

Injury among Residents of Pima County, Arizona 2007

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Injury is a public health problem that impacts the lives of thousands of Arizona residents each year. Chronic pain, disability, large medical bills, changes in quality of life, and premature death are just some of the possible effects of injuries. These effects can extend beyond injured individuals to their families and communities. With non-fatal injuries, family members are often required to provide care, which can result in time away from work, loss of income, and increases in stress within the family. At the community level, the financial burden of injuries can include medical expenses, rehabilitation, lost wages, and lost productivity. Most injuries are predictable and preventable. Understanding the causes of injury is an important step toward reducing injury-related morbidity and mortality.

The following report identifies the leading causes of injury among residents of Pima County in 2007. This report is intended to be used as a guide for strategy development, program implementation, and evaluation. The Arizona Department of Health Services Injury Prevention Program operates under the vision of reducing injuries in Arizona using integrated surveillance and evidence-based interventions. This report was generated to increase awareness of county-specific injury issues and to facilitate opportunities for effective injury prevention activities.

Figure 1. Injury Pyramid for Pima County Residents, Arizona 2007

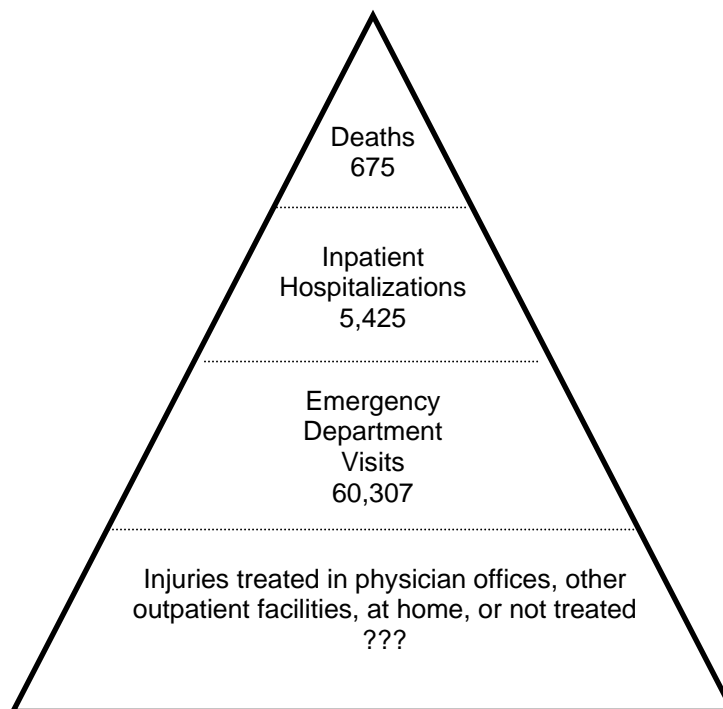


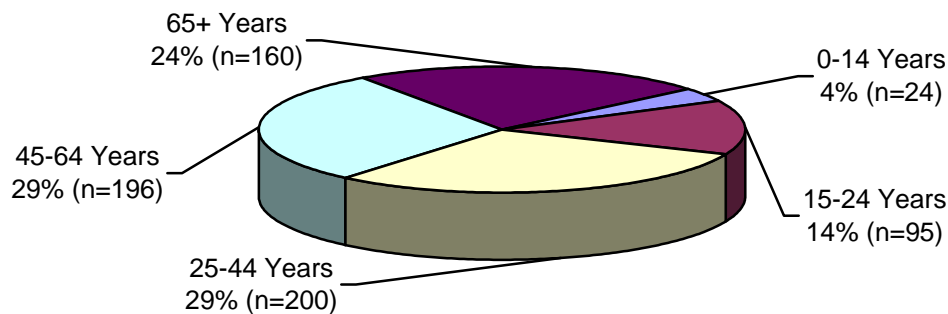
Figure 1 shows an injury pyramid for residents of Pima County during 2007. This pyramid shows that deaths represent the smallest proportion of injuries. The proportions increase towards the foundation of the pyramid, which is comprised of

hospital discharges, emergency department visits, and self care. Although injuries that do not require medical treatment may be the most numerous, no existing datasets capture these types of injuries.

