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Selected Findings

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Firearm Injury and Death from Crime, 1993-97

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Firearm injuries from crime include those caused by interpersonal violence regardless of whether the injured party was the intended target or even a perpetrator. Such injuries can be fatal (homicides) or nonfatal (assaults). Incidents resulting in firearm injury may involve other crimes like robbery and burglary but are referred to as assaults. While injuries other than gunshot wounds can result from crimes involving a firearm, this report focuses on gunshot wounds.

No single source of data completely measures firearm injury and deaths from crime. Several sources cover only fatalities while others cover nonfatal injury. For example, the National Crime Victimization Survey (NCVS) does not include data about victims who died. In addition, while the NCVS provides a wealth of information about crime and victims, it does not capture enough cases involving gunshot wounds to provide annual estimates of many of the characteristics of such events. Hospital emergency department surveillance systems are able to collect additional cases and details about victims of nonfatal gunshot wounds but do not collect information about victims who do not seek treatment in hospitals (about 20% of all victims of nonfatal gunshot wounds, according to the NCVS).

Highlights

- Of serious nonfatal violent victimizations, 28% were committed with a firearm, 4% were committed with a firearm and resulted in injury, and less than 1% resulted in gunshot wounds.
- Of all nonfatal firearm-related injuries treated in emergency departments, 62% were known to have resulted from an assault. For firearm-related fatalities, 44% were homicides.
- The number of gunshot wounds from assaults treated in hospital emergency departments fell from 64,100 in 1993 to 39,400 in 1997, a 39% decline. Homicides committed with a firearm fell from 18,300 in 1993 to 13,300 in 1997, a 27% decline.
- Four out of five of the victims of both fatal and nonfatal gunshot wounds from crime were male.
- Almost half of the victims of both fatal and nonfatal gunshot wounds from crime were black males. About a quarter were black males ages 15 to 24.
- Over half the victims of nonfatal gunshot wounds from crime were younger than 25. Older victims were more frequent in the homicide statistics.
- Over half of the victims of nonfatal firearm injury from crime who went to an emergency room were subsequently hospitalized overnight.

To describe firearm injury and death from crime, this report uses data from victim surveys, hospital emergency departments, death certificates, and law enforcement reports on homicides. (See the box on page 5 and the *Methodology* for additional discussion of sources of data concerning firearm injury.)

How much crime involves firearms and gunshot wounds?

The BJS National Crime Victimization Survey (NCVS) data for 1993-97 show that of the 19.2 million incidents of nonfatal violent crime, excluding simple assault —

- 28% were committed with a firearm
- 4% were committed with a firearm and resulted in injury
- less than 1% resulted in gunshot wounds.

According to the FBI's Uniform Crime Reports, 30% of the murders, robberies, and aggravated assaults reported to police from 1993 to 1997 involved firearms. Of these violent crimes, 1% were murders. Of all murders from 1993 to 1997, 69% were committed with firearms.

How many people are injured by firearms and how many of these injuries are the result of crime?

According to the National Hospital Ambulatory Medical Care Survey conducted by the Centers for Disease Control and Prevention (CDC), 0.4% of all injury visits to hospital emergency departments from 1992 to 1995 were caused by firearms (4 of every 1,000 visits.)¹ This estimate includes all causes of firearm injury and may include visits for patients seeking follow-up care and patients who died at the hospital.

Estimates from the CDC Firearm Injury Surveillance Study show that from 1993 through 1997, about 412,000 nonfatal firearm-related injuries were treated in U.S. hospital emergency departments.

	<u>Firearm injury from all causes</u>
1993-97 Total	411,800
1993	104,200
1994	89,600
1995	84,200
1996	69,600
1997	64,200
Percent change	-38%

Source: Centers for Disease Control and Prevention, Firearm Injury Surveillance Study, 1993-97.

Of the total nonfatal firearm injuries —

- 62% resulted from assaults
- 17% were unintentional
- 6% were suicide attempts
- 1% were legal interventions
- 13% were from unknown causes.

¹ C.W. Burt and L.A. Fingerhut. "Injury visits to hospital emergency departments: United States, 1992-95," National Center for Health Statistics, *Vital Health Statistics*, 13:131, 1998.

