Infrastructure

Over the last century, life expectancy in the United States has nearly doubled from 45 years of age in 1900 to 76 years of age today.[1] Improvements in sanitation, immunizations, and infectious disease screening have contributed to this increased life expectancy. In spite of the many advancements, injuries continue to be a major public health problem, both in the United States and in Oklahoma.

Injuries are the leading killer of Oklahoma's children and young adults from 1-44 years of age. From 1997-2001, injuries accounted for 55% of ***all*** deaths to children 1-14 years of age, and 81% of ***all*** deaths among adolescents 15-19 years of age. After the first year of life, more children died from injuries than all other causes of death combined. Overall, injuries are the third leading cause of death in Oklahoma, following heart disease and cancer, accounting for more than 2,000 deaths each year. Injuries result in more than 55,000 hospitalizations and an estimated 791,907 emergency department visits. The costs of hospitalization, lost work and productivity, lives lost, and disabilities due to injuries total $2.6 billion annually. Oklahoma's death rates due to traffic injuries, drownings, fire/burns, and suicide are higher than national rates.

Many people think injuries are unavoidable chance happenings. In reality, injuries, like diseases, occur in highly predictable patterns. While the circumstances leading to an injury, such as a motor vehicle crash, may not be avoidable, the injuries sustained in that crash can often be prevented or lessened by using seat belts or car seats.

Like other public health problems, injury is a problem that can be diminished considerably if adequate attention and support are directed to it. Epidemiologists and health professionals have successfully applied a public health model to the eradication or amelioration of a variety of plagues. C. Everett Koop, during his tenure as U.S. Surgeon General, identified injury, particularly childhood injury, as “the last great plague of the 20th Century.”

To address the many causes of injury in a systematic way, a strong program infrastructure is needed. A state injury prevention program with a solid infrastructure and core funding provides focus and direction.[2] Additionally, injury prevention is a diverse, multi-disciplinary field, affecting all walks of life, many different professions, and almost any setting in which people live, work, or play. Coordinating these disparate agendas and finding common ground among different individuals and organizations are tasks best accomplished by a strong, stable, and comprehensive program. A solid infrastructure benefits the state by helping to reduce the burden of injury.[2]

OKLAHOMA INJURY PREVENTION SERVICE

The Injury Prevention Service (IPS) was created in 1987 with a federal grant from the Centers for Disease Control and Prevention (CDC). The Commissioner of Health declared hospitalized and fatal burns, drownings/near

drownings, and spinal cord injuries as reportable conditions for special study, and the IPS began statewide surveillance for these conditions that year. In 1992, the Board of Health officially mandated reporting of these conditions and added mandatory reporting of traumatic brain injuries. Data have been collected on fatal occupational injuries since 1997. Data collection for intimate partner violence-related injuries began July 1, 2000 in the Oklahoma City standard metropolitan area and July 1, 2003 in a sample of hospitals statewide. Data collection for suicides and suicide attempts began July 1, 2001. Additionally, since September 2000, the IPS has had a mandatory statewide trauma registry system.

The Injury Prevention Service utilizes the Public Health Approach (Figure 1) in addressing the injury problem. The Public Health Approach starts with defining the problem through surveillance or data collection, using the data to identify risk factors, then developing and evaluating prevention programs, and finally, implementing the programs in communities. The Injury Prevention Service has established a comprehensive injury prevention program that encompasses the core components of a state injury program, including collecting and analyzing injury data; designing, implementing, and evaluating interventions; providing technical support and training; and affecting public policy. [2]

YEAR 2010 OBJECTIVES

To strengthen and sustain injury prevention efforts in the state, the following objectives relating to infrastructure were included in Oklahoma's Year 2010 objectives for injury and violence prevention.

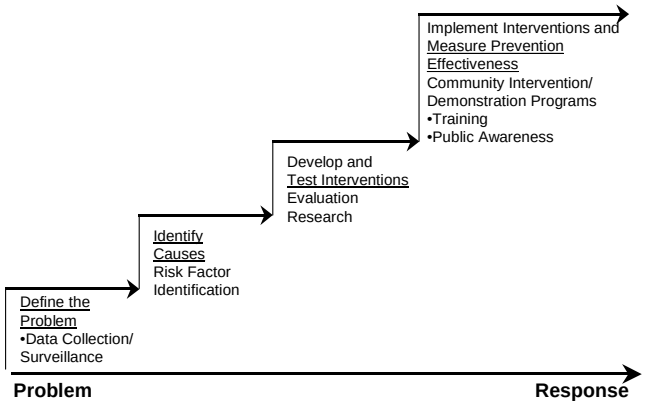
- Increase the use of external cause of injury codes (E codes) on hospital discharge data in Oklahoma to 95 percent.
- Develop and implement a coordinated school health program that includes injury prevention, in elementary, middle, junior high, and senior high schools.
- Increase the proportion of counties that have injury prevention coordinators to 25 SAFE KIDS Coalitions or injury prevention coordinators in county health departments.
- Increase the proportion of county health department clients appropriately counseled about health behaviors, including injury prevention.

