



Health Conditions and Health Care

HC 1.1

INFANT MORTALITY

Infancy is commonly divided into the neonatal period, the first 27 days of life, and the postneonatal period, 28 days to less than one year. About two-thirds of infant deaths occur during the neonatal period (although advances in neonatology in recent decades have greatly improved the chances that infants will survive this period). The three leading causes of death to infants (one year and younger) are congenital anomalies, disorders relating to a short gestation period and low birth weight, and sudden infant death syndrome (SIDS).¹ In 1995, SIDS dropped from the second to the third leading cause of infant mortality. The SIDS decline accounted for nearly one-third of the total drop in infant mortality in 1995.² Infant deaths due to SIDS declined an additional 15 percent in 1996.³

The U.S. infant mortality rate has decreased rapidly over the past three decades largely due to medical developments over this time. Between 1960 and 1996 the rate fell from 26.0 to 7.2 infant deaths per thousand live births (see Figure HC 1.1.A).⁴ There was a steep decline in the rate of neonatal deaths (from 18.7 to 4.7 infant deaths per thousand live births) and a smaller, more gradual decline in the rate of postneonatal deaths (from 7.3 to 2.5 infant deaths per thousand live births).

International Comparisons. Despite declines in recent decades, the U.S. infant mortality rate ranks among the highest of industrialized nations. For example, in 1993, the rate of infant deaths per thousand live births was 4.4 in Japan, 5.8 in Germany, 6.2 in England and Wales, and 6.8 in France, compared with 8.4 deaths per thousand live births in the United States in that year.⁵ The Russian Federation, in contrast, had an infant mortality rate of 20.3 deaths per thousand live births in 1993.

Differences by Race and Hispanic Origin. While infant mortality rates have declined for all races and ethnic groups in the United States, there is, nevertheless, considerable variation by race and Hispanic origin (see Figure HC 1.1.B). Specifically:⁴

- For white infants, the infant mortality rate declined by 74 percent between 1960 and 1996 — from 22.9 to 6.0 deaths per thousand live births (see Table HC 1.1.A).
- For black infants, the infant mortality rate declined by 68 percent between 1960 and 1996 — from 44.3 to 14.2 deaths per thousand live births (see Table HC 1.1.A).
- For Hispanic infants, the infant mortality rate declined by 33 percent between 1985 and 1996 — from 8.6 to 5.8 deaths per thousand live births (see Table HC 1.1.A).
- For Asian⁶ infants, the infant mortality rate declined by 36 percent from an average of 8.3 deaths per thousand live births during the period 1983-1985 to 5.3 deaths per thousand live births in 1995 (see Table HC 1.1.B).⁷
- For American Indian⁸ infants, the infant mortality rate declined by 35 percent from an average of 13.9 deaths per thousand live births during the period 1983-1985 to 9.0 deaths per thousand live births in 1995 (see Table HC 1.1.B).

¹Ventura, S.J., Peters, K.D., Martin, J.A., and Maurer, J.D. "Births and Deaths: United States, 1996." *Monthly Vital Statistics Report* 46 (1, Supp. 2). Hyattsville, Md.: National Center for Health Statistics, 1997.

²Press release from the U.S. Department of Health and Human Services. "Reduction in SIDS Deaths Helps Bring Low Infant Mortality." October 9, 1996.

³Because 1996 data are preliminary, part of the decline reported for SIDS deaths may be due to delays in receiving cause-of-death information. As reported in Ventura, S.J., Peters, K.D., Martin, J.A., and Maurer, J.D. "Births and Deaths: United States, 1996." *Monthly Vital Statistics Report* 46 (1, Supp. 2). Hyattsville, Md.: National Center for Health Statistics, 1997.

⁴Data for 1996 are preliminary.

⁵National Center for Health Statistics. *Health, United States, 1996-97*. Hyattsville, Md.: 1997.

⁶Includes Pacific Islanders.

⁷Infant mortality data for Asians/Pacific Islanders and American Indians/Alaskan Natives are presented from the National Linked Files of Live Births and Infant Deaths in Table HC 1.1.A. Rather than relying solely on the often inaccurate reporting of race on death certificates of infants, the linked files use race from birth certificates and, therefore, provide more accurate data for these populations. The National Linked Files of Live Births and Infant Deaths data are available from 1983-1991 and 1995, when they began being produced on a regular basis again.

⁸Includes Alaskan Natives.

Table HC 1.1.A

Infant, neonatal, and postneonatal mortality rates (deaths per 1,000 live births) in the United States, by race and Hispanic origin:^a selected years, 1960-1996^b

	1960 ^{c,d}	1970	1980	1985	1990	1991	1992	1993	1994	1995	1996 ^b
Infant^e	26.0	20.0	12.6	10.6	9.2	8.9	8.5	8.4	8.0	7.6	7.2
White	22.9	17.6	10.9	9.2	7.6	7.3	6.9	6.8	6.6	6.3	6.0
Black	44.3	33.3	22.2	19.0	18.0	17.6	16.8	16.5	15.8	15.1	14.2
Hispanic	—	—	—	8.6	7.8	7.5	6.8	6.7	6.5	6.1	5.8
Neonatal^f	18.7	15.1	8.5	7.0	5.8	5.6	5.4	5.3	5.1	4.9	4.7
White	17.2	13.7	7.4	6.0	4.8	4.5	4.3	4.3	4.2	4.1	3.9
Black	27.8	23.2	14.6	12.6	11.6	11.2	10.8	10.7	10.2	9.8	9.2
Hispanic	—	—	—	5.4	5.0	4.6	4.3	4.1	4.1	4.0	3.7
Postneonatal^g	7.3	4.9	4.1	3.7	3.4	3.4	3.1	3.1	2.9	2.7	2.5
White	5.7	4.0	3.5	3.2	2.8	2.8	2.6	2.5	2.4	2.2	2.1
Black	16.5	10.1	7.6	6.4	6.4	6.3	6.0	5.8	5.6	5.3	5.0
Hispanic	—	—	—	3.2	2.8	2.8	2.5	2.6	2.5	2.1	2.1

^aEstimates for whites and blacks include Hispanics of those races. Persons of Hispanic origin may be of any race. Hispanic rates not available prior to 1985. Infant mortality by Hispanic origin reported by 17 states and the District of Columbia in 1985, 45 states, New York State (excluding New York City), and the District of Columbia in 1990, 47 states, New York State (excluding New York City), and the District of Columbia in 1991, 48 states and the District of Columbia in 1992, and 49 states and the District of Columbia since 1993.

^bData for 1996 are preliminary.

^cIncludes births and deaths of persons who were not residents of the 50 states and the District of Columbia.

^dData for 1960 are by race of child; all other years are by race of mother.

^eUnder one year old.

^fUnder 28 days old.

^gTwenty-eight days to one year old.

Sources: Anderson, R.N., Kochanek, K.D., and Murphy, S.L. "Report of Final Mortality Statistics, 1995." *Monthly Vital Statistics Report* 45 (11, Supp. 2). Hyattsville, Md.: National Center for Health Statistics, 1997. Also previous issues of this annual report; 1970 data from the National Center for Health Statistics. *Vital Statistics of the United States, 1991*. Vol. II, Mortality, Part A. Washington, D.C.: Public Health Service, 1996 (table 2-2).

Table HC 1.1.B

Infant mortality rates (deaths per 1,000 live births) in the United States, by detailed race and Hispanic origin:^a selected years, 1983-1995

