

Injury among Residents of Pinal County, Arizona 2008

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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 Pinal County in 2008. 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 Pinal County Residents, Arizona 2008

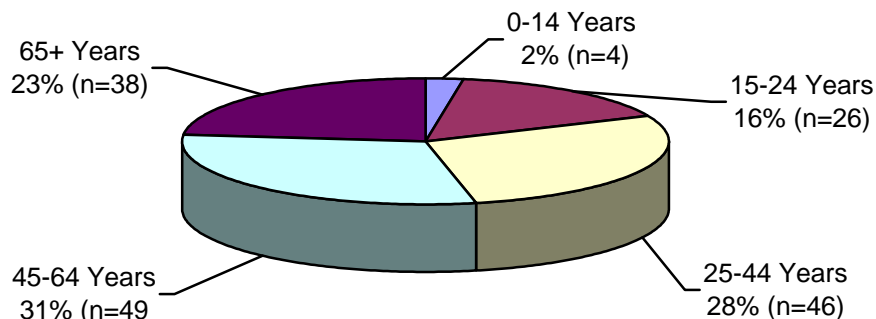


Figure 1 shows an injury pyramid for residents of Pinal County during 2008. This pyramid shows that deaths represent the smallest proportion of injuries. The proportions increase towards the foundation of the pyramid, which is comprised of hospital discharges, emergency department visits, and self care. Although injuries that do not require medical treatment may be the most numerous, no existing datasets capture these types of injuries.

Deaths

In 2008, there were 163 injury-related deaths in Pinal County. Most of these deaths were among males (74 percent, n=120), and females accounted for 26 percent (n=43). The largest percentage of deaths was among individuals ages 45 to 64 years (31 percent, n=49). Age distributions are shown in Figure 2.

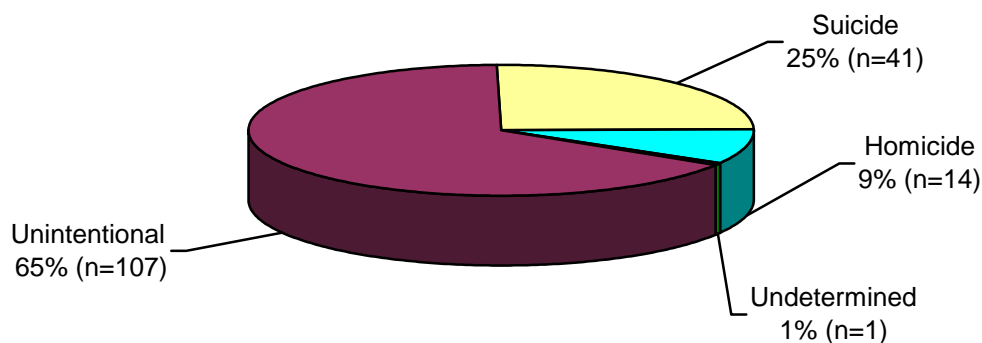
Figure 2. Injury-Related Deaths by Age Group, Pinal County, Arizona 2008 (n=163)



Non-Hispanic Whites accounted for the majority of injury-related deaths in Pinal County (69 percent, n=112), followed by Hispanics (17 percent, n=28). Rates by racial/ethnic groups could not be calculated due to small sample sizes.

Unintentional injury is the leading cause of death among all Pinal County residents ages 1 to 44 years, as well as the leading cause of death for Arizonans in this age range. Sixty-six percent of injury-related deaths in Pinal County were due to unintentional injuries (n=107); 25 percent were suicides (n=41); 9 percent were homicides (n=14); and 1 percent were of undetermined intent (n=1). Figure 3 shows injury-related deaths by intent.

Figure 3. Injury-Related Deaths by Intent, Pinal County, Arizona 2008 (n=163)



Pinal County Injury-Related Deaths Compared to Other Arizona Counties

Table 1 shows the intent of injury-related deaths for residents of Pinal County compared to residents of the rest of Arizona. The leading intent of injury-related deaths was unintentional for both Pinal County and the remaining counties, accounting for the majority of injury-related deaths. Pinal County had a greater percentage of suicides (25 percent) and a smaller percentage of homicides (9 percent) than the rest of Arizona (11 percent and 22 percent, respectively).

