INJURY UPDATE

*A Report to Oklahoma Injury Surveillance Participants**

January 23, 2004

The Oklahoma Violent Death Reporting System

Can you answer any of the following questions about violent deaths?

- Where are youths most likely to obtain the weapons they use in acts of violence?
- What life crisis most commonly precedes a suicide?
- What percent of women killed by an intimate partner had a restraining order against the offender?
- What is the typical length of time between the purchase of a firearm and the occurrence of a violent act?
- How many drug-related homicides are there each year?
- How many suicide victims had made previous attempts?
- How often do murder-suicides occur and how often are children involved?
- What are the most common relationships between perpetrators and victims?

Created as a joint project of the Oklahoma State Department of Health, the Oklahoma State Bureau of Investigation, the Office of the Chief Medical Examiner, and the Oklahoma Association of Chiefs of Police, the Oklahoma Violent Death Reporting System (OVDRS) began compiling and combining data on violent deaths January 1, 2004. This system is one of 13 state-based systems reporting to the National Violent Death Reporting System (NVDRS) at the Centers for Disease Control and Prevention (CDC). Based on multiple source data linkages, the OVDRS collects information from death certificates, medical examiner's reports, local police reports, crime laboratories, and supplemental homicide reports.

The initiation of the OVDRS begins to bridge an important gap in the knowledge of violence-related deaths. Existing data are fragmented and only capture parts of the problem. The OVDRS combines data about the victims, perpetrators, circumstances, and weapons into a timely, accurate, and accessible data system. The data will aid in developing prevention programs and policies. The OVDRS will also help strengthen the state's response to violence as public health and criminal justice join forces to better understand the issue. The NVDRS is modeled on the Fatality Analysis Reporting System (FARS) of the National Highway Traffic Safety Administration, which has led to many improvements in motor vehicle safety research.

Like other injuries, many violence-related deaths occur in predictable and preventable patterns. A significant contributor to mortality, violence is a complex, ill-understood problem. Many questions, including the identification of risk and protective factors and effective prevention strategies, have yet to be answered. Currently, most states, including Oklahoma, cannot thoroughly answer basic epidemiologic questions on violence, such as the ones listed above. It is the goal of the OVDRS, and the NVDRS in general, to help rectify this situation.

*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. 10th 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.

There are over 50,000 violent deaths each year in the United States; approximately 35% are homicides and 55% 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.

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

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% 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% increase between 1990-1993, while homicide deaths declined 30%. Violent deaths, as a whole, decreased nearly 10% from 1987-2001.

The rate of violent death among males was 3.4 times higher than the rate among females (Table 2). 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. Rates among individuals aged 15-24 years increased almost 42% during the 1990s, yet began and ended the 15-year period

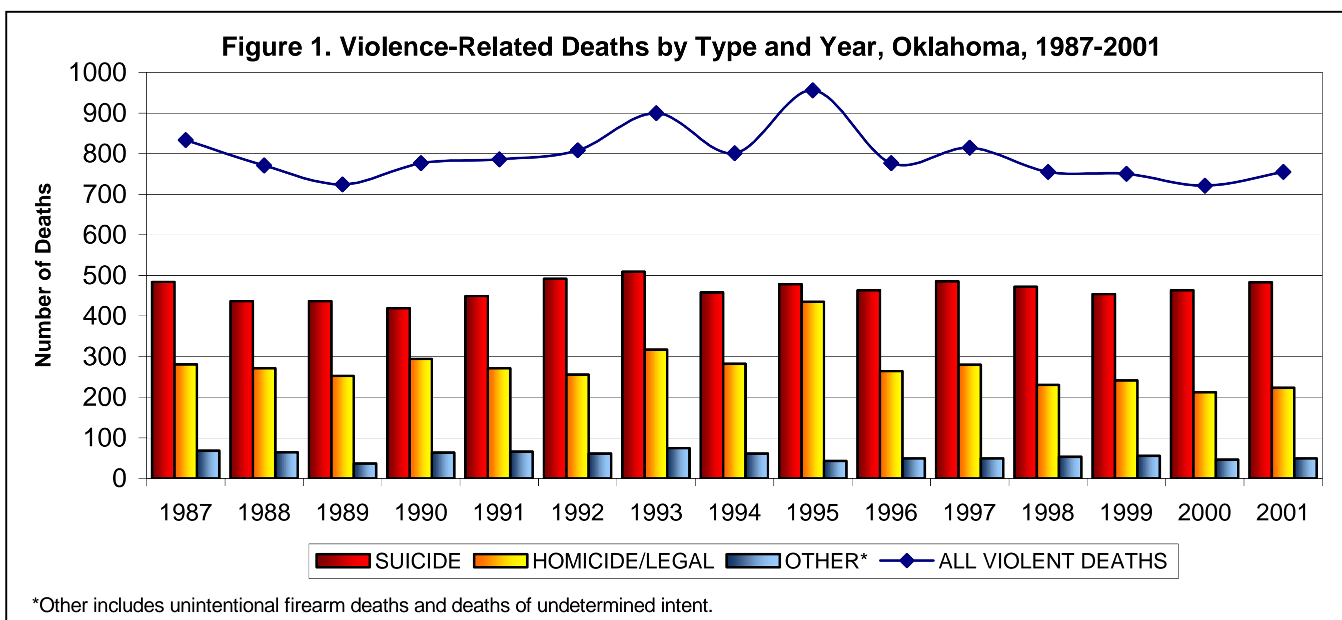

Figure 1. Violence-Related Deaths by Type and Year, Oklahoma, 1987-2001

*Other includes unintentional firearm deaths and deaths of undetermined intent.

at nearly the same point (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 10% of these deaths were coded as child abuse. While suicide rates were greatest in the 75 and over age group from 1987-2001, 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 was 57% higher than the rate among whites, and over twice the rate among Native Americans (Table 2). African Americans had homicide rates over four times higher than the rate among whites, while whites had suicide rates over twice the rate of African Americans. 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%).

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
Age				
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
Sex				
Male	23.4	12.5	1.0	38.2
Female	5.6	4.5	0.2	11.2
Race				
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

Alcohol is a known risk factor for violence-related injuries. Approximately 30% 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% had blood alcohol concentrations above 0.08%, the current legal limit in Oklahoma.

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).

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 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. Some prevention recommendations include:

- 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 that assist violence victims and offenders by providing 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.

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Violent Death Rates by County of Residence
Oklahoma, 1987 to 2001

- 68+% Above State Rate
- 34-67% Above State Rate
- 1-33% Above State Rate
- Below State Rate