Violence

MAGNITUDE OF THE PROBLEM

National

In 1996, the World Health Assembly declared violence to be a leading global public health problem.[1] Understanding violence and determining prevention methods, however, is a complex undertaking. The challenges of addressing the problem of violence stem from the many ways violence manifests itself. The World Health Organization (WHO) guides its programs and policies by the following definition of violence: "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."[2] Similarly, the Centers for Disease Control and Prevention (CDC) defines violence as "threatened or actual physical force or power initiated by an individual that results in, or has a high likelihood of resulting in, physical or psychological injury or death."[3] Violence-related events can be grouped into three forms: self-directed (e.g., suicide, self-mutilation), interpersonal (e.g., homicide, intimate partner violence, child abuse), and collective (e.g., war/armed conflicts, terrorism, organized violent crime).[2]

In the United States, there are over 50,000 violence-related deaths every year, resulting in nearly 1.5 million years of potential life lost before age 65. In 2001, over two million nonfatal injuries resulted from violence as well. Approximately 30-35 percent of all violent deaths are homicides, while 55-60 percent are suicides. Violence-related injuries and deaths affect younger members of the population at disproportionately higher rates than older persons.[4] African Americans and Native Americans also tend to have higher rates of violence-related deaths than do whites or Asian/Pacific Islanders. Violence has been estimated to cost the U.S. $425 billion annually in direct and indirect costs.[5]

One of the common denominators in the majority of violence-related deaths is the use of firearms. Overall, firearm-related injuries are the second leading cause of injury-related death, just behind motor vehicle injuries. In 2000, there were 28,663 firearm-related deaths (10.4 deaths per 100,000 population). Firearm suicide and firearm homicide are the first and second leading causes of all violence-related deaths, respectively.[3] Up to one-half of all U.S. households have at least one gun in them, which significantly increases the risk of violent injury or death.[6-11] The 1994 National Survey of the Private Ownership of Firearms (NSPOF) found that adults in the U.S. owned approximately 192 million working firearms, which averaged to one per adult. The distribution of ownership is uneven, however, with 42 percent of men and nine percent of women admitting to owning a firearm.[12]

Homicide is a particularly significant problem in the U.S. compared with other developed nations. In a study of 26 high-income

countries, the U.S. was found to have the highest rates of homicide, in addition to the most privately owned guns. This association between gun availability and homicide rates was strong and statistically significant.[13] Homicide rates for children (under age 15 years) have been found to be five times higher than the rates for children in 25 other industrialized countries, with a firearm-related homicide rate 16 times higher.[14]

Another prevalent type of violence in the U.S. is intimate partner violence (IPV), which includes actual and threatened physical, sexual, psychological, and emotional abuse directed toward a spouse, ex-spouse, girlfriend/boyfriend, or current or former dating partner. It has been estimated that every year, 1.5 million women and 834,700 men are raped or physically assaulted by an intimate partner.[15] Female victims are more likely to need medical attention and also suffer more from consequences such as stress, depression, and time off from work.[16] Women between the ages of 20 and 29 years have the highest risk of being killed by an intimate partner, and African American women are more likely to experience IPV at some point in their lives than are white women.[17-18] Once again, firearms are an important factor and are the leading method in intimate partner homicides.[17]

Despite the fact that schools remain generally safe places for children and that most injuries are not the result of violence, there has been heightened public attention to the issue of school violence.[19] School-associated violent deaths, though rare events, are epidemiologically similar to other violent deaths among young people.[20] Though trends and risk factors have been identified, such deaths are complex events that require multidimensional prevention efforts.[21] Other forms of violence, such as bullying and violent crime, occur more frequently and may also be precipitating factors for more serious incidents.[19] For example, homicide offenders are more likely than victims to have been bullied by peers.[21] Although weapon carrying and physical fighting has steadily declined, male, African American, Hispanic, and younger students are consistently more likely to engage in these behaviors than other students.[19]

Oklahoma

According to Oklahoma State Department of Health Vital Statistics data, 3,795 Oklahoma residents died as the result of violence between 1997 and 2001. This total includes all types of violence—suicides, homicides, unintentional firearm deaths, legal intervention deaths, and deaths of undetermined intent. The majority (63%) of these deaths involved the use of a firearm. In fact, firearm-related deaths were the second leading cause of injury deaths in Oklahoma. The annual rate of firearm-related deaths (1997-2001) was 14.1 deaths per 100,000 population, an average of 478 deaths each year.

Firearm-Related Deaths

The use of firearms occurred in all types of violent events; nearly 65 percent were suicides, 30 percent were homicide/legal intervention, four percent were unintentional, and one percent was of undetermined intent. Due to the magnitude and importance, suicides are investigated in depth in another chapter of this publication. Additionally, since the overwhelming majority of violence is intentional, this chapter focuses only on those cases. From 1997-2001, the average annual rate of firearm-related deaths for males (24.3 deaths per 100,000 population) was over five times greater than the rate for females (4.7 deaths per 100,000 population). Rates were highest for males aged 65 years and older (35.1 deaths per 100,000 population), followed by 25-34 year olds

(34.6 deaths per 100,00 population). Females between 35 and 44 years of age had the highest rate of all women (7.6 deaths per 100,000 population) (Figure 1). Overall, firearm-related death rates peaked in the 15-34 year age group and declined with age, then rose again after age 65. From 1997-2001, rates for males remained fairly steady, declining only six percent; however, the rate for females decreased 32 percent during this time to a low of 3.8 deaths per 100,000 population.

On average each year from 1997-2001, 391 whites, 58 African Americans, and 27 Native Americans died from a firearm-related injury in Oklahoma. The rate of firearm-related deaths for African Americans was 1.6-2.2 times higher than the rates for whites or Native Americans (22.1 deaths per 100,000 population compared to 14.0 and 10.1 deaths, respectively). The rate was highest for African Americans aged 15-24 years (57.0 deaths per 100,000 population), 1.5 times higher than the next closest group, the 25-34 year olds (37.4 deaths per 100,000 population) (Figure 2). Of the three racial groups, Native Americans generally had the lowest rates across all age groups, except for 25-34 year olds who ranked second, slightly higher than whites (20.1 deaths and 19.6 deaths per 100,000 population, respectively). From 1997-2001, African Americans, though, showed the greatest decline in rates of firearm-related deaths, 24 percent. Native Americans followed with a 23 percent decline, and whites showed an 11 percent decrease. While these declines are encouraging, each group's rates increased from 2000 to 2001.

