INJURY UPDATE

*A Report to Oklahoma Injury Surveillance Participants**

October 16, 2006

Violence-Related Deaths among Youth 10-24 Years, Oklahoma, 2004

According to the World Health Organization (WHO), violence is the intentional use of physical force or power, threatened or actual, against oneself, another person, or against a group or community that either results in or has a high likelihood of resulting in injury, death, psychological harm, maldevelopment or deprivation. In 2000 alone, 1.6 million violence-related deaths occurred worldwide. Half of the deaths were suicides, almost one-third were homicides and about one-fifth were war-related. Violence is one of the leading causes of death worldwide for people between the ages of 15 and 44 years.

In the United States, from 1999 to 2003 there were 48,508 violence-related deaths among youth 10-24 years of age, accounting for nearly 27 deaths each day. The rate of youth violence-related deaths remained stable over this five-year period and the average annual rate was 16.0 per 100,000 population. Homicide accounted for 55%, suicide accounted for 44% and legal intervention accounted for 1% of these deaths.

To assess the problem of violence-related deaths in Oklahoma, the Injury Prevention Service implemented the Oklahoma Violent Death Reporting System (OKVDRS) in 2004. The OKVDRS links data from multiple sources: Medical Examiner reports, death certificates, police reports, and crime labs in a unique database. Violence-related deaths include homicide, suicide, legal intervention deaths, unintentional firearm injury deaths and deaths of undetermined manner. This report focuses on violence-related deaths among Oklahoma youth.

In 2004, 146 violence-related deaths occurred in Oklahoma among persons 10 to 24 years of age. Seventy-five percent (110) of victims were male and 25% (36) were female. Fifty-three percent (78) of deaths were suicides, 32% (46) were homicides, 9% (13) were undetermined manner deaths, 3% (5) were legal interventions and 3% (4) were unintentional firearm injury deaths. Suicide had the highest incidence at 9.5 per 100,000 population followed by homicide (5.6) (Table 1).

Table 1. Youth Violence-Related Death Rates* By Age, Gender, Race, and Manner, Oklahoma, 2004

	All youths		10-14		15-19		20-24	
	#	Rate	#	Rate	#	Rate	#	Rate
Both genders	146	17.9	7	2.7	46	17.2	93	31.8
Male	110	26.1	4	3.0	32	23.3	74	48.6
Female	36	9.1	3	2.4	14	10.7	19	13.5
Race**								
Black	28	33.5	0	0	9	32.9	19	67.2
White	102	16.9	7	3.8	32	16.2	63	28.6
Native American	14	12.5	0	0	5	13.1	9	24.5
Other	1	5.6	0	0	0	0	1	13.3
Manner of death								
Suicide	78	9.5	3	0.4	26	3.2	49	6.0
Homicide	46	5.6	2	0.2	12	1.5	32	3.9
Undetermined Manner	13	1.6	1	0.1	4	0.5	8	1.0
Legal Intervention	5	0.6	0	0	1	0.1	4	0.5
Unintentional Firearm Injury	4	0.5	1	0.1	3	0.4	0	0

*Rates per 100,000 population using U.S. Census Bridged Population
** Race was unknown for one person

*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 are also available at http://ips.health.ok.gov.

The highest rate of violence-related death was among persons 20 and 24 years of age (31.8). The rate of youth violent deaths among males (26.1 per 100,000 population) was almost 3 times higher than the rate among females (9.1). The majority (70%) of victims were white; 19% were black, 10% were Native American and 1% were of another race. Black youth had the highest rate (33.5) of violence-related death followed by white youth (16.9) and Native American youth (12.5). The rate of violence-related death among black youth 20 to 24 years of age was the highest among all age and race categories (67.2). Suicide accounted for 58% of male deaths and 40% of female deaths. Homicide accounted for 30% of male deaths and 32% of female deaths while undetermined manner of death accounted for 25% of female deaths and only 4% of male deaths (Figure 1).