While most nonfatal firearm-related injuries are from crime, most firearm-related deaths are suicides. According to the Vital Statistics, 180,533 firearm deaths occurred from 1993 through 1997: 51% were suicides, 44% homicides, 1% legal interventions, 3% unintentional incidents, and 1% were of undetermined causes.

The number of nonfatal assaults and homicides from firearms declined from 1993 to 1997

From 1993 to 1997 nonfatal firearm injuries from crime declined 39% and firearm-related homicides fell 27%. Firearm injury and deaths from other causes also declined over the period. Firearm injuries resulting from suicide attempts declined 45%, and those from unintentional causes declined 39%. Unintentional deaths from firearms fell by 36% and suicides fell by 7%. (For more detailed data, see *Appendix*.)

	<u>Nonfatal and fatal firearm injuries</u>	
	<u>Nonfatal assaults</u>	<u>Homicides</u>
1993-97 Total	257,200*	78,620
1993	64,100	18,253
1994	61,200	17,527
1995	53,400	15,551
1996	39,200	14,037
1997	39,400	13,252
Percent change	-39%	-27%

*95% confidence interval estimates the number to be between 160,300 to 353,700. See *Methodology*.

Sources: Centers for Disease Control and Prevention, Firearm Injury Surveillance Study, 1993-97 and the Vital Statistics of the United States, 1993-97.

The ratio of nonfatal to fatal gunshot injuries varies by intent

From 1993 through 1997 there were 3.3 nonfatal gunshot injuries from assault treated in hospital emergency departments for every firearm-related homicide. For gunshot injuries sustained unintentionally, there were 11.4 nonfatal injuries for every gunshot fatality. Firearm-related suicide

attempts were the most likely to result in a fatality, as there were 0.3 firearm-related attempted suicides for every completed suicide.²

Most victims of gunshot injury and death from crime were male; almost half were black males

From 1993 to 1997—

- Eighty-nine percent of the victims of nonfatal gunshot wounds from crime were male; 84% of firearm homicide victims were male, according to the FBI's Supplementary Homicide Reports (SHR).
- Blacks made up 54% of the victims of nonfatal gunshot wounds from crime and 54% of the homicide victims.
- Almost 1 in 5 victims of nonfatal gunshot wounds from crime were Hispanic. Equivalent data for homicide victims are not available in the SHR. According to the Vital Statistics, 18% of the homicide victims were Hispanic.

	<u>Percent of victims of nonfatal gunshot wounds from crime</u>
Black male	49 %
Hispanic male	17
White male*	15
Black female	6
White female*	3
Other male	3
Hispanic female	2
Other female	...
Unknown**	5

... Less than .05%.

*Represents white, non-Hispanic.

**Males of unknown race represented 4.2% of the victims, and females of unknown race were 0.5%.

Source: Centers for Disease Control and Prevention, Firearm Injury Surveillance Study, 1993-97.

Black males ages 15 to 24 made up 26% of all the victims of nonfatal gunshot wounds from crime and 22% of the homicide victims.

While the majority of victims of nonfatal and fatal gunshot wounds from crime

² V. Beaman, J.L. Annest, J.A. Mercy, M. Kresnow, and D.A. Pollock, "Lethality of firearm-related injuries in the United States population," *Annals of Emergency Medicine*, 35:258-266, 2000.

Different sources of data on firearm injury from crime show consistent demographic patterns

A comparison of two sources of firearm homicide data to the CDC's data on nonfatal firearm injury from crime shows similar demographic patterns among victims. Black males are the most frequent victims of firearm homicide and nonfatal firearm injury from crime. Young people are also more frequently victims in all three sources. One explanation of why older victims are more frequent in the homicide statistics is that they are less able than younger victims to recover from gunshot wounds.

Although these sources have different population coverage (see *Methodology*), the homicide victims in the Vital Statistics and the FBI's Supplementary Homicide Reports appear to be very similar. Some of the differences between these sources and the firearm injury study are due to differences in population coverage or to the estimation procedures used with the firearm injury surveillance sample.