Deaths

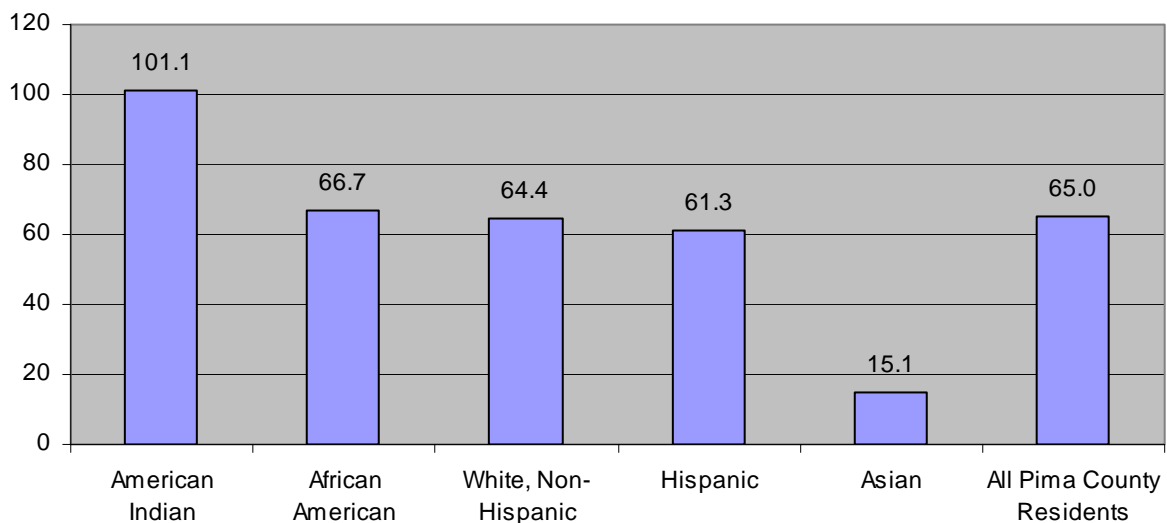
In 2007, there were 675 injury-related deaths in Pima County. Most of these deaths were among males (67 percent, n=453), and females accounted for 33 percent (n=222). The largest percentage of deaths was among individuals ages 25 to 44 years (29 percent, n=200). Age distributions are shown in Figure 2.

Figure 2. Injury-Related Deaths by Age Group, Pima County, Arizona 2007 (n=675)



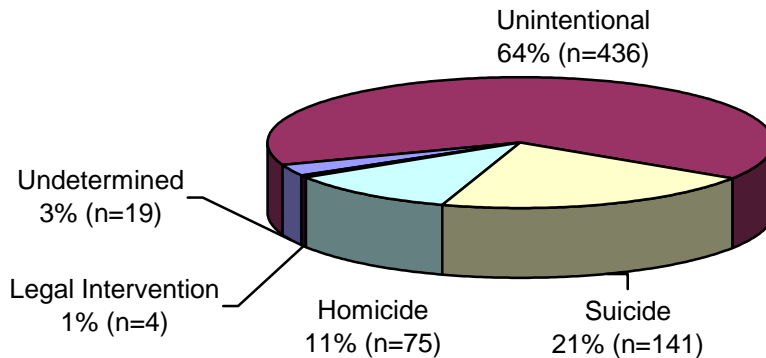
The highest injury-related death rate was among American Indians, with a rate of 101.1 deaths per 100,000 Pima County residents. African Americans had an injury-related death rate of 66.7 per 100,000 residents. Figure 3 shows the age-adjusted death rates per 100,000 residents by race/ethnicity.

Figure 3. Age-Adjusted Injury-Related Death Rates per 100,000 by Race/Ethnicity, Pima County, Arizona 2007 (n=675)



Unintentional injury is the leading cause of death among individuals ages 1 to 44 years in Pima County and in the state of Arizona as a whole.¹ Sixty-four percent of injury-related deaths in Pima County were due to unintentional injuries (n=436); 21 percent were suicides (n=141); 11 percent were homicides (n=75); 3 percent were of undetermined intent (n=19); and 1 percent were due to legal intervention (n=4). Figure 4 shows injury-related deaths by intent.

Figure 4. Injury-Related Deaths by Intent, Pima County, Arizona 2007 (n=675)



Pima County Injury-Related Deaths Compared to Other Arizona Counties

Table 1 shows the intent of injury-related deaths for residents of Pima County compared to residents of the rest of Arizona. The leading intent of injury-related deaths was unintentional for both Pima County and the remaining counties, accounting for the majority of injury-related deaths. Pima County and the rest of Arizona had similar percentages of suicides and homicides.

