Washington State
Injury and Violence Prevention Guide

June 2008

EXECUTIVE SUMMARY

We tend to accept injuries as fate. Motor vehicle crashes, debilitating falls, poisonings, and violence against women occur on such a regular basis that people believe they are normal. This is not true. Our biggest challenge in Washington State is to change the way our citizens and communities view injuries. Injuries are predictable and preventable. They are not accidents.

Injuries are the leading killer of our state's children and adults from 1-44 years of age. In 2006, over 3,700 Washington residents died from injuries. There were over 78,000 injury-related hospitalizations. Injuries are the primary killer of children and young adults in this state and the United States.[1] Because injuries disproportionately affect the young, the life-years lost from them exceed those from other preventable causes of death.

In 2005, the Washington State Department of Health (DOH) Injury and Violence Prevention Program received a five-year grant from the Centers for Disease Control and Prevention (CDC). The purpose of the grant was to help Washington State develop and implement a comprehensive injury and violence prevention plan.

Washington State produced this plan, the *Washington State Injury and Violence Prevention Guide*, for those working on prevention programs. The guide consists of 12 injury and violence prevention chapters with four priority areas to prevent injuries and violence, disability, and premature death. It is a product of three years of collaborative work by the Injury Community Planning Group (ICPG) and the staff of the Department of Health and the Department of Labor and Industries.

This guide includes injury data, goals, evidence-based strategies, and promising or experimental prevention strategies for each injury area. The data and evidence-based strategies will be updated each year. Using this information for injury and violence prevention programs will make Washington a safer place for all. By working with community coalitions, public health educators, physicians, nurses, and other medical professionals, we hope to reduce the burden of injury and violence.

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Introduction and Background

What is Injury?

In public health practice, *injury* is damage or harm to the body resulting in impairment or destruction of health.[2] Examples of physical injury include broken bones, cuts, brain damage, spinal cord injury, poisoning, and burns. Physical injury results from harmful contact between people, objects, or substances, in the environment.

Definition of Intentional and Unintentional Injury

The intent of injury can be important to determine target audiences, effective interventions, program planning and evaluation. Injuries are grouped into two categories identified by the "manner" in which the injury occurs: *unintentional and intentional*. Injuries can be grouped by the cause of the injury. Examples include motor vehicle crashes, drowning, or falling.

Unintentional injuries, historically referred to as accidents, are predictable. They can be stopped if preventive measures are taken. In 2005, unintentional injuries were the leading cause of death for Americans ages 1 to 44 years and the fifth leading cause of death overall. More than 117,000 Americans died in 2005 from unintentional injuries. These include, for example, injuries to children who fall from a bicycle or are burned in a house fire.

Intentional injuries include all forms of violence: suicide homicide, and assault. There are also preventive strategies for intentional injuries. Unintended injuries may be called intentional, even if causing injury was not the primary motivation. For example, if a caregiver is trying to quiet a child and the child is injured, the injury would be considered intentional.

Definition of violence

Violence is the use of physical force with the intent to inflict injury or death upon oneself or another.[3]

What is Injury and Violence Prevention?

An injury involves the interaction of several factors and preventing an injury may require a mixture of countermeasures.

In the 1960's, Dr. William Haddon Jr., a physician and engineer, developed one of the earliest attempts to categorize injury prevention measures. Haddon listed ten general strategies that conceptualize prevention opportunities. In addition, he developed a matrix to classify injury by phases and factors. See appendices for a complete list.

How to Use The Washington State Injury and Violence Prevention Guide

This guide was developed as a "call to action" for Washington State. The guide includes information for planning, goal setting, marketing, coalition building, and implementation of evidence-based strategies at the state and local levels.

The Injury Community Planning Group (ICPG) envisioned this guide to be used by many audiences involved in injury and violence prevention. The target audience includes individuals and organizations concerned with preventing injuries and violence including:

- Injury and violence prevention practitioners in governmental agencies, tribal governments and nonprofit organizations in Washington State.
- Other community planners and coalitions; healthcare professionals; policymakers; governmental agencies, businesses, media, nonprofit organizations; and injury prevention providers.

This guide is designed to be used as a resource guide and a "toolkit" for communities and coalitions that want to implement recommended strategies. This guide is to be dynamic, usable, and a functional document that is updated regularly for ongoing, viable use by all in Washington State.