According to the Oklahoma Office of the Chief Medical Examiner, handguns were used most frequently in firearm-related deaths (68%), followed by shotguns (13%) and rifles (9%). Ten percent of firearm-related deaths involved other or unknown firearms. Among persons over 14 years of age who were tested for blood alcohol concentration (BAC), 34 percent had positive test results. Of those decedents with alcohol in their systems, 73 percent were over 0.08%, the current state legal limit. Sixty-four

Figure 1. Firearm-Related Death Rates by Age Group and Gender, Oklahoma, 1997-2001

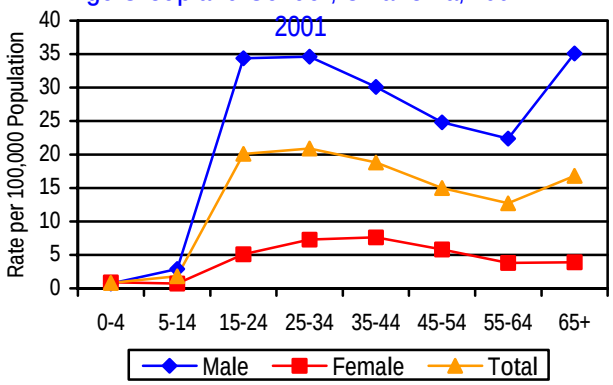
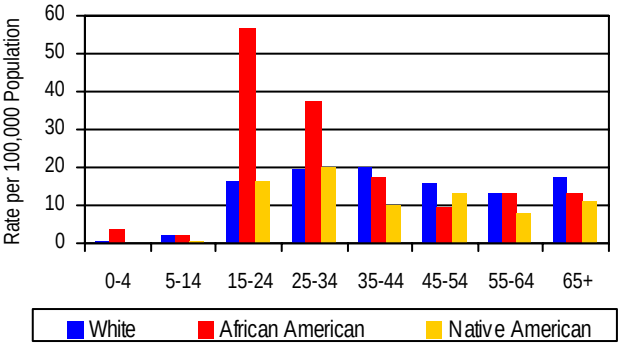


Figure 2. Firearm-Related Death Rates by Age Group and Race,* Oklahoma, 1997-2001



*Excludes 11 cases of other/unknown race.

percent of Native American firearm-related deaths had a positive BAC, compared to 33 percent of whites and 26 percent of African Americans.

Children aged 14 years and younger had the greatest percentage of unintentional firearm-related deaths compared to all other age groups (Figure 3). Twenty-eight percent of the 53 deaths (1997-2001) in this age category were the result of unintentional

firearm discharge. As age increased, so did the percentage of firearm-related deaths attributed to suicide. Young adults and children (ages 24 years and under) had a larger percentage of firearm-related homicide deaths than any other group. Across all races and genders, approximately four to six percent of all firearm-related deaths were unintentional, one to four percent were the result of legal intervention, and one to two percent were undetermined. The majority of firearm-related deaths occurred from suicide or homicide, but the percent of deaths attributed to each type varied significantly between races. For whites, 72 percent of their firearm-related deaths were suicides, while 21 percent were homicides. For African Americans, the reverse was true—21 percent suicides, 70 percent homicides. Native Americans were split fairly evenly, 49 percent suicides, 41 percent homicides.

Homicides

Homicide deaths are a significant problem in Oklahoma. From 1997-2001, the homicide rate was 7.0 deaths per 100,000 population. With approximately 238 deaths each year, homicide was the 16th leading cause of death in Oklahoma in 2000, compared to 14th in the U.S. as a whole. The average annual rate of homicide among males (10.7 deaths per 100,000 population) was nearly three times higher than the female rate (3.6 deaths per 100,000 population). The male to female ratio was highest for 15-34 year olds (nearly 4:1) and lowest for 0-4 year olds (1.1:1). After age 34, the male rate declined steadily with age, while the female rate also decreased and then increased in the 65 and older group. The rates for both genders each decreased about 20 percent from 1997-2001 (Figure 4).

Each year, an average of 149 whites, 61 African Americans, and 24 Native Americans were homicide victims. African Americans had a homicide rate 2.5 times higher than Native Americans and 4.3 times higher than whites (23.3 deaths per 100,000 population,

Figure 3. Firearm-Related Deaths by Percent Intentionality by Age Group, Oklahoma, 1997-2001

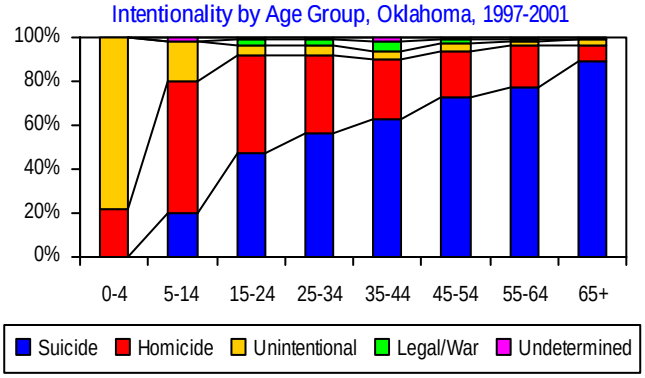


Figure 4. Homicide Rates by Age Group and Gender, Oklahoma, 1997-2001

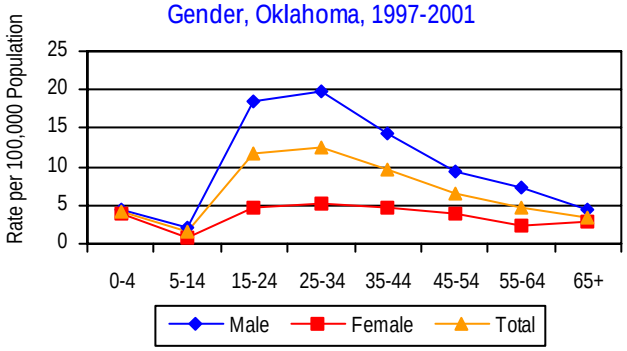
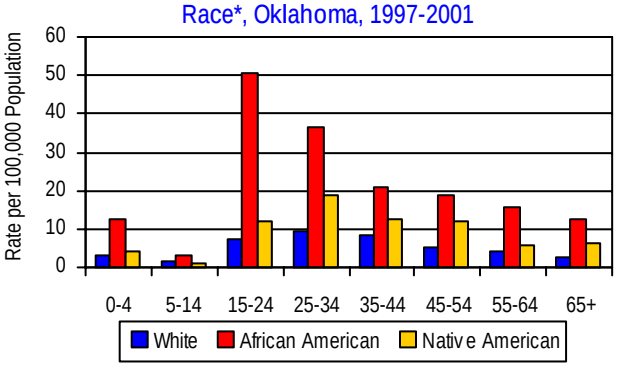