Table 1. Intent of Injury-Related Deaths, Pima County Compared to Other Arizona Counties, 2007			
Pima County (n=675)		Arizona, excluding Pima County (n=3,858)	
Intent	Percent of Total	Intent	Percent of Total
Unintentional	64	Unintentional	65
Suicide	21	Suicide	22
Homicide	11	Homicide	11
Undetermined	3	Undetermined	3

Suicide

Males accounted for the majority of suicides in Pima County (82 percent, n=115), while females accounted for 18 percent (n=26). Sixteen percent of suicides were among individuals ages 15 to 24 years (n=22); 69 percent were among individuals ages 25 to 64 years (n=97); and 16 percent were among individuals 65 years and older (n=22). There were no suicides among children 14 years and younger. The most common cause of suicide was firearms (59 percent, n=83).

1. Arizona Health Status and Vital Statistics 2007.

Homicide

Males accounted for the majority of homicides in Pima County (79 percent, n=59), while females accounted for 21 percent (n=16). Seven percent of homicides were among individuals 14 years and younger (n=5); 25 percent were among individuals ages 15 to 24 years (n=19); 47 percent were among individuals ages 25 to 44 years (n=35); and 21 percent were among individuals 45 years and older (n=16). The most common cause of homicide was firearms (63 percent, n=47).

Unintentional Injury

The most common causes of unintentional injury-related deaths in Pima County were poisoning (32 percent, n=139) and motor vehicle traffic crashes (26 percent, n=114). The causes of unintentional injury-related deaths during 2007 in Pima County are shown in Table 2.

Cause	Number	Percent
Poisoning	139	32%
Motor vehicle traffic	114	26%
Fall	89	20%
Other/unspecified	50	11%
Suffocation	16	3%
Drowning	8	2%
Other land transport	7	2%
Other pedestrian	7	2%
Nature/environment	6	1%
Total	436	100%

Motor vehicle traffic crashes

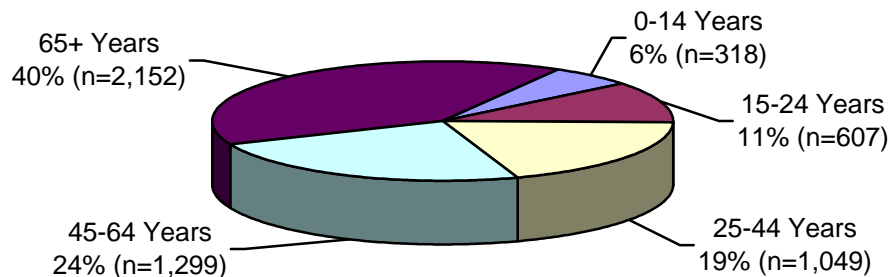
Males accounted for 64 percent of unintentional motor vehicle traffic-related deaths (n=73) and females accounted for 36 percent (n=41). Five percent of these deaths were among children 14 years and younger (n=6); 22 percent were among individuals ages 15 to 24 years (n=25); 56 percent were among individuals ages 25 to 64 years (n=64); and 17 percent were among individuals 65 years and older (n=19).

For most of the motor vehicle traffic-related deaths, the location of the injured person was not specified on the death certificate (64 percent, n=73). Thirteen deaths were among motorcyclists (11 percent); 23 deaths were among pedestrians (20 percent); and five deaths were among motor vehicle occupants (4 percent). There were no deaths among pedal cyclists.