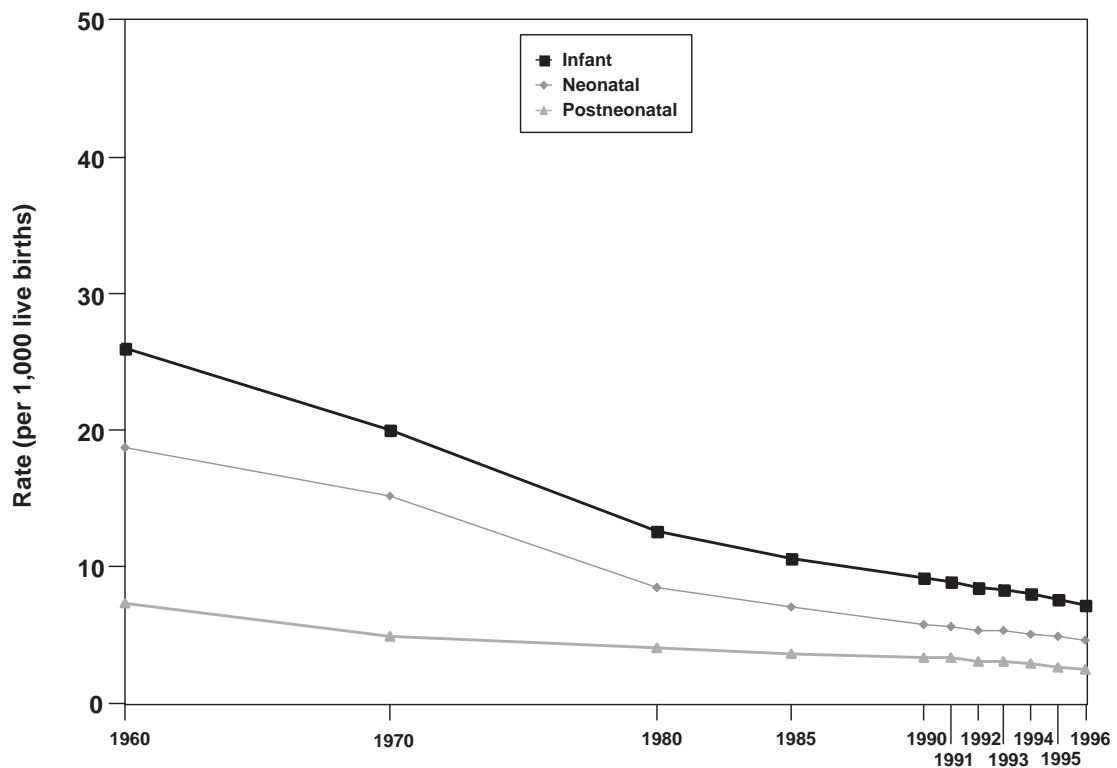
	1983-1985	1986-1988	1989-1991	1995
Infant (all races)	10.6	9.8	9.0	7.6
White	9.0	8.2	7.4	6.3
Black	18.7	17.9	17.1	14.6
American Indian/Alaskan Native	13.9	13.2	12.6	9.0
Asian/Pacific Islander	8.3	7.3	6.6	5.3
Chinese	7.4	5.8	5.1	3.8
Japanese	6.0	6.9	5.3	5.3
Filipino	8.2	6.9	6.4	5.6
Hawaiian and part Hawaiian	11.3	11.1	9.0	6.6
Other Asian or Pacific Islander	8.6	7.6	7.0	5.5
Hispanic	9.2	8.3	7.6	6.3
Mexican American	8.8	7.9	7.2	6.0
Puerto Rican	12.3	11.1	10.4	8.9
Cuban	8.0	7.3	6.2	5.3
Central and South American	8.2	7.6	6.6	5.5
Other and Unknown Hispanic	9.9	9.0	8.2	7.4

^aEstimates for separate race groups include Hispanics of those races. Persons of Hispanic origin may be of any race.

Sources: Centers for Disease Control and Prevention, National Center for Health Statistics. Data computed by the Division of Health and Utilization Analysis from data compiled by the Division of Vital Statistics for the National Linked Files of Live Births and Infant Deaths.

Figure HC 1.1.A

Infant, neonatal, and postneonatal mortality rates (deaths per 1,000 live births) in the United States: selected years, 1960^{a,b}-1996^c



^aIncludes births and deaths of persons who were not residents of the 50 states and the District of Columbia.

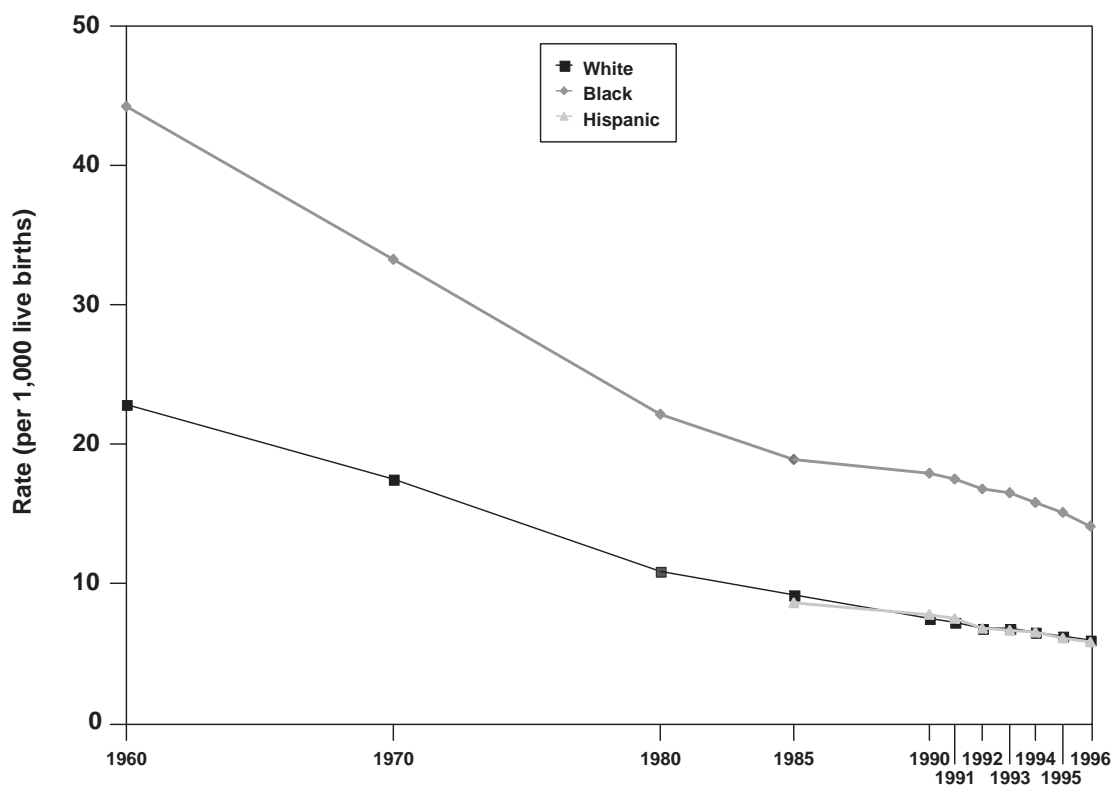
^bData for 1960 are by race of child; all other years are by race of mother.

^cData for 1996 are preliminary.

Sources: Anderson, R.N., Kochanek, K.D., and Murphy, S.L. "Report of Final Mortality Statistics, 1995." *Monthly Vital Statistics Report* 45 (11, Supp. 2). Hyattsville, Md.: National Center for Health Statistics, 1997. Also previous issues of this annual report; 1970 data from the National Center for Health Statistics. *Vital Statistics of the United States, 1991*. Vol. II, Mortality, Part A. Washington, D.C.: Public Health Service, 1996 (table 2-2).

Figure HC 1.1.B

Infant mortality rates (deaths per 1,000 live births) in the United States, by race and Hispanic origin:^a selected years, 1960^{b,c}-1996^d



^aEstimates for whites and blacks include Hispanics of those races. Persons of Hispanic origin may be of any race. Hispanic rates not available prior to 1985. Infant mortality by Hispanic-origin reported by 17 states and the District of Columbia in 1985; 45 states, New York State (excluding New York City), and the District of Columbia in 1990; 47 states, New York State (excluding New York City), and the District of Columbia in 1991; 48 states and the District of Columbia in 1992; and 49 states and the District of Columbia since 1993.

^bIncludes births and deaths of persons who were not residents of the 50 states and the District of Columbia.

^cData for 1960 are by race of child; all other years are by race of mother.

^dData for 1996 are preliminary.

Sources: Anderson, R.N., Kochanek, K.D., and Murphy, S.L. "Report of Final Mortality Statistics, 1995." *Monthly Vital Statistics Report* 45 (11, Supp. 2). Hyattsville, Md.: National Center for Health Statistics, 1997. Also previous issues of this annual report; 1970 data from the National Center for Health Statistics. *Vital Statistics of the United States, 1991*. Vol. II, Mortality, Part A. Washington, D.C.: Public Health Service, 1996 (table 2-2).

HC 1.2 CHILD AND YOUTH DEATHS

Injuries are a common cause of death for children of all ages.⁹ Among children ages one to four, unintentional injuries were the leading cause of death followed by congenital anomalies, malignant neoplasms, homicide and legal intervention, and diseases of the heart.¹⁰ In 1995, all injuries, including homicides and suicides, accounted for 52 percent of deaths to children ages 5 through 14, and 79 percent of all deaths to youth ages 15 through 19.¹¹

Overall, child death rates have decreased substantially over the past several decades (see Table HC 1.2.A).¹² In 1996, death rates per 100,000 were 38.3 for 1- through 4-year-olds, 19.8 for 5- through 9-year-olds, 24.3 for 10- through 14-year-olds, and 79.2 for 15- through 19-year-olds.¹³

Differences by Age. The most dramatic declines in death rates occurred among children under age 15, with decreases of 65 percent among children ages 1 to 4, 60 percent among children ages 5 to 9, and a 45 percent decrease among children ages 10 through 14 since 1960 (see Figure HC 1.2.A). Most of the decline in the death rate for these groups occurred between 1960 and 1990. In contrast, death rates for youth ages 15 through 19 have decreased by only 14 percent since 1960. Moreover, unlike the fairly steady declines among the younger age groups, the adolescent death rate has had a variable pattern over the last thirty years (see Figure HC 1.2.A).

Differences by Race and Hispanic Origin. Multi-year data from the National Center for Health Statistics are used to examine the differences in the death rate of children and youth for several racial and ethnic groups across three time periods spanning from 1989 through 1995 (see Table HC 1.2.B). For children ages 1 to 14, and youth ages 15 to 24, blacks have the highest death rate, followed by Native Americans, Hispanics, and whites. Asian children and youth consistently have the lowest death rates.