Table 1. Intent of Injury-Related Deaths, Pinal County Compared to Other Arizona Counties, 2008			
Pinal County (n=163)		Arizona, excluding Pinal County (n=3,790)	
<u>Intent</u>	<u>Percent of Total</u>	<u>Intent</u>	<u>Percent of Total</u>
Unintentional	65	Unintentional	64
Suicide	25	Suicide	22
Homicide	9	Homicide	11
Undetermined	1	Undetermined	2

Suicide

Males accounted for the majority of suicides in Pinal County (93 percent, n=38), while females accounted for 7 percent (n=3). Twelve percent of suicides were among individuals ages 15 to 24 years (n=5); 39 percent were among individuals ages 25 to 44 years (n=16); 32 percent were among individuals ages 45 to 64 years (n=13); and 17 percent were among adults 65 years and older (n=7). There were no suicides among children 14 years and younger. The most common cause of suicide was firearms (63 percent, n=26).

Homicide

As with suicides, males accounted for the majority of homicides in Pinal County during 2008 (79 percent, n=11). Females accounted for 21 percent (n=3). Thirty-six percent were among individuals ages 15 to 24 years (n=5); 43 percent were among individuals ages 25 to 44 years (n=6); and 21 percent were among individuals 45 years and older (n=3). There were no homicides among children 14 years and younger. The most common cause of homicide was firearms (50 percent, n=7).

Unintentional Injury

The most common cause of unintentional injury-related deaths in Pinal County was motor vehicle traffic crashes (45 percent, n=48). Seventeen percent of unintentional injury deaths were due to falls (n=18). The causes of unintentional injury-related deaths during 2008 in Pinal County are shown in Table 2.

Cause	Number	Percent
Motor vehicle traffic	48	45%
Fall	18	17%
Poisoning	14	13%
Other/unspecified	11	10%
Drowning	6	6%
Other land transport	4	4%
Fire/hot objects	3	3%
Suffocation	3	3%
Total	107	100%

Motor vehicle traffic crashes

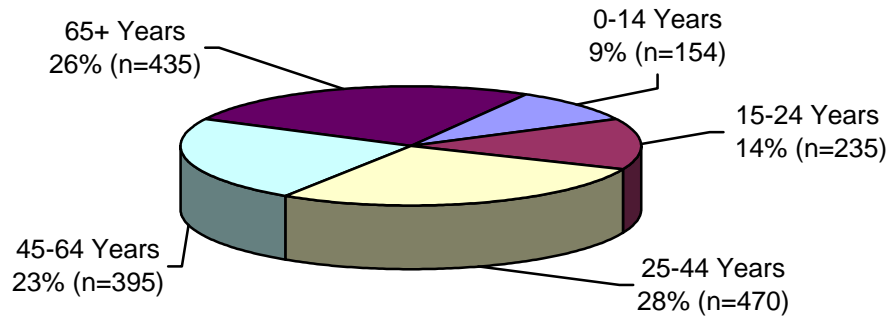
Males accounted for 71 percent of unintentional motor vehicle traffic-related deaths (n=34) and females accounted for 29 percent (n=14). Two percent of these deaths were among children 14 years and younger (n=1); 23 percent were among individuals ages 15 to 24 years (n=11); 58 percent were among individuals ages 25 to 64 years (n=28); and 17 percent were among individuals 65 years and older (n=8).

For most of the motor vehicle traffic-related deaths, the location of the injured person was not specified on the death certificate (71 percent, n=34). Five deaths were among motorcyclists (10 percent); eight deaths were among pedestrians (17 percent); and one death was among a motor vehicle occupant (2 percent). There were no deaths among pedal cyclists in Pinal County during 2008.

Non-Fatal Inpatient Hospitalizations

In 2008, there were 1,689 non-fatal inpatient hospitalizations due to injury among residents of Pinal County. Fifty-five percent were male (n=925) and 45 percent were female (n=762). Twenty-eight percent of the hospitalizations were among individuals ages 25 to 44 years (n=470). Figure 4 shows injury-related inpatient hospitalizations by age group among residents of Pinal County.