Non-Fatal Inpatient Hospitalizations

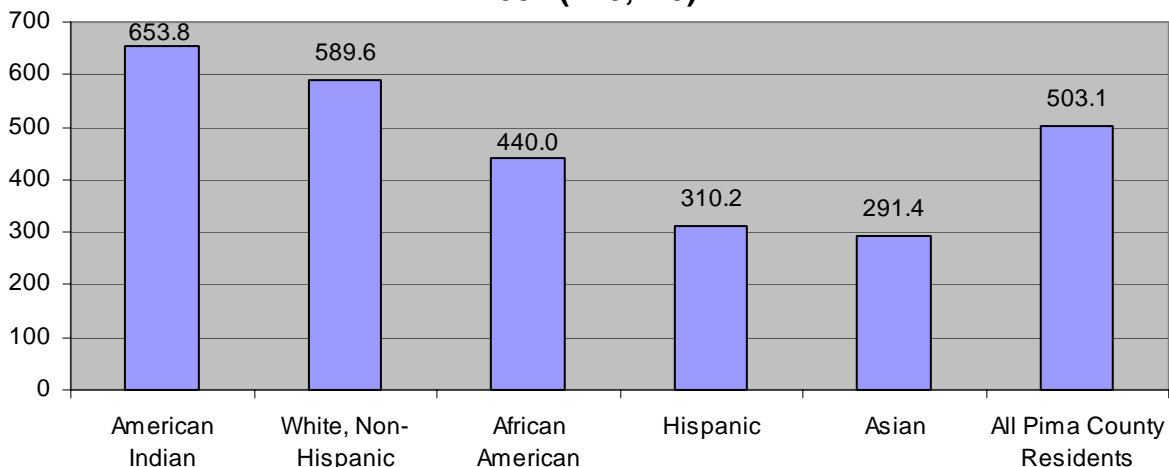
In 2007, there were 5,425 non-fatal inpatient hospitalizations due to injury among residents of Pima County. Forty-nine percent were male (n=2,643) and 51 percent were female (n=2,782). Forty percent of the hospitalizations were among individuals 65 years and older (n=2,152). Figure 5 shows injury-related inpatient hospitalizations by age group among residents of Pima County.

Figure 5. Injury-Related Inpatient Hospitalizations by Age Group, Pima County, Arizona 2007 (n=5,425)



American Indian residents of Pima County had an injury-related inpatient hospitalization rate of 653.8 hospitalizations per 100,000 residents. Non-Hispanic Whites had the second highest rate with 589.6 injury-related hospitalizations per 100,000 residents. Figure 6 shows age-adjusted injury-related inpatient hospitalization rates by race/ethnicity.

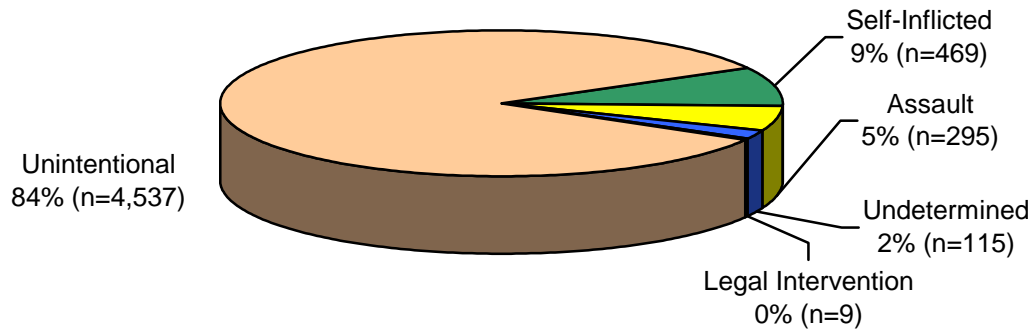
Figure 6. Age-Adjusted Injury-Related Inpatient Hospitalization Rates per 100,000 by Race/Ethnicity, Pima County, Arizona 2007 (n=5,425)



Eighty-four percent of the inpatient hospitalizations were due to unintentional injuries (n=4,537); 9 percent were due to self-inflicted injuries (n=469); 5 percent were due to assaults (n=295); and 2 percent were of undetermined intent (n=115).

There were 9 hospitalizations due to legal intervention. Figure 7 shows injury-related hospitalizations by intent.

Figure 7. Injury-Related Inpatient Hospitalizations by Intent, Pima County, Arizona 2007 (n=5,425)



Pima County Injury-Related Hospitalizations Compared to Other Arizona Counties

Table 3 shows the intent of injury-related hospitalizations for residents of Pima County compared to residents of the rest of Arizona. **The leading intent of injury-related hospitalizations was unintentional for both Pima County and the remaining counties, accounting for the majority of injury-related hospitalizations.** Pima County and the rest of Arizona had similar percentages of hospitalizations due to self-inflicted injuries and assaults.

Table 3. Intent of Injury-Related Inpatient Hospitalizations, Pima County Compared to Other Arizona Counties, 2007			
Pima County (n=5,425)		Arizona, excluding Pima County (n=27,150)	
Intent	Percent of Total	Intent	Percent of Total
Unintentional	84	Unintentional	82
Self-Inflicted	9	Self-Inflicted	9
Assault	5	Assault	7
Undetermined	2	Undetermined	2

The most common causes of unintentional injury-related hospitalizations in Pima County were falls (55 percent, n=2,490) and motor vehicle traffic crashes (16 percent, n=710). Table 4 shows the causes of unintentional injury-related hospitalizations among residents of Pima County.

