,630	35.7	77,460	30.2	75,990	30.0
Pneumonia . . . . .	.480-486	6,600	30.2	5,600	26.0	38,600	36.3	36,560	34.6	76,760	29.9	74,440	29.4
Influenza . . . . .	.487	20	*	30	*	640	0.6	1,070	1.0	710	0.3	1,550	0.6
Chronic obstructive pulmonary diseases and allied conditions . . . . .	.490-496	9,090	41.6	7,430	34.5	47,100	44.3	43,170	40.9	95,010	37.1	90,340	35.6
Bronchitis, chronic and unspecified . . . . .	.490-491	300	1.4	240	1.1	1,810	1.7	1,970	1.9	3,720	1.5	3,910	1.5
Emphysema . . . . .	.492	1,630	7.5	1,450	6.7	8,500	8.0	7,580	7.2	17,550	6.8	16,570	6.5
Asthma . . . . .	.493	490	2.2	370	1.7	2,240	2.1	2,230	2.1	4,660	1.8	4,830	1.9
Other chronic obstructive pulmonary diseases and allied conditions . . . . .	.494-496	6,680	30.6	5,370	24.9	34,550	32.5	31,390	29.7	69,080	26.9	65,030	25.7
Ulcer of stomach and duodenum . . . . .	.531-533	410	1.9	470	2.2	2,520	2.4	2,560	2.4	5,730	2.2	5,940	2.3
Appendicitis . . . . .	.540-543	60	*	10	*	220	0.2	150	0.1	370	0.1	380	0.1
Hernia of abdominal cavity and intestinal obstruction without mention of hernia . . . . .	.550-553,560	400	1.8	440	2.0	2,270	2.1	2,450	2.3	5,700	2.2	5,740	2.3
Chronic liver disease and cirrhosis . . . . .	.571	2,000	9.1	1,730	8.0	10,410	9.8	10,280	9.7	24,990	9.7	24,590	9.7
Cholelithiasis and other disorders of gallbladder . . . . .	.574-575	250	1.1	230	1.1	1,200	1.1	1,330	1.3	2,860	1.1	3,000	1.2
Nephritis and nephrotic syndrome, and nephrosis . . . . .	.580-589	2,100	9.6	1,920	8.9	11,370	10.7	10,120	9.6	24,190	9.4	23,330	9.2
Acute glomerulonephritis and nephrotic syndrome . . . . .	.580-581	10	*	50	*	120	0.1	150	0.1	240	0.1	330	0.1
Chronic glomerulonephritis, nephritis and nephropathy, not specified as acute or chronic, and renal sclerosis, unspecified . . . . .	.582-583,587	150	0.7	180	0.8	670	0.6	720	0.7	1,450	0.6	1,530	0.6
Renal failure, disorders resulting from impaired renal function, and small kidney of unknown cause . . . . .	.584-586,588-589	1,940	8.9	1,680	7.8	10,580	9.9	9,260	8.8	22,500	8.8	21,470	8.5
Infections of kidney . . . . .	.590	100	*	80	*	460	0.4	450	0.4	1,070	0.4	1,100	0.4
Hyperplasia of prostate . . . . .	.600	30	*	40	*	180	0.2	140	0.1	370	0.1	280	0.1
Complications of pregnancy, childbirth, and the puerperium . . . . .	.630-676	10	*	30	*	140	0.1	80	*	340	0.1	270	0.1
Pregnancy with abortive outcome . . . . .	.630-638	-	*	10	*	30	*	10	*	50	*	40	*
Other complications of pregnancy, childbirth, and the puerperium . . . . .	.640-676	10	*	20	*	110	0.1	70	*	290	0.1	230	0.1
Congenital anomalies . . . . .	.740-759	1,080	4.9	1,020	4.7	4,940	4.6	5,280	5.0	12,090	4.7	11,870	4.7
Certain conditions originating in the perinatal period . . . . .	.760-779	1,460	6.7	1,260	5.8	6,430	6.0	6,460	6.1	15,590	6.1	15,960	6.3
Birth trauma, intrauterine hypoxia, birth asphyxia, and respiratory distress syndrome . . . . .	.767-769	250	1.1	220	1.0	1,230	1.2	1,270	1.2	3,130	1.2	2,980	1.2
Other conditions originating in the perinatal period . . . . .	.760-766,770-779	1,220	5.6	1,040	4.8	5,190	4.9	5,190	4.9	12,460	4.9	12,990	5.1
Symptoms, signs, and ill-defined conditions . . . . .	.780-799	3,380	15.5	2,960	13.7	17,270	16.2	15,470	14.6	37,370	14.6	36,160	14.3
All other diseases . . . . .	.Residual	15,570	71.2	13,950	64.7	85,980	80.9	78,200	74.1	186,660	72.8	178,540	70.4
Accidents and adverse effects . . . . .	.E800-E949	6,910	31.6	6,870	31.9	32,690	30.7	33,470	31.7	83,580	32.6	87,520	34.5
Motor vehicle accidents . . . . .	.E810-E825	3,090	14.1	3,330	15.4	14,750	13.9	15,450	14.6	40,330	15.7	42,710	16.9
All other accidents and adverse effects . . . . .	.E800-E807,E826-E949	3,820	17.5	3,540	16.4	17,940	16.9	18,010	17.1	43,260	16.9	44,800	17.7
Suicide . . . . .	.E950-E959	2,670	12.2	2,340	10.9	12,210	11.5	12,190	11.6	28,730	11.2	29,230	11.5
Homicide and legal intervention . . . . .	.E960-E978	1,860	8.5	1,850	8.6	9,570	9.0	10,700	10.1	24,650	9.6	26,720	10.5
All other external causes . . . . .	.E980-E999	170	0.8	120	0.6	1,130	1.1	800	0.8	2,430	0.9	1,970	0.8