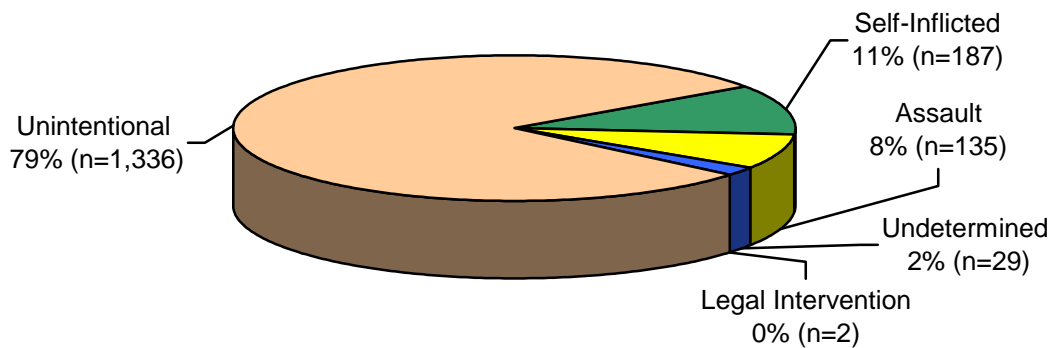
Figure 4. Injury-Related Inpatient Hospitalizations by Age Group, Pinal County, Arizona 2008 (n=1,689)



There were 1,119 injury-related hospitalizations among White, Non-Hispanic residents of Pinal County (66 percent). The second highest number was among Hispanics (18 percent, n=303). Rates by racial/ethnic groups could not be calculated due to small sample sizes.

Seventy-nine percent of the inpatient hospitalizations were due to unintentional injuries (n=1,336); 11 percent were due to self-inflicted injuries (n=187); 8 percent were due to assaults (n=135); and 2 percent were of undetermined intent (n=29). There were two injury-related hospitalizations due to legal intervention. Figure 5 shows injury-related hospitalizations by intent.

Figure 5. Injury-Related Inpatient Hospitalizations by Intent, Pinal County, Arizona 2008 (n=1,689)



Pinal County Injury-Related Hospitalizations Compared to Other Arizona Counties

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

Table 3. Intent of Injury-Related Inpatient Hospitalizations, Pinal County Compared to Other Arizona Counties, 2008			
Pinal County (n=1,689)		Arizona, excluding Pinal County (n=31,420)	
<u>Intent</u>	<u>Percent of Total</u>	<u>Intent</u>	<u>Percent of Total</u>
Unintentional	79	Unintentional	82
Self-Inflicted	11	Self-Inflicted	10
Assault	8	Assault	6
Undetermined	2	Undetermined	2

The most common causes of unintentional injury-related hospitalizations were falls (40 percent, n=538) and motor vehicle traffic crashes (25 percent, n=331).

Table 4 shows the causes of unintentional injury-related hospitalizations among residents of Pinal County.

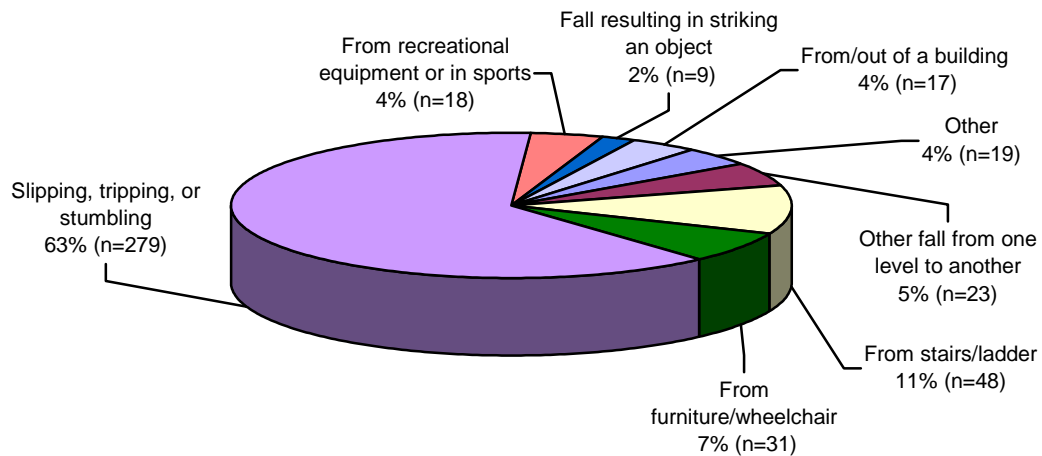
Table 4. Causes of Unintentional Injury-Related Inpatient Hospitalizations among Pinal County Residents, Arizona 2008		
Cause	Number	Percent
Fall	538	40%
Motor vehicle traffic	331	25%
Other/unspecified	142	11%
Poisoning	98	7%
Transport	84	6%
Nature/environment	44	3%
Fire/hot object	43	3%
Struck by/against	34	3%
Overexertion	22	2%
Total	1,336	100%

