



ARIZONA INJURY PREVENTION PLAN

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ARIZONA INJURY PREVENTION PLAN

CHAPTER 1: APPRECIATING ARIZONA'S INJURY PROBLEM

Injuries are the leading cause of death among Arizonans between the ages of 1 through 44.¹ Unintentional injuries, suicides, and homicides ranked as the three leading causes of death among Arizonans between ages 15 through 44.² The extent of Arizona's injury problem extends beyond fatalities; the overwhelming majority of injuries are non-fatal, often leading to adverse outcomes such as disability, temporary discomfort, or chronic pain. In addition to the physical and emotional impact of injury, the monetary costs are significant. In 2011, the total cost of injury-related hospitalizations in Arizona was \$2,149,327,169; ACCCHS (Arizona's Medicaid agency) paid for 22 percent of this. The magnitude of the injury problem in Arizona cannot be overstated.

Table I.1 illustrates that deaths represent the smallest proportion of injuries. Inpatient hospitalizations and emergency department visits represent exponentially greater proportions of the injury in Arizona. Injuries not included in this table are those that did not result in a death or a hospital visit. Although this type of injury may be the most frequent, there is no comprehensive data source available to measure its incidence. Note that these deaths are broken down by mechanism, or cause. The Centers for Disease Control and Prevention (CDC) defines mechanism as "the way in which the person sustained the injury; how the person was injured; or the process by which the injury occurred".³ In this scenario the cause of injury is assessed independently of the intent. For example, deaths that result from firearms or poisoning will be attributable to either intentional or unintentional injury.

Poisoning was the leading cause of injury-related death among Arizona residents in 2011, accounting for over one quarter of all injury-related deaths (25 percent, n=1,144). Among non-fatal injuries, falls were the leading cause among both hospitalizations (n=17,610; 43 percent) and emergency department visits (n=124,243; 31 percent).

¹ Arizona Vital Statistics, 2010

² Centers for Disease Control and Prevention, National Center for Injury Prevention and Control. Web-based Injury Statistics Query and Reporting System (WISQARS) [online]. (2010) {cited 2012 September 28} Available from: www.cdc.gov/ncicp/wisqars.

³ Centers for Disease Control and Prevention, National Center for Injury Prevention and Control. Definitions for WISQARS Nonfatal [online]. (2010) {cited 2011 September 28} Available from: www.cdc.gov/ncicp/wisqars/nonfatal/definitions.htm.

AT A GLANCE

In 2011, an average week of injuries in Arizona resulted in approximately:

- 87 resident deaths
- 816 inpatient hospitalizations
- 7,779 emergency department visits

For a total of:

- 4,546 deaths
- 41,857 inpatient hospitalizations (including 644 deaths), and
- 404,522 emergency department visits (including 291 deaths)

Resulting in over \$2 billion in hospital charges.

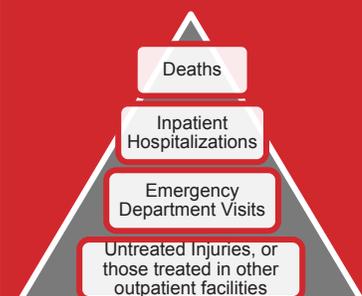


Table I.1 Leading Injury-Related Causes of Mortality and Morbidity, Arizona, 2011

Deaths			Inpatient Hospitalizations (Non-fatal)			Emergency Department Visits (Non-fatal)			
	Cause	#	%	Cause	#	%	Cause	#	%
1	Poisoning	1,144	25%	Falls	17,610	43%	Falls	124,243	31%
2	Firearms	931	20%	Poisoning	6,930	17%	Struck by/Against	64,659	16%
3	Falls	764	17%	MV Traffic	5,142	12%	MV Traffic	39,557	10%
4	MV Traffic	710	16%	Struck by/Against	2,138	5%	Overexertion	36,614	9%
5	Suffocation	340	7%	Cut/Pierce	1,287	3%	Cut/Pierce	31,460	8%
6	Drowning	91	2%	Non-Traffic Transport	1,239	3%	Nature/ Environment	22,316	6%
7	Nature/ Environmental	90	2%	Fire/ Hot Objects	701	2%	Poisoning	12,516	3%
8	Cut/Pierce	61	1%	Firearm	564	1%	Non-traffic Transport	6,057	2%
	<i>All Other</i>	415	9%	<i>All Other</i>	5,602	14%	<i>All Other</i>	66,809	17%
	2011 Total	4,546		2011 Total	41,213		2011 Total	404,231	

Although injury deaths represent the smallest proportion of the injury problem in Arizona, mortality data are our most complete source of quantitative injury information. The limitations in the hospital discharge and emergency department databases are the missing cases of individuals treated at tribal and federal facilities (military and Indian Health Services). The death certificate database includes all deaths occurring in a given jurisdiction, thus providing a clearer picture of the overall injury problem in the state. Although this report relies heavily on death data for descriptive purposes, it is important to note that this data does not fully convey the magnitude of Arizona's injury problem and the subsequent need for injury prevention activities.

Leading Causes of Death

Table I.2 shows that in 2006-2010 unintentional injury was the third leading cause of death for all age groups and the leading cause of death for 1-44 years olds in Arizona.⁴

Table I.2 10 Leading Causes of Death, Arizona 2006-2010, All Races, Both Sexes*

Rank	Age Groups										All Ages
	<1	1-4	5-9	10-14	15-24	25-34	35-44	45-54	55-64	65+	
1	Congenital Anomalies 693	Unintentional Injury 254	Unintentional Injury 104	Unintentional Injury 117	Unintentional Injury 1,683	Unintentional Injury 1,807	Unintentional Injury 1,981	Malignant Neoplasms 3,908	Malignant Neoplasms 9,146	Heart Disease 41,367	Heart Disease 51,521
2	Short Gestation 450	Congenital Anomalies 70	Malignant Neoplasms 49	Malignant Neoplasms 53	Homicide 679	Suicide 761	Malignant Neoplasms 1,067	Heart Disease 2,926	Heart Disease 5,959	Malignant Neoplasms 36,242	Malignant Neoplasms 51,083
3	SIDS 204	Malignant Neoplasms 49	Congenital Anomalies 24	Suicide 36	Suicide 668	Homicide 620	Suicide 841	Unintentional Injury 2,560	Unintentional Injury 1,626	Chronic Low. Respiratory Disease 12,411	Unintentional Injury 15,406
4	Maternal Pregnancy Comp. 187	Homicide 40	Homicide 20	Homicide 24	Malignant Neoplasms 176	Malignant Neoplasms 382	Heart Disease 838	Suicide 1,078	Chronic Low. Respiratory Disease 1,312	Alzheimer's Disease 10,538	Chronic Low. Respiratory Disease 14,189
5	Placenta Cord Membranes 176	Influenza & Pneumonia 21	Cerebro-vascular 11	Congenital Anomalies 17	Heart Disease 90	Heart Disease 247	Liver Disease 441	Liver Disease 1,053	Liver Disease 1,082	Cerebro-vascular 9,242	Cerebro-vascular 10,790
6	Unintentional Injury 109	Heart Disease 17	Benign Neoplasms ---	Chronic Low. Respiratory Disease 14	Congenital Anomalies 52	Liver Disease 92	Homicide 401	Diabetes Mellitus 570	Diabetes Mellitus 1,052	Unintentional Injury 5,112	Alzheimer's Disease 10,640
7	Bacterial Sepsis 105	Septicemia ---	Heart Disease ---	Heart Disease 10	Influenza & Pneumonia 37	HIV 70	Diabetes Mellitus 195	Cerebro-vascular 448	Cerebro-vascular 834	Diabetes Mellitus 4,104	Diabetes Mellitus 6,010
8	Circulatory System Disease 65	Perinatal Period ---	Chronic Low. Respiratory Disease ---	Septicemia ---	Diabetes Mellitus 25	Diabetes Mellitus 62	Cerebro-vascular 169	Viral Hepatitis 367	Suicide 780	Influenza & Pneumonia 3,956	Suicide 5,120
9	Necrotizing Enterocolitis 56	Benign Neoplasms ---	Influenza & Pneumonia ---	Influenza & Pneumonia ---	Septicemia 18	Influenza & Pneumonia 61	HIV 168	Chronic Low. Respiratory Disease 360	Influenza & Pneumonia 434	Parkinson's Disease 2,325	Influenza & Pneumonia 4,965
10	Neonatal Hemorrhage 54	Cerebro-vascular ---	Two Tied ---	Two Tied ---	Cerebro-vascular 14	Cerebro-vascular 48	Influenza & Pneumonia 116	Influenza & Pneumonia 292	Viral Hepatitis 395	Nephritis 2,121	Liver Disease 3,958

*WISQARS – Note: For leading cause categories, counts of less than 10 deaths have been suppressed (---).

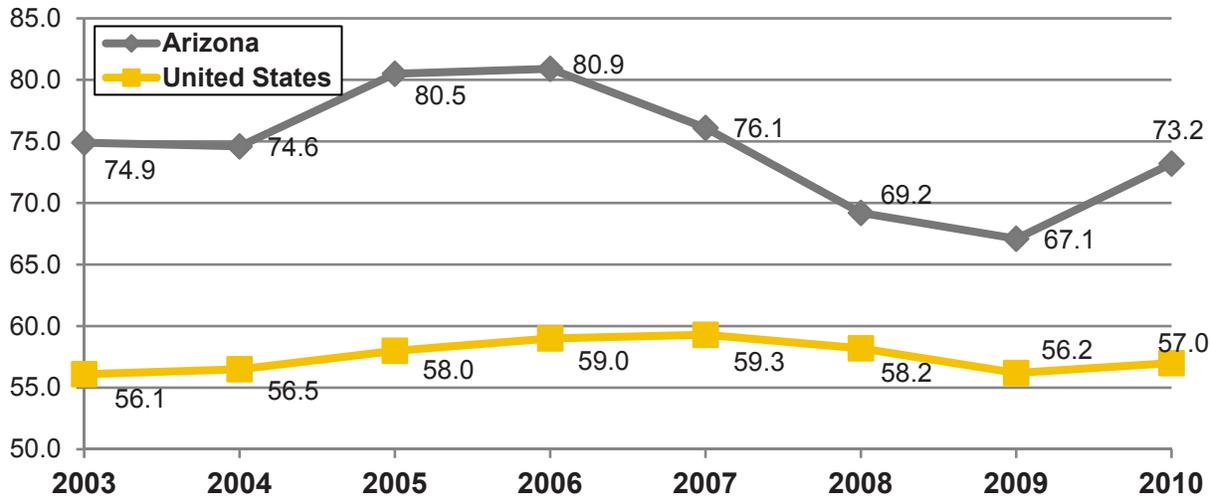
Produced by: Office of Statistics and Programming, National Center for Injury Prevention and Control, Centers for Disease Control and Prevention. Data Source: National Center for Health Statistics (NCHC), National Vital Statistics System

⁴ Centers for Disease Control and Prevention, National Center for Injury Prevention and Control. Web-based Injury Statistics Query and Reporting System (WISQARS) [online]. (2010) {cited 2012 September 28} Available from: www.cdc.gov/ncicp/wisqars.

Injury Death Trends: United States vs. Arizona

Figure I.1 shows the age-adjusted mortality rates for Arizona and the United States from 2003 through 2010 (most recent years of comparison available).⁵ In 2010, the age-adjusted injury-related death rate in the United States was 57.0 people per 100,000 residents, compared to 73.2 per 100,000 residents in Arizona. As in the past, the Arizona injury-related death rate has been consistently higher than the national rate during this time period.

Figure I.1 Age-Adjusted Injury Mortality Rates per 100,000 Residents, Arizona Compared to United States, 2003-2010



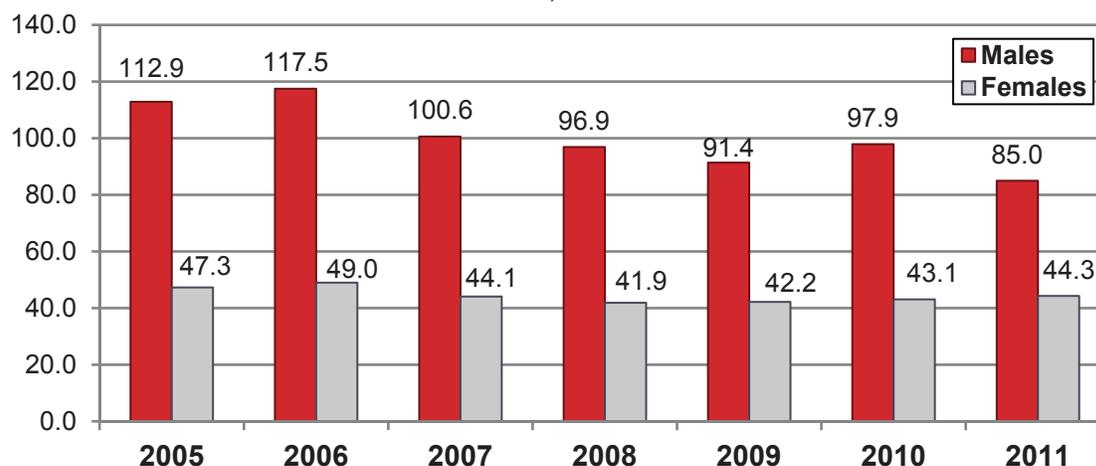
Age adjusted to the 2000 standard using WISQARS: Centers for Disease Control and Prevention, National Center for Injury Prevention and Control. Web-based Injury Statistics Query and Reporting System (WISQARS) [online]. (2011) {cited 2012 Sept 28} Available from: www.cdc.gov/ncicp/wisqars.

⁵ Centers for Disease Control and Prevention, National Center for Injury Prevention and Control. Web-based Injury Statistics Query and Reporting System (WISQARS) [online]. (2010) {cited 2010 June 4} Available from: www.cdc.gov/ncicp/wisqars.

Deaths Due to All Injuries

Of the 4,546 deaths from all injuries in 2011, 66 percent were among males (n=3015) and 34 percent were among females (n=1531). The age-adjusted rate of injury-related deaths decreased 16 percent from 2005 (79.5 deaths per 100,000 residents) through 2009 (66.5 deaths per 100,000 residents), but increased by over 5 percent to 70.2 deaths per 100,000 in 2011. Rates changed differently among males and females. In 2009-2011 the age-adjusted injury-related mortality rate decreased 13 percent in males and increased by 3 percent in females. Figure I.2 shows the age-adjusted injury-related mortality rates by sex from 2005 through 2011.

Figure I.2 Age-Adjusted Injury Mortality Rates per 100,000 Residents by Sex, Arizona, 2005-2011



Injuries arise from unintentional or intentional events. According to the CDC, unintentional events are those that are “not inflicted by deliberate means.”⁶ Conversely, an intentional event is dependent upon “whether an injury was caused by an act carried out on purpose by oneself or by another person(s), with the goal of injuring or killing.”⁷ Intentional injuries can be further characterized into suicide (self-inflicted injuries intended to cause harm) or homicide (injuries inflicted by another with intent to harm).

In some cases, there is not enough information available to confirm the intent in the event which leads to a classification as an undetermined death. Acts of war and legal interventions resulting in injury are included in the “Other” category. Injuries occurring from military operations pertaining to personnel and civilians cause by war or civil insurrections. Legal interventions include any injury inflicted by law enforcement personnel while arresting or attempting to arrest lawbreakers, suppressing disturbances, or maintaining order. This category also includes legal execution.⁵ One legal execution occurred in Arizona between 2005 and 2009, and there were 4 legal execution deaths in 2011. Recent studies have documented a phenomenon of “suicide-by-cop” in which individuals deliberately act in a threatening manner so that a law enforcement officer must inflict fatal injuries upon the individual,⁸ Arizona death certificate data do not allow

⁶ Centers for Disease Control and Prevention, National Center for Injury Prevention and Control. Definitions for WISQARS Nonfatal [online]. (2010) {cited 2011 September 28} Available from: www.cdc.gov/ncicp/wisqars/nonfatal/definitions.htm.

⁷ International Classification of Diseases, 9th edition, Clinical Modification 6th edition, 2009. Practice Management Information Corporation, 2008.

⁸ Suicide By Cop [online]. (2008) {cited 2010 June 16} Available from: www.suicidebycop.com/7922.html.

for the systematic identification of such cases, and these cases will be classified as deaths due to legal intervention.

Figure I.3 shows that the majority of all injury-related deaths (64 percent, n=2,920) in Arizona residents during 2011 were categorized as unintentional. Nearly one quarter of deaths (24 percent, n=1,099) were suicides, eight percent were homicides (n=379), and three percent (n=131) were of undetermined intent.

Figure I.3 All Injury-Related Deaths by Intent, Arizona 2011 (n=4,546)

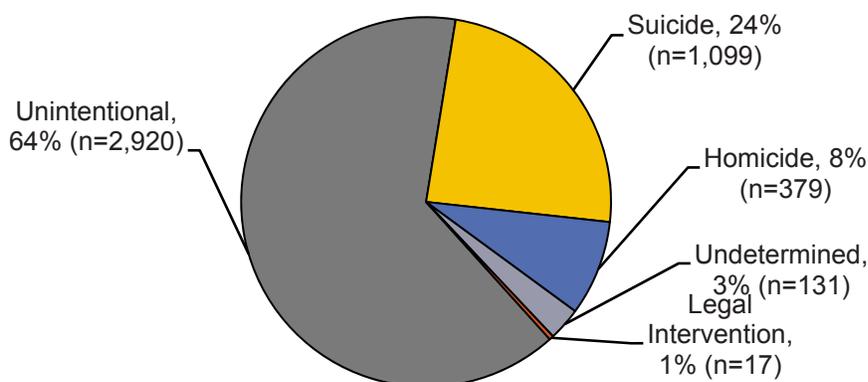
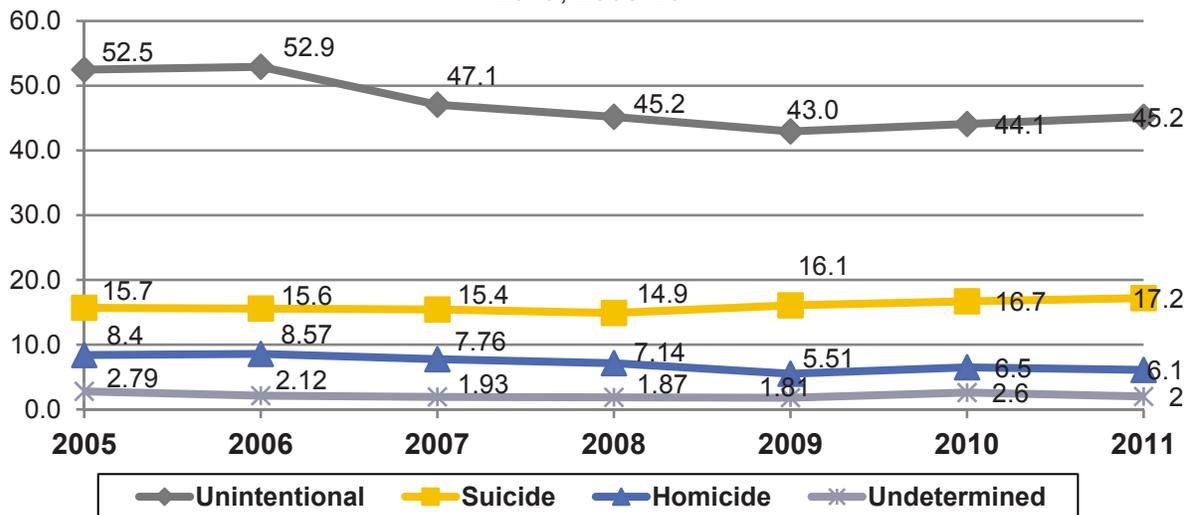


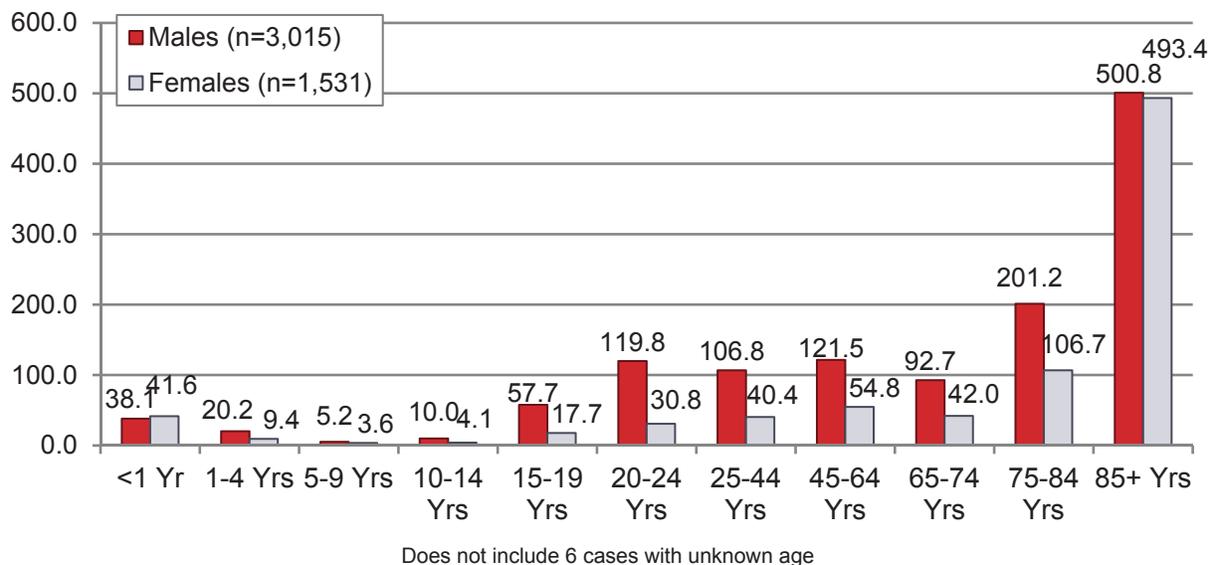
Figure I.4 shows the changes in age-adjusted injury-related mortality rates among Arizona residents from 2005 through 2011. Unintentional injuries still account for the largest percentage of injury-related deaths, and although the rate of such deaths decreased over the five year period, there has been a 5 percent increase since 2009. Homicide deaths have followed a similar trend, decreasing since 2005 by 27 percent, but increasing slightly since 2009 by a percent difference of nearly 11 percent. The age-adjusted suicide rate increased over 9 percent from 2005 through 2011.

Figure I.4 Age-Adjusted Injury Mortality Rates per 100,000 Residents by Manner of Death, Arizona, 2005-2011



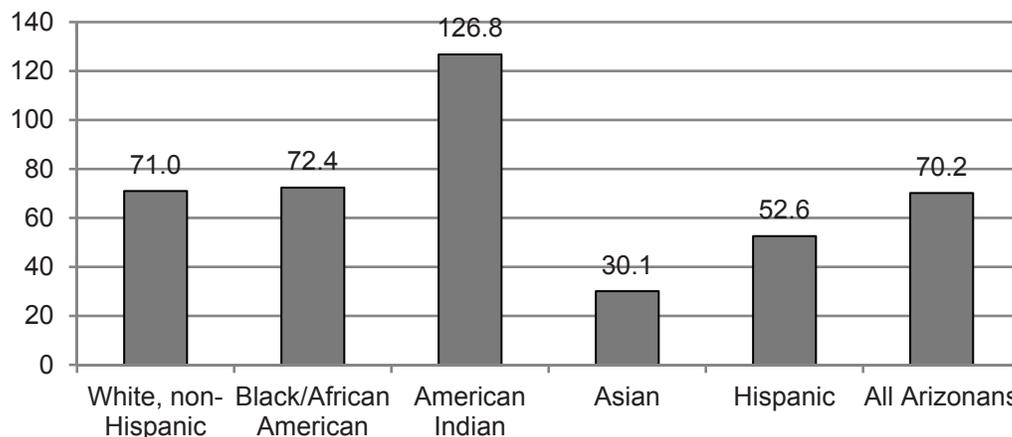
Older adults are at a higher risk than other age groups for injury-related deaths. Co-morbidities and longer healing processes among older adults may contribute to higher risk. The group with the highest rate of injury-related deaths in Arizona during 2011 was males age 85 years and older (500.8 deaths per 100,000 residents). Figure I.5 shows the injury-related mortality rates by age group and sex. This figure shows that throughout the lifespan males have higher rates of injury-related deaths than females.

Figure I.5 All Injury-Related Mortality Rates per 100,000 Residents by Age Group and Sex, Arizona 2011



Injury-related death rates vary by race/ethnicity in Arizona. Despite a 22 percent decrease in their injury-related death rates since 2005, American Indians still had the highest injury-related mortality rates in 2011 (126.8 deaths per 100,000 residents). With the exception of white non-Hispanic, all race/ethnicities decreased their rate in age adjusted injury related deaths in 2005-2011 (71 per 100,000). The largest decrease was (31 percent) among Black/African American Arizonans, from 103.8 deaths per 100,000 residents in 2005 to 72.4 deaths per 100,000 residents in 2011.

Figure I.6 Age-Adjusted Injury Mortality Rates per 100,000 Residents by Race/Ethnicity, Arizona 2011



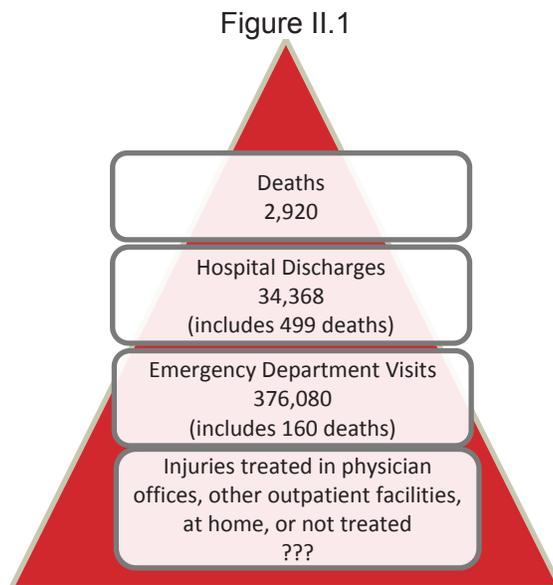
CHAPTER 2: UNINTENTIONAL INJURIES

In 2011, unintentional injury was the leading cause of death for Arizona residents between 1 through 44 years of age. Often mislabeled as “accidents”, unintentional injuries are often predictable and preventable. Safety efforts can be focused on preventing or reducing the effects of an injury event. Unintentional injuries accounted for 64 percent of all injury-related deaths, 82 percent of all injury-related hospitalizations, and 93 percent of all injury-related emergency department visits in Arizona during 2011.

The causes of mechanisms of unintentional injuries vary by injury severity and place of occurrence. Among unintentional injuries, motor vehicle traffic events, falls, and poisonings were among the top causes for deaths, hospitalizations, and emergency department visits in 2011. According to the National Safety Council in 2008, 35 percent of non-occupational unintentional injury deaths in the United States involved motor vehicles, with 41 percent of unintentional injury deaths occurring in or around the home.⁹ Additionally, over three million people in the nation suffered disabling injuries in the workplace.¹

Unintentional injuries that are reported in depth in this Injury Plan include transportation injuries, falls, drowning, poisoning, fire/burns, firearm-related injuries, and recreation-related injuries. While these topics do not cover all mechanisms of unintentional injuries, the topics addressed account for the largest burden of injury-related events.

Figure II.1 shows the injury pyramid for unintentional injuries among Arizona residents in 2011.



⁹ National Safety Council. (2010). *Injury Facts, 2010 Edition*. Itasca, IL: Author.

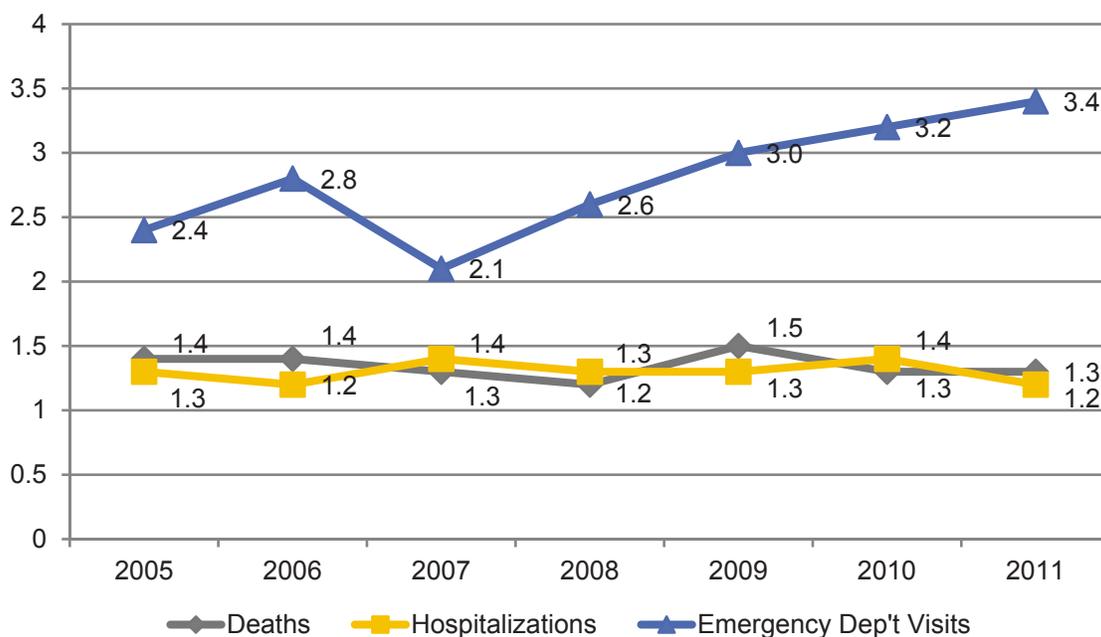
Section A: Unintentional Drowning

Background

Unintentional drowning is a serious injury concern in Arizona. The circumstances of a drowning vary by age group but can often be attributed to one of the following preventable factors: lack of child supervision, ineffective barriers to water access, and impairment due to drug and alcohol use. Between 2006 and 2010, data from the Centers for Disease Control and Prevention show drowning ranked as the leading cause of unintentional death among Arizona children ages 1 through 4 years, and the sixth leading cause of unintentional injury-related death among Arizona residents of all ages. Arizona's age adjusted mortality rate for drowning between 2006 and 2010 was 25 percent higher than the national rate, with 1.5 deaths per 100,000 Arizona residents compared to 1.2 deaths per 100,000 U.S. residents.¹⁰

Although the rate of drowning-related emergency visits has increased 42 percent between 2005 (2.4 per 100,000 residents) and 2011 (3.4 per 100,000 residents), hospitalization rates and death rates have remained stable. Figure IIA.1 shows the trends in drowning and non-fatal submersion-related injuries among Arizonans from 2005 through 2011.

Figure IIA.1. Age-Adjusted Drowning/Submersion Rates per 100,000 Residents by Data Source, Arizona, 2005-2011



¹⁰ Centers for Disease Control and Prevention, National Center for Injury Prevention and Control. Web-based Injury Statistics Query and Reporting System (WISQARS) [online]. (2010) [cited 2012 Oct 4] Available from: www.cdc.gov/ncicp/wisqars.

Factors

Arizona Child Fatality Review data indicate that in-ground swimming pools were the location for 81 percent of fatal child drowning cases, 0 through 17 years of age, in 2011. In children 1-4 years of age, in-ground pools were the location of 100 percent of the drowning-related deaths (n=18).

Arizona has seen an increase in sales of large, inexpensive inflatable or portable above-ground pools. These pools are often left filled for weeks at a time, and many parents mistakenly believe these pools fall outside of local building codes that require pool barriers. The soft sides of some models allow children to lean over and easily fall into the water head first. A study of above-ground pools conducted by the American Society for Testing and Materials (ASTM) in May 2010, showed that children between 42 and 54 months of age were able to climb into a pool with a 48-inch wall, even if the ladder was removed.³

Incident data from Maricopa County for 2005 through 2008 shows three incidents involving above ground pools; the only incident involving a child under age 5 did not result in a fatality. From 2004 to 2006, the Consumer Products Safety Commission (CPSC) reported 47 deaths of children related to inflatable pools, nationwide.

Open water such as rivers, lakes, and canals, were the location for 24 percent of Arizona's fatal child drowning cases. Nationally, poor outcomes are more common when drowning occurs in open water settings.¹¹ According to the U.S. Coast Guard's latest statistics, an analysis of national fatal boating incidents revealed that 79 percent of the operators had no formal boater education training. An estimated 90 percent of national boating drowning deaths occurred in individuals not wearing a life jacket. One observational study revealed that 90 percent of children younger than five years of age wore life jackets; only 13 percent of those 14 years or older used a life jacket.¹²

Nationally, 10 to 30 percent of all fatal swimming and boating victim deaths could be attributed specifically to alcohol use.¹³ In boating, there is evidence that the relative risk of drowning death for adults is directly related to blood alcohol content, with a 16-fold greater risk when the victim's blood alcohol content (BAC) was more than 0.10 (100 mg/dL).¹⁴

Awareness of drain entrapment as a hazard has increased in recent years, with the passage of the *Virginia Graeme Baker Pool and Spa Safety Act*, which requires drain covers, unblockable drains, and suction valve release systems for all public pools and spas in the United States. Many parents and pool and spa owners are not aware of the risk, and only 15 percent have installed the anti-vortex drain covers.¹⁵

¹¹ Shields B, Pollack-Nelson C, Smith G. Pediatric Submersion Events in Portable Above-Ground Pools in the United States 2001-2009. *Pediatrics*, 128:1:45-52.

⁴ Committee on Injury, Violence, and Poison Prevention, Weiss, J. Drowning Prevention. *Pediatrics* 2010;126:e253

⁵ *Injury Prevention*, 1998; 4:203-205. doi:10.1136/ip.4.3.203

¹³ *Injury Prevention*, 2004; 10:107-113. doi:10.1136/ip.2003.004390

¹⁴ *The Journal of the American Medical Association*, December, 2001, Volume 286, No. 23

¹⁵ Quraishi AY, Morton S, Cody BE, Wilcox R. *Pool and Spa Drowning: A National Study of Drain Entrapment and Pool Safety Measures*. Washington (DC): Safe Kids Worldwide, May 2006.

Impact

According to a 2008 New South Wales, Australia report, death due to a single fatal drowning comes at a cost ranging between \$324,449 - \$535,379 (after conversion) to the broader community. Nationally, the Home Safety Council estimates medical costs of unintentional fatal home drowning averages \$2 billion annually.

Typical medical costs for a non-fatal victim can range from \$8,000 for initial emergency room treatment to \$250,000 a year for long-term care. The lifetime cost of a single non-fatal incident that results in neurological deficits can be more than \$5.5 million.¹⁶

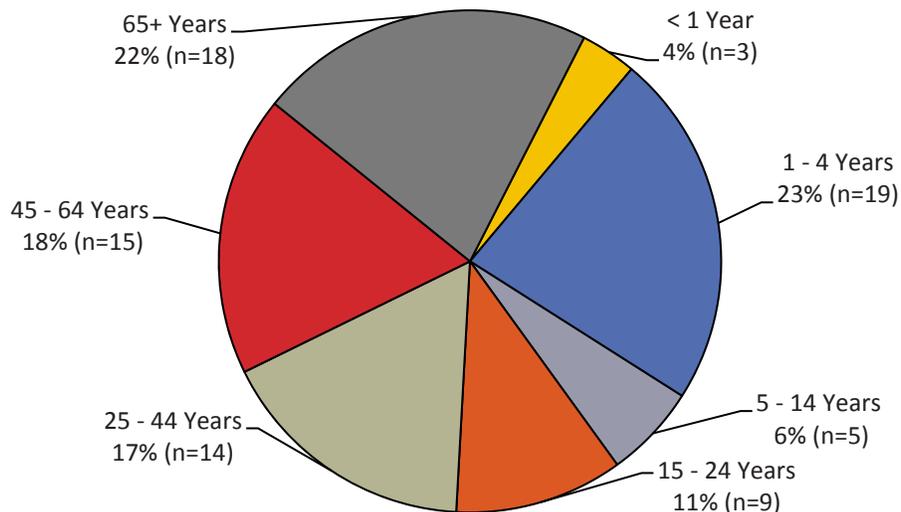
The CDC reports that from 2005 through 2007, unintentional drowning for all ages in Arizona estimated an impact of 1.1 percent of years of potential life years that were lost, or 8,937 years.

Much of the impact of fatal and non-fatal drowning is significant, but cannot be calculated. Traumatic grief can affect physical and mental health of survivors, as well as on-the-job productivity, and overall well-being. Arizona's high rate of drowning affects many groups, including emergency care providers, families, and communities as a whole.

Deaths due to Unintentional Drowning

The largest percentage of drowning deaths are among children ages 1 through 4 years, with 23 percent of deaths (n=19*). This finding is consistent with national trends that find the highest rate of drowning among the nation's youngest children.¹⁷ Figure IIA.2 shows the distribution of drowning-related deaths in Arizona by age group.

Figure IIA.2. Unintentional Drowning/Submersion-Related Deaths by Age Group, Arizona 2011 (n=83)



¹⁶ *Safe Kids World Wide* report, 2004 Facts about Childhood Drowning.

¹⁷ Committee on Injury, Violence, and Poison Prevention, Weiss, J. Drowning Prevention. *Pediatrics* 2010;126:e253

*Fatality numbers may differ from those recorded in Child Fatality Review.

The Arizona Child Fatality Review Program reported that swimming pools were the most common source of water for fatal submersions among children statewide, with 81 percent of deaths occurring in swimming pools in 2011. The remaining 19 percent of drowning deaths occurred in open water, bathtubs, buckets, or undetermined sources of water.

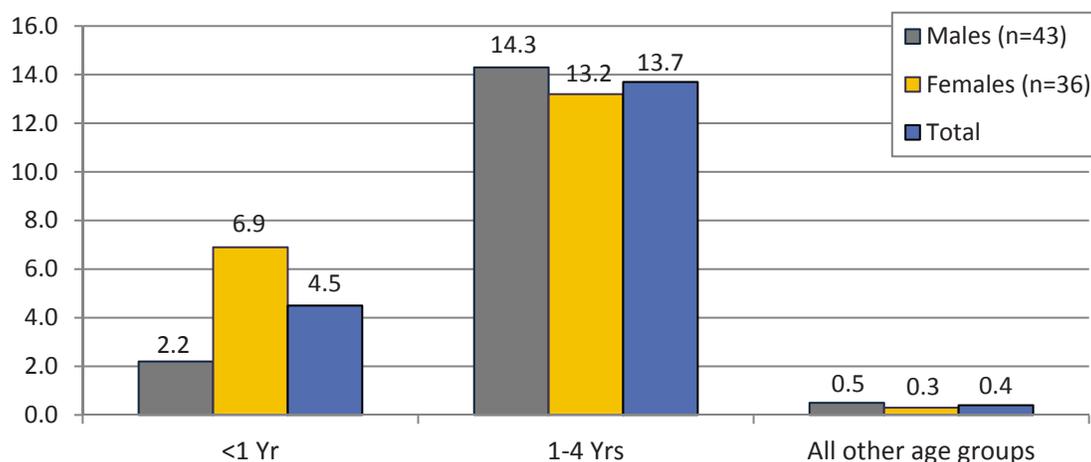
In Arizona, drowning in bathtubs and buckets was more likely to involve children under the age of one year. This finding is consistent with national data which found 78 percent of infant drowning deaths occurred in bathtubs and large buckets.¹⁸ From 1983 through November 2009, national data from the Consumer Product Safety Commission on submersions involving bath seats showed 174 reported deaths and 300 non-fatal submersion incidents.

Findings from the Arizona Child Fatality Review Program indicate that the circumstances of fatal child drowning incidents often include at least one risk factor contributing to the death. Among the 183 child deaths in Arizona from 2006 through 2011, lack of supervision was a factor in 82 percent of cases (n=150), and access to the water was a factor in 64 percent of cases (n=117). The Arizona Child Fatality Review program notes that alcohol or drug-use were factors in 13 percent of cases (n=23). Alcohol has also been shown to play a significant factor in open water drowning.¹⁹

Non-Fatal Inpatient Hospitalizations and Emergency Department Visits for Unintentional Drowning

In 2011, 79 Arizonans were hospitalized due to a water-related incident. Of those, 11 expired prior to leaving the hospital (14 percent). Most inpatient hospitalizations were among males (54 percent, n=43), and young children between the ages 1 and 4 (64 percent, n=51). The counts among all other age groups (5 through 85+) were too low to calculate stable rates, so they were combined into one large category (n=24). Figure IIA.3 shows the drowning-related inpatient hospitalization rates per 100,000 residents by age group and sex.

Figure IIA.3. Unintentional Drowning/Submersion-Related Hospitalizations Rates per 100,000 Residents by Age Group and Sex, Arizona 2011 (n=79)



In 2011, there were 222 emergency department visits for unintentional drowning among Arizonans, including 11 cases resulting in death (5 percent). Fifty-nine percent of the emergency department visits were among children younger than five years of age. Of the young children

¹⁸ Committee on Injury, Violence, and Poison Prevention, Weiss, J. Drowning Prevention. *Pediatrics* 2010;126:e253

¹⁹ Smith GS, Keyl PM, Hadley JA, et. al. *JAMA*, 2001; 286: 2974-2980.

who require emergency medical care, approximately five to 10 percent of drowning incidents result in severe neurological damage. As with fatal submersions, the majority of emergency department visits were among males (56 percent, n=125). Only 44 percent of visits were among females (n=97). Figure IIA.4 shows the distribution of emergency department visits for submersions among Arizona residents in 2011. Figure IIA.5 shows the rate of submersion-related emergency department visits by age group and sex.

Figure IIA.4. Unintentional Drowning/Submersion-Related Emergency Department Visits by Age Group, Arizona 2011 (n=222)

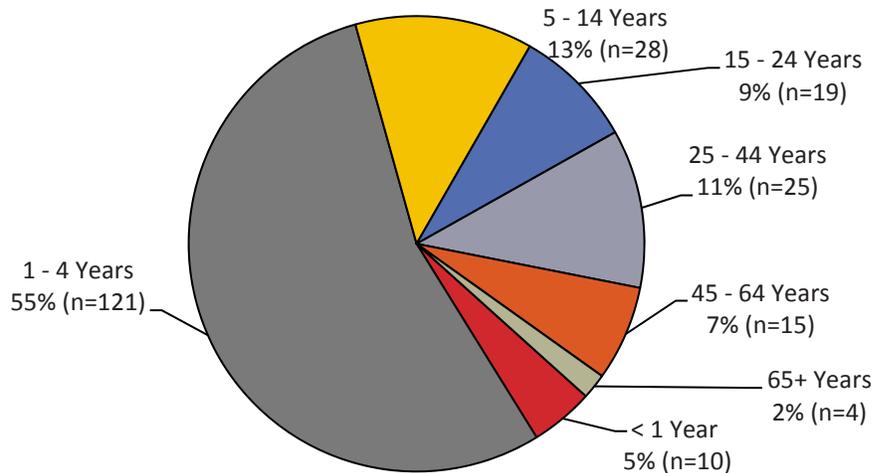
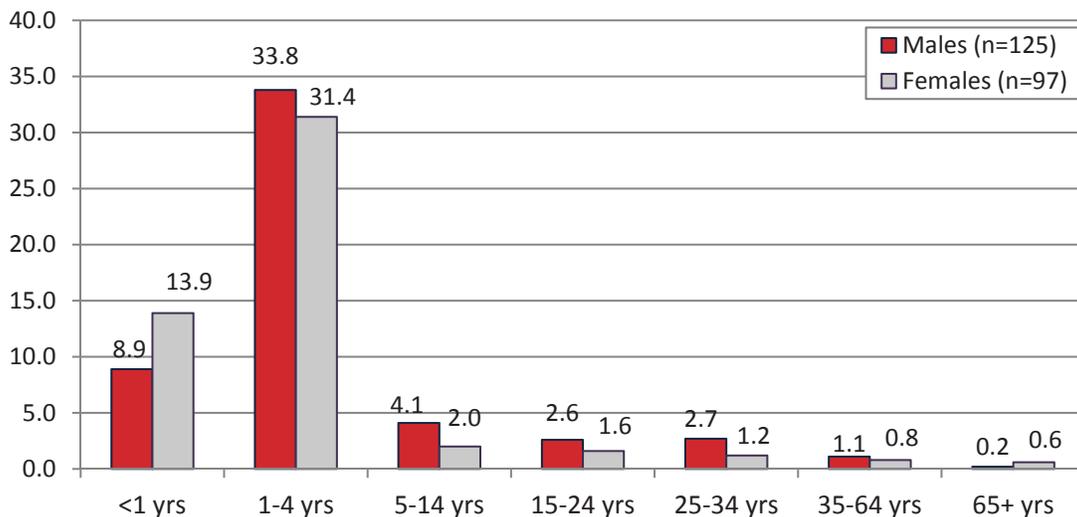


Figure IIA.5. Unintentional Drowning/Submersion-Related Emergency Department Visit Rates per 100,000 Residents by Age Group and Sex, Arizona 2011 (n=222)



Existing Surveillance Systems

The systems to monitor drowning deaths and non-fatal near drowning in Arizona include death certificates, hospital discharge data, emergency department data, and Child Fatality Review reports. Additional sources come from fire departments who submit reports of drowning and near drowning that occur in Maricopa County. Fire departments in other counties also compile and submit case reports on water-related incidents. Fire departments submit these reports voluntarily to the Drowning Prevention Coalition of Arizona (DPCA), which works with the Arizona Department of Health Services (ADHS) to produce an annual report.

Limitations of Data

Many swimming pool drowning deaths are miscoded in the electronic death database as “unspecified” types of drowning due to a shortcoming in the software that assigns ICD-10 codes. Data collected as part of the DPCA’s active surveillance have been manually corrected to reflect the appropriate body of water, although this applies primarily to data collected in Maricopa County.

Additionally, the active surveillance system is contingent upon report submission by emergency response personnel. Although ADHS and DPCA are moving toward statewide surveillance, not all emergency responders throughout the state regularly report water-related incidents to the state.

Challenges Surrounding Drowning

- Circumstances of drowning among older children or adults are not well documented
- Circumstances of drowning in counties other than Maricopa need to be characterized
- The number of residential pools remains unknown
- It is difficult to document the effectiveness of drowning prevention messages or barrier ordinances in various cities
- The scope of open-water drowning on lakes and rivers has not been clearly defined.

Summary/Highlights of Data

- Drowning is the leading cause of injury-related death for children ages 1-4.
- There are multiple factors involved when a fatal drowning occurs, with lapses in adult supervision and insufficient barriers to water as the top issues among child drowning incidents.
- Alcohol and drugs are a factor in drowning deaths.
- Drowning deaths are preventable.

Current Interventions

Drowning continues to be a primary focus area for many fire and aquatics departments in Arizona. The business sector, including several of the children's hospitals, support many of the prevention activities conducted around the state in the form of financial assistance, in-kind services and participation in planning and coordinating events. The following activities have evolved from this statewide focus on drowning prevention and water safety efforts:

Education

Water Safety Days - Initially hosted by Mesa Community College, annual water safety days have been conducted in the Phoenix metro area since 2000. The official "Water Safety Day" event was created in the memory of Weston Letter who drowned in 1999. This event is coordinated by Water Watchers at Phoenix Children's Hospital, and presented at various locations throughout the Valley to accommodate a variety of school districts. In 2006, a second water safety event was conducted by West Valley fire departments and community agencies for the west regions of Maricopa County. The economic downturn prevented further scheduling of this event. Combined with a lesson specific to water safety, these ongoing events create and heighten awareness of the issue with young children. Because of their success, these events have been adopted in the Tucson area as well. Additionally, general water safety events, like April Pools Day, are offered throughout the state to provide drowning prevention information through fun activities for families.

Drowning Impact Awareness Month – In 2004, Phoenix Children's Hospital established August as "Drowning Impact Awareness Month." This was accompanied by a purple ribbon campaign to serve as visual reminder that drowning events can still occur in August. The color purple was chosen to represent the children impacted by drowning. It was also the favorite color of a child who drowned that same year. With many schools starting during the month of August, it was recognized that parents can be distracted with back-to-school shopping and activities. All families and caregivers are now reminded that water safety is a year round practice, not just during the summer months. This campaign now extends to Tucson and Yuma.

Water Walk for Safety events – During these events, volunteers walk door-to-door and hang bags that contain valuable water safety information: CPR information, how to call 9-1-1 and emphasize on supervision at all times in and around pools. The walks are a grass roots campaign by volunteers who go door to door, passing out the safety information. Many fire departments serve as the community coordinating body for these events.

Ninos Seguros, Seguros Que Si! - In 2005, collaboration between the Phoenix Fire Department, Food City Grocery stores, and Arvizu Advertising, Inc., created a drowning prevention campaign specifically designed for the Spanish speaking population. The campaign includes high-quality public safety announcements, posters, brochures and a variety of collateral material. Most public education campaigns are simply translated into other languages. The Ninos Seguros program is unique because it is centered on cultural relevance to better reach and serve its target population. Initially, the campaign was supported by several food sponsors but has become less visible due to the economic downturn. It is still available from Arvizu Advertising.

"Signs of Life" Community Pool Safety Campaign - The Drowning Prevention Coalition of Arizona collaborated with Salt River Project and the Arizona Multi-Housing Association to create the "Signs of Life" project, a continuation a Safe Kids Tucson project. Durable metal signs with

water safety messages and graphics were designed and produced by DPCA and SRP with the agreement that large multi-unit housing complexes throughout the Phoenix Metro area would post them on fences surrounding community pools. This campaign was created to reduce drowning incidents in apartment pools.

Water Safety Curriculum - Each year, schools across Maricopa County address water safety in the classroom. Phoenix Children's Hospital's first grade "Water Safety is For You" curriculum, teaches water safety in conjunction with classroom priorities. The curriculum for kindergarten, second and third grade has been completed and will roll out in the next two years by the Drowning Prevention Coalition of Arizona and Safe Kids Tucson. Additionally, fire departments and water safety advocates are in elementary schools each spring teaching water safety.

Swim Lessons for Low-income families: City aquatics centers partner with private companies to provide free or reduced swim lessons. As an example, Cigna Healthcare continues its support of Itsy Bitsy Beach Parties, which include free swim lessons for low income children. Cigna also funds the Junior Lifeguard and Lifeguard training programs for the city. Salt River Project has initiated funding for free swim times at city pools and swim lesson. Water safety information is always included during the lessons.

Wear It: Arizona Game and Fish Department staff worked with the National Safe Boating Council to promote life jacket wear and conduct community, shore-side, and on-the-water outreach to help boaters and other open water users understand the value of life jackets, the differences of them, choosing the right type of life jacket for the activity they're engaged in and how they should be worn. In Arizona, all children 12 years of age and younger **must wear** a U.S. Coast Guard—approved Type I, II, or III life jacket (PFD) while underway on any watercraft. The life jacket (PFD) must be fastened according to the manufacturer's recommended use and must fit the child properly.

Engineering

Adopt-A-Pool-Fence Program - Valley of the Sun United Way and the United Phoenix Fire Fighters Local 493 Charities have funding to provide pool fencing for low income families. Specific criteria must be met for a family to receive a pool fence. Pool safety and drowning prevention educational materials are provided and discussed with each family. Since the program's inception in 2005, more than 630 fences have been installed, protecting approximately 1,000 young children.

Enforcement

Virginia Graeme Baker Pool and Spa Safety Act - This legislation affects all pools in commercial and residential communities, requiring that drain sumps be manufactured or retrofitted to prevent suction entrapment. The Drowning Prevention Coalition has represented water safety issues at industry trade shows and meetings and has promoted information about the legislative requirements of the law. Municipalities are working to ensure that all public pools within their jurisdictions are compliant.

Prosecutions/Convictions - A number of cases in which children drowned under the supervision of their parents have resulted in convictions due to extreme negligence. Cases have been heard in Tucson and Phoenix but information about sentences and fines remain unknown because of the appeal process. Still, these cases reflect a growing societal intolerance of neglectful parenting in certain cases of pediatric drowning. Twenty years ago, these types of cases were rarely prosecuted; losing a child was considered "enough punishment." These

convictions reflect an increased awareness of the negligence issue and add a legal facet to drowning prevention efforts.

Accomplishments

Statewide Collaboration - The Drowning Prevention Coalition of Central Arizona changed its name to the Drowning Prevention Coalition of Arizona. This minor name change has major implications as it opened up the opportunity to collaborate statewide. These collaborations have expanded coalition membership and increased communication between communities throughout Arizona about drowning. These efforts include education and outreach as well as surveillance.

Website - The Drowning Prevention Coalition of Arizona (DPCA) created a website (www.preventdrownings.org) that serves as an information center for current information and educational efforts regarding water safety, events, local contacts listed by city with links to national organizations including the National Drowning Prevention Alliance (NDPA), the National Red Cross, Safe Kids Worldwide, and the United States Consumer Product Safety Commission.

2007 National Drowning Prevention Alliance Symposium - In April 2007, The Drowning Prevention Coalition of Arizona served as host and lead agency for the annual National Drowning Prevention Alliance Symposium. The conference is a yearly gathering of experts in the fields of water safety and drowning prevention. More than 200 people attended the 2007 conference and proclaimed it a success.

Surveillance Expanded to Pima County - In January 2009, Pima County began using the same data collection system for water-related incidents used by Maricopa County. The non-HIPAA data is voluntarily collected from local fire agencies. Once collected, the information is provided to the Arizona Department of Health Services to be analyzed in detail.

Strategic Plan for 2012-2016

Injury Topic: Unintentional Drowning

Objective #1: Reduce Water-related incidents

Strategic Intervention	Action Steps	Key Partners
<p>1. Increase public awareness about water safety in Arizona</p>	<ul style="list-style-type: none"> • Support water safety events, including Water Safety Days, April Pools Events, etc. • Disseminate current collateral material and develop new pieces targeting specific water safety issues • Partner with media (including local city channels) to address water safety in PSAs and relevant programming • Complete the development and promote the school-based educational curriculum to address water safety in schools • Utilize social media to promote messaging to raise water awareness • Promote the website, www.preventdrownings.org, as the resource for water safety messages and events, as well as links to the up-to-date statistics • Coordinate communication among key stakeholders in water safety • Explore funding sources to help financially support these campaigns • Ensure early childhood home visits include discussion of water safety 	<ul style="list-style-type: none"> • Drowning Prevention Coalition of Arizona (DPCA) • Fire and Aquatics departments • AZ Game and Fish Department (AZGFD) • ADHS • Safe Kids and partners • Children's Safety Zone • National Drowning Prevention Alliance • CPSC • Media agencies • ADHS Home Visiting Program • StrongfamiliesAz.com
<p>2. Increase awareness and enforcement of the Virginia Graeme Baker Pool and Spa Safety Act requirements</p>	<ul style="list-style-type: none"> • Participate in drafting of local code changes • Assist in disseminating information to pool and spa owners on retro-fitting existing drains • Partner with pool and spa professionals to provide needed information for their customers 	<ul style="list-style-type: none"> • DPCA • Arizona Pool and Spa Association • Safe Kids and partners • CPSC • National Drowning Prevention Alliance
<p>3. Address the role of swimming lessons as a layer of protection</p>	<ul style="list-style-type: none"> • Communicate to the public the amended stance of the American Academy of Pediatrics regarding 	<ul style="list-style-type: none"> • DPCA • Aquatic Centers and swim schools

	<p>the benefit of swim lessons for children under five years of age</p> <ul style="list-style-type: none"> • Explore funding sources to offer free swimming lessons • Partner with media to explain that swimming lessons are an important layer of protection, but does not “drown proof children” 	<ul style="list-style-type: none"> • Pediatricians • Media agencies • Community Health Centers
<p>4. Increase public awareness that standard CPR is required for children age eight years and younger and victims of water-related incidents</p>	<ul style="list-style-type: none"> • Disseminate information to explain the difference between Hands-Only CCR and traditional CPR • Encourage hospitals and fire departments to continue to provide community CPR certification and awareness classes • Support continued school-based CPR training • Continue to encourage community participation in formal CPR training courses • Continue to produce CPR training materials for mass distribution 	<ul style="list-style-type: none"> • DPCA • Fire Departments • Hospitals • American Red Cross
<p>5. Emphasize the importance of pool barriers as a layer of protection</p>	<ul style="list-style-type: none"> • Include messages about barriers in all water safety education materials • Target new home buyers for education regarding barriers and the cost of their installation • Develop document outlining barrier types and relevance to audience • Assessment of pool barriers in home visiting programs 	<ul style="list-style-type: none"> • DPCA • City Neighborhood Services/Code Compliance Departments • Realtors • Fire Departments • ADHS Home Visiting Programs • StrongfamiliesAZ.com

Objective #2: Expand the Drowning Surveillance System		
Strategic Intervention	Action Steps	Key Partners
1. Expand statistical reporting throughout state	<ul style="list-style-type: none"> Establish a local repository for regional water-related incident tracking Encourage regular communication across state to ensure incident information is collected Enable agencies to compare stats that are up-to-date across the state 	<ul style="list-style-type: none"> DPCA Fire departments ADHS Children's Safety Zone Hospitals Hospital transport service providers
2. Standardize the collection of water-related incident stats	<ul style="list-style-type: none"> Develop electronic form for easier data collection in the field Ensure forms are fully completed to accurately track all water-related incidents 	<ul style="list-style-type: none"> DPCA Fire departments ADHS Children's Safety Zone Hospitals Hospital transport service providers
3. Address the surveillance system for reporting incidents at rivers and lakes in Arizona	<ul style="list-style-type: none"> Work with County Sheriff's office, Coast Guard, and other water enforcement agencies Determine jurisdiction on various segments and ensure data is reported accurately (no double-counting or not counting at all) Develop report to outline specific water-related incidents on rivers and lakes 	<ul style="list-style-type: none"> ADHS County Parks United States Coast Guard Police and sheriff's offices AZGFD US National Park Service Fire departments
4. Define parameters in reporting adult water-related	<ul style="list-style-type: none"> Identify key factors of adult drowning that make reporting difficult (drugs, medical condition, etc.) Educate responders on guidelines for reporting adult water-related incidents Ensure forms are clear on adult vs. child incident reporting 	<ul style="list-style-type: none"> ADHS DPCA Fire Departments Hospitals Hospital Transport Services

Reduce Drowning Injury in Arizona 2012-2016

Process  Outcomes 

Resources	Activities	Outputs	Outcomes	Goals
<i>In order to accomplish the activities we will need the following</i>	<i>In order to address our problem we will accomplish the following activities</i>	<i>We expect that once accomplished these activities will produce the following evidence or service delivery</i>	<i>We expect that if we accomplish these activities it will lead to the following changes in 1-3 then 4-6 years</i>	<i>We expect that if accomplished, these activities will lead to the following changes in 7-10 years</i>
<ul style="list-style-type: none"> ⇒ Funding ⇒ State Agency Involvement (ADHS, AGFD) ⇒ Home Visitors (DES, FTF, ADHS, ADE) ⇒ Local Partners & Organizations ⇒ Injury Prevention Advisory Council ⇒ Evidence based practice or promising and proven interventions ⇒ Print /web materials 	<ul style="list-style-type: none"> ⇒ Increase public awareness about water safety in Arizona using educational campaigns that include water safety and CPR ⇒ Encourage policies and regulations to improve safety in and around water ⇒ Expand the Drowning Surveillance System 	<ul style="list-style-type: none"> Public education campaigns and a communication plan that promotes safety in and around all water types Policies and regulations that improve water safety for children Improved drowning injury surveillance system 	<ul style="list-style-type: none"> ↑ Public awareness about the dangers of drowning ↑ Number of communities with fencing ordinances ↑ In “touch supervision” in an around water Improved data collection 	<ul style="list-style-type: none"> ↓ Drowning death rate ↓ Near drowning hospitalization rate

Section B: Unintentional Falls

Background

Falls are the leading cause of unintentional injury-related inpatient hospitalizations and emergency department visits. In 2011, falls were the second leading cause of unintentional injury-related death for all age groups and the leading cause of injury-related death among individuals 65 years and older. The age-adjusted mortality rate for unintentional falls in Arizona was 11.4 deaths per 100,000 residents in 2011, considerably higher than both the Healthy People 2010 established target of 3.0 deaths per 100,000 population and the 2007 United States rate of 7.0 per 100,000 population.²⁰

Unintentional falls occur in the home, workplace, institutions, and places of recreation. Effective fall prevention strategies differ by the settings of its occurrence. Occupational injuries are an important area within unintentional fall-related injuries and one of the gaps that need to be addressed in the future in collaboration with other state agencies.

Nationally, the majority of non-fatal unintentional falls (55.6 percent) occur in the home, 43.5 percent occur in a location other than home, and less than 1 percent occur in an unknown location.²¹ Even among injuries involving consumer products, 77 percent of emergency department visits by adults 75 years and older involved a fall.²² Although only 52.4 percent of hospitalizations for unintentional falls among Arizona residents were coded for place of injury, results for those cases with codes are similar to national data.