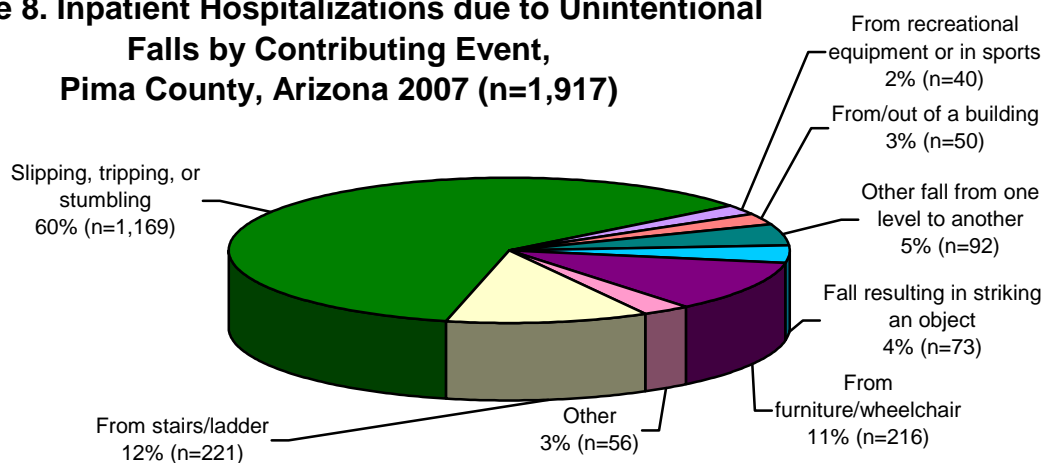
Cause	Number	Percent
Fall	2,490	55%
Motor vehicle traffic	710	16%
Poisoning	397	9%
Other/unspecified	356	8%
Nature/environment	136	3%
Struck by/against	134	3%
Motor vehicle non-traffic	123	3%
Overexertion	82	2%
Other pedal cycle	56	1%
Cut/pierce	53	1%
Total	4,537	100%

Falls

Males accounted for 34 percent of unintentional fall-related hospitalizations (n=856) and females accounted for 66 percent (n=1,634). Three percent of fall-related hospitalizations were among children 14 years and younger (n=86); 2 percent were among individuals ages 15 to 24 years (n=53); 25 percent were among individuals ages 25 to 64 years (n=631); and 69 percent were among individuals 65 years and older (n=1,720).

For 23 percent of unintentional fall-related inpatient hospitalizations, information regarding contributing event was not specified in the hospital discharge database (n=573). Among the hospitalizations for which contributing event was specified, 60 percent were due to slipping, tripping, or stumbling (n=1,169). Figure 8 shows unintentional fall-related hospitalizations by contributing event.

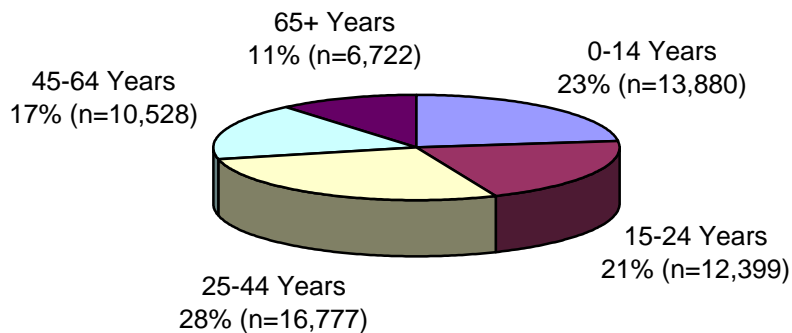
Figure 8. Inpatient Hospitalizations due to Unintentional Falls by Contributing Event, Pima County, Arizona 2007 (n=1,917)



Non-Fatal Emergency Department Visits

In 2007, there were 60,307 injury-related emergency department visits among residents of Pima County. Males accounted for 53 percent of these visits (n=32,158) and females accounted for 47 percent (n=28,148). For one individual, sex was not specified in the emergency department database. The largest percentage of visits was among individuals ages 25 to 44 years (28 percent, n=16,777). Figure 9 shows injury-related emergency department visits by age group.