	Firearm homicides, 1993-97		
	Vital statistics*	FBI's Supplementary Homicide Reports	Nonfatal firearm injury from assault
Race and gender			
White male	36 %	34 %	33 %**
White female	9	9	5 **
Black male	46	47	49
Black female	6	7	6
Other	3	2	4
Age			
0-14	3 %	2 %	3 %
15-19	17	17	26
20-24	22	22	25
25-34	29	29	26
35-44	17	16	12
45 and older	13	13	7
Unknown	0	1	0

*Includes legal intervention homicides.

**For comparison, Hispanics who were included in the other racial category in the original data were included in the white racial category. Hispanic origin is not sufficiently reported in the Supplementary Homicide Reports to allow comparison.

Sources: Vital Statistics of the United States, Centers for Disease Control and Prevention National Center for Health Statistics, 1993-97; FBI, Uniform Crime Reports, Supplementary Homicide Reports, 1993-97; and Centers for Disease Control and Prevention, National Center for Injury Prevention, Firearms Injury Surveillance Study, 1993-97.

were black, most victims of unintentional firearm injury and death and suicides and suicide attempts with firearms were white.

Many victims of nonfatal and fatal gunshot wounds from crime were juveniles and young adults

Age	Victims of firearm injury		Firearm homicide offenders
	Nonfatal assault	Homicide	
14 and under	3%	2%	2%
15-17	13	8	15
18-20	19	14	24
21-24	19	17	19
25 and older	45	58	40

Note: May not total to 100%. Data on persons of unknown age are not presented. Sources: Centers for Disease Control and Prevention, Firearm Injury Surveillance Study, 1993-97, and FBI, Uniform Crime Reports, Supplementary Homicide Reports, 1993-97.

Juveniles (persons under age 18) accounted for 16% of the victims of nonfatal gunshot wounds from crime and 10% of the firearm homicide victims. Thirty-five percent of the victims of nonfatal gunshot wounds from crime and 24% of the homicide victims were under 21 years of age.

Homicide offenders are also likely to be young. According to the Supplementary Homicide Reports from 1993 to 1997, 60% of the offenders who used a firearm to commit murder were younger than 25; 17% were juveniles and 24% were between ages 18 and 20. (The Youth Handgun Safety Act of 1994 prohibits possession of handguns by anyone under 18, and under the Gun Control Act of 1968 it is unlawful for federally licensed firearms dealers to sell handguns to persons under 21.)

How did the victims of nonfatal firearm assaults get to the hospital?

Mode of transport to the hospital	Percent of gunshot wound victims
EMS/Rescue/Ambulance	66 %
Private vehicle	19
Walk-in	6
Police	3
Unknown	3
Air transport	3

Source: Centers for Disease Control and Prevention, Firearm Injury Surveillance Study, 1993-97.

About two-thirds of the victims of gunshot wounds from crime who were treated in emergency departments were taken to the emergency department by an emergency medical service, ambulance, or rescue squad.

Victims of unintentional firearm injury differ from gunshot victims from crime in that a higher percentage come to hospital by private vehicle than any other means.

Where were victims of nonfatal gunshot assaults wounded?

Data from the CDC study of nonfatal firearm injury show that almost half of the victims shot as a result of an assault received wounds to the extremities (arms, hands, legs, or feet). Over a third of firearm assault victims were shot in their trunk, and the remainder were shot in their head or neck.

By contrast, over two-thirds of the victims of unintentional gunshot wounds were shot in their arms, legs, or feet, while two-thirds of the people who attempted suicide were shot in their head, neck or upper trunk.

Most victims of nonfatal firearm assaults who are treated in an emergency room are subsequently hospitalized

The CDC data show that 53% of the victims of nonfatal gunshot wounds from assaults (an estimated 137,000) were hospitalized at least overnight after their initial treatment in an emergency room. (95% confidence interval estimates the number to be between 84,900 to 189,000. See *Methodology*.) The remainder (46%) were released after being treated or transferred. An earlier CDC firearms study estimated that about 92% of the victims hospitalized for firearm injury were discharged from the hospital alive.³

Data from the NCVS on nonfatal firearm crimes for 1993-97 show that over half of the victims of gunshot wounds who sought treatment were treated and released.