Figure 5. Homicide Rates by Age Group and Race*, Oklahoma, 1997-2001



*Excludes 12 cases of other/unknown race.

compared to 9.3 and 5.4 deaths, respectively) (Figure 5). African Americans aged 15-24 years had the highest homicide rate (50.6 deaths per 100,000 population), followed by 25-34 year old African Americans

(36.3 deaths per 100,000 population). For all racial groups, the 5-14 year age group had the lowest homicide rates. From 1997-2001, African American males had the highest rate of homicide (39.4 deaths per 100,000 population), followed by Native American males (13.3 deaths per 100,000 population). African American females had the third highest rate (8.2 deaths per 100,000 population), which was slightly larger than the rate for white males (7.9 deaths per 100,000 population).

Sixty-one percent of homicides were committed using a firearm. Of the firearms used, 60 percent were handguns, 11 percent shotguns, six percent rifles, and 22 other/unknown. The other most common methods of homicide included cutting/piercing and suffocation. Just under one-half of all Native American homicides were committed with a firearm (49%), compared to 68 percent in African Americans and 60 percent in whites. Native Americans had a greater percentage of deaths (20%) by stabbing/cutting than the other two groups (10% in whites, 8% in African Americans). Thirty-seven percent of homicide victims over age 14 years who were tested for BAC had positive results (69% had levels over the legal limit). Sixty-nine percent of Native Americans had positive BACs as opposed to 35 percent of whites and 30 percent of African Americans. Males were more likely have a positive BAC than females.

Intimate Partner Violence (IPV)

While men had a higher incidence of firearm-related deaths and homicides in general, it was females who were more often victims of intimate partner violence (IPV). In July 2000, IPV injury surveillance was begun by the Oklahoma State Department of Health in the Oklahoma City Metropolitan Statistical Area (OCMSA). Data were collected for persons aged 15 years and older who were treated at a hospital (outpatient or inpatient) for injuries sustained during an assault by an intimate partner. Analysis of these data (July 1, 2000-December 31, 2001) showed a rate of IPV injury 8.6 times higher in females than in males (146 and 17 injuries per 100,000 population, respectively). The rate was highest for women 25-34 years old (274 injuries per 100,000 population) and rates declined with age after that point (Figure 6). African American women had the highest rate (330 injuries per 100,000 population) among all races and genders, followed by Native American women (167 injuries per 100,000 population) (Figure 7). The majority (82%) of these injuries were soft tissue injuries (i.e., bruises, scrapes, and cuts), followed by strains and sprains (16%). Forty-six percent of injuries were on the head,

Figure 6. Nonfatal IPV Injury Rates by Age Group and Gender, OCMSA, July 2000-December 2001

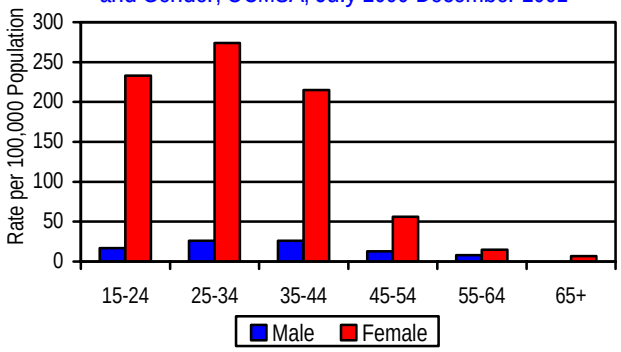
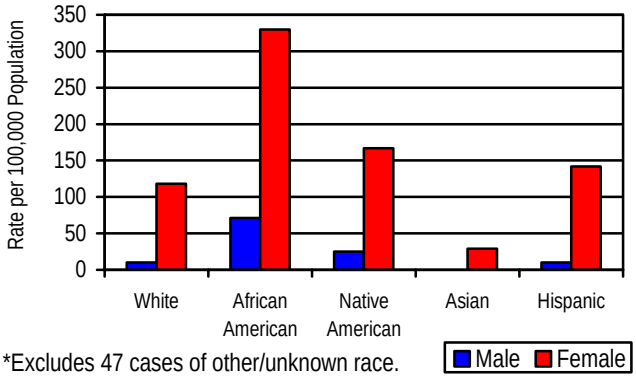


Figure 7. Nonfatal IPV Injury Rates by Race* and Gender, OCMSA, July 2000-December 2001



*Excludes 47 cases of other/unknown race.

neck, and face and 24 percent involved the upper extremities. For 83 percent of females and 81 percent of males, the perpetrator of the assault was a current partner (i.e., a spouse or non-marital partner).

