

# INJURY UPDATE

*A Report to Oklahoma Injury Surveillance Participants\**

January 31, 2003

## Violence-Related Deaths, Oklahoma, 1987-2001

In 1996, the World Health Assembly declared violence to be a leading global public health problem. Violence manifests itself in many different forms (e.g., war/conflict, child abuse, organized crime, suicide, and firearm-related violence), yet there is a significant lack of detailed knowledge about this preventable problem. The 1999 Institute of Medicine report, *Reducing the Burden of Injury*, recommended a national data system to provide objective data for monitoring, evaluating, and reducing violent deaths. In response, the National Center for Injury Prevention and Control (NCIPC) has begun facilitating the development of the National Violent Death Reporting System to better understand the magnitude and characteristics of violent deaths in this country.

There are over 50,000 violent deaths each year in the United States; approximately 35 percent are homicides and 55 percent are suicides, resulting in nearly 1.5 million years of potential life lost before age 65. Nearly two million nonfatal injuries result from violence every year as well. Firearm-related suicide is the leading cause of violence-related death and the second leading cause of injury death among all injuries combined, just behind motor vehicle crashes. Violence-related injuries and deaths affect younger members of the population at disproportionately higher rates than older persons.

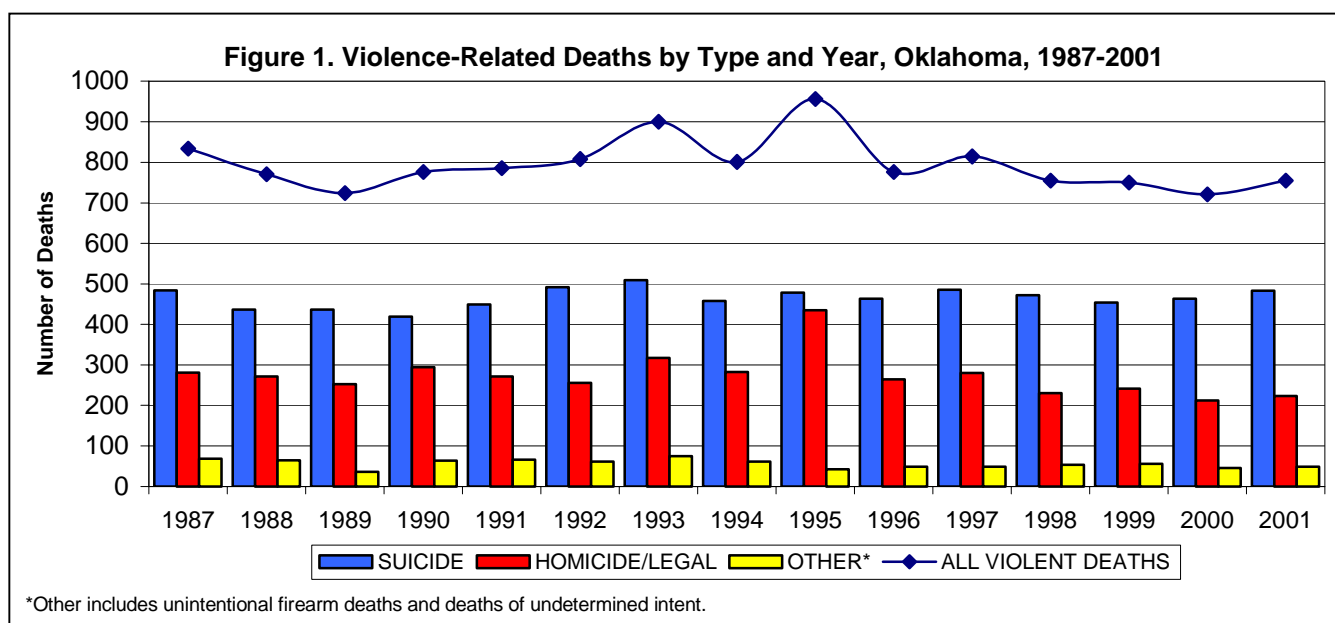
For this report, violence-related mortality includes the following deaths, as coded on the death certificate: suicide, homicide, deaths from legal intervention, unintentional firearm deaths, and deaths of undetermined intent (Table 1). Oklahoma Vital Statistics data were analyzed for the years 1987 to 2001 to determine the magnitude of violent deaths in the state of Oklahoma. Data were supplemented by information from the Office of the Chief Medical Examiner.

There was a total of 11,926 violence-related deaths among Oklahoma residents during 1987-2001, an average of 795 deaths each year (Figure 1). The annual rate of violent deaths in the state was 24.4 deaths per 100,000 population. The average annual number of violent deaths included 465 (59%) suicides, 274 (34%) homicides (including 13 legal intervention deaths), 20 (2%) unintentional firearm deaths, and 36 (5%) deaths of undetermined intent. The suicide rate (14.3 deaths per 100,000 population) was 79 percent higher than the homicide rate (8.0 deaths per 100,000 population). Over this 15-year period, suicide deaths remained relatively stable overall (<1% decrease), despite a brief 21 percent increase between 1990-1993, while homicide deaths declined 30 percent. Violent deaths, as a whole, decreased nearly ten percent from 1987-2001.