Black males had the highest rate of youth homicide (39.8) while Native American males had the highest rate of youth suicide (17.5) followed by white males (16.1) (Figure 2). The rate of youth homicide among black females (4.9) was 58% higher than the rate among white females (3.1), while the rate of youth suicide among white females (4.1) was 46% higher than the rate of youth suicide among black females (2.8). The rate of homicide (10.5) among Hispanic youth was more than twice the rate among non-Hispanic youth (5.0). The rate of suicide among non-Hispanic youth (9.7) was 29% higher than the rate among Hispanic youth (7.5). The rate of violence-related death among Hispanic males (28.0) was more than twice the rate among non-Hispanic males (13.2). The rate of violence-related death among Hispanic females (13.0) was 1.5 times higher than the rate among non-Hispanic females (8.5) (Figure 2).

Firearms were used in 55% of all events, hanging or strangulation was used in 22%, sharp instruments in 5%, fire in 4%, and poisoning in 3%. In 9% of incidents, other/unknown methods were used to kill.

Figure 1. Youth Violent Deaths by Gender and Manner, Oklahoma, 2004

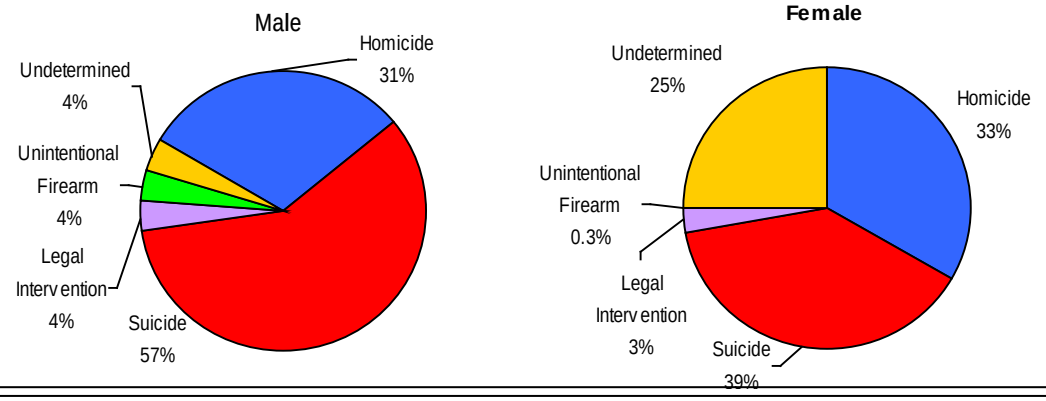
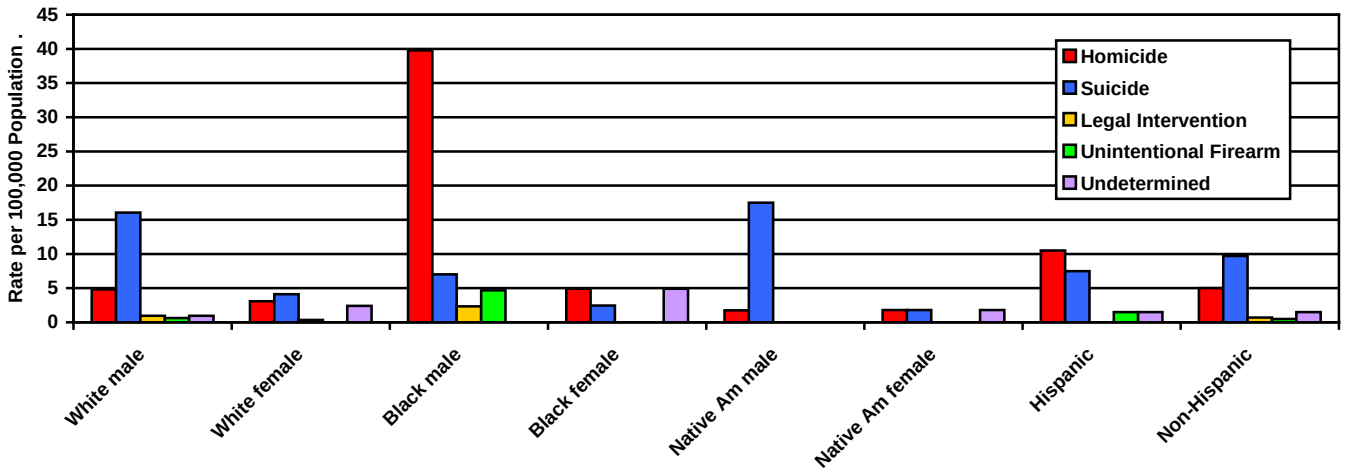


