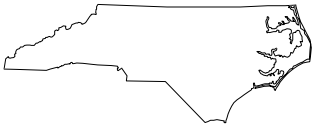
Statistical Brief



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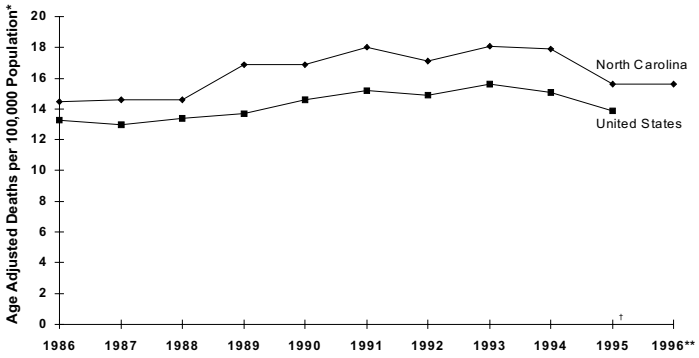
Firearm Deaths in North Carolina – 1986-1996

by Kathryn B. Surles, M.Ed.

A recent report on suicide[1] revealed that guns are used in two-thirds of all suicides in North Carolina and that firearms are more likely to be used in North Carolina suicides than in suicides in the nation as a whole. This report describes the full extent of firearm deaths in North Carolina.

We examine here recent trends and patterns using underlying cause of death codes for firearm injuries. The ICD (International Classification of Diseases) codes for deaths involving firearms are: E922.0-E922.9 (unintentional injury), E955.0-E955.4 (suicide), E965.0-E965.4 (homicide), E970 (legal intervention), and E985.0-E985.4 (undetermined whether firearm injury was purposely or accidentally inflicted). Because of wide differences in the firearm death rates of age, race, and gender groups, the rates are specific or adjusted for those factors.

Figure 1
Age-Adjusted Firearm Death Rates
North Carolina and United States, 1986-1996



*Adjusted by the direct method, using 10-year age groups and 1940 U.S. population as the standard.
**1996 U.S. rate is not yet available.
Source: U.S. rates are from the National Center for Health Statistics.

Trends (Figures 1 and 2)

- During the years 1986-1996, North Carolina's age-adjusted firearm death rate was consistently higher than the nation's, as shown in Figure 1. Both the state and national rates peaked in 1993 with some reduction in 1994 and 1995.
- Over the 10 years from 1986 to 1996, the state's age-adjusted firearm death rate rose 8 percent, reflecting large increases at ages 5-14 (up 66%) and 15-24 (up 46%). These increases were due to large increases in both homicides and suicides by firearms. The firearm death rate for most age groups above 25 declined during the 1986-1996 period.
- The firearm homicide rate for ages 15-24 rose 60 percent between 1986 and 1996, with minority males accounting for most of the increase. As depicted in Figure 2, the 1996 rate for minority males ages 15-24 was 2.4 times its 1986 level. The rise in the firearm homicide rate for ages 15-24 began in 1989 with the peak rate occurring in 1993.
- The post-1993 reductions in firearm deaths, noted above, coincide with the February 1994 enactment of the Brady Handgun Violence Prevention Act. The Brady Law established procedures to govern the purchase of handguns from federally licensed firearms dealers. These include a 5-day waiting period during which a background check of the potential purchaser occurs. This check is done by the sheriff of the potential purchaser's county of residence.[2]

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Firearm Fatalities 1996 (Figures 3 and 4)

- In 1996, a total of 1,171 North Carolina residents died from firearm injuries. As shown in Figure 3, the large majority of these deaths were suicides (57%) or homicides (38%). Only 51 deaths (4%) resulted from unintentional injuries.
- The causes of firearm deaths vary greatly by race. Suicide accounts for 73 percent of the white deaths and homicide accounts for 75 percent of the minority deaths.
- White males account for 75 percent of firearm suicides while minority males account for 52 percent of firearm homicides. By comparison, females account for relatively few firearm deaths.
- Figure 4 shows the state's 1996 firearm death rates by race, gender, and cause. White males have the highest firearm suicide rate while minority males have the highest firearm homicide rate and overall firearm death rate.
- The firearm death rates also vary by age with higher homicide rates at younger ages. The highest firearm suicide rates occur at ages 65-74 and 75-84.

Firearm Suicides and Homicides by Age and Race, 1992-96 (Figures 5 and 6)

- Throughout the life span, whites have higher firearm suicide rates than minorities, as depicted in Figure 5. At ages above 35 years, the white rates are two to nearly four times those of minorities.
- In contrast, Figure 6 shows that minorities have higher firearm homicide rates at every age, their rates being generally two to four times the white rates. At ages 15-24, the minority firearm homicide rate (43.9) is seven times the white rate (6.0).