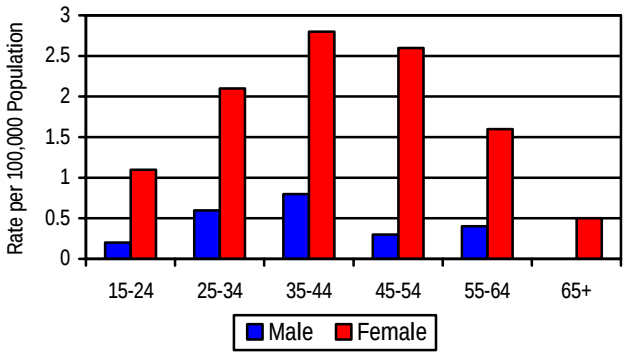
Fatal IPV injuries, gathered from statewide data from the Office of the Chief Medical Examiner, occurred at a much lower rate than nonfatal injuries. Using the same time period, July 2000-December 2001, there were 45 IPV deaths in Oklahoma (1.1 deaths per 100,000 population 15 years of age and older). Of this total, 82 percent were female and the mean age was 41 years. Females had a death rate 4.5 times higher than males, and African Americans had rates three and 5.3 times higher than Native Americans and whites, respectively. For men, rates of IPV death peaked during ages 25-44 years, while females peaked at ages 35-54 years (Figure 8). Over half (54%) of the IPV deaths were due to gunshot wounds. The next most common causes were stabbing (20%), blunt trauma (9%), and strangulation (4%).

Beginning with the 2002 calendar year, surveillance data have been collected on IPV injuries from all Oklahoma hospitals with hospitalized female victims. Data from emergency departments are also being collected on a random sample of hospitals. In order to capture the complete magnitude and details of IPV injuries and deaths in Oklahoma, a statewide surveillance system is ultimately needed.

School Violence

In Oklahoma schools, like others nationwide, more attention has been recently given to enhancing security measures, implementing stricter policies, and developing prevention curriculum and incident reporting procedures for addressing the issue of violence. A survey of public school districts by the Oklahoma Criminal Justice Resource Center and the Oklahoma Statistical Analysis Center found violence to be the second leading cause of suspensions/expulsions among reporting districts. Within this category, fighting was the primary means of violence, followed by assault and threatening/harassment.[22] Beginning in 1999, school systems are now required by the Oklahoma Department of Education to report certain incidents (e.g., crimes, violence, alcohol/drug possession) as part of Title IV (Safe and Drug Free Schools) funding. The majority of reported incidents from the 2000-2002 school years were violence-related, including bullying/harassment, fighting, bus incidents, and assaults against teachers and other students.[23-24] Nearly 20 percent of reported incidents were included in the Uniform Crime Report of Index Crimes and other criminal offenses.[24]

Figure 8. IPV Death Rates by Age Group and Gender, Oklahoma, July 2000-December 2001



Morbidity

Available data and statistics on violence significantly underestimate the true magnitude of the problem. With only the inclusion of reported cases, it is nearly impossible to ascertain how many violence-related events go undetected. Victims of violence who do not seek medical care or police assistance are difficult to capture. Furthermore, the mortality data depicted above represent the very tip of the iceberg. Violence-related morbidity is a much larger piece of the problem, but assessing just how

large it is, is left to be determined. No reliable and complete sources of violence morbidity exist in Oklahoma. Injury Prevention Service surveillance data for reportable injuries [traumatic brain injuries (TBI), spinal cord injuries (SCI), burns, and submersions] indicate that nonfatal intentional (by other person) injuries exceed fatal injuries except in the case of submersions (Figure 9). Certainly the number of injuries is much greater for less severe violence-related injuries that do not require hospitalization. According to state trauma registry data, 1937 patients had external cause of injury codes (e-codes) indicating violence-related trauma from January 2001 to June 2003. About 10 percent of these cases suffered fatal injuries. Nearly 85 percent had hospital charges listed, which totaled over $56.3 million. However, hospital/trauma costs are only one, albeit large, part of the financial impact of violence. Rehabilitation, long-term disability, time off of work and lost productivity, in addition to criminal investigations and prosecution demand significant amounts of resources from individuals and society at large.

YEAR 2010 OBJECTIVES

1. Reduce firearm-related deaths to 9.2 deaths per 100,000 population.

   Baseline: 13.6 deaths per 100,000 population in 2001
   Target setting: 48 percent reduction
   Data source: OSDH Vital Statistics data (ICD-9 codes: E922.0-E922.3, E922.8-E922.9, E955.0-E955.4, E965.0-E965.4, E985.0-E985.4, E970; ICD-10 codes: W32-W34, X72-X74, X93-X95, Y22-Y24, Y35.0)

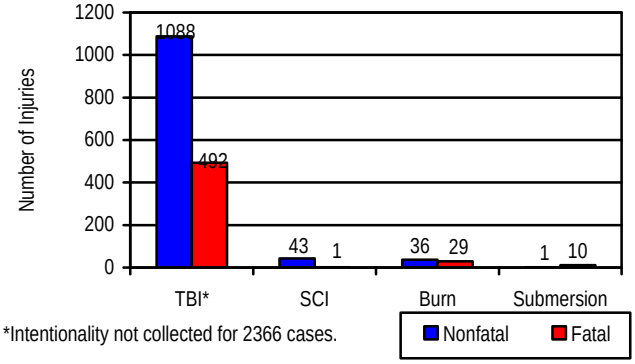
2. Reduce homicides to 4.0 homicides per 100,000 population.

   Baseline: 5.6 deaths per 100,000 population were caused by homicide in 2001
   Target setting: 29 percent reduction
   Data source: OSDH Vital Statistics data (ICD-9 codes: E960.0-E969.9; ICD-10 codes: X85-Y09, Y87.1)

3. Reduce the rate of physical assaults by current or former intimate partners.

4. Establish a statewide surveillance system for reporting intimate partner violence injuries.

Figure 9. Intentional (by other person) Injuries by Type and Outcome, Oklahoma, 1997-2001



*Intentionality not collected for 2366 cases.

PREVENTION STRATEGIES

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.

Violence and crime are not necessarily the same things; crime is often the result of violence. Violence needs to be perceived as a public health problem in addition to the traditional view as a criminal justice issue. Effective preventive measures require the combined efforts of public health, mental health, medicine, education, law enforcement, social services, community involvement, and the justice system. Model prevention strategies—ones scientifically evaluated to be effective—often include elements that address several dimensions of the problem. However, the first step to preventing a problem is to define the issue clearly. Having a lucid, concise definition of violence allows for common understanding.

Surveillance

Quality data on violence and violence-related deaths are necessary for effective program planning. Currently, there are major gaps in the knowledge on this topic. Ongoing surveillance and thorough data analysis will help address these existing gaps. For instance, the ability to link victim and perpetrator data will present a better, more complete picture of the incident. Understanding exactly what types of weapons are utilized and how they were accessed will aid in targeting prevention efforts. In general, much of the population fails to recognize the true extent of violence and how it affects society.