Falls

Males accounted for 41 percent of unintentional fall-related hospitalizations (n=223) and females accounted for 59 percent (n=315). Nine percent of fall-related hospitalizations were among children 14 years and younger (n=48); 2 percent were among individuals ages 15 to 24 years (n=13); 30 percent were among individuals ages 25 to 64 years (n=160); and 59 percent were among individuals 65 years and older (n=317).

For 17 percent of unintentional fall-related inpatient hospitalizations, information regarding contributing event was not specified in the hospital discharge database (n=94). Among the hospitalizations for which contributing event was specified, 63 percent were due to slipping, tripping, or stumbling (n=279). Figure 6 shows unintentional fall-related hospitalizations by contributing event.

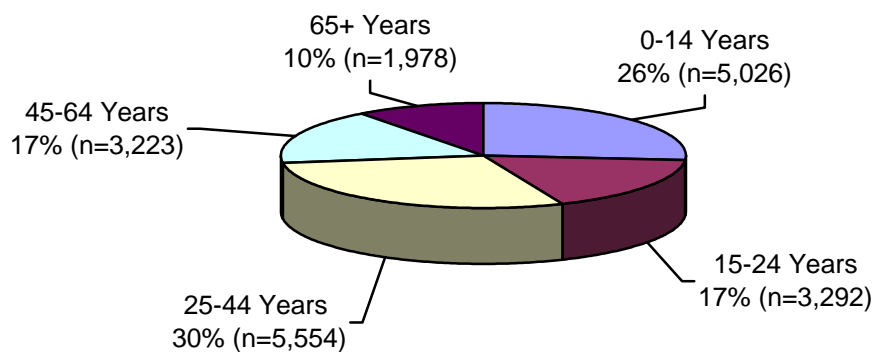
Figure 6. Inpatient Hospitalizations due to Unintentional Falls by Contributing Event, Pinal County, Arizona 2008 (n=444)



Non-Fatal Emergency Department Visits

In 2008, there were 19,073 injury-related emergency department visits among residents of Pinal County. Males accounted for 55 percent of these visits (n=10,458) and females accounted for 45 percent (n=8,615). The largest percentage of visits was among individuals ages 25 to 44 years (30 percent, n=5,554). Figure 7 shows injury-related emergency department visits by age group.

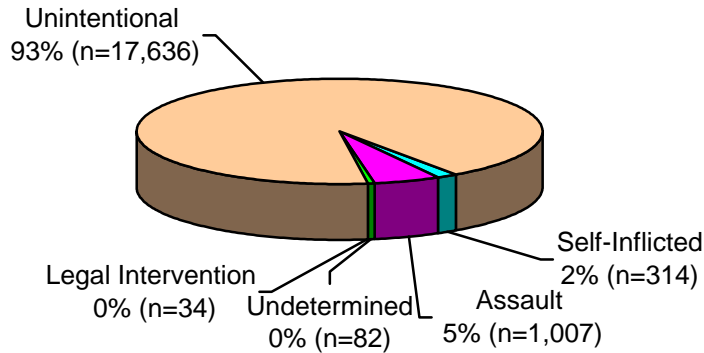
Figure 7. Injury-Related Emergency Department Visits by Age Group, Pinal County, Arizona 2008 (n=19,073)



There were 12,595 injury-related hospitalizations among White, Non-Hispanic residents of Pinal County (66 percent). The second highest number was among Hispanics (22 percent, n=4,230). Rates by racial/ethnic groups could not be calculated due to small sample sizes.