Other characteristics of the events involving gunshot wounds from crime

For many victims of nonfatal and fatal gunshot wounds from crime, little is

³ J.L. Annett and others, "National Estimates of Nonfatal Firearm-Related Injuries: Beyond the Tip of the Iceberg," *Journal of the American Medical Association*, 273, 22:1749-54, June 14, 1995

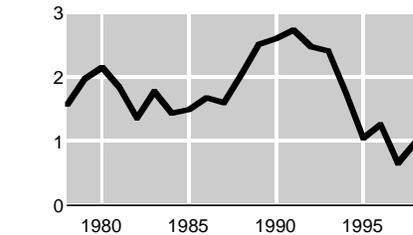
How often are police officers injured in assaults with firearms?

In 1998, over 400 police officers were injured in firearm assaults and 58 police officers were killed by a firearm while responding to a crime. The firearm injury rate for police officers declined in the early 1980's and began climbing again after 1987. In the late 1990's, firearm injury rates fell to the lowest levels recorded during the 1978-98 period.

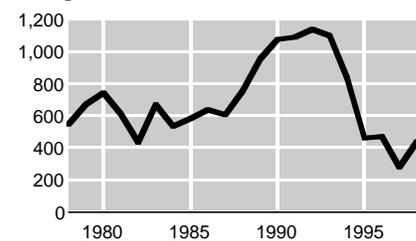
The greatest decline in the number of officers killed by firearms occurred in the early 1980's. The number of officers injured by firearms during an assault rose during the late 1980's and early 1990's and declined sharply after 1992. As a result, the ratio of those injured to killed from firearm assaults has been decreasing.

Source: FBI, Uniform Crime Reports, Law Enforcement Officers Killed and Assaulted, 1978-98.

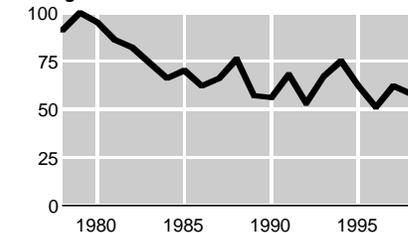
Number of firearm injuries from assault per 1,000 police officers



Number of police officers injured by firearms during an assault



Number of police officers killed by firearms during an assault



known about the event. For nonfatal injuries covered in the CDC study, much of this information is unavailable in hospital emergency departments. For fatalities, the police may not know or may not report any information about the event other than it was a homicide. This section outlines the details about events involving gunshot wounds from crime from one or more of the sources used.

Type of firearm

For 59% of the victims of nonfatal gunshot wounds from crime in the CDC study, the type of firearm used was unknown. Where the firearm type was known, 82% of the victims were shot by handguns, 14% by shotguns, and 4% by rifles.

In the Supplementary Homicide Reports from 1993 through 1997, 81% of those killed with firearms were killed

with a handgun, 6% with shotguns, 5% with rifles, and 7% with unspecified firearms. The SHR does not collect additional detail about the firearm.

Criminal circumstances

Information about whether the injury resulted from another crime, such as a robbery or from a physical fight, was recorded for about a third of the cases in the CDC study.

Of the victims of firearm homicide included in the Supplementary Homicide Reports from 1993 through 1997—

- 28% were killed because of an argument
- 19% were killed during the commission of another crime, including 11% during a robbery and 7% during a drug law violation
- 7% died as a result of a juvenile gang killing.

What information is available about firearm injury and death from crime and interpersonal violence?

Firearm homicide data from several sources have been available for many years including:

- Vital Statistics of the United States, which collects data from death certificates filed throughout the Nation
- Supplementary Homicide Reports, which include data reported to the FBI's Uniform Crime Reporting Program by State and local law enforcement agencies on a voluntary basis.

Both can provide State and local data as well as national data. Both systems also have limitations. (See additional discussion of these sources in the *Methodology*.) Neither collects any information from medical examiners or crime laboratories.

Little data on nonfatal firearm injuries were available until recently. While many jurisdictions have laws mandating the reporting of gunshot wounds to law enforcement, there is no national registry of such injuries.

CDC initiated the Firearms Injury Surveillance Study in June 1992. As discussed in the *Methodology*, this study collects data about gun-related

injuries treated at hospital emergency departments through the Consumer Product Safety Commission's National Electronic Injury Surveillance System. This study produces national estimates from a sample of hospital emergency departments.