Included as an added resource, the four priority areas have an additional Department of Health (DOH) Implementation Plan. These specific plans provide an outline of DOH's Injury and Violence Prevention efforts through 2010.

Development of the Washington State Injury and Violence Prevention Guide

In August 2005, the Washington State Department of Health (DOH) Injury and Violence Prevention Program received a five-year grant from the Centers for Disease Control and Prevention (CDC). This grant was intended to help state public health agencies strengthen *infrastructure* related to prevention and control of injuries and violence, and to develop and strengthen *injury surveillance* programs.

DOH invited experts from private, public, clinical, professional, and nonprofit injury and violence prevention control organizations around Washington State to contribute to the guide. This group is the Injury Community Planning Group (ICPG).

Evidence-based and promising strategies
In each of the chapters in the guide, we provide both evidence-based and promising prevention strategies. Here are our definitions of those terms.

Evidence-based strategies, often referred to as best practices, are those that have the strongest evidence for effectiveness. The effectiveness is based on well-designed research studies, in which the prevention activity achieved its intended goal.

Promising or experimental prevention strategies
Promising strategies are those where not enough well-designed research studies have been conducted to show their effectiveness. Experimental strategies have a strong theoretical basis, but generally have not yet had research to show their effectiveness.

Washington State's Priority Injuries, 2006-10

In June 2006, the ICPG identified the following four priorities for the injury and violence prevention community:

- Falls Among Older Adults
- Motor Vehicle-Related Injuries and Deaths
- Poisoning
- Violence Against Women

Falls among older adults and motor vehicle related injuries were selected because they are, respectively, the leading causes of injury-related hospitalization and trauma in the state. Poisoning was chosen because it is a leading cause of unintentional injury-related death and unintentional hospitalization. Poisoning death rates jumped by 395% from 1990-2006. In Washington State, violence against women is a major health concern. There is insufficient consistent and accurate information for this. There are no current proven strategies for intervention.[4] It was selected to highlight the magnitude of the issue.

The ICPG also identified eight other areas as significant:

- Child Abuse and Neglect
- Drowning
- Fire and Burn
- Firearm-Related
- Occupational Injuries
- Suicide
- Suffocation
- Youth Violence

Criteria and Guiding Principles

The following criteria and guiding principles were used to select priority injury areas.

- Is it a leading cause of death and hospitalization?
- Is there reason to believe it is significant, but under-represented in data?
- Is it a leading cause of years of potential life lost?
- Does it target the most effective interventions?
- Does it disproportionately affect a particular population?
- Does it have significant direct or indirect associated costs?

As priorities, motor vehicle related injuries, falls among older adults, poisoning, and violence against women all disproportionately affect specific populations: older adults, young males, males between 35-54 years of age, and women and girls.

In addition to these criteria, the ICPG identified and used the following principles.

- Injuries are predictable, and preventable.[5]
- Strategies need to be evidence or data-based, proven and/or promising.
- Important components in the guide need to include:
- Community involvement.
- Building capacity.
- Building partnerships and coalitions.
- Identifying and including disparities.
- Evaluation of strategies.

Magnitude of the Problem: Injury and Violence in Washington State – a Public Health Priority

Injuries are the leading cause of death and disability for Washington State residents aged 1-44. In 2006, over 3,700 Washington State residents died from injuries, and there were over 78,000 injury-related hospital stays. Such injuries have a huge impact on the lives of individuals, their families, and society. The physical and emotional effects of injuries can be extensive and wide-ranging. In the case of disabling injuries, the effects last a lifetime.

Injury death rates in Washington State rose by about 10% between 1999 and 2006, after a two-decade period of decline. Unintentional poisonings and falls among those 65 years old and older made up about 80% of the increase observed. Reductions have occurred in drowning, motor vehicle-related deaths, homicide, traumatic brain injury, youth violence, and domestic violence. Emergency medical service responses and improved resuscitation and care at trauma centers have played a role in preventing some deaths. Despite these improvements, injury is still a leading cause of death for our state across the age spectrum. Rates of some injuries, including falls among older adults and poisoning, are getting worse.

Because injuries and violence have their greatest impact on the young, their impact on years of potential life lost (YPPL) is great. By the year 2020, motor vehicle crashes will globally rank second behind heart disease in years lost, ahead of cancer and HIV.

There are many products, practices, and programs that can save lives, but many people have not heard about them, accepted them, or adopted them. Many people may not see the need for change, may not perceive themselves to be at risk, or may not have access to affordable safety products or programs that could save their lives.