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.[25] In response to this need, the National Center for Injury Prevention and Control (NCIPC) is facilitating the development of the National Violent Death Reporting System (NVDRS), which will ultimately provide a centralized state-based surveillance system, modeled on the successes of such projects as the National Violent Injury Statistics System (NVISS) and the Fatality Analysis Reporting System (FARS).[26-28] The NVDRS will improve timely assessment of the impact of violent deaths in the United States through multiple-source data linkages, which will then translate to stronger policy and program development.[29] In 2003, Oklahoma and 12 other states received funding to develop state-based violent death reporting systems. With continued funding, the NVDRS will eventually be fully implemented in every state. In addition to a multiple-source mortality surveillance system, which is ultimately dependent on quality, detailed data from local and regional sources, other systems need to be developed to track violent nonfatal injuries, particularly ones for better understanding IPV.

Youth Violence Prevention Programs

When teaching and implementing prevention programs and strategies, it is often best to start with younger populations. In many cases, children and adolescents are more impressionable and adaptable to new messages and to forming new habits. In addition, children are generally more vulnerable to the problem at hand. While violence affects all ages, it is a particularly important issue among today's youth. Numerous programs to prevent violence, which normally target one or more ways that it manifests itself, have been developed and implemented. A lesser, but still significant, number have been scientifically evaluated,

and fewer, still, have been shown to be effective. Proven youth violence prevention programs have been school-, home-, and community-based. Theoretically, a combination of settings and approaches will yield the most impressive results.[30] In reality, however, such diversity, without steadfast cooperation, may lead to fragmentation, duplicated efforts, and/or counterproductivity.[31]

In a systematic review of evidence by the Task Force on Community Preventive Services, early childhood home visitation was found to be effective in the prevention of child abuse and neglect, particularly in families at risk for maltreatment, disadvantaged populations, and families with low birthweight infants. Based on direct and proxy outcome measures, such as child protective reports, emergency department visits, and out-of-home placement, the median effect size was a 40 percent reduction in child abuse and neglect. The most beneficial and consistent effects were found in programs delivered by professionals (i.e., nurses or mental health workers). There was insufficient evidence to determine the effectiveness of home visitation on preventing violence by visited parents or children (other than child abuse/neglect) or intimate partner violence in the family.[32]

In a state of the science report, *Youth Violence: A Report of the Surgeon General*, rigorously evaluated, science-based prevention programs at all three levels of prevention—primary, secondary, and tertiary—are identified. These strategies are listed in Table 1. In addition, consistently ineffective prevention strategies were identified. These approaches, although often popular, have no demonstrated benefits for youth violence prevention. Such ineffective efforts include peer-based programs (e.g., peer counseling or mediation), gun buy-back programs, arms training, boot camps, residential programs, milieu treatment programs, and positive peer culture programs.[5] In times of limited resources, it is often just as important to know what is ineffective as it is to know what programs work.

In 1996, an initiative known as Blueprints for Violence Prevention was begun by the Center for the Study and Prevention of Violence (CSPV) at the University of

Table 1. Effective Prevention Strategies Identified By The Surgeon General[5]

Primary Prevention	Secondary Prevention	Tertiary Prevention
Skills/competency building programs	Parent training programs	Social perspective training/ role playing
Behavior monitoring/ reinforcement	Nurse home visitation programs	Multimodal interventions
Behavioral techniques for classroom management	Compensatory education	Behavioral interventions
Building school capacity	Moral reasoning	Skills training
Continuous progress programs	Social problem-solving	Clinical marital/family therapy
Cooperative learning	Thinking skills	Wraparound services
Positive youth development programs		

Colorado at Boulder. This initiative seeks to identify and replicate effective violence prevention programs, particularly for youth, based on a rigorous set of criteria. Model programs have strong research designs (adequate sample size, low attrition, reliable and valid measures), sustained effects (at least one year beyond "treatment"), and multiple site replication potential (success with diverse populations in diverse sites). To date, 11 programs have been defined as model, while 21 meet the less stringent "promising" designation.[33] The following table briefly describes the model programs (Table 2).

These programs illustrate the diversity needed to curb violence and the levels at which prevention can occur (i.e., before or after violent tendencies or behaviors are manifested). By including a variety of measures and approaches to help children and young adults make good life choices both in and out of the classroom, these model programs are examples of proven ways to minimize the presence and effects of violence in community settings. Ultimately, though, the success of such prevention programs is dependent upon "buy-in" and adequate training and resources. If communities, educational systems, teachers, parents, and students do not believe in the

Table 2. Model programs identified by Blueprints for Violence Prevention[34]

Blueprint Model Programs	Description
Midwestern Prevention Project	Community-based adolescent drug abuse prevention program
Big Brothers Big Sisters of America	Mentoring program for youth ages 6-18 from single parent homes
Functional Family Therapy	Prevention/intervention program for youth at risk for and/or presenting with delinquency, violence, substance abuse, conduct disorder, oppositional defiant disorder, or disruptive behavior disorder
Life Skills Training	Intervention program for middle school students to prevent or reduce gateway drug use
Multisystemic Therapy	Intensive family- and community-based treatment for chronic, violent, or substance abusing juvenile offenders 12-17 years old
Nurse-Family Partnership	Home visitation program serving low-income, at-risk pregnant women bearing their first child
Multidimensional Treatment Foster Care	Alternative treatment program for teenagers with histories of chronic and severe criminal behavior at risk of incarceration
Bullying Prevention Program	School-based program for all lower and middle school students
The PATHS curriculum (Promoting Alternative Thinking Strategies)	School-based program for lower school students, promoting emotional and social competencies and reducing aggression
The Incredible Years Series	Developmentally-based curriculum for children ages 2-8 at risk and/or presenting with conduct problems
Project Towards No Drug Abuse	Targeted drug abuse prevention program focusing on high school students ages 14-19

importance and need for violence prevention, any attempt at such will likely fail. Furthermore, without the necessary education and training, adults cannot thoroughly and successfully help children eliminate violence.