Much of the firearm injury information relevant in the criminal justice context, like data about the offender and the circumstances, is not well reported in a hospital-based collection. Emergency department personnel are primarily concerned with treating victims. In addition, victims may be unable or unwilling to share information about the incident.

The National Crime Victimization Survey provides a detailed picture of crime incidents, victims, and trends occurring each year in the United States. Because firearm crime and resulting injury are relatively rare when compared to all types of crime, the NCVS provides limited information about gunshot injuries from crime. No local data are available from the NCVS.

The Federal Bureau of Investigation is currently implementing an improved crime reporting system, the National Incident-based Reporting System (NIBRS), which has the potential to provide detailed statistics about crime, including crimes committed with firearms that result in either nonfatal or fatal injury. Currently, 40 States are in some stage of development or implementation of NIBRS.

NIBRS covers those incidents where victims of firearm crime are known to the police. The information from NIBRS about the type of injuries incurred or the type of firearm used is limited.

Additional sources of data concerning firearm injury not specifically related to crime also exist. For a comprehensive discussion of all these sources, see J.L. Annett and J.A. Mercy, "Use of National Data Systems for Firearm-Related Injury Surveillance" in "Firearm-Related Injury Surveillance," R.M. Ikeda, J.A. Mercy, and S.P. Teret, eds., *American Journal of Preventive Medicine*, 15, 3S, October 1998.

Location of the assaults that resulted in gunshot wounds

The CDC study found that the location of the assault was —

- unknown by hospital staff in half the incidents
- a street or highway in 23%
- a home, apartment, or condominium in 14%
- other property, including schools or recreation areas, in 13%.

In 2% of the cases, the assault was reported to have occurred when the victim was on the job. In the text descriptions provided by hospital staff, the term "drive-by" was used to describe what happened to 12% of the victims of nonfatal gunshot injury from assaults. Similar data are not available from the SHR.

Relationship of injured victims to their attackers

In more than half of the cases in the CDC study, the victim's relationship to the offender was not reported. When relationship was reported, 49% of the victims were attacked by strangers and 28% did not see who shot them.

Victim-offender relationship	Percent of victims of nonfatal gunshot wounds from crime
Relationship unknown	56 %
Stranger	22
Did not see offender	12
Friend/acquaintance	8
All other known	3

Source: Centers for Disease Control and Prevention, Firearm Injury Surveillance Study, 1993-97.

Data from the BJS 1994 Study of Injured Victims of Violence (SIVV) show that intentional gunshot cases were less likely to contain information about the person who inflicted the injury than incidents involving intentional injuries not caused by a firearm. Among cases of nonfatal violent injuries treated in U.S. emergency departments in 1994, 55% of gunshot cases did not include information about the relationship of the victim to the offender compared to 27% of the cases involving non-gunshot injuries.

The relationship to the offender was unknown in 41% of the firearm homicides in the Supplementary Homicide Reports from 1993 through 1997. The killer was a stranger to the victim in 15% of the homicides. In 44% of the homicides during the period,

the killer was known to the victim including —

- 31% in which the victim and offender were friends or acquaintances
- 12% in which the killer was a relative or intimate of the victim.

Methodology

CDC Firearms Injury Surveillance Study — These data were compiled through the U.S. Consumer Product Safety Commission's (CPSC) National Electronic Injury Surveillance System (NEISS). The CPSC established NEISS in 1972 to track product-related injuries. NEISS collects data from hospitals selected as a representative sample of the approximately 6,000 hospitals with emergency departments in the United States. From 1993 through 1996, 91 hospitals were in the sample; in 1997 the number of hospitals increased to 101. The system includes very large inner-city hospitals with trauma centers, as well as other types of urban, suburban, and rural hospitals. Data from the NEISS hospitals are weighted to provide national estimates about injuries treated in U.S. hospital emergency departments.

Through an agreement with CDC, NEISS was used to collect data on nonfatal gun-related injuries at all participating hospitals beginning in June 1992. NEISS personnel abstracted information from medical records on each case identified. Further information about the study can be found in J.L. Annett and others, "National Estimates of Nonfatal Firearm-Related Injuries: Beyond the Tip of the Iceberg," *Journal of the American Medical Association*, June 14, 1995.