In 2007, national data indicated that unintentional falls were the leading cause of non-fatal injury among children ages 0 through 14 years, the second leading cause of injury for Americans 15 through 24 years, and again the leading cause of non-fatal injury among adults 25 years and older.²³ The National Safety Council reports that falls are the leading cause of non-fatal injury treated in hospital emergency departments and of those who survive a fall, 20-30 percent will suffer debilitating injuries that affect them the rest of their lives. Infants are at a greater risk from falls associated with furniture and stairs. Toddlers are at risk from window-related falls and older children tend to suffer from playground equipment-related falls. More than 80 percent of fall-related injuries among children ages 4 years and younger occur in the home.²⁴ Among children ages 5 through 14 years, 45 percent of fall-related injuries occur in the home and 23 percent occur at school.⁴

Risk for injuries during a fall increases significantly with age. Older adults over the age of 85 years have the highest rates of falls with injuries. Factors that contribute to falls among older adults include problems with walking and balance, physical disabilities, use of medications, dementia, poor vision, and safety hazards in the home. The types of injuries that older adults usually suffer are fractures and injuries to the head.

²⁰ Centers for Disease Control and Prevention, National Center for Injury Prevention and Control. Web-based Injury Statistics Query and Reporting System (WISQARS) [online]. (2010) {cited 2010 June 4} Available from: www.cdc.gov/ncipc/wisqars.

²¹ Home Safety Council. The State of Home Safety in American : Facts About Unintentional Injuries in the Home, Second Edition, 2004.

²² U.S. Consumer Product Safety Commission. Special Report: Emergency Room Injuries Adults 65 and Older. Available from: <http://downloads.nsc.org/pdf/CPSCSafetyReport.pdf>.

²³ Center for Disease Control and Prevention, National Center for Injury Prevention and Control, Office of Statistics and Programming. NEISS All Injury Program operated by the Consumer Product Safety Commission (CPSC). 10 Leading Causes of Nonfatal Unintentional Injury, United States 2007 [online]. (2010) {cited 2010 Sep 3} Available from: http://www.cdc.gov/ncipc/wisqars/nonfatal/quickpicks/quickpicks_2007/unintall.htm.

²⁴ National SAFE KIDS Campaign (NSKC). Falls Fact Sheet. Washington (DC): NSKC, 2004.

Arizona has a growing population of older adults and the burden of injury and death due to falls is significant. Among adults 65 years and older living independently in the community, more than one-third fall each year.^{25,26} Although not all falls result in death or injury, falls among older adults can lead to a fear of future falls, which may result in self-restriction of activity and mobility.²⁷ Decreased physical activity among the elderly is linked to the development of chronic disease and the incidence of additional falls.²⁸ Therefore, it is crucial to the overall health and wellbeing of the elderly to prevent falls and their subsequent effects.

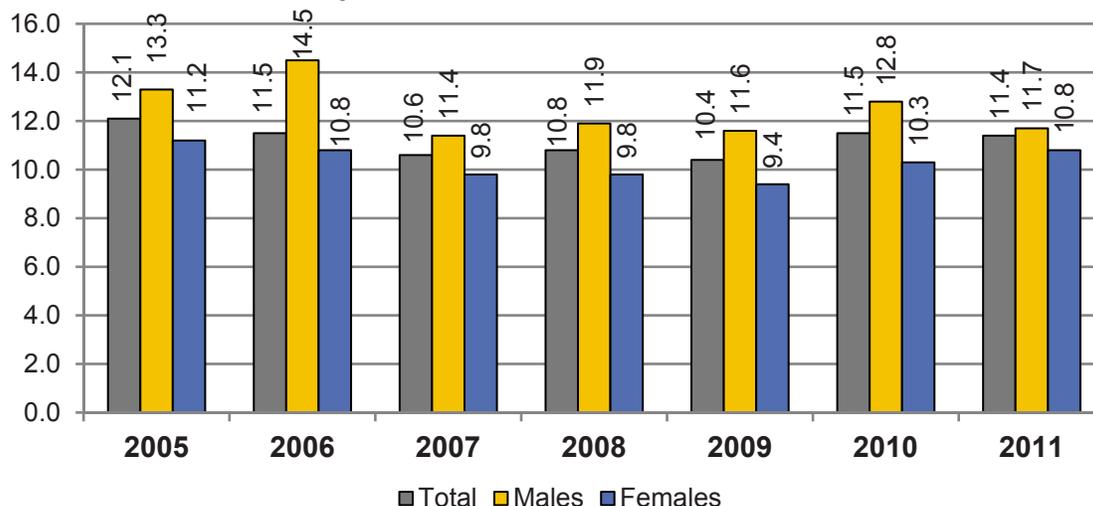
Injuries from falls are a high cost public health concern. In 2000, fall injuries accounted for 20 percent of the total cost of injuries in the United States (\$81 billion).²⁹ Additionally, falls resulted in the greatest total lifetime costs among children and adolescents ages 5 through 14 years (more than \$10 billion), adults ages 45 through 64 years (nearly \$18.5 billion), and adults age 65 years and older (more than \$19 billion).

There were 756 deaths from unintentional falls in Arizona in 2011. In addition, there were 17,824 inpatient hospitalizations (including 246 deaths) and 124,155 emergency department visits (including 31 deaths) due to fall-related injuries among Arizonans in 2011.

Death Trends for Unintentional Falls

There has been a 5.8 percent decrease in the age-adjusted rate of deaths due to unintentional falls among Arizona residents, from 12.1 deaths per 100,000 residents in 2005 to 11.4 deaths per 100,000 residents in 2011. While the decreasing rate is positive, it is offset by the knowledge that the rate is still considerably higher than it was in 2000 (7.6 deaths per 100,000 residents) and that rates have increased from 10.4 per 100,000 residents in 2009.

Figure IIB.1. Age-Adjusted Unintentional Fall Mortality Rates per 100,000 Residents by Sex and Year, Arizona, 2005-2011



²⁵ Hausdorff JM, Rios DA, Edelber HK. Gait Variability and fall risk in community-living older adults: a 1-year prospective study. Archives of Physical Medicine and Rehabilitation 2001; 82(8): 1050-6.

²⁶ Hornbrook MC, Steven VJ, Wingfield DJ, Hollis JF, Greenlick MR, Ory MG. Preventing falls among community-dwelling older persons: results from a randomized trial. The Gerontologist 1994; 34(1): 16-23.

²⁷ Vellas BJ, Wayne SJ, Romero LJ, Baumgartner RN, Garry PJ. Fear of falling and restriction of mobility in elderly falls. Age and Aging 1997; 26(3): 189-193.

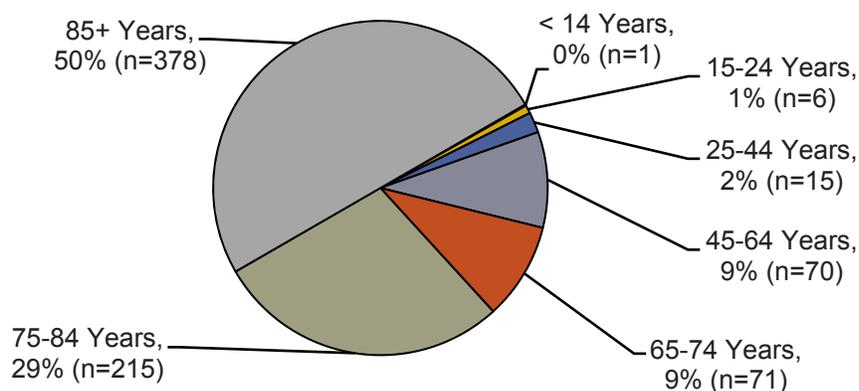
²⁸ Warburton DR, Nicol CW, Bredin SD. Health benefits of physical activity: the evidence. CMAJ 2006; 174(6): 801-809.

²⁹ Finkelstein EA, Corso PS, Miller TR, Associates. Incidence and Economic Burden of Injuries in the United States. New York: Oxford University Press; 2006.

Deaths from Falls

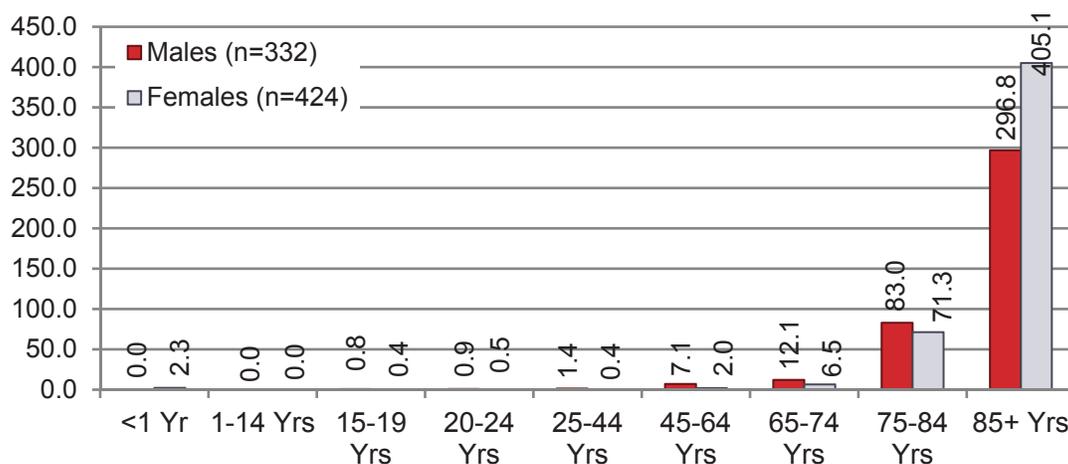
Among the 756 unintentional fall-related deaths in 2011, 44 percent were among males (n=332), and 56 percent were among females (n=424). In Arizona, adults 65 years and older represent 14 percent of the overall population,³⁰ yet they account for 89 percent (n=664) of all fall-related deaths. Only one percent of deaths related to unintentional falls (n=7) occurred among children or adolescents younger than 25 years. Figure IIB.2 shows the age distribution of Arizona residents who died from fall-related injuries during 2011.

Figure IIB.2. Unintentional Fall-Related Deaths by Age Group, Arizona 2011 (n=756)



Death rates for unintentional fall-related injuries are highest for females 85 years and older (405.1 deaths per 100,000 residents). The rate for males in the same age group is also high (296.8 deaths per 100,000 residents). More than twice as many females over the age of 85 years died from unintentional falls compared to males in the same age group (266 females and 112 males). Figure IIB.3 shows the death rates for fall by age group and sex per 100,000 Arizona residents in 2011.

Figure IIB.3. Unintentional Fall-Related Mortality Rates per 100,000 Residents by Age Group and Sex, Arizona 2011 (n=756)

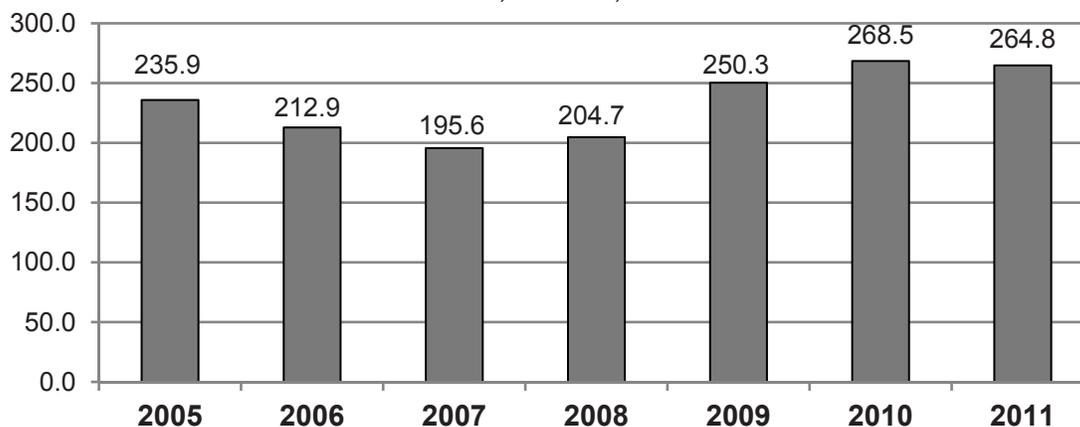


³⁰ Arizona Vital Statistics Population Denominators for 2011 [online]. (2012) {cited 2012 August 27} Available from: www.azdhs.gov/plan/menu/info/pop/pop09/pd09.htm.

Inpatient Hospitalizations for Falls

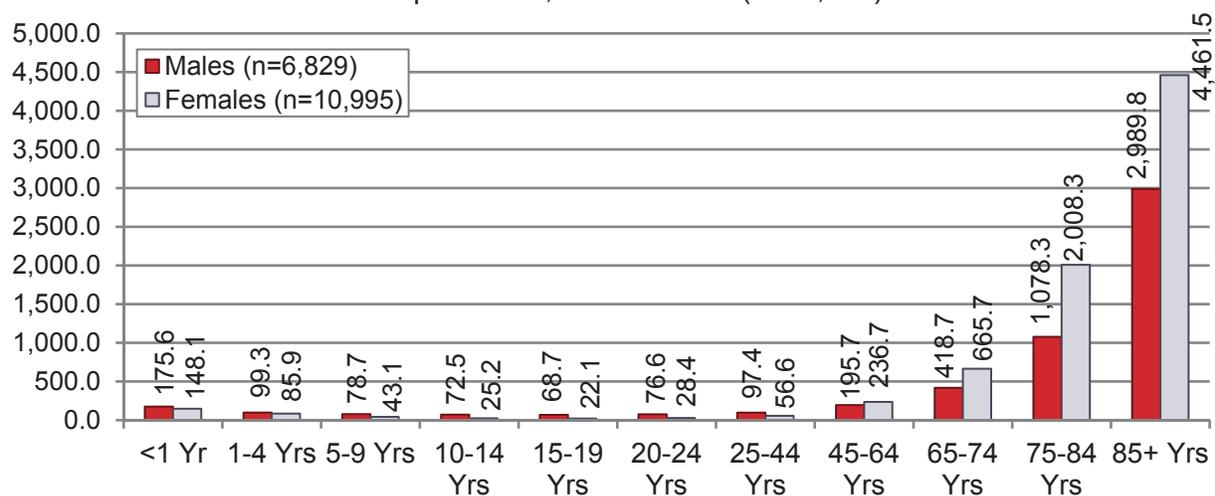
Unintentional falls were the leading cause of injury-related hospitalizations among Arizona residents in 2011, totaling 17,824 or 43 percent of all injury-related hospitalizations. This can be compared to unintentional motor vehicle traffic injuries, which only represent 13 percent of all injury-related hospitalizations. Figure IIB.4 shows the age-adjusted rate of hospitalizations among Arizona residents from 2005 through 2011.

Figure IIB.4. Age-Adjusted Unintentional Fall-Related Hospitalization Rates per 100,000 Residents, Arizona, 2005-2011



Among 17,824 inpatient hospitalizations for falls, 38 percent were among males (n=6,829) and 62 percent were among females (n=10,995). Of those hospitalized for unintentional falls, 246 died. Sixty-five percent (n=11,594) of the inpatient hospitalizations were Arizonans 65 years and older. As with unintentional fall-related deaths, older adults had the highest hospitalization rates for fall-related injuries. Also, females experienced a higher rate than males from age 45 years and older. Figure IIB.5 illustrates the 2011 hospitalization rates for unintentional fall-related injuries by age group and sex among Arizona residents.

Figure IIB.5. Unintentional Fall-Related Hospitalizations Rates per 100,000 Residents by Age Group and Sex, Arizona 2011 (n=17,824)

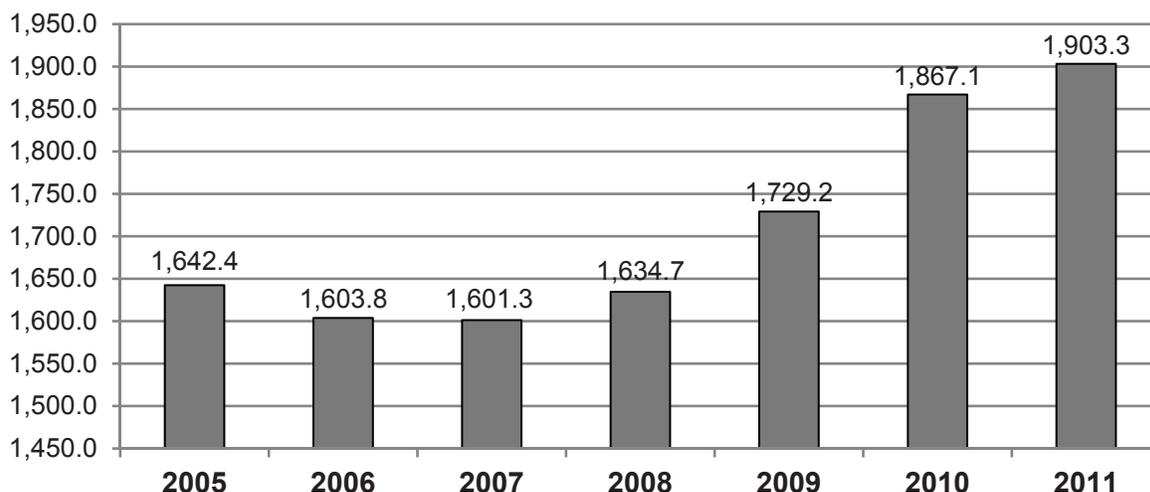


In 2011, the median hospital stay for a fall-related injury was 3 days, with Arizona residents spending a total of 73,718 days hospitalized. The median charges for a fall-related hospitalization were \$39,098. All charges for fall-related hospitalizations in 2011 totaled over \$848.6 million. Hospital charges do not include costs incurred for emergency medical services, outpatient therapies, or rehabilitation.

Emergency Department Visits for Falls

Unintentional falls were the leading cause of injury-related emergency department visits among Arizona residents in 2011, totaling 124,155 or 31 percent of all injury-related emergency department visits. While the age-adjusted rate of fall-related emergency department visits remained stable from 2005 through 2008, there was a sharp increase in 2009. Due to expanded use of E-Codes in 2008, it is possible the rate increase in 2009 is a byproduct of this methodological change. Figure IIB.6 shows the age-adjusted rate of emergency department visits among Arizona residents from 2005 through 2011.

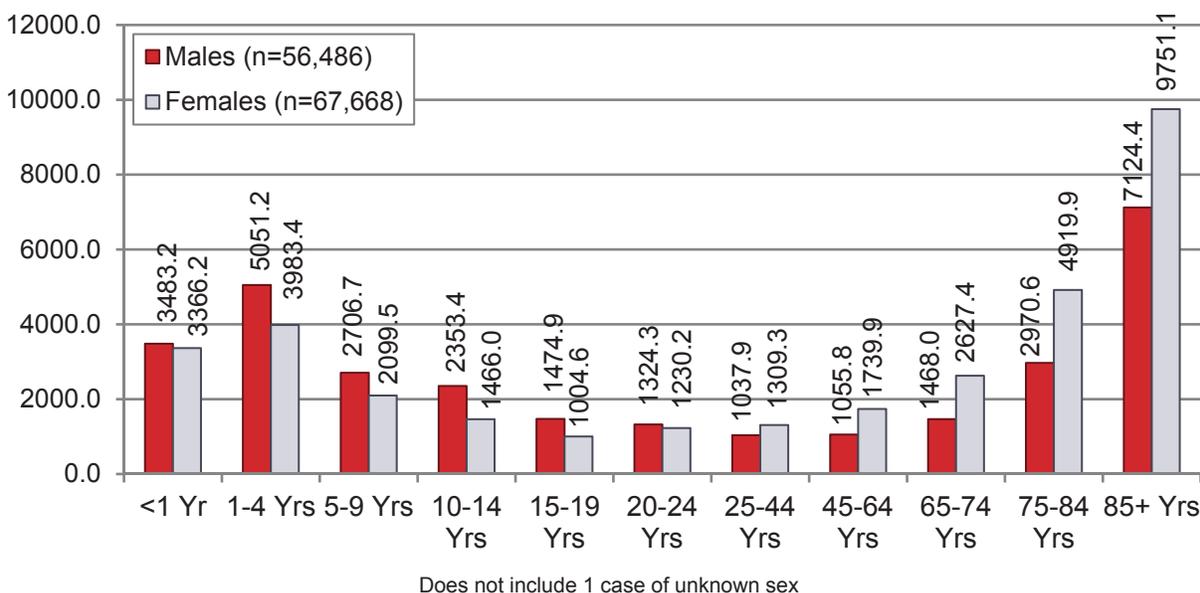
Figure IIB.6. Age-Adjusted Unintentional Fall-Related Emergency Department Visit Rates per 100,000 Residents, Arizona, 2005-2011



There were 124,155 emergency department visits for falls among Arizona residents in 2011; 45 percent were among males (n=56,486) and 55 percent were among females (n=67,668). Of those seen in the emergency department for unintentional fall-related injuries, 31 died. Persons over the age of 65 years accounted for 25 percent of emergency department visits (n=30,958). The largest number of emergency department visits consisted of children ages 14 years and younger (32 percent, n=39,641).

The 2011, age-adjusted emergency department visits rate for unintentional fall-related injuries among Arizonans was 1,903.3 visits per 100,000 residents. Emergency department visit rates for fall-related injuries were higher at both ends of the lifespan, but highest among older adults. It should be noted that the numbers of emergency department visits are highest for children 14 years of age and younger, who comprised 32 percent of these visits. Figure IIB.7 illustrates the 2011 emergency department visit rates for unintentional fall-related injuries by age group and sex among Arizona residents.

Figure IIB.7. Unintentional Fall-Related Emergency Department Visit Rates per 100,000 Residents by Age Group and Sex, Arizona 2011 (n=124,155)



In 2011, the median charges for a fall-related emergency department visit were \$1,893. All hospital charges for fall-related emergency department visits in 2011 totaled \$396.6 million. Hospital charges do not include costs incurred for emergency medical services, outpatient therapies, or rehabilitation.

Circumstances Contributing to Falls

Hospital and emergency department data may contain information on circumstances that contributed to the injury. For unintentional fall-related injuries, major categories of contributing event include:

- Falling from or on stairs or steps
- Falling from or on a ladder or scaffolding
- Falling from one level to another
- Falling as a result of slipping, tripping, or stumbling
- Falling from furniture, including beds, toilets, and wheelchairs
- Falls from recreational equipment, or while playing sports (includes falling from snowboards, skates, and non-motorized scooters)
- Falls that result in striking a sharp or blunt object

Existing Surveillance Systems

Arizona Vital Records death certificate data, hospital discharge data, and emergency department data are the primary sources for monitoring fall-related injuries. The Child Fatality Review team reviews fall-related deaths of children 17 years and younger across the state, using law enforcement and medical examiner reports to assess intent and causal agent(s).

Summary/Highlights of Data

- Falls are the leading cause of unintentional injury-related inpatient hospitalizations and emergency department visits.
- In 2011, falls were the second leading cause of unintentional injury-related death for all age groups.
- Falls are the leading cause of injury-related death among individuals 65 years and older.
- More than 80 percent of fall-related injuries among children ages 4 years and younger occur in the home.
- Factors that contribute to falls among older adults include problems with walking and balance, physical disabilities, use of medications, dementia, poor vision, and safety hazards in the home.

Current Interventions

Due to the complexity of falls, prevention must be interdisciplinary and multifaceted. As with all injury prevention efforts, interventions include education, environment or product modification, and legal or regulatory requirements.

One intervention for young children occurs within ADHS's Health Start Program. The program utilizes lay health workers to provide education, support, and advocacy services to pregnant/postpartum women and their families in targeted communities across the state. The health workers provide a safe child/safe home safety check to each program recipient. The ADHS High Risk Perinatal Program also sends Community Health Nurses into the home after a baby has been discharged from the Neonatal Intensive Care Unit (NICU) to conduct a home safety assessment.

Additionally, ADHS is piloting an enhanced home safety checklist for home visitors called Healthy@Home. Upon completion of the pilot, it is anticipated that both Health Start and the High Risk Perinatal Program Community Health Nurses will utilize the new tool. Home visitors will address home safety.

Among older adults, the incidence of falls and injuries is common, often resulting in long-term pain and disability. Fall risk reduction involves identification of fall risk factors and specific interventions to decrease those risks. Table 1 shows the intrinsic and extrinsic risk factors associated with falls among older adults. Fortunately, there are evidence-based interventions that can decrease the risk of falling and subsequent injury.

Table 1. Risk Factors Associated with Falls Among Older Adults

<i>Intrinsic</i>	<i>Extrinsic</i>
Age-related physiological changes	Medication side effects
Impairments to the sensory-nervous systems	Environmental hazards
Disorders of the musculoskeletal system	Obstacles interfering with safe mobility
Specific acute and chronic diseases	

The most effective interventions to prevent falls for persons at moderate to high risk of falls are multi-faceted. Interventions include: home safety assessments, medication management, vision screening, and physical activity. Exercise is one of the most important ways to reduce risk of falling by strengthening muscles and improving balance and coordination. It is important to emphasize that exercise does not have to involve formal classes or routines, but includes any physical activity, such as household chores or hobbies. Lack of exercise can lead to weakness and increased chances of falling.

In Arizona, various components of injury prevention and health promotion programs can be found at the state, county, and community level. Examples of community-based activities include Home Health agencies' availability of home evaluations and fall risk assessments. Several regional Area Agency on Aging and Senior Centers provide public education and risk assessments for older adults. Fall risks are regularly assessed in long-term care and assisted living facilities and interventions are instituted. ADHS Division of Assurance and Licensure conducts surveillance of health care facilities to determine compliance with minimum safety standards in the area of injury prevention among residents. Physical activity programs targeting older adults are available in the community and may focus on fall prevention.

Accomplishments

The Virginia G. Piper Charitable Trust has supported fall prevention programs in Arizona through awards of \$138,300 in fiscal year 2009³¹ and \$150,000 in fiscal year 2010³² to support a Fall Prevention coalition. The FY09 award to the Governor's Advisory Council on Aging supported the creation of the Fall Prevention Coalition in Maricopa County. The FY10 award to the Area Agency on Aging, Region One supported the Fall Prevention Coalition for Maricopa County as it transitioned to a new sponsoring agency and grows into a statewide effort. Now renamed the Arizona Fall Prevention Coalition, the group focuses on medication management, physical activity, and home modification as focus areas through which to provide community education and reduce the burden of falls among Arizona's older adults. Coalition information is available online at www.azstopfalls.org.

³¹ Notebook: Virginia G. Piper Charitable Trust Annual Report 2009. Available online: http://www.pipertrust.org/wp-content/uploads/my_publications_pdf/1313-629bc17a.pdf

³² Notebook: Virginia G. Piper Charitable Trust Annual Report 2010. Available online: http://www.pipertrust.org/wp-content/uploads/my_publications_pdf/191-d1d346ff.pdf

Strategic Plan for 2012-2016

Injury Topic: Unintentional Falls		
Objective #1: (Healthy People 2020) By 2020, prevent an increase beyond 45.3 unintentional fall-related deaths per 100,000 residents among Arizonans 65 years and older.		
Strategic Intervention	Action Steps	Key Partners
1. Develop a public education campaign to increase awareness of the incidence of injuries from falls among older adults	<ul style="list-style-type: none"> • Develop a statewide common message on factors that increase risk for falls and injuries among older adults • Develop a communication plan targeting high-risk populations • Develop culturally-sensitive community-based information on the four strategies to reduce fall risk • Incorporate common fall and injury messaging across state agencies providing services to older adults 	Arizona Fall Prevention Coalition
2. Promote healthy living practices that are evidence-based and effective in lowering the risk of falls (physical activity with a focus on strength and balance, medication management, annual vision assessment)	<ul style="list-style-type: none"> • Develop guidelines/criteria for best practice programs promoting healthy living and lowering risk for falls targeting older adults • Identify existing best practice programs in each county • Market existing fall prevention programs • Promote use of medication forms, such as the one developed by Arizona Partnership Implementing Patient Safety (www.themedform.com) 	Arizona Fall Prevention Coalition
3. Promote annual standardized fall risk assessment for all adults 65 years and older in primary care settings	<ul style="list-style-type: none"> • Identify funding for health professional education and outreach • Educate health care providers on incorporating simple fall prevention and intervention strategies into practice • Develop training for State Aging Network and health care providers on assessment and intervention program referral • Develop a toolkit with risk assessment tools, consumer fall prevention information, and community-based resources 	Arizona Fall Prevention Coalition

4. Promote annual environmental assessments for home safety among community dwelling older adults	<ul style="list-style-type: none"> Identify home safety assessment tools Educate service providers on use of home assessment Identify resources for home modification 	ADHS Healthy Homes Program Arizona Fall Prevention Coalition
5. Improve coordination and dissemination of information on prevention strategies and resources for older adults, caregivers, and health care professionals	<ul style="list-style-type: none"> Engage public and private organizations to recognize their role in reducing injuries from falls Identify opportunities for interagency collaboration Develop information dissemination plan 	
Objective #2: Reduce childhood deaths and injuries from unintentional falls		
Strategic Intervention	Action Steps	Key Partners
1. Reduce death and injury resulting from falls occurring at home	<ul style="list-style-type: none"> Provide home safety checks to families with young children. Include parent/caregiver information about environmental modification and product modification 	Home Visiting Programs StrongFamiliesAZ
2. Reduce death and injury resulting from falls occurring at schools and early childhood care and education settings	<ul style="list-style-type: none"> Provide education and promote playground safety, including: <ul style="list-style-type: none"> Regular equipment maintenance Increased playground supervision The use of age-appropriate equipment The use of impact-absorbing surfaces Promote sports safety and educate about: <ul style="list-style-type: none"> Appropriate equipment Age-appropriate activities Overexertion 	ADHS OCL Quality First First Things First
Objective #3: Reduce workplace injuries from unintentional falls		
Strategic Intervention	Action Steps	Key Partners
1. Collaborate with the Arizona Division of Occupational Safety and Health (ADOSH)	<ul style="list-style-type: none"> Invite ADOSH to participate in the Injury Prevention Advisory Council and the Arizona Fall Prevention Coalition 	ADOSH

Reduce Fall-Related Injuries in Arizona 2012-2016

Process → Outcomes →

Resources	Activities	Outputs	Outcomes	Goals
<i>In order to accomplish the activities we will need the following</i>	<i>In order to address our problem we will accomplish the following activities</i>	<i>We expect that once accomplished these activities will produce the following evidence or service delivery</i>	<i>We expect that if we accomplish these activities it will lead to the following changes in 1-3 then 4-6 years</i>	<i>We expect that if accomplished, these activities will lead to the following changes in 7-10 years</i>
<ul style="list-style-type: none"> ⇒ Funding ⇒ State Agency Involvement (ADHS, ADES, ADOSH, FTF) ⇒ Local Partners & Organizations ⇒ Injury Prevention Advisory Council ⇒ Evidence based practice or promising and proven interventions ⇒ Print /web materials 	<ul style="list-style-type: none"> ⇒ Increase public awareness about fall-related injuries among older adults in Arizona using educational campaigns that include physical activity, medication management, and home modification ⇒ Encourage policies and regulations to prevent falls ⇒ Strengthen the Arizona Fall Prevention Coalition 	<ul style="list-style-type: none"> Public education campaigns and a communication plan with consistent messages promoting fall prevention among young children and older adults Policies and regulations that improve home and playground environments for those at high risk of falling 	<ul style="list-style-type: none"> ↑ Public awareness about the risk and protective factors for falls among older adults ↑ Number of communities with physical activity programs for older adults ↑ Public awareness for parents and those who care for young children about home and playground safety 	<ul style="list-style-type: none"> ↓ Rate of deaths and healthcare encounters among older adults due to falls ↓ Rate of non-fatal injuries among children due to falls

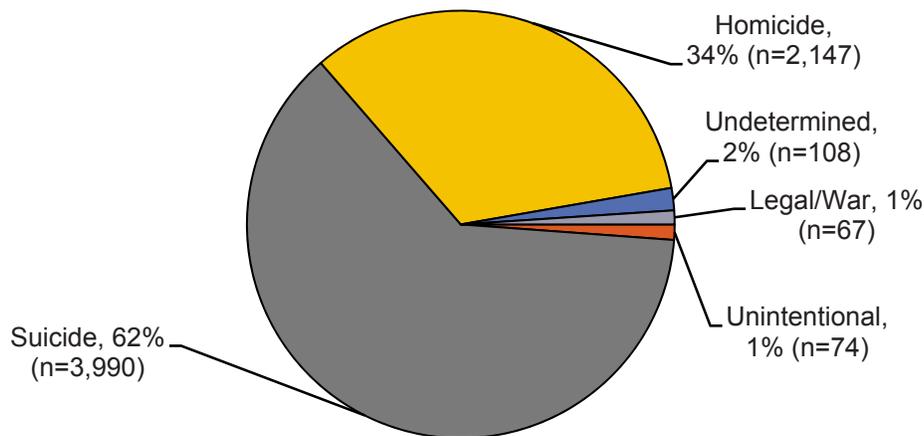
Section C. Unintentional Firearm Injuries

Background

The CDC's National Center for Injury Prevention and Control defines unintentional firearm death as a death resulting from "...a penetrating injury or gunshot wound from a weapon that uses a powder charge to fire a projectile when there was a preponderance of evidence that the shooting was not intentionally directed at the victim..."³³ The CDC definition includes handguns, shotguns, rifles, and military firearms but excludes wounds from BB guns, pellet guns, and compressed-air rifles. These injuries are captured as part of other injuries unrelated to firearms.

This chapter focuses primarily on unintentional firearm injuries. Although only 1 percent (n=74) of all firearm-related deaths were unintentional in Arizona from 2005 through 2009, these deaths are most likely preventable. Injuries related to intentional use of firearms can be found in the homicide and suicide chapters. Figure IIC.1 shows the firearm-related deaths by intent among Arizonans from 2005 through 2011.

Figure IIC.1. Firearm-Related Deaths by Intention, Arizona 2005-2011 (n=6,386)



According to a study conducted by the CDC in 1997, the unintentional firearm death rate for children under the age of 15 years in the United States was nine times higher than in the 26 other industrialized nations of comparable economic status (0.36 per 100,000 compared with 0.04).³⁴ In Arizona from 1994 to 2004, 17 percent (n=29) of all firearm-related deaths in children under the age of 15 were unintentional.³⁵ The age group with the largest proportion of unintentional firearm-related deaths during this time period was the 20-44 year old group, which accounted for 44 percent (n=124) of the 279 unintentional firearm-related deaths.

Research has shown that keeping a gun locked and unloaded, storing ammunition in a separate location, and locking the ammunition are each associated with a protective effect in reducing

³³ Centers for Disease Control and Prevention. *National Violent Death Reporting System (NVDRS) Coding Manual Revised [Online] 2008*. National Center for Injury Prevention and Control, Centers for Disease Control and Prevention (producer) {accessed 2005 Nov 25}. Available from: www.cdc.gov/ncipc/pub-res/nvdrs-coding/vs3/NVDRS_Coding_Manual_Version_3-a.pdf.

³⁴ Rates of Homicide, Suicide, and Firearm-Related Death Among Children – 26 Industrialized Countries. Available from: www.cdc.gov/mmwr/preview/mmwrhtml/00046149.htm {accessed 2005 Nov 26}.

³⁵ Injury mortality Among Arizona Residents, Firearm-Related Deaths, Arizona, 1994-2004. Available from: www.azdhs.gov/plan/report/im/im04/7/firearms2004.pdf {accessed 2006 Feb 23}.

firearm-related injuries to children and teenagers in homes where guns are stored.³⁶ In 2004, the Behavioral Risk Factor Surveillance System (BRFSS) collected data from all 50 states and the District of Columbia on household firearms. The survey asked three questions, “Are any firearms kept in or around your home?”, “Are any of these firearms now loaded?”, and “Are any of these loaded firearms also unlocked?” Results of the 2004 BRFSS indicate that firearms are present in 31.4 percent of households in Arizona and in 31.3 percent of households nationwide. A higher percentage of Arizonans reported that they kept loaded firearms (9.0 percent in Arizona compared to 6.7 percent nationally). Arizonans were also more likely to keep loaded and unlocked firearms in or around the house (5.9 percent of households in Arizona compared to 4.0 percent nationwide).

In Arizona, gun-related incidents in public schools are monitored through the Arizona Department of Education’s Safe and Drug Free Schools Report. According to this report, there were 56 incidents involving students bringing guns to campus in Arizona during the 2003-2004 school year. Among them, 36 incidents were in high school, 14 in middle school, and 6 were in elementary schools.³⁷ Not all guns that are brought to school are detected and reported. According to the Arizona Criminal Justice Commission’s Arizona Youth Survey, 7.7 percent of the 8th, 10th, and 12th grade students had carried a handgun in the last 12 months and 1.3 percent brought a gun to school during that time.³⁸

There has been an overall decrease since the early 1990s in some of the behaviors that contribute to violence. National Youth Risk Behavior Survey data show decreases in the percent of students reporting carrying a weapon (e.g., gun, knife, club) in the last thirty days, whether on or off campus, from 26 percent in 1991 to 17.5 percent in 2009. Students were also less likely to have carried a gun in the last thirty days (8 percent in 1993 compared to 6 percent in 2009). According to the 2009 Youth Risk Behavior Survey, 6.8 percent of students in Arizona carried a gun in the thirty days preceding the survey.³⁹

³⁶ Gun Storage Practices and Risk of Youth Suicide and Unintentional Firearm Injuries, *Journal of the American Medical Association*, Vol. 293 No. 6, February 6, 2005.

³⁷ Email from Jean Ajamie, 11/25/2005

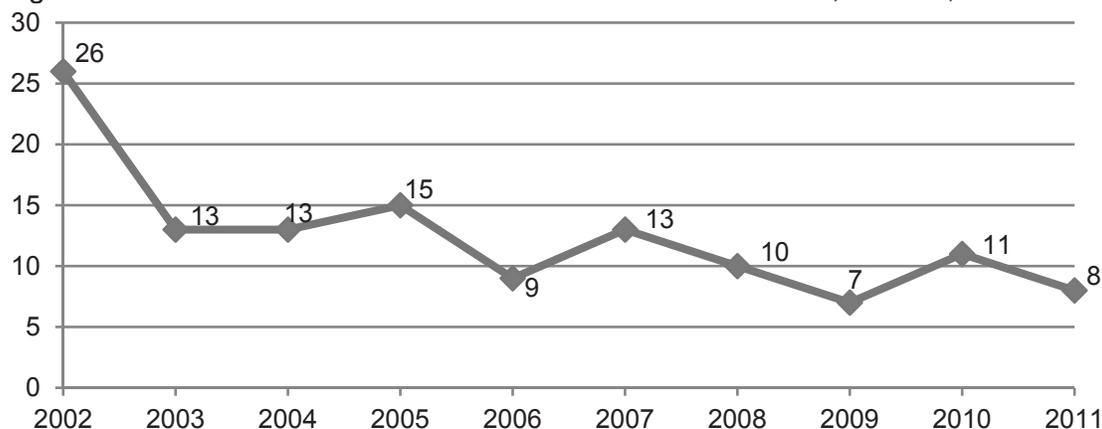
³⁸ Arizona Youth Survey State Report, 2008 [online]. [cited 2010 Jul 01] Available from: www.azcjc.gov/ACJC.Web/sac/AYSReports/2008/Arizona_2008_Report_Draft_122908_final.pdf.

³⁹ Centers for Disease Control and Prevention. 2009 Youth Risk Behavior Survey [online]. [cited 2010 Jun 24]. Available from: www.cdc.gov/yrbss.

Death Trends for Unintentional Firearm-Related Injuries

Unintentional firearm-related deaths among Arizona residents are infrequent, so mortality rates by age, sex, and race/ethnicity cannot be reliably calculated. Figure IIC.2 shows the number of unintentional firearm-related deaths in Arizona over the last ten years. The numbers are small and should be interpreted with caution.

Figure IIC.2. Number of Unintentional Firearm-Related Fatalities, Arizona, 2002-2011

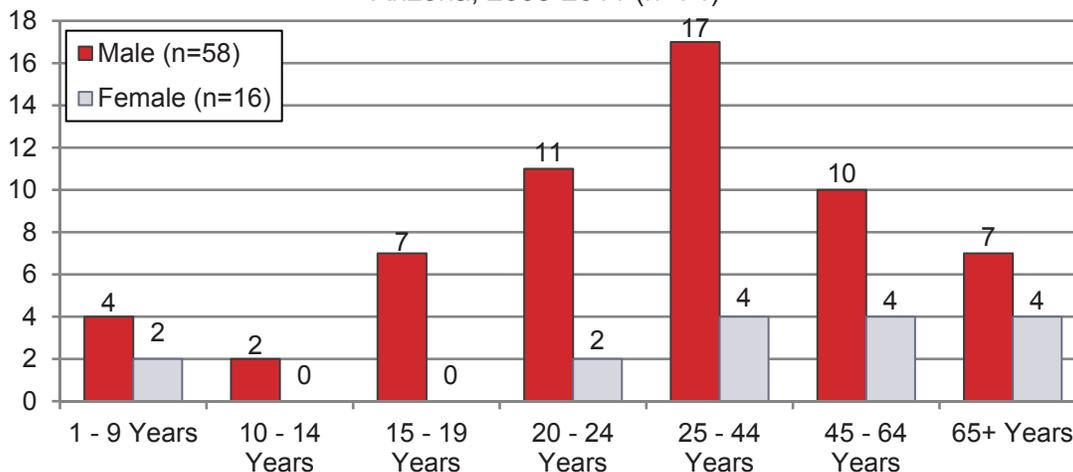


Source: Advance Vital Statistics by County of Residence 2009-2011; Injury Mortality Among Arizona Residents 1998-2008.

Deaths from Unintentional Firearm-Related Injuries

Due to the small number of deaths from unintentional firearm injuries by year from 2005 through 2011, the mortality data presented here have been combined for the five year period. Among the 74 unintentional firearm-related deaths from 2005 through 2011, 78 percent were among males (n=58) and 22 percent were among females (n=16). As seen in Figure IIC.3, 47 percent (n=35) of deaths due to unintentional firearm-related injuries were among males ages 15 through 44 years.

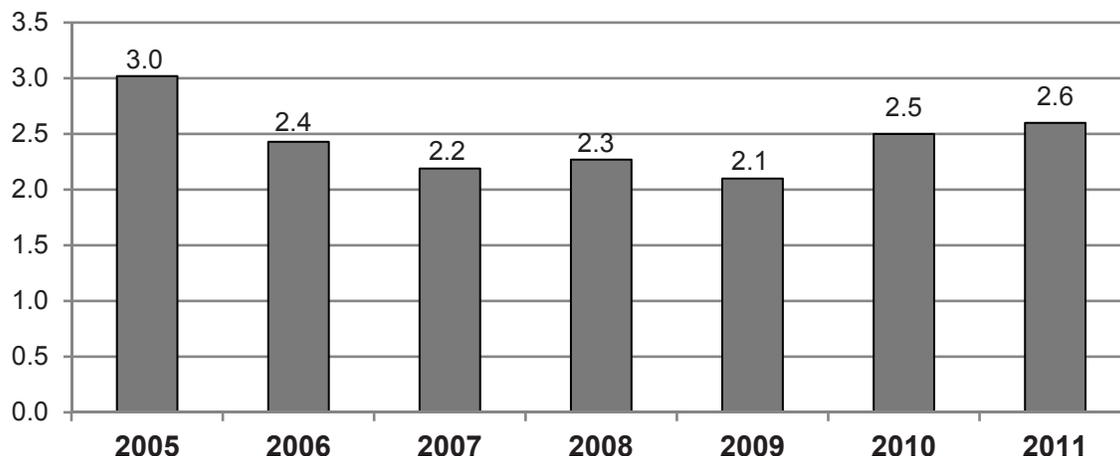
Figure IIC.3. Number of Unintentional Firearm-Related Deaths by Age Group and Sex, Arizona, 2005-2011 (n=74)



Inpatient Hospitalizations for Unintentional Firearm Injuries

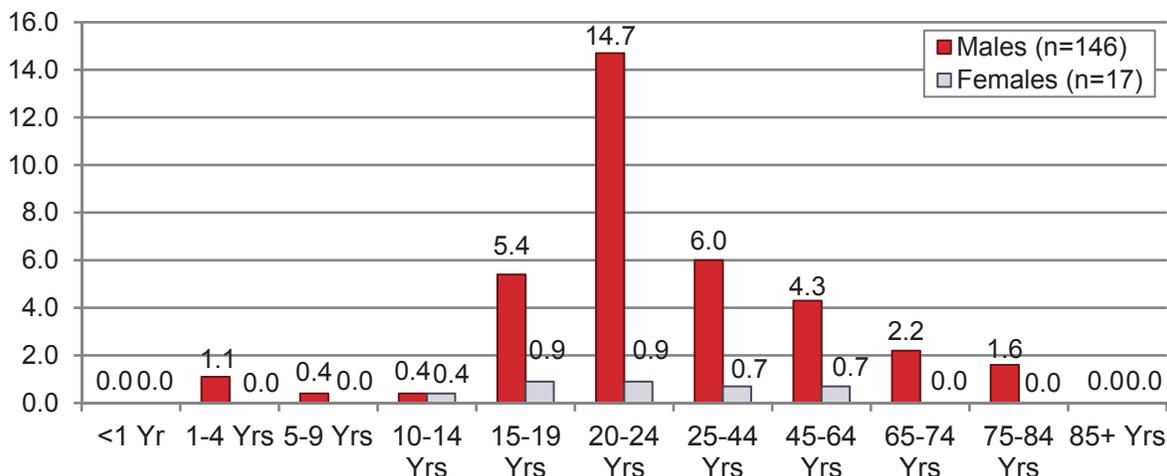
From 2005 through 2011, there were 1,082 hospitalizations for unintentional injuries due to firearms. Three percent of these expired while hospitalized (n=28). Hospitalizations decreased from 185 in 2005 to 139 cases in 2009 and have since increased to 163 cases in 2011. The rate of these hospitalizations has fluctuated similarly during that time. Figure IIC.4 shows the age-adjusted rate of hospitalizations among Arizona residents from 2005 through 2011 for unintentional firearm-related injuries.

Figure IIC.4. Age-Adjusted Unintentional Firearm Injury-Related Hospitalization Rates per 100,000 Residents, Arizona, 2005-2011



There were 163 unintentional firearm-related hospitalizations among Arizona residents in 2011; 90 percent of the hospitalizations were among males (n=146) and 10 percent were among females (n=17). Adults ages 25 through 44 years accounted for 36 percent of hospitalizations due to unintentional firearm-related injuries (n=58). Males ages 20 through 24 years had the highest hospitalization rates per 100,000 residents due to unintentional firearm-related injuries. Figure IIC.5 illustrates the 2011 hospitalization rates for unintentional firearm-related injuries by age group and sex among Arizona residents.

Figure IIC.5. Unintentional Firearm-Related Hospitalizations Rates per 100,000 Residents by Age Group and Sex, Arizona, 2011 (n=163)

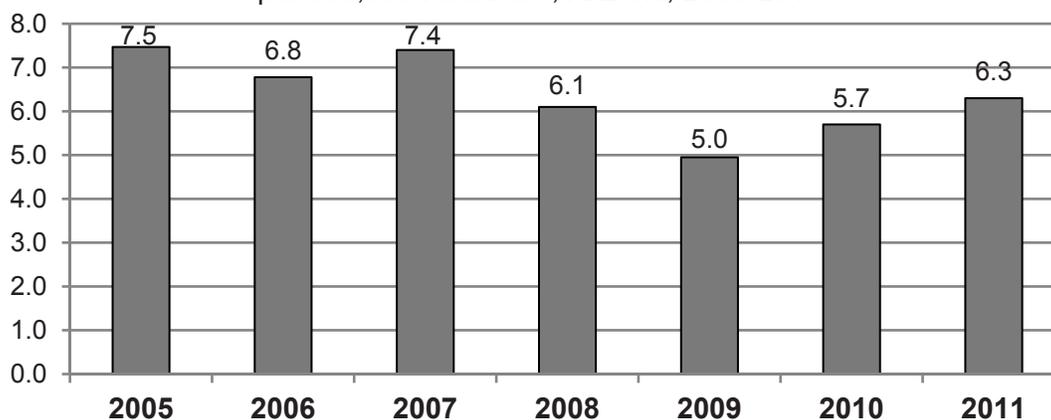


In 2011, the median hospital stay for an unintentional firearm-related injury was 2 days, with Arizona residents spending a total of 623 days hospitalized. The median charges for an unintentional firearm-related hospitalization were \$32,618. All hospitalization charges in 2011 totaled over \$9.8 million. Hospital charges do not include costs incurred for emergency medical services, outpatient therapies, or rehabilitation.

Emergency Department Visits for Unintentional Firearm Injuries

From 2005 through 2011, there were 2,838 emergency department visits for injuries from firearms among Arizona residents. The visits include 102 cases in which the patient died while in the emergency department. Like the rate of inpatient hospitalizations, the rate of emergency department visits fell 34 percent from 2005 through 2009, and increased 26 percent from 2009 through 2011. Figure IIC.6 shows the age-adjusted rate of emergency department visits among Arizona residents from 2005 through 2011.

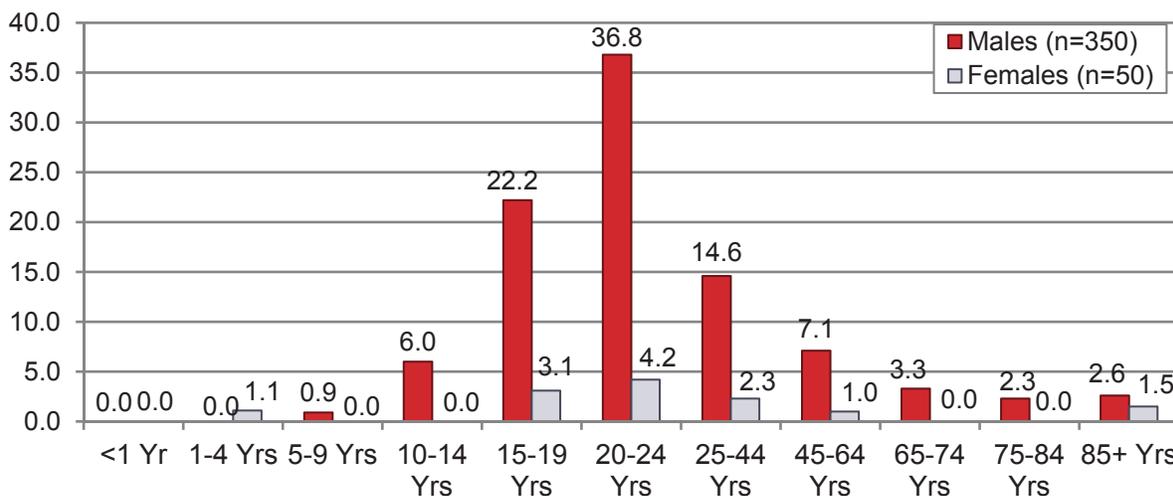
Figure IIC.6. Age-Adjusted Unintentional Firearm-Related Emergency Department Visit Rates per 100,000 Residents, Arizona, 2005-2011



There were 400 unintentional firearm-related emergency department visits among Arizona residents in 2011; 88 percent of the visits were among males (n=350) and 12 percent were among females (n=50). Adults ages 25 through 44 years accounted for 36 percent (n=145) of emergency department visits due to firearm-related injuries.

As with hospitalizations, males aged 20 through 24 years had the highest emergency department visit rates per 100,000 residents due to unintentional firearm-related injuries. Figure IIC.7 illustrates the 2011 emergency department visit rates for unintentional firearm-related injuries by age group and sex among Arizona residents.

Figure IIC.7. Unintentional Firearm-Related Emergency Department Visit Rates per 100,000 Residents by Age Group and Sex, Arizona 2011 (n=400)



In 2011, median charges for an emergency department visit were \$3,894. All hospital charges for a firearm-related emergency department visits in 2011 totaled more than \$2.4 million. Hospital charges do not include costs incurred for emergency medical services, outpatient therapies, or rehabilitation.

Existing Surveillance Systems

Arizona Vital Records death certificate data, hospital discharge data, and emergency department discharge data are used for the surveillance of unintentional firearm-related injuries. The Child Fatality Review team reviews firearm-related deaths of children 17 years and younger across the state, using law enforcement and medical examiner reports to assess intent and causal agent(s).

Summary/Highlights of Data

- Unintentional firearm-related deaths among Arizona residents are infrequent (n=74 from 2005-2011).
- The majority of firearm-related deaths are due to suicide (62 percent, n=3,990).
- Emergency department visit rates were highest among males 20-24 (36.8 visits per 100,000 residents).

Current Interventions

- Distribution of free gunlocks and firearm safety training through organizations such as Arizonans for Gun Safety, Arizona Firearm Injury Prevention Coalition, and law enforcement agencies.
- Distribution of handbooks and brochures about domestic violence and guns through the Arizona Coalition Against Domestic Violence.
- Hold public workshops on non-violent conflict resolution and gun safety.

Accomplishments

- Eighty-one law enforcement offices in Arizona distributed free gunlocks through Project ChildSafe. 190,000 locks were allocated to Arizona through this national project.
- Community organizations have provided information on safe firearm storage, and distributed free trigger locks and instructions.
- In July of 2000, Shannon's Law was enacted in Arizona, making it an offense to fire guns randomly into the air.

Strategic Plan for 2012-2016

Injury Topic: Unintentional Firearm Injuries

Objective #1: Improve data concerning firearm-related injuries (HP2020 IVP-40)

Strategic Intervention	Action Steps	Key Partners
1) Promote collaborative efforts to analyze firearm-related injury data.	<ul style="list-style-type: none"> • Develop strategies to share data among agencies • Analyze firearm-related injury data to determine areas at greatest risk 	IPAC

Objective #2: Reduce Firearm-Related Deaths and Injuries (HP2020: 4.1 deaths, 8.6 injuries per 100,000)

Strategic Intervention	Action Steps	Key Partners
1) Review existing laws relating to access, use, and storage of firearms	<ul style="list-style-type: none"> • Compare Arizona with other states and provide information to policy makers • Educate the public and policy makers on existing laws • Collaborate with law enforcement and judiciary to enforce current laws 	<ul style="list-style-type: none"> • Arizonans for Gun Safety • Arizona Firearm Injury Prevention Coalition
2) Develop data-driven interventions to reduce deaths and injuries from firearms	<ul style="list-style-type: none"> • Identify and encourage sharing of resources for prevention • Develop recommendations for interventions and produce report 	
3) Promote and enhance community-based initiatives aimed at reducing unintentional firearm injuries	<ul style="list-style-type: none"> • Enhance anti-violence programs using nationally recognized materials • Identify and promote strategies proven to reduce firearm injuries • Identify and promote strategies proven to reduce illegal possession of firearms 	
4) Promote community interventions for firearm safety training for children and adults	<ul style="list-style-type: none"> • Develop and promote firearm safety programs involving many stakeholders in communities • Encourage evaluation of firearm safety programs (require evaluation for state funded programs) • Provide education to AZ Early 	

	Childhood Home Visitors about gun safety	
5) Promote safe storage of firearms and reduce access to firearms by children	<ul style="list-style-type: none"> • Review existing policies and laws regarding access to firearms by children • Provide information to policy makers • Enforce existing laws • In collaboration with partners, provide education on safe storage of firearms and ammunition and distribute safety locks • Identify corporate sponsors for locks and educational materials • Evaluate effectiveness of efforts • Compare Arizona statute related to access to firearms by children to those in other states and educate policy makers 	<p>Safe Kid Coalitions</p> <p>StrongFamiliesAZ</p> <p>ADHS BWCH</p>

Reduce Unintentional Firearm Injury in Arizona 2012-2016

Process → Outcomes →

Resources	Activities	Outputs	Outcomes	Goals
<i>In order to accomplish the activities we will need the following</i>	<i>In order to address our problem we will accomplish the following activities</i>	<i>We expect that once accomplished these activities will produce the following evidence or service delivery</i>	<i>We expect that if we accomplish these activities it will lead to the following changes in 1-3 then 4-6 years</i>	<i>We expect that if accomplished, these activities will lead to the following changes in 7-10 years</i>
<ul style="list-style-type: none"> ⇒ Funding ⇒ Local Partners & Organizations ⇒ Injury Prevention Advisory Council ⇒ Evidence based practice or promising and proven interventions ⇒ Print /web materials 	<ul style="list-style-type: none"> ⇒ Enhance public education about safe storage of firearms ⇒ Work with community coalitions to develop local plans to ↓ access to firearms and provide temporary safe storage when necessary ⇒ Participate in national efforts to improve firearm surveillance 	<ul style="list-style-type: none"> Public education campaigns to promote safe storage of firearms Health professionals/Home visitors trained in discussing the elements of firearm injury prevention Local plans to ↓ access to firearms Useful firearm injury surveillance system 	<ul style="list-style-type: none"> ↑ Public awareness on safety storage practices for firearms ↑ Health professional awareness about firearm injury prevention ↑ Increase community capacity to reduce access to firearms ↑ Firearms stored safely 	<ul style="list-style-type: none"> ↓ Firearm death rate ↓ Firearm hospitalization rate

Section D: Unintentional Fire/Burns

Background

Burns can result from flames or scalding liquids, electricity, ultraviolet radiation, or chemicals. Other injuries may result from inhaling smoke generated by burning objects. While radiation burns from sun rays are a special concern for children, data in this section focus on burns from fire, hot objects/liquids, or chemicals. National incidence data show 76 percent of burn deaths are due to residential fires. Additionally, about half of home fire deaths in the United States occur in homes with smoke detectors.⁴⁰ However, of far greater incidence are scald burns, which are seldom fatal but produce lasting effects and are often expensive to treat. All burn injuries exact a high cost among survivors, especially among children, requiring extensive, often life-long treatment. Arizona has an extraordinarily high survival rate of burn victims (98.7 percent in 2010).⁴¹ In comparison, the national survival rate for burn injury is only 94.4 percent.⁴² Even so, issues of survival rather than mortality reflect the public health implications of thermal injury costs.

High risk populations in Arizona parallel national risk groups, in that children under 4 years, adults over 65 years, poorer residents, African Americans, American Indians, rural residents, and those living in substandard housing are at greatest risk of mortality from fire and burn injury.⁴³ Such risk indicates both greater vulnerability to fires and lesser availability of appropriate treatment for large or complicated burn injuries.

The Arizona Burn Center reports that the average hospitalization charges in 2010 for burns among children through six years of age were \$127,919. This cost does not include physician charges or outpatient services, i.e., skin grafts, therapies, and medications.⁴⁴

Since 2009, national and local economic conditions have resulted in Arizona facing several challenges with regard to prevention of fire and burn-related injuries:

- Beginning in July, 2009 the Office of the State Fire Marshal reduced their staff significantly, resulting in the loss of the State Fire Resource Coordinator. This position was responsible for coordinating and collecting fire statistics such as civilian fire fatalities and injuries; firefighter fatalities and injuries; dollar loss due to fires in residential and commercial structures; National Fire Incident Reporting System (NFIRS) reporting for the State of Arizona; and collecting data on Arizona fire departments and the number of firefighters in the state. This position was also instrumental in the Arizona Fire Chiefs Statewide Mutual Aid Response Program for development, identification, and allocation of resources for response capabilities in the event of a statewide emergency.
- The Office of the State Fire Marshal also lost three positions from the fire training staff. Responsibilities among these positions included coordination of statewide firefighter certification training and the Office's 36-year participation in the Annual State Fire School. All fire certification programs are now coordinated and conducted through the Arizona Center for Fire Service Excellence, with oversight by the Arizona Fire Service Institute (AFSI)

⁴⁰ Ahrens M. U.S. experience with smoke alarms and other fire alarms. Quincy (MA): National Fire Protection Association; 2001.

⁴¹ Data from the National TRACS Burn Registry, via personal e-mail with Suzanne Buchanan, Arizona Burn Center Educator.

⁴² American Burn Association, Burn Incidence and Treatment in the US: 2007 Fact Sheet [online]. {cited 2010 June 22}. Available from: www.ameriburn.org/resources_factsheet.php.

⁴³ National Center for Injury Prevention and Control. *CDC Injury Fact Book*. Atlanta (GA): Centers for Disease Control and Prevention; 2006.

⁴⁴ Data from the National TRACS Burn Registry, via personal e-mail with Suzanne Buchanan, Arizona Burn Center Educator.

- The Department of Fire, Building and Life Safety also lost a number of support staff, reducing the ability of the State Fire Marshal to assist other fire service programs in Arizona.

Additionally, Arizona House Bill 2644, which went into effect December 1st, 2010, allows for the sale and use of a limited number of consumer fireworks, including sparklers. The use of consumer fireworks had previously been banned in Arizona, and health and safety agencies anticipate an increase in fireworks-related injuries.

There were 32 unintentional deaths from fire and burns among Arizona residents during 2011. In addition, there were 679 inpatient hospitalizations and 6,920 emergency department visits for fire/burn-related injuries.