The death rate for children ages 1 to 14 decreased modestly for all racial and ethnic groups except Native Americans over the three periods. Trends in the death rate for youth ages 15 to 24 were more mixed, decreasing only for whites and Native Americans between the first two periods, and increasing for blacks, Hispanics, and Asians; however, the death rate for the latter three groups declined between 1992-1993 and 1994-1995, while the rates for whites and Native Americans remained constant. Overall, the youth death rate for whites and Native Americans experienced the largest decreases over the three periods.

Differences by Race for Younger Children. Data for earlier decades are available only for black and white children (see Table HC 1.2.A). These data show substantial differences between white and black children since at least 1970 for children ages 1 through 4, 5 through 9, and 10 through 14. By 1996, the death rate for black children ages 10 through 14 was 58 percent higher than the rate for white children in that age group, 68 percent higher for children ages 5 through 9, and twice as high for children ages 1 through 4.

Differences by Race for Adolescents. The black/white disparity among adolescents ages 15 through 19 was substantial in 1970, but had declined by 1980 to the point where black youth registered lower death rates than white youth (see Figure HC 1.2.B). This reversal was short-lived, however. Black death rates surged from a low of 85.2 per 100,000 in 1985 to 145.0 per 100,000 by 1994, while white death rates remained fairly stable. Much of this increase in black teen deaths reflected a substantial increase in black

⁹Injury-related deaths include deaths from motor vehicle crashes, fires and burns, drowning, suffocation, and accidents caused by firearms and other explosive materials, as well as homicides, suicides, and other external causes of death. See Fingerhut, L.A., Annett J.L., Baker, S.P., Kochanek, K.D. and McLoughlin, E. 1996. "Injury Mortality Among Children and Teenagers in the United States, 1993." *Injury Prevention* 2: 93-94.

¹⁰Anderson, R.N., Kochanek, K.D., and Murphy, S.L. "Report of Final Mortality Statistics, 1995." *Monthly Vital Statistics Report* 45 (11, Supp.). Hyattsville, Md.: National Center for Health Statistics, 1997.

¹¹Discussion and data regarding motor vehicle crashes, the largest category of accident-related death for 15- to 19-year-olds, follows in the next section [HC 1.3].

¹²Health Resources and Services Administration. *Child Health USA =95*. DHHS Pub. No. HRSA-M-DSEA-96-5. Washington, D.C.: Public Health Service, 1996.

¹³Data for 1996 are preliminary.

teen male homicide rates, which are reviewed in Section HC 1.4 of this report. Since 1994, black death rates for youth ages 15 through 19 have been declining.

Differences by Gender. Male child death rates are higher than female rates for all age groups, but the differences are far more pronounced for the older age groups, for whom injury-related deaths disproportionately affect males (see Table HC 1.2.A).¹⁴

Table HC 1.2.A

Child and youth death rates (death rates per 100,000 population in each age group) in the United States, by age group, gender, and race: selected years, 1960-1996^a

	1960	1965	1970	1975	1980	1985	1990	1991	1992	1993	1994	1995	1996 ^a
Ages 1-4													
All children	109.1	95.9	84.5	69.9	63.9	51.8	46.8	47.4	43.6	44.8	42.9	40.6	38.3
Gender													
Male	119.5	104.3	93.2	76.7	72.6	58.5	52.4	52.0	48.0	49.5	47.3	44.8	42.4
Female	98.4	87.1	75.4	62.7	54.7	44.8	41.0	42.7	39.0	39.9	38.2	36.2	34.0
Race													
White	95.2	83.2	75.1	63.3	57.9	46.6	41.1	41.7	38.1	38.3	36.5	35.1	32.9
Black	—	—	140.0	106.2	97.6	80.7	76.8	79.7	73.2	79.1	77.2	70.3	67.1
Ages 5-9													
All children	49.0	43.9	42.1	35.2	30.4	25.0	22.2	21.5	20.4	21.1	19.9	19.7	19.8
Gender													
Male	56.3	50.8	49.7	41.4	35.0	28.5	25.6	24.5	23.7	23.2	22.6	22.5	22.6
Female	41.5	36.8	34.2	28.6	25.6	21.4	18.5	18.4	16.8	19.0	17.0	16.7	16.9
Race													
White	46.2	40.8	39.9	33.0	28.4	22.9	20.3	19.8	18.3	19.0	17.6	17.7	18.0
Black	—	—	56.4	47.4	41.7	36.2	32.3	32.0	32.1	32.9	31.8	30.2	30.3
Ages 10-14													
All children	44.0	40.5	40.6	35.3	30.8	28.0	26.0	25.8	24.6	25.6	25.2	25.5	24.3
Gender													
Male	55.0	50.9	51.3	44.9	38.3	35.0	31.6	32.9	30.7	31.7	31.2	31.0	29.3
Female	32.6	29.7	29.5	25.3	22.9	20.6	20.2	18.2	18.2	19.2	18.8	19.6	19.0
Race													
White	41.4	38.6	38.4	33.7	29.8	27.0	24.3	24.2	22.8	23.7	23.0	23.6	22.3
Black	—	—	54.6	44.3	36.6	34.8	36.6	36.4	35.3	37.2	37.9	36.8	35.3
Ages 15-19													
All children	92.2	95.3	110.3	100.2	97.9	80.5	87.9	89.0	84.3	86.9	86.8	83.5	79.2
Gender													
Male	130.1	136.0	157.8	145.4	141.4	113.4	127.2	128.6	122.4	126.0	126.6	119.5	112.0
Female	54.0	53.9	61.7	53.8	53.1	46.2	46.4	47.2	44.0	45.6	44.8	45.7	44.2
Race													
White	87.9	90.9	103.1	98.0	99.1	80.2	81.4	80.5	75.6	77.0	76.8	75.6	72.3
Black	—	—	158.0	114.4	92.3	85.2	127.7	141.2	135.5	143.6	145.0	130.2	120.1

^aData for 1996 are preliminary.

Sources: Anderson, R.N., Kochanek, K.D., and Murphy, S.L. "Report of Final Mortality Statistics, 1995." *Monthly Vital Statistics Report* 45 (11, Supp. 2). Hyattsville, Md.: National Center for Health Statistics, 1997. Also previous issues of this annual report and unpublished data provided by the Statistical Resources Branch, National Center for Health Statistics.

¹⁴Sections HC 1.3 through HC 1.5 further highlight the differences in death rates between males and females ages 15-19 for violent and injury-related deaths.

Table HC 1.2.B

Child and youth death rates (per 100,000 population in each age group) in the United States, by age group, gender, race and Hispanic origin: 1989-1995

	Combined Years 1989-1991			Combined Years 1992-1993			Combined Years 1994-1995		
	Total	Male	Female	Total	Male	Female	Total	Male	Female
Ages 1-14									
All races	31.4	36.2	26.3	29.3	33.7	24.6	28.3	32.6	23.8
White ^a	28.4	32.8	23.8	26.1	30.3	21.7	25.1	28.9	21.0
Black ^a	48.3	56.1	40.3	47.1	53.4	40.7	46.1	53.1	38.8
Asian ^b	22.7	25.3	20.0	20.3	23.1	17.4	19.5	22.5	16.4
American Indian ^c	37.3	45.1	29.2	38.9	47.0	30.6	39.5	44.2	34.6
Hispanic origin ^d	30.2	34.7	25.5	28.4	32.4	24.2	26.4	30.8	21.8
Ages 15-24									
All races	99.1	146.1	50.0	97.0	144.0	47.9	96.0	141.4	48.1
White ^a	89.3	129.5	47.0	84.2	122.3	44.1	84.2	121.7	44.2
Black ^a	161.9	254.9	69.8	174.8	279.5	70.6	166.8	262.3	71.1
Asian ^b	50.1	70.8	28.1	56.1	80.1	31.1	55.8	78.9	32.0
American Indian ^c	142.0	208.3	71.1	129.4	184.2	71.4	129.1	191.4	63.6
Hispanic origin ^d	103.3	156.5	40.9	107.5	167.3	40.2	101.6	154.4	39.9

^aIncludes persons of Hispanic origin.

^bAsian and Pacific Islander. Includes persons of Hispanic origin.

^cAmerican Indian or Alaskan Native. Includes persons of Hispanic origin.