**Table 1. Violent Death Case Definition**

	ICD-9 Codes	ICD-10 Codes
Suicide	E950-E959	X60-X84, Y87.0
Homicide	E960-E969	X85-Y09, Y87.1
Legal Intervention	E970-E978	Y35, Y89.0
Unintentional Firearm	E922	W32-W34
Undetermined Intent	E980-E989	Y10-Y34, Y87.2

\*The INJURY UPDATE is a report produced by the Injury Prevention Service, Oklahoma State Department of Health. Other issues of the INJURY UPDATE may be obtained from the Injury Prevention Service, Oklahoma State Department of Health, 1000 N.E. 10<sup>th</sup> Street, Oklahoma City, Oklahoma 73117-1299, 405/271-3430 or 1-800-522-0204 (in Oklahoma). INJURY UPDATES and other IPS information is also available at [www.health.state.ok.us/program/injury](http://www.health.state.ok.us/program/injury).



From 1987-2001, the rate of violent death among males was 3.4 times higher than the rate among females (38.2 deaths and 11.2 deaths per 100,000 population, respectively). The number of male homicide deaths alone was higher than all female violent deaths combined. The rates of violent death were highest among persons 15-44 years of age and among persons 75 years of age and older (Table 2). In terms of homicide, persons 15-44 years of age consistently had the highest rates. Individuals between the ages of 15-24 years demonstrated the most interesting trend, increasing almost 42 percent, yet starting and ending the 15-year period with nearly the same rate (10.6 in 1987-1989 and 9.9 in 1999-2001). Five hundred eighty-nine children aged 18 years and under were victims of homicide from 1987-2001. Just over ten percent of these deaths were coded as child abuse, which included battering, maltreatment, neglect, and abandonment. Suicide rates were dominated by the 75 and over age group; however, the 1999-2001 average showed persons 35-44 years of age with the highest suicide rates for the first time since 1987. The 65-74 year age group had the most dramatic decline (40%) in suicide rates, moving from the second highest age group in 1987-1989 to the sixth in 1999-2001.

The overall violent death rate among African Americans (37.6 deaths per 100,000 population) was 57 percent higher than the rate among whites (23.9 deaths per 100,000), and over twice the rate among Native Americans (18.3 deaths per 100,000 population). African Americans had homicide rates over four times higher than the rate among whites (28.1 and 6.6 deaths per 100,000 population, respectively), while whites had suicide rates over twice the rate of African Americans (15.7 and 7.1 deaths per 100,000 population, respectively). These observations are consistent with national trends.

**Table 2. Rates per 100,000 population by Age, Sex, Race and Intentionality, Oklahoma, 1987-2001**

	Suicide	Homicide/ Legal Intervention	Unintentional Firearm	All Violent Deaths
<b>Age</b>				
0-4	0.0	5.6	0.4	7.3
5-14	1.0	1.4	0.7	3.5
15-24	15.9	13.0	1.0	30.6
25-34	19.6	14.0	0.6	35.6
35-44	20.0	11.8	0.6	34.1
45-54	16.8	8.2	0.5	26.8
55-64	15.0	5.6	0.3	21.8
65-74	17.4	3.9	0.5	22.6
75+	22.8	4.7	0.4	29.4
<b>Sex</b>				
Male	23.4	12.5	1.0	38.2
Female	5.6	4.5	0.2	11.2
<b>Race</b>				
White	15.7	6.6	0.6	23.9
African American	7.1	28.1	0.8	37.6
Native American	7.5	8.8	0.5	18.3

The majority of homicides and suicides involved the use of a firearm (68% of suicides and 60% of homicides). Handguns were the most commonly used firearms in all types of violence-related deaths, followed by shotguns. Other common methods used in suicides were poisoning (15%) and hanging (13%), and the second most prevalent method of homicide was stabbing (13%).

Alcohol use and abuse is a known risk factor for a wide variety of injuries, especially those involving violence. Approximately 30 percent of violent death victims over 14 years of age had a positive blood alcohol report. Of those that had alcohol in their systems, over 72 percent had blood alcohol concentrations above 0.08 percent, the current legal limit in Oklahoma.

Oklahoma's five metropolitan statistical areas include 14 counties. Twelve of these counties had violent death rates below the state rate; Oklahoma and Tulsa Counties were the exceptions with rates of 30.6 and 24.8 deaths per 100,000 population, respectively. Clearly, violence is not a problem unique to urban areas. Of the metropolitan counties and in addition to Oklahoma and Tulsa Counties, McClain, Osage, and Pottawatomie Counties had suicide rates above the state average, and Comanche County had a higher than state average homicide rate.