Death Trends for Unintentional Fire/Burns

Unintentional fire/burn-related deaths among Arizona residents are infrequent; therefore, mortality rates by age, sex, and race/ethnicity cannot be reliably calculated. Figure IID.1 shows the age-adjusted unintentional fire/burn-related mortality rate per 100,000 Arizona residents. While the number of deaths is significant enough to calculate age-adjusted mortality rates, the rate fluctuates considerably over time but shows an overall downward trend from 2005 through 2011.

Figure IID.1. Age-Adjusted Unintentional Fire/Burn Mortality Rates per 100,000 Residents, Arizona, 2005-2011

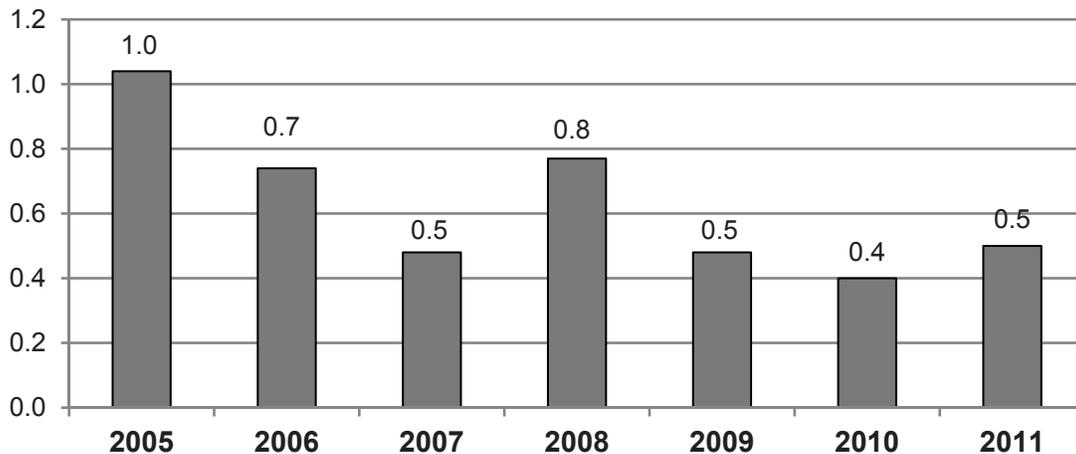
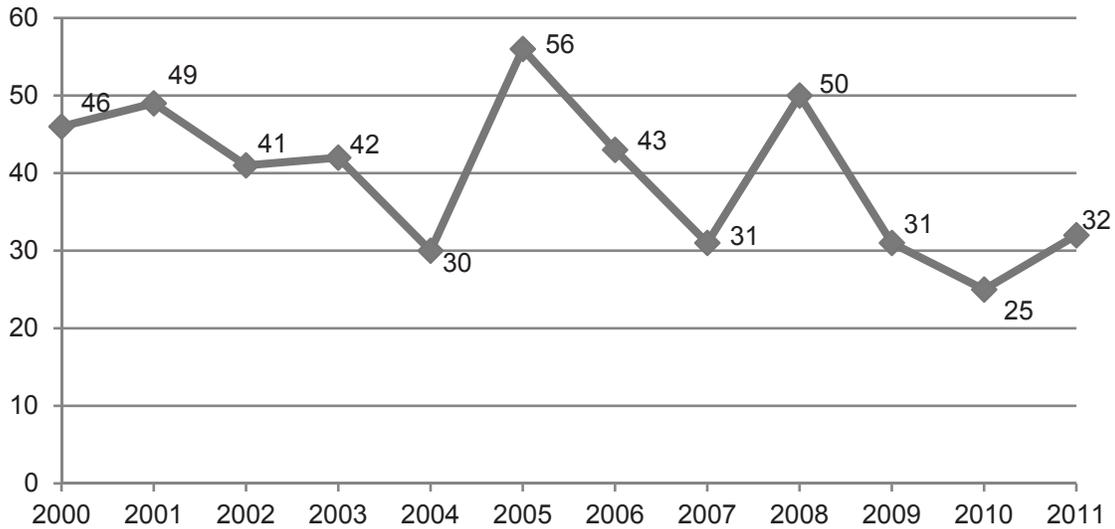


Figure IID.2 shows the number of unintentional fire/burn-related deaths in Arizona over the last 12 years. Although the numbers are small and should be interpreted with caution, the decrease in the number of deaths combined with the population increase in the state suggests that the number of fire/burn-related death may indeed be declining in Arizona.

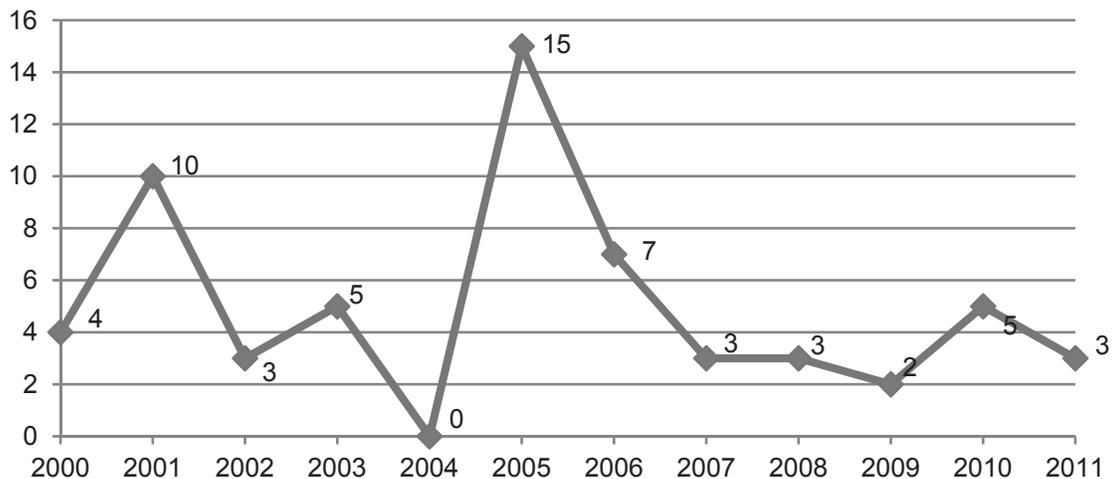
Figure IID.2. Number of Deaths due to Unintentional Fire and Flames (Does not include hot objects/scalds), Arizona, 2000-2011



Source: Advance Vital Statistics by County of Residence 2009; Injury Mortality Among Arizona Residents 1998-2008.

In 2011, 3 children younger the 15 years of age died due to fire/burn-related injuries. Since the number of Arizona children who died of burn injuries is small, annual data are highly variable, as shown in Figure IID.3.

Figure IID.3. Number of Deaths among Children Ages 0 through 14 Years due to Unintentional Fire and Flames, Arizona, 2000-2011



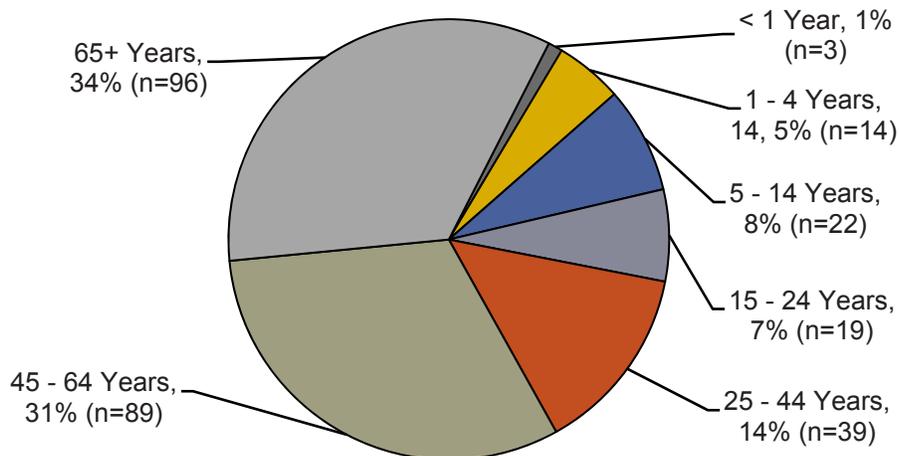
Source: Arizona Electronic Death Certificate Database 2009-11; Injury Mortality Among Arizona Residents 1998-2008.

Arizona Child Fatality Review teams reviewed 25 deaths from fire and burns occurring during the five-year period from 2007 through 2011. Due to the small number each year and incomplete investigative information, analysis is limited. From a public health standpoint, such incomplete investigative information adds to the difficulty in the development of data driven prevention strategies.

Deaths from Fire/Burns

Due to the small number of deaths due to fires and burns by year from 2005 through 2011, the mortality data presented here have been combined for the 7 year period. Among the 282 fire/burn-related deaths from 2005 through 2011, 62 percent were among males (n=176) and 38 percent were among females (n=106). Adults age 65 years and older accounted for 34 percent (n=96) of fire/burn-related deaths. Figure IID.4 shows the age distribution of Arizona residents who died from fire/burn injuries from 2005 through 2011.

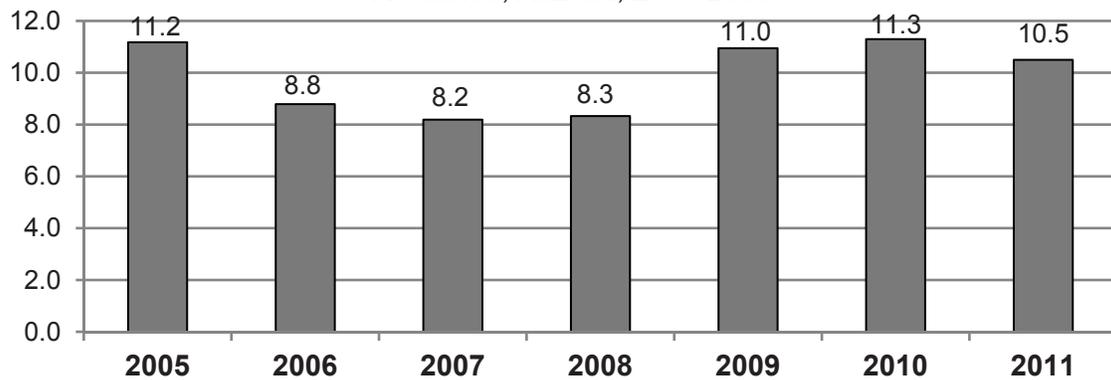
Figure IID.4. Unintentional Fire/Burn-Related Deaths by Age Group, Arizona 2005-2011 (n=282)



Inpatient Hospitalizations for Fire/Burns

From 2005 through 2011, there were 4,445 hospitalizations for injuries from fire/burns. The hospitalizations include 75 cases in which the patient died while hospitalized (2 percent of hospitalizations). The number of hospitalizations was the same in 2005 (n=679) as it is in 2011 (n=679); the rate of these hospitalizations decreased 6 percent during that time. Figure IID.5 shows the age-adjusted rate of hospitalizations among Arizona residents from 2005 through 2011.

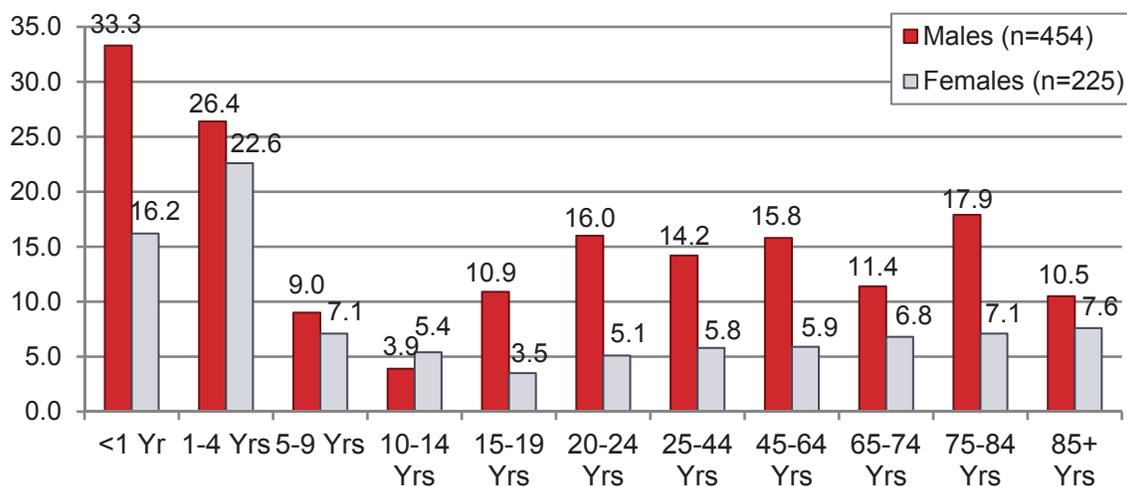
Figure IID.5. Age-Adjusted Unintentional Fire/Burn Hospitalization Rates per 100,000 Residents, Arizona, 2005-2011



There were 679 fire/burn-related hospitalizations among Arizona residents in 2011; 67 percent of the hospitalizations were among males (n=454) and 33 percent were among females (n=225). Adults ages 45 through 64 years and young adults ages 25-44 each accounted for 25 percent of hospitalizations due to fire/burn-related injuries.

Children less than 5 years of age had the highest hospitalizations rates per 100,000 residents due to unintentional fire/burn-related injuries. Figure IID.6 illustrates the 2011 hospitalization rates for unintentional fire/burn-related injuries by age group and sex among Arizona residents.

Figure IID.6. Unintentional Fire/Burn-Related Hospitalizations Rates per 100,000 Residents by Age Group and Sex, Arizona 2011 (n=679)



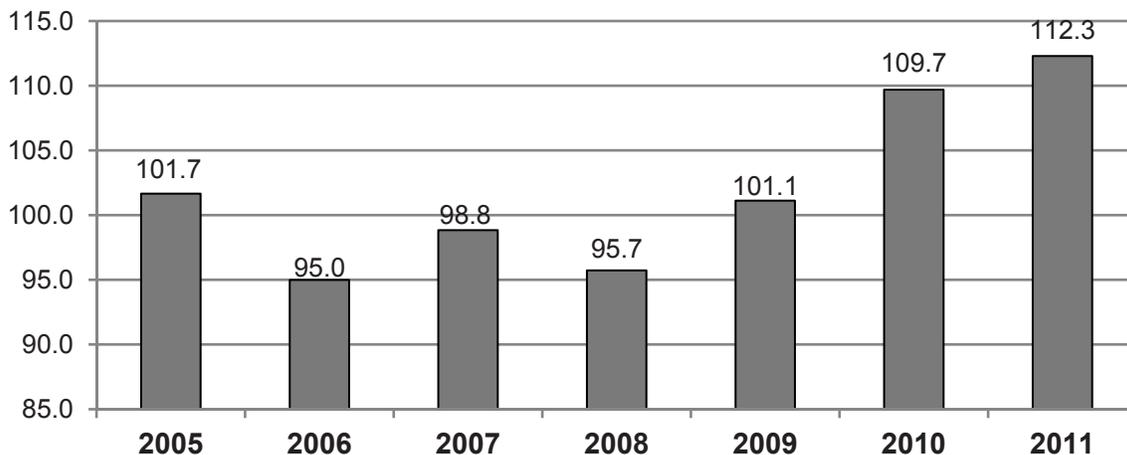
Hospitalizations due to fire/burn-related injuries were more likely to result from hot object/scald injuries (n=436, 64 percent) than fire/flame-related injuries (n=243, 36 percent). While hot liquids, including hot tap water, accounted for 35 percent of all burn-related hospitalizations (n=239), such injuries accounted for 44 percent of hospitalizations among children ages 0 through 14 years. This could indicate that childhood burns from hot liquids is an important focus area for prevention activities.

In 2011, the median hospital stay for a fire/burn-related injury was 5 days, with Arizona residents spending a total of 6,075 days hospitalized. The median charge for a fire/burn-related hospitalization was \$50,756. All hospital charges for fire/burn-related hospitalizations in 2011 totaled \$11 million. Hospital charges do not include costs incurred for emergency medical services, outpatient therapies, or rehabilitation.

Emergency Department Visits for Fire/Burns

From 2005 through 2011, there were 45,736 emergency department visits for injuries from fire/burns among Arizona residents. The visits include 17 cases in which the patient died while in the emergency department. The number of emergency department visits increased from 6,213 in 2005 to 7,147 visits in 2011, and the rate of these visits increased as well, by 10 percent. Figure IID.7 shows the age-adjusted rate of emergency department visits among Arizona residents from 2005 through 2011.

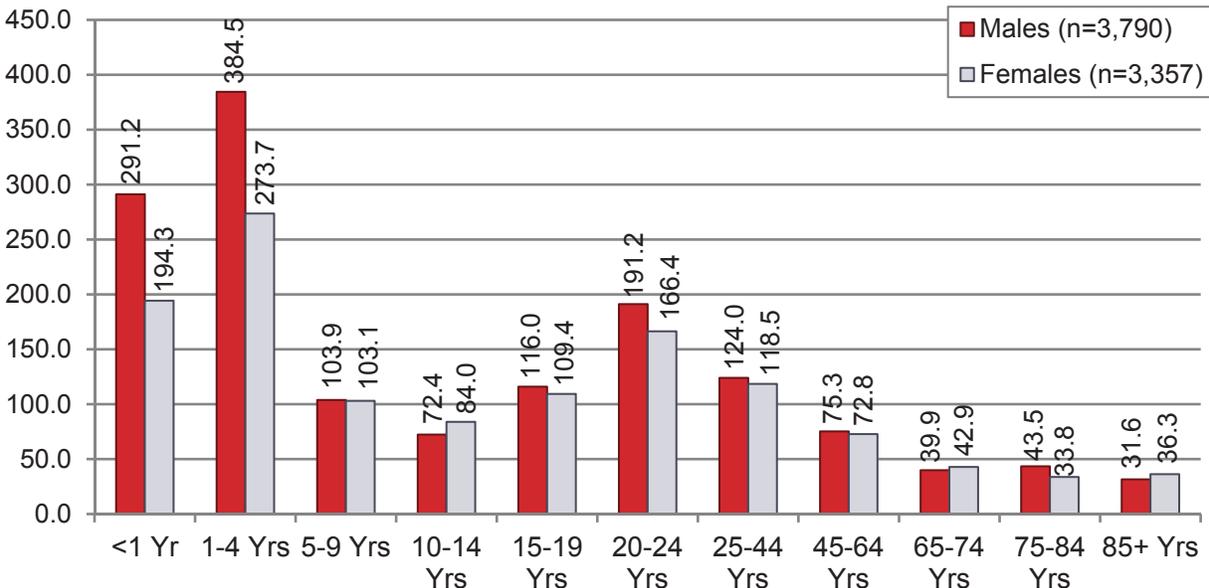
Figure IID.7. Age-Adjusted Unintentional Fire/Burn Emergency Department Visit Rates per 100,000 Residents, Arizona, 2005-2011



There were 7,147 fire/burn-related emergency department visits among Arizona residents in 2011; 53 percent of the visits were among males (n=3,790) and 47 percent were among females (n=3,357). Adults ages 25 through 44 years accounted for 29 percent of emergency department visits due to fire/burn-related injuries.

Children ages 1 through 4 years had the highest emergency department visit rates per 100,000 residents due to unintentional fire/burn-related injuries. Figure IID.8 illustrates the 2011 emergency department visit rates for unintentional fire/burn-related injuries by age group and sex among Arizona residents.

Figure IID.8. Unintentional Fire/Burn-Related Emergency Department Visit Rates per 100,000 Residents by Age Group and Sex, Arizona 2011 (n=7,147)



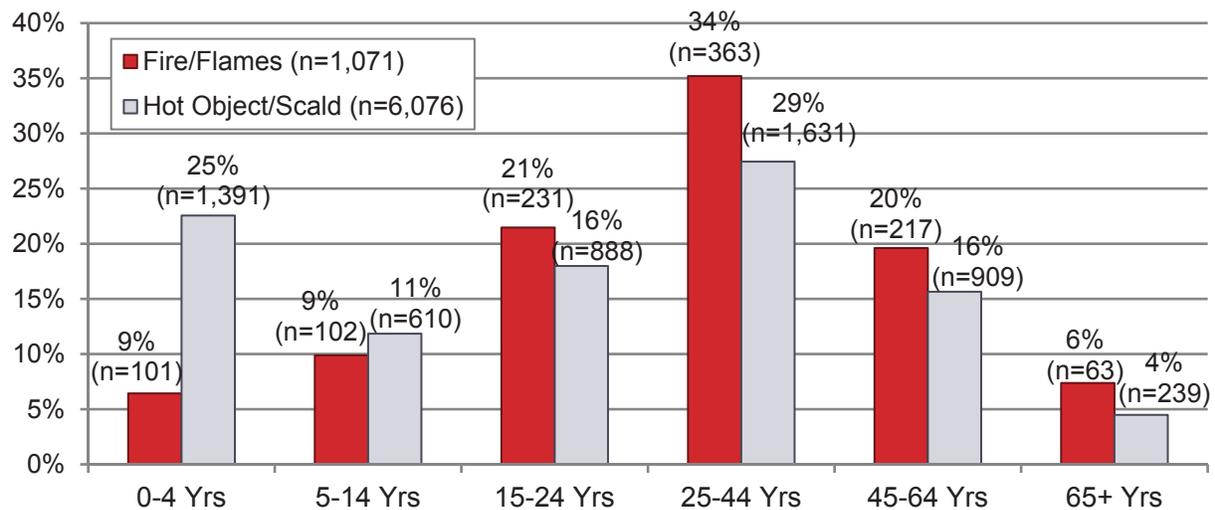
In 2011, the median charge for a fire/burn-related emergency department visit was \$1,277. All hospital charges for fire/burn-related emergency department visits in 2011 totaled \$12.6 million. Hospital charges do not include costs incurred for emergency medical services, outpatient therapies, or rehabilitation.

The majority (85 percent) of fire/burn-related injuries seen in the emergency department in 2011 resulted from hot objects or scalds (n=6,076). Hot objects or scalds include burns from hot liquids, vapors, or chemicals. Among children ages 14 years and younger with an emergency department visit due to a burn or scald, 40 percent were burnt or scalded by boiling water, vapor, or other hot liquid (n=903). More children, however, had a code indicating that their burn fell into an “other” category, which includes burns or scalds from electric heating appliances, light bulbs, or steam pipes (48 percent, n=1,083).

While children ages 1 through 4 years make up only 6 percent of the 2011 population in Arizona,⁴⁵ they accounted for 19 percent (n=1,165) of emergency department visits due to scald-related injuries. Figure IID.9 illustrates the age distribution of Arizona residents treated in an emergency department for hot object/scald-related and fire-related injuries during 2011. While children 14 years and younger had higher percentages of hot object/scald-related injuries in 2011, Arizonans 15 years and older had higher percentages of injuries related to fire and flames as compared to young children.

⁴⁵ Arizona Vital Statistics Population Denominators for 2011 [online]. (2012) {cited 2012 September 10} Available from: www.azdhs.gov/plan/menu/info/pop/pop11/pd11.htm.

Figure IID.9. Percentage of Unintentional Fire/Burn-Related Emergency Department Visits by Age Group and Injury Type, Arizona 2011 (n=7,147)



Existing Surveillance Systems

Arizona Vital Records death certificate data, hospital discharge data, and emergency department data are the primary sources for analyzing fire/burn injuries. The Arizona Burn Center Registry at Maricopa Medical Center records only those burn injuries occurring with other trauma. The Child Fatality Review team reviews burn-related deaths of children 17 years and younger across the state, using law enforcement and medical examiner reports to assess intent and causal agent(s).

Fire departments in Arizona can voluntarily report fire incidents to the National Fire Incident Reporting Service (NFIRS). NFIRS uses this data to help state and local governments develop fire reporting and analysis capability for their own use, and to obtain data that can be used to more accurately assess and subsequently combat the fire problem at a national level.

Summary/Highlights of Data

- Unintentional fire/burn-related deaths among Arizona residents are infrequent events.
- In 2011, there were 32 unintentional deaths from fire and burns among Arizona residents.
- Hospitalizations due to fire/burn-related injuries were more likely to result from hot object/scald injuries than fire/flame-related injuries.
- Children ages 1 through 4 years had the highest emergency department visit rates per 100,000 residents due to unintentional fire/burn-related injuries.

Limitations of Data

- The Trauma Registry includes burns only if sustained with other traumatic injuries.
- There is no mechanism to collect information on burn injuries treated without hospitalization or emergency department entry. Minor burns, which include the majority of thermal injuries, are often treated effectively in emergent care agencies in the community, primary care offices, and in the home.

- The National Fire Incident Report System (NFIRS) collects nationwide data from fire service agencies on fire services across the states.
 - Trends, outcomes, and comparisons are reported back to the fire agencies.
 - Severe budget cuts required the Office of the State Fire Marshal to reduce its staff in January, 2010, including the position of the State Fire Resource Coordinator. Without the State Fire Resource Coordinator as the central point of contact, the State of Arizona is no longer a reporting state in the National Fire Incident Reporting System (NFIRS). Local fire jurisdictions reporting to NFIRS must report independently or utilize a third party vendor. Additionally, the Office of the State Fire Marshal lost its ability to maintain data on reporting fire agencies.
 - Reporting to the National Fire Incident Reporting System is required by fire departments wishing to qualify for federal grants; per the Arizona Office of the State Fire Marshal, about 20 percent of Arizona’s Fire Departments report to NFIRS on a regular basis. For more information on NFIRS reporting in Arizona, visit: <http://www.dfbls.az.gov/ofm/nfirs.aspx>
- Data on smoke alarms at the state level are incomplete.
 - The state has no system to monitor the use of smoke alarms, although such information may be included in individual reporting from fire services.
 - Not all fire service agencies collect or report smoke alarm use data from fire service calls, or such reporting may be inconsistent.
 - Among fire service agencies providing smoke alarms to their communities, it is unknown how many of these agencies are evaluating the effectiveness of their community programs.
- Use of mortality data to promote prevention of thermal injury gives an incomplete and distorted picture of the public health problem and strategies for prevention.
 - Incidence of injury and survival among younger ages requires life-long cost expenditures.
 - While most fatalities occur in residential fires, most burn injuries result from non-fatal scalds.

Current Interventions

Fire services have taken a leadership role in fire and burn prevention, being actively involved in programs for children and adults. Much of this prevention effort occurs at local levels, primarily city or county. There is a strong national organization, the National Fire Protection Association (NFPA), which supports educational and risk reduction efforts locally, statewide, and nationally. In Arizona, local fire departments vary in what prevention programs they offer, but many present programs in schools and other community events.

In Phoenix, the Urban Survival program offers fire prevention and life safety skills in the community, elementary, and high schools. Other community fire departments have adopted the NFPA’s school-based Risk Watch program and many fire departments offer a juvenile fire-setters intervention program. A special “Choose to Survive” version of the program for high schools has proven successful. Besides fire safety, bicycle, water, and car seat safety programs are frequently part of the community education offered.

A number of other community-based fire alert and prevention efforts exist, including Think First and SAFE KIDS. The City of Mesa offers the Home Safety Inspection Program, using trained volunteers to provide safety checks and offer smoke detectors to homeowners. The Goodyear Fire Department completed 75 fire safety presentations using the NFPA curriculum, serving

5,000 students age 5 to 11 years. In 2010, the Arizona Burn Foundation partnered with fire departments from the cities of Avondale, Casa Grande, El Mirage, Glendale, Goodyear, and Surprise to participate in 12 events, during which they installed 1,960 new smoke alarms and replaced batteries in 804 existing alarms.

Hospital emergency departments, the Arizona Burn Center at Maricopa Medical Center, and the Foundation for Burns & Trauma continue working toward reducing the morbidity and mortality of victims through prevention and treatment education, research, and dissemination of effective practices. An anti-scald campaign has been instituted statewide by the Arizona Burn Center and the Foundation for Burns & Trauma. Burn prevention tips are provided by the Arizona Burn Center to the public throughout the year via television and radio segments.

The International Code Council (ICC) 2009 International Residential Code (IRC) provides that newly constructed one- and two-family houses include the installation of life-saving fire sprinkler systems, designed to drastically reduce the number of injuries and deaths among civilians and firefighters resulting from residential fires. If adopted as written, these codes will save lives.

Despite these efforts, fire and scald injuries continue to occur. Thermal injury safety must remain a core focus for injury prevention.

Accomplishments

As of 8/1/2009 all cigarettes sold in Arizona have to be certified fire safe per ARS §41-2170-.08, meaning that they must be designed to reduce the amount of time that a cigarette continues to burn when it is not actively being smoked.

Strategic Plan for 2012-2016

Injury Topic: Fire and Burn Injuries

Objective #1: Improve statewide reporting and analysis of data on fire and burn injuries

Strategic Intervention	Action Steps	Key Partners
1. Strengthen relationships among existing fire and burn injury surveillance systems in the state and continue to work toward consistent, reliable, and complete information	<ul style="list-style-type: none"> Establish systematic sharing of data from hospitals, emergency departments, vital records, and the Arizona Burn Center, with regular discussion of results and suggestions for improvement Include outside information sources such as NFIRS, NFPA, and NEISS Explore ways to include tribal data and prevention issues in strategic interventions 	<p>Consumer Product Safety Commission</p> <p>Office of the State Fire Marshal</p> <p>Arizona Fire Marshal's Association</p> <p>Arizona Fire Chief's Association</p>
2. Encourage fire departments and other fire and injury agencies to report fires and fire injuries consistently	<ul style="list-style-type: none"> Work through Regional EMS Councils to strategize systematic and reliable recording and use of current data collection systems 	ADHS Bureau of EMS and Trauma System

Objective #2: Reduce the age-adjusted rate of residential fire deaths to 0.86 deaths per 100,000 population or less among Arizonans by 2020.

Strategic Intervention	Action Steps	Key Partners
1. Encourage local agencies to provide community education to <ul style="list-style-type: none"> Prevent fires, thermal injuries React appropriately when a fire or burn injury occurs Support community programs to aid victims of thermal injury 	<ul style="list-style-type: none"> Collaborate with EMS Regional Councils to develop appropriate strategies Identify nationally proven materials for use in community education and outreach programs, for example, Arizona Fire and Burn Educators Association website (afbea.org), Home Safety Checklist, children's safety materials, etc. Partner with CBOs to utilize relevant data in developing strategic interventions 	Arizona Fire and Burn Educators Association

<p>2. Provide culturally appropriate information for homeowners and renters on appropriate use of smoke alarms</p>	<ul style="list-style-type: none"> • Collect information on fire and burn education being done by and in EMS Regions, including Tribal efforts • Contact local community Welcoming Committees and realtors to encourage installation and maintenance of functional smoke alarms • Develop residents' understanding and cooperation in monitoring and maintaining alarms • Collaborate with existing partners to compile inventory of nationally proven educational materials (afbea.org) 	<p>Arizona Fire and Burn Educators Association</p>
<p>3. Encourage communication and referrals between home visiting programs and fire department educators.</p>	<ul style="list-style-type: none"> • Encourage Arizona's early childhood home visitors to collaborate with local fire agencies to provide high risk families with smoke alarms and fire/burn prevention information 	<p>Arizona Fire and Burn Educators Association StrongFamiliesAZ ADHS</p>
<p>Objective #4: Reduce the incidence of scald injuries and deaths through community education and interventions</p>		
<p>Strategic Intervention</p>	<p>Action Steps</p>	<p>Key Partners</p>
<p>1. Expand statewide anti-scald campaign for children and older adults</p>	<ul style="list-style-type: none"> • Seek funding for media campaigns • Develop liaisons through local health departments, pediatricians' offices, newborn nurseries, pre-natal clinics and classes, and day care and group homes for children and adults • Incorporate safe practices for water testing and temperatures into home safety checklists 	<p>Safe Kids</p>

Reduce Fire/Burn-Related Injuries in Arizona 2012-2016

Process → Outcomes →

Resources	Activities	Outputs	Outcomes	Goals
<i>In order to accomplish the activities we will need the following</i>	<i>In order to address our problem we will accomplish the following activities</i>	<i>We expect that once accomplished these activities will produce the following evidence or service delivery</i>	<i>We expect that if we accomplish these activities it will lead to the following changes in 1-3 then 4-6 years</i>	<i>We expect that if accomplished, these activities will lead to the following changes in 7-10 years</i>
<ul style="list-style-type: none"> ⇒ Funding ⇒ State Agency Involvement (ADHS, AOSFM) ⇒ Local Partners & Organizations ⇒ Injury Prevention Advisory Council ⇒ Evidence based practice or promising and proven interventions ⇒ Print/web materials 	<ul style="list-style-type: none"> ⇒ Increase public awareness of fire, burn, and scald injuries ⇒ Encourage policies and regulations to prevent fires/burns 	<ul style="list-style-type: none"> Public education campaigns with consistent fire, burn, and scald prevention messaging Distribution of smoke alarms to populations at highest risk from fire-related injuries 	<ul style="list-style-type: none"> ↑ Public awareness about the risk and protective factors for burns and scalds ↑ Smoke alarm installation among high risk populations 	<ul style="list-style-type: none"> ↓ Rate of deaths and healthcare encounters among Arizonans due to fire and burn-related injuries ↓ Rate of non-fatal injuries among children due to burns and scalds

Section E: Unintentional Nature/Environmental Injuries

Introduction

The wide range of injuries caused by nature or the environment tends to result in minor harm, requiring little professional medical attention. While nature and environmental injuries do not typically result in death, inexpensive personal prevention measures could prevent many hospitalizations and emergency department visits. However, these types of injuries can be life-threatening, often those involving natural heat or cold, lightning strike, or severe animal or insect attack.

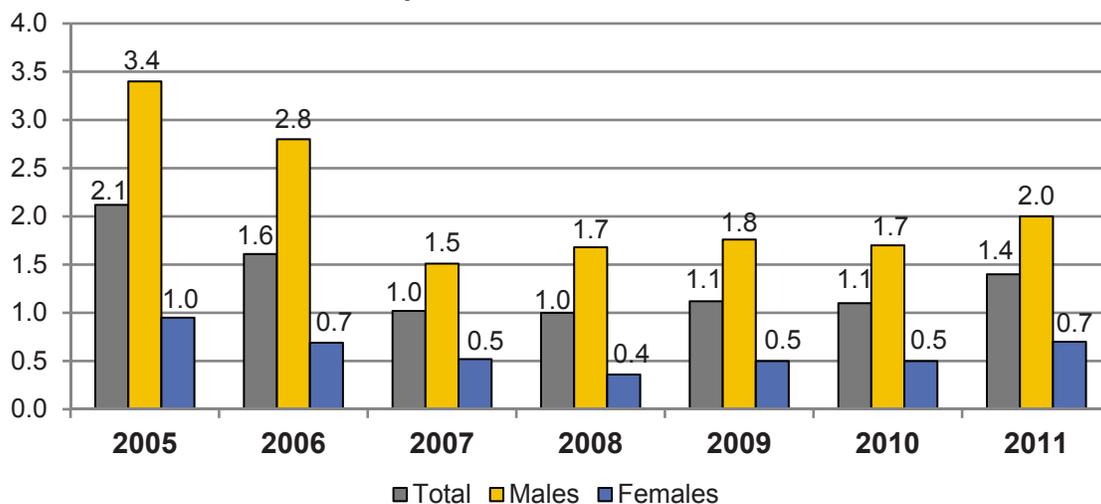
This section focuses on injuries caused primarily by nature or the environment. Such injuries include animal bites, bites or stings from insects or reptiles, lightning strikes, heat, cold, air pressure, storms (hurricanes, tornados, mudslides), and earth movements (volcanic eruptions, earthquakes). While most serious storms and earth movements are not likely to occur in Arizona, illnesses related to extreme temperatures and injuries related to venomous creatures are common. Between 1999 and 2003, Arizona had the highest average annual rate of death due to hyperthermia.⁴⁶ Young children and older adults are most at risk from these injuries.

There were 90 deaths from unintentional nature and environmental injuries among Arizona residents in 2011. In addition, there were 1,101 inpatient hospitalizations (including 9 deaths) and 22,310 emergency department visits (including 8 deaths) due to nature and environmental injuries among Arizonans in 2011.

Death Trends for Unintentional Nature/Environmental Injuries

As shown in Figure IIE.1, there was a 33 percent decrease in the age-adjusted rate of deaths due to unintentional nature and environmental injuries among Arizona residents, from 2.1 deaths per 100,000 residents in 2005 to 1.4 deaths per 100,000 residents in 2011.

Figure IIE.1. Age-Adjusted Unintentional Nature/Environmental Mortality Rates per 100,000 Residents by Sex and Year, Arizona, 2005-2011



⁴⁶ Luber GE, Sanchez CA, Conklin LM. Heat-Related Deaths --- United States, 1999-2003. MMWR 55(29); 796-798.

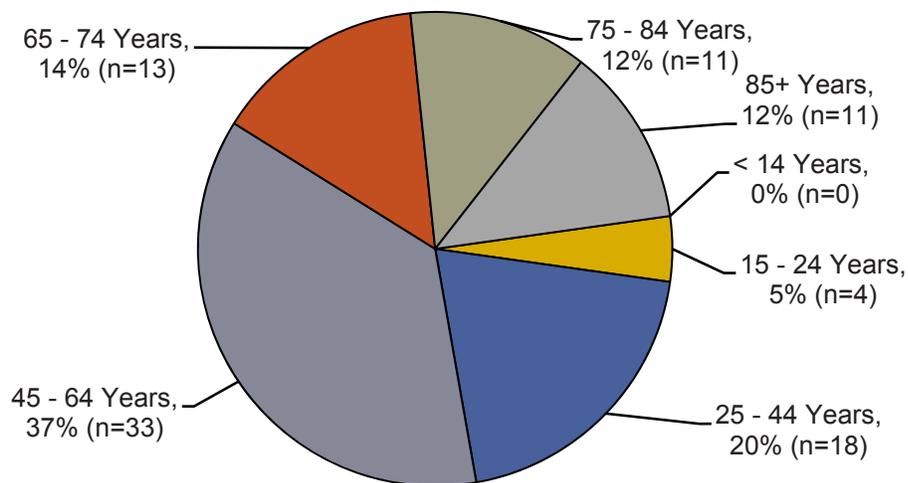
From 2005 through 2011, 58 percent of deaths among Arizonans from nature and environmental causes resulted from exposure to natural heat (n=350). Venomous creatures caused 16 deaths among Arizonans from 2005 through 2011, though there were no deaths from scorpions during that time. Table IIE.1 shows the distribution of nature and environmental deaths by specific causes of death.

Cause of Death	Number	Percent
Excessive natural heat	350	58%
Excessive natural cold	157	26%
Venomous creatures	16	3%
Bitten or struck by dog	12	2%
Struck by lightning	9	2%
Other/unspecified causes	56	9%
Total	599	100%

Deaths from Nature/Environmental Injuries

Among the 90 unintentional nature and environmental deaths among Arizona residents in 2011, 69 percent were among males (n=62), and 31 percent were among females (n=28). The greatest number of nature and environmental deaths were among adults 45 through 64 years of age (37 percent, n=33). Figure IIE.2 shows the age distribution of Arizona residents who died from nature and environmental injuries during 2011.

Figure IIE.2. Unintentional Nature and Environmental Deaths by Age Group, Arizona 2011 (n=90)

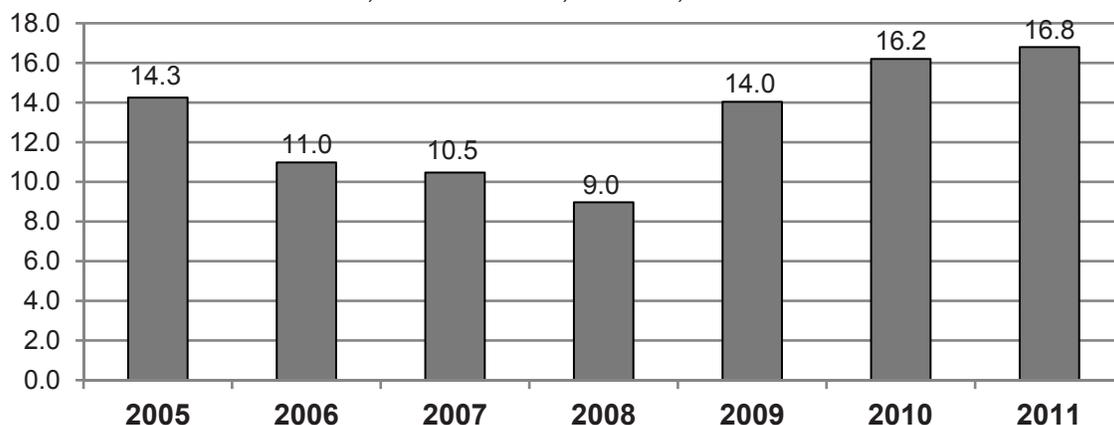


Due to the small number of deaths among each sex within each age group, reliable rates could not be calculated for nature and environmental deaths among Arizona residents by age groups and sex.

Inpatient Hospitalizations for Nature/Environmental Injuries

Nature and environmental injuries were the fifth leading cause of unintentional injury-related hospitalizations among Arizona residents in 2011, comprising just over 3 percent (n=1,101) of all unintentional injury-related hospitalizations. Figure IIE.3 shows the age-adjusted rate of unintentional nature/environmental injury-related hospitalizations among Arizona residents from 2005 through 2011.

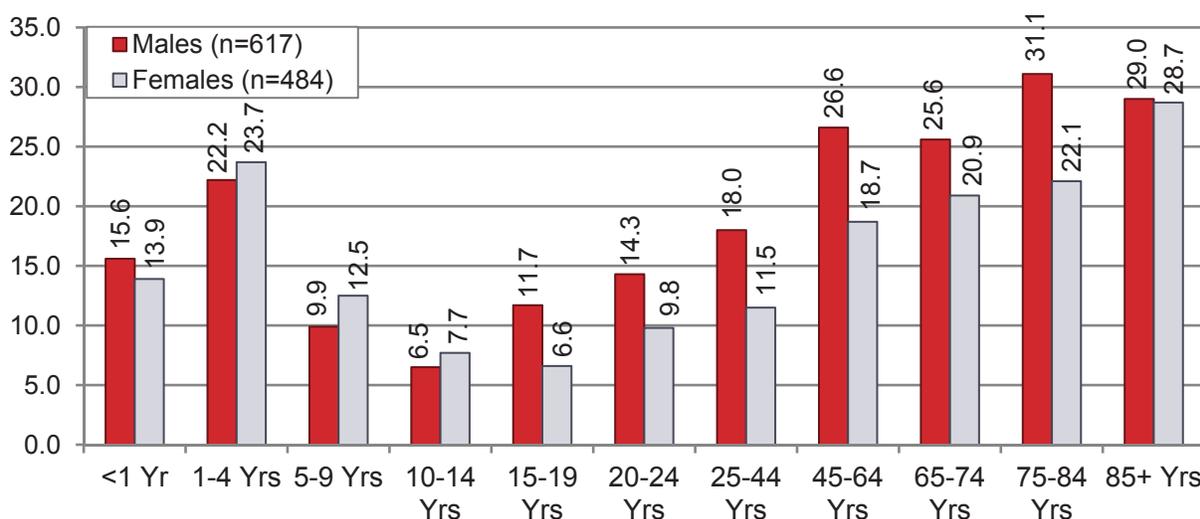
Figure IIE.3. Age-Adjusted Unintentional Nature and Environmental Hospitalization Rates per 100,000 Residents, Arizona, 2005-2011



Among the 1,101 inpatient hospitalizations for nature/environmental injuries in 2011, 56 percent were among males (n=617), 44 percent were among females (n=484). These hospitalizations included 9 cases in which the patient died prior to discharge. Thirty-two percent (n=353) of the inpatient hospitalizations were Arizonans 45 through 64 years of age.

Older males had the highest hospitalizations rates for injuries from nature and the environment. Figure IIE.4 illustrates the 2011 hospitalization rates for unintentional nature and environmental injuries by age group and sex among Arizona residents.

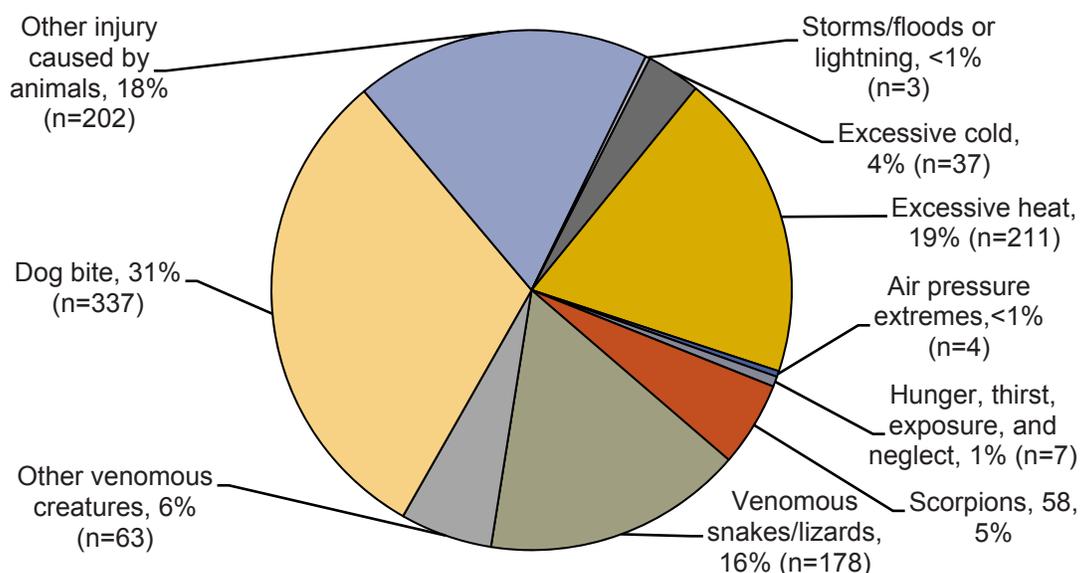
Figure IIE.4. Unintentional Nature and Environment-Related Hospitalizations Rates per 100,000 Residents by Age Group and Sex, Arizona 2011 (n=1,101)



In 2011, the median hospital stay for a nature or environmental injury was 2 days with residents spending a total of 3,204 days hospitalized. The median charge for a nature or environmental injury-related hospitalization was \$22,486. All hospital charges for nature or environmental injury-related hospitalizations in 2011 totaled over \$43.5 million in 2011. Hospital charges do not include costs incurred for emergency medical services, outpatient therapies, or rehabilitation.

Unlike most other mechanisms of injury, nature and environmental injuries can be broken down into several categories. While temperature-related injuries accounted for over 80 percent of nature/environmental deaths from 2005 through 2011, injurious interactions with animals and venomous creatures accounted for the majority of non-fatal inpatient hospitalizations among Arizonans in 2011 (76 percent, n=838). Figure IIE.5 shows the distribution of non-fatal inpatient hospitalizations in 2011 due to nature and environmental injuries among Arizona residents.

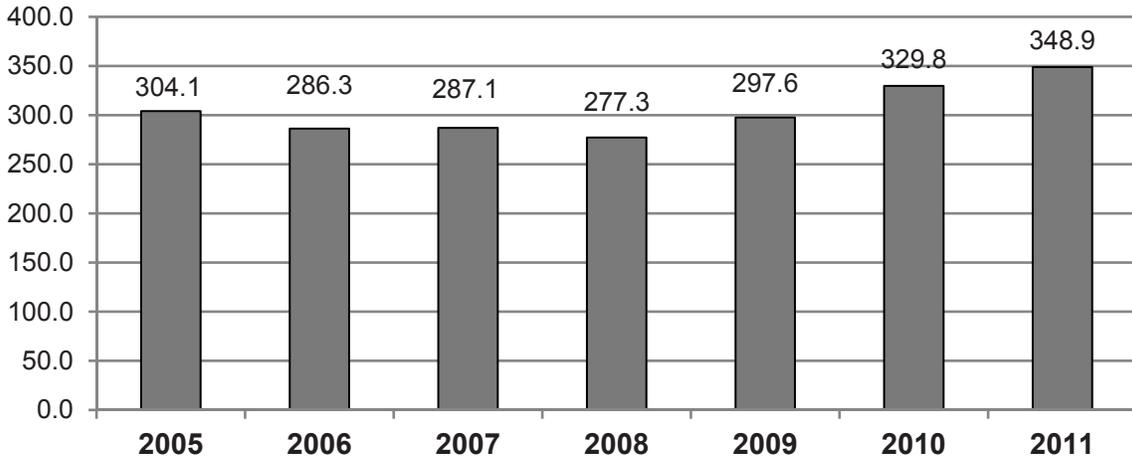
Figure IIE.5. Unintentional Nature and Environment-Related Inpatient Hospitalizations by Mechanism of Injury, Arizona 2011 (n=1,101)



Emergency Department Visits for Nature/Environmental Injuries

Unintentional nature and environmental injuries were the sixth leading cause of unintentional injury-related emergency department visits among Arizona residents in 2011 for a total of 22,310 or 5.9 percent of all injury-related emergency department visits. While the age-adjusted rate of nature/environmental injury-related emergency department visits decreased from 2005 through 2008, there was a sharp increase in 2009, possibly attributable to a change in data structure in 2008. Since 2009, the rate of nature and environmental injury-related emergency department visits has continued to increase into 2011. Figure IIE.6 shows the age-adjusted rate of nature and environmental injury-related emergency department visits among Arizona residents from 2005 through 2011.

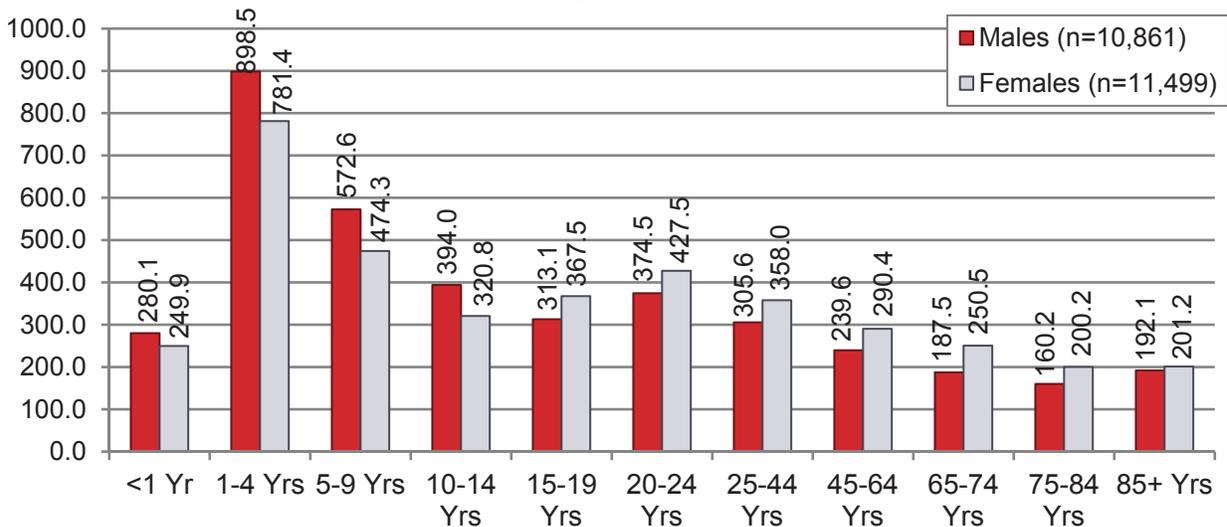
Figure IIE.6. Age-Adjusted Unintentional Nature and Environmental Injury-Related Emergency Department Visit Rates per 100,000 Residents, Arizona, 2005-2011



There were 22,310 emergency department visits for nature or environmental injuries among Arizona residents in 2011; 49 percent were among males (n=10,861) and 51 percent were among females (n=11,449). Of those seen in the emergency department for unintentional nature and environmental injuries, 8 died prior to hospital discharge. Children 14 years and younger accounted for 33 percent of emergency department visits (n=7,370).

Emergency department visit rates for nature and environmental injuries were highest among young children between 1 and 4 years of age. While rates were higher among males 14 years and younger, emergency department visit rates for nature and environmental injuries were higher among females for Arizonans age 15 years and older. Figure IIE.7 illustrates the 2011 emergency department visit rates for unintentional nature and environment-related injuries by age group and sex among Arizona residents.

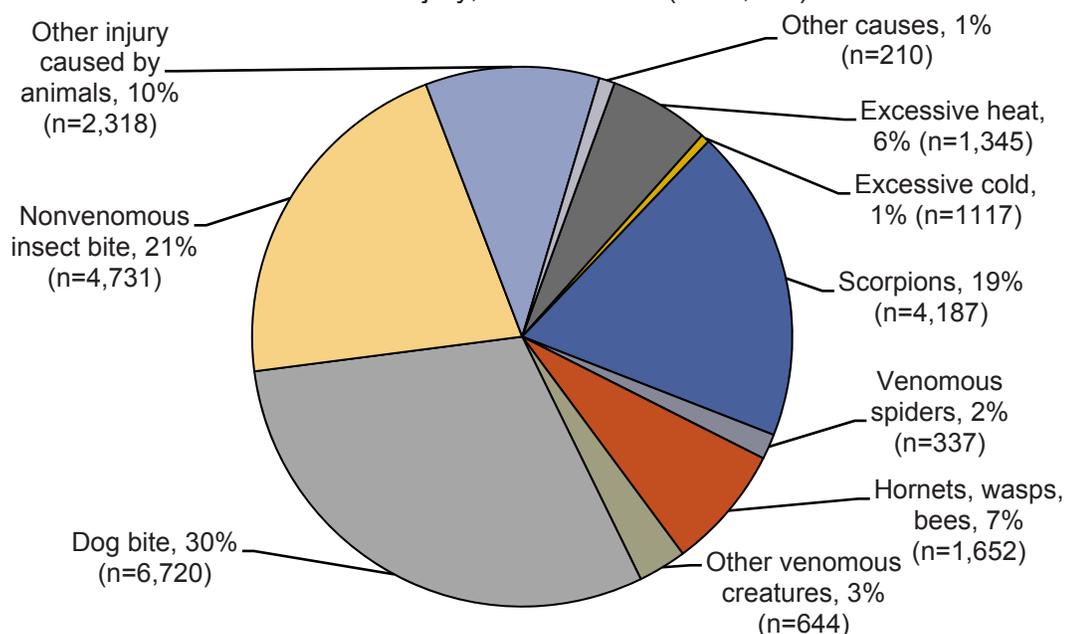
Figure IIE.7. Unintentional Nature and Environmental Injury-Related Emergency Department Visit Rates per 100,000 Residents by Age Group and Sex, Arizona 2011 (n=22,310)



In 2011, the median charge for a nature or environmental injury-related emergency department visit was \$952. All hospital charges for nature or environmental injury-related emergency department visits in 2011 totaled over \$41.2 million. Hospital charges do not include costs incurred for emergency medical services, outpatient therapies, or rehabilitation.

As with nature and environment-related inpatient hospitalizations, injurious interactions with animals and venomous creatures accounted for nearly all of the emergency department visits among Arizonans in 2009 (93 percent, n=20,706). One in three nature and environmental-related emergency department visits in 2011 resulted from a dog bite (30 percent, n=6,720). Figure IIE.8 shows the distribution of emergency department visits in 2011 due to nature and environmental injuries among Arizona residents.

Figure IIE.8. Unintentional Nature and Environment-Related Emergency Department Visits by Mechanism of Injury, Arizona 2011 (n=22,310)



Existing Surveillance Systems

Arizona Vital Records death certificate data, hospital discharge data, and emergency department data are the primary sources for monitoring nature and environmental injuries in the state of Arizona. The Child Fatality Review team reviews nature and environmental deaths among children 17 years and younger across the state, using law enforcement and medical examiner reports to assess intent and causal agent(s). Additionally, reports of envenomation called in to the Poison Control Centers are compiled by the American Association of Poison Control Centers (AAPCC), which collects data by state throughout the United States. Local animal control and public health agencies also collect information on human exposures to potentially rabid animals, including animal bites, but these reports are not standardized at the state level.

Summary/Highlights of Data

- Injuries caused by nature or the environment vary widely, and rarely result in serious harm or hospitalization.
- There were 90 deaths from unintentional nature and environmental injuries among Arizona residents in 2011
- Males over 15 years of age had higher hospitalization rates for injuries from nature and the environment than females.

Current Interventions

The Safe Kids Arizona and Safe Kids Coalitions across Arizona work to prevent heat-related illness among children in vehicles by participating in “Never Leave Your Child Alone” events. This included running advertising campaigns; distributing brochures, tip sheets, posters and flyers; and engaging community leaders to alert them to the danger of extremely high temperatures in parked vehicles. These activities have been integrated into the child safety seat check-up events.

The Heat Illness Prevention School Project is a new project created by ADHS in response to a 2010 CDC Morbidity and Mortality Weekly Report, which found heat illness during practice or competition is a leading cause of death and disability among U.S. high school athletes.⁴⁷ Another study on Nonfatal Sports and Recreation Heat Illness Treated in Hospital Emergency Department highlights the importance of effective heat illness prevention messages to target all persons who are physically active, including those who participate in unstructured sports and recreational activities, more specifically those aged 15-19 years, who are at greatest risk, and their coaches and parents.⁴⁸ The goal of the project is to educate students, school staff, athletic coaches and parents regarding heat illness in order to prevent heat illness incidences and lower the number of heat caused/related deaths among students.

Accomplishments

The Arizona Department of Health Services Safe Kids Arizona Program continues to collaborate with local organizations and agencies to promote prevention education on the effects of heat to children.

⁴⁷ Centers for Disease Control and Prevention. Heat Illness Among High School Athletes – United States, 2005-2009. MMWR 2010; 59:1009-1013.

⁴⁸ Centers for Disease Control and Prevention. Nonfatal Sports and Recreation Heat Illness Treated in Hospital Emergency Departments – United States, 2001-2009. MMWR 2011; 60:977-980.

Strategic Plan for 2012-2016

Injury Topic: Unintentional Nature/Environmental Injuries

Objective #1: Reduce death caused by environmental injuries

Strategic Intervention	Action Steps	Key Partners
1. Encourage local Safe Kids Coalitions and community safety groups to continue with education around Never Leave Your Child Alone.	<ul style="list-style-type: none"> • Integrate information into child safety seat check events • Integrate information into StrongFamiliesAZ professional Development Curriculum 	Safe Kids Coalitions
2. Reduce the overall number of heat-related deaths.	<ul style="list-style-type: none"> • Increase awareness around ADHS Heat Emergency Response Plan 	<ul style="list-style-type: none"> • ADHS • County health departments • StrongFamiliesAZ

Reduce Unintentional Nature/Environmental Injuries in Arizona 2012-2016

Process  Outcomes 

Resources	Activities	Outputs	Outcomes	Goals
<i>In order to accomplish the activities we will need the following</i>	<i>In order to address our problem we will accomplish the following activities</i>	<i>We expect that once accomplished these activities will produce the following evidence or service delivery</i>	<i>We expect that if we accomplish these activities it will lead to the following changes in 1-3 then 4-6 years</i>	<i>We expect that if accomplished, these activities will lead to the following changes in 7-10 years</i>
<ul style="list-style-type: none"> ⇒ Funding ⇒ Local Partners & Organizations ⇒ Injury Prevention Advisory Council ⇒ Evidence based practice or promising and proven interventions ⇒ Print /web materials 	<ul style="list-style-type: none"> ⇒ Enhance public education about the dangers of leaving children alone in vehicles ⇒ Work with community coalitions ensure messaging is incorporated into checkup events 	Public education campaigns to promote never leaving a child alone in a vehicle	↑ Public awareness on keeping children safe	<ul style="list-style-type: none"> ↓ Rate of heat-related deaths ↓ Rate of heat-related hospitalizations

Section F: Unintentional Poisoning

Background

Poisoning is a serious problem in Arizona that affects individuals of all ages and racial or ethnic backgrounds. Unintentional poisoning ranked as the leading cause of unintentional injury in 2011 with 880 deaths in Arizona. Additionally, there were 3,313 inpatient hospitalizations (including 33 deaths) and 6,466 emergency department visits (including 2 deaths) due to unintentional poisonings among Arizonans in 2011. As with other mechanisms of injury, poisoning can be either intentional or unintentional. This chapter focuses on unintentional poisoning; injuries from intentional poisoning such as suicide and homicide are further addressed in other chapters of this Injury Plan.

Sources of unintentional poisoning vary by age, sex, occupation, and ethnic group, and include over-the-counter (OTC) medications, prescription medications and street drugs (methamphetamine, psychotropic), and toxic substances encountered in the home and at work (household cleaning substances, industrial cleaners, lead, pesticides, cosmetics). Some poisonings, such as those due to illegal drug use, are under-reported. A less obvious, but equally important aspect of Arizona's poisoning problem are the indirect effects of poison exposure, such as when increased blood lead levels interfere with learning or require extensive medical treatment.