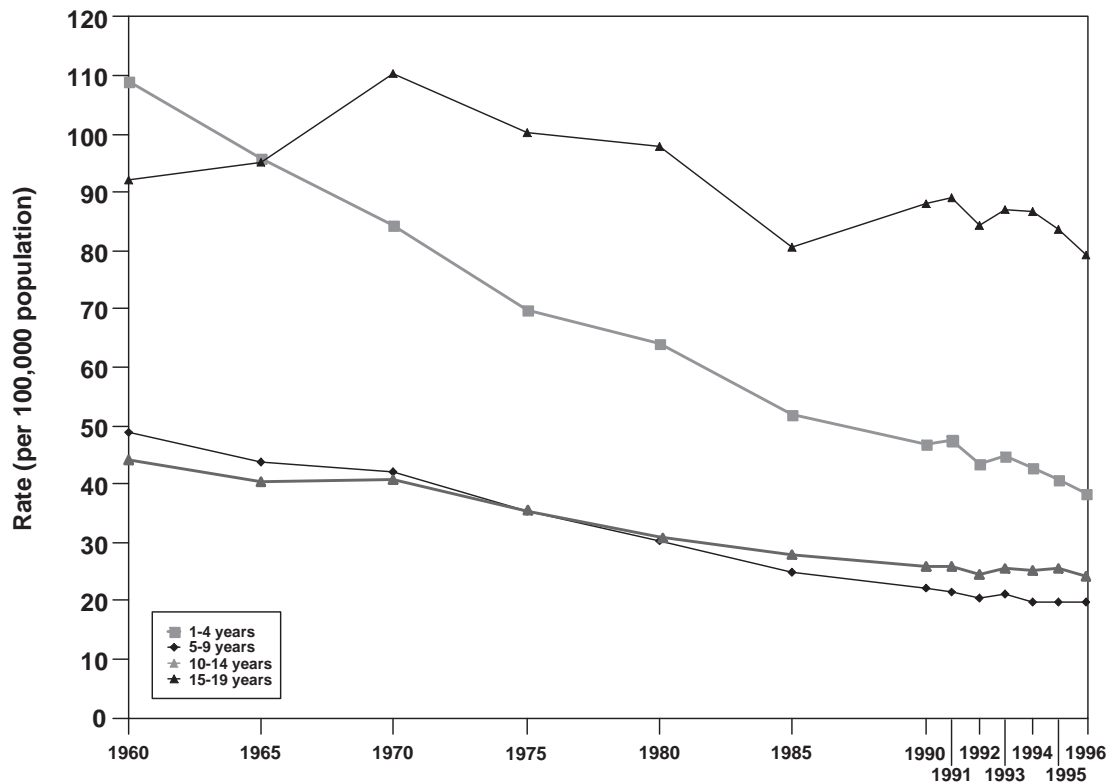
^dPersons of Hispanic origin may be of any race. Death figures for Hispanic persons in 1989 are based on data from 44 states and the District of Columbia that reported Hispanic origin on the death certificate, 47 states and the District of Columbia in 1990, 48 states and the District of Columbia in 1991 and 1992, and 49 states and the District of Columbia in 1993-1995.

Note: Death rates reported for white and black persons are based on highly consistent information. However, persons identified as American Indian, Asian, or Hispanic origin in the data from the Census Bureau (denominator of death rates) are sometimes misreported as white or non-Hispanic on the death certificate (numerator), resulting in underestimates of about 22-30 percent for death rates of American Indians, about 12 percent for death rates of Asians, and about 7 percent for persons of Hispanic origin. (National Center for Health Statistics, *Health, United States, 1993*, Table 33; Sorlie, P.D., Rogot E., and Johnson, N.J. 1992. "Validity of Demographic Characteristics on the Death Certificate." *Epidemiology* 3(2): 181-184.)

Sources: Centers for Disease Control and Prevention, National Center for Health Statistics. Data computed by the Division of Analysis from data compiled by the Division of Vital Statistics and from national population estimates for race groups; Also, data computed by Infant and Child Health Studies Branch, National Center for Health Statistics, from Mortality Data compiled by Division of Vital Statistics.

Figure HC 1.2.A

Child and youth death rates (per 100,000 population in each age group) in the United States, by age group: selected years, 1960-1996^a

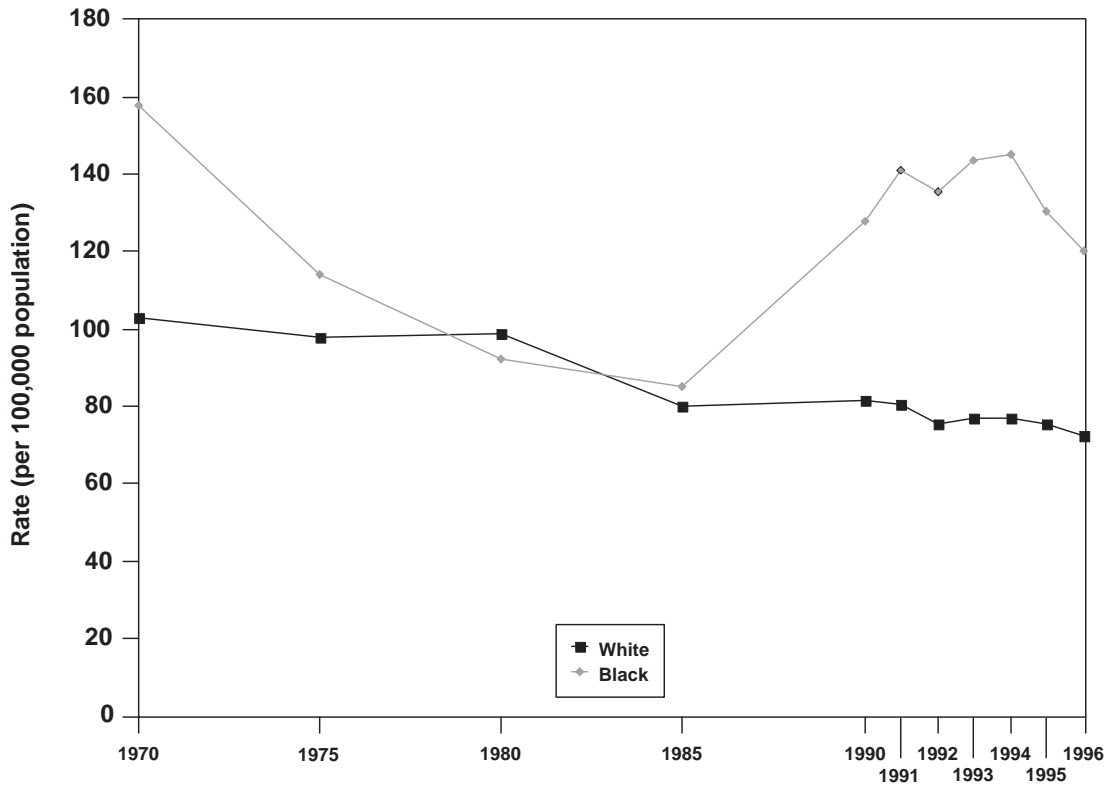


^aData for 1996 are preliminary.

Sources: Anderson, R.N., Kochanek, K.D., and Murphy, S.L. "Report of Final Mortality Statistics, 1995." *Monthly Vital Statistics Report* 45 (11, Supp. 2). Hyattsville, Md.: National Center for Health Statistics, 1997. Also previous issues of this annual report and unpublished data provided by the Statistical Resources Branch, National Center for Health Statistics.

Figure HC 1.2.B

Youth death rates (per 100,000 population in age group) in the United States for ages 15 through 19, by race: selected years, 1970-1996^a



^aData for 1996 are preliminary.

Sources: Anderson, R.N., Kochanek, K.D., and Murphy, S.L. "Report of Final Mortality Statistics, 1995." *Monthly Vital Statistics Report* 45 (11, Supp. 2). Hyattsville, Md.: National Center for Health Statistics, 1997. Also previous issues of this annual report and unpublished data provided by the Statistical Resources Branch, National Center for Health Statistics.

HC 1.3

YOUTH MOTOR VEHICLE CRASH DEATHS

Motor vehicle crashes are among the leading causes of injury-related deaths¹⁵ for 15- to 19-year-olds, accounting for 43 percent of all teenage injury deaths in 1995;¹⁶ however, as a fraction of all violent deaths to teens, motor vehicle crashes have declined. Preliminary data for 1996 show that motor vehicle crashes claimed 28.9 lives per 100,000 youth ages 15 through 19, compared with 43.6 per 100,000 youth in 1970 (see Figure HC 1.3).¹⁷ The rate of motor vehicle crash deaths among youth has been relatively constant since 1992.

Differences by Gender and Race. The decrease in the rate of youth motor vehicle deaths between 1970 and 1996 has been greatest among males ages 15 through 19, falling from 67.1 to 39.9 deaths per 100,000 white males, and from 43.4 to 29.1 deaths per 100,000 black males (see Table HC 1.3). Similar decreases in the rates of motor vehicle crash deaths have not been seen among females ages 15 through 19. Among this group of white females, the rate of deaths due to motor vehicle crashes has fluctuated between 20 and 26 per 100,000, and by 1996 was 21.3 deaths per 100,000, compared with 24.4 deaths per 100,000 in 1970. Black females have had lower motor vehicle crash death rates than whites. After a drop from 11.1 deaths per 100,000 in 1970 to 6.7 deaths per 100,000 in 1980, rates have generally increased for this group, to 12.5 deaths per 100,000 in 1996.

Differences by Age. Among youth ages 10 through 14, motor vehicle death rates are quite low in comparison to older youth and have dropped from 9.6 to 5.8 per 100,000 between 1970 and 1996. This decline was evident for both white and black males and females, with most of the decline occurring before 1990.