The CDC data for 1993 through May 1997 consists of 13,402 unweighted cases. This report focuses on the 8,988 unweighted cases coded as assaults that involved nonfatal gunshot wounds caused by any weapon that uses a powder charge to fire a projectile. Injuries from undetermined intent were not included. Therefore, the estimates presented here may not be

the same as those previously published.

Because the CDC data are based on nonfatal firearm injuries treated at a nationally representative sample of U.S. hospital emergency departments, the estimates that are derived from the data are subject to sampling error. To measure the precision of national estimates obtained from the data, CDC estimated the generalized standard errors for estimates of selected sample size as follows:

Estimate	Standard error	Relative sampling error in percent	95% confidence interval
1,000	309	31%	394-1,606
5,000	1,200	24%	2,648-7,352
10,000	2,230	22%	5,629-14,371
25,000	5,225	21%	14,759-35,241
50,000	10,050	20%	30,302-69,698
100,000	19,600	20%	61,584-138,416
150,000	29,100	19%	92,964-207,036
257,000	49,344	19%	160,286-353,714

The Bureau of Justice Statistics also used NEISS to collect information about both firearm and nonfirearm intentional interpersonal injury. The BJS Study of Injured Victims of Violence (SIVV) collected data from 31 hospitals in the NEISS sample during 1994. The information on intentional firearm injury in the BJS study comes from the CDC firearm injury data. A BJS special report, *Violence-Related Injuries Treated in Hospital Emergency Departments*, (August 1997, NCJ-156921) presents findings from this study.

The National Hospital Ambulatory Medical Care Survey (NHAMCS) — Conducted by the National Center for Health Statistics of the Centers for Disease Control and Prevention, this survey is designed to collect data on the utilization and provision of ambulatory care services in hospital emergency and outpatient departments. Findings are based on a national sample of visits to the emergency departments and outpatient departments of non-institutional general and short-stay hospitals, exclusive of Federal, military, and Veterans Administration hospitals, in the 50 States and the District of Columbia.

The survey uses a four-stage probability design with samples of geographically defined areas, hospitals within these areas, clinics, hospitals, and patient visits within clinics. Annual data collection began in 1992.

National Crime Victimization Survey— The NCVS is the Nation's primary source of information on criminal victimization. The survey provides a detailed picture of crime incidents, victims, and trends occurring each year in the United States. The survey collects information on the frequency and nature of the crimes of rape, sexual assault, personal robbery, aggravated and simple assault, household burglary, theft and motor vehicle theft utilizing a nationally representative sample of approximately 43,000 households (about 80,000 persons).

The survey provides information about victims (such as age, gender, and race), offenders (age, gender, and race) and the crimes (use of weapons, nature of injury, etc.). From 1993 through 1997, the NCVS recorded 43 unweighted cases of gun shot injury from crime.

Firearm homicide data — Firearm homicide data come from two primary sources:

- Vital Statistics of the United States, which collect data from death certificates filed throughout the Nation
- Supplementary Homicide Reports, which include data reported to the Uniform Crime Reporting Program of the FBI by State and local law enforcement agencies on a voluntary basis.

The Vital Statistics information includes the demographic characteristics of firearm homicide victims and is thought to be an accurate count of the number of such deaths. It does not contain information about the circumstances surrounding the death, the type of firearm used, or suspected offenders. The Supplementary Homicide Reports provide such detailed information. However, not all agencies report, and not all reports are complete.