Causes and intentionality associated with poison deaths vary by age, with unintentional poisoning from cosmetics, cleaning supplies and analgesics more likely among the very young. Deaths from poisoning in adults ages 25 through 64 years reflect the lethal effects of unintentional overdoses of prescription, over-the-counter and illegal substances including heroin, appetite suppressants, caffeine, antidepressants and alcohol.⁴⁹

Although most victims of poisoning do not die, the cost to the public (from visits to physicians, to the emergency departments, and for inpatient hospitalizations) makes poisoning of all kinds an important injury prevention issue. The total annual cost of poisoning-related death and injury among children 14 years and younger is more than \$21.8 billion.⁵⁰ The average cost of hospital treatment for a poisoning exposure is \$8,700.¹

Arizona benefits from having two poison control centers: Banner Good Samaritan Poison and Drug Information Center, which serves primarily Maricopa County (60 percent of Arizona's 2011 population) and the Arizona Poison and Drug Information Center, located on the University of Arizona campus in Tucson, serving the rest of Arizona. In the interest of serving the public quickly and efficiently, both centers accept calls from outside their areas. Poison control centers provide 24-hour telephone access for emergency information and treatment recommendations, consultation, and follow-up. The phones are handled by nurses and pharmacists specifically trained for this function. Calls often satisfy the patient's concern and allow treatment at home, avoiding a costly visit to the emergency department.

Most calls originate from the home environment and do not require referral to a health care facility. More than 90 percent of poison exposures occur in the home where children, especially those under the age of six years, are at greatest risk. Children are the most sensitive to the negative health effects of poisoning. Older adults are more vulnerable to drug interactions and

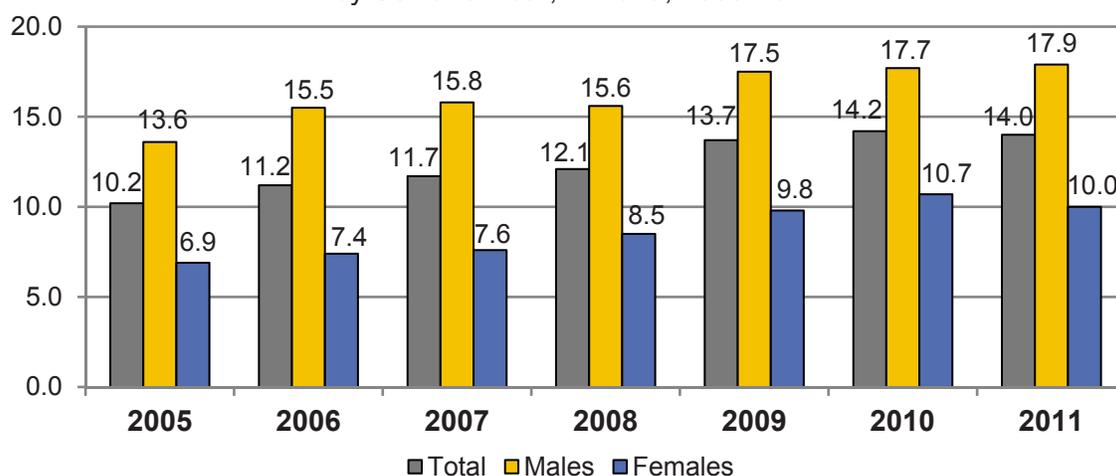
⁴⁹ Gielen, A. et al. *Injury and Violence Prevention*. Jossey-Bass, San Francisco, CA, 2006

overdoses because of physiological effects of aging, memory and vision problems, and multiple prescription medications.

Death Trends for Unintentional Poisoning

As shown in Figure IIF.1 there was a 37 percent increase in the age-adjusted rate of deaths due to unintentional poisoning among Arizona residents, from 10.2 deaths per 100,000 residents in 2005 to 14.0 deaths per 100,000 residents in 2011. Although the rate is decreased slightly from 14.2 deaths per 100,000 residents in 2010, the general trend shows the rate increased steadily over the seven-year term for both males and females, though males had a consistently higher mortality rate than females.

Figure IIF.1. Age-Adjusted Unintentional Poisoning Mortality Rates per 100,000 Residents by Sex and Year, Arizona, 2005-2011

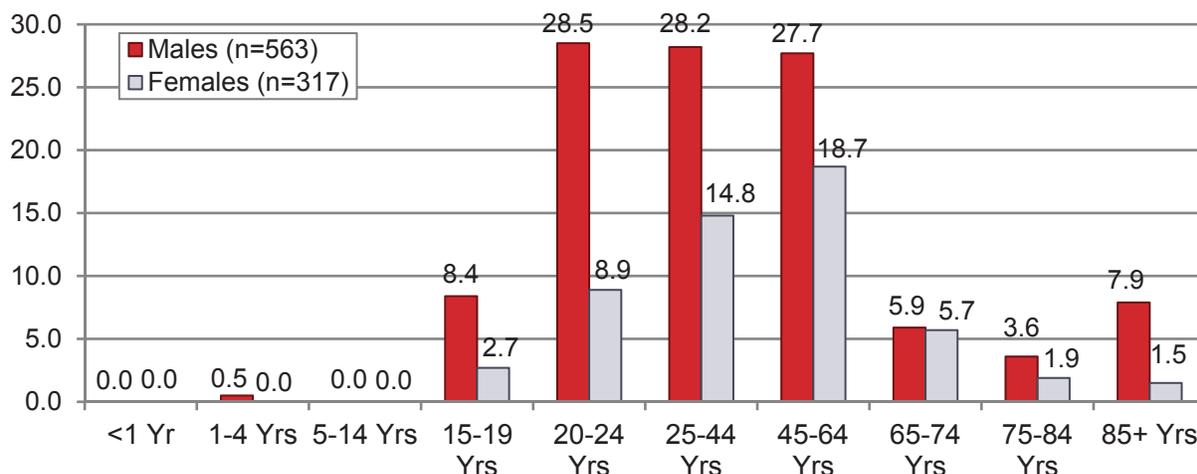


Deaths from Poisoning

Among the 880 unintentional poisoning deaths in 2011, 64 percent were among males (n=563), and 36 percent were among females (n=317). In 2011, only 1 unintentional poisoning-related death occurred among children 4 years and younger; there were no deaths among children ages 5 through 14 years.

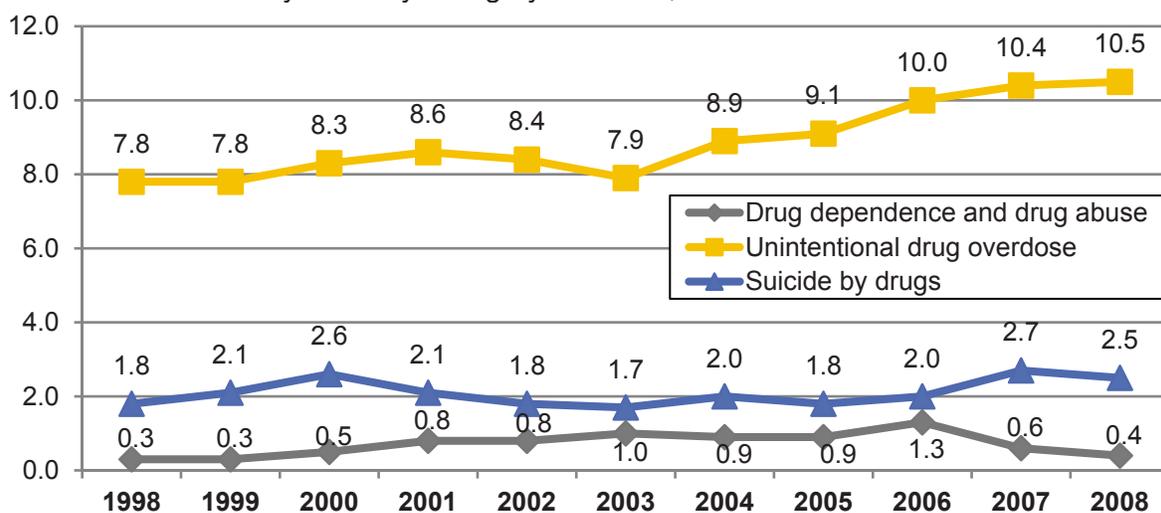
In 2011, Males ages 20 through 24 years had the highest mortality rate for unintentional poisoning-related deaths (28.5 deaths per 100,000 residents), although all adult males ages 20 through 64 had high mortality rates compared to males in other age groups and females in all age groups. Figure IIF.2 shows the death rates for poisonings by age group and sex per 100,000 Arizona residents in 2011.

Figure IIF.2. Unintentional Poisoning Mortality Rates per 100,000 Residents by Age Group and Sex, Arizona 2011 (n=880)



Drug-related death rates can be categorized as related to drug dependence and abuse, accidental drug overdose, and suicide. Figure IIF.3 shows that over the last decade in Arizona, drug dependence and abuse death rates and drug-related suicide rates have remained fairly stable while the death rate from accidental drug overdose has been rising from 7.8 deaths per 100,000 residents in 1998 to 10.5 deaths per 100,000 residents in 2008.

Figure IIF.3 Age-Adjusted Drug-Related Death Rates per 100,000 Residents by Mortality Category and Year, Arizona 1998-2008

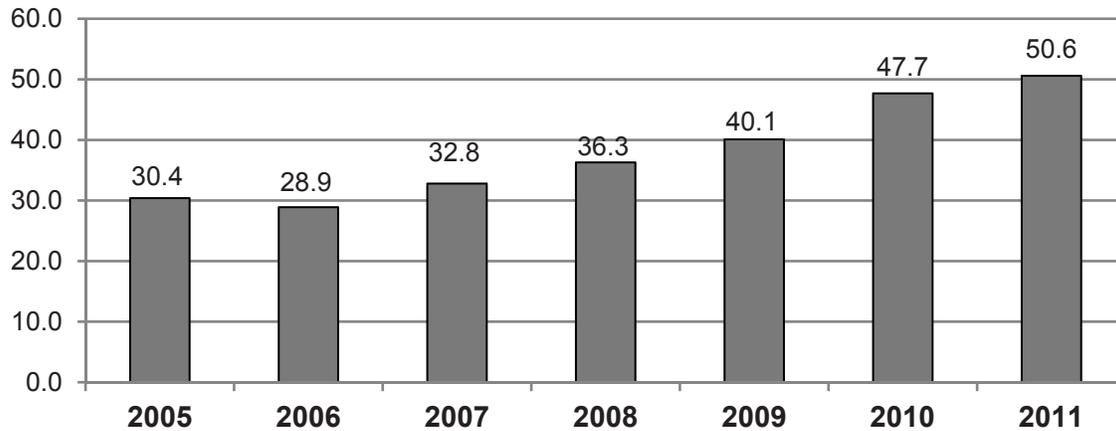


Source: Injury Mortality Among Arizona Residents, Drug-Related Deaths, 1998-2008

Inpatient Hospitalizations for Poisoning

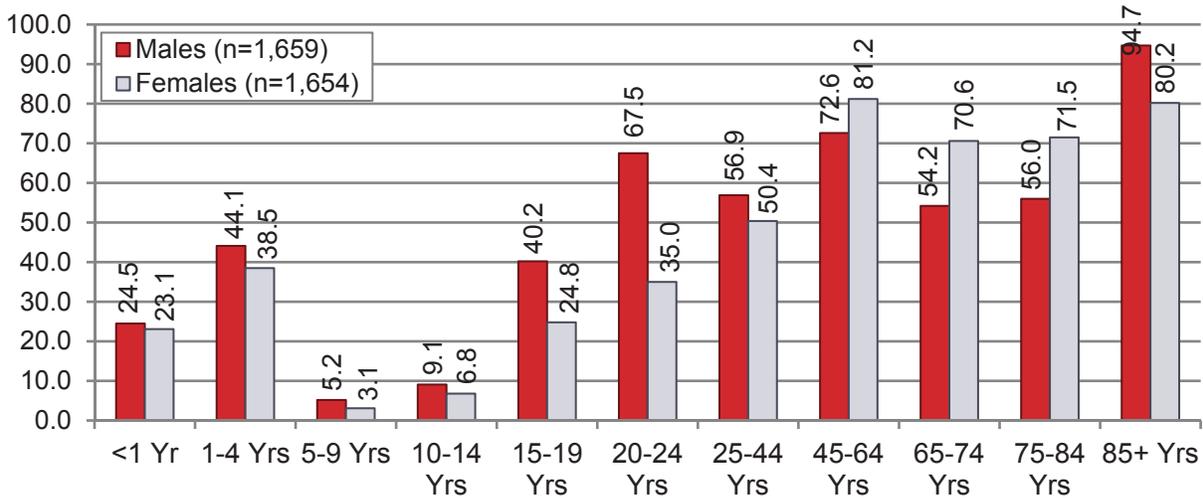
There was a 66 percent increase in the age-adjusted rate of unintentional poisoning-related inpatient hospitalizations, from 30.4 hospitalizations per 100,000 residents in 2005 to 50.6 hospitalizations per 100,000 residents in 2011. Figure IIF.4 shows the age-adjusted rate of hospitalizations among Arizona residents from 2005 through 2011.

Figure IIF.4. Age-Adjusted Unintentional Poisoning-Related Hospitalization Rates per 100,000 Residents, Arizona, 2005-2011



There were 3,313 inpatient hospitalizations for poisoning among Arizona residents in 2011: 50 percent were among males (n=1,659) and 50 percent were among females (n=1,654). Of those, 1 percent (n=33) died prior to discharge. Adults ages 25 through 64 years accounted for nearly two-thirds of all unintentional poisoning-related hospitalizations (63 percent, n=2,114). Males of 85 years and older had the highest hospitalization rates for poisoning-related illness/injury, and females experienced higher rates than males from age 45 through 84. Figure IIF.5 illustrates the 2011 hospitalization rates for unintentional poisoning-related hospitalizations by age group and sex among Arizona residents.

Figure IIF.5. Unintentional Poisoning-Related Hospitalizations Rates per 100,000 Residents by Age Group and Sex, Arizona 2011 (n=3,313)

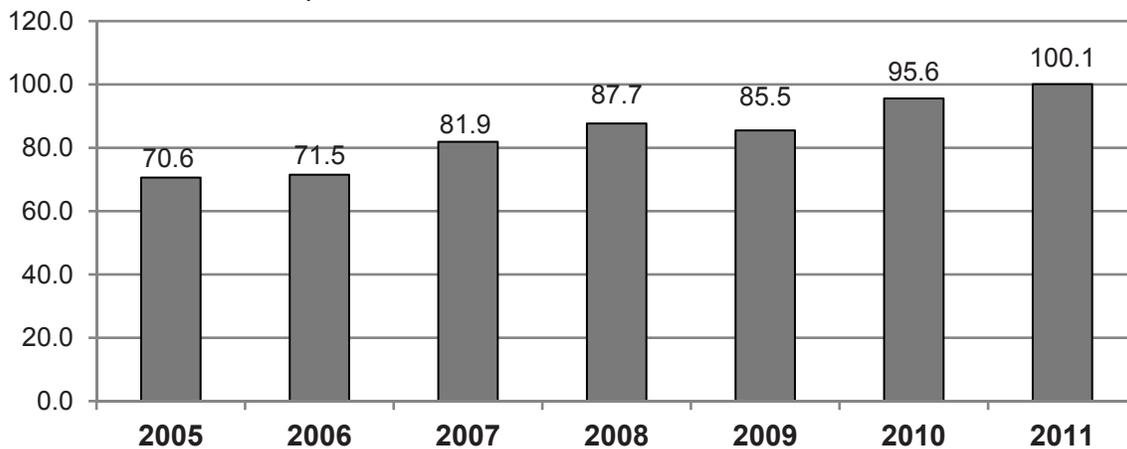


In 2011, the median hospital stay for a poisoning was 2 days with residents spending a total of 9,207 days hospitalized. The median charge for a poisoning-related hospitalization was \$22,486. All hospital charges for poisoning-related hospitalizations in 2011 totaled over \$91.4 million. Hospital charges do not include costs incurred for emergency medical services, outpatient therapies, or rehabilitation.

Emergency Department Visits for Poisoning

The age-adjusted rate of poisoning-related emergency department visits followed a similar trend to the rates of poisoning-related deaths and inpatient hospitalizations with a 42 percent increase in visits from 2005 through 2011. Figure IIF.6 shows the age-adjusted rate of emergency department visits among Arizona residents from 2005 through 2011.

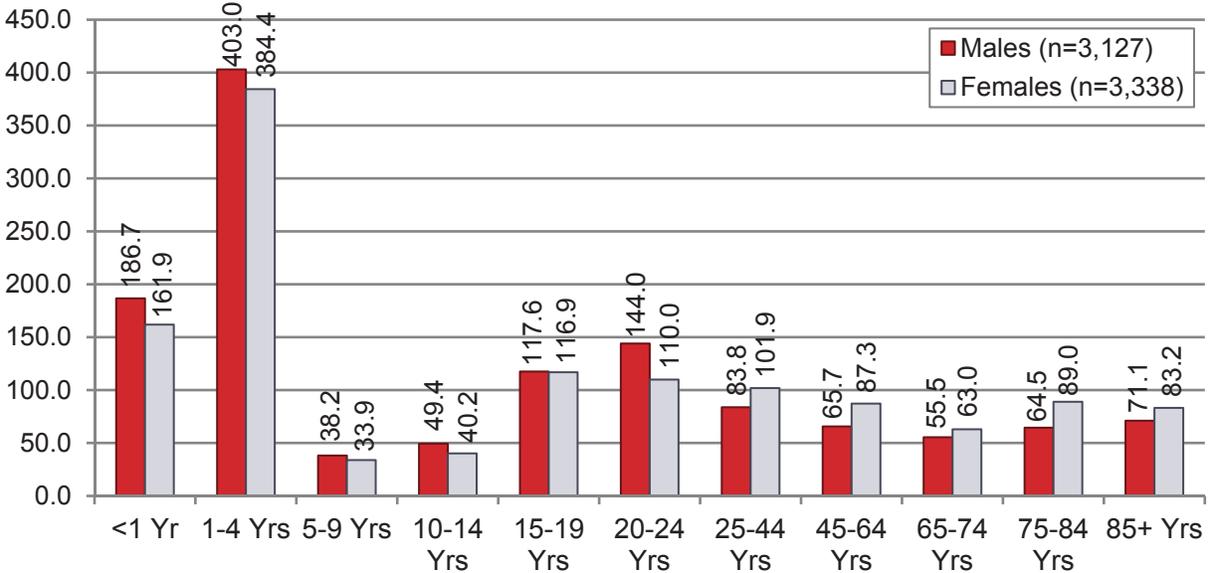
Figure IIF.6. Age-Adjusted Unintentional Poisoning-Related Emergency Department Visit Rates per 100,000 Residents, Arizona, 2005-2011



There were 6,466 emergency department visits for unintentional poisoning among Arizona residents in 2011. This includes one individual of unknown sex; 48 percent were among males; (n=3,127) and 52 percent were among females (n=3,338). Of those seen in the emergency department for unintentional poisonings, 2 died. The highest percentage of emergency department visits were among children ages 1 through 4 (28 percent, n=1,461). Figure II.10 shows the age distribution of emergency department visits among Arizona residents for poisonings during 2011.

The 2011 age-adjusted emergency department visit rate for unintentional poisonings among Arizonans was 100.1 visits per 100,000 residents. Rates for emergency department visits for poisonings were highest among young children. Figure IIF.7 illustrates the 2011 emergency department visit rates for unintentional poisonings by age group and sex among Arizona residents.

Figure IIF.7. Unintentional Poisoning-Related Emergency Department Visit Rates per 100,000 Residents by Age Group and Sex, Arizona 2011 (n=6,466)



Does not include one individual of unknown sex.

In 2011, the median charge for a poisoning-related emergency department visit was \$2,647. All hospital charges for poisoning-related emergency department visits in 2011 totaled over \$22.9 million. Hospital charges do not include costs incurred for emergency medical services, outpatient therapies, or rehabilitation.

Existing Surveillance Systems

Poisonings are monitored using Arizona Vital Records death certificate data, hospital discharge data, and emergency department data. The Child Fatality Review team reviews poisoning-related deaths of children 17 years and younger across the state, using law enforcement and medical examiner reports to assess intent and causal agent(s). Additionally, lead poisoning and pesticide poisoning surveillance data and reports from the Poison Control Centers are compiled by the American Association of Poison Control Centers (AAPCC), which collects data by state throughout the United States.

Summary/Highlights of Data

- Arizona benefits from having two poison control centers, the Banner Good Samaritan Poison and Drug Information Center and the Arizona Poison and Drug Information Center.
- There were 880 unintentional poisoning deaths in 2011.
- In 2011, only one unintentional poisoning-related death occurred among children 4 years and younger; there were no deaths among children ages 5 through 14 years.
- There was a 66 percent increase in the age-adjusted rate of unintentional poisoning-related inpatient hospitalizations.
- There was a 42 percent increase in emergency department visits from 2005 through 2011.

Limitations of Data

Direct comparison and aggregation of data from the two Arizona poison centers cannot be done directly because of incompatible data collection systems. Each center provides its own analysis to the public. Centers' data are reported to the American Association of Poison Control Centers, which combines and publishes data for all states, but trails at least one year behind.

Race information for in-patient hospitalizations and emergency department visits is generally unreliable, due to unevaluated methods for collecting the information. Furthermore, many American Indians who live on reservations seek treatment at Indian Health Service facilities. These federal facilities are not required to report data to the Arizona Hospital Discharge database, and therefore events among American Indians will always be undercounted in these data.

Current Interventions and Accomplishments

- ADHS, in partnership with the Arizona Criminal Justice Commission and other stakeholders, are part of the Arizona Prescription Drug Reduction Initiative, which is a statewide effort to reduce prescription drug overuse.
 - At a statewide meeting in July of 2012, stakeholders discussed and developed a list of “best practices” for prescribers.
 - A special focus has been placed on improving participation in the prescription drug monitoring program.
- The ADHS Lead Poisoning Prevention Program conducts surveillance activities, provides case management including environmental investigations, and performs education and outreach activities.
- The ADHS Pesticide Poisoning Prevention Program maintains the pesticide poisoning surveillance registry, which tracks exposures and illnesses throughout the state. Program staff will provide consultation and informational literature on pesticides and their potential effect on human health.
- The two Arizona Poison Control Centers provide advice about poison and medication-related emergency treatment, as well as referral assistance and information about poisons and toxins, poison prevention, and the safe and proper use of medications.⁵¹
- The Arizona Health Care Cost Containment System (AHCCCS) works in collaboration with the Arizona Department of Health Services Lead Poisoning Prevention Program to test children for lead poisoning and assist with case management. The City of Phoenix Lead Hazard Control Program and the City of Tucson Lead Housing Control Program provide lead remediation and abatement services for children in their respective jurisdictions.
- Navajo County, Santa Cruz County, Yavapai County, and the City of Tempe maintain drop-off locations for expired, unused, and unneeded prescription drugs. These sites help ensure the safe and environmentally responsible disposal of prescription medication as a free service to community residents.
- The Arizona Department of Health Services Injury Prevention Program created a toolkit for communities to use to set up drug drop off centers.

⁵¹ www.pharmacy.arizona.edu/outreach/poison/about.php

Strategic Plan for 2012-2016

Injury Topic: Poisoning

Objective #1: Consistent with the national Healthy People 2020 objective, eliminate elevated blood lead levels in Arizona children by 2020.

Strategic Intervention	Action Steps	Key Partners
1. Increase the number of AHCCCS eligible high-risk children screened for lead poisoning by 5% each year	<ul style="list-style-type: none"> Educate health plans and providers about the need to screen at-risk children Notify providers and families when lead screen levels are high for follow-up 	ADHS AHCCCS
2. Implement a lead-based pottery and folk medicine education campaign in high risk ZIP codes	<ul style="list-style-type: none"> Secure funding, identify target populations, implement the education campaign, evaluate, and extend the education campaign statewide 	
3. Continue current registry program, investigate cases, and make appropriate intervention referrals	<ul style="list-style-type: none"> Maintain funding, staff, and activities Reporting is required by Arizona statute: all laboratories are required to report any blood lead test performed on a citizen of Arizona 	ADHS
4. Include questions about lead exposure in home safety screening and referral.	<ul style="list-style-type: none"> Healthy@Home, a home safety checklist, is being piloted by Health Start and HRPP 	ADHS: Lead, BWCH, Chronic Disease

Objective #2: Consistent with the national Healthy People 2020 objective, prevent an increase in the age-adjusted rate of nonfatal poisoning beyond 304.4 non-fatal poisonings per 100,000 population.

Strategic Intervention	Action Steps	Key Partners
Encourage medication reconciliation, a process of identifying the most accurate list of a person's medication to prevent adverse drug interactions	<ul style="list-style-type: none"> Encourage the use of the Med Form: www.themedform.com to maintain accurate lists of medications Work with Fall Prevention Coalitions to encourage awareness of the role of medication in older adult falls 	Hospitals, Physicians
Encourage community organizations to organize drug diversion efforts	<ul style="list-style-type: none"> Encourage the use of event-based "Drug Drop-Offs" and on-going drug turn-in sites that allow community members a 	Towns and Cities

	safe, responsible method of drug disposal.	
Health care provider accountability	<ul style="list-style-type: none"> Encourage health care providers to follow evidence-based guidelines for safe prescribing practices 	ADHS ACEP

Arizona's Baseline for 2009 is 13.7 deaths per 100,000 and has increased 34% since 2005

National Baseline: 13.1 deaths per 100,000 population were caused by poisonings in 2007 (age adjusted to the year 2000 standard population)

Target: 13.1 deaths per 100,000 population (Healthy People 2020 Objective IVP-9.1)

Target Setting Method: Maintain the baseline rate

Reduce Unintentional Poisoning Injuries in Arizona 2012-2016

Process  Outcomes 

Resources	Activities	Outputs	Outcomes	Goals
<i>In order to accomplish the activities we will need the following</i>	<i>In order to address our problem we will accomplish the following activities</i>	<i>We expect that once accomplished these activities will produce the following evidence or service delivery</i>	<i>We expect that if we accomplish these activities it will lead to the following changes in 1-3 then 4-6 years</i>	<i>We expect that if accomplished, these activities will lead to the following changes in 7-10 years</i>
<ul style="list-style-type: none"> ⇒ Funding ⇒ Local Partners & Organizations ⇒ Injury Prevention Advisory Council ⇒ Evidence based practice or promising and proven interventions ⇒ Print/web materials 	<ul style="list-style-type: none"> ⇒ Disseminate data on poisoning deaths/injuries to state and local partners ⇒ Engage statewide partners ⇒ Enhance public and professional education regarding prescription drugs, drug interactions and overdose, treatment and prevention 	<ul style="list-style-type: none"> Multidisciplinary workgroup to prevent unintentional poisoning deaths Statewide comprehensive prevention strategy to address the rising prescription poisoning deaths Public and professional education campaigns 	<ul style="list-style-type: none"> ↑ Awareness on the magnitude of unintentional drug overdose, interventions and available resources ↑ Prevention programs ↑ Providers prescribing fewer narcotics per patient ↑ Use of available resources (i.e. Poison Control Center) ↑ Patients limited to one prescribing physician ↓ New drug abusers 	<ul style="list-style-type: none"> ↓ Rate of unintentional poisoning deaths ↓ Rate of unintentional poisoning hospitalizations

Section G: Unintentional Transport Injuries

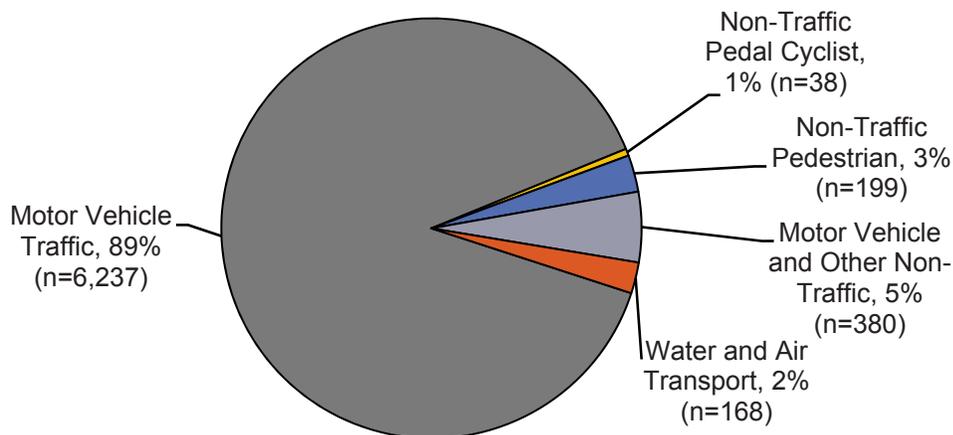
Introduction

According to the Centers for Disease Control and Prevention, unintentional motor vehicle-related injuries were the leading cause of deaths for Arizonans 5-24, and the second leading cause of death for children 1-4 and adults 25 and older, making it the third leading cause of unintentional death in Arizona in 2010.⁵²

Most transport data in Arizona is collected by the Arizona Department of Transportation (ADOT) or the Arizona Department of Health Services (ADHS). Data from ADOT focuses on the nature of the incident, including vehicle and occupant/rider characteristics. This data is obtained from traffic records. Data from ADHS (hospitalization, emergency department and death records) focus on the injuries and medical care resulting from the transport incident. Because transport incidents can be characterized in terms of both the crash and the injured individuals, and a single crash is capable of producing multiple injured people, the terms “crash or incident” and “patient or individual” are not interchangeable. Counting the number of vehicle crashes versus the number of injured individuals may produce different outcomes, leading to discrepancies in published figures by data source. Care has been taken in this section to distinguish vehicular crash data (ADOT) from individual-level medical data (ADHS).

The CDC’s guidelines for coding injury mortality and morbidity data indicate that unintentional transport injuries can be categorized into traffic and non-traffic events.⁵³ Motor vehicle traffic (MVT) injuries refer to injuries among motor vehicle occupants, motorcyclists, pedal cyclists, and pedestrians resulting from any motor vehicle event occurring on a public street or highway. Non-traffic events occur in any place other than a public street or highway (e.g. driveway or parking lot). Figure IIG.1 shows the distribution of all types of unintentional transport-related fatalities among Arizona residents from 2005 through 2011. Motor vehicle traffic injuries accounted for 89 percent (n=6,237) of all transport-related deaths.

Figure IIG.1. Unintentional Transport-Related Deaths by Type, Arizona, 2005-2011 (n=7,022)



⁵² Centers for Disease Control and Prevention, National Center for Injury Prevention and Control. Web-based Injury Statistics Query and Reporting System (WISQARS) [online]. (2005) [cited 04 Aug 2010]. Available from: www.cdc.gov/ncipc/wisqars.

⁵³ Centers for Disease Control and Prevention, National Center for Injury Prevention and Control [online]. [cited 04 Oct 2012]. Available from: http://www.cdc.gov/Injury/wisqars/pdf/Leading_Causes_injury_Deaths_Age_Group_Highlighting_Unintentional_Injury%20Deaths_US_2009-a.pdf.

Oversight for the state of Arizona's traffic safety effort is primarily the responsibility of the Governor's Office of Highway Safety (GOHS). However, there are many others contributing to this effort including the Arizona Department of Transportation, Arizona Department of Health Services, American Automobile Association (AAA) of Arizona, Arizona Driver and Safety Education Association, Arizona County Sheriff's Association, Arizona Police Chiefs Association, Arizona Safe Kids Coalitions, Mothers Against Drunk Driving (MADD), Students Against Destructive Decisions (SADD), Inter-Tribal Council of Arizona, National Safety Council, Professional Fire Fighters of Arizona, the Regional Planning Agencies, and others.

In 2009, The Governor's Office for Highway Safety identified five traffic safety emphasis areas, and introduced a goal of reducing fatalities 15 percent from 2008 through 2012 in each area: occupant restraint usage, young drivers, speeding, impaired driving, and roadway departure/intersection related crashes.⁵⁴ Some of these emphasis areas are discussed.

Lane Departure and Intersections

While advances in roadway design and engineering in the past four decades have contributed to reducing the mortality of such collisions, roadway departure-related crashes accounted for 44 percent of fatal crashes, almost half of all the reported fatal crashes within the State of Arizona in 2008.⁵⁵ One of the most serious lane departure crashes is a "head-on collision" which occurs when a driver departs their travel lane and collides with an oncoming vehicle. Another lane departure crash that often results in fatalities and/or serious injuries is the "run-off-road" crash, where the driver loses control and the vehicle either collides with a fixed object or overturns.

The percentage of intersection-related injuries is higher in Arizona than national statistics. Intersection-related crashes accounted for 22 percent of Arizona's fatal crashes compared to 21 nationally.⁵⁵ Intersections without traffic signals in urban areas accounted for 8 percent of Arizona's fatal crashes compared to 3 percent of the nation's fatal crashes.⁵⁶ The Arizona Department of Transportation has an active roundabout program, exploring the use of roundabouts as alternatives to traffic signals at intersections. A standard four way intersection has 32 points at which vehicles can interface, whereas a modern roundabout has only eight such points.⁵⁷ By presenting fewer points at which vehicles can interface, modern roundabouts have been shown to reduce motor vehicle crashes and fatalities, in addition to increasing traffic flow through intersections.

Pedestrians and Pedalcyclists

In 2007, Arizona had the 5th highest pedestrian fatality rate in the United States, with an age-adjusted fatality rate considerably higher than the U.S. as a whole (2.9 deaths per 100,000 Arizona residents, versus 2.0 deaths per 100,000 U.S. residents).¹ According to the Arizona Department of Transportation Traffic Records System, 2008 saw 1,524 vehicle crashes involving pedestrians on Arizona roads, resulting in 124 pedestrian fatalities and 1,423 pedestrians injured.⁵

⁵⁴ State of Arizona FY 2010 Highway Safety Plan [online]. {cited 04 Oct 2012}. Available from: www.azgohs.gov/about-gohs/FY2010HSP.pdf.

⁵⁵ NCHRP Report 500, Volume 5, page I-2 based on FARS data.

⁵⁶ Transportation Safety Plan for the State of Arizona, Governor's Traffic Safety Advisory Council, 2004.

⁵⁷ Arizona Department of Transportation, Communication and Community Partnerships, Modern Roundabouts [online]. {cited 04 Aug 2010}. Available from: www.azdot.gov/CCPartnerships/Roundabouts/index.asp.

There were 607 pedestrian-related hospitalizations among Arizona residents during 2011. Among these hospitalizations, 88 percent (n=537) involved a motor vehicle traffic event. Additionally, there were 1,911 pedestrian-related emergency department visits. Of these injuries, 84 percent (n=1,604) involved a motor vehicle traffic event.

In Arizona, 2.9 percent of all reported motor vehicle crashes during 2008 included a pedestrian or bicyclist (n=3,513 crashes).⁵ Arizona's public roadways encountered 19 cyclist deaths in 2008, Arizona ranked 9th in the nation for bicyclist fatalities.⁵⁸

There were 824 pedal cycle-related hospitalizations among Arizona residents during 2011. Of these hospitalizations, 72 percent (n=595) did not involve a motor vehicle. In addition, there were 8,349 pedal cycle-related emergency department visits. Among these visits, 86 percent (n=7,202) did not involve a motor vehicle.

Bicycle helmets reduce head injuries and deaths by up to 85 percent,⁵⁹ yet many riders do not wear bicycle helmets. According to the 2011 Youth Risk Behavior Survey, among 70.2% of Arizona high school students who rode a bicycle during the last 12 months, 85.7 percent had never or rarely worn a bicycle helmet, compared with 87.5 percent among all U.S. high school students.⁶⁰

Driver Behavior

Addressing driver behavior is the most critical issue in reducing fatal and serious injury crashes. In 2008, among the 937 fatalities due to motor vehicle events, 70 percent (n=654) were motor vehicle occupants, and of those occupants for whom restraint use was known, 55 percent (n=333) were not using a safety device.⁴ Furthermore, among the 842 fatal motor vehicle crashes, 35 percent (n=294) were considered alcohol-related⁴, and speed-related fatalities accounted for 40 percent of all traffic fatalities in 2008.⁶¹

Driver behavior is also a critical component in preventing deaths among children. According to the Arizona Child Fatality Review Program, drugs/alcohol, vehicle restraints, driver inexperience, and driving at high speeds were among the most frequently identified risk factors associated with preventable childhood deaths in 2011.

According to the 2011 Youth Risk Behavior Survey, 14.6 percent of ninth through twelfth grade students in Arizona never or rarely wore a seatbelt while riding in a car driven by someone else, nearly double the percentage for all U.S. high school students (7.7 percent). In addition, 9.3 percent of Arizona high school students reported driving a vehicle after they had been drinking, compared to 11.0 percent in 2009.⁹

⁵⁸ Kimley-Horn and Associates, Inc. for Arizona Department of Transportation. *ADOT Bicycle Safety Action Plan Work Plan*. May 2010 [online]. {cited 10 Aug 2010}. Available from: www.azdot.gov/mpd/systems_planning/PDF/BSAP/2010_05_11_BSAP_Work_Plan.pdf.

⁵⁹ State and Territorial Injury Prevention Directors Association (STIPDA). Bicycle Fact Sheet [online]. {cited 2006 Jan 17}. Available from: www.stipda.org/template300.cfm?sub_cat=300.

⁶⁰ Centers for Disease Control and Prevention. 2011 Youth Risk Behavior Survey [online]. {cited 2012 Oct 4}. Available from: www.cdc.gov/yrbss.

⁶¹ State of Arizona Annual Performance Report Federal Fiscal Year 2009 [online]. {cited 04 Aug 2010}. Available from: www.azqohs.gov/about-gohs/FY2009AnnualReport.pdf.

Motorcyclist Behavior

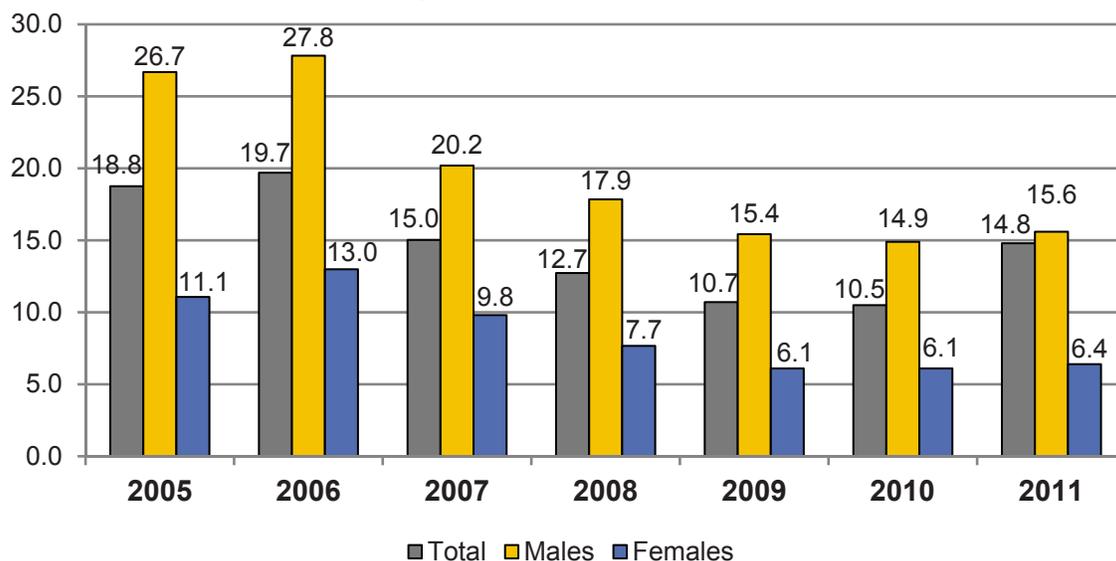
Recent data indicates that deaths and injuries attributable to motorcycle crashes are on the rise. Arizona's motorcycle fatalities increased 4 percent from 2003 through 2008.⁴ The effect of a crash involving a motorcycle can be devastating. While 37 percent of passenger vehicle crashes result in injury or death, an astounding 83 percent of motorcycle crashes result in injury or death.

According to the National Highway Traffic Safety Administration's (NHTSA) National Occupant Protection Use Survey (NOPUS), a nationally representative observational survey of motorcycle helmet, safety belt, and child safety seat use, helmet use fell from 71 percent in 2000 to 67 percent in 2009. While this is a decrease over the ten year period, 2009 saw an increase of four percentage points over the percentage of helmeted motorcycle riders nationwide in 2008. Among states that do not require helmet use among all motorcyclists, only 50 percent of riders observed wore helmets.⁶² In Arizona from 2003 through 2008, 54 percent of motorcycle occupant fatalities were not wearing helmets.⁴

Death Trends for Motor Vehicle Traffic Injuries

As seen in Figure IIG.2, there was a 43 percent decrease in the age-adjusted rate of deaths due to unintentional motor vehicle crashes between 2005 and 2009. However, there was a 40 percent increase in the rate of unintentional motor vehicle crashes in traffic among Arizona residents, from 10.7 deaths per 100,000 residents in 2009 to 14.8 deaths per 100,000 residents in 2011. The increasing rate is concerning and is higher than the Healthy People 2020 Goal of 12.4 deaths per 100,000 population.

Figure IIG.2. Age-Adjusted Unintentional Motor Vehicle Traffic Mortality Rates per 100,000 Residents by Sex and Year, Arizona, 2005-2011

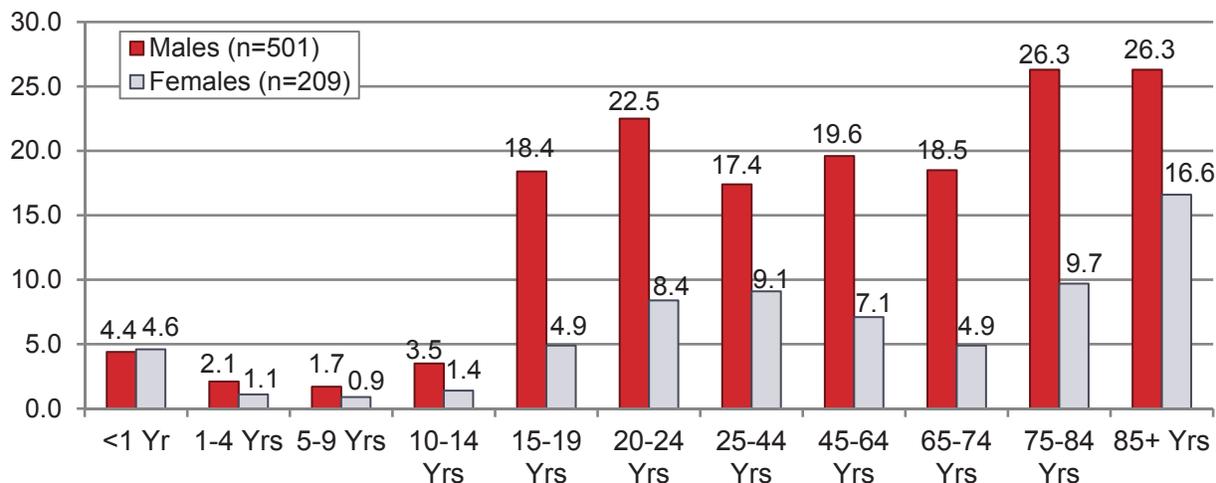


⁶² NHTSA Traffic Safety Facts Research Note. *Motorcycle Helmet Use in 2009—Overall Results*. DOT HS 811 254. December 2009.

Deaths from Motor Vehicle Traffic-Related Injuries

Among the 710 unintentional motor vehicle traffic-related deaths in 2011, 71 percent were among males (n=501), and 29 percent were among females (n=209). Death rates for unintentional motor vehicle traffic-related injuries were higher among males in all but the youngest age group, and the highest rate is among males 85 years and older (36.3 deaths per 100,000 residents). Figure IIG.3 shows the death rates for motor vehicle traffic-related injuries by age group and sex per 100,000 Arizona residents in 2011.

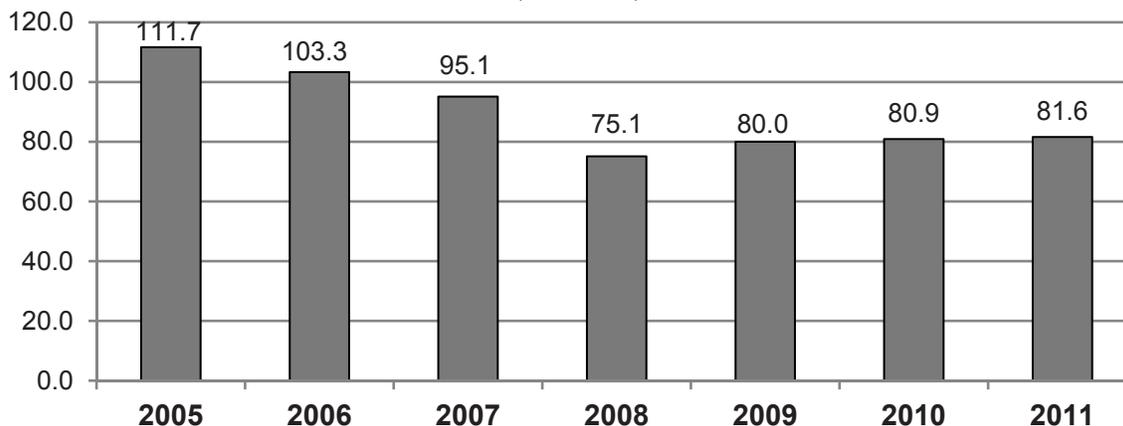
Figure IIG.3. Unintentional Motor Vehicle Traffic-Related Mortality Rates per 100,000 Residents by Age Group and Sex, Arizona 2011 (n=710)



Inpatient Hospitalizations for Motor Vehicle Traffic-Related Injuries

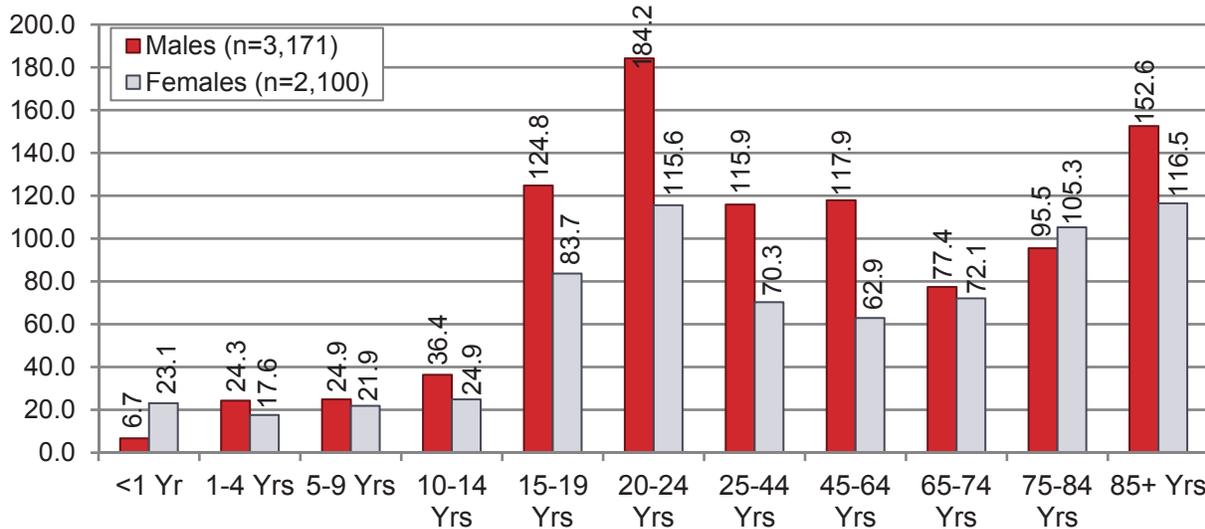
From 2005 through 2011 there were 39,856 inpatient hospitalizations among Arizona residents for injuries resulting from motor vehicle traffic crashes, three percent of which died prior to discharge (n=1,022). The age-adjusted rate of these injuries is 27 percent lower than it was in 2005; however rates have been steadily increasing since 2008. Figure IIG.4 shows the age-adjusted rate of hospitalizations among Arizona residents for motor vehicle traffic-related injuries from 2005 through 2011.

Figure IIG.4. Age-Adjusted Motor Vehicle Traffic-Related Hospitalization Rates per 100,000 Residents, Arizona, 2005-2011



Among the 5,271 inpatient hospitalizations in 2011 for motor vehicle traffic-related injuries, 60 percent were among males (n=3,171) and 40 percent were among females (n=2,100). Though they account for only 14 percent of the population⁶³, Arizonans aged 15 through 24 years accounted for 22 percent (n=1,161) of the inpatient hospitalizations for motor vehicle traffic-related injuries in 2011. Although fatality rates for motor vehicle traffic-related incidents are highest among older adults, the highest rates of hospitalizations for motor vehicle traffic-related injuries are among males aged 20 through 24. Figure IIG.5 illustrates the 2011 hospitalization rates for unintentional motor vehicle traffic-related injuries by age group and sex among Arizona residents.

Figure IIG.4. Motor Vehicle Traffic-Related Hospitalizations Rates per 100,000 Residents by Age Group and Sex, Arizona 2011 (n=5,270)



Does not include 1 individual of unknown age

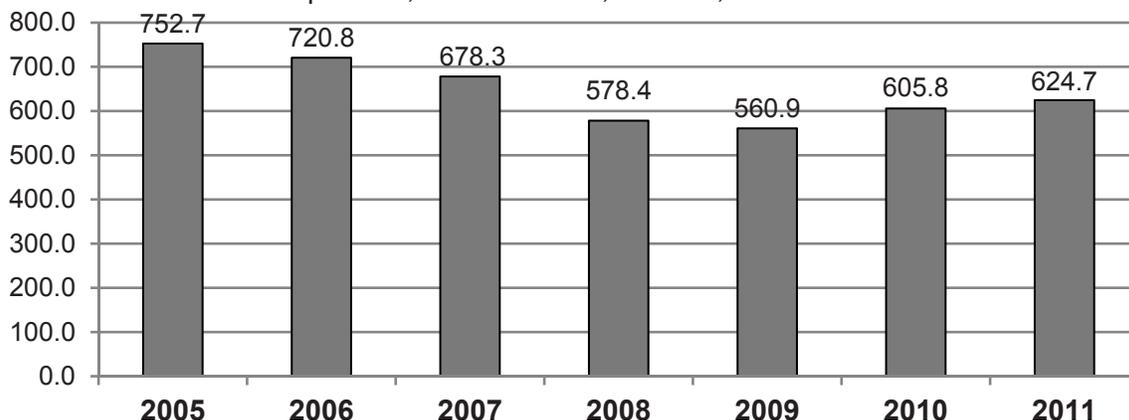
In 2011, the median hospital stay for a motor vehicle traffic-related injury was 3 days for a total of 26,690 days of Arizona residents hospitalized. The median charge for a motor vehicle traffic-related hospitalization was \$47,068. All hospital charges for motor vehicle traffic-related hospitalizations in 2011 totaled over \$452 million. Hospital charges do not include costs incurred for emergency medical services, outpatient therapies, or rehabilitation.

⁶³ Arizona Vital Statistics Population Denominators for 2011 [online]. (2012) {cited 2012 September 18} Available from: www.azdhs.gov/plan/menu/info/pop/pop09/pd09.htm.

Emergency Department Visits for Motor Vehicle Traffic-Related Injuries

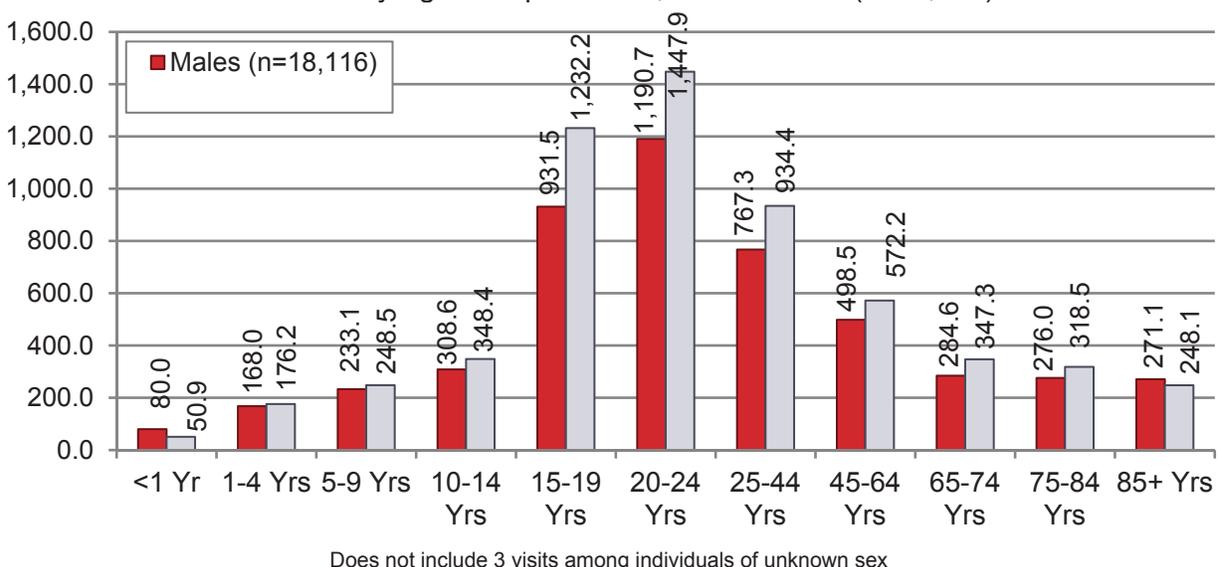
Motor vehicle traffic-related injuries were the third leading cause of unintentional injury-related emergency department visits among Arizona residents in 2011 (n=39,583 cases, 11 percent of all unintentional injury-related visits). The rate of motor vehicle traffic-related emergency department visits decreased 25 percent from 2005 through 2009, but has since increased by 11 percent. Figure IIG.5 shows the age-adjusted rate of emergency department visits due to motor vehicle traffic-related injuries among Arizona residents from 2005 through 2011.

Figure IIG.5. Age-Adjusted Motor Vehicle Traffic-Related Emergency Department Visit Rates per 100,000 Residents, Arizona, 2005-2011



There were 39,583 emergency department visits for motor vehicle traffic-related injuries among Arizona residents in 2011, 72 of which resulted in death prior to discharge; 46 percent were among males (n=18,116) and 54 percent were among females (n=21,464). Although adults ages 25 through 44 years accounted for 36 percent of emergency department visits (n=14,316), the highest rates of emergency department visits were among teenagers and young adults. This is illustrated in Figure IIG.6.

Figure IIG.6. Motor Vehicle Traffic-Related Emergency Department Visit Rates per 100,000 Residents by Age Group and Sex, Arizona 2011 (n=39,583)



In 2011, the median charge for a motor vehicle traffic-related emergency department visit was \$2,627. Charges for motor vehicle traffic-related emergency department visits in 2011 totaled more than \$202.3 million, over \$49.1 million of which was paid through AHCCCS/Medicaid. Hospital charges do not include costs incurred for emergency medical services, outpatient therapies, or rehabilitation.

Existing Surveillance Systems

Arizona Vital Records death certificate data, hospital discharge data, and emergency department data, as well as crash data from the Arizona Department of Transportation are used in surveillance of motor vehicle-related injuries. The Child Fatality Review team reviews transportation-related deaths of children 17 years and younger across the state, using law enforcement and medical examiner reports to assess intent and causal agent(s). Additionally, national and state-specific data from the Fatality Analysis Reporting System are publicly available via the NHTSA website.

The Arizona State Trauma Registry (ASTR) contains data on all admissions to trauma hospitals in Arizona. While these data are a subset of hospital discharge records, the trauma registry maintains additional information on the use of safety devices and trauma system activations. These data make the ASTR a valuable source of information on seatbelt use, helmet use, and trauma system use among patients severely injured in motor vehicle crashes

Summary/Highlights of Data

- Despite a promising 43 percent decrease in the age-adjusted rate of unintentional motor vehicle traffic deaths in Arizona between 2005 and 2009, there has been a 38 percent increase in deaths of this nature as of 2011.
- 71 percent of motor vehicle traffic fatalities are among males.
- All hospital charges for motor vehicle traffic-related hospitalizations in 2011 totaled over \$452 million.

Current Interventions

The Highway Safety Plan for Arizona focuses on a targeted group of emphasis areas to be implemented between 2008 and 2012. To achieve the primary goal of this plan, data-driven emphasis areas have been identified to reduce the number of crashes resulting in fatal or serious injuries. For each emphasis area, comprehensive and coordinated strategies and initiatives based on the 4 E's (Engineering, Enforcement, Education, and Emergency Response) will be developed and implemented.

In 2006, the City of Scottsdale introduced a pilot program for vehicle speed enforcement using cameras on a state highway. An evaluation of the pilot showed improved safety related to photo enforcement on the selected section of highway.⁶⁴ In 2008, the Arizona Department of Public Safety contracted with a private company to operate fixed and mobile speed enforcement cameras on state highways.⁶⁵ Because the photo enforcement system instantly and indiscriminately cited all motorists violating the speed limit, it was capable of recording hundreds of violators at all times of day or night. After the department elected not to renew the contract,

⁶⁴ Washington S, Shin K, van Schalkwyk I. *Evaluation of the City of Scottsdale Loop 101 Photo Enforcement Demonstration Program* [Final Report AZ 684]. Phoenix, AZ: Arizona Department of Transportation. 2007.

⁶⁵ State of Arizona Office of the Auditor General. *Department of Public Safety – Photo Enforcement Program Questions and Answers* [Report No. 10-02]. January 2010.

the cameras ceased to operate on July 15, 2010. Individual cities and towns still operate fixed and mobile cameras for selective enforcement of speed and red-light running.

Accomplishments

- August 2, 2012, Title 28 of Arizona Revised Statutes was changed; now, children 5 years and older must be properly secured in a booster seat until they are 8 years old or 4 feet, 9 nine inches tall.
- With an effective date of January 1, 2010, The City of Flagstaff passed an ordinance requiring use of bicycle helmets by children younger than 18 years. With this ordinance, Arizona has four cities and one county that require the use of bicycle helmets among children younger than 18 years.
- Over 16,000 child bicycle helmets were distributed by Arizona injury prevention programs in 2009 and 20,000 by Mc Donald's Corporation in 2012.
- As of August, 2010, Arizona had 880 certified child passenger safety technicians and 48 certified instructors. 53 technicians were certified in 2009 through the ADHS Title V Community Health Grants.
- In 2009, the Navajo Nation amended their child passenger safety laws to require the use of booster seats for children younger than 12 years of age and less than 4 feet, 9 inches in height. Violation of this law will result in a fine of \$125.⁶⁶
- Private organizations offer a variety of age-related driver education courses, including courses for new drivers, young drivers, and older adults.
- The Arizona Safe Kids Coalitions and GOHS participate in Child Passenger Safety Week each September, including car seat checks and public education.
- 12,500 booster seats were distributed by Arizona Department of Health Services following the enactment of statewide booster seat legislation using Title V funding. Families received education and information on how to properly use their child safety seat by certified child passenger safety technicians.
- The Children Are Priceless Passengers (CAPP) program was revised in 2009 and standardized across all sites providing CAPP classes. CAPP is a program of the Governor's Office for Highway Safety that allows individuals cited by law enforcement for failure to properly restrain a child riding in a vehicle to attend a class in lieu of paying a fine.
- The Governor's Office of Highway Safety partners with local law enforcement agencies to conduct federally-sponsored "Click It or Ticket" targeted seatbelt enforcement campaigns throughout the year. Law enforcement agencies also conduct targeted seasonal enforcement efforts throughout the year, focusing on topic including school zone compliance, speed enforcement, and impaired drivers.
- The Arizona Department of Transportation launched a Road Safety Audit (RSA) Program in 2006, and has partnered with local jurisdictions and traffic safety advocates to conduct RSAs throughout the state.
- Ongoing collaboration occurs among these agencies/organizations: Governor's Office of Highway Safety, fire and police departments, Indian Health Services, Tribal communities, Inter Tribal Council of Arizona, WIC, Head Start, Arizona Emergency Nurses Association, Department of Public Safety, MADD, teen mother's programs, United States Marshall's Office, Catholic Social Services, Arizona SafeKids coalitions, churches and schools.

⁶⁶ CJA-02-09. Resolution of the Navajo Nation Council, 21st Navajo Nation Council – Third Year, 2009 [online]. Available from: www.navajocourts.org/Resolutions/CJA-02-09.pdf.

Strategic Plan for 2012-2016

Injury Topic: Unintentional Transport Injuries

Objective #1: Reduce pedestrian fatalities 20 percent by the year 2016, as described by the Arizona Department of Transportation's (ADOT) Pedestrian Safety Action Plan.

The ADOT Pedestrian Safety Action Plan proposed a goal to reduce pedestrian crashes (both fatal and non-fatal) by 20 percent by the year 2016. The reduction in pedestrian crashes will be measured by a five-year average (2012 to 2016). The five-year average for the years 2002 through 2006 will serve as the base years.