The CSPV also creates and distributes a matrix of proven and promising violence prevention programs that have been evaluated by other organizations and individuals. These groups include the American Youth Policy Forum, the Center for Mental Health Services, the Center for Substance Abuse Prevention, the Department of Education (Safe Schools), Communities that Care, the National Institute of Drug Abuse, Strengthening American's Families, and the Office of Juvenile Justice and Delinquency Prevention. Effective programs identified by these entities focus on topics such as mentoring/tutoring/language development, empowerment/community development, reducing risk taking/substance abuse, and social relations/positive interactions.[35]

The CDC's sourcebook of best practices for youth violence prevention includes resources to help communities modify and implement proven strategies locally. Recommended strategies include parent- and family-based interventions, home visitation, social-cognitive programs (e.g., building problem-solving and social skills), and mentoring. Successful implementation of these strategies is dependent upon many factors such as selecting the appropriate setting, community buy-in and involvement, setting clear goals and objectives, degree of empowerment, and cultural competency.[36]

Environmental/Cultural/Social Modifications

In addition to teaching children to make good choices, it is also important to create safe environments—communities, neighborhoods, and homes that deter violence. The availability of firearms is a known risk factor for violence.[6-11] By reducing the ease of access to guns, either by purchasing procedures or locking/safety measures, impulsive acts of violence may be reduced. Metal detectors are effective means of reducing the number of firearms and weapons being carried into schools, offices, or other secure locations, while situational prevention measures, such as access control procedures and surveillance techniques, limit who gains entry into a particular location.[30] Gun safety locks and locked storage cabinets also reduce or delay access, but are dependent upon, first, using them at all, and secondly, using them properly. Community-based safety counseling and gun lock distribution programs are fairly popular, however, their effectiveness is debated. Subjects usually self-select into the program, indicating a predisposition to learning and/or changing behaviors.[37-39]

Built on model firearms programs such as Project Exile (Richmond, VA) and Operation Ceasefire (Boston, MA), Project Safe Neighborhoods is a national, comprehensive approach to reducing gun violence in the U.S. With $901 million from the Bush Administration, Project Safe Neighborhoods networks existing local prevention programs and provides them with additional resources. Based on five core elements—partnerships, strategic planning, training, community outreach and public awareness, and accountability—elements are tailored to the needs of each of the 94 federal judicial districts. Current funding is being utilized to hire more prosecutors, support investigators, provide training, distribute gun locks, and develop and promote community outreach.[40]

While environmental modifications have been given significant amounts of attention in dealing with other forms of injury, it has been

less associated with the area of violence. However, there are several promising strategies for environmental modifications, which are adapted from criminology and crime prevention theories. The defensible space model, Crime Prevention Through Environmental Design (CPTED), situational crime prevention, and the broken windows theory are principals upon which modifications to the built environment can be made. These strategies deal with creating areas to live and work in that promote natural surveillance, safe images and milieus, access control, and territoriality.[41] Environmental modifications such as improved street lighting, safe school bus routes for children, and neighborhood watch groups/community policing (citizen mobilization) improve neighborhood cohesion and reduce crime and violence.[2,30] Increased police presence/patrols in high-crime areas is another effective prevention technique.[30]

While environmental modifications include physical changes (e.g., building design, protective landscaping, traffic flow), it also includes alterations to the social environment as well. To live in a climate where there is an assumption that violence is normal and acceptable can be just as dangerous as any other physical risk factor. Certainly there are some systemic environmental problems (e.g., racial and gender inequality, poverty) that contribute to the problem of violence. While these are more difficult to resolve, smaller scale changes within communities and subcultures can have a large impact on the attitudes toward and acceptance of violence.

Community-based programs have also been found to be promising for addressing secondary and tertiary levels of prevention for domestic violence. Community intervention projects, such as the Duluth Domestic Abuse Intervention Project, have a number of key components that enable their success—centralizing victim safety, developing policies and protocols to enhance victim safety, networking service providers, building monitoring and tracking systems, advocating, providing sanctions and rehabilitation for perpetrators, and performing evaluations.[42-43] The Domestic Violence Enhanced Response Team (DiVERT) model is another promising prevention strategy based on multidisciplinary community response. Under this program, a law enforcement officer, a victim advocate, and deputy district attorney, in addition to any combination of other social services professionals, respond to incidents of domestic violence and provide immediate service. In the five years that Broken Arrow, Oklahoma was served by a DiVERT program, a decline in the number of repeat offenders was attributed as a direct result.[42]

Legislation, policy changes, and changes to social and cultural norms have been shown to have positive effects and work to alter the culture of violence (e.g., the acceptability of violence in a group). For instance, studies have found gun-related violent crime to decrease with laws that restrict the sale or purchase of handguns and the prevalence of alcohol use to decline with an increase in the minimum drinking age.[44-45] A key element that aids in changing public attitudes and standards is the use of media campaigns. Such media interventions increase knowledge about specific topics and are particularly effective when used in conjunction with other prevention curriculums or strategies.[30]

The Task Force on Community Preventive Services also did a systematic review of firearms laws on their effectiveness for preventing violence. Studies of firearms laws had to meet minimum quality criteria and assess at least one violent outcome. Laws that were taken into consideration included bans on specified firearms and ammunition,

restrictions on firearm acquisition, waiting periods for firearm acquisition, firearm registration and licensing of owners, “shall issue” concealed weapon carry laws, child access prevention laws, zero tolerance laws for firearms in schools, and combinations of firearms laws. The Task Force concluded that there was insufficient evidence to determine the effectiveness of any of the firearm laws reviewed. While this result does not indicate ineffectiveness on the part of the laws, it does indicate a tremendous need for more and improved research. Many of the existing studies suffered problems with data, study design, and analytic methodology, which prevented a reliable and valid assessment.[46]

