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Between 1981 and 1998, 20,775 juveniles ages 7–17 committed suicide in the United States—nearly as many as were homicide or cancer victims. Males were the victims in 78% of these juvenile suicides. Over the same period, the suicide rate for American Indian juveniles was far higher than for any other race.

Statistics on juvenile suicides, and juvenile deaths in general, come from the National Vital Statistics System (NVSS), compiled by the National Center for Health Statistics (NCHS), Centers for Disease Control and Prevention (CDC). NVSS summarizes information from death certificates filed in state vital statistics offices and includes cause-of-death information reported by attending physicians, medical examiners, or coroners. Analyses of these data for the period 1981–98 uncovered the following:

◆ The number of youth ages 13–14 who committed suicide in the U.S. equaled the number who were murdered.

◆ Of the juveniles who committed suicide, 66% of the males and 62% of the females were 17 years old.

◆ Sixty-two percent of juvenile suicides were committed with a firearm, 24% resulted from suffocation (primarily hanging), and 10% were caused by poisoning.

◆ While more than half of both boys (65%) and girls (51%) committed suicide with a firearm, girls were far more likely than boys to use poison (25% versus 6%, respectively).

◆ Firearms were used more often in the suicides of white (63%) and black (64%) juveniles than in the suicides of American Indian (45%) and Asian (46%) juveniles.\(^1\)

◆ A white juvenile between ages 7 and 17 was nearly 1.5 times more likely to commit suicide than to be murdered, while black youth were almost 7 times more likely to be murdered than to commit suicide.

◆ The states with the highest rates of juvenile suicide were Alaska, Montana, Idaho, Wyoming, and New Mexico, in that order.

◆ In contrast to murder trends, the suicide rate for juveniles ages 7–17 increased from the early to the late 1980s and then remained relatively constant for most of the 1990s.

◆ The suicide rate for white juveniles ages 7–17 averaged nearly twice the rates for black youth and Asian youth. However, the suicide rate for American Indian juveniles was almost twice the rate for white youth.

\(^1\) In this Bulletin, the term “American Indian” is used for CDC’s racial category American Indian/Alaskan Native, and the term “Asian” is used for the racial category Asian/Pacific Islander.

About This Series

The Surgeon General’s report on youth violence, released in January 2001, notes that youth violence is a serious public health issue that affects millions of children and their families. A shared commitment to ending youth violence has led to a strong partnership between the Office of Juvenile Justice and Delinquency Prevention and the Centers for Disease Control and Prevention’s National Center for Injury Prevention and Control. The partnership is dedicated, in part, to promoting the Blueprints for Violence Prevention initiative, which identifies and disseminates information nationwide about violence prevention and intervention programs that have been found effective.

The Youth Violence Research Bulletin Series is the most recent endeavor in the OJJDP–CDC partnership. The series presents the latest research findings on critical topics related to youth violence, including gangs, firearms, suicide prevention, and the impact of violence on youth. The Bulletins discuss research in a way that makes it relevant to both the public health and juvenile justice fields and are written in a style that is accessible to all readers, including practitioners, service providers, parents, and policymakers. By focusing on the issue of youth violence and emphasizing the public health benefits of reducing violence among youth and within families, OJJDP and CDC hope to help all children have the opportunity to lead safe and productive lives.
Although suicide rates were higher for white youth than for black youth, the suicide rate for black males increased 240% between 1981 and 1994, while the rate for white males increased 40%.

Suicide was the fourth leading cause of death for juveniles older than age 6

A total of 20,775 youth ages 7–17 committed suicide in the U.S. between 1981 and 1998, making it the fourth leading cause of death for persons in this age group. In these years, 4% of all individuals who committed suicide were younger than age 18.

Unintentional injuries were the leading cause of death for youth ages 7–17 between 1981 and 1998. Of these 123,700 deaths, 65% were the result of motor vehicle crashes, 10% were drownings, 5% were firearms related, and 5% were caused by fire or burns. The second leading cause of death for juveniles ages 7–17 was homicide (27,000). Less common than homicide but more common than suicide were deaths resulting from malignant neoplasms (i.e., cancer) (24,000).