Areas of Focus:

- Reduce pedestrian crashes in urban areas at locations with high pedestrian activity
- Reduce pedestrian crashes at intersections involving turning vehicles (right and left)
- Reduce pedestrian crashes on undivided (no median barrier) roadways
- Reduce pedestrian crashes involving pedestrians who had been drinking
- Reduce dart/dash / mid-block pedestrian crashes
- Reduce pedestrian crashes involving turning vehicles at interchanges
- Improve lighting conditions at high pedestrian activity locations

http://www.azdot.gov/mpd/systems_planning/PDF/PedSafety/2009_06_24ADOT_PSAP_Final.pdf

Objective #2: Reduce motor-vehicle traffic fatalities as described by the Arizona Governor's Office of Highway Safety (GOHS) Annual Highway Safety Plan.

Arizona GOHS is the focal point for highway safety issues in Arizona, providing leadership by developing, promoting, and coordinating programs; influencing public and private policy; and increasing public awareness of highway safety.

GOHS produces an annual Highway Safety Plan to serve as a guide for highway traffic safety initiatives in Arizona. When possible, the State Injury Plan utilizes existing state plans, such as those published by GOHS and ADOT, in an effort to decrease duplication of effort.

2012 Highway Safety Plan Performance Measures:

- Decrease traffic fatalities seven percent from the 2007-2009 calendar base year average of 939 to 873 by December 31, 2012.
- Decrease serious traffic injuries 10 percent from the 2008-2010 calendar base year average of 53,657 injuries to 48,291 injuries by December 31, 2012.
- Decrease total fatalities/VMT five percent from the 2007-2009 calendar base year average of 1.51 to 1.43 by December 31, 2012.
- Decrease rural fatalities/VMT five percent from the 2007-2009 calendar base year average of 2.51 to 2.38 by December 31, 2012.
- Decrease urban fatalities/VMT five percent from the 2007-2009 calendar base year average of 1.08 to 1.03 by December 31, 2012.
- Decrease unrestrained passenger vehicle occupant fatalities in all seating positions eight

percent from the 2007-2009 calendar base year average of 313 to 288 by December 31, 2012.

- Decrease alcohol impaired driving fatalities 10 percent from the 2007-2009 calendar base year average of 273 to 245 by December 31, 2012.
- Decrease speeding-related fatalities 10 percent from the 2007-2009 calendar base year average of 375 to 337 by December 31, 2012.
- Decrease motorcycle fatalities two percent from the 2007-2009 calendar base year average of 132 to 130 by December 31, 2011.
- Decrease unhelmeted motorcyclist fatalities four percent from the 2007-2009 calendar base year average of 68 to 65 by December 31, 2012.
- Decrease drivers age 20 or younger involved in fatal crashes 10 percent from the 2007-2009 calendar base year average of 142 to 128 by December 31, 2012.
- To reduce pedestrian fatalities eight percent from the 2007-2009 calendar base year average of 132 to 121 by December 31, 2012.
- To increase statewide observed seat belt use of front seat outboard occupants in passenger vehicles one percentage point from the 2009-2011 calendar base year average usage rate of 81.83 percent to 82.83 percent by December 31, 2012.

<http://www.azgohs.gov/about-gohs/FFY%202012%20HSP.pdf>

Reduce Unintentional Transport Injuries in Arizona 2012-2016

Process → Outcomes →

Resources	Activities	Outputs	Outcomes	Goals
<i>In order to accomplish the activities we will need the following</i>	<i>In order to address our problem we will accomplish the following activities</i>	<i>We expect that once accomplished these activities will produce the following evidence or service delivery</i>	<i>We expect that if we accomplish these activities it will lead to the following changes in 1-3 then 4-6 years</i>	<i>We expect that if accomplished, these activities will lead to the following changes in 7-10 years</i>
⇒ Funding ⇒ Local Partners & Organizations ⇒ Injury Prevention Advisory Council ⇒ Evidence based practice or promising and proven interventions ⇒ Print/web materials	⇒ Reduce impaired driving ⇒ Increase use of seatbelts & child restraints ⇒ Continue to build partnerships ⇒ Enhance public education & outreach ⇒ Reduce distracted driving ⇒ Improve bicycle and pedestrian safety	Improved Child Passenger Safety Law New partners More communities adopt bicycle helmet ordinances Communities adopt distracted driving ordinances Communities use proven and promising strategies	↑ Knowledge and awareness of current traffic laws ↑ Awareness of motor vehicle risks ↑ Awareness of risks related to distracted driving ↑ Awareness of risks related to pedestrians & bicyclists ↑ Ability of legislative system to enact new laws ↑ Seatbelt and child restraint use	↓ Rate of motor vehicle deaths ↓ Rate of pedestrian deaths

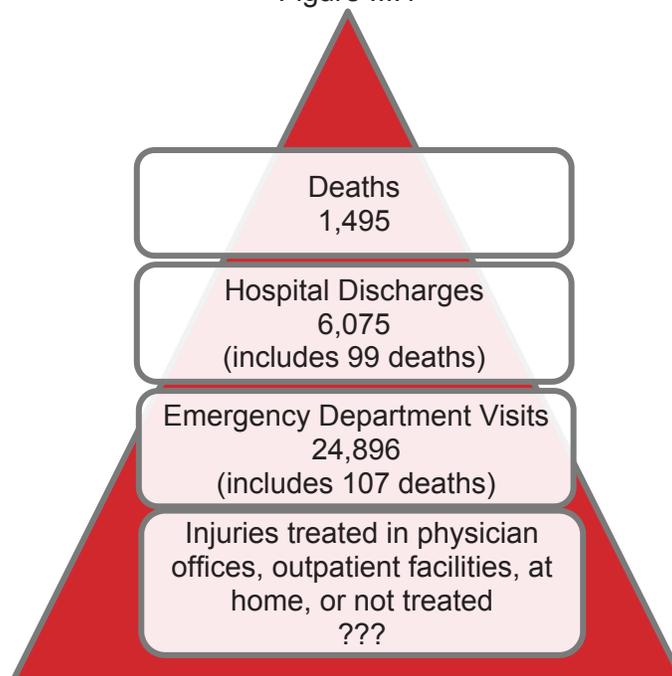
CHAPTER 3: INTENTIONAL INJURIES

Intentional injuries encompass deaths and injuries that are self-inflicted or perpetrated by another person with the intent to cause harm. Intentional injuries are typically described as suicide, self-inflicted injuries, homicide, and assaults. Relationship violence such as domestic violence, sexual violence, child abuse, and adult abuse is a category of interpersonal violence that represents a growing public health concern. Incidents of relationship violence are highly underreported through official sources.

In 2011, intentional injuries, including homicides, suicides, and injuries resulting from legal intervention, accounted for 33 percent of all injury-related deaths, 15 percent of all injury-related hospitalizations, and 6 percent of all injury-related emergency department visits among Arizona residents.

Figure III.1 shows the injury pyramid for intentional injuries among Arizona residents in 2011. These figures almost certainly represent an undercount of the total number of intentional injuries, due largely to vast underreporting of relationship and sexual violence.

Figure III.1



Section A: Homicide/Assault

Background

In 2011, there were 379 homicides, 2,535 inpatient hospitalizations (including 41 deaths), and 18,527 emergency department visits (including 63 deaths) for assault-related injuries among Arizona residents. According to the 19th Annual Child Fatality Review Report, 42 children were victims of homicide in Arizona in 2011 (Figure III.10). Child victims of homicide primarily died as the result of blunt force trauma (52%) and gunshot wounds (29%). Sixty percent of the children who were victims of homicide were less than 5 years old, and 26 percent were teenagers (ages 15 through 17 years). Further discussion of child abuse is addressed in the Relationship Violence chapter of this Injury Plan.

According to the CDC, homicide is defined as “injuries inflicted by another person with the intent to injure or kill, by any means.”⁶⁷ Injuries from similar acts of violence that do not result in death are called assaults. Homicides and assaults may result from a variety of previously discussed mechanisms including firearms, being struck by or against an object, cutting or piercing, poisoning, falls (being pushed), and from unarmed fights. Homicide was the 3rd leading cause of death for teens 15 through 19 years of age and the 15th leading cause of death for all age groups combined in Arizona in 2009.⁶⁸ Arizona had the 8th highest homicide rate among U.S. states in 2007.⁶⁹

There are a variety of circumstances commonly linked to homicides. According to the United States Department of Justice, the most frequently cited circumstance surrounding homicides is an argument (including brawls due to the influence of narcotics or alcohol, as well as disagreements about money or property).⁷⁰ Homicides are also committed during gang-related activities; felony acts such as rape, robbery, burglary, theft, and arson; and other circumstances.

Demographic characteristics differ among homicide victims and offenders. According to national trends, older teens, young adults, and African Americans have the highest victimization and offending rates.⁴

The Arizona Criminal Justice Commission (ACJC) published a report that matched homicides from 2004 to law enforcement case files. The report examined the relationship between the victim and offender. The analysis indicated that victims were most likely to be killed by an acquaintance (36.5%). Just over 17% of homicide victims were killed by a stranger and about 7% of victims were killed by family members other than a spouse. Approximately 3% of victims were killed by their boyfriend/girlfriend and 3% were killed by a spouse/ex-spouse. However, in 33.1% of cases, the relationship between the offender and victim could not be determined by law enforcement officials.⁷¹

⁶⁷ Centers for Disease Control and Prevention, National Center for Injury Prevention and Control. Definitions for WISQARS Nonfatal [online]. (2010) {cited 2012 Oct 10} Available from: www.cdc.gov/ncicpc/wisqars/nonfatal/definitions.htm.

⁶⁸ Arizona Health Status and Vital Statistics, 2009. Available from: <http://www.azdhs.gov/plan/report/ahs/ahs2009/toc09.htm>.

⁶⁹ Centers for Disease Control and Prevention, National Centers for Injury Prevention and Control. Web-based Injury Statistics Query and Reporting System (WISQARS) [online]. (2010) {cited 2012 Oct 10}. Available from: www.cdc.gov/ncicpc/wisqars.

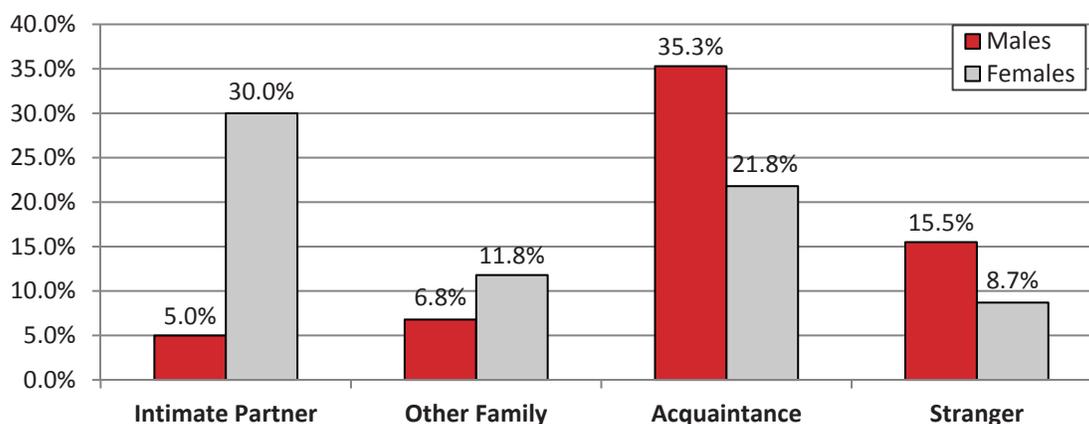
⁷⁰ U.S. Department of Justice, Office of Justice Programs, Bureau of Justice Statistics, Homicide trends in the U.S. [online]. (2010) {cited 2012 Oct 10}. Available from: <http://bjs.ojp.usdoj.gov/content/homicide/homtrnd.cfm>.

⁷¹ Arizona Criminal Justice Commission. Homicide in Arizona, 2004 [online] <http://www.azcjc.gov/ACJC.Web/Pubs/Home/Homicide%20in%20Arizona%202004.pdf>.

In Arizona, the percentage of assault-related hospitalizations and emergency department visits among women were lower than for men, which may be impacted by relationship violence. These injuries may be underreported, miscoded (e.g. as falls or other injuries), or not medically treated. In-depth discussions about domestic and sexual violence in Arizona are addressed in the Relationship Violence chapter of this Injury Plan.

The relationship between the victim and the offender varies for female and male homicide victims.⁴ Figure IIIA.1 shows that female victims were more likely than male victims to be killed by an intimate partner (e.g. spouse, ex-spouse, or boyfriend) or family member (e.g. parent, child, or sibling). Male victims were more likely than female victims to be killed by acquaintances (e.g. neighbor, employee/employer, friend/acquaintance, and other known individuals) or strangers.

Figure IIIA.1. Percent of Homicide Victims by Sex and Victim/Offender Relationship, United States, 1976-2005⁴



Youth violence is also a substantial public health problem. In 2010, homicide was the third leading cause of death among young people ages 15 through 24 years in the nation.³ Research has identified a number of individual and social risk factors for youth violence including history of early aggressive behavior, exposure to violence, low commitment to school, and lower socioeconomic status.⁷²

The 2011 Youth Risk Behavior Survey data revealed that among students in Arizona, 5.7 percent of students reported carrying a weapon (e.g. gun, knife, or club) on school property in the last 30 days and 10.4 percent reported being threatened or injured with a weapon on school property. Both figures are higher than the national percentages.⁷³

³ Centers for Disease Control and Prevention, National Centers for Injury Prevention and Control. Web-based Injury Statistics Query and Reporting System (WISQARS) [online]. (2005) {cited 2010 Jun 29}. Available from: www.cdc.gov/ncipc/wisqars.

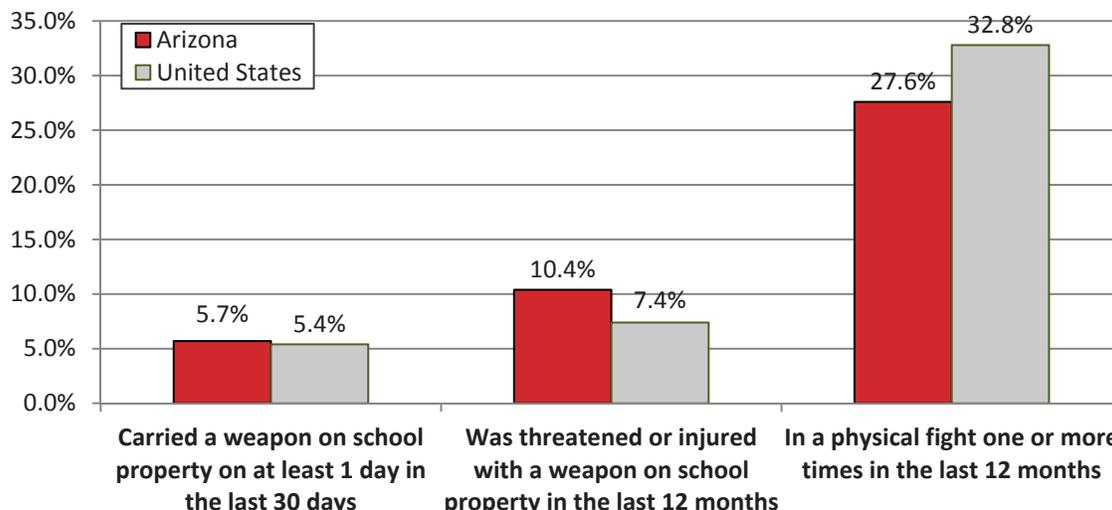
⁴ U.S. Department of Justice, Office of Justice Programs, Bureau of Justice Statistics, Homicide trends in the U.S. [online]. (2010) {cited 2010 Jul 13}. Available from: <http://bjs.ojp.usdoj.gov/content/homicide/homtrnd.cfm>.

⁷² Department of Health and Human Services (US). Youth violence a report of the Surgeon General [online]. (2001) {cited 2010 Jul 12}. Available from www.surgeongeneral.gov/library/youthviolence.

⁷³ Centers for Disease Control and Prevention. 2011 Youth Risk Behavior Survey [online]. [cited 2012 Oct 10]. Available from: www.cdc.gov/yrbss.

Figure IIIA.2 shows the percentage of students in Arizona and the United States who reported specific violent behaviors and experiences in the 2011 Youth Behavior Risk Survey.

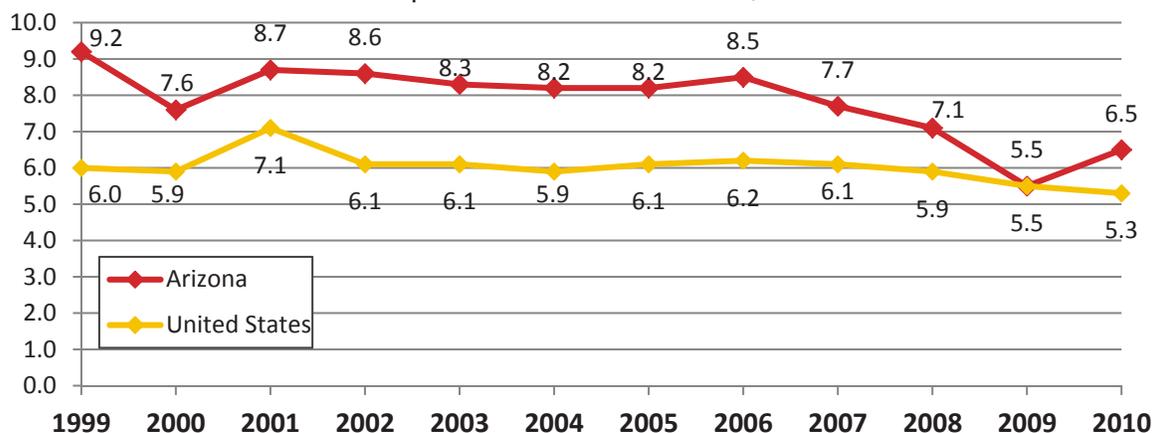
Figure IIIA.2. Students in Grades 9-12 Reporting on Violent Behaviors, Arizona compared to the United States, 2011⁷



Homicide Trends

From 1999 to 2010, Arizona's homicide rate exceeded that of the U.S., despite a sharp decrease in Arizona during 2009 that lessened the disparity. The homicide rate in Arizona peaked in 1999 at 9.2 homicides per 100,000 residents and was 5.5 homicides per 100,000 residents in 2009. In 2010, the Arizona age-adjusted homicide rate of 6.5 homicides per 100,000 residents was higher than the national rate of 5.3 per 100,000.² Rates for both Arizona and the United States remain significantly higher than the Healthy People 2020 target of 3.0 homicides per 100,000 population. Figure IIIA.3 shows the age-adjusted homicide rates for the nation and Arizona.

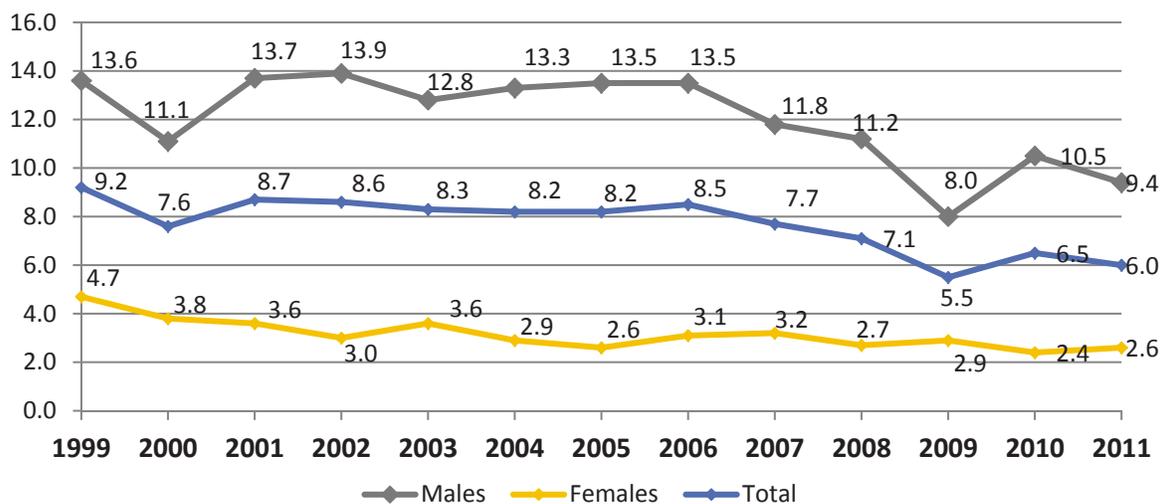
Figure IIIA.3. Age-Adjusted Homicide Rates per 100,000 Residents by Year, Arizona Compared to the United States, 1999-2010



Source for Arizona: Injury Mortality Among Arizona Residents 1998-2008, Arizona death certificate data for 2009-10
 Source for United States: Centers for Disease Control and Prevention, National Center for Injury Prevention and Control, Web-based Injury Statistics Query and Reporting System (WISQARS)

In Arizona, male victims consistently had higher rates of homicide than female victims. Figure III.4 shows that the homicide rate for males is typically at least three times that of females, with the unique exception of 2009.

Figure IIIA.4. Age-Adjusted Homicide Rates per 100,000 Residents by Sex and Year, Arizona, 1999-2011

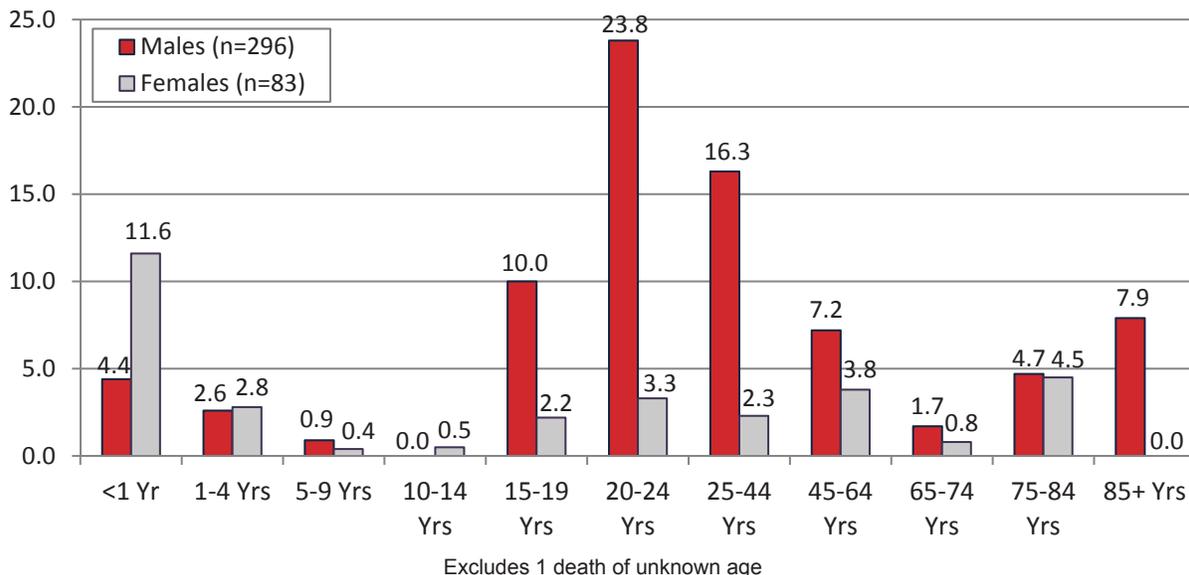


Source: Injury Mortality Among Arizona Residents 1998-2008, Arizona death certificate data for 2009-11

Homicides

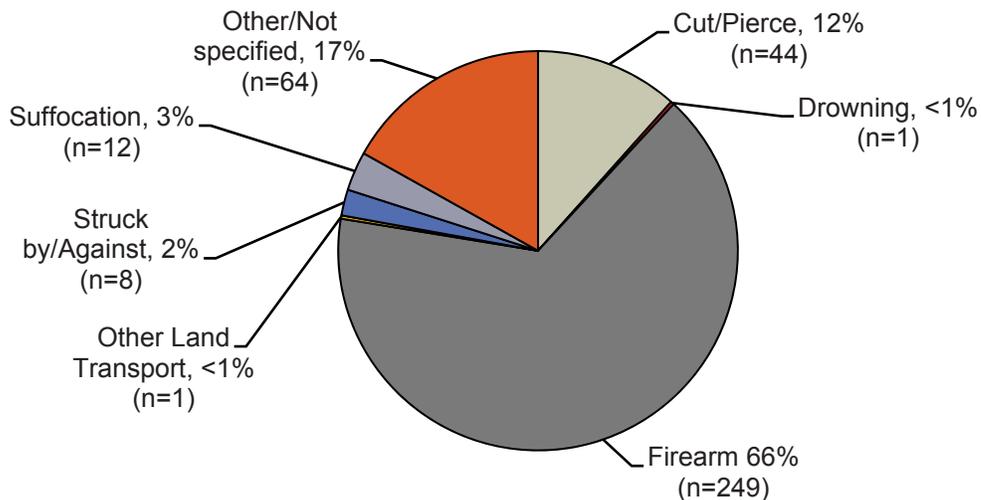
Among the 379 homicides in 2011, 78 percent were among males (n=296), and 22 percent were among females (n=83). Males 20 to 24 years of age had the highest homicide rate (23.8 deaths per 100,000 residents). Figure IIIA.5 shows the homicide rates by age group and sex per 100,000 Arizona residents in 2011.

Figure IIIA.5. Homicide Rates per 100,000 Residents by Age Group and Sex, Arizona 2011 (n=379)



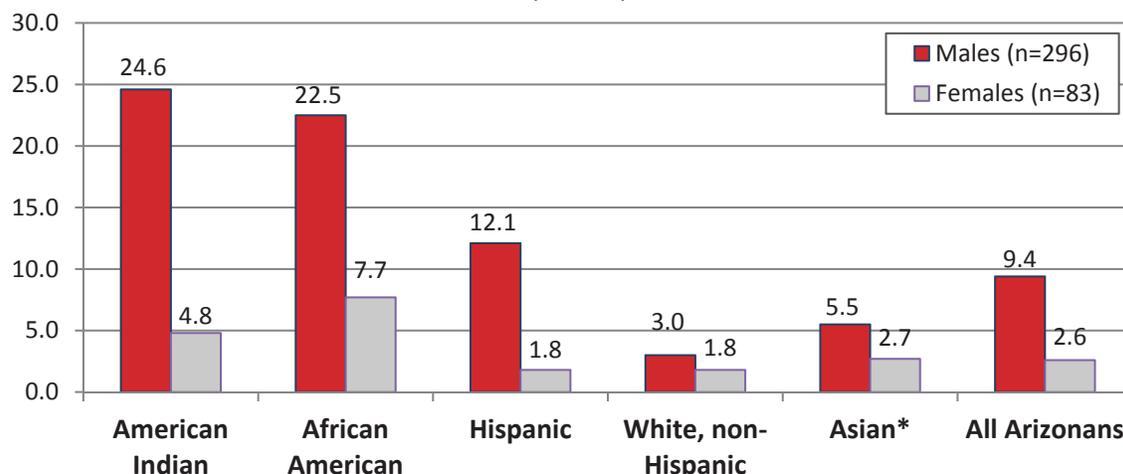
Firearms were the most frequently used mechanism for committing homicide, accounting for 66 percent (n=249) of homicides among Arizonans in 2011. Firearms were the most frequently used mechanism for committing homicide among both sexes, accounting for 69 percent (n=203) of male homicides and 55 percent (n=46) of female homicides in 2011. Other and unspecified mechanisms accounted for 17 percent (n=64) of homicides. Figure IIIA.6 shows homicides by mechanism among Arizonans in 2011.

Figure IIIA.6 Homicides by Mechanism of Injury, Arizona 2011 (n=379)



Homicide rates in Arizona also vary by sex and race/ethnicity. African American, American Indian, and Hispanic males have substantially higher homicide rates than other racial/ethnic groups. American Indian males were more than 3 times more likely to be the victim of a homicide than their White, non-Hispanic counterparts. Figure IIIA.7 shows the 2011 age-adjusted homicide rates by sex and race/ethnicity.

Figure IIIA.7. Age-Adjusted Rate of Homicides by Sex and Race/Ethnicity, Arizona, 2011 (n=379)

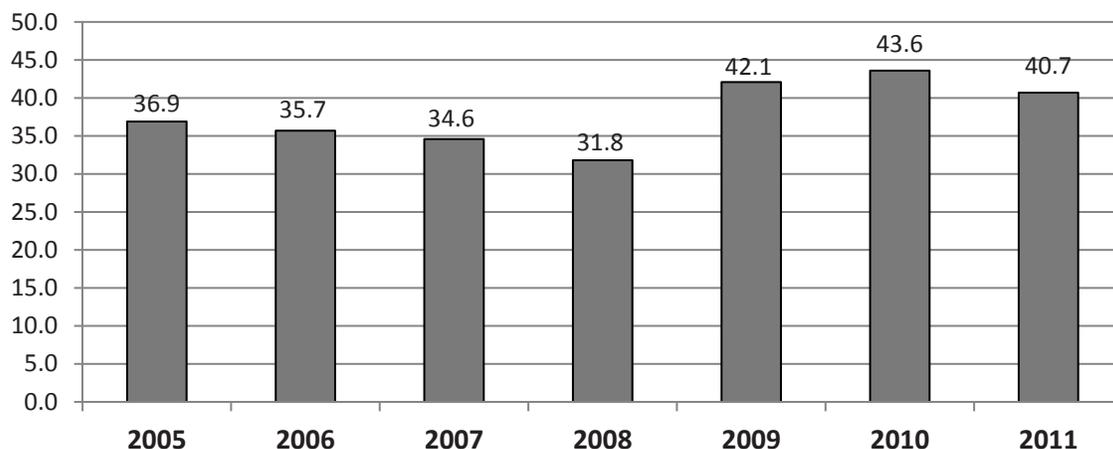


*Age-adjusted rate is unstable due to low counts among Asian-Arizonans

Inpatient Hospitalizations for Assault

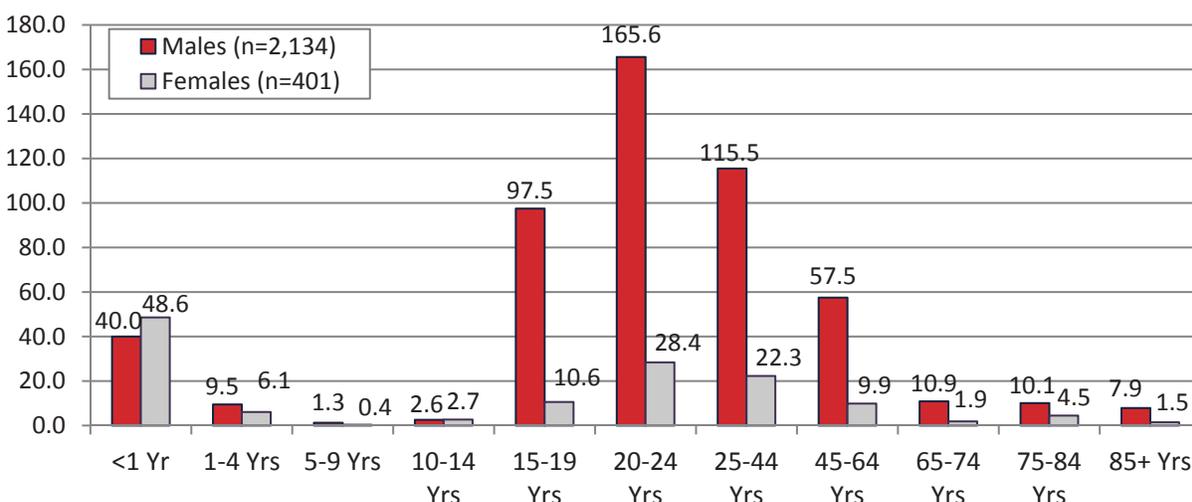
The age-adjusted rate of inpatient hospitalizations for assaults has fluctuated since 2005, with no obvious linear trend. However, the rate has been above average since 2009 (2005-2011 mean=37.9). Figure IIIA.8 shows the age-adjusted rate of hospitalizations among Arizona residents from 2005 through 2011.

Figure IIIA.8. Age-Adjusted Assault-Related Hospitalization Rates per 100,000 Residents, Arizona, 2005-2011



There were 2,535 inpatient hospitalizations for assaults among Arizona residents in 2011: 84 percent were among males (n=2,134) and 16 percent were among females (n=401). Of those hospitalized for assault-related injuries, 41 died. Young adult males had the highest hospitalization rates for assault-related hospitalizations, and males experienced higher rates than females for most of the lifespan. Figure IIIA.9 illustrates the 2011 hospitalization rates for assault-related hospitalizations by age group and sex among Arizona residents.

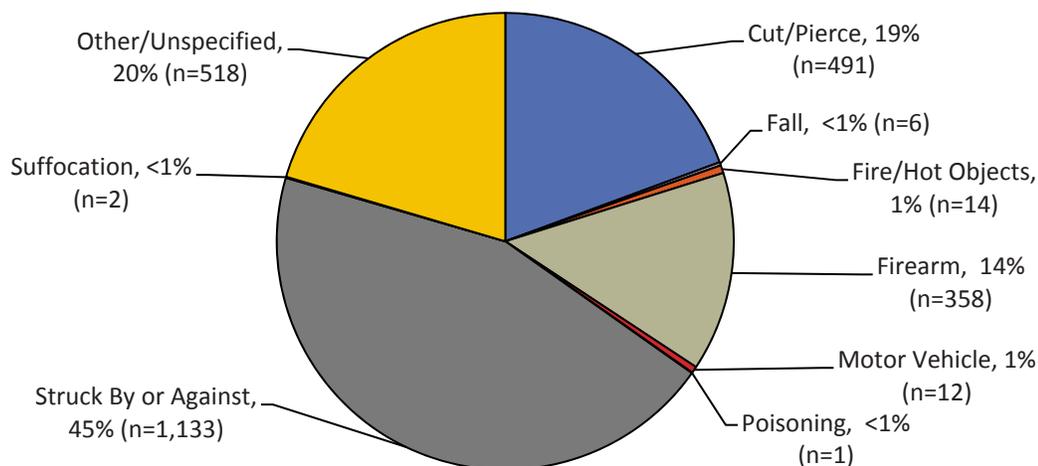
Figure IIIA.9. Assault-Related Hospitalization Rates per 100,000 Residents by Age Group and Sex, Arizona 2011 (n=2,535)



While firearms were the most commonly used mechanisms in homicides, struck by and against injuries, including unarmed brawls, made up the most common mechanism for hospitalizations

due to assaults. Struck by and against injuries accounted for 45 percent (n=1,133) of hospitalizations for assault-related injuries. Figure IIIA.10 shows the distribution of hospitalizations due to assaults by mechanism of injury among Arizona residents in 2011.

Figure IIIA.10 Assault-Related Hospitalizations by Mechanism of Injury, Arizona 2011 (n=2,535)

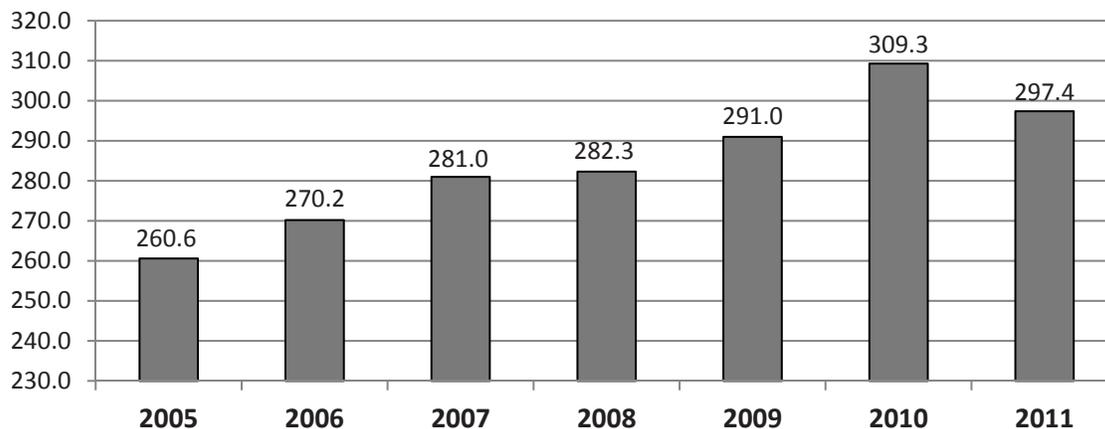


In 2011, the median hospital stay for an assault was 2 days, with Arizona residents spending a total of 9,422 days hospitalized. The median charge for an assault-related hospitalization was \$33,430. All hospital charges for assault-related hospitalizations in 2011 totaled over \$138.8 million. Hospital charges do not include costs incurred for emergency medical services, outpatient therapies, or rehabilitation.

Emergency Department Visits for Assaults

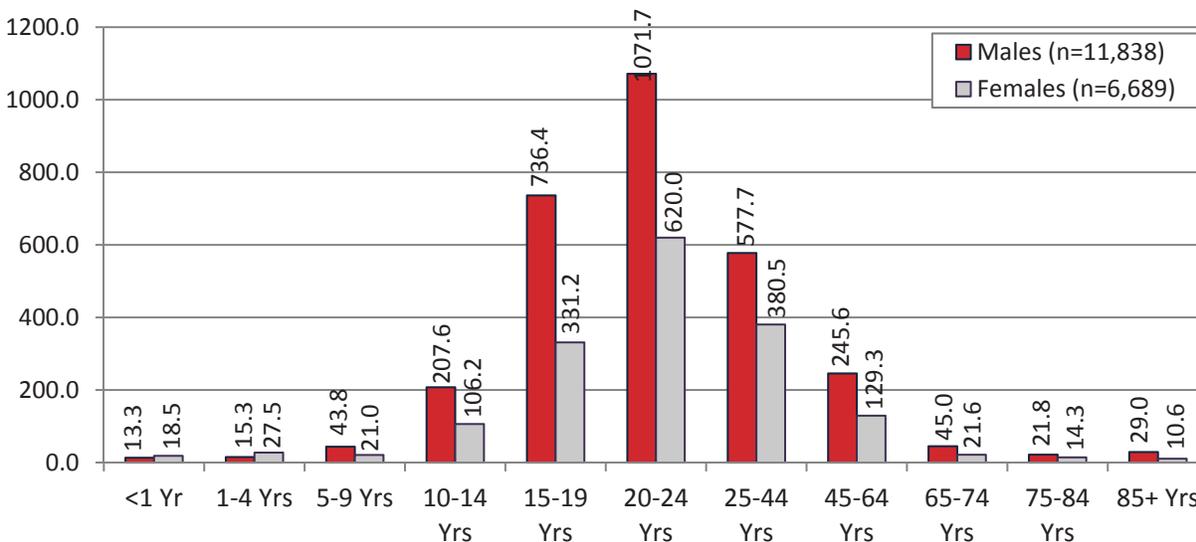
The age-adjusted rate of emergency department visits for assaults increased 19 percent from 2005 through 2010, before decreasing 4 percent in 2011. Figure IIIA.11 shows the age-adjusted rate of emergency department visits for assaults among Arizona residents from 2005 through 2011.

Figure IIIA.11. Age-Adjusted Assault-Related Emergency Department Visit Rates per 100,000 Residents, Arizona, 2005-2011



There were 18,527 emergency department visits for assaults among Arizona residents in 2011; 64 percent were among males (n=11,838) and 36 percent were among females (n=6,689). Of those seen in the emergency department for assaults, 63 died. Emergency department visit rates for assaults were highest among males ages 20 through 24 years. Figure IIIA.12 illustrates the 2011 emergency department visit rates for assaults by age group and sex among Arizona residents.

Figure IIIA.12. Assault-Related Emergency Department Visit Rates per 100,000 Residents by Age Group and Sex, Arizona 2011 (n=18,527)



Being struck by or against an object, which includes unarmed fights and assault with blunt objects, was the mechanism of injury in 54 percent (n=9,924) of emergency department visits resulting from assaults in 2011. Other and unspecified mechanisms of injury accounted for 38 percent (n=6,988) of assault-related emergency department visits. The “other” category includes rape, human bite, other specified mechanisms of injury, and unspecified means of injury. The remaining 8 percent of injury mechanisms for emergency department visits include: cut/pierce (n=1,124), firearms (n=353), suffocation (n=48), motor vehicle traffic (n=31), fire/hot objects (n=24), falls (n=21), and poisoning (n=13).

In 2011, the median charges for emergency department visits due to assault-related injuries were \$3,247. These charges totaled over \$87.3 million, and do not include costs incurred for emergency medical services, outpatient therapies, or rehabilitation.

Existing Surveillance Systems

Data on homicides in Arizona are collected and reported in several ways. The main sources for homicide data include vital records (death certificates), hospital discharge data, and emergency department discharge data. The Arizona Child Fatality Review Team provides additional data on deaths of children in Arizona from birth through 17 years of age. The Arizona Division of Occupational Safety and Health collects data on workplace fatalities, and worker’s compensation claims resulting from violence. National data is maintained by the United States Department of Justice and the Centers for Injury Prevention and Control. Law enforcement agencies may classify homicides differently than definitions used in public health.

Summary/Highlights of Data

- From 1999 to 2011, Arizona's homicide rate exceeded that of the U.S.
- 42 children were victims of homicide in Arizona in 2011.
- Although the majority of homicides were due to firearms, the most common mechanism of assault-related injuries leading to hospitalization was due to being struck by/against something.
- Emergency department visit rates and inpatient hospitalization rates for assaults were highest among males aged 20 through 24 years.

Current Interventions

- Gang-resistance education in public schools.
- School resource officers are increasing throughout Arizona.
- Never Shake a Baby Arizona is a project of Prevent Child Abuse Arizona. This project provides education to parents prior to hospital discharge following the birth of a baby. The program's goal is to reduce Shaken Baby Syndrome by educating parents about coping with infants' crying.
- Coordinated by the U.S. Attorney's Office, Project Safe Neighborhoods aims to reduce gun crime and to remove guns from the hands of criminals.
- Home visiting programs for families with young children have been shown to reduce child abuse.

Strategic Plan for 2012-2016

Injury Topic: Homicide/Assault		
Objective #1: Concurrent with the nationwide Healthy People 2020 goal, reduce the rate of homicides to 3.0 deaths per 100,000 population.		
Strategic Intervention	Action Steps	Key Partners
1. Promote and enhance evidence-based community initiatives aimed at reducing violent behavior	<ul style="list-style-type: none"> Collaborate with communities identified with highest homicide rates to develop ways to reduce rates Saturate areas with law enforcement Encourage public to report drug activity and/or violent crime Implement evidence-based home visiting programs 	Arizonans for Gun Safety Arizona State University Center for Violence Prevention & Community Safety StrongFamiliesAz
Objective #2: Concurrent with the nationwide Healthy People 2020 goal, reduce the rate of firearm-related fatalities and injuries to 4.1 deaths and 8.6 injuries per 100,000 population.		
Strategic Intervention	Action Steps	Key Partners
1) Review existing laws relating to access, use, and storage of firearms	<ul style="list-style-type: none"> Compare Arizona with other states and provide information to policy makers Educate the public and policy makers on existing laws Collaborate with law enforcement and judiciary to enforce current laws 	Arizonans for Gun Safety Arizona Firearm Injury Prevention Coalition
2) Develop data-driven interventions to reduce deaths and injuries from firearms	<ul style="list-style-type: none"> Identify and encourage sharing of resources for prevention Develop recommendations for interventions and produce report 	Arizona State University Center for Violence Prevention & Community Safety
3) Promote and enhance community-based initiatives aimed at reducing firearm injuries	<ul style="list-style-type: none"> Enhance anti-violence programs using nationally recognized materials Identify and promote strategies proven to reduce firearm injuries Identify and promote strategies proven to reduce illegal possession of firearms 	Arizonans for Gun Safety Arizona Firearm Injury Prevention Coalition

Reduce Homicide Deaths & Injury in Arizona 2012-2016

Process → Outcomes →

Resources	Activities	Outputs	Outcomes	Goals
<i>In order to accomplish the activities we will need the following</i>	<i>In order to address our problem we will accomplish the following activities</i>	<i>We expect that once accomplished these activities will produce the following evidence or service delivery</i>	<i>We expect that if we accomplish these activities it will lead to the following changes in 1-3 then 4-6 years</i>	<i>We expect that if accomplished, these activities will lead to the following changes in 7-10 years</i>
<ul style="list-style-type: none"> ⇒ Funding ⇒ Local Partners & Organizations ⇒ Injury Prevention Advisory Council ⇒ Evidence based practice or promising and proven interventions, including home visiting ⇒ Print/web materials 	<ul style="list-style-type: none"> ⇒ Work with communities to tailor violence intervention efforts toward high risk places/people ⇒ Work with the Arizona State University Center for Violence Prevention & Community Safety to identify effective interventions ⇒ Work with StrongFamilies Az, the home visiting alliance 	<ul style="list-style-type: none"> Research & identification of best practices to prevent homicide Communities implementing proven strategies 	<ul style="list-style-type: none"> ↑ Research & identification of best practices to prevent homicide ↑ Increase community capacity to address violence ↑ Parent support to families at risk of child abuse 	<ul style="list-style-type: none"> ↓ Homicide death rate ↓ Assault related hospitalization rate ↓ Child abuse incidence

Section B: Suicide/Self-Inflicted Injuries

Background

Suicide was the second leading cause of death for teenagers and adults 15 through 34 years, and the eighth leading cause of death for all age groups combined in Arizona during 2010.⁷⁴ As of 2010, Arizona ranks tenth in the nation for its overall suicide rate.⁷⁵

In Arizona in 2011, there were:

- 1,099 suicide deaths
- 3,539 inpatient hospitalizations (including 58 deaths), and
- 6,369 emergency department visits (including 44 deaths) for self-inflicted injuries.

Understanding the risk factors associated with suicide can help dispel the myth that suicide is a random act or results from stress alone.⁷⁶ Mechanisms of suicide include firearms, poisoning (overdose of prescription or non-prescription medications, overdose of illegal drugs, ingestion of toxic substances, and exposure to gases), suffocation (hanging), and cutting and piercing.

Mental health diagnoses are generally associated with a higher rate of suicide. Psychological autopsy studies reflect that more than 90 percent of completed suicides had one or more mental disorders.⁷⁷ In addition to mental and substance abuse disorders, risk factors include prior suicide attempt, stressful life events, and access to lethal suicide methods. Males are also more than four times more likely to die from suicide than females.⁷⁸ Suicide is a complex behavior that can be prevented in many cases by early recognition of risk factors, appropriate treatment of mental and substance abuse disorders, and restricting access to lethal weapons.⁷⁹

Self-inflicted injuries include two very different acts: suicide attempts and self-harm. A suicide attempt is an intentional act of taking one's own life. Women report attempting suicide during their lifetime about three times more often than men.⁸⁰ According to a report by the CDC, 60 percent of non-fatal self-inflicted injuries treated in hospital emergency departments were probable suicide attempts.⁸¹ However, not all intentional acts of self-harm are conscious suicidal attempts; many incidents of self-harm are initiated as a way of coping with psychological pain or trauma. Self-harm includes behaviors such as cutting or burning oneself, bone-breaking, ingesting a higher than normal dose of medications or illicit drugs, or ingesting toxic substances. Self-harming behaviors may be symptoms of a mental health problem like depression and mood or anxiety disorders. People who self-harm are 18 times more likely than the general population to die at their own hand by causing more harm than they intended.^{82,83}

⁷⁴ Centers for Disease Control and Prevention, National Center for Injury Prevention and Control. Web-based Injury Statistics Query and Reporting System (WISQARS) [online]. (2010) [cited 2012 Oct 10]. Available from: www.cdc.gov/ncipc/wisqars

⁷⁵ Centers for Disease Control and Prevention, National Center for Injury Prevention and Control. Web-based Injury Statistics Query and Reporting System (WISQARS) [online]. (2010) [cited 2012 Oct 10]. Available from: www.cdc.gov/ncipc/wisqars

⁷⁶ Department of Health and Human Services, U.S. Public Health Service. *The Surgeon General's Call To Action To Prevent Suicide 1999*. Available from: www.surgeongeneral.gov/library/calltoaction/calltoaction.pdf, accessed 11/18/05.

⁷⁷ The American Association of Suicidology, 2002. www.suicidology.org

⁷⁸ Centers for Disease Control and Prevention, National Center for Injury Prevention and Control. Web-based Injury Statistics Query and Reporting System (WISQARS) [online]. (2005) [cited 2010 Jun 29]. Available from: www.cdc.gov/ncipc/wisqars

⁷⁹ www.mentalhealth.samhsa.gov/suicideprevention/2010.asp, accessed 11/18/05.

⁸⁰ Krug EG, Dahlberg LL, Mercy JA, Zwi AB, Lozano R, editors. World report on violence and health [serial online]. 2004 May.

Available online from: www.who.int/violence_injury_prevention/violence/world_report/wrvh1/en.

⁸¹ Centers for Disease Control and Prevention, Morbidity and Mortality Weekly Report, May 24, 2002 / 51(20):436-8. Available from: www.cdc.gov/mmwr/preview/mmwrhtml/mm5120a3.htm, accessed 3/15/06.

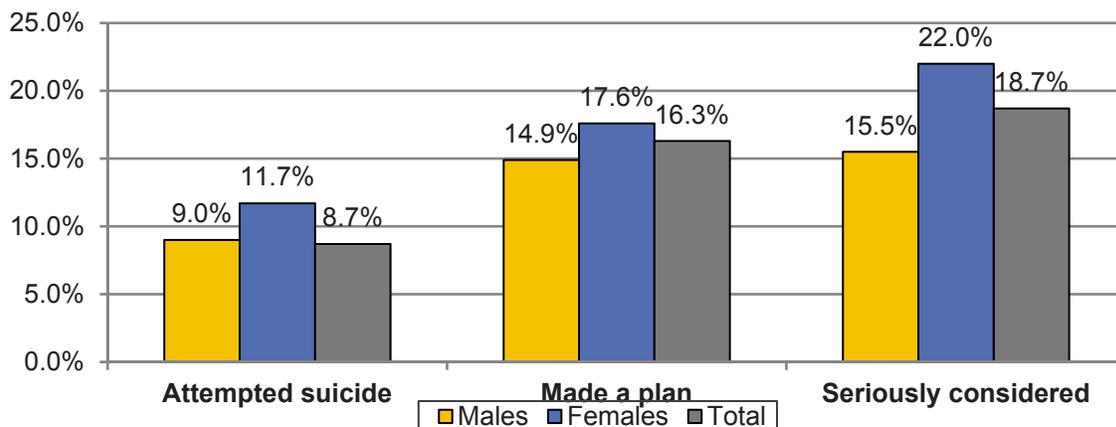
⁸² National Mental Health Association. "Self-Injury." (2005) [cited 2005 Aug 8]. Available from:

www.nmha.org/infoctr/factsheets/selfinjury.cfm.

⁸³ McAllister M. (2003). Multiple meanings of self-harm: A critical review. *Int J Ment Health Nurs*, 12(3), 177.

The Youth Risk Behavior Survey (YRBS) monitors adolescent suicide ideation and suicide attempts for students in grades 9 through 12. The 2011 YRBS data confirms that while males commit suicide at a higher rate than females, females are at higher risk of suicidal ideation and attempted suicide. Figure IIIB.1 shows the suicide risks by sex for Arizonans in grades 9 through 12.

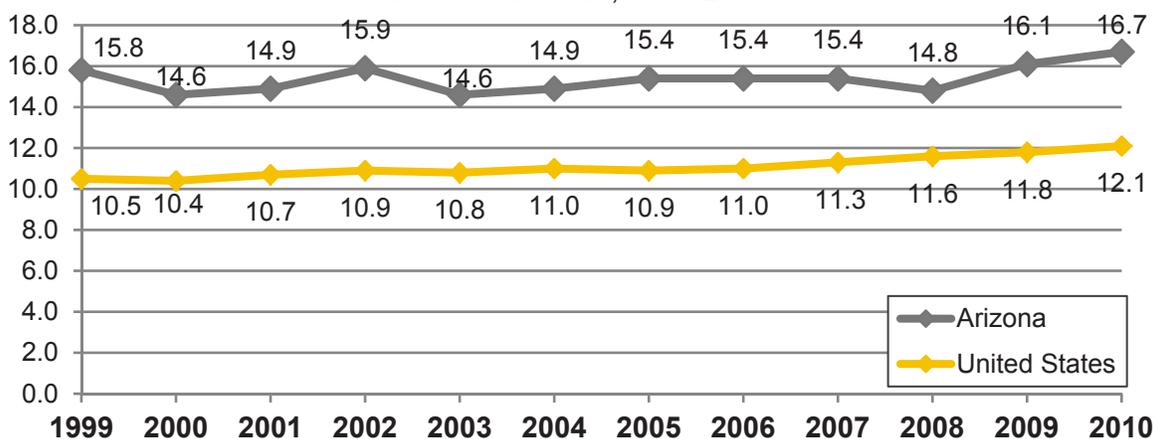
Figure IIIB.1. Suicide Risk Factors Among Students in Grades 9-12 in the Last 12 Months, Arizona 2011⁸⁴



Suicide Trends

Arizona's suicide rate has been consistently higher than the national rate for the last decade. Figure IIIB.2 shows the age-adjusted suicide rates for the nation and Arizona. In the most recent comparison available (2010), the Arizona age-adjusted suicide rate of 16.7 was considerably higher than the national rate of 12.1 deaths per 100,000 residents. Rates for both Arizona and the United States remained significantly higher than the Healthy People 2020 target of 5.0 suicides per 100,000 residents.

Figure IIIB.2. Age-Adjusted Suicide Rates per 100,000 Residents by Year, Arizona Compared to the United States, 1999-2011



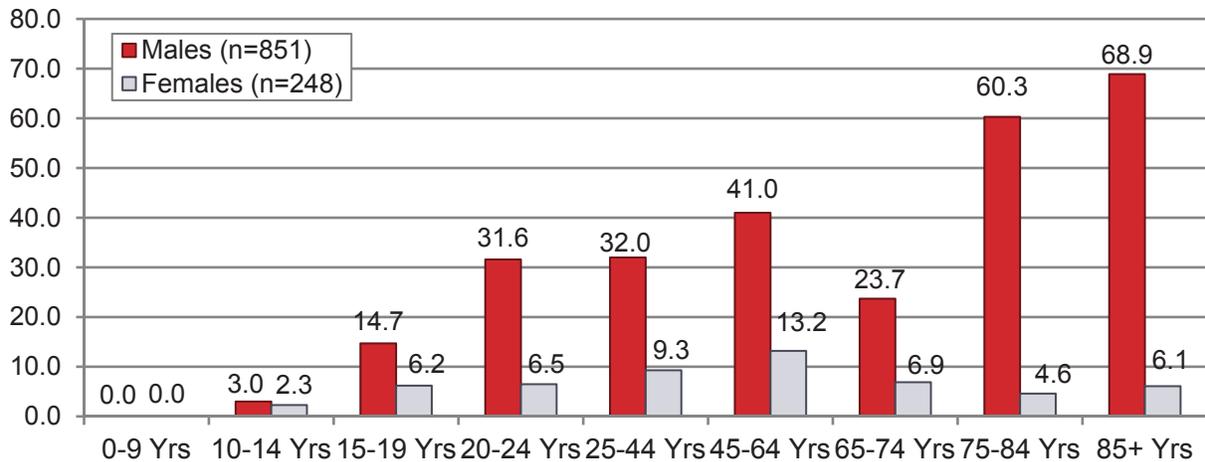
Source for Arizona: Injury Mortality Among Arizona Residents 1998-2008, Arizona death certificate data for 2009
 Source for United States: Centers for Disease Control and Prevention, National Center for Injury Prevention and Control, Web-based Injury Statistics Query and Reporting System (WISQARS)

⁸⁴ Centers for Disease Control and Prevention. 2011 Youth Risk Behavior Survey [online]. [cited 2012 Oct 10]. Available from: www.cdc.gov/yrbss.

Suicides

Among the 1,099 suicides in 2011, 77 percent were among males (n=851), and 23 percent were among females (n=248). In 2011, males age 85 years and older had the highest suicide rate (68.9 deaths per 100,000 residents). There was only one suicide in a child under 10 years. Figure IIIB.3 shows the suicide rates by age group and sex per 100,000 Arizona residents in 2011.

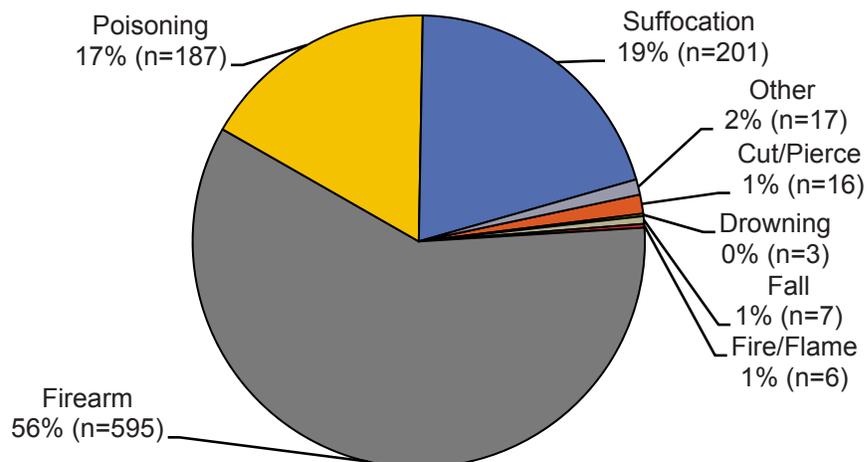
Figure IIIB.3. Suicide Rates per 100,000 Residents by Age Group and Sex, Arizona 2011 (n=1,099)



Excludes 1 death of unknown age

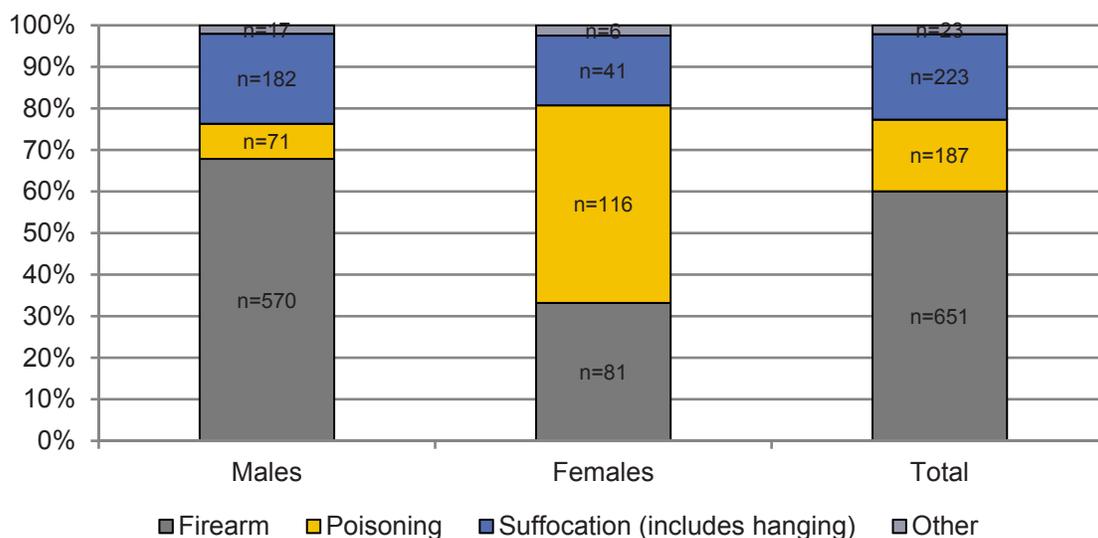
Firearms were the most frequently used mechanism for committing suicide, accounting for 56 percent (n=595) of suicides in 2011. Suffocation, which includes hanging, accounted for 19 percent (n=201) of suicides, and poisoning accounted for 17 percent (n=187) of suicides in 2011. Figure III.9 shows suicides by mechanism among Arizonans in 2011.