RECOMMENDED STRATEGIES FOR THE PREVENTION OF VIOLENCE

RECOMMENDATION	IMPLEMENTATION PLAN
1. Continue collection and analysis of violent death data.	1a. Implement and maintain the Oklahoma Violent Death Reporting System (OVDRS) through 2008. 1b. Support other violence-related data collection (nonfatal injuries, IPV, suicide, Domestic Violence Fatality Review Board, Child Death Review Board) on an ongoing basis. 1c. Support efforts to enhance data collection tools for accurate assessment of race and ethnicity on an ongoing basis. 1d. Continue data analysis to support legislation/policy/education development and refute common myths about violence on an ongoing basis.
2. Implement and support community assessments to determine needs for violence prevention in particular areas.	2a. Collaborate with Turning Point communities to conduct community needs assessments by 2005. 2b. Partner with community coalitions, civic groups, city clubs, religious organizations, tribes, and/or ethnic groups to help promote an understanding of the violence problem, prevention methods, and how to mobilize community resources by 2005. 2c. Compile a reference list of available violence prevention resources and programs for communities by 2005. 2d. Support the Department of Mental Health and Substance Abuse Services in modeling the Communities that Care program in establishing community coalitions and conducting surveys to identify risk and protective factors by 2005.
3. Enhance knowledge about violence prevention, and expand and implement violence prevention programs.	3a. Increase interaction and dialogue between OSDH and the Department of Education to encourage statewide adoption of violence prevention curriculum in schools and training for teachers and staff to recognize and address violence-related problems by 2006. 3b. Support the development of public educational forums that enlist public involvement in violence prevention, as well as highlight gaps in funding and knowledge by 2006. 3c. Support the development of culturally sensitive materials and the elimination of language/communication barriers to help bridge cultural gaps that prevent certain groups from accessing services to cope with violence-related issues by 2006.

RECOMMENDATION	IMPLEMENTATION PLAN
3. Enhance knowledge about violence prevention, and expand and implement violence prevention programs. (continued)	3d. Increase interaction between OSDH, county health departments, Indian Health Service, and Native American tribes in Oklahoma to plan culturally appropriate prevention efforts by 2005. 3e. Continue and enhance collaboration with the Department of Mental Health and Substance Abuse Services, the Coalition Against Domestic Violence and Sexual Assault, and other interested organizations to address the problem of domestic violence and sexual assault by 2005. 3f. Support the Sexual Assault Prevention Education Program (OSDH), sexual assault response teams, the United Way, and college/university organizations conducting sexual assault and dating violence prevention education to continue and expand these programs by 2006. 3g. Support the inclusion of violence prevention training for future teachers in the curriculum of university education departments by 2006. 3h. Continue to provide IPV training and resources to county health departments and health care professionals on an ongoing basis (IPS).
4. Support environmental changes geared toward violence prevention.	4a. Support local police departments and the Oklahoma Association of Chiefs of Police in continuing projects associated with Project Safe Neighborhoods, such as gun lock distribution programs by 2005. 4b. Encourage media campaigns to create awareness and mobilize resources regarding violence prevention by 2005. 4c. Collaborate with law enforcement, schools, health professions, religious communities, and other organizations to encourage the acceptance and promotion of violence-free social norms by 2006. 4d. Educate legislators on the magnitude of violence in Oklahoma and the role of firearms in violence-related injuries and deaths through legislative fact sheets, annual reports, etc. by 2005.

REFERENCES

1. World Health Assembly. *World Health Assembly resolution 49.25. Prevention of violence: A Public Health Priority*. Forty-ninth World Health Assembly, Geneva, 25 May 1996.
2. Krug EG, Dahlberg LL, Mercy JA, Zwi AB, Lozano R (eds.). *World Report On Violence And Health*. Geneva, World Health Organization, 2002.
3. National Center for Injury Prevention and Control. *Injury Fact Book 2001-2002*. Atlanta, GA: Centers for Disease Control and Prevention, 2001.
4. Centers for Disease Control and Prevention. *Web-based injury statistics query and reporting system* (WISQARS). National Center for Injury Prevention and Control, Centers for Disease Control and Prevention. Available from www.cdc.gov/ncipc/wisqars. Accessed 24 July 2003.
5. Department of Health and Human Services. *Youth violence: A report of the Surgeon General*. Available at http://mentalhealth.samhsa.gov/youthviolence/ default.asp. Accessed November 21, 2003.
6. Sinauer N, Annest JL, Mercy JA. Unintentional, nonfatal firearm-related injuries: A preventable public health burden. *JAMA* 1996;275(22):1740-1743.
7. Cummings P, Koepsell TD, Grossman DC, Savarino J, Thompson RS. The association between the purchase of a handgun and homicide or suicide. *Am J Public Health* 1997;87(6):974-978.
8. Miller M, Azrael D, Hemenway D. Firearm availability and unintentional firearm deaths, suicide, and homicide among 5-14 year olds. *J Trauma Inj Inf Crit Care* 2002;52(2):267-275.
9. Kellermann AL, Rivara FP, Rushforth NB, Banton JG, Reay DT, Francisco JT, Locci AB, Prodzinski J, Hackman BB, Somes G. Gun ownership as a risk factor for homicide in the home. *New Eng J Med* 1993;329(15):1084-1091.
10. Cummings P, Koepsell TD. Does owning a firearm increase or decrease the risk of death? *JAMA* 1998;280(5):471-473.
11. Wiebe DJ. Homicide and suicide risks associated with firearms in the home: A national case-control study. *Ann Emerg Med* 2003;41(6):771-782.
12. Cook PJ, Ludwig J. *Guns in America: Results of a comprehensive national survey on firearms ownership and use*. Washington, DC: National Institute of Justice, 1997.
13. Hemenway D, Miller M. Firearm availability and homicide rates across 26 high-income countries. *J Trauma Inj Inf Crit Care* 2000;49(6):985-988.
14. Centers for Disease Control and Prevention. Rates of homicide, suicide, and firearm-related deaths among children: 26 industrialized countries. *MMWR* 1997;46:101-105.
15. Tjaden P, Thoennes N. *Full Report of the prevalence, incidence, and consequences of intimate partner violence against women: Findings from the National Violence Against Women Survey*. Report for grant 93-IJ-CX-0012, funded by the National Institute of Justice and the Centers for Disease Control and Prevention. Washington, DC: NIJ, 2000.
16. National Research Council. *Understanding violence against women*. Washington, DC: National Academy Press, 1996.

17. Paulozzi LJ, Saltzman LA, Thompson MJ, Holmgreen P. Surveillance for homicide among intimate partners—United States, 1981–1998. *CDC Surv Summaries* 2001;50(SS-3):1–16.