Two sources of data on homicide victims

There are two sources of national data on homicide victims: the National Center for Health Statistics’ (NCHS’s) National Vital Statistics System reported by coroners or medical examiners and the Federal Bureau of Investigation’s (FBI’s) Supplementary Homicide Reports reported by law enforcement agencies. The NCHS data indicate that 27,000 youth ages 7–17 were victims of homicide in the U.S. between 1981 and 1998. The estimate using the FBI data is 24,600 (91% of the NCHS estimate). Researchers have speculated on the reasons for this discrepancy: inconsistent reporting procedures, definitional differences, the incomplete/voluntary reporting of law enforcement agencies to the FBI, or the reclassification (or lack thereof) of deaths after an initial report. In this Bulletin, all information on the victims of suicide and homicide come from the NCHS data. Characteristics of homicide offenders come from analyses of the FBI data because the NCHS data do not contain information on perpetrators.

From 1983 to 1987, the number of juveniles ages 7–17 who committed suicide in the U.S. was equal to or greater than the number who were murdered

Suicides of juveniles ages 7–17 increased from the early to the late 1980s and then remained relatively constant for most of the 1990s, in contrast to juvenile murder trends. The number of suicides peaked in 1994 and the number of murders peaked a year earlier. Between 1981 and 1994, suicides increased 44%, whereas homicides increased 82%.

After 1994, the annual number of murders of juveniles ages 7–17 fell sharply, whereas suicides in this group declined only marginally. As a result, there were 28% more suicides and 9% more homicides of juveniles in 1998 than there were in 1981.

Data source: NVSS, compiled by CDC’s National Center for Health Statistics. [See Data source notes on page 7 for detail.]

The number of juveniles who committed suicide between 1981 and 1998 increased substantially with age, a trend paralleled by the number of murders

One likely limitation of the juvenile suicide data is that counts may be underreported due to errors in classifying the cause of death as something other than suicide and possible reluctance of medical examiners to classify the cause of death, particularly for persons under age 10, as suicide.

Over this period, the number of persons ages 13–14 murdered in the U.S. equaled the number who committed suicide.

The number of 17-year-olds who committed suicide between 1981 and 1998 was 11 times the number of 12-year-olds who committed suicide.

Data source: NVSS, compiled by CDC’s National Center for Health Statistics. [See Data source notes on page 7 for detail.]
Juvenile suicide rates varied considerably across states. In 32 states, the number of juvenile suicides exceeded juvenile homicides.

### Data table

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* The suicide rate is the average annual number of suicides of youth ages 7–17 divided by the average annual population of youth ages 7–17 (in millions).

† The suicide/homicide ratio is the total number of suicides of youth ages 7–17 divided by the total number of homicides of youth ages 7–17. A ratio of less than 1.0 indicates that the number of homicides is greater than the number of suicides.

◆ Suicide rates were lowest in some highly urban areas (New Jersey, New York, the District of Columbia, Massachusetts, Connecticut, and Rhode Island) and highest in the relatively rural states (Alaska, Montana, Idaho, Wyoming, and New Mexico).

◆ The reasons for variations in the numbers of juvenile suicides and homicides among states are beyond the scope of this Bulletin. States with the largest suicide/homicide ratios tend to have low homicide rates.

Data source: NVSS, compiled by CDC’s National Center for Health Statistics. Population data from the U.S. Bureau of the Census. [See Data source notes on page 7 for detail.]
Juvenile males were more likely to commit suicide than juvenile females

Between 1981 and 1998, boys ages 7–17 were more than three times as likely as girls of the same age group to commit suicide in the U.S. (16,282 boys versus 4,493 girls). The age profiles of males and females who committed suicide were very similar: 10% of males and 6% of females were younger than age 13, whereas 66% of males and 62% of females were 17 years old.