Of Oklahoma's 77 counties, 27 (35%) counties had violent death rates above the state rate (24.4 deaths per 100,000 population) during 1987-2001. McCurtain County had the highest rate of violent death (41.6 deaths per 100,000 population), while Washita County had the lowest rate, 9.7 deaths per 100,000 population. Thirty-two (42%) counties (36% of metropolitan counties, 40% of non-metropolitan counties) had suicide rates higher than the state rate (14.3 deaths per 100,000 population), while 24 (31%) counties (21% of metropolitan counties, 30% of non-metropolitan counties) had homicide rates above the state rate (8.0 deaths per 100,000 population). The majority of violent deaths (65%) occurred at a place of residence, including homes, apartments, driveways, and garages. Many others also occurred on roadways (e.g., sidewalks, streets, and alleys) and at commercial facilities (e.g., lodging and retail facilities, and parking lots).

## CASE BRIEFS

- A 62-year-old male was found by his brother lying on the floor of his residence with a pistol in hand and a gunshot wound to the head. The man had lost all of his money and businesses and had been served an eviction notice; his brother had come to help him move. He was pronounced dead at the hospital several hours later.
- A 12-year-old female was at home with her two brothers. The oldest brother retrieved a rifle and began playing with it in the living room. The girl was sitting about six feet from her brother when the rifle discharged. She died at the hospital from an accidental gunshot wound to the face.
- A 37-year-old female and her boyfriend had been drinking and had an argument. They were driving at a fairly high rate of speed when she jumped out of the car in a suicide attempt. She sustained fatal traumatic brain and spinal cord injuries.
- A 12-year-old male was in the bathroom getting ready for school. When his father went to get him, the door was locked. After unlocking the door, the boy was found on the floor with a .22 caliber revolver in hand and a gunshot wound to the right temple. He was reportedly depressed over a conversation earlier in the morning with his father about not bringing home his report card. Prior to that year, he had been a good student in school, but his grades had started dropping. There were no suspicions or indications of any drug abuse.
- An 83-year-old male, upset over the sudden loss of his wife during the night, went outside while his son and daughter-in-law made breakfast. Believing he was going for his morning walk, they did not follow him. Awhile later, the son went to check on his father and found him lying on the ground in the backyard with a self-inflicted gunshot wound to the head.

- A 37-year-old female was shot and killed by her husband during an argument in the bedroom of their residence. Her 38-year-old husband then turned the gun on himself and was found dead in the bathroom. The couple had a history of problems; the wife had filed a protective order, but had rescinded it the following month.
- A 31-year-old manic-depressive male, dismissed earlier in the day from an inpatient psychiatric hospital stay, jumped off a 70-foot high bridge, landing in one foot of water. His ex-wife was recently jailed for molesting their two children. A suicide note was found in his pocket. He died at the hospital three days later.

## PREVENTION

Violence is not an inevitable part of human life. It is a preventable problem that is the product of a complex array of modifiable psychological, social, and environmental factors. Prevention efforts must be multi-faceted in their approach and address the variety of individual, relational, community, and societal variables involved. Preventive measures are needed at all levels and in all sectors of society. Such efforts are dependent upon community partnerships and collaborations and necessitate addressing other disparities and inequalities in society, such as poverty, gender and racial discrimination, and unequal social opportunities. The goal of prevention should be to empower individuals and communities to approach violence holistically and eliminate the associated feelings of apathy and powerlessness. In the area of violence, there has been a lack of primary prevention efforts—programs designed to prevent violence before it happens—especially ones designed at the community and societal levels.

- Develop, support, and strengthen social education programs that focus on conflict resolution, development of social skills, and personal responsibility (particularly important for preventing youth violence).
- Make high-quality child care and supervised after-school extracurricular programs widely available (improves child development and success in school, which offsets social and economic disadvantages).
- Develop, support, and strengthen therapeutic and treatment programs to assist violence victims and offenders by providing the resources to: cope with psychiatric disorders or substance abuse problems, find support groups, or learn anger management skills.
- Develop, support, and strengthen programs that teach skills for creating healthy relationships (e.g., parenting skills, mentoring programs, marital counseling, and family communication).
- Modify the physical environment to create safer homes, neighborhoods and communities (e.g., improved street lighting, safe bus routes for school children, limited access to firearms).
- Create community policing initiatives or neighborhood watch groups that are based on partnerships with the local police department.
- Eliminate “cultures of violence” through community interventions and public education campaigns that increase knowledge and awareness regarding interpersonal violence, domestic violence, gender relations, and sexual harassment.
- Support legislative action and policy development to increase social support and economic development, especially in the areas of employment, education, and family assistance.
- Support efforts to change social and cultural norms in order to improve issues of gender, racial, ethnic, and income inequalities.