Figure 2. Youth Violent Deaths Rates by Gender, Race and Ethnicity,* Oklahoma, 2004



*Hispanic ethnicity is counted separately from race and is not a racial category.

Sixty-two percent of homicides and 54% of suicides were committed by firearms. Hanging or strangulation was the second leading method of death, used in 38% of suicides. The majority (63%) of events occurred in a residence; 78% of suicides and 52% of homicides occurred at a residence. Ten percent of incidents occurred on a road or street, including 15% of homicides and 3% of suicides. Three percent of incidents occurred in a motor vehicle, 3% in a parking lot, 9% in another type of location, and for 12% of incidents the location was unknown.

The leading circumstances surrounding youth suicide and homicide are shown in figures 3 and 4. The leading circumstance of suicide was recent crisis (51%) followed by intimate partner problem (45%), current depressed mood (38%), mental health problem (24%), and substance abuse problem (19%). These factors were associated with proportionally more male than female suicides. Arguments were the leading circumstances surrounding homicide events (41%), followed by crime (26%), gang activity (24%), drug activity (24%), brawls (20%), and intimate partner violence (11%). Intimate partner violence was a circumstance in proportionally more female homicides than male homicides, 33% and 3%, respectively.

Figure 3. Leading Circumstances of Suicide among Persons 10-24 Years of Age by Gender, Oklahoma, 2004

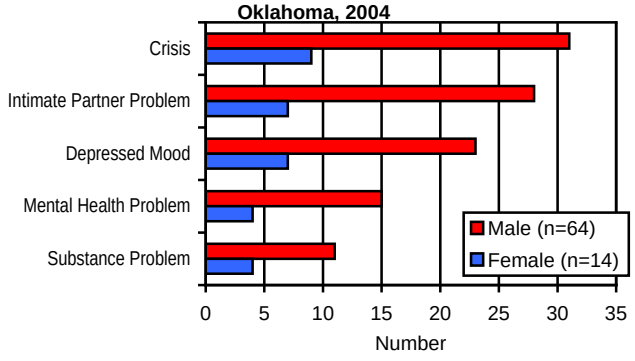
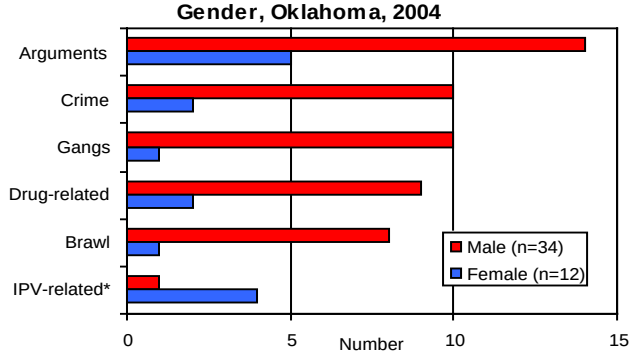


Figure 4. Leading Circumstances of Homicide among Persons 10-24 Years of Age by Gender, Oklahoma, 2004