Figure 2
Firearm Homicide Death Rates, Ages 15-24, by Race-Gender
North Carolina, 1986 and 1996

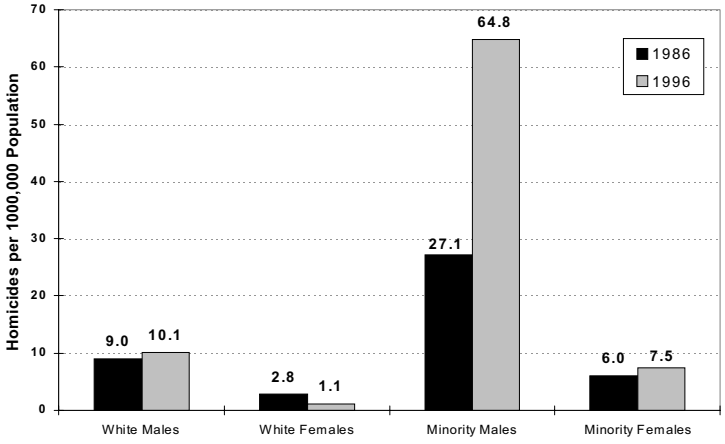


Figure 3
Number of Firearm Deaths by Cause
North Carolina, 1996

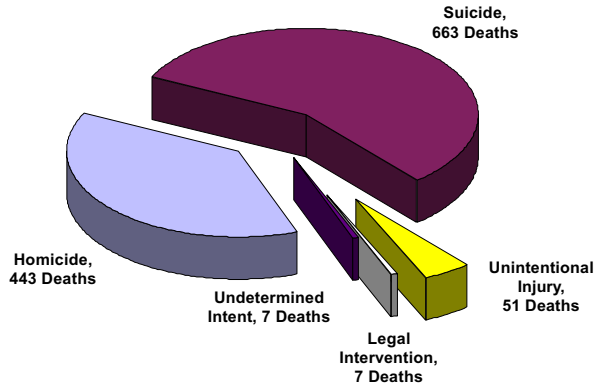
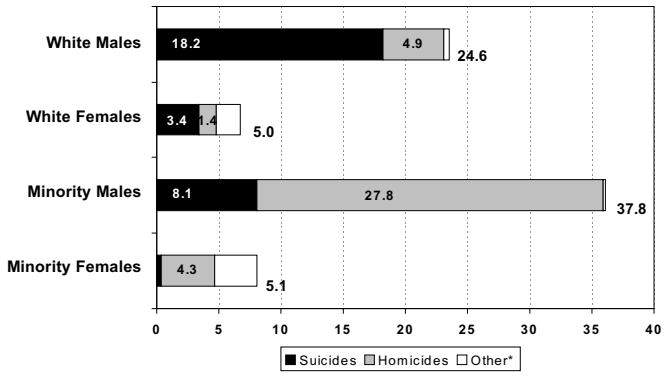


Figure 4
Firearm Death Rates by Race-Gender and Cause
North Carolina, 1996



*Unintentional injuries, legal interventions, and undetermined intent.
Note: Rates are per 100,000 population.

Figure 5
Firearm Suicide Rates by Age and Race
North Carolina, 1992-96

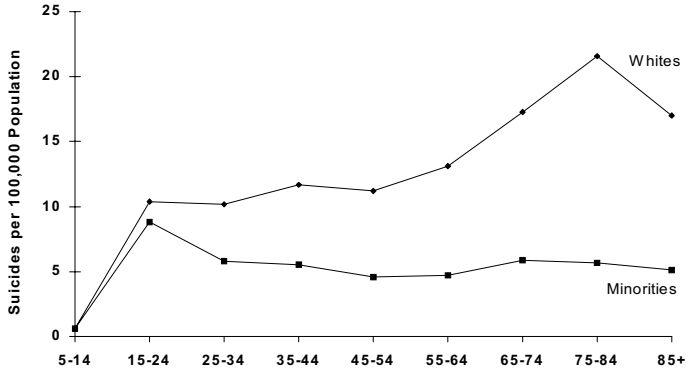
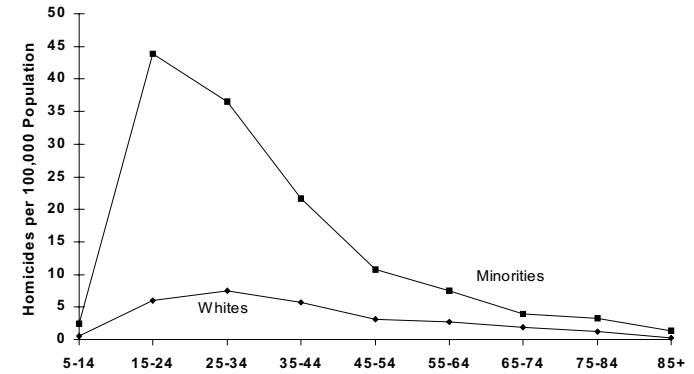