Human immunodeficiency virus infection ²*042-044	2,990	13.7	2,380	11.0	14,720	13.8	13,010	12.3	34,020	13.3	30,550	12.1
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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.

NOTE: 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, May 1992 and 1993, cumulative figures 1992 and 1993, and 12 months ending with May 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)	May		January–May				12 months ending with May					
	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 ¹140–208	42,700	195.3	43,370	201.1	220,730	207.6	215,660	204.4	525,600	205.0	515,690	203.5
Malignant neoplasm of esophagus150	900	4.1	940	4.4	4,020	3.8	4,250	4.0	10,370	4.0	9,710	3.8
Malignant neoplasm of stomach151	1,020	4.7	900	4.2	5,580	5.3	5,350	5.1	13,190	5.1	13,830	5.5
Malignant neoplasms of colon, rectum, rectosigmoid junction, and anus153,154	4,860	22.2	4,970	23.0	22,890	21.5	24,280	23.0	55,800	21.8	56,920	22.5
Malignant neoplasm of pancreas157	2,050	9.4	2,240	10.4	11,080	10.4	10,370	9.8	26,560	10.4	25,160	9.9
Malignant neoplasms of trachea, bronchus, and lung162	11,690	53.5	12,280	57.0	62,350	58.6	61,230	58.0	147,640	57.6	145,350	57.3
Malignant melanoma of skin172	490	2.2	610	2.8	2,770	2.6	2,750	2.6	6,770	2.6	6,540	2.6
Malignant neoplasm of cervix uteri180	270	1.2	270	1.3	1,960	1.8	1,680	1.6	4,550	1.8	4,220	1.7
Malignant neoplasms of body of uterus and of uterus, part unspecified179,182	510	2.3	510	2.4	2,530	2.4	2,740	2.6	6,170	2.4	6,030	2.4
Malignant neoplasm of ovary183.0	1,050	4.8	1,160	5.4	5,440	5.1	5,260	5.0	12,880	5.0	12,890	5.1
Malignant neoplasm of prostate185	2,950	13.5	2,810	13.0	15,170	14.3	14,180	13.4	34,580	13.5	33,960	13.4
Malignant neoplasm of bladder188	650	3.0	1,040	4.8	4,570	4.3	4,700	4.4	10,890	4.2	10,460	4.1
Malignant neoplasms of kidney and other and unspecified urinary organs189	630	2.9	950	4.4	4,480	4.2	4,580	4.3	11,110	4.3	10,410	4.1
Malignant neoplasms of brain and other and unspecified parts of nervous system191,192	820	3.7	960	4.5	4,530	4.2	4,270	4.0	10,860	4.2	11,160	4.4
Hodgkin's disease201	90	*	110	0.5	690	0.6	580	0.5	1,740	0.7	1,590	0.6
Malignant lymphoma other than Hodgkin's disease200,202	1,860	8.5	1,740	8.1	8,750	8.2	8,250	7.8	21,230	8.3	20,260	8.0
Multiple myeloma and other immunoproliferative neoplasms203	830	3.8	720	3.3	4,220	4.0	4,030	3.8	9,780	3.8	9,640	3.8

¹Includes figures for subcategories not shown below.