Table HC 1.3

Youth motor vehicle crash deaths (rate per 100,000) in the United States, by age, gender, and race: selected years, 1970-1996^a

	1970	1975	1980	1985	1990	1991	1992	1993	1994	1995	1996 ^a
All youth											
Ages 10-14	9.6	8.4	8.1	7.4	6.4	6.1	5.5	5.9	6.0	6.1	5.8
Ages 15-19	43.6	38.4	43.0	33.5	33.1	31.2	28.2	28.6	29.3	28.6	28.9
White males											
Ages 10-14	12.6	10.9	10.9	9.8	7.7	7.8	7.0	7.1	7.5	7.2	7.0
Ages 15-19	67.1	61.7	69.1	51.3	49.3	44.5	39.6	41.6	41.7	38.9	39.9
White females											
Ages 10-14	6.6	5.8	5.7	5.6	5.3	4.4	4.1	4.4	4.8	5.0	4.9
Ages 15-19	24.4	20.6	25.6	22.6	22.2	23.0	21.0	20.2	21.3	22.1	21.3
Black males											
Ages 10-14	11.9	9.6	7.9	8.9	7.9	8.8	7.8	8.3	7.6	7.7	7.4
Ages 15-19	43.4	24.6	24.4	22.1	28.7	29.5	26.2	26.7	29.0	29.0	29.1
Black females											
Ages 10-14	6.4	4.2	4.0	3.0	3.8	3.3	3.6	4.8	4.8	4.2	2.9
Ages 15-19	11.1	7.1	6.7	7.5	9.7	9.0	9.1	8.2	10.4	10.7	12.5

^aData for 1996 are preliminary based on 85 percent of all reported deaths in 1996.

Source: National Center for Health Statistics, unpublished work tables prepared by the Mortality Statistics Branch, Division of Vital Statistics.

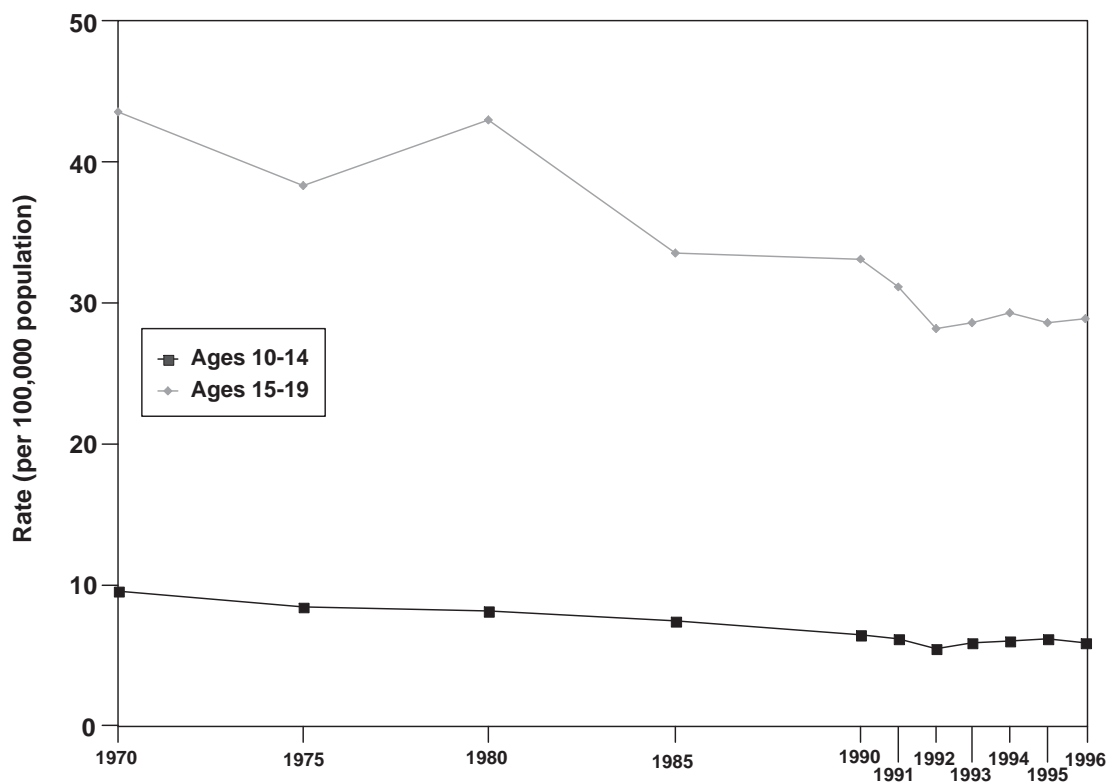
¹⁵Injury-related deaths include deaths from motor vehicle crashes, fires and burns, drowning, suffocation, and accidents caused by firearms and other explosive materials, as well as homicides, suicides, and other external causes of death.

¹⁶National Center for Health Statistics. 1995 Detailed Mortality File. Unpublished data.

¹⁷Data for 1996 are preliminary based on 85 percent of all reported deaths in 1996.

Figure HC 1.3

Youth motor vehicle crash deaths (rate per 100,000) in the United States, by age: selected years, 1970-1996^a



^aData for 1996 are preliminary based on 85 percent of all reported deaths in 1996.

Source: National Center for Health Statistics, unpublished work tables prepared by the Mortality Statistics Branch, Division of Vital Statistics.

HC 1.4

YOUTH HOMICIDES

After more than a decade of sharp increases, the youth homicide rate decreased between 1994 and 1996. The rate of death from homicide for youth ages 15 through 19 more than doubled between 1970 and 1994, increasing from 8.1 per 100,000 in 1970 to 20.3 per 100,000 in 1994 (see Table HC 1.4.A). Virtually all of this increase occurred after 1985 (see Figure HC 1.4.A). Since 1994, rates have decreased to 18.2 deaths per 100,000 in 1995 and 15.5 deaths per 100,000 in 1996.¹⁸

Male Youth Homicide Rates by Race. The trend in the death rate due to homicide for black males largely dominates the rate of youth homicides for ages 15 through 19. The rate of death from homicide for this age group of black males increased dramatically from 46.7 per 100,000 in 1985 to 140.7 per 100,000 in 1993, a rate more than nine times that for white males of the same age (see Figure HC 1.4.B). The homicide rate for black males ages 15 through 19 actually declined nearly 30 percent from 1970 to 1985, but rose again after 1985. Since 1993, this rate has decreased nearly 30 percent again, falling to 100.4 deaths per 100,000 by 1996.

While the homicide rate for white males of the same age group (15 through 19) is substantially less than that of black males, similar fluctuations in this rate can be seen over time with the largest increases occurring between 1985 and the early 1990s, and decreases in recent years. Overall, this rate has more than doubled from 5.2 deaths per 100,000 in 1970 to 12.1 deaths per 100,000 in 1996 due to homicide.

Female Youth Homicide Rates by Race. Homicide rates for females of both races ages 15 through 19 are considerably lower than among males in this age group. For example, the rate for black females was 13.3 per 100,000 in 1996, 87 percent lower than the rate for black males. The gender disparity in homicide rates is also large for whites, although it is not as great as that between black males and females. In 1996, the homicide rate for white females ages 15 through 19 was 2.8 deaths per 100,000, less than a quarter of that for white males. As is the case for males, the youth homicide rate for black females is higher than the rate for white females C nearly five times higher in 1996.

Homicide Rates for Younger Youth. The homicide rate for youth ages 10 through 14 was 1.8 per 100,000 in 1996 — substantially lower than the rate for older youth. The disparity between males and females is not as pronounced in this age group as the difference for older youth ages 15 through 19. However, the homicide rates for both white and black males ages 10 through 14 have been approximately twice that of females in recent years.

Homicides Involving Firearms. Firearms have been involved in the majority of youth homicides since 1980 (see Figure HC 1.4.C). Deaths to youth ages 15 through 19 involving firearms accounted for 66 percent of the total deaths due to homicide in 1980 (7.0 firearm deaths per 100,000 out of a total of 10.6 deaths per 100,000 due to homicide). The percentage of firearm-related homicides increased to 85 percent by 1995 for this same age group. Homicides due to firearms are more likely among black youth than among white youth, and most particularly among black males ages 15 through 19 (see Table HC 1.4.B). In 1995, 92 percent of homicides among older male black youth (ages 15 through 19) involved a firearm, compared with 84 percent among older white male youth. The rate of death due to firearms among black males ages 15 through 19 has decreased since 1993, serving as one explanation for the decline in the overall homicide rate among this group. Homicides among female youth involve a firearm less often, although firearms are still the means of the majority of female homicides.

¹⁸Data for 1996 are preliminary based on 85 percent of all reported deaths in 1996.