Cost of Injuries

Premature death, disability, medical costs, and lost productivity injuries affect the health and welfare of Americans. Intentional and unintentional injuries are the leading cause of death among persons aged 1 to 44 years and the fourth leading cause of death among persons of all ages.

Unlike other leading causes of death, tobacco use or poor diet, deaths due to injuries affect the young and old alike. This results in life-years lost due to injuries exceed those from other preventable causes.[6]

Injuries that occurred in 2000 will cost the U.S. health care system over $80 billion in medical care costs: $1 billion for fatal injuries; $33.7 billion for hospitalized injuries; and $45.4 billion for non-hospitalized injuries.[6]

Injuries cause losses of productivity that may include lost wages and fringe benefits, and the lost ability to perform one's household responsibilities. Injuries that occurred in 2000 will cause an estimated $326 billion in productivity losses.[6]

Leading Causes of Death

Washington State, 2006

Rank	Age <1	Age 1-4	Age 5-14	Age 15-24	Age 25-44	Age 45-64	Age 65+	Total
1	Congenital Anomalies 89	Unintentional Drowning 8	Cancer 16	Unintentional MV Traffic 200	Cancer 334	Cancer 2,964	Heart Disease 8,713	Cancer 11,003
2	Sudden Infant Death Syndrome 50	Homicide 7	Unintentional Drowning 13	Suicide 115	Unintentional Poisoning 305	Heart Disease 1,586	Cancer 7,638	Heart Disease 10,551
3	Short Gestation & Low Birth Wt 42	Congenital Anomalies 7	Unintentional MV Traffic 11	Unintentional Poisoning 65	Suicide 239	COPD 343	Alzheimer's 2,434	Stroke 2,711
4	Maternal Compl of Pregnancy 34	Unintentional MV Traffic 6	Unintentional Poisoning 7	Homicide 56	Heart Disease 236	Diabetes 341	Stroke 2,395	COPD 2,648
5	Compl of Placenta, Cord & Membranes 25	Cancer 6	Congenital Anomalies 6	Cancer 42	Unintentional MV Traffic 169	Cirrhosis 334	COPD 2,290	Alzheimer's 2,466
6	Unintentional Suffocation 16	Condition w/Origin Perinatal Period 4	Suicide 5	Unintentional Drowning 26	Homicide 92	Unintentional Poisoning 332	Diabetes 1,137	Diabetes 1,539
7	Bacterial sepsis 13	Unintentional Pedestrian Other 3	Influenza & Pneumonia 3	Heart Disease 13	Cirrhosis 65	Suicide 308	Pneumonia/ Influenza 689	Pneumonia/ Influenza 810
8	Neonatal Hemorrhage 8	Unintentional Suffocation 3	Unintentional Struck by 3	Congenital Anomalies 11	Diabetes 59	Stroke 271	Unintentional Fall 537	Suicide 796
9	Newborn compl of pregnancy 7	Septicemia 3	Unintentional Fire & Burn 2	Unintentional Fire & Burn 5	Stroke 39	Unintentional MV Traffic 196	Parkinson's 456	Unintentional Poisoning 745
10	Necrotizing Enterocolitis 6	Unintentional Fire & Burns 2	Homicide 1	Unintentional Fall 4	HIV 31	Viral Hepatitis 113	Renal Disease 394	Unintentional MV Traffic 687

Source: Washington State Department of Health, Center for Health Statistics, January 2008.

Special Population Groups: Health Disparities

The National Institutes of Health defines health disparities as "differences in the incidence, prevalence, mortality, and burden of diseases and other adverse health conditions that exist among specific population groups in the United States."

The most frequently noted disparities are those between ethnic, racial, and income groups. Health outcomes differ along other factors including; gender, geographic location, sexual orientation, physical ability or disability, age, and English speaking ability.[7]

Low-income populations and communities of color experience worse health outcomes across a broad spectrum of illnesses, injuries, and treatment outcomes. According to some experts, "socioeconomic, racial, and ethnic disparities in health status are large, persistent, and ever increasing in the United States."[8]

In Washington State, many causes of injury death are lowest for Asian and Pacific Islanders and highest for American Indians and Alaska Natives. There are some exceptions. For example, African Americans have the lowest suicide rate and highest homicide rate. White, elderly females are at highest risk for fall-related injuries.