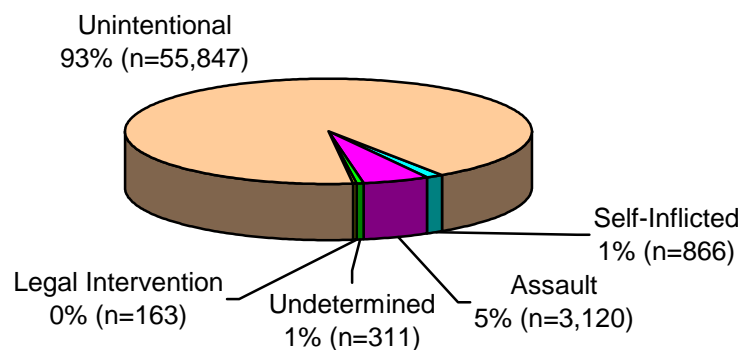
Figure 9. Injury-Related Emergency Department Visits by Age Group, Pima County, Arizona 2007 (n=60,306)



Does not include 1 male of unknown age

Ninety-three percent of the emergency department visits were due to unintentional injuries (n=55,847); 5 percent were due to assaults (n=3,120); and 1 percent were due to self-inflicted injuries (n=866). There were 311 injury-related emergency department visits of undetermined intent and 163 visits were due to legal intervention. Figure 10 shows emergency department visits by intent.

Figure 10. Injury-Related Emergency Department Visits by Intent, Pima County, Arizona 2007 (n=60,307)



Pima County Injury-Related Emergency Department Visits Compared to Other Arizona Counties

Table 5 shows the intent of injury-related emergency department visits in Pima County for residents of Pima County compared to residents of the rest of Arizona. The leading intent of injury-related visits was unintentional for both Pima County and the remaining counties, accounting for the majority of injury-related visits. Pima County and the rest of Arizona had similar percentages of visits due to self-inflicted injuries and assaults.

Pima County (n=60,307)		Arizona, excluding Pima County (n=324,680)	
<u>Intent</u>	<u>Percent of Total</u>	<u>Intent</u>	<u>Percent of Total</u>
Unintentional	93	Unintentional	93
Self-Inflicted	1	Self-Inflicted	2
Assault	5	Assault	4
Undetermined	1	Undetermined	1

The most common causes of unintentional injury-related emergency department visits were falls (30 percent, n=16,798) and struck by/against injuries (14 percent, n=7,707). Table 6 shows the causes of unintentional injury-related emergency department visits for Pima County residents in 2007.

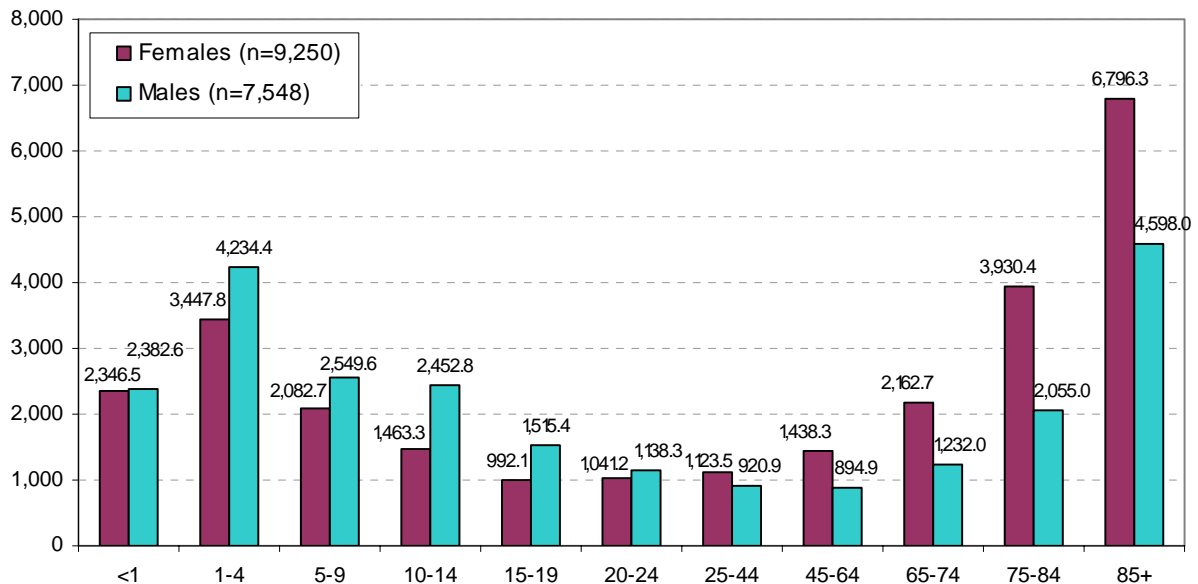
Cause	Number	Percent
Fall	16,798	30%
Struck by/against	7,707	14%
Motor vehicle traffic	7,482	13%
Other/unspecified	6,923	12%
Overexertion	5,584	10%
Cut/pierce	4,823	9%
Nature/environment	2,747	5%
Other pedal cycle	1,094	2%
Fire/hot object	953	2%
Poisoning	869	2%
Motor vehicle non-traffic	867	2%
Total	55,847	100%