Table HC 1.4.A

Youth homicides^a (rate per 100,000) in the United States, by age, gender, and race: selected years, 1970-1996^b

	1970	1975	1980	1985	1990	1991	1992	1993	1994	1995	1996 ^b
All youth											
Ages 10-14	1.2	1.2	1.4	1.5	2.1	2.2	2.4	2.5	2.2	2.1	1.8
Ages 15-19	8.1	9.6	10.6	8.6	17.0	19.6	19.3	20.7	20.3	18.2	15.5
White males											
Ages 10-14	0.6	1.0	1.1	1.4	1.7	1.8	2.0	1.9	1.8	2.0	1.5
Ages 15-19	5.2	8.1	10.9	7.2	12.5	14.4	15.2	15.2	15.4	14.7	12.1
White females											
Ages 10-14	0.6	0.8	1.1	0.9	0.9	0.9	1.0	1.2	0.9	1.0	0.9
Ages 15-19	2.1	3.2	3.9	2.7	3.6	3.6	3.6	3.6	3.4	3.9	2.8
Black males											
Ages 10-14	6.8	4.1	3.9	4.2	8.1	9.1	9.6	10.5	9.1	8.2	6.3
Ages 15-19	65.2	51.4	48.8	46.7	115.7	134.6	128.5	140.7	135.8	110.5	100.4
Black females											
Ages 10-14	2.3	2.3	2.4	1.7	4.8	3.8	5.1	5.2	4.6	3.0	3.3
Ages 15-19	10.6	15.3	11.0	10.4	15.6	15.6	14.2	18.4	15.1	16.4	13.3

^aHomicide includes death by legal intervention.

^bData for 1996 are preliminary based on 85 percent of all reported deaths in 1996.

Source: National Center for Health Statistics, unpublished work tables prepared by the Mortality Statistics Branch, Division of Vital Statistics.

Table HC 1.4.B

Youth homicides due to firearms^a (rate per 100,000) in the United States, by age, gender, and race: selected years, 1980-1995

	1980	1985	1990	1991	1992	1993	1994	1995
All youth								
Ages 10-14	0.8	0.8	1.5	1.6	1.9	1.9	1.7	1.6
Ages 15-19	7.0	5.7	13.8	16.4	16.7	17.8	17.7	15.4
White males								
Ages 10-14	0.7	0.9	1.3	1.4	1.6	1.5	1.5	1.6
Ages 15-19	7.2	4.9	9.4	11.7	12.9	12.6	12.9	12.3
White females								
Ages 10-14	0.5	0.4	0.4	0.5	0.6	0.6	0.5	0.5
Ages 15-19	1.7	1.2	2.0	2.1	2.3	2.2	2.4	2.2
Black males								
Ages 10-14	3.2	3.0	6.9	8.2	8.4	9.8	7.7	7.4
Ages 15-19	38.4	36.6	104.4	122.6	118.8	130.1	126.6	101.7
Black females								
Ages 10-14	1.0	0.6	3.1	2.7	3.4	3.3	3.3	2.0
Ages 15-19	6.2	5.0	10.4	11.2	10.5	14.3	11.1	12.3

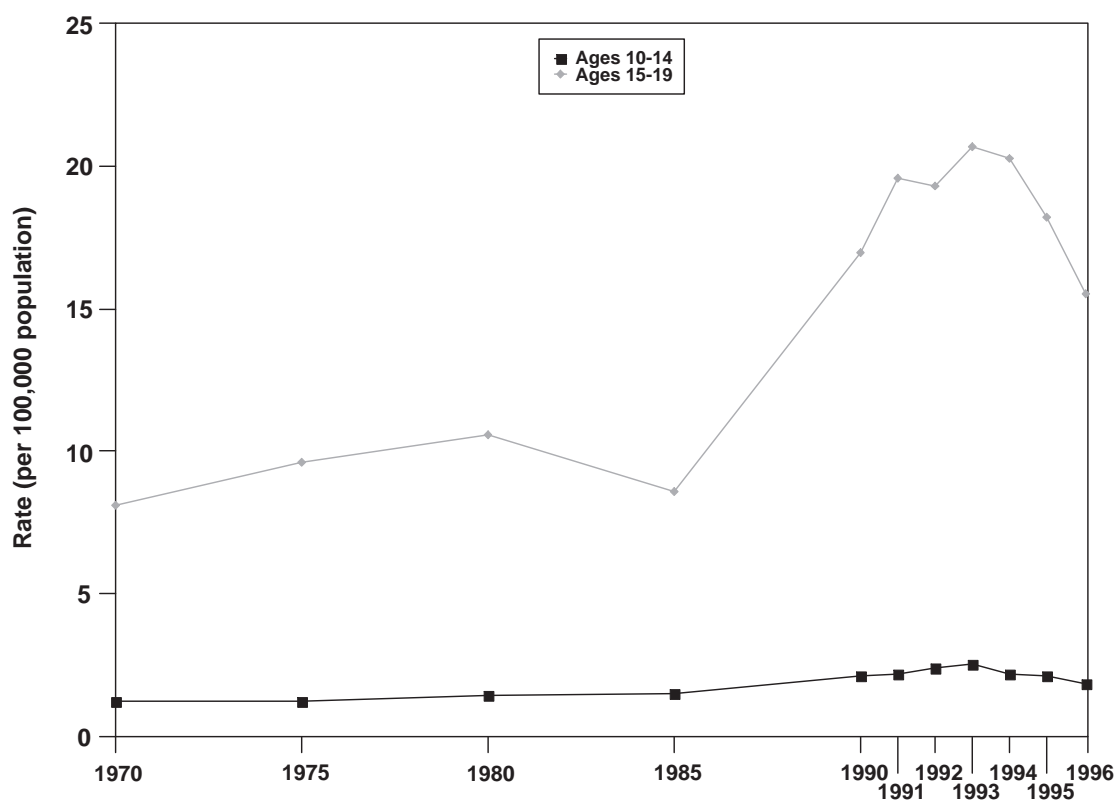
^aIncludes assault by handguns and all other and unspecified firearms.

Note: Calculations by Child Trends, Inc., to combine rates of assault by handguns and rates of assault by all other and unspecified firearms may affect overall rates due to previous rounding.

Source: National Center for Health Statistics, unpublished work tables prepared by the Mortality Statistics Branch, Division of Vital Statistics.

Figure HC 1.4.A

Youth homicides^a (rate per 100,000) in the United States, by age: selected years, 1970-1996^b



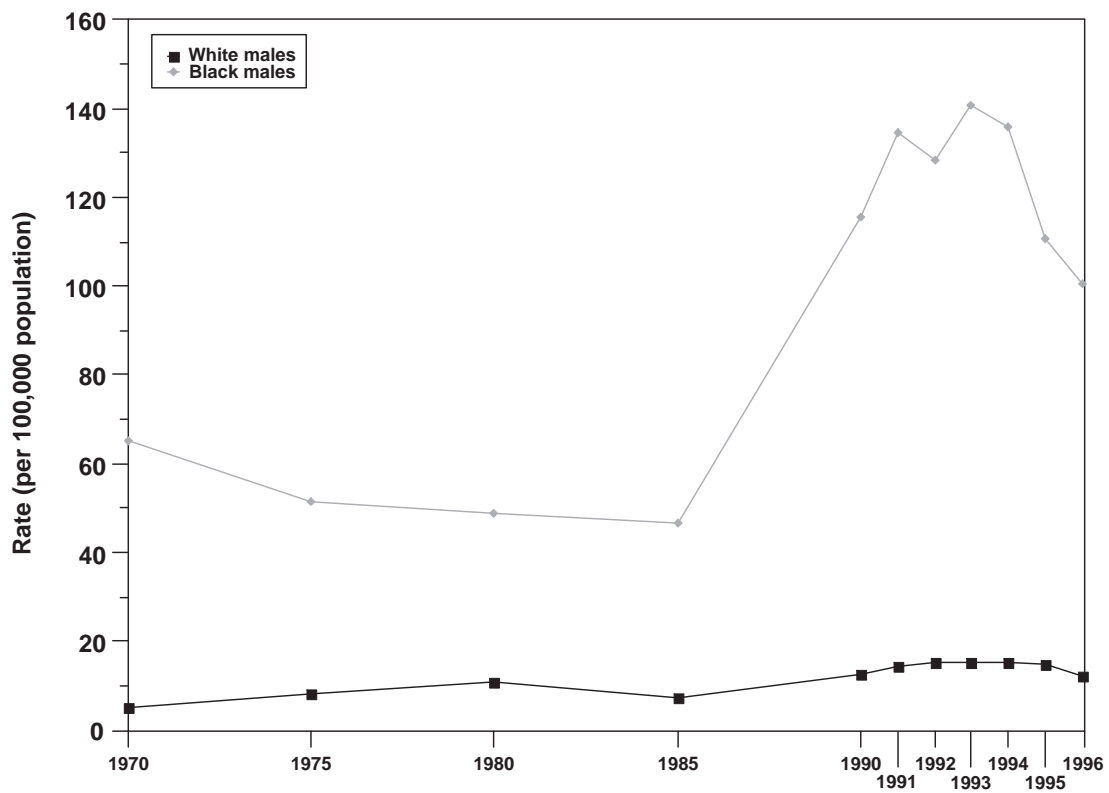
^aHomicide includes death by legal intervention.

^bData for 1996 are preliminary based on 85 percent of all reported deaths in 1996.

Source: National Center for Health Statistics, unpublished work tables prepared by the Mortality Statistics Branch, Division of Vital Statistics.