For every 1 million youth ages 7–17, 29 juveniles committed suicide in the U.S. annually between 1981 and 1998. The annual suicide rate for youth ages 7–17 peaked in 1988 at 34 per 1 million, with the rate for males at 50 per 1 million and the rate for females at 17 per 1 million in that year. Between 1981 and 1988, the rates for both males and females increased 49%. After 1988, the rate for females fell more sharply than the rate for males; by 1998, the female rate was 7% higher than its 1981 level, while the rate for males was still 23% higher than its 1981 level. In 1998, the suicide rate for males ages 7–17 was 41 per 1 million, compared with the female rate of 12 per 1 million.

The manner in which juvenile girls committed suicide differed from that of boys. Girls were more likely to use poison (25% of girls versus 6% of boys), while boys were more likely to use a firearm (65% of boys versus 51% of girls). Similar proportions of girls and boys committed suicide by suffocating themselves (26% of boys and 20% of girls).

American Indian youth were far more likely to commit suicide than youth of other races

Of youth ages 7–17 who committed suicide between 1981 and 1998, 17,954 were white (86%), 1,958 were black (9%), 443 were American Indian (2%), and 415 were Asian (2%). Because white youth were 80% of the juvenile population during this period, they were overrepresented in juvenile suicides. More specifically, the suicide rate for white juveniles (31 per 1 million) averaged nearly twice the rates for black juveniles and Asian juveniles (both at 18 per 1 million). However, the suicide rate for American Indian juveniles (57 per 1 million) was almost twice the rate for white juveniles.

3 In five suicides, the race of the victim was unknown. Data on Hispanic ethnicity of suicide victims were not available for the period 1981–98.
White youth were involved in a decreasing proportion of juvenile suicides between 1981 (91%) and 1998 (84%). The proportionate growth was mainly in suicides of black youth, which began at 6% of all juvenile suicides in 1981, peaked at 13% in 1994, and ended the period in 1998 at 10%. From 1981 to 1998, the proportion of juvenile suicides also increased for Asian youth (from 1% to 3%) and American Indian youth (from 2% to 3%).

**Suicides involving black juveniles increased substantially between 1981 and 1994**

The peak year for juvenile suicides in the 1981–98 period was 1994. Between 1981 and 1994, the number of juvenile suicides increased 44%. The increase was greater for males (51%) than females (24%) and substantially greater for black youth (230%) than white youth (32%).

From 1994 to 1998, the juvenile suicide rate fell 11%, resulting in a 1998 rate that was still 28% above the 1981 rate. Declines in the number of suicides occurred in the following groups: males, females, white youth, and black youth. For each of these groups, however, the number of juvenile suicides in 1998 was still greater than the number in 1981: for males it was 33% greater; for females, 15% greater; for white youth, 18% greater; and for black youth, 126% greater.

**White youth and American Indian youth were at greater risk of suicide than murder**

From 1981 to 1998, white and American Indian youth ages 7–17 were more likely to kill themselves than to be killed by others.

Between 1981 and 1998, more white male juveniles ages 7–17 committed suicide (14,080) than were murdered (8,785), while black male juveniles were far more likely to be murdered (11,017) than to commit suicide (1,561).

The number of white female juveniles ages 7–17 who were murdered between 1981 and 1998 (3,708) was slightly less than the number who committed suicide (3,874), while more than 6 times as many black female juveniles ages 7–17 were murdered (2,554) as committed suicide (397).

**The relative risk of suicide, as compared with murder, increased substantially with age for white juveniles**

Between ages 7 and 12, a white youth was at greater risk of being murdered than of committing suicide. For example, a 10-year-old white youth was 3 times more likely to be murdered than to commit suicide. However, between ages 13 and 17, the threat of suicide increased, so that by age 17, a white youth’s death was 56% more likely to be a suicide than a murder. Similarly, when American Indian youth passed their 12th birthday, their risk of committing suicide became greater than their risk of being murdered.
At each age from 7 through 17, however, Asian youth and black youth were more likely to be murdered than to commit suicide. For example, at age 17, Asian youth were nearly 1.5 times and black youth nearly 8 times more likely to be murdered than to commit suicide between 1981 and 1998.