Figure 6
Firearm Homicide Rates by Age and Race
North Carolina, 1992-96



Medical Examiner Findings 1995

- During 1995, North Carolina's Office of the Chief Medical Examiner investigated 1,150 firearm deaths: 617 suicides, 498 homicides, and 35 other deaths. Handguns accounted for 66 percent of the suicides; shotguns and rifles accounted for 27 percent. Handguns were used in 55 percent of the homicides; shotguns and rifles were used in 18 percent. The remainder of the firearm suicides and homicides were by other and unknown types of guns.
- White males were more likely than other victims of firearm suicides and homicides to use shotguns and rifles.
- At least one medical risk factor was reported for 51 percent of the firearm suicide victims and 9 percent of the firearm homicide victims. Among the suicides, the most frequently reported risk factors were depression (29%), alcohol abuse (11%), and ischemic heart disease (8%). Depression was reported more often for females; alcohol abuse was more frequent among males.
- Ninety-two percent of the firearm suicide victims and 97 percent of the firearm homicide victims were tested for blood alcohol. Results show the following, with a blood alcohol level of 80 mg % or greater being illegal in North Carolina DWI laws:

Percent by Blood Alcohol Level

Blood Alcohol Level	Suicides	Homicides
Negative/ None Detected	69.4	60.7
Under 80 mg %	6.9	8.1
80 mg % or more	23.7	31.2

- Among firearm suicide victims, white males (26%) were more likely than others to have a blood alcohol level of 80 mg % or greater. Among firearm homicide victims, the percentages at or above 80 mg % ranged from 23 for minority females to 36 for white males.
- A blood alcohol level of 80 mg % or greater was most prevalent among firearm suicides at ages 25-44 and firearm homicides at ages 25-64.

Firearm Injuries Treated in Hospitals 1997

Beginning in 1997, North Carolina hospital discharge data provide information on the cause of injuries. For the nine months January through September, reported data reveal the following about firearm injuries:

- There were 752 hospital admissions for firearm injuries, distributed by cause as follows.
  - Assault by firearms/explosives, 59 percent
  - Accident caused by firearms/ explosives, 28 percent
  - Attempted suicide by firearms/ explosives, 13 percent
- Most of the patients (69%) were below age 35 and most (87%) were males.

Forty-nine (6.5%) of the firearm injury patients died in the hospital.

- By annualizing the nine-month number of nonfatal firearm injuries and adjusting for an estimated 17 percent missing cause-of-injury codes, it is estimated that 1,129 **nonfatal** firearm injuries were treated in North Carolina hospitals in 1997. Provisionally, about 1,130 firearm injury deaths were reported for North Carolina residents for 1997. Thus, for every firearm injury death, another firearm injury victim was hospitalized but survived during 1997.
- The recent report on suicide in North Carolina[1] found that there were an estimated five hospital admissions for nonfatal suicide attempts for every one suicide death in 1997. Eighty percent of the hospitalizations for attempted suicide were due to use of tranquilizers and other drugs. For **firearm** suicides, however, we estimate there were five **deaths** for every hospital admission for nonfatal attempted suicide. Thus, attempted suicides are much more likely to result in death if a firearm is used.

Conclusion

In a recent study of firearm fatality in 36 of the world's wealthier countries,[3] the highest age-adjusted death rate occurred in the United States; the lowest was in Japan. The proportion of households possessing a firearm was found to be 48 percent in the U.S. compared to less than one percent in Japan. In general, there is a consistent association between firearm ownership and rates of firearm homicide and suicide.

References

[1]Kathryn B. Surles. "Suicide in North Carolina," *SCHS Studies,* No. 110. State Center for Health Statistics. May 1998.

[2]North Carolina Department of Justice, Law Enforcement Liaison Section. "North Carolina Firearms Laws," January 1998.

[3]E.G. Krug, K.E. Powell, and L.L. Dahlberg. "Firearm-related Deaths in the United States and 35 Other High- and Upper-Middle-Income Countries," *International Journal of Epidemiology,* Vol. 27, 1998.

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