Figure HC 1.4.B

Youth homicides^a for males ages 15 through 19 (rate per 100,000) in the United States, by race: selected years, 1970-1996^b



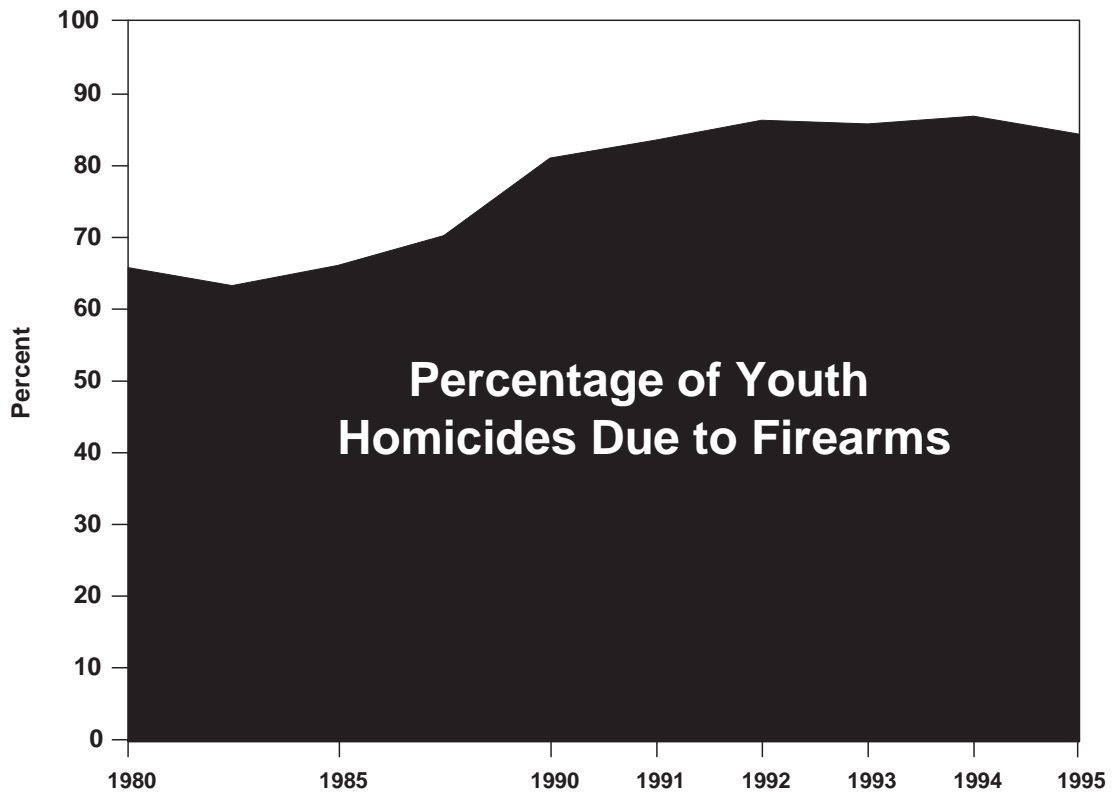
^aHomicide includes death by legal intervention.

^bData for 1996 are preliminary based on 85 percent of all reported deaths in 1996.

Source: National Center for Health Statistics, unpublished work tables prepared by the Mortality Statistics Branch, Division of Vital Statistics.

Figure HC 1.4.C

Percentage of youth homicides^a due to firearms^b in the United States, for youth ages 15 through 19: selected years, 1980-1995



^aHomicide includes death by legal intervention.

^bIncludes assault by handguns and all other and unspecified firearms.

Source: National Center for Health Statistics, unpublished work tables prepared by the Mortality Statistics Branch, Division of Vital Statistics.

HC 1.5 YOUTH SUICIDES

Suicide, like homicide, has come to play a proportionately larger role in teen deaths over the past several decades. Between 1970 and 1990, the suicide rate for youth ages 15 through 19 nearly doubled, from 5.9 to 11.1 per 100,000 (see Figure HC 1.5). Since 1990, the overall suicide rate has stabilized at approximately 11 deaths per 100,000 youth ages 15 through 19, although preliminary data for 1996 show a slightly lower rate of 9.7 deaths per 100,000.¹⁹

Differences by Gender. Male teens are more likely than females to commit suicide (see Table HC 1.5). The suicide rate for white males ages 15 through 19 was 16.4 per 100,000 in 1996, more than four times the rate of 3.6 per 100,000 for white females. Among blacks, males have a rate at least six times that of females for youth ages 15 through 19 in 1996 (11.4 and 1.8 per 100,000 respectively), although rates for both sexes have decreased in recent years.

Differences by Race. White males ages 15 through 19 have long had a higher suicide rate than their black male peers (see Table HC 1.5). In 1970, white males ages 15 through 19 were twice as likely as black males to commit suicide (9.4 versus 4.7 per 100,000). However, the gap between white and black male suicide rates has narrowed in recent years, with suicide rates of 16.4 and 11.4 per 100,000, according to 1996 preliminary data for white and black males, respectively.²⁰ Among females ages 15 through 19, whites and blacks were equally likely to commit suicide in 1970, with rates of 2.9 per 100,000. By 1975, white female suicide rates were twice that of their black peers ages 15 through 19. White female suicide rates have remained higher than black female rates since that time.

Suicide Rates for Younger Youth. While considerably lower, suicide rates for youth ages 10 through 14 have followed trends similar to those among older youth, with males having higher rates of suicide than females and whites having higher suicide rates than blacks (see Table HC 1.5). In this age group, suicide is infrequent for both sexes and races, making gender or racial differences small as well.

¹⁹Data for 1996 are preliminary based on 85 percent of all reported deaths in 1996.

²⁰The race disparity in the suicide rate between all white youth ages 10 through 19 and all black youth ages 10 through 19 narrowed substantially between 1980 and 1995, largely due to the increase of suicide among black youth. In 1980, white youth (ages 10-19) had a suicide rate that was 157 percent greater than that of their black peers but by 1995, the rate among whites was 42 percent greater than the rate among blacks. [Data not shown here but can be found in Centers for Disease Control and Prevention. March 20, 1998. "Suicide Among Black Youths—United States, 1980-1995." *Morbidity and Mortality Weekly Report* 47(10).]

Table HC 1.5

Youth suicides (rate per 100,000) in the United States, by age, gender, and race: selected years, 1970-1996^a

	1970	1975	1980	1985	1990	1991	1992	1993	1994	1995	1996 ^a
All youth											
Ages 10-14	0.6	0.8	0.8	1.6	1.5	1.5	1.7	1.7	1.7	1.7	1.6
Ages 15-19	5.9	7.5	8.5	9.9	11.1	11.0	10.8	10.9	11.1	10.5	9.7
White males											
Ages 10-14	1.1	1.4	1.4	2.5	2.3	2.4	2.6	2.4	2.5	2.8	2.3
Ages 15-19	9.4	12.9	15.0	17.1	19.3	19.1	18.4	18.5	18.7	18.4	16.4
White females											
Ages 10-14	0.3	0.4	0.3	0.9	0.9	0.8	1.1	1.0	1.0	0.9	0.9
Ages 15-19	2.9	3.1	3.3	4.1	4.0	4.2	3.7	4.2	3.5	3.3	3.6
Black males											
Ages 10-14	0.3	0.2	0.5	*	1.6	2.0	2.0	2.3	2.1	1.6	1.8
Ages 15-19	4.7	6.1	5.6	8.2	11.5	12.2	14.8	14.4	16.6	13.8	11.4
Black females											
Ages 10-14	0.4	0.3	0.1	*	*	*	*	*	*	*	*
Ages 15-19	2.9	1.5	1.6	1.5	1.9	*	1.9	*	2.4	2.3	1.8

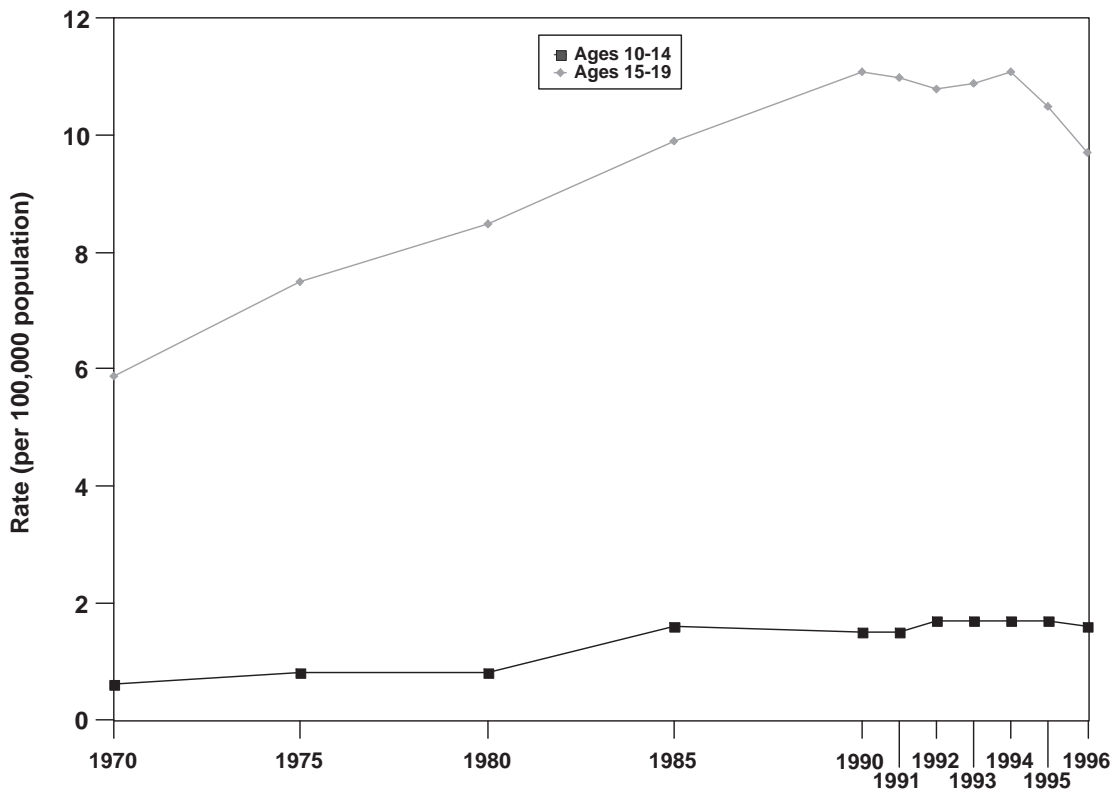
^aData for 1996 are preliminary based on 85 percent of all reported deaths in 1996.