Falls

There were 16,798 emergency department visits due to unintentional falls. Males accounted for 45 percent of these visits (n=7,548) and females accounted for 55 percent (n=9,250). Thirty-one percent of fall-related emergency department visits were among children 14 years and younger (n=5,289); 10 percent of visits were among individuals ages 15 to 24 years (n=1,715); 33 percent were among individuals ages 25 to 64 years (n=5,596); and 25 percent were among individuals 65 years and older (n=4,198).

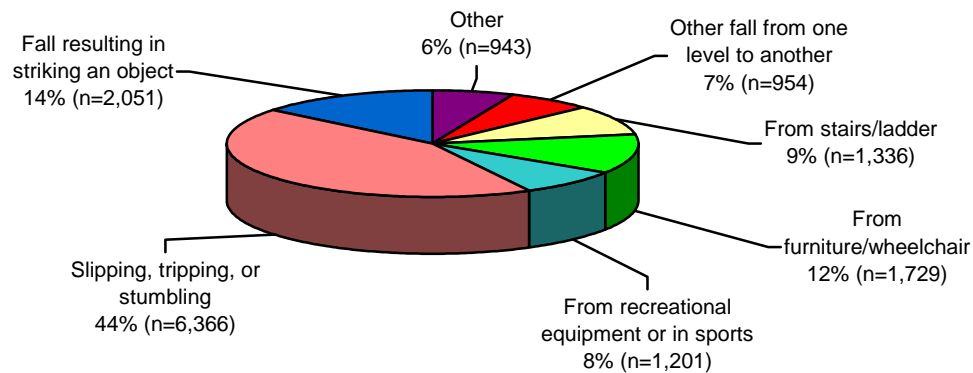
The highest rates of unintentional fall-related emergency department visits were among older adults. Females 85 years and older had a rate of 6,796.3 fall-related emergency department visits per 100,000 residents. Figure 11 shows emergency department visit rates of unintentional falls by age group and sex.

Figure 11. Unintentional Fall-Related Emergency Department Visit Rates per 100,000, Pima County, Arizona 2007 (n=16,798)



For 13 percent of the unintentional fall-related emergency department visits, information regarding contributing event was not specified in the emergency department database (n=2,218). Among the emergency department visits for which contributing event was specified, 44 percent of unintentional falls were due to slipping, tripping, or stumbling (n=6,366). Figure 12 shows emergency department visits due to unintentional falls by contributing event.

Figure 12. Emergency Department Visits due to Unintentional Falls by Contributing Event, Pima County, Arizona 2007 (n=14,580)



Summary

In 2007, there were 675 injury-related deaths in Pima County, and the largest percentage of deaths was among adults ages 25 to 44 years (29 percent, n=200). The majority of these deaths were due to unintentional injuries (64 percent, n=436). The most common cause of unintentional injury deaths was poisoning (32 percent, n=139). For residents of Pima County, unintentional injury is the leading cause of death for individuals ages 1 to 44 years.¹ Twenty-one percent of injury-related deaths in Pima County were suicides (n=141); 11 percent were homicides (n=75); and 3 percent were of undetermined intent (n=19).

There were 5,425 non-fatal inpatient hospitalizations due to injury among residents of Pima County. Forty percent of the hospitalizations were among adults 65 years and older (n=2,152). Eighty-four percent of the hospitalizations were due to unintentional injuries (n=4,537); 9 percent were due to self-inflicted injuries (n=469); 5 percent were assaults (n=295); and 2 percent were of undetermined intent (n=115). Nine hospitalizations were due to legal intervention. The most common cause of unintentional injury-related hospitalizations was falls (55 percent, n=2,490).