NOTE: 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, May 1992 and 1993, cumulative figures 1992 and 1993, and 12 months ending with May 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)	May		January–May				12 months ending with May					
	1993		1992		1993		1992		1993		1992	
	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate
Total, under 1 year	2,900	882.0	2,800	797.4	14,500	872.0	15,000	884.2	34,000	843.6	35,500	867.7
Under 28 days	1,920	578.9	1,880	538.1	8,740	525.9	9,230	544.6	21,310	529.5	22,350	545.7
28 days to 11 months	1,010	304.6	900	257.6	5,750	346.0	5,750	339.3	12,640	314.1	13,190	322.0
Certain gastrointestinal diseases008–009,535,555–558	–	*	10	*	80	*	120	7.1	300	7.5	270	6.6
Pneumonia and influenza480–487	50	*	50	*	270	16.2	320	18.9	570	14.2	600	14.6
Congenital anomalies740–759	620	187.0	620	177.4	2,830	170.3	3,170	187.0	7,150	177.7	7,410	180.9
Disorders relating to short gestation and unspecified low birthweight765	370	111.6	320	91.6	1,670	100.5	1,560	92.0	3,890	96.7	4,050	98.9
Birth trauma767	20	*	–	*	70	*	50	*	180	4.5	160	3.9
Intrauterine hypoxia and birth asphyxia768	30	*	80	*	270	16.2	260	15.3	710	17.6	660	16.1
Respiratory distress syndrome769	180	54.3	140	40.1	870	52.4	930	54.9	2,190	54.4	2,100	51.3
Other conditions originating in the perinatal period760–764,766,770–779	810	244.2	700	200.3	3,440	207.0	3,540	208.9	8,420	209.2	8,770	214.1
Sudden infant death syndrome798.0	320	96.5	310	88.7	2,020	121.6	2,000	118.0	4,210	104.6	4,440	108.4
All other causesResidual	520	156.8	550	157.4	2,970	178.7	3,030	178.8	6,340	157.5	7,090	173.1

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 shown 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 shown 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 shown 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 shown 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 which 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 3 times the population in that age group estimated at the mid-point 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 shown 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.

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

The chances are about 2 out of 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 out of 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 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:

$$Y(t) = A_0 + A_1 t + A_2 t^2 + C \cos(2\pi t/12) + S \sin(2\pi t/12) + \epsilon_t$$

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 1985 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 "††" shown 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:

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

and

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

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:

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

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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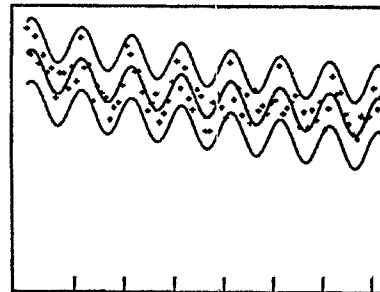
Mortality Surveillance System topics

MVSR issue	Cause-of-death	Healthy People 2000 Objective Number
Vol. 41 No. 6	Malignant neoplasms including neoplasms of lymphatic and hematopoietic tissues	2.2 (16.1)
Vol. 41 No. 7	Malignant neoplasms of trachea, bronchus, and lung	3.2 (16.2)
Vol. 41 No. 8	Malignant neoplasm of prostate, Malignant neoplasm of breast	(¹), 16.3
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	(²)
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)

¹No *Healthy People 2000* objective exists that addresses mortality from Malignant neoplasm of prostate.

²No *Healthy People 2000* objective exists that addresses mortality from this cause. See Chapter 18 for objectives related to Human immunodeficiency virus infection.

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



Suggested citation

National Center for Health Statistics. Births, marriages, divorces, and deaths for May 1993. Monthly vital statistics report; vol 42 no 5. Hyattsville, Maryland: Public Health Service. 1993.

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DHHS Publication No. (PHS) 94-1120