Many of the race and ethnic disparities reflect income and education. Some race and ethnic groups carry an unequal burden of poverty and low levels of formal education. The 2000 U.S. Census shows that in Washington State, more American Indians, Alaska Natives, and Hispanics live in high poverty areas.

People with disabilities or special health care needs are at greater risk for injury than those without these conditions. Data from the 2004 Behavioral Risk Factor Surveillance System survey show that adults with disabilities are more likely to be physically or sexually abused, injured in a fall, or have a loaded firearm in their home. Data from the 2004 Washington State Healthy Youth Survey show that students in 10th grade with disabilities were more likely to be bullied, be in a physical fight, report symptoms of depression, attempt suicide, and carry a weapon at school compared to youth without disabilities.

The Role of Alcohol and Other Drugs

Alcohol misuse is now the leading risk factor for serious injury in the United States. In the United States in 2001, about half of all alcohol-attributable deaths were due to an injury.[9] In Washington State from 2001-2005, impairment from either alcohol or drugs accounted for about 6% of motor vehicle collisions, 22% of all disabling injuries, and 47% of all fatal collisions.[10]

The role that alcohol and other drugs play in injuries and violence requires specific attention. The influence of alcohol and other drugs can be measured across virtually all types of injuries. The link between alcohol and other drugs and violence, motor vehicle trauma, self-harm, drowning, poisoning, falls, and suffocation is well established. Alcohol and other drug use is an issue that crosscuts other areas within this guide.

Preventing and treating the misuse of alcohol and other drugs is a very important prevention strategy across all areas of injury and violence prevention. The most extensive research on reducing alcohol-related injuries is for reducing motor vehicle-related injuries. Alcohol screening, treatment, and brief interventions are promising tools to prevent alcohol-impaired driving.

Several environmental interventions including reducing availability of alcohol, legal minimum drinking age and zero tolerance laws, and increasing the price of alcohol have been effective at reducing motor vehicle-related deaths and injury. Sobriety checkpoints are shown to reduce alcohol-related fatal crashes. Alcohol testing of people who die of other injuries is not comprehensive or consistent. However, it is likely that some of these strategies may reduce other types of injuries as well.[11]

The Role of Mental Illness

Mental illness is an independent risk factor for both intentional and unintentional injuries. People who have mental illness may have a different pattern of unintentional injury and hospital stays.

One study found that those with a mental illness were more likely to be injured by falling or being hit by cars and less likely to be injured in a motor vehicle crash. They also stayed in the hospital longer, and when discharged, they are more likely to go to a skilled nursing facility.[12]

Recent advances in developing effective treatments for mental and substance abuse disorders may help decrease injuries.

Prevention Trends

Community models and approaches for interventions

Historically, injury has often been viewed as an individual-level health issue. This view has dominated injury prevention approaches. Over time, there has been a small shift in research from the individual to the physical environment. Most recently, there has been a growing recognition of the need for a comprehensive approach that integrates community intervention strategies.

The causes of injuries are complex. No one part of society, working alone, can do everything needed to reduce injuries. Reducing injuries requires the combined efforts of health, education, transportation, law enforcement, engineering, and social and safety sciences.

Community-level interventions may promote, sustain, and amplify injury preventive behaviors by providing individuals with information and skills in a supportive environment.

Supported by the World Health Organization, Safe Communities is an approach to injury prevention and safety promotion that seeks to understand injury and intervene at a community level.

Strategies that sustain injury prevention behavior

Data suggest that the positive effects of interventions fade over time. One strategy that looks promising is the use of "social marketing" or media interventions to reinforce prevention messages and to sustain behavior change.

The *Spectrum of Prevention* helps expand prevention efforts beyond education models by promoting a range of activities for effective prevention. Originally developed by Larry Cohen, the *Spectrum* is based on the work of Dr. Marshall Swift in treating developmental disabilities. It has been used nationally in prevention initiatives targeting traffic safety, violence prevention, injury prevention, nutrition, and fitness.

Injury and violence prevention activities must also cross the spectrum of prevention, consisting of the following six interrelated actions.[13]

- Strengthening knowledge and skills to reduce risky behavior.
- Promoting community education to support individual behavior change.
- Educating providers to help their patients or clients understand injury risks, and how to reduce those risks.
- Fostering coalitions and networks that champion changes at the local level for safer communities.
- Changing organizational practices that reduce injury risks.
- Influencing policy and legislation to promote a safer society for everyone.

Endnotes

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