**Most juvenile suicides involved firearms**

From 1981 through 1998, 62% of juvenile suicides were committed with a firearm, compared with 59% of adult suicides. (For comparison, 76% of murdered juveniles ages 7–17 were killed with a firearm.) Another 24% of juvenile suicides were by suffocation (primarily hanging) and 10% by poisoning.

Over the 1981–98 period, the suicides of white youth and black youth were more likely to involve firearms than were those of American Indian youth or Asian youth. Within each race, males were more likely to use firearms than were females.

Percentage of juvenile suicides involving firearms, 1981–98:

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<td>65%</td>
<td>51%</td>
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<tr>
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<td>65</td>
<td>52</td>
</tr>
<tr>
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**Use of firearms in homicides and suicides varied by gender and race**

Firearms were less common in juvenile suicides than in murders committed by juveniles between 1981 and 1998. The NCHS data show that 62% of juveniles who committed suicide used a firearm, while the Federal Bureau of Investigation’s (FBI’s) Supplementary Homicide Reports indicate that firearms were used by 71% of juveniles who committed homicide. This pattern varied by gender and race.

Among juvenile males, the proportion who used firearms to commit murder (73%) was greater than the proportion who used them to commit suicide (65%). The reverse was true for juvenile females. Over the 1981–98 period, a firearm was used by 51% of juvenile females who committed suicide, but by just 38% of juvenile females who committed murder.

> Although percentages of both firearm- and nonfirearm-related suicides increased between 1981 and 1994, the growth in juvenile suicides was tied to a greater increase in suicides involving firearms (57%) than in suicides involving other methods (23%).

> Over the same period, this general pattern of increases was found in the suicides of male juveniles (66% firearm related versus 23% nonfirearm related), white juveniles (41% versus 16%), and, especially, black juveniles (300% versus 106%). Firearm-related and nonfirearm-related suicides of females increased equally (24% each).

> The overall effect of the 28% decline in firearm-related suicides between 1994 and 1998 was muted by a 27% increase in nonfirearm-related juvenile suicides over the same period.

Data source: NVSS, compiled by CDC’s National Center for Health Statistics. Population data from the U.S. Bureau of the Census. [See Data source notes on page 7 for detail.]
White juveniles were equally likely to use a firearm to commit suicide (63%) as to commit murder (62%), as were American Indian juveniles, although they did so at much lower levels (45% in suicides and 47% in murders). In contrast, firearm use was less prevalent in suicides than in murders among both black juveniles (64% versus 77%) and Asian juveniles (46% versus 71%).

**Trends in juvenile suicides and murders were largely tied to firearms**

There are similarities in the trends of juvenile suicides and homicides by juveniles between 1981 and 1998. Between 1981 and 1994, the number of juvenile suicides increased 44%, with firearm-related suicides accounting for 80% of this growth. As a result, the proportion of juvenile suicides involving firearms increased from 64% in 1981 to 69% in 1994. Similarly, the number of juvenile offenders who committed murder with a firearm tripled between 1981 and 1994, while the number of juveniles who committed murder by other means remained constant. As a result, the proportion of juvenile offenders who committed murder with a firearm increased from 59% in 1981 to 81% in 1994.

Between 1994 and 1998, the number of juvenile suicides declined 11%, while the number of murders by juveniles fell 40%. The decline in the overall number of murders by juveniles was directly related to a decline in firearm-related homicides. The number of juvenile suicides by firearm also declined substantially (down 28%) during this period; however, reducing the overall impact of this decline was a 27% increase in the number of juvenile suicides that did not involve firearms.

**Data source notes**


Data source: NVSS, compiled by CDC's National Center for Health Statistics. Population data from the U.S. Bureau of the Census. [See Data source notes on this page for detail.]


Acknowledgments

This Bulletin was written by Howard N. Snyder, Ph.D., Director of Systems Research, National Center for Juvenile Justice, and Monica H. Swahn, Ph.D., Senior Service Fellow, Division of Violence Prevention, National Center for Injury Prevention and Control, Centers for Disease Control and Prevention (CDC). The authors gratefully acknowledge the assistance provided by Steve James of CDC. This work was partially funded by OJJDP’s National Juvenile Justice Data Analysis Project.

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