Appendix. Number of nonfatal gunshot injuries and firearm-related deaths

	Total	Assault or homicide	Legal intervention	Suicide attempts/ Suicide	Unintentional	Undetermined
Nonfatal gunshot injury						
1993-97	411,800	257,200	5,100 *	23,400	70,900	55,200
1993	104,200	64,100	1,300 *	5,600	18,200	15,100
1994	89,600	61,200	1,100 *	5,700	13,600	8,000
1995	84,200	53,400	1,000 *	5,000	14,300	10,400
1996	69,600	39,200	700 *	4,000	13,600	12,000
1997	64,200	39,400	900 *	3,100	11,100	9,700
Percent change	-38%	-39%	-31% *	-45%	-39%	-36%
Firearm-related deaths						
1993-97	180,533	78,620	1,501	91,940	6,217	2,255
1993	39,595	18,253	318	18,940	1,521	563
1994	38,505	17,527	339	18,765	1,356	518
1995	35,957	15,551	284	18,503	1,225	394
1996	34,040	14,037	290	18,166	1,134	413
1997	32,436	13,252	270	17,566	981	367
Percent change	-18%	-27%	-15%	-7%	-36%	-35%
Injury deaths**						
1993-97	737,650	112,877	1,770	154,966	450,778	17,259

*Annual estimates for legal intervention injuries are presented for completeness but may be statistically unreliable because they are based on a small number of cases.

**Injury deaths include firearm-related deaths. The total represents only the categories presented here.

Sources: Centers for Disease Control and Prevention, Firearm Injury Surveillance Study, 1993-97 and the Vital Statistics of the United States, 1993-97.

Vital Statistics reported 78,620 firearm-related homicides from 1993 through 1997. Supplementary Homicide Reports covering this period include data on 67,459 firearm-related murders.

The homicide data from the Vital Statistics and the Uniform Crime Reports provide slightly different estimates of the number of homicides annually. Rokaw and others attributed this to differences in —

- coverage of the U.S. population
- practices or rules governing the reporting of homicides to NCHS and the FBI
- criteria used in defining a case as a homicide
- categories used and rules employed to classify people among demographic subgroups.

Additional information about the differences between the Vital Statistics and the Uniform Crime Reports estimates of homicide can found in the following:

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Hindelang, M.J. "The Uniform Crime Reports Revisited," *Journal of Criminal Justice*, 2:1-17, 1974.

Rand, M.R. "The Study of Homicide Caseflow: Creating a Comprehensive Homicide Dataset," paper presented to the meeting of the American Society of Criminology in New Orleans, Louisiana, November 1992.

Rokaw, W.M., J.A. Mercy, and C.C. Smith, "Comparing Death Certificate with FBI Crime Reporting Statistics on U.S. Homicides," *Public Health Reports*, 105:447-455, 1990.

Rosenberg, M.L. and J.A. Mercy. "Homicide: Epidemiologic Analysis at the National Level," *Bulletin of the New York Academy of Medicine*, 62, 5:376-399, 1986.

Law Enforcement Officers Killed and Assaulted — This FBI series provides detailed information about duty-related deaths including those that result from felonious actions. Federal, State, and local agencies notify the FBI of line-of-duty deaths. Once notified, the FBI contacts the victim officer's employing agency for additional details surrounding the death.

In addition, State and local agencies report the number of assaults resulting in serious injury or instances where a weapon was used which could have caused serious injury or death. Other assaults are recorded only if they involved more than verbal abuse or minor resistance to arrest. Data are submitted monthly to the FBI.

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FBI. Uniform Crime Reports, Supplementary Homicide Reports, 1993-97.

Fox, J.A. and M.W. Zawitz. "Homicide Trends in the United States," a section of the BJS website, <http://www.ojp.usdoj.gov/bjs/homicide/homtrnd.htm>

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"Nonfatal and Fatal Firearm-Related Injuries — United States, 1993-97," *Morbidity and Mortality Weekly Report*, Centers for Disease Control and Prevention. 48, 45:1029-1034, November 19, 1999.

Rand, M.R. "Violence-Related Injuries Treated in Hospital Emergency Departments," BJS Special Report. August 1997, NCJ-156921.

Rokaw, W.M., J.A. Mercy, and J.C. Smith. "Comparing Death Certificate Data with FBI Crime Reporting Statistics on U.S. Homicides," *Public Health Reports*. 105:447-455.

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Some of the data utilized in this report are available from the National Archive of Criminal Justice Data at the University of Michigan, <http://www.icpsr.umich.edu/NACJD/home.html>. See CDC Firearm Injury Surveillance Study, 1993-1997, ICPSR 3018 and Uniform Crime Reports Supplementary Homicide Reports, 1976-1998, ICPSR 2832.

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