18. Tjaden P, Thoennes N. *Extent, nature, and consequences of intimate partner violence: Findings from the National Violence Against Women Survey*. Report for grant 93-IJ-CX-0012, funded by the National Institute of Justice and the Centers for Disease Control. Washington, DC: NIJ, 2000.

19. U.S. Department of Education and U.S. Department of Justice. *1999 Annual Report On School Safety*. Washington, DC: U.S. Department of Education and U.S. Department of Justice, 2000.

20. Kachur SP, Stennies GM, Powell KE, Modzeleski W, Stephens R, Murphy R, Kresnow MJ, Sleet D, Lowry R. School-associated violent deaths in the United States, 1992 to 1994. *JAMA* 1996;275(22):1729-1733.

21. Anderson M, Kaufman J, Simon TR, Barrios L, Paulozzi L, Ryan G, Hammond R, Modzeleski W, Feucht T, Potter L, and the School-Associated Violent Deaths Study Group. School-associated violent deaths in the United States, 1994-1999. *JAMA* 2001;286(21):2695-2702.

22. Oklahoma Criminal Justice Resource Center and Oklahoma Statistical Analysis Center. *An assessment of school violence in Oklahoma public schools*. Oklahoma City, OK: Oklahoma Criminal Justice Resource Center, 2000.

23. Oklahoma Council on Violence Prevention Ad Hoc Committee. *A study of school zero tolerance policies*. Oklahoma City, OK: Oklahoma Criminal Justice Resource Center, 2001.

24. Oklahoma Department of Education. *Title IV incident report, incident and action summary*. Oklahoma City, OK: Oklahoma Department of Education, 2003.

25. Committee on Injury Prevention and Control, Institute of Medicine. *Reducing the burden of injury: Advancing prevention and treatment*. Bonnie RJ, Fulco CE, Liverman CT (Eds.). Washington, DC: National Academy Press, 1999.

26. Centers for Disease Control and Prevention. *Program to establish a National Violent Death Reporting System*. Available at www.cdc.gov/ncipc/profiles/nvdrs/facts.htm. Accessed 20 November 2003.

27. Harvard School of Public Health. *National Violent Injury Statistics System (NVISS)*. Available at www.hsph.harvard.edu/hicrc/nviss. Accessed 20 November 2003.

28. United States Department of Transportation, National Highway Traffic Safety Administration. *Fatality Analysis Reporting System (FARS)*. Available at www-nrd.nhtsa.dot.gov/departments/nrd-30/ncsa//fars.html. Accessed 20 November 2003.

29. National Violent Injury Statistics System Workgroup. *Violent Death Reporting System Training Manual*. Spring 2002. Available from www.hsph.harvard.edu/hicrc/nviss/documents/VIRSTM02.pdf. Accessed 24 July 2003.

30. Catalano RF, Loeber R, McKinney KC. School and community interventions to prevent serious and violent offending. *OJJDP: Juvenile Justice Bulletin*. U.S. Department of Justice, October 1999.

31. Oklahoma Committee on Violence and Public Health. *Children first*. University of Oklahoma Health Sciences Center, March 1, 1994.

32. Task Force on Community Preventive Services. First reports evaluating the effectiveness of strategies for preventing violence: Early childhood home visitation. *MMWR* 2003;52(RR14):1-9.

33. Mihalic S, Irwin K, Elliott D, Fagan A, Hansen D. Blueprints for violence prevention. *OJJDP: Juvenile Justice Bulletin*. U.S. Department of Justice, July 2001.

34. Center for the Study and Prevention of Violence. *Blueprints model programs overview*. University of Colorado. Available from www.colorado.edu/cspv/blueprints/model/overview.htm. Accessed 3 October 2003.

35. Center for the Study and Prevention of Violence. *Matrix of programs as identified by various federal and private agencies*. University of Colorado. Available from www.colorado.edu/cspv/blueprints/matrix/overview.html. Accessed 6 October 2003.

36. Thornton TN, Craft CA, Dahlberg LL, Lynch BS, Baer K. *Best practices of youth violence prevention: A sourcebook for community action* (Rev.). Atlanta, GA: Centers for Disease Control and Prevention, National Center for Injury Prevention and Control, 2002.

37. Coyne-Beasley T, Schoenbach VJ, Johnson RM. "Love our kids, lock your guns": A community-based firearm safety counseling and gun lock distribution program. *Arch Ped Adolesc Med* 2001;155(6):659-664.

38. Grossman DC, Cummings P, Koepsell TD, Marshall J, D'Ambrosio L, Thompson RS, Mack C. Firearm safety counseling in primary care pediatrics: A randomized, controlled trial. *Pediatrics* 2000;106:22-26.

39. Oatis PJ, Fenn Buderer NM, Cummings P, Fleitz R. Pediatric practice based evaluation of the Steps to Prevent Firearm Injury program. *Injury Prevention* 1999;5(1):48-52.

40. Office of Justice Programs. *Project Safe Neighborhoods*. Available at www.psn.gov/index.asp. Accessed 21 November 2003.

41. Mair JS, Mair M. Violence prevention and control through environmental modifications. *Annual Review of Public Health* 2003;24:209-225.

42. Brown S, Lowrance NA, Mallonee S, Smith M. *Violence against women: An assessment of Oklahoma's response*. Oklahoma City, OK: Oklahoma State Department of Health and Oklahoma Coalition Against Domestic Violence and Sexual Assault, 2002.

43. Minnesota Program Development Inc. *The Duluth model*. Available at www.duluth-model.org. Accessed 24 November 2003.

44. Loftin C, McDowell D, Wiersema B, Cottey TI. Effects of restrictive licensing of handguns on homicide and suicide in the District of Columbia. *New Eng J Med* 1991;325:1615-1620.

45. O'Malley PM, Wagenaar AC. Effects of minimum drinking age laws on alcohol use, related behaviors and traffic crash involvement among American youth. *J Stud Alcohol* 1991;52:478-491.

46. Task Force on Community Preventive Services. First reports evaluating the effectiveness of strategies for preventing violence: Firearms laws. *MMWR* 2003;52(RR14):11-20.