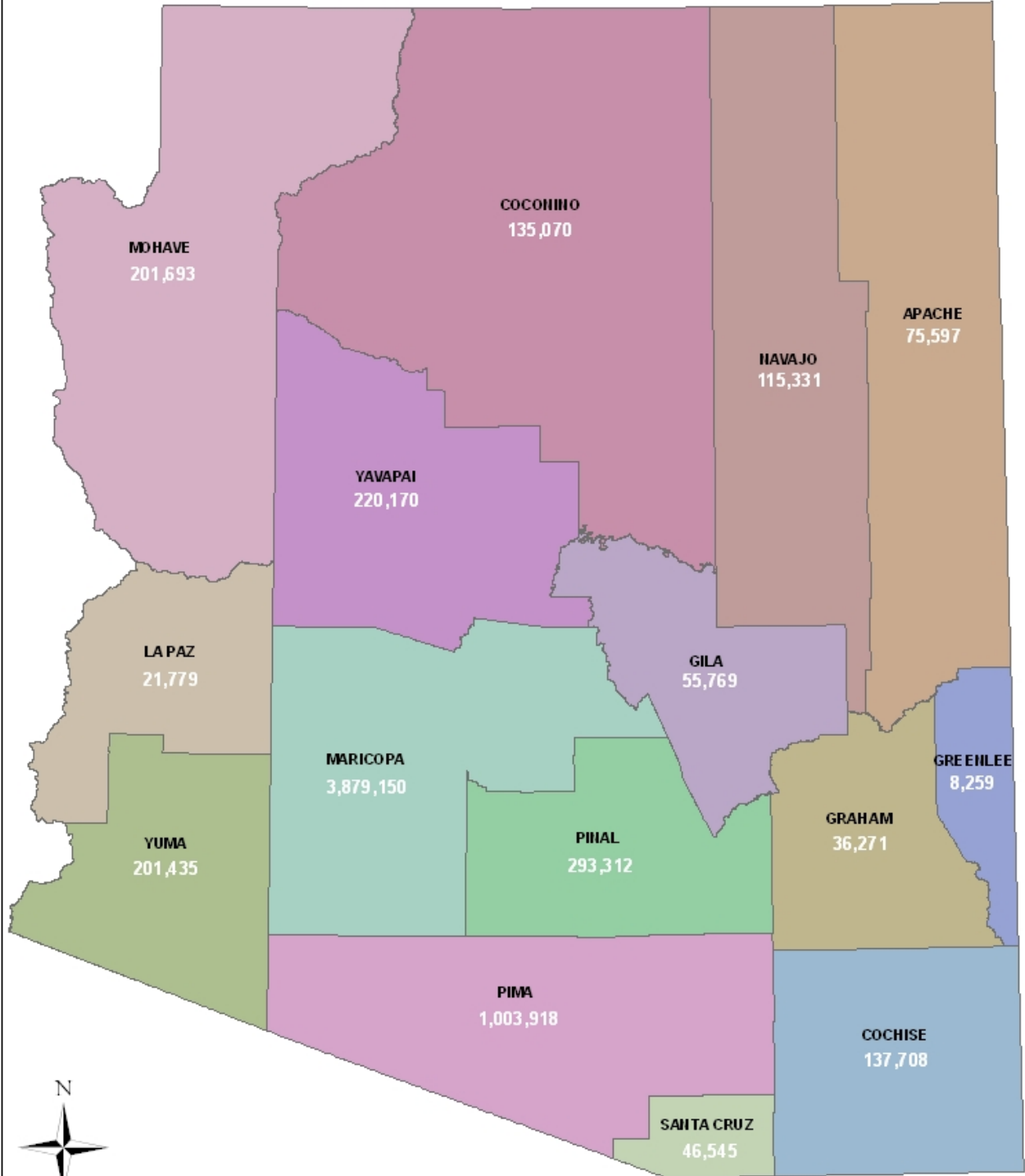
There were 60,307 injury-related non-fatal emergency department visits among residents of Pima County in 2007. The largest percentage of visits was among individuals ages 25 to 44 years (28 percent, n=16,777). Ninety-three percent of the emergency department visits were due to unintentional injuries (n=55,847); 5 percent were due to assaults (n=3,120); and 1 percent were due to self-inflicted injuries (n=866). There were 311 injury-related emergency department visits of undetermined intent and 163 visits were due to legal intervention. The most common cause of unintentional injury-related emergency department visits was falls (30 percent, n=16,798).

Source for deaths: 2007 Death Certificate Database

Source for hospitalizations: 2007 Inpatient Hospital Discharge Database

Source for emergency department visits: 2007 Outpatient Emergency Department Database

Arizona Counties with Population, 2007



1 in = 44 miles
Source: Arizona Health Status and Vital Statistics 2007