* = Not calculated because of unreliability due to infrequency of the event.

Source: National Center for Health Statistics, unpublished work tables prepared by the Mortality Statistics Branch, Division of Vital Statistics.

Figure HC 1.5

Youth suicides (rate per 100,000) in the United States, by age: selected years, 1970-1996^a



^aData for 1996 are preliminary based on 85 percent of all reported deaths in 1996.

Source: National Center for Health Statistics, unpublished work tables prepared by the Mortality Statistics Branch, Division of Vital Statistics.

HC 1.6

FIREARM-RELATED DEATHS

Death due to injury by firearms includes deaths due to homicide, suicide, legal intervention, unintentional death by firearms, and firearm-related deaths of undetermined intent. Taken together, suicide and homicide have accounted for the vast majority of firearm-related deaths over the past thirty years—as high as 94 percent in 1994.²¹ Overall, the trends in the rate of deaths due to injury by firearms have most closely mirrored that of firearm-related homicide.

Firearm-related death is a growing public health concern for all ages as it was a major contributor to death in 1994 and the fourth leading cause of years of potential life lost before age 65;²² however, the rate of firearm-related death among youth ages 15 through 19 is of particular concern as homicide rates for this group rose dramatically in the late 1980s and early 1990s, particularly among black males. In addition, the rate of unintentional death due to firearms has historically been highest among older youth ages 15 through 19. Overall, the rate of death due to injury by firearms doubled for youth ages 15 through 19 between 1980 and 1994, from 14.7 deaths to 28.2 deaths per 100,000. Since 1994, the firearm-related death rate has declined, and in 1996 was at 21.0 deaths per 100,000 (see Table HC 1.6). The firearm-related death rate for youth ages 10 through 14 is considerably lower than the rate for older youth. In 1996, the rate for youth ages 10 through 14 was 2.7 per 100,000, compared with 21.0 per 100,000 for youth ages 15 through 19.²³

Differences by Race. Among younger adolescents ages 10 through 14, and among females ages 15 through 19, the rate of death due to injury by firearms ranges from two to three times higher for blacks than for whites. The rate of firearm-related death is most striking for black males ages 15 through 19. At 108.1 deaths per 100,000 in 1996, the rate for black males is more than four and one half times the rate of their white peers (see Figure HC 1.6). This rate is largely due to the high rate of deaths due to homicide among black males in this age group.²⁴

Differences by Gender. Among blacks and whites in both age groups, firearm-related deaths are more prevalent among males; for example, the death rate for black females ages 15 through 19 was 11.7 per 100,000 in 1996, while the rate for their male peers was more than nine times greater (108.1 per 100,000). Among whites ages 15 through 19, females experience firearm-related deaths at approximately one-sixth the rate of males.

²¹Ikeda, R.M., Gorwitz, R., James, S.P., Powell, K.E., and Mercy, J.A. Fatal Firearm Injuries in the United States, 1962-1994. *Violence Surveillance Summary Series* (3). Atlanta: Centers for Disease Control and Prevention, National Center for Injury Prevention and Control, 1997.

²²Ibid.

²³Data for 1996 are preliminary.

²⁴Refer to section HC 1.4 for further discussion of youth homicide.

Table HC 1.6

Youth deaths due to injury by firearms (rate per 100,000) in the United States, by age, gender and race: selected years, 1980-1996^a

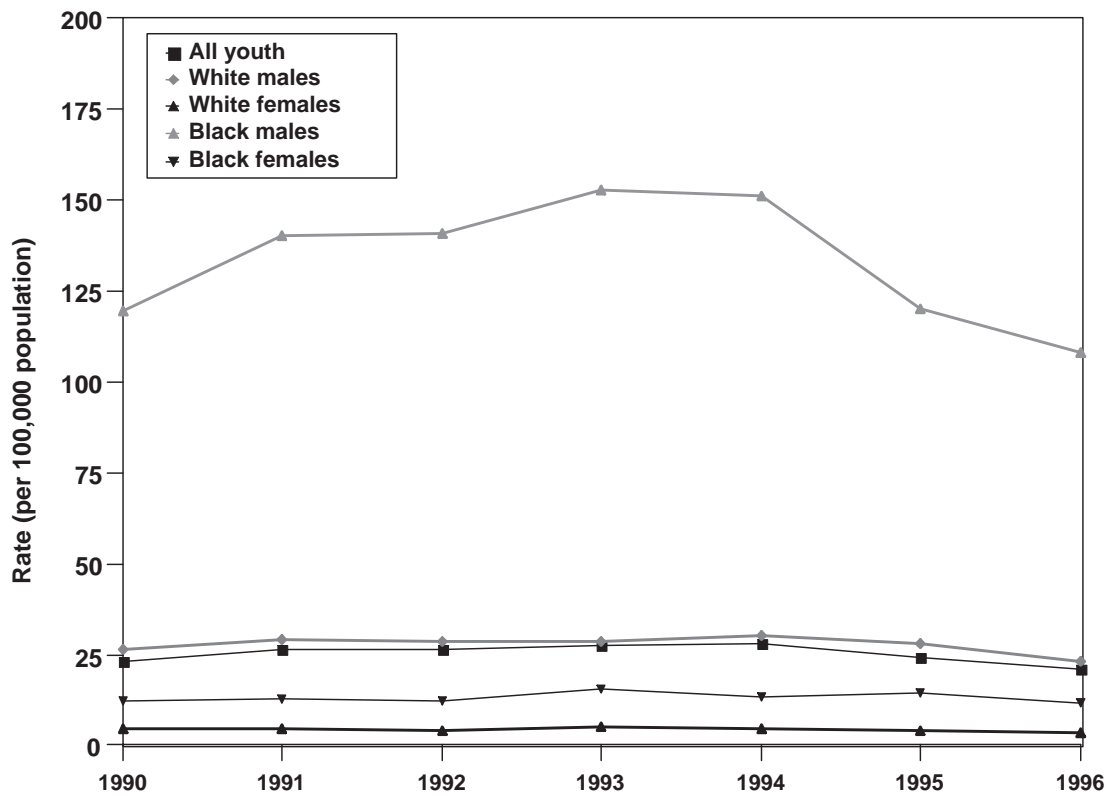
	1980	1985	1990	1991	1992	1993	1994	1995	1996 ^a
All youth									
Ages 10-14	2.4	2.8	3.3	3.5	3.7	3.8	3.5	3.4	2.7
Ages 15-19	14.7	13.3	23.3	26.4	26.2	27.8	28.2	24.5	21.0
White males									
Ages 10-14	3.6	4.5	4.2	4.6	4.5	4.4	4.3	4.4	3.6
Ages 15-19	20.9	18.4	26.2	29.1	28.8	28.8	30.2	27.9	22.9
White females									
Ages 10-14	1.0	1.0	1.0	1.0	1.3	1.2	1.2	1.2	1.0
Ages 15-19	4.1	3.5	4.6	4.5	4.3	4.9	4.7	4.2	3.7
Black males									
Ages 10-14	4.7	4.8	10.2	11.5	11.6	13.4	11.2	10.1	7.9
Ages 15-19	46.7	46.5	119.7	140.5	140.9	153.1	151.1	120.3	108.1
Black females									
Ages 10-14	1.5	0.7	3.7	3.0	3.9	3.9	3.5	2.5	2.5
Ages 15-19	7.5	6.1	12.1	12.7	12.4	15.8	13.3	14.2	11.7

^aData for 1996 are preliminary based on 85 percent of all reported deaths in 1996.

Source: National Center for Health Statistics, unpublished work tables prepared by the Mortality Statistics Branch, Division of Vital Statistics.

Figure HC 1.6

Deaths due to injury by firearms (rate per 100,000) for youth ages 15 through 19 in the United States, by gender and race: 1990-1996^a



^aData for 1996 are preliminary based on 85 percent of all reported deaths in 1996.

Source: National Center for Health Statistics, unpublished work tables prepared by the Mortality Statistics Branch, Division of Vital Statistics.