Figure IIIB.4 Suicides by Mechanism of Injury, Arizona 2011 (n=1,099)



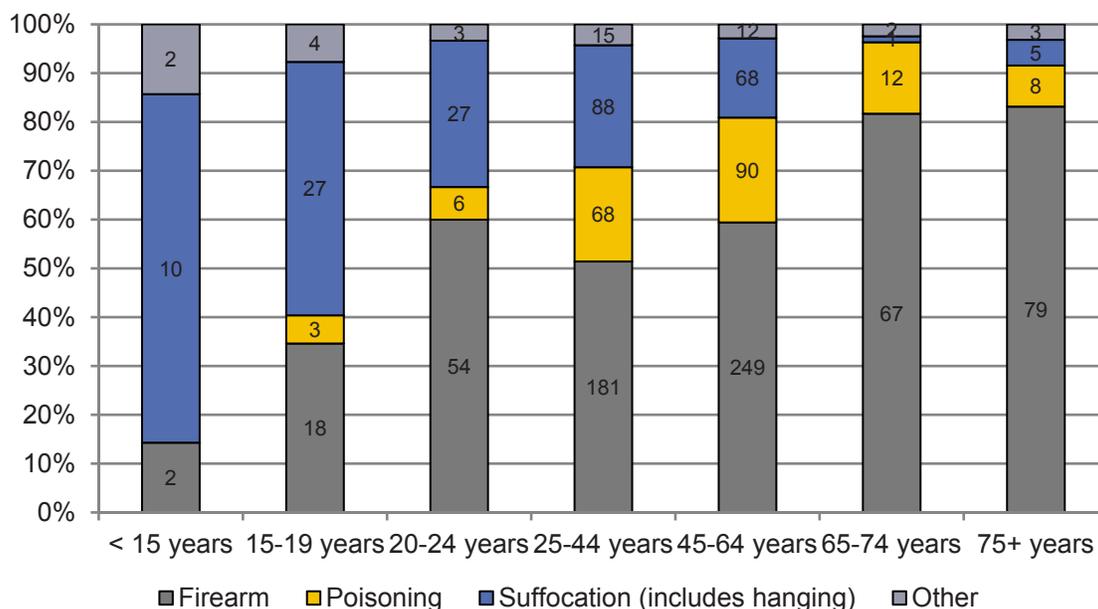
Mechanism of suicide varies by sex. Among males who committed suicide in Arizona, 67 percent used a firearm. Among females, poisoning was the most common mechanism for suicide (47 percent). Figure IIIB.5 shows suicides occurring during 2011 by sex and mechanism in Arizona.

Figure IIIB.5. Suicides by Sex and Mechanism of Injury, Arizona, 2011 (n=1,099)



Mechanism of suicide also varies by age group. Hanging, or suffocation, was the most common mechanism of suicide among youth up to 19 years (n=37), representing 59 percent of the deaths among children less than 20 years of age. Firearms were the most common method overall and accounted for nearly two-thirds of the suicides among adults, and accounted for 8 out of 10 suicides in those age 65 years and older. Figure IIIB.6 shows the distribution of suicides by age group and mechanism among Arizonans during 2011.

Figure IIIB.6. Suicides by Age Group and Mechanism of Injury, Arizona, 2011 (n=1,099)

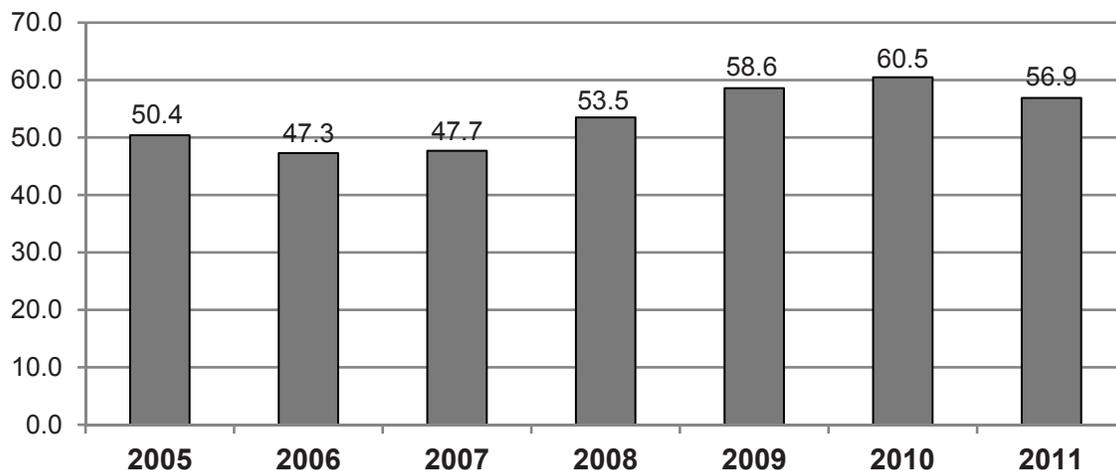


Excludes 1 death of unknown age

Inpatient Hospitalizations for Self-Inflicted Injuries

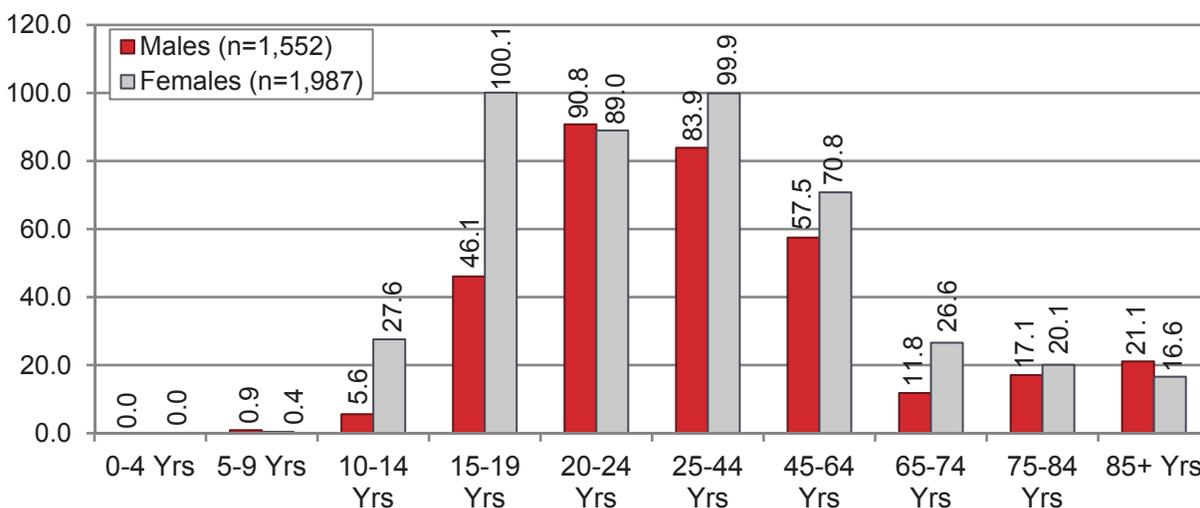
The age-adjusted rate of inpatient hospitalizations related to self-inflicted injuries was 13 percent higher in 2011 (56.9 per 100,000) than it was in 2005 (50.4 per 100,000). However, the 2011 rate represents a 6 percent decrease since 2010, when the rate of self-inflicted injury-related hospitalization was at its highest in 6 years (60.5 per 100,000). Figure IIIB.6 shows the age-adjusted rate of hospitalizations among Arizona residents from 2005 through 2011.

Figure IIIB.6. Age-Adjusted Self-Inflicted Injury-Related Hospitalization Rates per 100,000 Residents, Arizona, 2005-2011



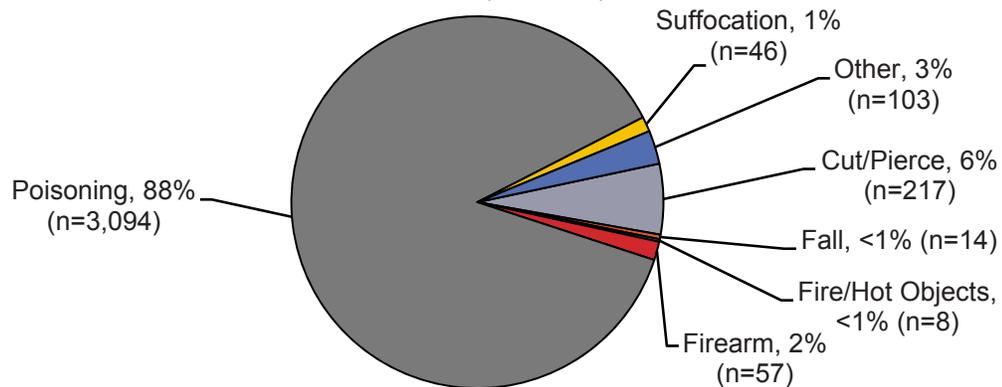
There were 3,539 inpatient hospitalizations for self-inflicted injuries among Arizona residents in 2011; 44 percent were among males (n=1,552) and 56 percent were among females (n=1,987). Of those hospitalized for self-inflicted injuries, 58 died. Females aged 15 through 19 had the highest hospitalization rates for self-inflicted injury-related hospitalizations, and females experienced higher rates than males for most of the lifespan. Figure IIIB.7 illustrates the 2011 hospitalization rates for self-inflicted injury-related hospitalizations by age group and sex among Arizona residents.

Figure IIIB.7. Self-Inflicted Injury-Related Hospitalizations by Age Group, Arizona 2011 (n=3,539)



Whereas firearms were the most commonly used mechanisms in suicides, poisoning was by far the most common mechanism for hospitalizations due to self-inflicted injuries. Poisonings accounted for 88 percent (n=3,094) of hospitalizations for self-inflicted injuries. Figure IIIB.8 shows the distribution of hospitalizations due to self-inflicted injuries by mechanism of injury among Arizona residents in 2011.

Figure IIIB.8. Self-Inflicted Injury-Related Hospitalizations by Mechanism of Injury, Arizona 2011 (n=3,539)

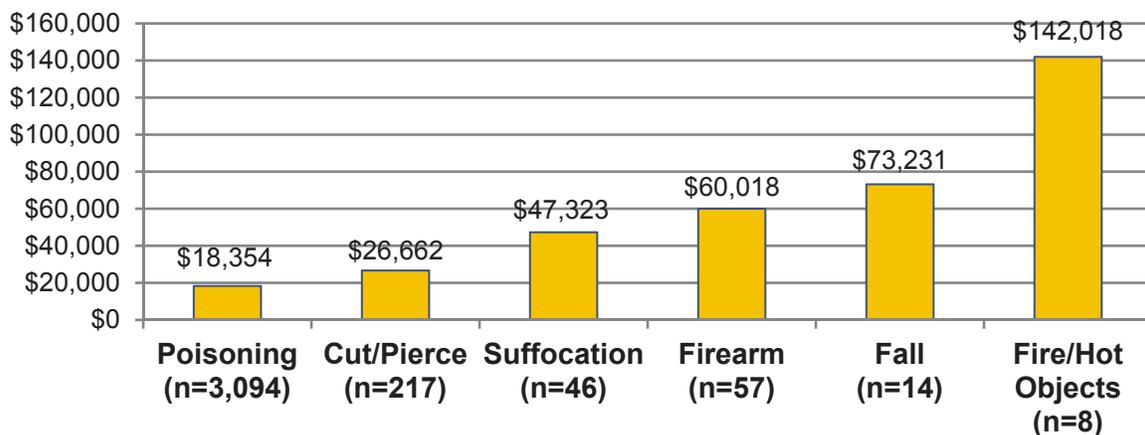


Poisoning was the most common mechanism of injury for hospitalization due to self-inflicted injuries for both sexes, accounting for 95 percent of self-inflicted injury-related hospitalizations among males (n=1,880) and 78 percent (n=1,214) of hospitalizations among females.

In 2011, the median hospital stay for a self-inflicted injury was 2 days, with Arizona residents spending a total of 11,657 days hospitalized. The median charge for a self-inflicted injury-related hospitalization was \$19,312. In total, charges for self-inflicted injury-related hospitalizations in 2011 were over \$111.6 million, not including costs incurred for emergency medical services, outpatient therapies, or rehabilitation.

In 2011, charges for hospitalizations due to self-inflicted injuries varied widely by the mechanism of injury. Poisoning accounted for a majority of hospitalizations, but was associated with the lowest median charges of all specified injury mechanisms (\$18,354). Figure IIIB.9 compares the median hospital charges by mechanism of self-inflicted injury among Arizona residents in 2011.

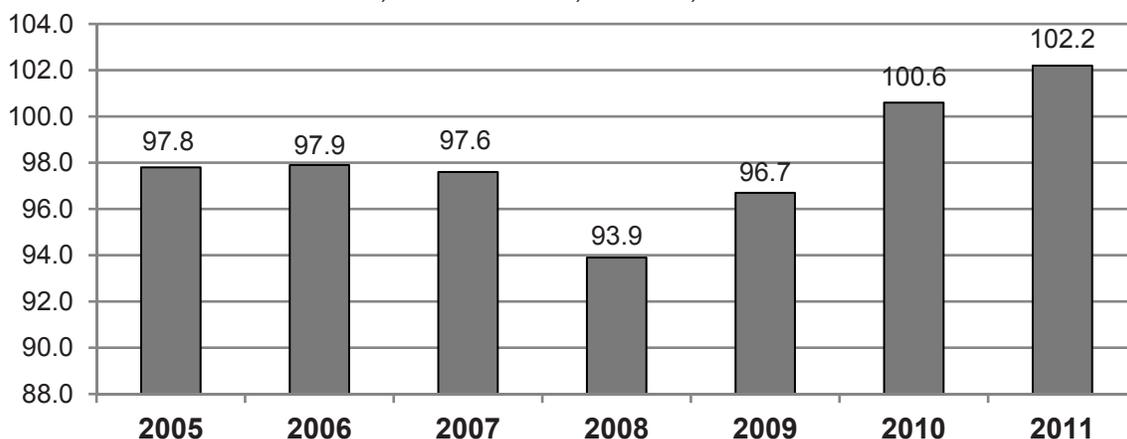
Figure IIIB.9. Median Hospitalizations Charges by Mechanism of Self-Inflicted Injury, Arizona, 2011



Emergency Department Visits for Self-Inflicted Injuries

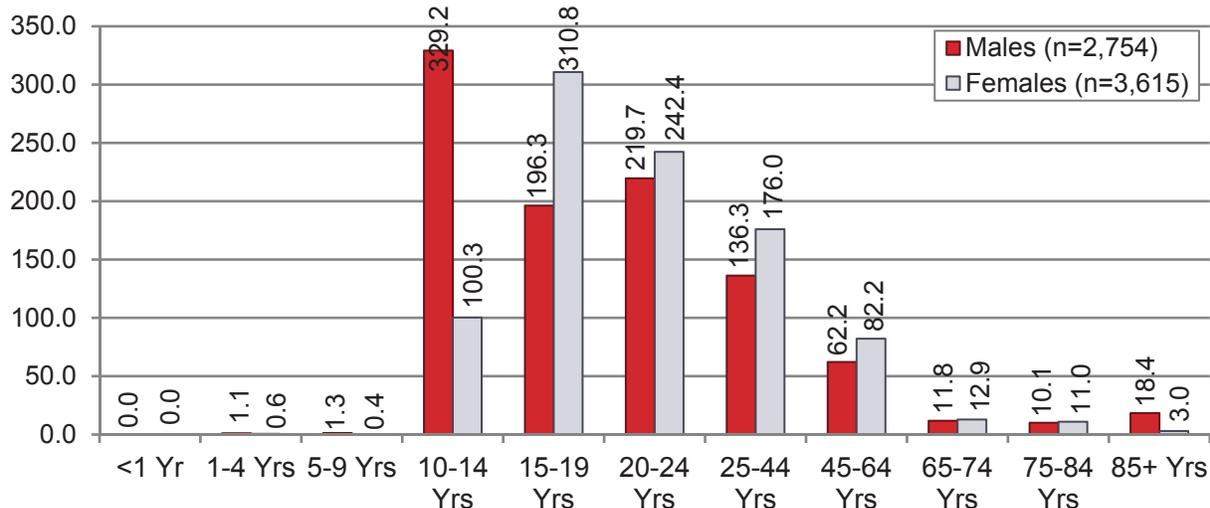
The age-adjusted rate of emergency department visits for self-inflicted injuries remained largely unchanged from 2005 through 2007, but has since increased by 6 percent (102.2 emergency department visits per 100,000 in 2011). Figure IIIB.10 shows the age-adjusted rate of emergency department visits for self-inflicted injuries among Arizona residents from 2005 through 2011.

Figure IIIB.10. Age-Adjusted Self-Inflicted Injury-Related Emergency Department Visit Rates per 100,000 Residents, Arizona, 2005-2011



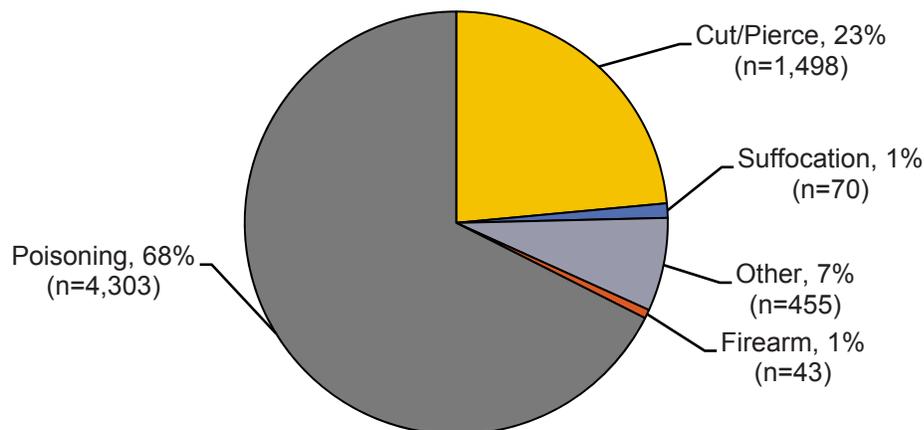
There were 6,369 emergency department visits for self-inflicted injuries among Arizona residents in 2011; 43 percent were among males (n=2,754) and 57 percent were among females (n=3,615). Of those seen in the emergency department for self-inflicted injuries, 44 died. Emergency department visit rates for self-inflicted injuries were highest among males aged 10 through 14 years. Figure IIIB.11 illustrates the 2011 emergency department visit rates for self-inflicted injuries by age group and sex among Arizona residents.

Figure IIIB.11. Self-Inflicted Injury-Related Emergency Department Visit Rates per 100,000 Residents by Age Group and Sex, Arizona 2011 (n=6,369)



Poisoning was the mechanism of injury in 68 percent (n=4,303) of emergency department visits due to self-inflicted injuries in 2011. Cutting and piercing was the mechanism in one percent of suicides but accounted for 23 percent of emergency department visits for self-inflicted injuries. Figure IIIB.12 shows the emergency department visits due to self-inflicted injuries by mechanism of injury among Arizona residents in 2011.

Figure IIIB.12. Self-Inflicted Injury-Related Emergency Department Visits by Mechanism of Injury, Arizona 2011 (n=6,369)



Poisoning was the most frequently used mechanism of injury among emergency department visits due to self-inflicted injuries for both sexes, accounting for 57 percent (n=1,512) of visits among males and 72 percent (n=2,591) of visits among females. Cutting and piercing injuries accounted for 28 percent (n=739) of visits for self-inflicted injuries among males and 23 percent (n=844) of such visits among females in 2011.

In 2011, the median charge for emergency department visits due to self-inflicted injuries was \$4,712, and the sum of all emergency department charges for self-inflicted injury-related visits totaled over \$34.1 million. Hospital charges do not include costs incurred for emergency medical services, outpatient therapies, or rehabilitation.

Existing Surveillance Systems

The primary sources for monitoring suicides and self-inflicted injuries include death certificate, inpatient hospital discharge, and emergency department databases. The Child Fatality Review team reviews suicide-related deaths of children 17 years and younger across the state, using law enforcement and medical examiner reports to assess intent and causal agent(s).

The Division of Behavioral Health reviews every suicide, across all ages, for all enrollees and provides overall rates and trends throughout the State. The Regional Behavioral Health Authorities have their own systems for reviewing deaths as well.

Summary/Highlights of Data

- The 2011 Youth Risk Behavior Survey data show that 18.7 percent of high school students in Arizona reported that they had seriously considered suicide.
- In 2011, males age 85 years and older had the highest suicide rate.
- Poisoning was the most common mechanism of injury for hospitalization due to self-inflicted injuries.

Limitations of Data

- Suicides may be miscoded within death certificate data.
- Self-inflicted injuries are vastly underreported, as the only available data come from hospital discharge and emergency department records.
- The ICD-9 codes used for identifying hospitalizations and emergency department visits due to self-inflicted injuries do not provide any level of detail that may distinguish between suicide attempts and self-harm.
- There is no standardized reporting system in place to account for self-inflicted injuries among Arizona's tribal or military veteran population, unless these individuals are treated at a non-federal hospital.

Current Interventions

The Arizona Department of Health Services, Division of Behavioral Health Services (DBHS) contracts with Regional Behavioral Health Authorities (RBHAs) and tribes to provide behavioral health services throughout the state. In 2001, DBHS worked with a large group of community stakeholders to develop a comprehensive statewide plan to reduce suicide. This plan, *Arizona's Priorities for Suicide Prevention*, includes strategies for a full continuum of services, including prevention, early intervention, and postvention support for survivors and their families. In 2004, DBHS hired a State Suicide Prevention Coordinator to implement this plan.

In 2004, DBHS began funding prevention programs that target groups at high risk for suicide and address risk and protective factors for suicide and substance abuse and while current funding is very limited, all of the RBHAs have incorporated suicide prevention programming into their existing services by either reallocating funds or seeking other funding sources. Current programs include:

- Local and regional public information/social marketing campaigns
- Leadership and life skills programs for Native American youth
- Gatekeeper education programs targeting at risk youth, communities, older adults, and behavioral health professionals in a variety of models, including Applied Suicide Intervention Skills (ASIST), Mental Health First Aide, safeTALK, and Question, Persuade, and Refer (QPR)
- Physician and caregiver education

DBHS provides ongoing technical assistance and training to providers and communities across the State. DBHS has been awarded the Garrett Lee Smith Memorial State/Tribal Youth Suicide Prevention Grant twice under the Substance Abuse and Mental Health Services Administration (SAMHSA). This grant targets youth ages 14 through 24 years of age. With grant funds, DBHS

has been successful in building sustainability in the gatekeeper training model as well as seen a drop in the suicide rate since 2005 for youth aged 15-19 years.

DBHS works in close collaboration with the Arizona Suicide Prevention Coalition (AzSPC), founded in 1999 by a concerned group of individuals and agencies dedicated to suicide prevention, including Phoenix Area Indian Health Services and the Veterans' Administration. The Coalition is currently comprised of over 100 participants from multiple agencies across the state, including RBHAs, tribes, behavioral health providers, crisis providers, survivors, juvenile justice agencies, teen shelters, medical facilities, organizations serving older adults, law enforcement, businesses, hospitals, youth-serving organizations, city/county/state agencies, educational institutions, government, and survivors. The Coalition has been instrumental in the development and updating the statewide plan, providing media and community outreach, and promoting policy change. Historically, AzSPC has collaborated with DBHS to accomplish shared goals of promoting awareness of suicide as a public health issue and working to reduce suicide throughout Arizona.

Improving suicide prevention and treatment services in collaboration with other organizations is a fundamental part of the Division's strategic plan. DBHS currently collaborates with its counterparts in the Veteran's Administration, Indian Health Services, and tribal nations throughout the State.

In addition, DBHS is spearheading an emergency room initiative for the screening and assessment of suicide and substance abuse in an effort to increase quality of care for those with behavioral health crises and improve cost efficiency.

Accomplishments

Great strides have been made in regards to suicide prevention efforts across the State. Through collaboration between DBHS, the AzSPC, the RBHAs, survivors, and community stakeholders, much has been accomplished including: applying for the first federally funded grant for youth suicide prevention, resulting in Arizona being one the first 14 states awarded these funds, sponsoring state-wide conferences, annual Survivors of Suicide conferences, support and promotion of Suicide Prevention Awareness Week, an annual memorial walk for survivors, building up a trainer network, development and implementation of a suicide risk assessment protocol for the public behavioral health system, social media campaigns, annual youth leadership camps, training for thousands of university staff, faculty, and students, as well as successfully implemented grants programming in which youth identified to be at risk were referred into the public behavioral health system and received treatment.

Additionally, perinatal depression screening has been implemented in the early childhood home visiting programs.

Strategic Plan for 2012-2016

Injury Topic: Suicide/Self-Inflicted Injuries

Overall Goal: Reduce Suicide and Attempted Suicide in Arizona

The Arizona Suicide and Prevention Plan is based on the goals of the U.S. Surgeon General's National Strategy for Suicide Prevention: Goals and Objectives for Action (2001), with objectives and additional recommendations modified for Arizona. This plan identifies eleven goals with objectives; please refer to the plan for strategic actions to meet these goals.

Goal 1: Promote Awareness that Suicide is a Public Health Problem that is Preventable

Goal 2: Develop Broad-Based Support for Suicide Prevention

Goal 3: Develop and Implement Strategies to Reduce the Stigma Associated with Being a Consumer of Mental Health, Substance Abuse and Suicide Prevention Services

Goal 4: Develop and Implement Community-Based Suicide Prevention Programs

Goal 5: Promote Efforts to Reduce Access to Lethal Means and Methods of Self-Harm

Goal 6: Implement Training for Recognition of At-Risk Behavior and Delivery of Effective Treatment

Goal 7: Develop and Promote Effective Clinical and Professional Practices

Goal 8: Improve Access to and Community Linkages with Mental Health and Substance Abuse Services

Goal 9: Improve Reporting and Portrayals of Suicidal Behavior, Mental Illness, and Substance Abuse in the Entertainment and News Media

Goal 10: Promote and Support Research on Suicide and Suicide Prevention

Goal 11: Improve and Expand Surveillance Systems

Goal 12: Screen all postpartum women for postpartum depression

<http://azspc.org/accomplishments-state.html>

Reduce Suicide-Self-Inflicted Injuries in Arizona 2012-2016

Process → Outcomes →

Resources	Activities	Outputs	Outcomes	Goals
<i>In order to accomplish the activities we will need the following</i>	<i>In order to address our problem we will accomplish the following activities</i>	<i>We expect that once accomplished these activities will produce the following evidence or service delivery</i>	<i>We expect that if we accomplish these activities it will lead to the following changes in 1-3 then 4-6 years</i>	<i>We expect that if accomplished, these activities will lead to the following changes in 7-10 years</i>
<ul style="list-style-type: none"> ⇒ Funding ⇒ Local Partners & Organizations ⇒ Injury Prevention Advisory Council ⇒ Evidence based practice or promising and proven interventions ⇒ Print/web materials 	<ul style="list-style-type: none"> ⇒ Enhance public & professional education about suicide prevention ⇒ Develop broad based support for suicide prevention ⇒ Reduce access to lethal means & methods of self harm 	<ul style="list-style-type: none"> Suicide prevention education Suicide prevention activities integrated into ongoing programs 	<ul style="list-style-type: none"> ↑ Awareness that suicide is a preventable public health problem ↑ Awareness of warning signs ↑ Ability to reduce access to lethal means & methods of harm ↓ Suicidal behaviors 	<ul style="list-style-type: none"> ↓ Suicide death rate ↓ Suicide related hospitalization rate

Section C: Relationship Violence

Introduction

This chapter focuses on violence within the context of relationships, including domestic violence, sexual violence, and child abuse. Statistical estimates of each of these kinds of violence tend to vary as definitions of them evolve over time and depend upon methods of data collection. Furthermore, violence is believed to be universally underreported in the United States, where stigma and feelings of shame, embarrassment, or fear interfere with reporting. Victim surveys are often compared to official reporting sources to get a sense of the degree to which underreporting occurs, although this research is also limited by the sensitive nature of the subject and the ethical dilemmas accompanying it.

The following definitions are provided by the Centers for Disease Control and Prevention's National Center for Injury Prevention and Control (CDC-NCIPC), which are included here to ensure consistent language in the discourse surrounding maltreatment and associated injuries. It is important to note that some of the data sources cited in this chapter employ somewhat different definitions to describe types of violence; survey-specific terms or usages are separately defined, as needed.

Sexual Violence: Any sexual act perpetrated against someone's will. Includes completed or attempted sex acts without the victim's consent (including rape), abusive sexual contact, and non-contact sexual abuse (including pornography or sexual harassment).

Intimate Partner Violence (IPV): Physical, sexual, or psychological harm by a current or former partner or spouse; can occur among heterosexual or same-sex couples and does not require sexual intimacy. Four main types of IPV: physical violence, sexual violence, threats of physical or sexual violence, and psychological or emotional violence.

Child Maltreatment: All types of abuse and neglect of a child under the age of 18 years by a parent, caregiver, or another person in a custodial role (includes physical abuse, sexual abuse, emotional abuse, and neglect).

SEXUAL VIOLENCE

Though violent crime rates in 2008 were at the lowest rates in more than 30 years, rape remains one of the most underreported crimes. According to a United States Department of Justice estimate, only 41 percent of rapes and sexual assaults were reported to law enforcement officials in 2008.⁸⁵ Research from a variety of sources finds the following facts related to the prevalence of rape in the United States:

- 25 percent of women and 8 percent of surveyed men report being raped and/or physically assaulted by a current or former spouse, cohabitating partner, or a date at some time in their lives.²

⁸⁵ Department of Justice. *Criminal victimization 2008* [online]. Washington: Government Printing Office; 2009. Publication No. NCJ 227777. [cited 2010 Aug 18]. Available from: www.bjs.ojp.usdoj.gov/content/pub/pdf/cv08.pdf.

- In 2008, 9.1 percent of child maltreatment incidents in the United States were confirmed by child protective service agencies as having involved sexual assault.⁸⁶
- Among United States high school youth nationwide in 2009:⁸⁷
 - About 7 percent of students reported that they had been forced to have sexual intercourse. This is a decrease from 9 percent in 2003.
 - Female students are more likely than male students to report forced sexual intercourse (10.5 percent of females vs. 4.5 percent of males)
 - Overall, 10.0 percent of Black students, 8.4 percent of Hispanic students, and 6.3 percent of White students reported that they had been forced to have sexual intercourse
- Among college students nationwide, between 20 and 25 percent of women reported experiencing completed or attempted rape.⁸⁸
- Among adults nationwide⁶:
 - 2.5 percent of women and 0.9 percent of men surveyed reported being raped in the previous 12 months
 - One in ten women (10.6 percent) and one in fifty men (2.1 percent) reported experiencing forced sex at some time in their lives.
- Rape and other sexual assaults among adults cause an annual minimum loss of \$127 billion, or about \$508 per U.S. resident (1993 dollars).⁸⁹
 - This estimate includes tangible losses, such as initial police response, medical care, mental health services, property damage or loss, and loss of productivity; and intangible losses, such as loss of quality of life, pain, and suffering. These costs do not include the costs of investigation, prosecution, or incarceration of offenders.

Sexual Violence in Arizona

According to the FBI Uniform Crime Reports, during 2008, 1,673 forcible rapes were reported in Arizona, representing 25.7 reported rapes per 100,000 people in Arizona. This rate was lower than the 2007 Arizona rate of 29.3 reported rapes per 100,000 residents, and is lower than the 2008 national rate of 29.3 rapes per 100,000 people in the United States.⁹⁰

Survey data specific to Arizona are not yet available to produce a measure of the prevalence of Arizona women and men who have been raped. However, the National Women's Study and the National Violence Against Women Survey provided estimates of women's likelihood of being forcibly raped by age, race/ethnicity, and the region of the nation in which she lives. Contrary to FBI Uniform Crime Reports, researchers note that at 19.1 percent of women having been a victim of at least one forcible rape during her lifetime, Arizona's incidence rate is higher than the national average of 13.4 percent.⁹¹

⁸⁶ U.S. Department of Health and Human Services, Administration for Children and Families, Administration on Children, Youth and Families, Children's Bureau. (2010). *Child Maltreatment 2008* [online]. [cited 2010 Aug 18]. Available from: www.acf.hhs.gov/programs/cb/stats_research/index.htm#can.

⁸⁷ Centers for Disease Control and Prevention. 2009 Youth Risk Behavior Survey [online]. [cited 2010 Jun 24]. Available from: www.cdc.gov/yrbss.

⁸⁸ Centers for Disease Control and Prevention, "Sexual Violence: Facts At A Glance". (2008) [cited 2010 Jul 13] Available from: www.cdc.gov/violenceprevention/pdf/SV-DataSheet-a.pdf.

⁸⁹ Miller TR, Cohen MA, Wiersema B. *Victim Costs and Consequences: A New Look*. (1996.) Washington, DC: U.S. Department of Justice, Office of Justice Programs, National Institute of Justice.

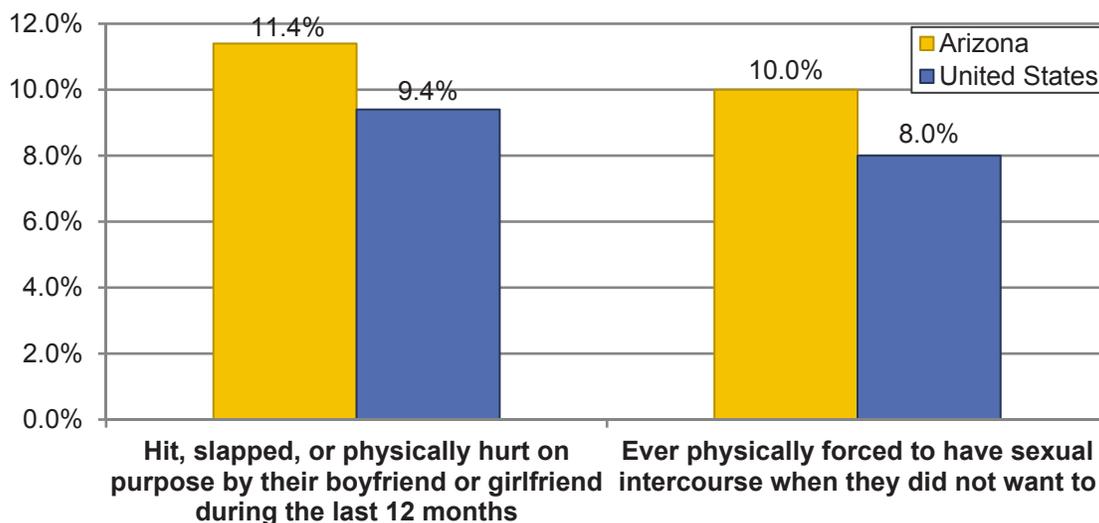
⁹⁰ Federal Bureau of Investigation, Uniform Crime Reports [online]. [cited 2010 Jul 13] Available from: www.fbi.gov/ucr/ucr.htm.

⁹¹ Ruggiero KJ, Kilpatrick DG. *Rape in Arizona: A Report to the State*. Charleston, SC: National Violence Against Women Prevention Research Center, Medical University of South Carolina, May 15, 2003 page 2.

The authors explain that part of the difference between the national and Arizona-specific estimate has to do with Arizona being in a region of the nation that has higher-than-average rape prevalence. They go on to caution that this estimate is not meant to be a substitute for conducting a well-designed victimization survey within the state, but that to the degree that Arizona women are similar to women in the rest of the nation, one would expect that many of the rapes experienced by Arizona women probably happened during their childhoods or adolescence.⁹²

The 2011 Arizona Youth Risk Behavior Survey asks high school teens whether they had ever been hit, slapped, or physically hurt on purpose by their boyfriend or girlfriend during the past 12 months, and whether they had ever been forced to have sexual intercourse. Females (12.1 percent) were more likely than males (7.1 percent) to report being forced to have sexual intercourse against their will.⁹³ Figure IIIC.1 shows the percentage of high school students in Arizona and the United States who reported being hurt by a partner or forced to have sex in the 2011 Youth Behavior Risk Survey.

Figure IIIC.1. Students in Grades 9-12 Reporting on Intimate Partner and Sexual Violence, Arizona compared to the United States, 2011³



Risk and Protective Factors for Sexual Violence

The CDC's National Center for Injury Prevention and Control lists both vulnerability factors for sexual violence victimization and risk factors for perpetration on several levels: individual, relational, community, and society. Vulnerability factors increase the likelihood that a person will suffer harm, while risk factors for perpetration increase the likelihood that a person will cause it. These factors are quoted at length, with asterisks marking those factors that are associated with both victims and perpetrators:

⁹² Ruggiero KJ, Kilpatrick DG. *Rape in Arizona: A Report to the State*. Charleston, SC: National Violence Against Women Prevention Research Center, Medical University of South Carolina, May 15, 2003 page 2.

⁹³ Centers for Disease Control and Prevention. 2011 Youth Risk Behavior Survey [online]. [cited 2012 Oct 10]. Available from: www.cdc.gov/yrbss.

Vulnerability Factors for Victimization⁹⁴

- **Prior history of sexual violence.** Women who are raped before the age of 18 are twice as likely to be raped as adults, compared to those without a history of sexual abuse.
- **Gender.** Women are more likely to be victims of sexual violence than men: 78 percent of the victims of rape and sexual assault are women and 22 percent are men. These findings may be influenced by the reluctance of men to report sexual violence.
- **Young age.** Sexual violence victimization starts very early in life. More than half of all rapes of women (54 percent) occur before age 18; 22 percent of these rapes occur before age 12. For men, 75 percent of all rapes occur before age 18, and 48 percent occur before age 12.
- **Drug or alcohol use.*** Binge drinking and drug use are related to increased rates of victimization.
- **High-risk sexual behavior.** As with drug/alcohol use, researchers are trying to understand the complex relationships between sexuality and sexual violence—their causality, directionality, and other etiologic factors that increase vulnerability for victimization are not well understood. Some researchers believe that engaging in high-risk sexual behavior is both a vulnerability factor and a consequence of childhood sexual abuse. Youth with many sexual partners are at increased risk of experiencing sexual abuse.
- **Poverty.*** Poverty may make the daily lives of women and children more dangerous. It may also make them more dependent on men for survival and therefore less able to feel in control of their own sexuality, consent to sex, recognize their own victimization or to seek help when victimized. These issues increase their vulnerability to sexual victimization. In addition, poor women may be at risk for sexual violence because their economic (and, often educational) status necessitates that they engage in high-risk survival activities, for example trading sex for food, money, or other items. Poverty also puts women at increased risk of intimate partner violence, of which sexual violence is often one aspect.
- **Ethnicity/culture.** American Indian and Alaskan Native women are more likely (34 percent) to report being raped than African American women (19 percent), White women (18 percent), or Hispanic women (15 percent).

⁹⁴ Centers for Disease Control and Prevention, National Center for Injury Prevention and Control. Intimate Partner Violence: Fact Sheet [online]. (2005) [cited 2012 Oct 10]. Available from: www.brooksidepress.org/Products/OBGYN_101/MyDocuments4/Library/FactSheet/IntimatePartnerViolencePreventionFacts%20NCIPC.htm.

Risk Factors for Perpetration of Sexual Violence

Individual Factors	Relationship Factors	Community Factors	Societal Factors
<ul style="list-style-type: none"> • Alcohol and drug use* • Coercive sexual fantasies • Impulsive and antisocial tendencies • Preference for impersonal sex • Hostility towards women • Hypermasculinity • Childhood history of sexual and physical abuse* • Witnessed family violence as a child 	<ul style="list-style-type: none"> • Association with sexually aggressive and delinquent peers • Family environment characterized by physical violence and few resources • Strong patriarchal relationship or familial environment • Emotionally unsupportive familial environment 	<ul style="list-style-type: none"> • Lack of employment opportunities • Lack of institutional support from police and judicial system • General tolerance of sexual assault within the community • Settings that support sexual violence • Weak community sanctions against sexual violence perpetrators 	<ul style="list-style-type: none"> • Poverty* • Societal norms that support sexual violence, male superiority and sexual entitlement, and/or maintain women's inferiority and sexual submissiveness • Weak laws and policies related to gender equity • High tolerance of crime and other forms of violence

*Factors associated with both survivors and perpetrators of sexual violence

Source: Centers for Disease Control and Prevention, National Center for Injury Prevention and Control. Sexual Violence: Risk and Protective Factors [online]. (2009) {cited 2010 Aug 18}. Available from: www.cdc.gov/Violenceprevention/sexualviolence/riskprotectivefactors.html.

Perpetrators of sexual violence are mostly men. According to the CDC Fact Sheet on Sexual Violence,⁴ among acts of sexual violence committed against women since the age of 18 years, 100 percent of rapes, 92 percent of physical assaults, and 97 percent of stalking acts were perpetrated by men. Sexual violence against men is also mainly perpetrated by men, with 70 percent of male rapes, 86 percent of physical assaults, and 65 percent of stalking acts committed by men.² Just as victims of sexual violence are at increased risk for future abuse, sexual violence perpetrators are at increased risk of perpetrating another act of sexual violence.

Consequences of Sexual Violence

The CDC lists harmful consequences of sexual violence to victims, families, and communities, in addition to any injuries sustained. Physical consequences include sexually transmitted diseases, pregnancies, and longer-term consequences such as chronic pelvic pain, premenstrual syndrome, gastrointestinal disorders, gynecological and pregnancy complications, migraines and other frequent headaches, back pain, and facial pain.

Psychological consequences include immediate problems such as shock, denial, fear, confusion, anxiety, withdrawal, guilt, nervousness, distrust of others, and symptoms of post-traumatic stress disorder, including emotional detachment, sleep disturbances, flashbacks, and mental replay of the assault. Chronic psychological consequences include depression, attempted or completed suicide, alienation, post-traumatic stress disorder, and unhealthy diet-related behaviors, such as fasting, vomiting, abusing diet pills, or overeating. Social consequences include strained relationships with the victim's family, friends, and intimate partners, less emotional support from friends and family, and less frequent contact with friends and relatives.

Health behavior consequences of rape include engaging in high-risk sexual behavior, including unprotected sex, early sexual initiation, choosing unhealthy sexual partners, having multiple sex

partners, and trading sex for food, money, or other items. Rape victims are also more likely to use or abuse harmful substances like cigarettes, drugs, and alcohol and engage in risky behaviors like driving after drinking alcohol.

In general, victims of repeated violence over time experience more serious consequences than victims of one-time incidents. The consequences of intimate partner violence include all of the consequences listed above for more general sexual violence.

Recommendations for the Community

Many people would argue that the way to deter would-be perpetrators of sexual violence is through stiffer penalties and prevention of repeat offenses through ongoing detainment.⁹⁵ However, penalties and detainment are not examples of primary prevention; they are examples of a reactive approach to a crime or “event” that has already occurred.

An important component of sexual violence prevention involves what is known as the bystander intervention approach. A bystander is anyone who witnesses a situation. Research indicates that engaging bystanders is a promising way to help prevent the widespread problem of sexual violence in communities. This approach has been successfully used to help combat racism, intimate partner violence, and drinking and driving. Programs that promote bystander involvement recognize the importance of shifting existing social norms so that there is social pressure to act or to say something.⁹⁶

Sexually violent “events” represent a continuum of behaviors that demand specific interventions at each step. At one side of the continuum are healthy, age-appropriate, respectful, and safe behaviors. At the other side are sexual abuse, rape, and other violent behaviors. In the middle of the continuum are behaviors that may range from those that start to feel inappropriate to those that are more coercive and harassing. At any point along the continuum, there are opportunities to intervene and reinforce positive behaviors BEFORE a behavior moves towards sexual violence. Additionally, education about healthy relationships, sexual harassment, and identifying inappropriate sexual behaviors should be provided.

Engaging bystanders at the community level may involve changing social norms and developing new laws and organizational policies that support healthy relationships and help prevent sexual violence. The goal is to create and sustain a culture that encourages everyone to speak up, ask questions, and intervene. By creating policies that decrease the costs of taking action and increase the incentives to be a responsible bystander.

⁹⁵ O’Neil, M., & Morgan, P. (2010). American Perceptions of Sexual Violence. A Frameworks Research Report. Frameworks Institute. Retrieved from internet on March 1, 2011 from http://www.frameworksinstitute.org/assets/files/PDF_sexualviolence/AmericanPerceptionsOfSexualViolence.pdf.

⁹⁶ Berkowitz, A. (2003). Applications of social norms theory to other health and social justice issues. In H. W. Perkins (Ed.), *The Social Norms Approach to Preventing School and College Age Substance Abuse: A Handbook for Educators, Counselors, and Clinicians* (pp. 259-279). San Francisco: Jossey-Bass.

DOMESTIC AND INTIMATE PARTNER VIOLENCE

Intimate partner violence (IPV) is vulnerable to significant underreporting. The term “intimate partner violence” generally refers to physical violence, sexual violence, threats of violence, or emotional abuse perpetrated by spouses, cohabitating partners, boyfriends, girlfriends, or dates.⁹⁷ According to a United States Department of Justice report on the National Violence Against Women Survey,

“Most intimate partner victimizations are not reported to the police. Approximately one-fifth of all rapes, one-quarter of all physical assaults, and one-half of all stalking perpetrated against female respondents by intimates were reported to the police. Even fewer rapes, physical assaults, and stalking perpetrated against male respondents by intimates were reported. The majority of victims who did not report their victimization to the police thought the police would not or could not do anything on their behalf. These findings suggest that most victims of intimate partner violence do not consider the justice system an appropriate vehicle for resolving conflicts with intimates.”⁹⁸

While data on intimate partner violence are hampered by the lack of a standardized definition of the term, different sources yield the following facts on the prevalence of intimate partner violence in the United States:

- About 4.8 million incidents of IPV–related rapes and physical assaults occur each year among U.S. women, and 2.9 million incidents occur among men.⁹
- Among United States high school youth nationwide in 2011, 9.4 percent of students reported that they had been purposely injured by their boyfriend or girlfriend in the 12 months preceding the survey.⁵
- Intimate partner violence results in more than 18.5 million mental health care visits annually.⁹⁹

Domestic and Intimate Partner Violence in Arizona

There were 48,935 police reports generated during fiscal year 2009 for violations of Arizona’s domestic violence statute (ARS §13-3601, §13-3602), according to Arizona’s Uniform Law Enforcement Domestic Violence Statistical Report for 2009.¹⁰⁰

⁹⁷ Centers for Disease Control and Prevention, “Understanding Intimate Partner Violence”. (2009) {cited 2010 Jul 13} Available from: www.cdc.gov/violenceprevention/pdf/IPV_factsheet-a.pdf.

⁹⁸ Tjaden P and Thoennes N. United States Department of Justice, Office of Justice Programs, National Institute of Justice, “Extent, Nature, and Consequences of Intimate Partner Violence: Findings From the National Violence Against Women Survey” NCJ 181867 July 2000, page v.

⁹⁹ National Coalition Against Domestic Violence. *Domestic Violence Facts* [online]. (2007) {cited 2010 Aug 18}. Available from: [www.ncadv.org/files/DomesticViolenceFactSheet\(National\).pdf](http://www.ncadv.org/files/DomesticViolenceFactSheet(National).pdf).

¹⁰⁰ As reported in the Commission to Prevent Violence Against Women 2009 Annual Report. 81 law enforcement agencies reported some or all of the data requested from the Governor’s Division for Women for the FY2009 Annual Uniform Law Enforcement Domestic Violence Statistical Report.

In 51 percent (n=10,630) of cases involving arrests at the scene, police reports were submitted to prosecutorial agencies requesting criminal complaints. Table IIIC.1 details these reports by information collected from the scene.

Police reports for violations of domestic violence statutes (ARS §13-3601 and/or §13-3602)	48,935	
An arrest was made at the scene	21,042	43.0%
<i>Male arrested only</i>	12,968	61.6%
<i>Female arrested only</i>	4,283	20.4%
<i>Both male and female arrested</i>	1,369	6.5%
Weapons were seized	11,542	23.6%
Alcohol usage reported in police report	6,476	13.2%
Usage of drugs other than alcohol reported in police report	1,162	2.4%
Minors were present at the scene	12,099	24.7%

The Arizona Coalition Against Domestic Violence maintains a list of domestic violence-related fatalities occurring in Arizona. These fatalities include homicides and suicides related to domestic violence, as well as homicides perpetrated by family members. Because the list is generated using media reports, it is an undercount of the true number of fatalities in the state. In 2011, the coalition counted 103 deaths related to domestic violence, down from 111 deaths in 2009 and 125 such deaths in 2007.^{101,102,103}

An important aspect of helping women to avoid domestic violence is the provision of information and a safe place to go to escape danger in the home. The Arizona Department of Economic Security (DES) collects data from domestic violence shelters. DES reported that in 2011, 332,967 nights of shelter were provided to adults and children in Arizona, providing services to 9,769 individuals who received shelter and counseling in Arizona in 2011.¹⁰⁴

ADHS receives federal funding from the Family Violence Prevention and Services Act (FVPSA) for increased public awareness of family and dating violence, to assist shelters in providing immediate shelter and supportive services for victims and their families and for supporting the state's domestic violence coalition. Arizona uses these funds primarily to support shelters in rural areas of the state creating Rural Safe Home Networks. The Rural Safe Home Networks in Arizona is an alliance of local businesses, agencies and individuals in our communities with the common goal of breaking the cycle of abuse. The Rural Safe Home Networks operate 24/7 crisis lines, provides domestic violence victims and their children with safe, temporary emergency shelter, peer counseling, case management and advocacy. Victims of domestic violence in many rural areas of Arizona may not have ready access to services and support due

¹⁰¹ Arizona Domestic Violence Related Deaths 2011 [online]. (2012) {cited 2012 Oct 2} Available from: <http://www.azcadv.org/docs/DV%20Fatalities%202011.pdf>.

¹⁰² Arizona Domestic Violence Related Deaths 2009 [online]. (2010) {cited 2010 Oct 2} Available from: www.azcadv.org/docs/DV%20Fatalities%202009.pdf.

¹⁰³ Arizona Domestic Violence Related Deaths 2007 [online]. (2008) {cited 2012 Oct 2} Available from: www.azcadv.org/docs/DV%20Fatalities%202007.pdf.

¹⁰⁴ Arizona Aging and Adult Services, Domestic Violence Programs [online]. (2012) {cited 2012 Oct 10} Available from: www.azdes.gov/common.aspx?menu=36&menuc=28&id=2324.

to isolation and distance between available resources and safe homes or shelters. The Rural Safe Home Network Program attempts to close gaps in services in Arizona's rural communities. The Arizona Coalition Against Domestic Violence (AzCADV) provides domestic violence awareness trainings throughout Arizona to domestic violence services providers, law enforcement, legal systems, medical communities, social service providers, others and as requested.

Break the Cycle, a national non-profit organization providing education and advocacy to prevent domestic and dating violence among teens, used a system from the University of Minnesota to grade states upon 11 indicators recommended as ideal policy by Break the Cycle. These indicators measure legal protections for teen victims of intimate partner violence. In 2010, Arizona was awarded a letter grade of "B" for providing teens with many of the same protections afforded to adults.¹⁰⁵ Arizona was rewarded for offering modifiable orders of protections for and against minors, including those in dating relationships, and allowing minors to consent to contraceptive services, adoption, and testing and treatment for sexually transmitted infections. Recommendations for policy changes included the need to explicitly allow minors to petition for orders of protection on their own behalf, and to allow individuals over 12 years of age to petition for orders of protection if they have been sexually abused. Arizona was among 22 states with an "A" or "B" grade in 2010.

CHILD ABUSE AND MALTREATMENT

The United States Department of Health and Human Services reported that in 2002, 906,000 children in the United States were maltreated. In 61 percent of confirmed cases children experienced neglect, 19 percent were physically abused, 10 percent were sexually abused, and 5 percent were psychologically abused. Among the 1,500 children who died from maltreatment, 28 percent were from physical abuse, 36 percent from neglect, and 29 percent were from multiple maltreatment types.¹⁰⁶

The numbers cited above reflect only confirmed cases of maltreatment. The real number of children experiencing abuse and neglect is likely to be much higher. Some forms of child abuse, like abusive head trauma, are difficult to detect but have devastating consequences.

The term "shaken-baby syndrome" (SBS) is used to describe a collection of signs and symptoms resulting from the violent shaking of an infant or small child. It is a form of child abuse. Although data relating to SBS is incomplete, one 2003 study estimated that approximately 1,300 American children experience severe or fatal head trauma each year. It is likely that these are underestimates of deaths and injuries due to SBS because victims rarely have any external evidence of trauma and are therefore not coded as cases in the data.¹⁰⁷

Children younger than four years old, and especially infants, are at the greatest risk of severe injury or death due to child maltreatment. Children younger than four accounted for 80 percent of child maltreatment fatalities in the United States during 2008, with infants under one year old

¹⁰⁵ 2010 State Law Report Cards: A National Survey of Teen Dating Violence Laws [online]. (2010) {cited 2010 Aug 18} Available from: www.breakthecycle.org/system/files/pdf/2010-Dating-Violence-State-Law-Report-Card-Full-Report.pdf.

¹⁰⁶ Department of Health and Human Services, Administration on Children, Youth, and Families. Child maltreatment 2003 (online). Washington DC: Government Printing Office; 2005. Available at: www.acf.hhs.gov/programs/cb/publications/cm03/cm2003.pdf. Accessed 11/25/05.

¹⁰⁷ National Center for Shaken Baby Syndrome [online]. Available at: www.dontshake.org. Accessed 11/25/05.

accounting for 45 percent of deaths.⁴ The CDC Child Maltreatment Fact Sheet¹⁰⁸ lists the following consequences of child maltreatment:

- Children who experience maltreatment are at increased risk for adverse health effects and behaviors as adults—including smoking, alcoholism, drug abuse, eating disorders, severe obesity, depression, suicide, sexual promiscuity, and certain chronic diseases.
- Maltreatment during infancy or early childhood can cause important regions of the brain to form improperly, leading to physical, mental, and emotional problems such as sleep disturbances, panic disorder, and attention-deficit/hyperactivity disorder.
- About 25 to 30 percent of infant victims with SBS die from their injuries. Non-fatal consequences of SBS include varying degrees of visual impairment (e.g. blindness), motor impairment (e.g. cerebral palsy), and cognitive impairments.
- Victims of child maltreatment who were physically assaulted by caregivers are twice as likely to be physically assaulted as adults.
- As many as one-third of parents who experienced maltreatment in childhood may victimize their own children.
- Direct costs (judicial, law enforcement and health system responses to child maltreatment) are estimated at \$24 billion each year. Indirect costs (long-term economic consequences of child maltreatment) exceed an estimated \$69 billion annually.

Certain factors have been found to be associated with either increased or decreased levels of child maltreatment. A CDC listing of these risk and protective factors at the individual, family, and community level follows:

<i>Examples of Risk Factors for Child Maltreatment</i>		
Individual Factors	Family Factors	Community Factors
<ul style="list-style-type: none"> • Parents' lack of understanding of children's needs, child development, and parenting skills • Parents' history of child abuse in family of origin • Substance abuse in family • Young, single non-biological parents • Parental thoughts and emotions supporting maltreatment behaviors • Parental stress and distress, including depression or other mental health conditions 	<ul style="list-style-type: none"> • Social isolation of families • Poverty and other socioeconomic disadvantage, such as unemployment or lack of education • Family disorganization, dissolution, and violence, including intimate partner violence • Poor parent-child relationships and negative interactions 	<ul style="list-style-type: none"> • Community violence
<i>Examples of Protective Factors for Child Maltreatment</i>		
Individual Factors	Family Factors	Community Factors

¹⁰⁸ Centers for Disease Control and Prevention, National Center for Injury Prevention and Control, "Child Maltreatment: Fact Sheet". www.cdc.gov/ncipc/factsheets/cmfacts.htm. {accessed on 11/19/05}.

	<ul style="list-style-type: none"> • Supportive family environment • Nurturing parenting skills • Stable family relationships • Household rules and child monitoring • Parental employment • Adequate housing • Access to health care and social services • Caring adults outside the family who can serve as role models or mentors 	<ul style="list-style-type: none"> • Communities that support parents and take responsibility for preventing abuse
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Source: Centers for Disease Control and Prevention, National Center for Injury Prevention and Control. Child Maltreatment Prevention Scientific Information: Risk and Protective Factors [online]. {cited 2010 Aug 18}. Available from: www.cdc.gov/ncipc/dvp/cmp/cmp-risk-p-factors.htm.

Child Abuse and Maltreatment in Arizona

Arizona Child Protective Services (CPS) produces semi-annual reports based on two time periods, from October through March and April through September.¹⁰⁹ From April, 2011 through September, 2011 CPS received 19,666 calls reporting neglect (67 percent), physical abuse (29 percent), sexual abuse (four percent), and emotional abuse (nearly one percent) that met the statutory criteria for investigation. Among them, 1,465 were substantiated (6 percent).

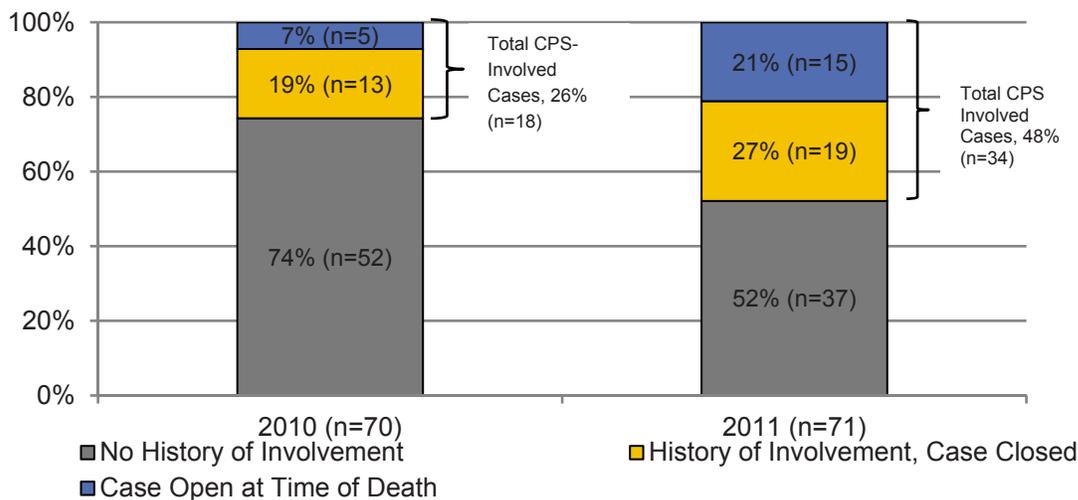
Arizona’s Child Fatality Review Program reviews deaths occurring in Arizona among children 17 years and younger. Beginning in 2002, local review teams were asked if individual cases were the result of maltreatment, including abuse or neglect. In 2011, there were 71 deaths that were due to maltreatment, compared to 70 deaths in 2010, 64 deaths in 2009, 51 deaths in 2008, and 65 deaths in 2007. Children under the age of five years are at the greatest risk of dying as the result of maltreatment. Among the 71 deaths determined by child fatality teams to be due to maltreatment in 2011, 38 percent were among children younger than one year of age (n=27).

The number of child maltreatment deaths reported by the Child Fatality Review Program is not comparable to child maltreatment deaths reported by the Arizona Department of Economic Security for the National Child Abuse and Neglect Data System (NCANDS). The Department of Economic Security only reports on child fatalities that have been investigated by Child Protective Services and a substantiated finding has been entered that the death was the result of abuse or neglect. Child Fatality Review defines maltreatment more broadly than child protective services agencies, so not all fatalities determined to be maltreatment-related by CFR teams meet the criteria for investigation by a CPS agency.

Figure IIIC.2 represents the number of maltreatment deaths identified by child fatality review teams, stratified by their status with a child protective services agency as of October 2012.

¹⁰⁹ Arizona Department of Economic Security, Division of Child, Youth, and Families, Child Protective Services. Child Welfare Reporting Requirements Semi-Annual Report for the Period of April 1, 2011 Through September 30, 2011 [online]. {cited 2012 Oct 10} Available from: https://www.azdes.gov/InternetFiles/Reports/pdf/semi_annual_child_welfare_report_apr_2011_sep_2011.pdf

Figure IIIC.2. Child Maltreatment Deaths by Status with Child Protective Services, Arizona Child Fatality Review, 2010-11



Existing Surveillance Systems

There is very little complete data available in the area of interpersonal violence due to underreporting and inaccurate and incomplete documentation. While data may be collected from multiple sources, lack of standardization regarding case definitions precludes comparative analysis between data sources.

The Governor’s Office for Children, Youth, and Families collects data on law enforcement’s response to domestic violence through the Uniform Law Enforcement Domestic Violence Statistical Report. While voluntary, 81 agencies provided some or all of the data requested for fiscal year 2009.¹⁰

Data regarding rapes is compiled by the U.S. Department of Justice Federal Bureau of Investigation’s Uniform Crime Report (UCR). The U.S. Department of Justice is replacing the UCR system with a more comprehensive National Incident-Based Reporting System (NIBRS). The NIBRS will collect a wide range of information on victims, offenders, and circumstances for a greater variety of offenses.

In 2005, the Arizona Department of Health Services included survey questions about intimate partner violence and sexual violence as part of the annual Behavior Risk Factor Surveillance Survey. These data were collected as part of the 2005 and 2007 surveys.

The Department of Economic Security collects reports of child abuse and adult abuse.

The Arizona Child Fatality Review Team provides additional data on deaths of children in Arizona from birth through 17 years of age.

A future potential source of information may be from domestic fatality review process. Legislation was passed in 2005 allowing local jurisdictions to conduct fatality reviews on domestic violence-related deaths. To date, seven domestic violence fatality review teams are in place in five counties and two local jurisdictions.

Summary/Highlights of Data

- There is little complete data available in the area of interpersonal violence due to underreporting and inaccurate or incomplete documentation.
- The 2011 Youth Risk Behavior Survey identified that females (12.8 percent) were more likely than males (7.1 percent) to report being forced to have sexual intercourse against their will; however, forced sexual intercourse is not just a “female problem.”
- According to the list of media-reported domestic violence fatalities maintained by the Arizona Coalition Against Domestic Violence, there were 103 deaths related to domestic violence in 2011.