*IPV: intimate partner violence

Case Briefs

- A 17-year-old male had been drinking heavily at a party and a fight ensued between he and his wife. They left the party and he beat her at their home. She escaped and returned with his parents to find him on the couch with a self-inflicted gunshot wound. The victim had reportedly threatened suicide in the past and had a history of drug and alcohol abuse.
- A 22-year-old male was found by a friend who was checking on him because he did not show up for active military duty. He had a self-inflicted gunshot wound to the head. Empty pill bottles at the scene indicated that he had tried to overdose first and then shot himself.
- A 15-year-old female tied a rope to a canopy frame and hung herself. She was pregnant and had recently broken up with her boyfriend.
- A 22-year-old male was killed in a gang-related shooting in retaliation for a drive-by shooting that occurred 4 days prior, which killed a young boy and injured 2 women.
- A 23-year-old female was fighting with her husband. She got a gun and began shooting at him. He got a gun and shot and killed her.
- A 15-year-old female and two males robbed a store. Their vehicle was spotted weaving through traffic and was pursued by a police officer. During the pursuit, they fired shots at the officer and the officer returned fire. The driver lost control of the vehicle and the three then left the vehicle and began running. The officer followed them on foot, shooting at them. The female was hit and died at the scene and the two males were captured.

- A 14-year-old male and his friends were playing with a gun when he was shot in the head. He was showing his friends that he knew how to use the gun.

Prevention

Violence-related deaths among youth affect family, friends and the entire community. They also add to the costs of health and reduce the productivity of society. In order to prevent youth violence injury deaths, it is important to understand the risk factors associated with violent behaviors, including suicide and homicide. These risk factors may be at the community level, such as poverty or access to guns or drugs, or at a relationship level, such as parental or peer influence. Other risk factors are associated with behavior disorders such as attention deficit hyperactivity disorder (ADHD) or oppositional defiant disorder (ODD). Witnessing violence, including domestic violence and child abuse in the home, or being a victim of violence are known risk factors for violent behavior.

The U.S. Surgeon General's "Report on Community Forums-Youth Violence and Public Health" discussed some effective strategies for youth violence primary prevention including:

- Skills and competency building programs with life skills training targeting students in middle or junior high school with three major components (self-management skills, social skills, and information and skills related specifically to drug use).
- Behavioral monitoring and reinforcement focusing on enhancing positive student behavior, attendance and academic achievement through consistent rewards and monitoring.
- Behavioral techniques for classroom management by establishing clear rules and directions, use of praise and approval, behavior modeling, token reinforcement and behavior shaping.
- Building school capacity to plan, implement, and sustain positive changes.
- Continuous progress programs to encourage students to proceed through a hierarchy of skills, advancing to the next level as each skill is mastered.
- Cooperative learning by placing students of different skill levels in small groups and allowing them to help each other learn.
- Positive youth development programs such as Boys and Girls Clubs, and the Big Brothers Big Sisters of America programs.

Programs to prevent youth suicide range from general education about suicide to crisis center hotlines. One of the most widely used prevention strategies to prevent suicide is known as "gatekeeper training." This strategy is aimed at training those who come in regular contact with youth such as teachers, medical personnel, coaches, and pastors to recognize warning signs and to connect them to local services. Another strategy is to provide screening for mental health especially for depression and make referrals for services when indicated. An important factor for suicide prevention is adequate access and availability to mental health services. The Centers for Disease Control and Prevention has youth suicide prevention information that can be found at: http://www.phppo.cdc.gov/cdcRecommends/showarticle.asp?a_artid=P0000024&TopNum=50&CallPg=Adv#head002002000000000.

These strategies include the following:

- School gatekeeper training is directed at school staff to help them identify students at risk of suicide and refer them as appropriate. This training also teaches them how to respond in cases of tragic death or other crises in the school.

- Community gatekeeper training is directed at community members such as clergy, police, merchants, recreation staffs, and medical personnel in contact with youth. This training helps to identify youth at risk of suicide and refer them as appropriate.
- General suicide education is directed at students, and provides them facts about suicide, alerts them to suicide warning signs, and provides information about how to seek help for themselves or for others.
- Screening programs involve the administration of an instrument to identify high-risk youth in order to provide more targeted assessment and treatment.
- Peer support programs can be conducted in school or non-school settings. They are designed to foster peer relationships, competency development, and social skills among youth at high risk of suicide or suicidal behavior.
- Crisis centers and hotlines provide telephone counseling for suicidal people and may offer a "drop-in" crisis centers and referral to mental health services.
- Means restriction is designed to restrict access to handguns, drugs, and other common means of suicide.
- Interventions after a suicide help communities to cope with the crisis caused by suicide in a community.

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