External Cause of Injury Codes (E codes)

Nature of injury codes (N codes) and external cause of injury codes (E codes) are classifications developed by the World Health Organization to use with the International Classification of Disease (ICD) system. N codes describe the nature of an injury and the part of the body injured, but do not explain how the injury occurred. E codes describe how the injury occurred and provide information on the location where the injury occurred. Including E codes in emergency department and hospital inpatient data provides needed information for injury prevention interventions and evaluations.[3]

E codes are mandated for hospital discharge data in Oklahoma, The proportion of E coding for hospital medical records increased

Figure 1. The Public Health Model



from 31% in 1992 to 81% in 2001. Hospital personnel may not be aware of the need for E codes. Unlike N codes, E codes are not linked to the reimbursement process; therefore, E codes may be dropped in abstracting records for transfer to files in favor of the codes for reimbursement.[3] In order to increase the percentage of E coding, the Injury Prevention Service hosted four one-day E code workshops (two in Oklahoma City and two in Tulsa) in 2002. A letter was sent to all medical records directors in the state inviting them to send coders to the workshops. Gerry Berenholz, a national expert on E codes conducted the workshops.

Consistent use of E codes would provide a valuable resource for the study of injury rates and patterns and would allow more thorough aggregation of injury morbidity data as well as comparisons of the data at the local, state, and national levels.[3]

Coordinated School Health Program

Coordinated school health education is designed to maintain and improve health, prevent disease, and avoid or reduce health-related risk behaviors in children and young adults. Students are given the tools they need to put ideas into practice and lead happy and healthy lives. School health programs can help children and adolescents attain full educational potential and good health by providing them with the skills, social support, and environmental reinforcement they need to adopt long-term, healthy behaviors. They affect the lives of school children and their families. Coordinated school health programs include an injury prevention component. It is known that children are more easily influenced to adapt and assimilate healthy lifestyle behavior changes than older adolescents and adults.[4] It is reasonable to assume that on-going school-based injury prevention education is more likely to be effective than single-exposure presentations. Teaching safety habits to elementary school-aged children may also have effects that extend to older age groups. Students will have continued exposure and, possibly, sustained behavior if injury prevention lessons are taught each year.[5] The early adoption of health skills holds promise for prevention of injuries and deaths, and for significant long and short-term benefits of quality of life and cost savings.

Local Injury Prevention Coordinators

In large measure, prevention is a local effort. Therefore, local capacity to develop, implement, and evaluate prevention interventions must be supported.[6] In some county health departments, heath educators and public health nurses conduct injury prevention activities such as distributing car seats, bicycle helmets, and smoke alarms or providing injury prevention information at health fairs. However, these staff have many other responsibilities, as well.

A potential opportunity for expansion of injury prevention efforts at the local level is *Turning Point*, a program designed to build broad community support and participation in public health priority setting and action. Turning Point provides an important vehicle for developing interest in and capacity for injury prevention at the local level.

Since injury prevention is still a relatively new field, training is one way to enlarge the pool of skilled, competent staff, build capacity for injury prevention, and draw talented professionals to the field of injury prevention.[2] Training should be provided to county health department and tribal staff as well as local professionals and individuals such as emergency medical service providers, firefighters, law enforcement officials, physicians, nurses, school and child care personnel, and the business community.

Injury Prevention Counseling

Physicians and other health care providers (such as county health department physicians and nurses) are important sources of health information.[7] Injury prevention counseling is associated with reported preventive safety practices among children in the United States, however only a small proportion of households with young children report receiving such counseling.[8] County health departments are likely to have several contacts during the year with families who have children, and consequently, will have several opportunities to provide age-appropriate injury prevention counseling. Providing prevention information regarding car seats, seat belts, burns, drowning, falls, poisoning, and bicycle helmets to family members could possibly reduce the number of injuries and deaths.

IMPLEMENTATION PLAN

RECOMMENDATION	IMPLEMENTATION PLAN
1. Increase the use of external cause of injury codes (E codes) on hospital discharge data in Oklahoma to 95%.	1a. Assist Health Care Information in enforcing the rule requiring E codes. 1b. Provide feedback to hospitals regarding E code rates by 2004 and yearly thereafter.
2. Develop and implement a coordinated school health program that includes injury prevention and life skills training, in elementary, middle, junior high, and senior high schools.	2a. Partner with Department of Education, to develop program components by 2005. 2b. Work with communities with existing coordinated school health programs to ensure that life skills training is a component of the programs by 2005. 2c. Implement and evaluate programs in pilot communities by 2007.
3. Increase the proportion of counties that have injury prevention coordinators to 25 SAFE KIDS Coalitions or injury prevention coordinators in county health departments.	3a. Secure funding for regional health educators in county health departments to conduct injury prevention activities by 2007. 3b. To increase interest in injury prevention and expand the number of staff conducting activities in local communities: • Develop an injury prevention guide for county health department staff by 2004. • Provide technical assistance to Turning Point coalitions in developing and implementing injury prevention programs by 2004. • Partner with the Indian Health Service to conduct injury prevention training workshops for county health department and tribal staff beginning in 2003 and yearly thereafter. • Develop and conduct one-day injury prevention workshops for county health departments and local agencies/organizations beginning in 2004 and yearly thereafter. • Partner with the State and Territorial Injury Prevention Directors' Association and National Association of Injury Control Research Centers to provide training opportunities through the National Injury and Violence Prevention Training Initiative to Oklahomans conducting injury prevention activities by 2006.

RECOMMENDATION	IMPLEMENTATION PLAN
4. Increase the proportion of county health department clients appropriately counseled about health behaviors, including injury prevention.	4a. Train available CHD staff (e.g., health educators, child development specialists, etc.) to provide education to clients and the public regarding injury prevention by 2005. 4b. See 3b above.

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