Current Interventions

Many organizations throughout Arizona provide various interventions in the prevention of relationship violence, and this chapter cannot describe them all. The following activities provide a snapshot of what is occurring in Arizona in the primary prevention of relationship violence.

The Governor’s Commission to Prevent Violence Against Women is working to implement recommendations from the State Plan on Domestic and Sexual Violence. The State Agency Coordination Team (SACT) is a group of nine state agencies collaborating to address domestic and sexual violence. Several state agencies, including the Department of Public Safety, the Department of Economic Security, the Department of Health Services, the Governor’s Division for Women, and the Arizona Criminal Justice Commission, provide funding to community organizations for a variety of services that meet the needs of victims throughout Arizona. In 2010, the SACT held community forums throughout the state to identify gaps in services for survivors of domestic and sexual violence.

The Arizona Coalition against Domestic Violence provides statewide systems advocacy, training, a legal advocacy hotline, public awareness activities, and resources.

Northern Arizona University is home to the National Domestic Violence Fatality Review Initiative, a clearinghouse and resource center for domestic violence fatality review teams funded by the U.S. Department of Justice, Office on Violence Against Women.

Arizona State University’s Center for Violence Prevention and Community Safety is working to establish the National Violent Death Reporting System (NVDRS) in Arizona. NVDRS would allow for comprehensive exploration of the circumstances and outcomes of violent deaths, including those resulting from relationship violence. As of May, 2010, data sharing agreements were established with 32 local police departments, nine county medical examiners’ offices, two county sheriff’s departments, and the Arizona Department of Health Services Office of Vital Records and Injury Prevention Program.

Arizona Sexual Assault Network facilitates a collaborative statewide network for disciplines and communities who are working to identify and address sexual violence issues in Arizona.

The Men’s Anti-Violence Network, an initiative of the Arizona Foundation for Women, focuses on influencing public policy, increasing public awareness, and supporting prevention programs for children. Members lobby at the state legislature, speak before community groups, work with the media, develop public awareness campaigns, and work with the schools on prevention programs.

Prevent Child Abuse Arizona (PCAAZ) provides training, advocacy, program development, and public awareness to both public and private agencies, policy makers, and funders. PCAAZ coordinates an annual Statewide Child Abuse Prevention Conference featuring national experts, model programs, and state-of-the-art solutions to prevent child maltreatment. Never Shake A Baby Arizona is a project of PCAAZ funded by the Arizona Child Abuse Prevention Vehicle License Plate Program, a partnership between the Arizona Republic and the Governor's Office for Children, Youth, and Families. The project is designed to reduce the incidence of shaken baby syndrome by educating parents of newborn infants.

The Arizona Department of Health Services (ADHS) administers the federal Sexual Violence Prevention and Education Program grant and the Family Violence Prevention and Services grant, which provide funding to non-profit community-based organizations across Arizona to implement primary prevention activities. In 2009 ADHS was awarded a Sexual Assault Services Program (SASP) grant from the US Department of Justice, Office on Violence Against Women. The SASP grant allows the provision of direct services to survivors of sexual assault in Arizona, with a special focus on rural communities. In 2010, SVPEP completed the Arizona Sexual Violence Primary Prevention and Education 8-Year Program Plan, which included the creation of the Arizona Safer Bars Alliance (ASBA). The goal of the ASBA is to educate and empower servers and patrons to intervene and ultimately reduce sexual aggression in their establishments.

The Area Agency on Aging, Region One, Inc., leads the Maricopa Elder Abuse Prevention Alliance, now composed of over 100 professionals in the health care, legal, law enforcement, and social service fields. The focus of the alliance is prevention and public awareness of elder abuse and related issues such as late-life domestic violence, emergency housing for victims, financial exploitation, and guardianship.

The Area Agency's Ombudsman Program is a resource for long-term care facility residents and their families. Ombudsmen advocate for the best interest of the residents by assisting in the resolution of complaints about the quality of the facility, financing, eligibility, availability, and access to care.

Accomplishments

Between 2005 and 2011, several pieces of state legislation germane to relationship violence were successfully passed:

- Katy's Law: in effect September 30, 2009, allows non-married people the same rights as married couples in obtaining orders of protection.
- Katie's Law: a national effort passed in 2009 requiring collection of DNA upon arrest of an individual (ARS 13-610).
- Domestic violence fatality review legislation was passed in 2005, allowing jurisdictions to conduct reviews of fatalities related to domestic violence. As of December 2009, there were 6 Domestic Violence Fatality Review Teams throughout the state, providing coverage for four counties (Coconino, Mohave, Pinal, and Yuma) and two cities/towns (Phoenix, Sahuarita).
- 2010 legislation adds the following offenses to the definition of domestic violence: first and second degree murder, negligent homicide, manslaughter, sexual assault, animal cruelty, preventing or interfering with the use of a telephone in an emergency (SB1266).
- Signed by the Governor May 7, 2010, the court may grant the petitioner of an order of protection the exclusive care, custody, or control of any animal owned or held by the

household, and forbids the respondent of the order of protection from taking or harming the animal (SB1266).

- Signed by the Governor May 7, 2010, it is a class two misdemeanor for minors to possess or send sexually explicit text messages to or from another minor (SB1266).
- Effective September 17, 2007, legislation was passed making Arizona one of the few states in the country that protects victims of domestic violence by allowing for victims to change locks or terminate rental leases to escape from a perpetrator. Additionally, landlords are prohibited from evicting a tenant because of an assault resulting in a call for emergency assistance (SB1227; ARS 33-1318).

Contractors of the ADHS-Sexual Violence Primary Prevention and Education Program (SVPEP) provided education on primary prevention of sexual violence to 25,719 individuals in 2009.

In 2008, the ADHS-SVPEP organized a one-day workshop on sexual violence prevention and education to Luke Air Force Base, in conjunction with the 2008 U.S. Department of Defense theme “Prevent Sexual Assault: Ask, Act, and Intervene.” In addition to providing education to 657 attendees, the workshop was formally evaluated under a quasi-experimental single-group pre-posttest design.¹¹⁰

The ADHS-SVPEP partnered with EMPACT-SPC (Sexual and Domestic Violence Prevention & Outreach Services) and ASBA to conduct an evaluation on bystander intervention.

After a successful pilot project, Prevent Child Abuse Arizona implemented hospital-based education on shaken baby syndrome through the Never Shake a Baby Arizona program. As of summer, 2010, 25 birthing hospitals provided this program to new parents, and eight additional hospitals have received the initial program training.¹¹¹

While Arizona had 4 child advocacy centers in 1998, the Arizona Child and Family Advocacy Network (ACFAN) has 16 member centers and 2 associate member centers across Arizona in 2010.¹¹² In 2009, ACFAN provided services to 10,456 clients for sexual abuse or assault, domestic violence, neglect, or clients witnessing violence.

The Arizona Attorney General’s office continues to support the national Cut It Out Initiative in Arizona to educate the cosmetology industry about domestic violence and how to provide information about domestic violence resources to salon clients.

In 2010, Arizona received ACA federal funding for Maternal, Infant, and Early Childhood home visits. As a result of this funding, Arizona’s early childhood community has established a statewide alliance of home visitors. StrongFamiliesAz has increased the availability of home visits to at-risk families while also providing professional development opportunities to home visitors on child development, parenting skills, and domestic violence screening to better prepare them to work with families.

During Arizona Perinatal Trust site visits, maternity departments are asked about education provided to families about shaken baby syndrome, and screenings for domestic violence and postpartum depression.

¹¹⁰ Arizona Department of Health Services, Bureau of Women’s and Children’s Health, Office of Assessment and Evaluation. *Sexual Violence Prevention Workshop at Luke Air Force Base, Federal Fiscal Year 2008*. 2009.

¹¹¹ Prevent Child Abuse Arizona Newsletter, Summer 2010 [online]. {cited 2010 Jul 14} Available from: www.pcaaz.org/index.php?option=com_docman&task=doc_download&gid=20.

¹¹² Arizona Child & Family Advocacy Network [online]. {cited 2010 Aug 18}. Available from: www.acfan.net.

Strategic Plan for 2012-2016

Injury Topic: Relationship Violence

Objective #1: Reduce sexual violence as outlined in Arizona's Sexual Violence Primary Prevention and Education Eight Year Program Plan.

Arizona's SEXUAL VIOLENCE PRIMARY PREVENTION AND EDUCATION EIGHT YEAR PROGRAM PLAN has three goals:

- Increase respect for self and others through sexual violence prevention education for Arizona children, youth, and young adults;
- Increase Arizonans' engagement in sexual violence prevention;
- Increase Arizona's resources to support sexual violence prevention and education.

http://www.azdhs.gov/phs/owch/pdf/SVPP_PUBLIC_PLAN_2010.pdf

Objective #2: Reduce violence by current or former intimate partners

Strategic Intervention	Action Steps	Key Partners
1) Help individuals, families, and communities assess and build upon their strengths to understand and deal with risks for domestic violence.	<ul style="list-style-type: none"> • Update the state DV plan 	ADHS ACADV

Objective #3: Reduce fatal and non-fatal child maltreatment (HP2020 IVP # 37 Reduce child maltreatment deaths 2.2 deaths per 100,000 children. HP2020 IVP #38 Reduce nonfatal child maltreatment to 8.5 maltreatment victims per 1000 children age 17 and under)

Strategic Intervention	Action Steps	Key Partners
1) Expand evidence-based home visiting programs that work with families to address factors leading to abuse	<ul style="list-style-type: none"> • Continue to expand implementation of home visiting through Strong Families AZ • Seek additional state funding for programs like Health Start, Healthy Families, and Family Builders • Provide enhanced training to program staff on prevention of violence 	StrongFamiliesAz ADHS DES FTF
2) Expand services to children who witness domestic violence	<ul style="list-style-type: none"> • Seek funding to add new community-based programs • Provide education and technical assistance on children's issues to domestic violence providers 	ACFAN ACADV

<p>3) Promote education of new parents about shaken baby syndrome</p>	<ul style="list-style-type: none"> • Work with hospitals to provide information to new parents • Disseminate information through various programs serving families 	<p>PCAA's Never Shake a Baby Task Force Arizona Perinatal Trust Early Childhood Taskforce (ADES) FTF StrongFamiliesAz</p>
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Reduce Injuries from Violence in Arizona 2012-2016

Process  Outcomes 

Resources	Activities	Outputs	Outcomes	Goals
<i>In order to accomplish the activities we will need the following</i>	<i>In order to address our problem we will accomplish the following activities</i>	<i>We expect that once accomplished these activities will produce the following evidence or service delivery</i>	<i>We expect that if we accomplish these activities it will lead to the following changes in 1-3 then 4-6 years</i>	<i>We expect that if accomplished, these activities will lead to the following changes in 7-10 years</i>
<ul style="list-style-type: none"> ⇒ Funding ⇒ Local Partners & Organizations ⇒ Injury Prevention Advisory Council ⇒ Evidence based practice or promising and proven interventions ⇒ Print/web materials 	<ul style="list-style-type: none"> ⇒ Convene a stakeholder meeting to update the state DV plan ⇒ Engage statewide partners ⇒ Enhance public and professional education on early identification of risk factors and intervention 	<ul style="list-style-type: none"> Research & identification of best practices to prevent family violence Health, mental health, schools, organizations & communities implementing best practice Early childhood home visiting 	<ul style="list-style-type: none"> ↑ Identification & dissemination of best practices ↑ Community capacity to implement prevention programs based on best practices ↑ Assessment & referral training for health & mental health clinicians 	<ul style="list-style-type: none"> ↓ Rate of physical assaults ↓ Rate of rape or attempted rape ↓ Incidence of child abuse

CHAPTER 4: INJURIES AMONG AMERICAN INDIAN RESIDENTS OF ARIZONA

Introduction

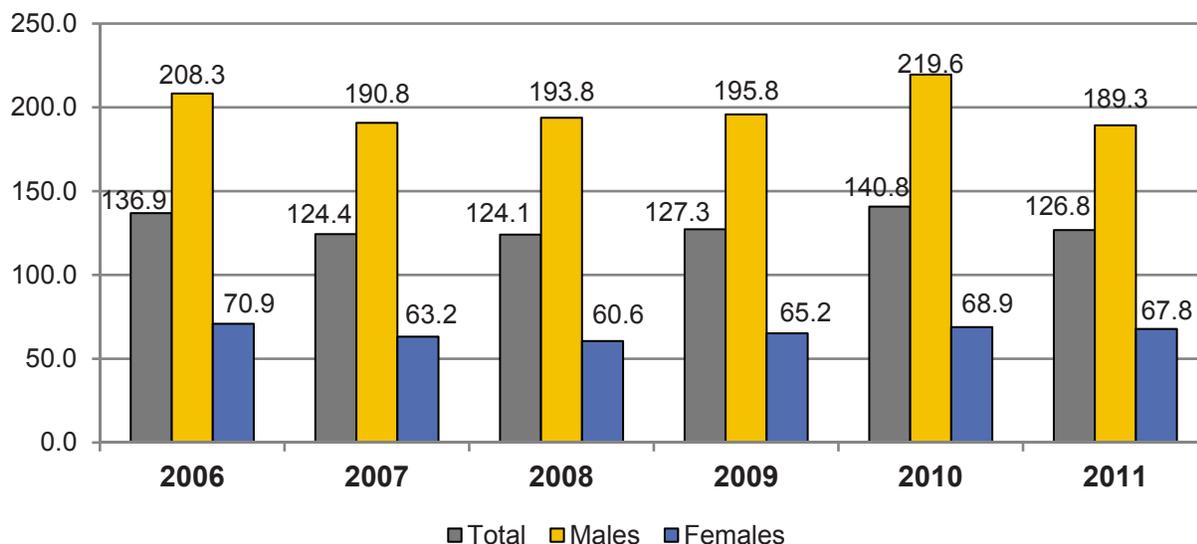
Arizona is home to all or part of 22 federally-recognized American Indian tribes, and American Indians account for nearly 6 percent of Arizona's population. Each tribe is a sovereign nation with its own laws and government, but these tribes often face the same challenges as other rural Arizona communities. Nationally, American Indians account for a disproportionate number of injuries, especially injury-related deaths, but the small population of many tribes makes it difficult to identify injury trends. This section focuses on injury-related inpatient hospitalizations and deaths among Arizona's American Indian residents from 2006 through 2011.

There were 405 injury-related deaths among American Indian residents of Arizona in 2011. There were also 2,522 inpatient hospitalizations (including 43 deaths) and 16,719 emergency department visits (including 11 deaths) among American Indian Arizonans in 2011. However, due to known underrepresentation of American Indians in the Arizona Hospital Discharge Database for less severe injuries, data on emergency department discharges was not assessed for this section.

Death Trends for Injuries among American Indians Residents of Arizona

As seen in Figure IV.1 there was a 7 percent decrease in the age-adjusted rate of deaths due to injuries among American Indian residents of Arizona, from 136.9 deaths per 100,000 residents in 2006 to 126.8 deaths per 100,000 residents in 2011. Males had injury-related mortality rates at least two times higher than rates among females in each year.

Figure IV.1. Age-Adjusted Injury Mortality Rates per 100,000 Residents by Sex and Year, American Indians, Arizona, 2006-2011



From 2006 through 2011, American Indians had higher age-adjusted mortality rates than the remainder of Arizonans for deaths due to unintentional injuries and assaults. Though rates for each of these manners of deaths fell among all Arizonans from 2006 through 2011, the rates decreased more quickly among non-American Indian residents of Arizona. Table IV.1 compares age-adjusted mortality rates among American Indians and the remainder of Arizonans by manner of death from 2006 through 2011.

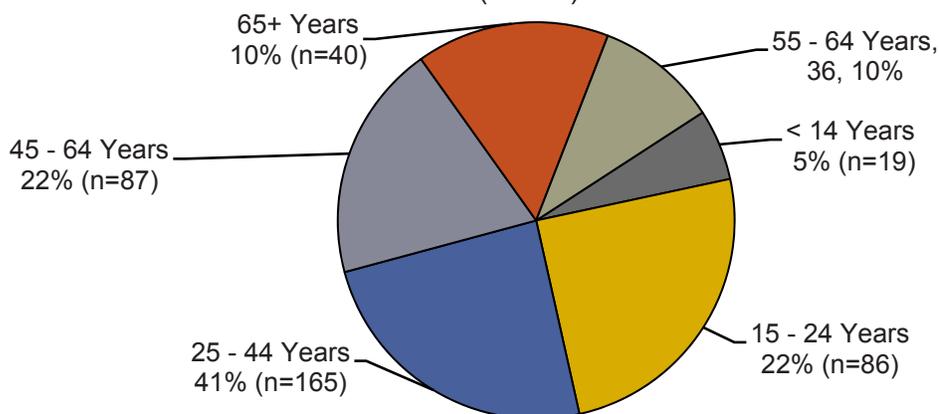
Table IV.1 Age-Adjusted Injury-Related Mortality Rates per 100,000 Residents by Manner of Death, American Indians and Remainder of Arizonans, Arizona, 2006-2011

Year	Unintentional Injuries		Suicide		Homicide	
	American Indians	Remainder of Arizonans	American Indians	Remainder of Arizonans	American Indians	Remainder of Arizonans
2006	101.8	50.5	14.2	15.5	14.2	8.2
2007	97.8	44.4	9.8	15.6	13.5	7.5
2008	94.6	42.8	13.5	14.7	13.0	6.8
2009	92.3	40.5	15.9	15.9	13.2	5.1
2010	99.2	41.4	18.7	16.4	18.0	5.9
2011	95.9	42.2	14.1	17.0	13.1	5.6

Injury-Related Deaths among American Indian Residents of Arizona

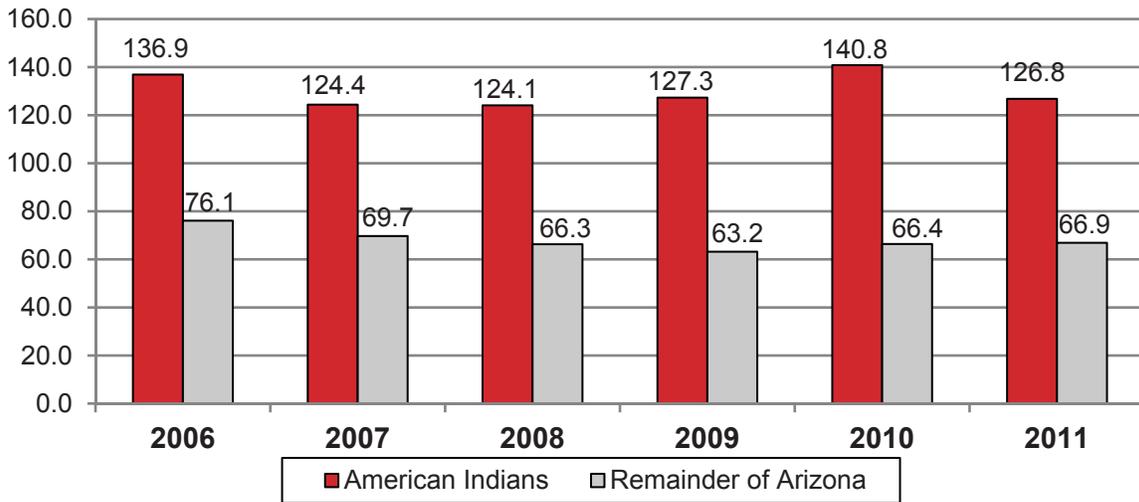
Due to the small number of deaths among each sex within each age group, reliable rates could not be calculated for injury-related deaths among American Indian residents of Arizona by age groups and sex in 2011. However, among the 405 injury-related deaths among American Indian residents of in 2011, 74 percent were among males (n=298), and 26 percent were among females (n=107). The greatest number of injury-related deaths were among adults 25 through 44 years of age (39 percent, n=158). Figure IV.2 shows the age distribution of American Indian residents of Arizona who died from injuries during 2011.

Figure IV.2. Injury-Related Deaths Among American Indians by Age Group, Arizona 2011 (n=405)



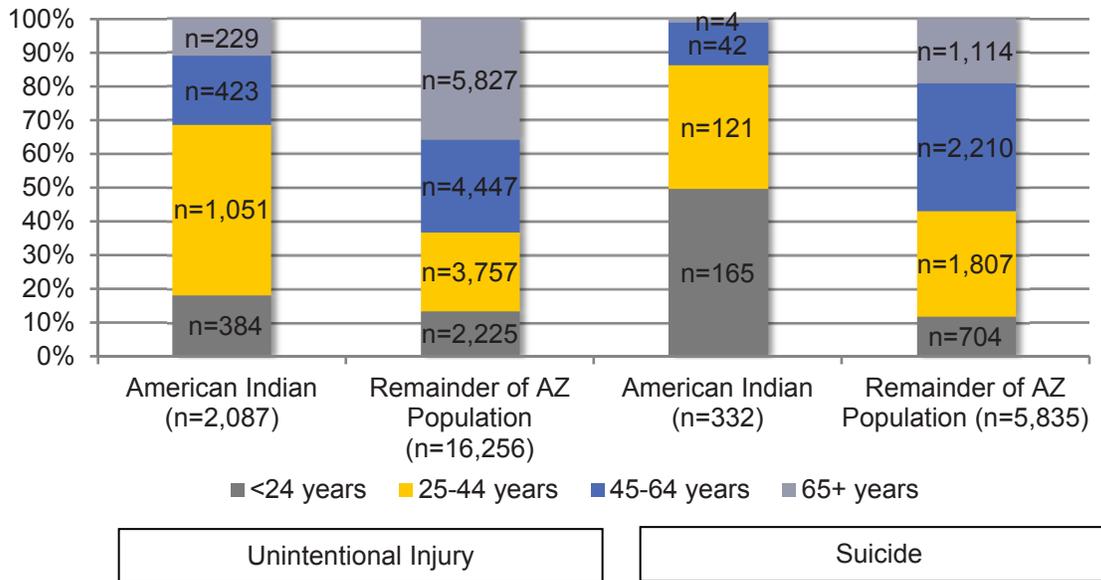
Despite representing a minority of the population, American Indians have a much higher rate of injury-related fatality than the remainder of Arizonans. Figure IV.3 shows the age-adjusted injury mortality rate among American Indian and other Arizona residents from 2006 through 2011.

Figure IV.3. Age-Adjusted Injury Mortality Rates per 100,000 Residents, American Indian and Remainder of Arizonans, Arizona, 2006-2011



Though American Indians had a smaller number of injury-related deaths from 2006 through 2011 compared to the remainder of Arizonans, there were clear differences in the distribution of manners of death by age group. 50 percent of unintentional injury deaths among American Indians were in adults aged 25 through 44 (n=1,051), compared to 23 percent among the remainder of the Arizona population (n=3,757). Additionally, 50 percent of suicides among American Indians were among young adults and teenagers under 25 years of age (n=165), compared to 12 percent of suicides among the remainder of Arizonans (n=704). There were no discernable differences in the age distributions among homicide deaths. Figure IV.4 shows the age distribution of American Indians and the remainder of Arizona residents by manner of injury from 2006 through 2011.

Figure IV.4. Injury-Related Mortality by Age Group and Manner, American Indian and Remainder of Arizonans, Arizona, 2006-2011



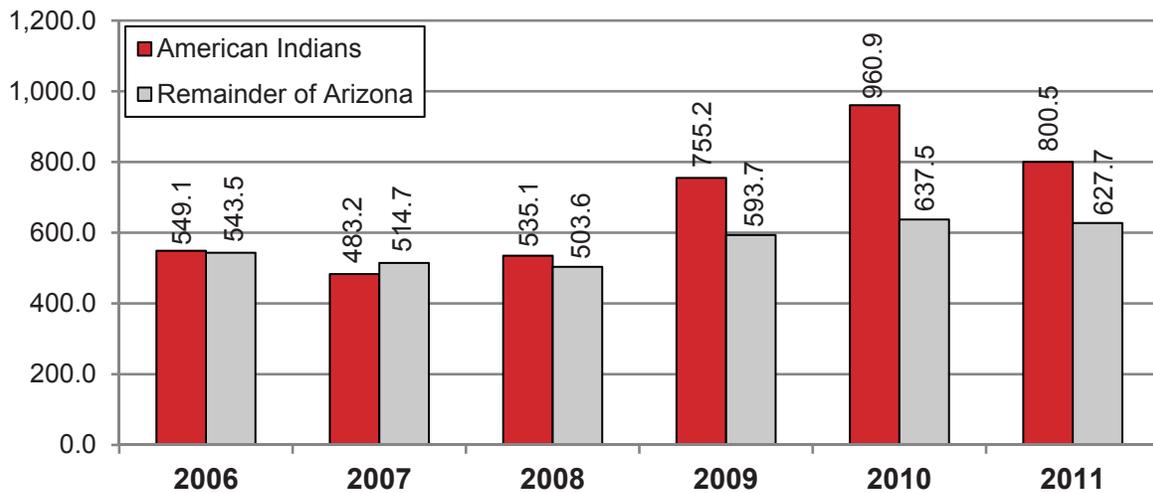
Though motor vehicle crashes on public roads accounted for the largest number and percentage of fatal unintentional injuries among all Arizona residents from 2006 through 2011, this cause of death accounted for a larger percentage of fatalities among American Indians than among the remainder of Arizonans (49 percent, n=816 among American Indians; 26 percent, n=4,293 among the remainder of Arizonans). On the other hand, unintentional poisonings resulted in the second highest percentage of injury-related deaths among Arizona residents, but when separated for American Indians and the remainder of Arizonans, American Indians have a considerably lower percentage of these injuries (18 percent, n=295 among American Indians; 28 percent, n=4,514 among the remainder of Arizonans). Table IV.2 compares the distribution of unintentional injury-related deaths among American Indians and the remainder of Arizonans from 2006 through 2011.

Table IV.2 Unintentional Injury-Related Deaths by Mechanism of Injury Among American Indians and the Remainder of Arizonans, Arizona, 2006-2011				
	American Indians (n=1,657)		Remainder of Arizonans (n=16,269)	
Mechanism of Injury	Number	Percent	Number	Percent
Motor vehicle traffic	816	49%	4,293	26%
Poisoning	295	18%	4,514	28%
Fall	154	9%	4,279	26%
Nature or environment	97	6%	376	2%
Other/unknown mechanisms	76	5%	1,039	6%
Suffocation	58	4%	631	4%
Other pedestrian	56	3%	116	7%
Drowning	49	3%	473	3%
Other land transport	39	2%	305	2%
Fire/hot objects	17	1%	202	1%
Total	1,657	100%	16,269	100%

Inpatient Hospitalizations Injuries among American Indian Residents of Arizona

American Indians were identified in 5 percent of all injury-related inpatient hospital discharges from 2006 through 2011. Inpatient hospitalization rates among American Indians compared to the remainder of Arizonans did not show the same discrepancies as mortality rates until 2009. However, when inpatient hospitalizations among American Indians are compared to the remainder of Arizona residents by age group, manner of injury, and mechanism of injury, the disparities are much more apparent. Figure IV.5 shows the age-adjusted rate of injury-related hospitalizations among American Indian and other Arizona residents from 2006 through 2011.

Figure IV.4. Age-Adjusted Inpatient Hospitalization Rates per 100,000 Residents, American Indian and Remainder of Arizonans, Arizona, 2006-2011



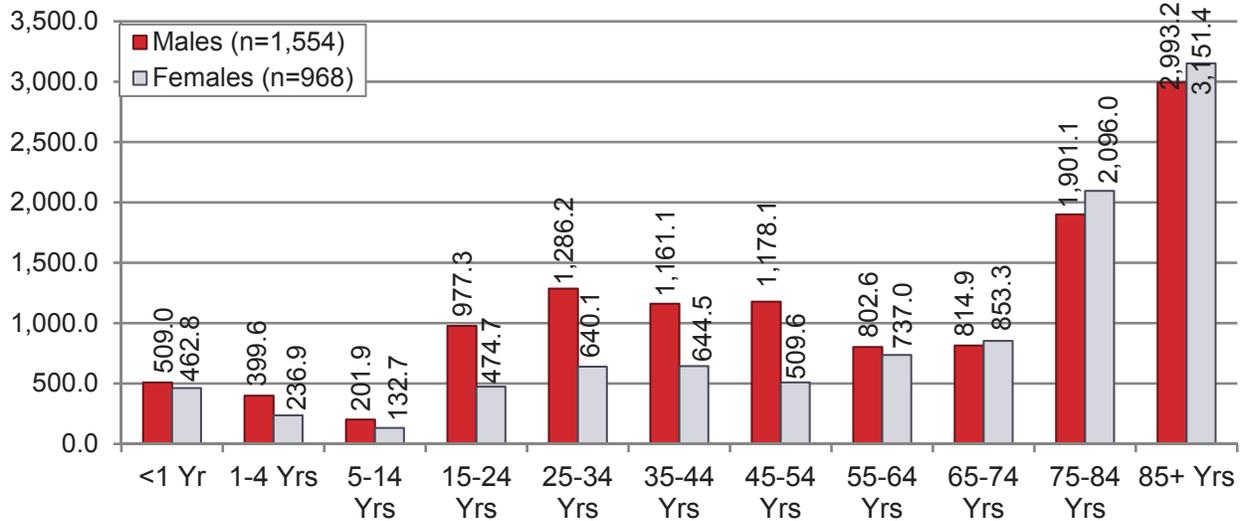
Among the 12,243 inpatient hospitalizations for injuries among American Indian Arizona residents from 2006 through 2011, 63 percent were among males (n=7,670), 37 percent were among females (n=4,572). Age-adjusted injury-related hospitalization rates among males were higher than rates among females in each year from 2006 through 2011. Injury-related hospitalizations included 191 cases (2 percent) in which American Indian patients died prior to discharge. American Indians had a larger percentage of injury-related inpatient hospitalizations among teens and adults ages 25 through 44 years compared to Arizona residents of other race/ethnicities (36 percent and 21 percent of hospitalizations, respectively). Table IV.3 shows the age distribution of American Indians and the remainder of Arizona residents hospitalized for injuries from 2006 through 2011.

Table IV.3 Injury-Related Inpatient Hospitalizations by Age Group Among American Indians and the Remainder of Arizonans, Arizona, 2006-2011

Age Group	American Indians (n=12,243)		Remainder of Arizonans (n=213,448)	
	Number	Percent	Number	Percent
0-14 Years	1,246	10%	16,508	8%
15-24 Years	2,622	21%	25,182	12%
25-44 Years	4,410	36%	45,107	21%
45-64 Years	2,569	21%	49,257	23%
65+ Years	1,396	11%	77,374	36%
Unknown Age	0	0%	20	<1%
Total	12,243	100%	213,448	100%

When looking at hospitalization rates for the most recent year of data, older American Indian males had the highest hospitalization rates for injuries in 2011. Figure IV.5 illustrates the 2011 hospitalization rates for injuries among American Indian Arizona residents by age group and sex.

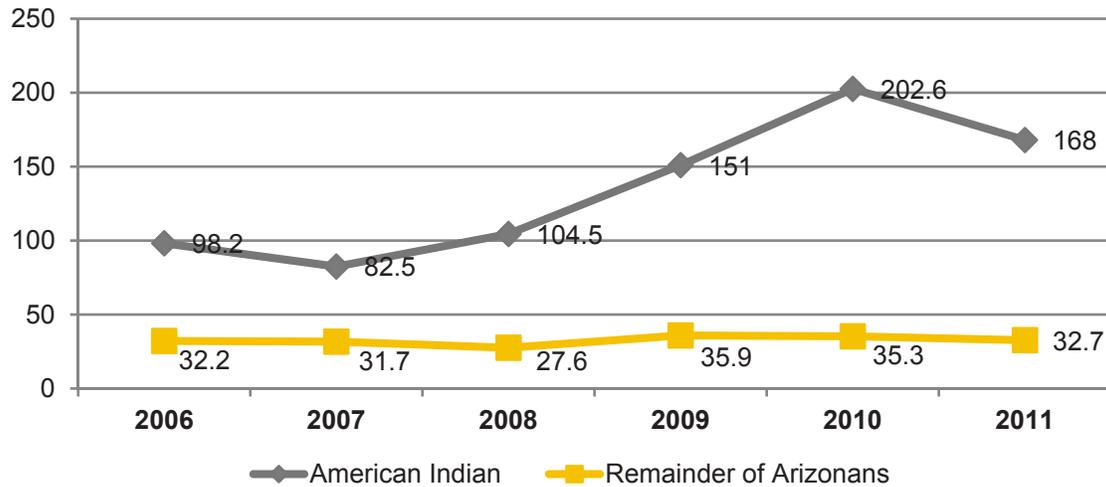
Figure IV.5. American Indian Injury-Related Hospitalizations Rates per 100,000 Residents by Age Group and Sex, Arizona 2011 (n=2,522)



In 2011, the median hospital stay for an injury among Arizona’s American Indian residents was 3 days, with American Indian Arizona residents spending a total of 10,076 days hospitalized. The median hospital charge for an injury-related hospitalization among American Indians was \$32,535. All hospital charges for injury-related hospitalizations in 2011 totaled over \$137.9 million, not including costs incurred for emergency medical services, outpatient therapies, or rehabilitation.

When age-adjusted injury-related hospitalization rates among American Indians and the remainder of Arizonans are examined by manner of injury, rates for the two groups are only dramatically different from 2006 through 2011 for assault-related injuries. From 2006 through 2011, annual rates of inpatient hospitalizations for assault-related injuries were approximately three times higher among American Indians than the remainder of Arizonans. Figure IV.6 compares the age-adjusted assault-related hospitalization rates between American Indians and the remainder of Arizonans from 2006 through 2011.

Figure IV.6. Age-Adjusted Assault-Related Inpatient Hospitalization Rates per 100,000 Residents among American Indians and the Remainder of Arizonans, 2006-2011



Though falls accounted for the largest number and percentage of unintentional injuries among all Arizona residents in 2011, only 37 percent of inpatient hospitalizations among American Indians were attributed to falls (n=604), compared to 53% of hospitalizations among the remainder of Arizona residents (n=17,220). Injuries from motor vehicle crashes resulted in the second highest percentage of inpatient hospitalizations among Arizona residents; American Indians have a considerably higher number of these injuries as a percentage of inpatient hospitalizations for unintentional injuries (26 percent, n=432) compared to the remainder of Arizonans (15 percent, n=4,839). Table IV.4 compares the distribution of inpatient hospitalizations for unintentional injuries among American Indians and the remainder of Arizonans in 2011.

Mechanism of Injury	American Indians (n=1,637)		Remainder of Arizonans (n=32,731)	
	Number	Percent	Number	Percent
Fall	604	37%	17,220	53%
Motor vehicle traffic	432	26%	4,839	15%
Poisoning	143	9%	3,170	10%
Transport	91	6%	1,160	4%
Other specified mechanisms	83	5%	2,275	7%
Fire/hot objects	70	4%	609	2%
Nature or environment	60	4%	1,041	3%
Struck by or against	53	3%	938	3%
Cut/pierce	44	3%	529	2%
Unspecified mechanism	31	2%	476	1%
Overexertion	26	2%	474	1%
Total	1,637	100%	32,731	100%

Existing Surveillance Systems

Arizona Vital Records death certificate data, hospital discharge data, and emergency department data are the primary sources for monitoring injuries among American Indian residents of Arizona. The Child Fatality Review team reviews deaths of American Indian children 17 years and younger across the state, using law enforcement and medical examiner reports to assess intent and causal agent(s). Because Indian Health Service hospitals and clinics are federal facilities, they are not required to report data into the Arizona Hospital Discharge database. As a result, non-fatal injuries requiring treatment at one of those facilities will not be represented in this data, resulting in an undercount of injuries in this population for hospitalization. Emergency department data were not used in this chapter.

Summary/Highlights of Data

- Injury-related mortality rates among males are at least two times higher than rates among females.
- Motor vehicle crashes and poisoning are the leading cause of injury-related death among Arizona's American Indian residents.
- In 2011, charges for injury-related hospitalizations among Arizona's American Indian residents totaled over \$137.9 million.

CHAPTER 5: CHILDREN WITH SPECIAL HEALTH CARE NEEDS

Children with special health care needs (CSHCN) are defined as children who:

- Have or are at increased risk for a chronic physical, developmental, behavioral, or emotional condition and
- Require health and related services of a type or amount beyond that required by children generally.

According to the National Survey of Children's Health, there were 241,067 CSHCN in Arizona in 2009/10, representing 13.9 percent of all children and youth between the ages of 0 through 17. Special health care needs can range from conditions such as allergies or asthma to cognitive or emotional problems as well as congenital anomalies. Many children have more than one special health care need or condition.

The level at which to target injury prevention strategies varies among CSHCN. Children with behavior or cognitive disorders may be unreceptive to interventions given the nature of their conditions. Therefore, programs targeting the primary caregiver such as aiming to reduce the presence of household hazards in the child's environment or promoting motor vehicle safety may be more appropriate. Children with internalizing disorders such as depression and anxiety may be more receptive to safety instructions and could therefore be targeted for injury prevention education.¹¹³

One of the Office for Child with Special Health Care Needs' (OCSHCN) priorities is to promote inclusion of CSHCN in all aspects of life. During public input sessions for Arizona's Title V Maternal and Child Health Needs Assessment, families often speak about the lack of accommodations for CSHCN to participate in all aspects of life and how important these were to address. Inclusion of CSHCN can be within childcare, school, sports, work, and wellness activities, such as nutrition and physical activity, and injury prevention. OCSHCN continues to participate in policy development and activities to include CSHCN, as well as collaborate with partners, to ensure that the needs of CSHCN and barriers to their participation are understood and addressed.

There have been several studies that suggest that children with specific special health care needs such as attention deficit hyperactivity disorders (ADHD), cognitive disabilities, oppositional defiant disorders (ODD), autism spectrum disorders (ASD), and mood disorders, are at higher risk for unintentional injury. Possible reasons for this increased risk include limited understanding of the risk of a situation and of safety rules, difficulties suppressing impulses, and refusal or inability to notice warnings.¹¹⁴

Some CSHCN travel with devices including monitors, oxygen tanks, ventilators, walkers, and crutches. Securing these devices also ensures safety in the event of a crash or sudden stop. Wheelchairs are durable medical equipment critical to the health, treatment, and well-being of many CSHCN. A wheelchair can increase a child's independence, access to daily living activities, and integration into the community. Well-fitted wheelchairs are important for the member's comfort and mobility as well as safety. Stability, balance, and appropriate wheelchair

¹¹³ Rowe R, Maughan B, Goodman R. Childhood Psychiatric Disorder and Unintentional Injury: Findings from a National Cohort Study. *Journal of Pediatric Psychology*. 2004; 29(2):119-130.

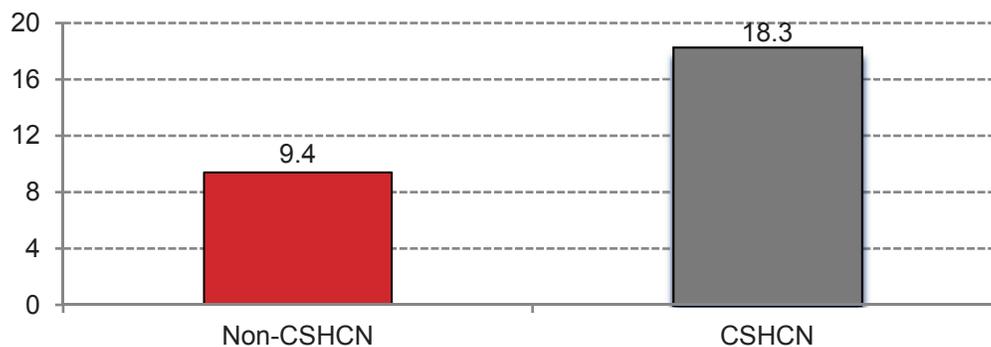
¹¹⁴ Huang P, Kallan MJ, O'Neil J, Bull MJ, Blum NJ, Durbin DR. Children with Special Health Care Needs: Patterns of Safety Restraint Use, Seating Position, and Risk of Injury in Motor Vehicle Crashes. *Pediatrics*. 2009; 123(2):518-523.

maintenance are crucial for the safety of children with impaired mobility. Special precautions must also be made to ensure safe transportation of CSHCN who require the use of wheelchairs.

According to the American Academy of Pediatrics, there are certain guidelines in selecting an appropriate child safety seats and positioning a child with special health care needs in a proper manner.¹¹⁵ These will vary for children with certain special health care needs such as those with tracheostomies, spica casts, challenging behaviors, or muscle tone abnormalities, as well as those children transported in wheelchairs. Guidelines are also available regarding safe transportation of preterm and low birth weight infants at hospital discharge¹¹⁶ and school bus transportation of CSHCN.¹¹⁷

Nationally, children ages 0-5 years with a special health care need are twice as likely to have injuries requiring medical attention than children ages 0-5 years without a special health care need (see Figure V.1.) This difference is statistically significant.

Figure V.1. Percentage of Children ages 0-5 with injuries requiring medical attention during the past 12 months, United States, 2009-10



Source: Child and Adolescent Health Measurement Initiative. *National Survey of Children's Health*, Data Resource Center for Child and Adolescent Health website, <http://childhealthdata.org/learn/NS-CSHCN>

Existing Surveillance Systems

The National Survey of Children with Special Healthcare Needs is the primary national resource for tracking the prevalence and impact of children with chronic conditions who require special health and related services. Housed at the CDC, the NS-CSHCN is a nationally representative survey completed once every five years. The data from this survey are robust, however small sample size makes it impossible to draw meaningful conclusions about specific geographic areas.

Current Interventions

The Office for Children with Special Health Care Needs (OCSHCN) within the Arizona Department of Health Services follows a vision that all children and youth with special health care

¹¹⁵ American Academy of Pediatrics, Committee on Injury and Poison Prevention. *Pediatrics*. 1999; 104(4):988-992.

¹¹⁶ Bull MJ, Engle WA. Safe Transportation of Preterm and Low Birth Weight Infants at Hospital Discharge. *Pediatrics*. 2009;123(5):1424-1429.

¹¹⁷ Committee on Injury and Poison Prevention. School Bus Transportation of Children with Special Health Care Needs. *Pediatrics*. 2001;108(2):516-518.

needs have the opportunity to reach their full potential. OCSHCN provides physician education on best practices and links families to services and resources.

Children's Rehabilitation Services (CRS) provides multi-specialty interdisciplinary care to children under age 21 with qualifying chronic and disabling health conditions. There are over 350 conditions covered by CRS, including diagnoses such as cerebral palsy, cleft lip/cleft palate and other cranial-facial disorders, tracheal-esophageal fistula, scoliosis, juvenile arthritis, muscular dystrophy, osteogenesis imperfecta, spina bifida, cystic fibrosis, sickle cell anemia, metabolic and endocrine disorders, neurofibromatosis, heart conditions, Hirschsprungs disease, hydrocephalus, glaucoma, neurosensory disorders, broncho pulmonary dysplasia, and many congenital anomalies.

Safe Kids Worldwide and the MetLife Foundation partnered to produce a series of safety videos highlighting precautions in the home to help prevent injuries to children with physical, developmental or cognitive disabilities. The focus of the videos includes fire and burn prevention, drowning, choking and falls prevention. The videos help viewers learn safety guidelines and step-by-step instructions geared towards making safety improvements in the home.¹¹⁸

There are numerous injury prevention measures that are specific to CSHCN regarding motor vehicle passenger safety. Some children with special needs have conditions that prevent them from riding safely in regular child safety seats. A certified child passenger safety technician with a health care background and specialized training in the transportation of CSHCN should be consulted before special seating or restraints are purchased. Special child passenger seats or restraints may not be available in retail outlets and may require a prescription and prior authorization to be special ordered.

Accomplishments

Using Title V MCH funding, ADHS was able to purchase and distribute 162 car seats designed specifically for CSHCN in 2011.

The Arizona Child Care Center Rules were revised to include specific requirements in transporting CSHCN who use wheelchairs. In addition to complying with the transportation requirements in R9-5-517, a licensee transporting an enrolled child with special needs in a wheelchair in a facility's motor vehicle shall ensure that:

1. The enrolled child's wheelchair is manufactured to be secured in a motor vehicle;
2. The enrolled child's wheelchair is secured in the motor vehicle using a minimum of four anchorages attached to the motor vehicle floor, and four securement devices, such as straps or webbing that have buckles and fasteners, that attach the wheelchair to the anchorages;
3. The enrolled child is secured in the wheelchair by means of a wheelchair restraint that is a combination of pelvic and upper body belts intended to secure a passenger in a wheelchair; and
4. The enrolled child's wheelchair is placed in a position in the motor vehicle that does not prevent access to the enrolled child in the wheelchair or passage to the front and rear in the motor vehicle.

¹¹⁸ Safe Kids USA. Keeping Children with Special Needs Safe in the Home. <http://www.safekids.org/safety-basics/special-needs/>

CHAPTER 6: SURVEILLANCE METHODS

The Office of Injury Prevention within the Arizona Department of Health Services (ADHS) Bureau of Women's and Children's Health (BWCH) is responsible for integrating various data sources into a core injury surveillance system. While teams specializing in individual topics have in the past relied on analysis from other sources, the Injury Plan used a combination of data that were either produced by the Office of Injury Prevention or was verified to ensure thorough documentation and standardization. For a complete description of data sources, please see the appendix.

Coding recommendations about the classification of injuries defined by the Centers for Disease Control and Prevention (CDC) were used to ensure that Arizona's data could be compared to other states. Protocol for cleaning and analyzing injury data were developed according to CDC guidelines as described.

While Arizona currently meets many of the Healthy People 2020 objectives regarding collection and integration of injury data, a strategic plan has been outlined to address the objectives that have not yet been achieved. Among the Healthy People 2020 goals that Arizona has completed are: team review of fatalities regarding external or unexpected child deaths (IVP-5, IVP-35), implementation of pre-hospital and hospital guidelines for pediatric care (AHS-5), and standardized collection of external cause-of-injury codes among hospital and emergency department data (IVP-33, IVP-34).

Codes and Guidelines

Injury fatalities were identified using the International Classification of Diseases, 10th Revision (ICD-10) codes indicating an injury as the underlying cause of death on the death certificate. The groupings for injury mortality were based upon the CDC Injury Mortality Matrix for ICD-10.¹¹⁹ Injury mortality and morbidity groupings allowed for an evaluation of manner (or intent) and mechanism (or cause).

In hospitalization and emergency department data, injury morbidity is identified by the International Classification of Diseases, 9th Revision, Clinical Modification (ICD-9-CM) codes. Nature of injury codes (N-codes) provide information on the nature of an injury and the part of the body injured. Per CDC's instructions for preparing injury data, an injury subset for hospitalizations and emergency department visits was created by searching only in the principal diagnostic code field for injury N-codes.¹²⁰ External causes of injury codes (E-codes) give supplemental information on circumstances surrounding the injury. Injuries were defined by locating E-codes indicating an injury in any of the E-code fields or in any of the fields for diagnostic ICD-9-CM codes. The categories of injury morbidity were based upon the CDC recommended framework of E-code groupings for presenting morbidity data.¹²¹

Per CDC instructions, several E-codes were excluded from the analysis, including location of injury (E849) and E-codes related to adverse effects of medical care and drugs (E870-879, E930-949). The CDC guidelines recommended the inclusion of readmissions, transfers, and deaths

¹¹⁹ Centers for Disease Control and Prevention, National Center for Health Statistics, www.cdc.gov/nchs/about/otheract/ice/matrix10sas.htm, accessed on 10/28/05.

¹²⁰ Centers for Disease Control and Prevention, State Injury Indicators: Instructions for Preparing 2005 Data, www.cdc.gov/ncipc/didop/StateInjIndicators.htm, accessed on 03/13/06.

¹²¹ Centers for Disease Control and Prevention, National Center for Injury Prevention and Control, www.cdc.gov/ncipc/whatsnew/matrix2.htm, accessed on 10/28/05.

when tabulating the number of hospitalizations and emergency department visits for injuries. Deaths, hospitalizations, and emergency department visits are those of Arizona residents only. Additionally, only non-federal, acute care or inpatient facilities were included in the data analysis, excluding federal, rehabilitation, and psychiatric hospitals.

Strategic Plan for 2012-2016

Injury Topic: Injury Surveillance		
Objective #1: Improve data concerning violent deaths, including homicide, suicide, firearm-related deaths, and relationship violence. (Healthy People 2020 Objective IVP-40)		
Strategic Intervention	Action Steps	Key Partners
1. Promote collaboration efforts to analyze data on violent deaths. (NVDRS)	<ul style="list-style-type: none"> • Develop strategies to share data among agencies • Analyze resulting linked data to determine areas at greatest risk • Continue to develop Maternal Mortality Review 	Arizona State University, Law Enforcement, Medical Examiners ADHS

CHAPTER 7: CONSEQUENCES OF INJURY

Background

As a public health focus, injury prevention has three major branches:

1. The collection of population-based data (surveillance) to provide insight into the mechanisms of injury and the risk factors associated with those injuries;
2. The development and implementation of interventions designed to reduce or prevent the occurrence of injury (primary prevention); and
3. The development of interventions that reduce the effects of injury-generated disability (disability prevention, which includes the prevention of related conditions secondary to the original injury).

Primary injury prevention activities targeting the major causes of injury-generating disability are discussed in the sections of this plan devoted to specific mechanisms of injury. This chapter addresses the consequences of injury and the systems needed to prevent these consequences.

While advancements in emergency medical treatment and the introduction of modern trauma systems have lowered injury-related death rates, many injuries result in short- and long-term disability that further burdens the public health system beyond initial medical care needs. A common misconception is that once a plateau of recovery is reached through rehabilitation, an individual with a disabling condition is likely to remain at this level of health status and functioning permanently. This view fails to recognize the true nature of disabling conditions as long term and dynamic, fluctuating in severity during the life course. The Institute of Medicine addressed the misconceptions and definitions of conditions resulting from injury in their 1991 *Committee on a National Agenda for the Prevention of Disabilities*. The Institute also defined conditions causally related to the primary disabling condition as secondary conditions, which can be impairments, functional limitations, or additional disabilities. The nature of this relationship lends itself to preventative interventions that are designed to reduce the risk of developing secondary conditions and the concomitant potential for additional deterioration in health status and quality of life.¹²²

Our injured veterans will most likely face a lifetime of injury consequence. The physical, emotional and economic toll of a serious service-related injury does not end when the service member leaves the military. Years and even decades after they were discharged, veterans who were injured while serving are significantly more likely to be in poor health and somewhat less likely to be employed. According to the Pew Research Center survey, about half of all veterans who suffered a serious service-related injury say their health status is “only fair” or “poor”—nearly double the proportion of non-injured veterans who offer a similarly downbeat assessment of their physical well-being (49% vs. 28%).

Not all of the wounds suffered by members of the armed forces are physical. Seriously wounded veterans are about three times as likely as others who served to say they suffered from post-traumatic stress disorder (47% vs. 16%). Similarly, four in ten injured veterans (40%) say they have had flashbacks, distressing memories or recurring nightmares about an emotionally

¹²² Pope AM, Tarlov AR, editors. Committee on a National Agenda for the Prevention of Disabilities, Division of Health Promotion and Disease Prevention, Institute of Medicine. Disability in America: Toward a National Agenda for Prevention. 1991. Washington, D.C.: National Academy Press.

traumatic experience they had in the military. In comparison, only 15% of those who were not injured while serving are similarly troubled.

According to the U.S. Census Bureau, an estimated 12 percent of non-institutionalized American civilians have a disability, defined as a long-lasting physical, mental, or emotional condition or limitation that affects the ability to perform major life activities. Among various age groups, these figures range from 5 percent among 5- to 17-year olds to 38 percent among those 65 years and older.¹²³ Important sources of disability include injuries to the back, central nervous system, limb and eye, and burns.¹²⁴

Injuries to the central nervous system are the most likely to result in serious, long-term disability, and include both traumatic brain injury (TBI) and spinal cord injury (SCI).¹²⁵ Traumatic brain injury is defined as a blow or jolt to the head or a penetrating head injury that disrupts the function of the brain. An estimated 1.7 million American sustain traumatic brain injuries (TBI) annually, 52,000 of whom die as a result of their injuries. An additional 80,000 to 90,000 Americans experience permanent disability, and it is estimated that 5.3 million Americans currently live with a TBI-related disability.¹²⁶

While physical impairments are a visible contributor to disability, cognitive function deficits are a hallmark of TBI, and can lead to depression and other secondary outcomes including problems working and performing other daily activities. It is estimated that direct medical costs and indirect costs of TBI exceed \$56.3 billion annually in the U.S. Falls, motor vehicle crashes, and being struck by or against an object are the leading causes of TBI in Arizona¹²⁷ and nationwide. Age groups most impacted by these injuries are adolescents, young adults, and the elderly.¹²⁸

The Reeve Foundation's One Degree of Separation: Paralysis and Spinal Cord Injury in the United States shows over a million more people in the U.S. are living with paralysis than previously estimated, and five times more people living with spinal cord injury.

Current Interventions

Programs and prevention efforts for traumatic brain and spinal cord injury are present on many levels in the state, from small community car seat and seat belt campaigns to city ordinances requiring bicycle helmets. Information about primary injury prevention activities targeting the major causes of traumatic brain injury and spinal cord injury, such as motor vehicle crashes, falls, and firearms (intentional and unintentional injury) is provided in the sections of this plan devoted to these mechanisms of injury.

¹²³ U.S. Census Bureau, 2008 American Community Survey [online]; Available at: http://factfinder.census.gov/servlet/STTable?_bm=y&-qr_name=ACS_2008_1YR_G00_S1810&-geo_id=01000US&-ds_name=ACS_2008_1YR_G00_-lang=en&-format=&-CONTEXT=st. Accessed (2010 Jul 09).

¹²⁴ Pew Social Trends, November 2011; Available at: <http://www.pewsocialtrends.org/files/2011/11/Wounded-Warriors.pdf>

¹²⁵ National Center for Injury Prevention and Control. *CDC Injury Research Agenda*. Atlanta (GA), Centers for Disease Control and Prevention; 2002.

¹²⁶ Langlois JA, Rutland-Brown W, Thomas KE. *Traumatic Brain Injury in the United States: Emergency Department Visits, Hospitalizations and Deaths*. Atlanta (GA): Centers for Disease Control and Prevention, National Center for Injury Prevention and Control; 2004.

¹²⁷ Injury Prevention Program, *Traumatic Brain Injuries Among Arizona Residents, 2009*. Phoenix (AZ): Arizona Department of Health Services; 2010. Available at: <http://www.azdhs.gov/phs/owch/pdf/ispp/TBI2009Report.pdf>.

¹²⁸ Thurman D. *The Epidemiology and Economics of Head Trauma*. In: Miller L, Hayes R, editors. *Head Trauma: Basic, Preclinical, and Clinical Directions*. New York (NY): Wiley and Sons; 2001.

CHAPTER 8: EMERGENCY MEDICAL SERVICES AND TRAUMA SYSTEMS

The magnitude of traumatic injury as a public health problem is enormous. In terms of productive life lost, prolonged or permanent disability and cost it is one of the most important threats to public health. Frequently, traumatic injuries are preventable and when there are trauma systems in place, extension of the injury can be minimized.

More than 27,000 people are treated for a trauma-related injury every year in Arizona. Trauma refers to injuries resulting from the transfer of mechanical energy causing damage to the body, such as from a gunshot or motor vehicle crash; these injuries tend to be among the most severe or potentially life-threatening, however they do not include severe injuries due to poisoning, drowning, or suffocation. More than 60% of these injuries occur in the rural and frontier areas of Arizona. Most patients are treated at one of the eight designated Level I Trauma Centers in Arizona, which are concentrated in urban areas. As a result, trauma patients are often transported long distances to receive treatment for their injuries.

Patient care in Arizona can be dramatically improved and costs reduced by developing a coordinated and integrated system of trauma care for the entire state. A 2006 American College of Surgeons Trauma System Consultation report on Arizona found that while the urban residents of Arizona have ready access to trauma centers, residents in our rural and frontier areas do not. The Arizona Trauma System is an organized statewide network of emergency medical care for the seriously injured, and includes the 9-1-1 system, first responders, emergency medical personnel, medical transport, and hospitals.¹²⁹

An effective Trauma System ensures that each trauma patient is cared for at a health care institution with the resources and capabilities that match the patient's treatment needs, resulting in the best and most cost-effective care possible for the patient and in the best and most cost-effective use of the health care institution's resources. Nationally, the benchmark for trauma care is for a patient to arrive and begin treatment within one hour of the injury, often referred to as the "golden hour".

According to the National EMS Information System (www.NEMSIS.org), in 2010, the nationwide average elapsed time from EMS notification to arrival at a hospital (not necessarily a trauma center) was 71 minutes. The data when analyzed further by urbanicity, the elapsed time increases to 91 minutes in rural areas and 105 minutes in wilderness areas. While the Arizona data are not exactly comparable, they do demonstrate that Arizona has similar challenges. Statewide 37% of trauma patients arrive at a Level I trauma center within one hour of their injuries and 43% of trauma patients arrive at Level IV trauma centers within an hour of their injury. A goal of the Arizona Department of Health is to increase access to the trauma system in rural Arizona. Over the past three years 15 Level IV trauma centers have been designated, all of which serve rural areas of the State.

A trauma system applies collaborative medicine and a continuous process of assessment, treatment and reassessment. It ensures that no matter where in the State of Arizona patients are injured, they will be treated in a timely fashion by the facility which has the best ability to care for their injuries. Residents in our rural and frontier areas may not have access to trauma centers.

¹²⁹ Arizona Department of Health Services, Bureau of Emergency Medical Services and Trauma System. *Arizona's Trauma System Improving Patient Care* [online]. {accessed 1 September 2011}. Available from: www.azdhs.gov/bems/trauma-pdf/FactSheet.pdf.

Trauma centers have an important role in reducing the impact of injury by participating in prevention efforts. These efforts are based on identification of specific injuries and risk factors in patients, families and communities. For many injuries, prevention is often the best intervention for preventing an injury from occurring.

The Arizona Department of Health Services Bureau of Emergency Medical Services and Trauma System oversees the state trauma system, as well as licensure among the state's emergency medical technicians, paramedics, and air and ground ambulance services. Golden Hour and other data generated from the Arizona State Trauma Registry can be seen in the [2011 State Trauma Advisory Board Annual Report](#).

Injury prevention education is viewed as an important component of the Arizona Trauma System. All trauma centers are required to conduct injury prevention outreach activities within their communities to comply with the state's trauma center standards. These programs consist primarily of educational activities and events designed to raise community awareness of traumatic injuries, and the personal safety measures that one can take to prevent these injuries from occurring. The trauma hospitals across the state provide a wide variety of outreach efforts to help keep the public safe throughout the year. Programs include child passenger safety initiatives, bicycle safety programs, summer safety, home safety, and fall prevention in older adults.

APPENDIX A: DATA SOURCES

The following is a description of the data sources used to generate this plan.

Vital records – Death certificates

The Arizona Department of Health Services (ADHS) Bureau of Health Statistics publishes an annual report compiling vital records statistics called Arizona Health Status and Vital Statistics.¹³⁰ The breadth of information in this document includes, among other things, injury mortality statistics by cause, geographic location, and various demographic factors.

Additionally, the death certificate database contains statewide population-based data, allowing for in-depth analysis of injury data broken down by age, gender, race/ethnicity, and geographic region. Additionally, the death certificate database includes deaths of all Arizona residents regardless of where they died. These data were used to identify factors associated with increased mortality related to injuries.

Inpatient Hospital Discharge Database

All acute-care hospitals in Arizona, with the exception of tribal and federal hospitals (military and Indian Health Services), are required to submit inpatient hospital discharge data to the Arizona Department of Health Services (ADHS) twice annually. Inpatient hospital discharge data has been available since the late 1980s. These data were used to identify factors associated with hospitalizations due to injury and includes cases in which the patient died before being discharged from the hospital.

The hospital discharge database contains medical, financial, and demographic information. It is important to note that patients who have been hospitalized more than once for the same or different injury in a given calendar year are counted multiple times. American Indians are underrepresented in the hospital discharge data because the inpatient hospital data does not include information from Indian Health Services or tribal hospitals.

Problems with coding have led to issues with reliability of the data in the past but auditing procedures have been implemented to improve data quality. Beginning with data from the second half of 2003, hospitals were required to correct and resubmit data that did not meet standards.

Emergency Department Database

Emergency department data has been available on a statewide basis starting in July 2003. All acute-care hospitals in Arizona, with the exception of tribal and federal hospitals (military and Indian Health Services), are required to submit emergency department data to the ADHS twice a year.

Emergency department data include all patients seen in the emergency department except for those who were admitted as inpatients (these patients are captured in hospital discharge data). These data also includes deaths occurring in the emergency department prior to discharge. Additionally, patients who have been seen in the emergency department more than once for the same or different injury in a given calendar year are counted multiple times.

¹³⁰ Arizona Health Status and Vital Statistics reports: <http://www.azdhs.gov/plan/report/ahs/index.htm>

Like the hospital discharge database, medical and financial data are included in the emergency department database. As with the hospital discharge database, the emergency department database reflects only those patients seen in non-federal and non-Tribal facilities, which can result in limited information and under representation of certain groups.

The table classifies the ICD-9 (Hospital Discharge and Emergency Department data) and ICD-10 (mortality data) coding used in the analysis of the injury data presented in this plan. It corresponds with the CDC's matrices.

Appendix Table 1. ICD Codes of Injury Mechanisms		
Cause	ICD-9	ICD-10
Drowning	E830.0-.9, E832.0-9, E910.0-.9, E954, E964, E984	W65-W74, W45, X78, X99, Y28, Y354
Falls	E880.0-E886.9, E888, E957.0-.9, E968.1, E987.0-.9	W00-W29, X80, Y01, Y30
Fire/Burns	E890.0-E899, E924.0-.9, E958.1,.2,.7, E961, E968.0,.3, E988.1,.2,.7	X00-X09, X10-X19, X26-X27, X76-X77, X97-X98
Nature/Environment	E900.0-E909, E928.0-.2, E958.3, E988.3	W92-W99, X20-X39, X51-X90, W42-W43, W53-W64
Poisoning	E850.0-E869.9, E983.0-.9, E972, E950.0-E952.9, E962.0-.9	X40-X49, X60-X69, X85-X90, Y10-Y19, Y352, U016-U017
Transport (Traffic and Non-traffic)	E800.0-E807.9, E810.0-E829.9, E831.0-.9, E833.0-E845.9	V00-V99, X82, Y03, Y32, Y36.1

Child Fatality Review

In 1993, the Arizona legislature (A.R.S. § 36-342, 36-350-4) mandated a statewide team to provide oversight of Arizona's Child Fatality Review Program, develop a data collection system, and produce an annual report summarizing their findings.¹³¹ By statute, the state team includes representatives of the Arizona Chapter of the American Academy of Pediatrics, Indian Health Services, law enforcement, a prosecuting attorney's office, a county health department, a military advocacy program, child protective services, American Indian agencies, and a county medical examiner's office.

The Child Fatality Review Program is responsible for reviewing all child deaths (under the age of 18) to determine preventability and to initiate prevention initiative where needed. Local teams review documents related to the circumstances of each child's death and assess the preventability. A death is classified as preventable if an individual or the community could have reasonably done something that would have changed the circumstances leading to the child's death. In addition to reviewing medical examiner reports, child fatality review teams reviewed records from hospitals, emergency departments, law enforcement agencies, Child Protective Services, and other sources. As a result of this comprehensive, multi-disciplinary approach, the

¹³¹ Arizona Child Fatality Review Program: <http://www.azdhs.gov/phs/owch/cfr.htm>

team's determination of cause and manner sometimes differed from those recorded on the death certificate. This comprehensive review makes these data especially valuable in not only understanding factors involved in childhood deaths, but also in determining prevention strategies.

Behavioral Risk Factor Surveillance System (BRFSS)

The Behavioral Risk Factor Surveillance System is comprised of survey data from all 50 states and the District of Columbia.¹³² The system consists of a series of cross-sectional telephone surveys conducted by state health departments with the assistance of the CDC. BRFSS uses a multistage design based on random-digit-dialing methods to select a representative sample from each state's non-institutionalized civilian population aged 18 years and older. The BRFSS questionnaire consists primarily of questions about personal behaviors that increase risk for one or more of the ten leading causes of death in the United States. Arizona has been participating in the BRFSS since 1982 to monitor the health behaviors of its adult population. The most recent year for which BRFSS data are available on Arizona is 2011.

The Youth Risk Behavior Surveillance System

The Youth Risk Behavior Surveillance System was established by the CDC to monitor the prevalence of youth behaviors that most influence health.¹³³ The Youth Risk Behavior Survey (YRBS) focuses on priority health-risk behaviors established during youth that result in the most significant mortality, morbidity, disability, and social problems during both youth and adulthood. YRBS procedures were designed to protect the students' privacy by allowing for anonymous and voluntary participation. Students in grades 9 through 12 completed the self-administered questionnaire in their classrooms during a regular class period, and recorded their responses directly on a computer-scannable booklet or answer sheet. Local parental permission procedures were followed before survey administration. Arizona conducted statewide Youth Risk Behavior Surveys most recently in 2011, allowing for Arizona-specific analysis and comparison to the rest of the nation.¹³⁴

¹³² CDC Behavioral Risk Factor Surveillance System: <http://www.cdc.gov/brfss/>

¹³³ CDC Youth Risk Behavior Surveillance System: <http://www.cdc.gov/HealthyYouth/yrbs/index.htm>

¹³⁴ Arizona Department of Education: <http://www.ade.az.gov/schooleffectiveness/health/matrix/YRBS2005Results.asp>

APPENDIX B: INJURY PREVENTION AND CONTROL INVENTORY

Organization or ADHS Unit Name: AAA Arizona

Contact Person/Phone Number/Email: Mike Duhome, Community Relations Specialist, 602-241-2945, mduhome@arizona.aaa.com

Type of Activity: AAA AZ's provides traffic and pedestrian safety workshops, presentations and outreach programs.

Description of Activity:

Keeping the Keys is a workshop designed to help provide senior drivers with the information and resources essential for staying on the road longer and safer! Workshop participants are provided with information and take-home resources that discuss the importance of maintaining healthy vision, staying physically and mentally fit, understanding and using medication, choosing a car, and performing self-assessments. Also discussed are key signs that may identify when it is time to give up the keys and what alternatives are available. We present this workshop twice a month throughout the year at community centers, senior facilities, and libraries. We also present this workshop with Arizona agencies that work with senior populations as a part of their offered programming.

Permit Prep 101 is a workshop that prepares teens for their written permit test and educates families on what they need to know before their new driver takes the wheel. Learning to drive is a rite of passage for teens, but the path from pedestrian to permit-holder can be challenging. The course will review: teen driving risks and statistics, Graduated Driver's Licensing law, learning-to-drive tools and resources, and provide in-depth instruction of the Arizona Driver's License Manual. We present this workshop three or four times a month in community centers, at high schools, and libraries.

Safe Ways to School is a workshop that covers the basics regarding pedestrian, school bus and bike safety for elementary-aged children. We discuss the importance of pedestrian and bike: 'stop, look & listen', looking 'right, left, right & over' before crossing the street or crosswalk, obeying traffic signals, and utilizing school and community crossing guards. Also covered is the role we play in creating a safe environment around and in school buses, and through audience participation, we learn about the steps we can take to ensure the safest practices when riding our bikes in the community. We present this workshop once or twice a month at elementary schools throughout Arizona.

Car Seat Checks/installations are performed at our branch locations in Metro Phoenix. Participants contact the community relations specialist to set up one-on-one appointments.

Crossing Guard of the Year Award were given out to a participating Maricopa or Pima County schools. Our awards were given out on Crossing Guard Appreciation Day (Friday, April 27th).

Crossing Guard Vest Donations Event happened in July. We gave out hundreds of vests to participating schools.

Booster Seat Giveaway Events happened this Sept. at four of our branch locations.

Frequency of Activity: Variable

Target Audience: Please see each explanation above.

Beneficiaries: Please see each explanation above.

Cause of Injury: Please see each explanation above.

Type of Injury: Please see each explanation above.

Geographic Area: As of right 2012, presentations and workshops are delivered in the Metro Phoenix and Tucson areas. AAA also provides the workshops listed above in locations throughout Arizona as a part of an outside organization's or school's traffic/pedestrian safety programming.

Advisory Group: None at this time.

Funding: Our traffic/pedestrian safety programming is funding by AAA Arizona.

Accomplishments:

We started our new teen traffic safety program called Permit Prep 101 this year. We've reached over 1000 participants with this workshop in 2012 and we have a good number of workshops still scheduled from Sept to Dec.

Arizona Department of Health Services

INJURY PREVENTION AND CONTROL INVENTORY

Organization or ADHS Unit Name: Cardon Children's Medical Center

Contact Person/Phone Number/Email: Tracey Fejt RN 480-412-3306
tracey.fejt@bannerhealth.com

Type of Activity: Community Outreach for Cardon Children's Medical Center

Description of Activity: The Injury Prevention Program at CCMC provides health and safety programs and education to schools, community groups, parents, health fairs and safety fairs at no charge. We are primarily based in the East Valley though portions of our program reach throughout the state of AZ. One of our most important community programs is our Annual Walk for Water Safety; a drowning prevention program that provides lifeguard wrist tags and safety information to thousands of families throughout the state. This program is in collaboration with the community Fire Departments, businesses and coalitions throughout the state.

Frequency of Activity: Our outreach program in the schools includes specific injury prevention programs to the children in 14 elementary schools on a monthly basis. We participate in multiple health and safety fairs every month. We reach out to rural community to provide education and provide "Train the Trainer programs" several times throughout the year. Our program also includes Safe Routes to Schools Programs in schools, including having the schools become helmet required schools and provide them with helmets, walk your child to school events, bike rodeos and many other educational activities during the school year.

Target Audience: This program benefits children from birth to 18 years of age by educating both children and adults.

Beneficiaries: The benefits of the program is far reaching from direct injury reduction to the child to reducing the cost associated to injury to the caregivers, hospitals, communities and the state of Arizona

Cause of Injury: Cardon Children's focuses on the specific causes of the injury behaviors that can be modified or change by education, enforcement, encouragement, and engineering.

Type of Injury: Head injury due to multiple causes, MVC, drowning, poison, gunshot, pedestrian and bike injuries.

Geographic Area: The school based programs are primarily in the East Valley but our other services are state wide.

Advisory Group: We participate in the Injury Prevention Advisory Committee, Safe Kids of Maricopa County, and the Drowning Prevention Coalition of Arizona along with Southwest Alliance for Recreational Safety.

Funding: The program is funded by through Banner Health Foundation and supported by grants.

Accomplishments:

Injury prevention- We educated over 1800 children by presenting 42 monthly sessions in 14 elementary schools in the East Valley, doing a different topic each month.

Drowning Prevention-Our Walk for Water Safety touched over 60,000 families' state wide this year we handed out water safety information for both children and adults and "Life Guard on Duty Tags". We started a tracking system in our hospital to look at non-fatal drowning outcomes. Our program filmed a drowning prevention video for parent education that will be released the Fall of 2012. We participated in a number of water related safety fairs throughout the year. As secretary of the DPCA and board member of Safe Kids Maricopa County our program participated in the World's largest swimming lessons and two CPSC pool safety days and water safety day in Tucson. We also wrote up and sent out grants to provide \$6,500.00 worth of free or reduced water safety lesson. We participated in the launching of the Water Smart Babies in Maricopa County, and helped to get the program on track to kick off in Pima County next spring.

Helmets- We provided education and helmets to schools that are helmet required schools throughout the school year, approximately 200 helmets. We provided education and helmets to 14 schools in May for over 2000 children. Provided 50 toddler helmets and hosted the Safe Kids of Maricopa County East Valley Bike rodeo where 247 helmets were distributed.

Children Restraints- We taught 24/2 hour car seat classes approximately 129 participate, 68 seats. We distributed 500 booster seats due to a generous donated of booster seats through Safe Kids. In partnership with GOHS we hosted a car seat check, we checked over 100 seats gave out 71 seats. We participated in the Safe Kids of Maricopa car seat event at the Mesa Community College site. We taught two 32 hour CPST course checking over 30 seats, and three CEU's courses throughout the state.

OHV Safety- As a founder member of the Southwest Alliance for Recreational Safety and in partnership of AZ Game and Fish we secured funding for One Short Ride video to help educate on the importance of OHV safety and organized a half day conference to be held November 1st 2012.

Arizona Department of Health Services

INJURY PREVENTION AND CONTROL INVENTORY

Organization or ADHS Unit Name: Arizona Department of Health Services, Bureau of Women's and Children's Health, Office of Children's Health

Contact Person/Phone Number: Karen Kuhfuss, (602) 364-1454, karen.kuhfuss@azdhs.gov

Type of Activity: Health and Safety Consultation

Description of Activity: Provides consultation to daycare providers on playground safety, room arrangements, poisoning, how to evaluate children and shelter in place in the childcare setting, transporting children in center vehicles, first aid, sun safety, infant sleep safety and other topics as identified. Child Care Health Consultants training is provided utilizing the curriculum of the National Training Institute for Child Care Health Consultants (NTICCHC) developed by the University of North Carolina's School of Public Health. Developed and continues to update a childcare flip chart that assists providers on reduction of injuries.

Frequency of Activity: On-going

Target Audience: Daycare settings

Beneficiaries: Children in daycare.

Cause of injury: Various

Type of Injury: Various

Geographic Area: Pima County

Advisory Group: No, IPAC

Funding: Funded through the Maternal and Child Health Block Grant. Received additional Funding through First Things First.

Outcomes or results of intervention: Reduction of injuries in child care settings.

Arizona Department of Health Services

INJURY PREVENTION AND CONTROL INVENTORY

ADHS Unit Name: Bureau of Women's and Children's Health, Office of Children's Health

Contact Person/Phone Number: Karen Kuhfuss, (602) 364-1454, karen.kuhfuss@azdhs.gov

Type of Activity: Policy work, Coalition building, Education, direct client services

Description of Activity: The Bureau of Women's and Children's Health contract with seven county health departments that support local injury prevention infrastructure. These contracts focus on increasing activities around building local coalitions, changing organizational practices, and developing policies. Apache and Navajo Counties are partnering to provide NHTSA child passenger certification and recertification classes. Apache and Navajo County are also partnering with Arizona Game and Fish to educate people about helmet use while operating an ATV. Apache and Navajo Counties are developing a Safe Kids chapter. Coconino County is sponsoring NHTSA Child Passenger Safety training courses. Coconino County is collaborating with various agencies to conduct presentations on the dangers of drinking and driving and distracted driving.

- Changed county policy to require a permit to have alcohol in one park.
- Provide input on a City Plan.
- Coalition building around suicide prevention.
- Developed community wide activity to reduce injuries around "sharps".
- Distributing training materials to pediatricians to be used to train their staff and parents on child/infant car seat safety
- Instructors of the classes are NHTSA certified car seat safety technicians
- Training new NHTSA technicians
- Provide recertification for NHTSA technicians
- Providing community education and referral
- Holding safety fairs
- Providing services to/in schools, clinics, day care centers
- Checking for and providing proper installation of currently owned infant and child car seat restraints (also checking for recalled car safety seats and exchanging them for new ones)
- Classes on proper use and installation of child car seats and booster seats
- Providing free or very low cost car seats and booster seats to parents/participants
- Target teens for car safety issues
- Instruction on safe seat belt usage for teens and adult women
- Instruction on safe seat belt usage for pregnant women
- Distribution of car seat, booster seat and seat belt usage literature
- Distribution of bicycle helmets to children
- Adolescent programs at high schools educating teens about safe driving and dating, as well as the effects and dangers of drug and/or alcohol use/abuse
- Instruction to women of childbearing age on the dangers of drug and/or alcohol use/abuse as it relates to motor vehicle safety
- In-school presentations about fire and poison prevention, firearm safety, drowning, and safe dating.
- Teen Mazes

- Thumb rings with the message of “Text it later”.

Frequency of Activity: Ongoing

Target Audience: Children, young adults, day care workers, firemen, homeless shelters, school nurses, teachers, police officers, parents/caregivers, behavioral health workers, pediatric physicians, health care workers, community agencies/organizations. Low-income families, those with health disparities and students

Beneficiaries: Infants and children, parents, adolescents, women, and the entire community with the decrease in motor vehicle accidents and ensuing injuries

Cause of injury: Bicycle accidents, Motor vehicle accidents, Motor vehicle accidents through drug or alcohol use and/or abuse, home injuries, and relationship violence, and others.

Type of Injury: Various

Geographic Area: Counties and Tribal lands include areas in: Apache County, Coconino County, Gila County, Maricopa County, Navajo County, Pima County, and Yavapai County

Advisory Group: Injury Prevention Advisory Group member

Funding: Through the Bureau of Women’s and Children’s Health by Title V Maternal and Child Health Block Grant.

Outcomes or results of intervention:

- Provided car seats and booster seats with education.
- Car seats and booster seats were checked for proper installation wear, damage, or product recalls.
- Conducted child car seat safety events, some of which were focused on Native Americans.
- Community members were educated about reducing transportation related injuries, and/or wheeled sports safety.
- Safe Routes/Walk Safe programs were implemented
- Community events included information on gun safety, sun safety, bicycle and helmet safety, car seat safety, CPR awareness, prevention of drowning, and/or other safety and health related education
- Certified new child car seat safety technicians.
- Renewed certification for child car seat safety technicians.
- Distributed bike helmets
- Provided high school students with motor vehicle safety education
- Provided elementary school students with presentations about injury prevention
- Women received information about home safety
- Conducted teen suicide prevention events

Arizona Department of Health Services

INJURY PREVENTION AND CONTROL INVENTORY

Organization or ADHS Unit Name: Banner Good Samaritan Medical Center BGSMC

Contact Person/Phone Number/Email: Sonja Smith, MSW Injury Prevention Coordinator;
Sonja.smith@bannerhealth.com, 602 839 0646

Type of Activity: Injury Prevention and Community Education for Banner Good Samaritan Medical Center

Description of Activity: The Banner Good Samaritan Medical Center (BGSMC) injury prevention programs provide health, safety and education to the community we serve; schools, professionals, and parents. BGSMC assists with prevention through health and safety fairs, community educational workshops, and conferences.

Frequency of Activity: Our programs evolve around the injury prevention months: The outreach is done in correlation with the activity and prevention programs. BGSMC also participates in monthly activities with each alliance, and or coalition we have partnerships with. We also participate in multiple health fairs throughout the valley on a monthly basis.

Target Audience: BGSMC IP program is for all however our focus is teens and adults.

Beneficiaries: The program is designed to reduce injuries in the community of AZ

Cause of Injury: BGSMC primary focus is on Brain injury education and prevention, MVC: distracted driving, Fall Prevention, and Drowning prevention.

Type of Injury: Head injuries: falls prevention, and decrease MVC.

Geographic Area: 10/29/2012-10/29/2012 Arizona

Advisory Group: BGSMC participates in Injury Prevention Advisory Council, Safe Kids of Maricopa County, Drowning Prevention Coalition, Southwest Alliance for Recreational Safety, and Maricopa County Fall Prevention Coalition.

Funding: The program is supported by the hospital and works with other alliances and advisory organizations for assistance with educational literature and programs.

Accomplishments:

- BGSMC Injury Prevention was able to assist in the Matter of Balance classes and hosted the 2011 National Falls Prevention Day conference approximately 150 attended.
- BGSMC Injury Prevention participated in the 100 year birthday for BGSMC which entailed a community health fair which individuals in the surrounding community attended and

received education on appropriate use of helmets, appropriate use of seat belts, education on water safety and falls.

- BGSMC Injury Prevention along with other alliances developed a DVD related to falls prevention to be utilized in physician offices and other areas to assist in the awareness of falls prevention.
- BGSMC as a founding member of the Southwest Alliance for Recreational Safety, worked on an ATV prevention video and created an alliance with AZ Game and Fish Dept, Banner Cardon's Children's Medical Center, PCH, and JCL. Video to be released November 1, 2012.
- BGSMC continued to work with BIAAZ Brain Injury Alliance of AZ with the Banner/BIAAZ referral program. Program assists with connecting those with a head injury with services and resources in the community. Referred over 350 to the BIAAZ in 2011.
- BGSMC participated in BOTB program with St. Mary's High School. Program summary for 2011 is the students and BGSMS participated in the Bowl for Brain Injury and raised \$100, completed a you Tube seat belt safety video, completed a fundraiser showcasing the BOTB and raised \$700.00, completed the distracted driving program and pledged to not text and drive.

Arizona Department of Health Services

INJURY PREVENTION AND CONTROL INVENTORY

Organization or ADHS Unit Name: Ak-Chin Indian Community

Contact Person/Phone Number/Email: Marc Matteson 520-568-1082 mmatteso@ak-chin.nsn.us

Type of Activity: Exercise, education and home safety assessments based on falls and injury prevention.

Description of Activity: Offer exercise activities for Elders 55+ 3 x per week, offer A Matter of Balance education/intervention curriculum 2 x per year, conduct home safety assessments to Elder 55+ homes annually.

Frequency of Activity: Different aspects year round.

Target Audience: Community residence age 55+

Beneficiaries: Target audience aged 55+

Cause of Injury: Mainly injuries related from falls.

Type of Injury: Focus on limiting movement debilitating falls.

Geographic Area: Ak-Chin Indian Community

Advisory Group: Before starting the project we had a home safety assessment advisory group.

Funding: Federal Grant

Accomplishments:

- Graduated 4 Elders from the A Matter of Balance Class.
- Completed 41 home safety assessments on homes with an Elder 55+ living at residence
- Monthly safety educational information mailed to all Elder homes.
- Items fixed, replaced, or modified during home safety assessments include: smoke detector batteries, light bulbs, ramps for steps, electrical outlets, grab bars, non-slip mats, tape for rugs, light fixtures, etc.

Arizona Department of Health Services

INJURY PREVENTION AND CONTROL INVENTORY

Organization or ADHS Unit Name: Division of Behavioral Health, Arizona Department of Health Services

Contact Person/Phone Number/Email: Markay Adams, 542.2884, markay.adams@azdhs.gov

Type of Activity: Suicide Prevention

Description of Activity: Provide oversight among several programs aimed at reducing suicide including Sources of Strength, youth leadership camps, online early identification training, collaborate with statewide and community stakeholders, and monitor the Behavioral Health Children's and Adult's system of care strategic plans for suicide prevention.

Frequency of Activity: Ongoing

Target Audience: Wide variety- both universal and indicated populations

Beneficiaries: Public at large

Cause of Injury: Focus on multiple strategies for type of self-inflicted injuries.

Type of Injury: Self-inflicted/ Suicidal

Geographic Area: Arizona

Advisory Group: Arizona Suicide Prevention Coalition, Arizona Firearm Injury Prevention Coalition, Arizona Injury Prevention Advisory Council

Funding: Federal grant

Accomplishments:

Accomplishments included suicide prevention in the Children and Adult system of care strategic plan, provided gatekeeper trainings, creation of online early identification training for ED personnel, as well as ongoing collaboration with pertinent coalitions.

Arizona Department of Health Services

INJURY PREVENTION AND CONTROL INVENTORY

Organization or ADHS Unit Name: Arizona Game and Fish Department

Contact Person/Phone Number/Email: Jimmy Simmons, 623.236.7931, jsimmons@azgfd.gov

Type of Activity: We provide OHV safe, responsible riding practices to kids and their parents at outreach events with an ATV simulator. We are also filming an OHV safety movie with a partner (SWA4RS) to provide to people in ER's, clinics and throughout the state at various events. This movie is captivating and compelling in a way that will hopefully change people's behavior when riding OHV's.

Description of Activity: The Arizona Game and Fish OHV Program provide public outreach, information, education and enforcement efforts to the public statewide.

Frequency of Activity: The ATV simulator is new but is already being requested more and more frequently. We have attended at least one outreach event per month since acquiring the simulator.

Target Audience: Mostly children and their families.

Beneficiaries: Anyone who interacts with the ATV simulator or is watching and listening.

Cause of Injury: All

Type of Injury: N/A

Geographic Area: Statewide

Advisory Group: the OHV Law Enforcement Program Manager, I participate in multiple collaborative group efforts that promote safe OHV riding but I am not on any advisory groups.

Funding: OHV decal funds and grants.

Accomplishments: The OHV Program was involved in the following in 2011:

- The Arizona Game and Fish Outdoor Expo – over 46,000 people attend
- Six outreach events such as County Fairs, safety days, etc. with the ATV simulator
- At least six multi-agency OHV saturation patrols in areas of high OHV use and damage
- Providing all state and federal law enforcement agencies, MVD, natural resource agencies, general public with the "OHV laws and places to ride" brochure for public information.
- Filming the OHV safety movie, "One Short Ride"
- Attending the national OHV program managers conference in Minnesota
- Issued 698 citations to OHV violators as well as an unrecorded amount of written and verbal warnings.

Arizona Department of Health Services

INJURY PREVENTION AND CONTROL INVENTORY

Agency Department Name: Statistical Analysis Center (SAC), Arizona Criminal Justice Commission

Contact Person: Phillip Stevenson, (602) 364-1157

Type of Activity: Arizona Youth Survey (AYS)

Description of Activity: The SAC administers the survey to 8th, 10th and 12th grade Arizona students asking questions pertaining to the following topics: alcohol and drug use, delinquency, risk and protective factors, and other issues.

Frequency of Activity: The survey is administered once every two years.

Target Audience: The survey targets 8th, 10th and 12th grade youth throughout Arizona.

Beneficiaries: The survey supports the intervention efforts of school administrators and educators, the work carried out by community coalitions and programs, and the dissemination of information to policymakers and the general public.

Cause of Injury: Questions focused on potential causes of injury include alcohol/drug use and delinquent behaviors questions.

Type of Injury: Data from the 2012 Arizona Youth Survey will support efforts at reducing alcohol and drug use, bullying, teen dating violence, drinking and driving, unlawful handgun carrying, and other delinquent behaviors among Arizona's youth population.

Geographic Area: The State of Arizona.

Advisory Group: SAC staff participates in the following groups-

Arizona Substance Abuse Partnership
Substance Abuse Epidemiology Work Group
Children's Action Alliance Juvenile Justice Committee
Injury Prevention Advisory Council

Funding: Funds are legislatively appropriated through A.R.S. §41-2402.

Accomplishments: During the upcoming 2012 AYS administration, approximately 69,000 8th, 10th and 12th grade youth in Arizona will have taken the survey. Once the latest data is compiled and provided to SAC staff, data will be made available through state and county reports, and the Community Data Project web site located at www.azcjc.gov will be updated. For additional information regarding reports and the survey instrument, please visit the AYS page at <http://www.azcjc.gov/ACJC.Web/sac/AYS.aspx>.

Arizona Department of Health Services

INJURY PREVENTION AND CONTROL INVENTORY

Organization or ADHS Unit Name: Coconino County Injury Prevention

Contact Person/Phone Number/Email: Heather Taylor, (928) 679.7262
htaylor@coconino.az.gov

Type of Activity: Unintentional injury prevention: occupant protection, poison prevention, safe sleep, bicycle safety and pedestrian safety. Other programs include: Child Fatality Review, Safe Routes to School, Safe Kids Coconino County and REACH for your life (suicide prevention).

Description of Activity: We educate parents, caregivers, the community and agencies on injury prevention.

Frequency of Activity: Classes are held twice weekly on unintentional injury. Other programs and coalitions meet once a month.

Target Audience: Parents, caregivers, community members, public health agencies, etc.

Beneficiaries: Coconino County residents

Cause of Injury: We are data-driven to focus on injuries happening in Coconino County, but address the most common in our classes.

Type of Injury: Motor vehicle crash, bicycle, pedestrian, sleep, poison, suicide and seasonally, snow-play related injuries.

Geographic Area: Coconino County

Advisory Group: We participate in Arizona State Safe Kids Coalition, Injury Prevention Advisory Council, Arizona State Child Fatality Review, Coconino County Child Fatality Review, Coconino County Safe Kids, City of Flagstaff Pedestrian and Bicycle Advisory Committees, Best 4 Babies and REACH Your Life Coalition.

Funding: State funded federal grants and Coconino County Public Health Services District dollars.

Accomplishments:

We started a Cribs 4 Kids Program in Coconino County and made a video on safe sleep for the local healthcare centers. We finished our first year leading the Coconino County Child Fatality Review Team and were in 100% compliance in finishing reviewing and entering records. We assisted the Hualapai and Supai Nations with Child Passenger Safety check-up and distribution events. We certified and/or recertified 20+ CPS technicians in Northern Arizona. We helped monitor and provided input on two ordinances that past in the City of Flagstaff (minor helmet law

and no consumption of alcohol in 2 public parks without a permit). We co-wrote a grant that was awarded to construct a piece of missing sidewalk along NAU and Kinsey Elementary School campuses. We distributed 295 car seats and 365 helmets in Coconino County and we checked 321 seats for proper installation at our Page and Flagstaff permanent fitting stations. Lastly, we recycled 350+ car seats, saving our earth from more landfill waste, recycling the plastic shells, metal parts and locking clips.

Arizona Department of Health Services

INJURY PREVENTION AND CONTROL INVENTORY

Organization or ADHS Unit Name: Phoenix Children's Hospital /Injury Prevention Center

Contact Person/Phone Number/Email: Sally Moffat/ 602-933-3347/
smoffat@phoenixchildrens.com

Type of Activity: Provide varied interventions aimed at reducing childhood injuries and promoting safe and healthy children, families and communities. The activities / interventions focus on strengthening parent and child safety knowledge and skills, promoting community safety education, educating providers about childhood safety, participating in child safety coalitions and networks, evaluating organizational practices and recommending organizational changes that promote child / family safety, and influencing policy/legislation that promotes safety enforcement and engineering.

Description of Activity/Program: The Injury Prevention Center focuses on preventing injuries in 5 key areas: child passenger safety, bike and pedestrian safety, child abuse prevention, home safety, and water safety. Modalities include direct teaching/ skill building, media messaging, organizational/ system consultation, and research. The goal is to utilize interventions that are known to make a difference (evidence based) and to evaluate impact and outcomes of activities.

Frequency of Activity: The injury Prevention Center provides services year round

Target Audience: The Injury Prevention Center provides services to individual families (community and hospital), groups of parents (through a number of community agencies/ schools), child care/service providers (child care, head start, healthcare, foster care etc), organizations and policy makers.

Beneficiaries: Children / parents/ families/providers

Cause of Injury: Predominant focus is on preventing unintentional injuries / deaths resulting from motor vehicle collision-occupant and pedestrian, bike incidents, falls, ingestions, fire/burns, drowning, suffocation; program also focuses on prevention of maltreatment and abuse.

Type of Injury: Concussion and spinal cord injuries focus with Think First Curriculum

Geographic Area: Phoenix metro area (predominantly center and south Phoenix) and west metro area;

Advisory Group: Attend AZDHS IPAC; Creighton School District Health Council

Funding: Hospital, corporate donations, grants, and individual donations

Accomplishments: *For the year 2011:*

Child Passenger:

- Distributed 1,200 car seats with education
- Provided 395 car seat checks at the hospital, and at PCH sponsored community events
- Provided special needs loaner seats to approximately 75 families
- Sponsored tween safe riding psa campaign that netted over 1.1 million English speaking impressions and 550,000 Spanish speaking impressions
- Recycled over 500 car seats on Earth Day with morning TV coverage to feature car seat safety
- Distributed over 6,000 clings and safety information promoting safety in and around cars
- Produced *Car Seat Helper* iPhone, iPad, and android applications with 5,000 downloads
- Provided 150 special need consultations for safe transportation
- Distribution of car seat posters to over 1,500 pediatrician offices in Arizona highlighting the AAP recommendations
- Provided car passenger safety information to over 150 providers from child care/child serving organizations and Phoenix Children's Hospital.
- Angelica Baker approved as a national trainer for special needs and Phoenix Children's hosted "Safe Travel for all Children – Transporting Children with Special Health Care Needs"; additionally provided enrichment training for 26 technicians (received 2 CEU) re children and special health care needs.
- Presenters at National Life-savers conference
- Initiated Car Seat Education Study: What Works Best- a study evaluating the effectiveness of two different teaching approaches; measures include an evaluation of pre/post knowledge, confidence, installation accuracy
- Multiple TV and radio interviews about car passenger safety (PEAK, La Campesina, KTAR, NBC, ABC)
- Safe Kids Board member

Child Abuse Prevention

- Leads Adverse Childhood Experiences (ACE) Consortium/Strong Communities Raise Strong Kids Statewide Initiative of over 150 community leaders to educate the public and professionals on the impact of childhood trauma
- Partnership with Arizona Eight PBS resulted in Strong Communities Raise Strong Kids webpage, prime-time *Ask a Child Trauma Expert* and *Forgiveness: Ask an Arizona Expert* special, This Emotional Life blog and social media presence
- 75 individuals from across the state participated in train the trainer workshops for Utilizing the Strong Communities Raise Strong Kids Tool Kit-and participants trained in their communities.
- Coordinates Positive Parenting Program Statewide Planning and supported training over 30 Arizona professionals in this evidence based approach.
- Darkness to Light - Stewards of Children Child Sexual Abuse Prevention- provided this training to 400 participants and coordinated training for 25 facilitators, including 4 Spanish-speaking facilitators.
- In partnership with Never Shake a Baby Arizona, distributed brochures, DVDs, and posters to birthing hospitals in metro Phoenix-reaching over 20,000 parents
- Preventing Child Abuse and Neglect: Parent-Provider Partnership in Child Care-recruited 20 teams for 2-day training from Zero to Three in a Community Model of child abuse prevention
- Supporting a Family-Friendly Environment (SAFE) Curriculum and Materials-trained 25 participants and distributed over 8,000 SAFE materials

- Global Summit on Ending Corporal Punishment and Promoting Positive Discipline - Poster Presentation "*What the Research Says: Stop Hitting Children*, Dallas, TX, June, 2011
- NACHRI presentation, *Strong Communities Raise Strong Kids: Building Collaborations to Reduce Childhood Trauma*, Baltimore, MD, March, 2011
- Community Participation: CPS Citizen Review Panel, Never Shake a Baby Arizona Advisory Group, Greater Phoenix Child Abuse Prevention Council

Water Safety

- 1,140 students at Water Safety Day and completing water safety curriculum in conjunction with Water Safety Day with media coverage at 650,000 impressions
- Twitter.com / kidsstaysafe reached 1080 followers (features water safety and injury prevention topics applicable to families with infants and children)
- 800 students completed water safety curriculum for Tucson Water Safety Day event
- 150 Tubby Tag packets distributed
- Tiffaney Isaacson, Injury Prevention Specialist, served as President of the National Drowning Prevention Alliance (NDPA); represented Phoenix Children's and NDPA at Pool Safety event and radio tour
- Presentation at NDPA National Conference
- 116,000 purple ribbons distributed with prevention information for Drowning Impact Awareness Month in August
- 2,600 families attending / receiving education about water safety
- Launched Playing it Safe Curriculum, a targeted risk reduction program for parents of 1-4 year olds with 100 presentations throughout the year, reaching 500 families.
- Chair: Fatality Review (Home) Committee for Maricopa County

Bike Safety

- Distributed over 2,000 helmets. More than 500 programs included assessment of need, education on helmet fit, when to use and replace a helmet.
- Develop and designed a DRIVE IT > WALK IT safety education booklet for school and community use
- 5,000 contacts at community events and educational programs throughout the Valley
- Hosted Trips for Kids mountain bicycling opportunities for 100+ center city children – bicycle education events at South Mountain
- Provision of evidence based strategy of helmet distribution in the Emergency Department
- Presenter for the City of Phoenix Walk to School Day (Month) and bike to School Month to over 45 schools.

Home Safety

- Enrolled 100 families to complete self-assessment, home inspection, safety remediation, and home safety and asthma trigger reduction education (Healthy Homes Demonstration Project)
- 2,750 community outreach contacts teaching home safety strategies
- 1,015 parents attended home safety classes; 75% of the attendees had an increase in knowledge
- Cribs for Kids program distributed 115 cribs after education and demonstration of skills at safe sleep strategies;

- 105 staff in agencies that care for families of young children received home safety education and safety education kits for use when teaching families.
- Product distribution after installation education / practice for smoke detectors, safety rugs, cleaning buckets with safety message, CO monitors, cabinet locks, interventions to stabilize TV stands, safe sleep/ cribs as needed, sleep sacks, poison control education, fire escape plans.

Arizona Department of Health Services

INJURY PREVENTION AND CONTROL INVENTORY

Organization or ADHS Unit Name: Navajo County Public Health Services District

Contact Person/Phone Number/Email: Amy Stradling (928) 532-6050

amy.stradling@navajocountyaz.gov

Type of Activity: Motor vehicle safety courses including child car seats with an emphasis on booster seats (some seats provided if deemed necessary and to low income AHCCCS eligible families), Matter of Balance fall prevention course and soon self-management of chronic illness for elderly, adolescent education in the schools on seatbelt and motor vehicle safety and the dangers of alcohol and driving under the influence, assist with community car seat check event, chair safe kids chapter meetings, instruct safe kids CPS courses, instruct National safety council CPR, AED, & First Aid courses, preconception health courses , & other safety courses like home safety/sleep safety, etc.

Description of Activity: Navajo county residents are educated on safety from preconception health all the way to the elderly through community outreach a wide variety of courses instructed

Frequency of Activity: Courses are set up based on the need due to staffing limitations. As needed basis and then find an agency to host the training in the area of the county that needs or is requesting the education

Target Audience: all ages from preconception health to senior citizens

Beneficiaries: All ages everyone in the community can benefit format least one of the classes. The program collaborates with other agencies in the community to reach a wider population, including pediatricians and other physicians, public health nursing, DES, WIC, NACOG, day cares, pregnancy centers, and domestic violence shelters, etc.

Cause of Injury: The causes of the injuries can vary: the MVC, the fall, the fire, the drinking while around water or operating a motor vehicle so the focus is on preventative education to prevent these injuries and deaths from occurring (whatever causes an individual damage or harm). Participants are educated to make changes in their: environment, individual behaviors, products, social norms, or through legislation policies and ordinances

Type of Injury: Seatbelt and car seat misuse & nonuse, operating a MV of any kind while under the influence, falls, and all injuries intentional and unintentional

Geographic Area: All of Navajo County and collaborate with the neighboring rural county of Apache County

Advisory Group: The Northeastern Arizona Safe Kids Chapter and White Mountain Fire and Life Safety Coalition. Both of these are used as advisory councils or groups and are focused on similar priority levels

Funding: State grant with the Arizona Department of Health Services

Accomplishments:

2011 highlights for Navajo County:

Becoming a lead instructor with Safe Kids and through the instruction of these ongoing CPS courses we have gotten several new technicians with the 3 tribes within Navajo County. These technicians make it easier to serve a wider area and reach a larger population. Also now because of this the tribes are holding their own car seat check events within their communities and looking at funding opportunities to provide restraints to their community for those in need.

Another success was the implementation of a new coalition “The White Mountain Fire & Life Safety” which compliments the Safe Kids Northeastern Arizona chapter nicely but extends the target age of 14 and looks at injuries and death for all ages. This has been a nice advisory group and they are setting up a 501C3 so money earned can be channeled through to help with preventative education efforts such as the seatbelt surveys and education provided in 2011 in many Navajo County high schools. It also provided some local data from local surveys on seatbelt use and the amount of increased use after the education was provided in the schools.

Arizona Department of Health Services

INJURY PREVENTION AND CONTROL INVENTORY

Organization or ADHS Unit Name: The Arizona Coalition Against Domestic Violence (ACADV)

Contact Person/Phone Number/Email: Gloria Galeno, Phone Number: 602-279-2900 extension: 413,

Email: gloria@azcadv.org.

Type of Activity:

- Fatality Review
- Legislative Action
- Legal Advocacy Training
- Court Watch

Description of Activity:

Fatality Review - Every year, Arizona has approximately 100 domestic violence related deaths. Most of the domestic violence homicides are committed by men, and most of the victims are women and children. The Coalition works with the Arizona Attorney General's Office with Fatality Review Teams (FRT) to analyze data to see where the system failed the victims and to see what measures can be taken to decrease the number of deaths. The FRT has started in Maricopa and Pinal counties.

Legislative Action - AZCADV tracks a number of bills relating to making the lives of domestic violence victims and survivors better, increasing batterer accountability, and funding for domestic violence programs and services. In addition to seeking policy changes at the legislature, we also work with a variety of systems, including judicial, law enforcement, and the multitude of systems with which a victim of domestic violence might come into contact.

Legal Advocacy Training - AZCADV periodically will hold Legal Advocacy training events for lay persons.

Court Watch- The Court Watch program seeks to hold judges accountable for their decisions by putting volunteer observers in the courtroom. Volunteers in Maricopa County typically go to either the Phoenix or the Mesa Superior Court.

Frequency of Activity:

- **Fatality Review:** Year Round.
- **Legislative Action:** Year Round.
- **Legal Advocacy Training:** Periodically.
- **Court Watch:** Year Round.

Target Audience:

Fatality Review: Domestic violence victims, survivors, batterers, Fatality Review Teams, the judicial system and law enforcement.

Legislative Action: Domestic violence victims, survivors, batterers, domestic violence programs and services, the judicial system and law enforcement.

Legal Advocacy Training: Lay persons.

Court Watch: Phoenix or the Mesa Superior Court judges.

Beneficiaries: Domestic violence victims, domestic violence survivors, domestic violence programs and services, the judicial system and law enforcement agencies.

Cause of Injury: Domestic Violence

Type of Injury: Intentional Injuries

Geographic Area: Arizona

Advisory Group: The AZCADV has a governing board.

Funding: The AZCADV is funded by grants, federal, donations, memberships etc.

Accomplishments:

Fatality Review: Released annual Arizona Domestic Violence Related Deaths 2011.

Legislative Action: Several bills the Coalition opposed were stopped. Including SB 1611 (immigration omnibus) and SB 1405 (hospital admissions; restrictions) would have deterred victims from seeking the medical care and emergency shelter that they need and deserve. Provisions in SB 1116 would have required shelter workers to verify victims' citizenship status, which is against federal law and would have jeopardized millions of dollars in funding. Both bills failed on the Senate floor.

Court Watch: The systems advocacy department collaborated with the Diane Halle Center for Family Justice at Arizona State University, the Avon Program for Women and Justice at the O'Connor House, and the Phoenix School of Law-Family Law Student Association to begin a Court-Watch initiative in Arizona.

Notable Accomplishments from the Legal Advocacy Hotline:

The legal advocacy hotline provides information to victims of domestic violence and others calling on behalf of the victim. The hotline provides information pertaining to the legal system, referrals to service providers and explanations of domestic violence and legal issues.

- Legal Advocacy Hotline staff and volunteers responded to a total of 2142 calls.
- Responded to 1858 calls from victims and concerned loved ones.
- 97% of victims surveyed expressed satisfaction with the services they received.

Arizona Department of Health Services

INJURY PREVENTION AND CONTROL INVENTORY

Organization or ADHS Unit Name: Drowning Prevention Coalition of Arizona

Contact Person/Phone Number/Email: Lori Schmidt / (480) 312-1817/
lschmidt@scottsdaleaz.gov

Type of Activity: Increase public awareness about water safety in Arizona

Description of Activity: The **Drowning Prevention Coalition of Arizona**, a community based organization comprised of parents, health and safety professionals, business leaders and concerned citizens, exists to provide a forum to prevent drowning, both fatal and nonfatal water-related incidents, through the promotion of education, legislative action, awareness and enhanced product safety.

As a community-based organization, we attract members from many different areas. It is this diverse representation that provides the Drowning Prevention Coalition a great strength in representing the issues surrounding drowning prevention.

We are able to bring together individuals from different cities, industries and backgrounds to work towards a common cause that significantly benefits the entire community.

Experts agree that there is no single measure to prevent childhood drowning. The key appears to be a combination of efforts. The Coalition believes in educating the community of the duty to closely supervise children around all water hazards. We also stress the importance of barriers that provide layers of protection if supervision fails.

Additionally, taking classes to learn CPR and swim lessons for children at the appropriate age are encouraged. The Drowning Prevention Coalition of Arizona has adopted the Water SMART Babies program to support your efforts in keeping your children safe. Your involvement is the most important factor in helping you prevent, prepare for and cope with emergencies. The resources contained in this guide will provide you with useful tools to help make your children water safe and Water SMART (Safety Methods and Rescue Techniques).

In order to be effective, it is extremely important that we, as Arizona residents, are knowledgeable of these measures not only for our children's safety but for helping to educate the community as a whole.

Block:

- The State of Arizona mandates the use of proper pool barriers (i.e., fences, motorized pool covers or self-closing, self-latching doors). Fence should be made of non-climbable

material, such as iron, heavy-duty plastic or non-climbable mesh, with a minimum height of 54" and self-closing, self latching gate. A four-sided pool fence provides superior protection.

- It is important to be knowledgeable of the current building ordinance for pool barriers in your city.

Watch:

- Most drowning victims are missing for less than five minutes before their absence is noted.
- Drowning occur suddenly and without warning. There is usually no splash and no cry.
- Constant supervision should be practiced near all bodies of water. Drowning frequently occur in buckets, bathtubs, toilets, canals, ponds/lakes, etc.
- In most drowning incidents the caregiver admits they were away for "just a few seconds."

Learn:

- Once an incident occurs, survival depends on rescuing the child quickly, initiating proper CPR. Seconds count in preventing brain damage and death.
- Anyone responsible for a child's care should know CPR and recertify every year.
- Swimming lessons can be helpful and considered a layer of protection. Children older than three years of age should receive swimming lessons.
- However, do not consider children to be "drown proof" just because they have been enrolled in swimming lessons.

Rescue Steps:

- Yell for help -- get the child from the pool.
- Call 911.
- Begin CPR if trained. If not, follow the instructions of the 911 dispatcher

Frequency of Activity: The DPCA website has drowning prevention information year round, and participates in multiple events throughout the year and around the state. The Water SMART Baby program is year round.

Target Audience: DPCA is a statewide coalition bringing together water safety efforts from across Arizona.

Beneficiaries: Adults and children in Arizona.

Cause of Injury: The focus is on preventing both fatal and nonfatal drowning.

Type of Injury: Fatal, nonfatal drowning and water-related incidents.

Geographic Area: Statewide

Advisory Group: The DPCA participates in the Injury Prevention Advisory Committee, Safe Kids Maricopa, Safe Kids Tucson, Safe Kids Yuma and the National Drowning Prevention Alliance.

Funding: The DPCA is funded through contribution, grants, and membership dues.

Accomplishments:

Date of Campaign/Event Campaign/Event DPCA Members Participated in
Attendants/Participants

January - July 2011 SRP distributed Water Safety information at 46 valley wide events 100,000+

January 18-20, 2011 Colorado River law Enforcement Association conference 220 sworn law enforcement / 40 non-sworn

February 18-20, 2011 Pocket Cruisers Festival at Lake Havasu 1500

February 22-24, 2011 USCG Recreational Boating Safety Workshop (San Diego) 80 regional boating and water safety professionals

March 1, 2011 Drowning Prevention brochures given out at Cubs spring training games 3,000 brochures per game/3 games

March 3-10, 2011 International Boating and Water Safety Summit 650 boating and water safety professionals

March 4-6, 2011 Tres Rios Nature Festival 1500+

March 25-28, 2011 Arizona Game and Fish Department Outdoor EXPO 38,000

March 29, 2011 Water Safety Day 1200 first graders, 200 adults

March-May, 2011 Drowning Prevention Programs to Mesa Public Schools Middle School Junior High Students -500

March-May, 2011 Preschool bilingual water safety program with Mesa Public Schools 120 students

March-May, 2011 Annual water Safety newsletter over 50,000 Mesa Public School students/parents

March-July 2011 Stewie the Duck Water Safety program classes in Scottsdale by Lori Schmidt 4400 students

April 1-30, 2011 Banner Buddies Injury Prevention program. 63 elementary schools visited by Tracey Fejt

April 1, 2011 + Water Safety Prescription Program 50 doctors currently participating in Phoenix

April 1, 2011 Az Public Health Assoc Conference 75 attendees

April, 2011 NDPA Conference in Colorado Springs 250 water safety professionals

April - May, 2011 Playing it Safe Presentations by PCHs 120 presentations, 220 child presentations

April 1-30, 2011 Designated Water Watcher's Baseball Cap 150 adults

April 2, 2011 Water Safety Day with American Red Cross 300 people

April 6, 2011 SRP Home Safety Fair 220 people

April 18, 2011 Drexel Heights Water Safety Day 100+

April 19, 2011 Water Safety is for You (Tucson) 800 First Graders

April 30, 2011 April Pools Day-Across the valley Thousands

April 30, 2011 Walk of Water Safety 60,000 homes visited

May 2-13, 2011 Boating and Water Safety Education program at Lake Havasu 120 6th graders

May 6, 2011 Peoria School Districts Careers on Wheels program 200 +

May 14, 2011 Operating under the influence boating checkpoint at Lake Havasu 500 +

May 20-21, 2011 Tri-State Boating Safety Fair 1200 at event; 250,000 + exposed to media

May 28, 2011 Safety Splash (Drexel Heights RD) 100 Families

May 30, 2011 24 Fire crews/engines hand out 8,000 water safety brochures in Mesa 8,000 families

June 3-4, 2011 St. Joseph's Barrow Neurological Center Day at the Lake 300 +

June 6-8, 2011 Western States Boating Administrator's meeting 68 Boating & water safety professionals
 June, 2011 Safe Kids Meeting
 June, 2011 Valley wide Fire PIO Network Press Conference on water safety -16 cities Thousands of viewers
 June, 2011 World Drowning Prevention Conference in Vietnam 400 delegates from 50 countries
 June 24, 2011 Operating under the influence boating checkpoint on Lake Mohave 500 +
 June 25, 2011 Operation Dry Water at Topack Gorge (I-40 at AZ/CA border) 350 direct on-the-water contacts & 250,000 via media
 June 1, 2011 Pachanga en la Piscina – Bilingual Water safety day event –Mesa 300 residents
 June-July, 2011 Summer water safety programs at Mesa Parks and Recreation programs 500+
 June 27, 2011 Pool Safety Roundtable and radio media tour
 June 27th, 2011 Summer safety presentation to Phoenix Job Corps 350
 June 27, 2011 CPSC Pool Safety meeting 60 people
 June 28, 2011 Pool Safety Press Conference
 June 28, 2011 CPSC "Hand-off" Press conference 30 people
 July, 2011 Freedom Festival – 2 day event in Mesa 50,000+
 July, 2011 Phoenix Job Corps presentation 450 attendees
 July, 2011 Drowning Prevention Program to Teenage Pregnant Mothers in Mesa 25 participants
 July 4, 2011 Water Safety interview on Pat McMahon show (AZTV)
 July 4, 2011 24 Fire crews/engines hand out 8,000 water safety brochures in Mesa 8,000 families
 July 10, 2011 All Star Celebrity Bowling Bash Charity Event 300 people
 July 15, 2011 Boating and Water Safety event at Chase Field Diamond Backs Game 65000
 July 16, 2011 Lampson College Safety Fair/Fund Raising for a drowning victim 70 people
 July 21, 2011 Water Safety (Life Jacket) interview on KVOA-TV in Tucson 300,000 +
 July 23, 2011 Operating under the influence boating checkpoint on Lake Mohave 250+
 July 23, 2011 Water Walk in Tucson 120 Families
 July 26, 2011 DIAM Kick-off at Phoenix Children's Hospital 110,000 purple ribbons/safety cards distributed
 July 27, 2011 DIAM Press Conference in Tucson 50 press and public agencies, viewers...thousands
 August, 2011 DIAM banners distributed from SRP 65 banners displayed
 August, 2011 DIAM water safety cards printed by SRP 20,000
 August, 2011 Scottsdale City Cable 11 will be highlighting pool safety
 August 6, 2011 Water Safety Day in recognition of DIAM in Scottsdale 300 people
 August 7, 2011 Take me Out to the Ball Park at Chase Field 51 purchased DPCA tix
 August 13, 2011 Promesa de Tres w 95.1 Latino Vibe at Hubbard Family Swim 100 attendees
 August 20, 2011 Operating under the influence boating checkpoint at I-40 AZ/CA border.
 August 21, 2011 Promesa de Tres w 95.1 Latino Vibe at GolfLand Sunsplash 1000 attendees
 August 28, 2011 Take me Out to the Ball Park at Chase Field (including info table) 1000+
 September 5, 2011 24 Fire crews/engines hand out 8,000 water safety brochures in Mesa 8,000 families

Arizona Department of Health Services

INJURY PREVENTION AND CONTROL INVENTORY

Organization or ADHS Unit Name:

Hualapai Tribe

Contact Person/Phone Number/Email:

Lyndee Hornell; 928-769-2207; lhornell@ymail.com

Type of Activity: Elder Fall Prevention; Car Seat distribution; MVC prevention

Description of Activity:

Our elder fall program consists of:

- Home safety assessments – the IPP and IHS Environmental Health conducts the assessments. Minor corrections (night lights, anti-slip material, and smoke alarm batteries, etc) are made on-the-spot. Other larger problems are fixed through a partnership with tribal programs or contractors.
- Medication management – IHS Public Health Nursing assists during the home safety assessments. An inventory of all medications is generated and sent to the IHS clinic for review.
- Exercise - Several programs offer exercise to the community. We are trying to incorporate Tai Chi into them for the elders.

Child Passenger Safety

- Car seat distribution program
- SNAP training
- Primary law enforcement (to match the AZ law)

Frequency of Activity: Our elder fall prevention activities are voluntary and are provided upon request. However we have a good referral system in place with IHS and other Tribal programs. Our CPS activities are also by request but we will be offering a community SNAP course for the community on a monthly basis.

Target Audience: Our target audience is Hualapai and Havasupai elders, ages 55+ and all those traveling in vehicles.

Beneficiaries: The Hualapai and Havasupai community member as well as the many tourists that visit here.

Cause of Injury: Fall and Motor Vehicle Crash-related injuries. We are also looking at Violence-related injuries but haven't implemented any programs yet.

Type of Injury: Fall and Motor Vehicle Crash-related injuries

Geographic Area: The Hualapai and Havasupai Reservations.

Advisory Group: Hwal'bay hmany did gev'ik

Funding: IHS Tribal Injury Prevention Cooperative Agreement Program (TIPCAP) – 2010-2015

Accomplishments:

- The tribe has recently passed and implemented a primary CPS enforcement law to match the state of AZ
- The IPP program has linked the IHS clinic with community-based programs to implement the fall preventions components

Arizona Department of Health Services

INJURY PREVENTION AND CONTROL INVENTORY

Organization or ADHS Unit Name:

Colorado River Indian Tribes Tribal Motor Vehicle Injury Prevention Program (CRIT TMVIPP)

Contact Person/Phone Number/Email:

Hannah Ward-Harper/ 928-669-1295/ hannah.harper@crit-nsn.gov

Type of Activity: Oversee and administer CRIT TMVIPP program.

Description of Activity: Program Goal: Reduce motor vehicle crash related injuries and deaths due to lack of occupant restraint use and alcohol impaired driving.

Program Objective #1: CRIT IP staff will complete all the administrative functions of the TMVIPP through 2014.

Program Objective #2: Increase the adult motor vehicle occupant restraint usage rates by 20% by year 2014.

Program Objective #3: Reduce alcohol-related Motor Vehicle Crash injuries by 15% and deaths by 15% by year 2014.

Frequency of Activity: Activities are listed under each objective that are conducted each month or as required on a program timeline. These activities include data collection (on seatbelt use/enforcement and motor vehicle crash information on injury, alcohol involvement, and enforcement), sobriety enforcement events, seatbelt use promotion events, media use (sober driving and seatbelt promotion advertisements using billboards, radio, newspaper, theatre, and promotional items), collaborative events with other community programs to promote sober lifestyles (teen audience), community safety advisory board facilitation, and more recently working on policy change with respect to amendment proposals to the CRIT Law and Order Code on impaired driving and primary seatbelt laws.

Target Audience: The primary target audience of the program is the CRIT community members. However, when analyzing the diverse population, jurisdictions, and community mapping, the residents in the town of Parker are also a main target audience because of the fact that a majority of the town limits are located within the exterior boundaries of the CRIT reservation, therefore becoming an all-encompassing community. For this reason, we are extending our efforts to work with programs already in existence that service both tribal and non-tribal constituents.

Beneficiaries: Ultimately, both the CRIT community and Town of Parker residents all benefit from the efforts of CRIT TMVIPP, because of the fact that the roadways are shared by all motorists and pedestrians (tribal and non-tribal).

Cause of Injury: CRIT TMVIPP specifically focuses on motor vehicle crash related injuries due to impaired driving and non-seatbelt use.

Type of Injury: Motor vehicle crash related injuries due to impaired driving and non-seatbelt use.

Geographic Area: The CRIT TMVIPP service area is the Colorado River Indian Tribes Reservation and community.

Advisory Group: The Community Safety Advisory Board serves as a guide for two grant projects, CRIT TMVIPP and the CRIT Alcohol and Substance Abuse Deterrence Program. This collaboration was done to prevent duplication of meetings that require most of the same professional and advisory members to participate. In designing this board, we work together on our specific areas of interest that intersect at a common point of interest.

Funding: CRIT TMVIPP is a federally funded grant project (from 2010-2014) through the Centers for Disease Control and Prevention National Center for Injury Prevention and Control.

Accomplishments:

- 1) Overall seatbelt use increased by 12.7% during the first and second project years, 2011-2012.
- 2) Although, there was no reduction in the amount of motor vehicle crashes that occurred, there was a 15% decrease in injuries resulting from motor vehicle crashes. There was also a 7% increase in DUI arrests.

Arizona Department of Health Services

INJURY PREVENTION AND CONTROL INVENTORY

Organization or ADHS Unit Name: Barrow Prevention, Barrow Neurological Institute, St. Joseph's Hospital and Medical Center

Contact Person/Phone Number/Email: Lucy Ranus, RN, BSN, 602-406-3868
Lucy.Ranus@DignityHealth.org

Type of Activity: Injury prevention presentations, exhibit at health fairs, injury prevention training, skill-based bike rodeos and helmet fitting and distribution

Description of Activity: Age appropriate presentations and training on the prevention of injury

Frequency of Activity: On request

Target Audience: All age groups

Beneficiaries: All

Cause of Injury: Motor Vehicle, violence, falls, bike, sports and other recreational activities, and water related injuries

Type of Injury: Brain, spinal cord and other traumatic injuries

Geographic Area: State of Arizona

Advisory Group: Participates in several local, state and national advisory groups and coalitions

Funding: Foundations, businesses, contracts and hospital operational budget.

Accomplishments: For the year 2011, what were some of your program's accomplishments? Multi-generational Project: Paired two schools with adult centers and city individuals, to create partnerships that provide bicycle and pedestrian safety, equipment and education to older adults, students and families; plan on adding two more school community/city partnerships this year. In the past year, Barrow Prevention provided 11 training opportunities for 107 individuals on how to teach injury prevention in the community; provided 243 injury prevention presentations (Fall Prevention, Oliver Otter, Water Safety, Helmet Your Head and ThinkFirst programs) that teach the prevention of brain, spinal cord and other traumatic brain injuries, reaching 18,616 community members; participated in 56 health fairs and professional exhibits, reaching 12,392 individuals; fit and distributed 630 helmets.

Arizona Department of Health Services

INJURY PREVENTION AND CONTROL INVENTORY

Organization or ADHS Unit Name: Yavapai County Community Health Services

Contact Person/Phone Number/Email: Paul Katan, (928) 442-5422,
paul.katan@yavapai.us

Type of Activity: Safe Home/Safe Child Checklist (Health Start), Child passenger seats provided and inspections (Health Start), Bicycle and pedestrian safety education/helmet distribution (Safe Routes to School), and Child Fatality Review Committee

Description of Activity: Yavapai County Community Health Services' (YCCHS) injury prevention activities are offered through two sections of public health: Community Health Education (CHE) and Family and Child Wellness (FCW). As such, injury prevention activities are primarily conducted as part of each section's programs/services. The sections also coordinate and participate in "Safe Kids" style community events- offering child safety seat inspections, bicycle safety rodeos and helmet giveaways.

Additionally, YCCHS' sections partner frequently with local public safety agencies to implement the aforementioned activities. These partnerships and activities are prompting YCCHS to establish a Safe Kids Coalition in Yavapai County.

Frequency of Activity: Injury prevention activities offered through Health Start are delivered daily to a changing number of Health Start clients. The number of clients served varies, based on the age of the child and the number of applicants.

Injury prevention activities offered through Safe Routes to School are delivered to K-8 schools across Yavapai County. On average, Health Educators offer bicycle and pedestrian safety education to 24 classrooms per school year (approximately 600 students). Pedestrian safety education is offered as part of Walk to School Day events, to six schools (approximately 500 students) each October. School-based bicycle safety rodeos are offered to six schools (approximately 200 students) each spring.

Community injury prevention events (i.e. child safety seat inspections and bicycle safety rodeos) are conducted at least twice annually.

Target Audience: FCW targets the birth to two population. CHE targets K-8 grade students.

Beneficiaries: The direct beneficiaries are the target audience. However, their families and the communities where they live are the ultimate beneficiaries of our injury prevention activities (e.g. reducing the internal and externalized costs associated with preventable injury and death.)

Cause of Injury: Focus is on specific causes of injury.

Type of Injury: Programs focus on child passenger injuries and bike/pedestrian injuries.

Geographic Area: YCCHS programs serve the public throughout Yavapai County. The area is divided into two main service areas, Central Yavapai and the Verde Valley.

Advisory Group: The department receives guidance from its Board of Health, and through participation in the Child Fatality Review Committee. In exploring the establishment of a Safe Kids Coalition

Funding: YCCHS injury prevention activities are funded with federal program grants, awarded through state agencies (i.e. ADHS, ADOT.)