Ninety-three percent of the emergency department visits were due to unintentional injuries (n=17,636); 5 percent were due to assaults (n=1,007); and 2 percent were due to self-inflicted injuries (n=314). Eighty-two emergency department visits were of undetermined intent and 34 visits were due to legal intervention. Figure 8 shows emergency department visits by intent.

Figure 8. Injury-Related Emergency Department Visits by Intent, Pinal County, Arizona 2008 (n=19,073)



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

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

Table 5. Intent of Injury-Related Emergency Department Visits, Pinal County Compared to Other Arizona Counties, 2008			
Pinal County (n=19,073)		Arizona, excluding Pinal County (n=355,630)	
Intent	Percent of Total	Intent	Percent of Total
Unintentional	93	Unintentional	93
Self-Inflicted	2	Self-Inflicted	2
Assault	5	Assault	5
Undetermined	0	Undetermined	1

The most common cause of unintentional injury-related emergency department visits in Pinal County was falls (30 percent, n=5,252). Table 6 shows the causes of unintentional injury-related emergency department visits for Pinal County residents in 2008.

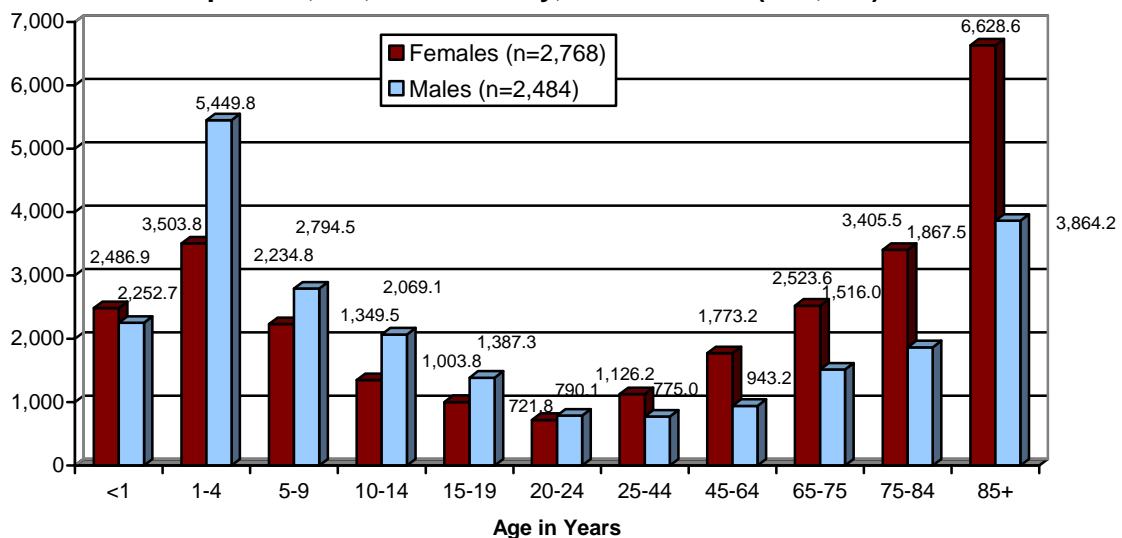
Cause	Number	Percent
Fall	5,252	30%
Struck by/against	2,647	15%
Motor vehicle traffic	2,133	12%
Other/unspecified	2,052	12%
Overexertion	2,034	12%
Cut/pierce	1,318	7%
Nature/environment	814	5%
Transport	478	3%
Other pedal cycle	315	2%
Fire/hot object	302	2%
Poisoning	291	2%
Total	17,636	100%

Falls

There were 5,252 emergency department visits due to unintentional falls. Males accounted for 47 percent of these visits (n=2,484) and females accounted for 53 percent (n=2,768). Children ages 14 years and younger had the highest percentage of unintentional fall-related emergency department visits (35 percent, n=1,837). Nine percent of visits were among individuals ages 15 to 24 years (n=448); 35 percent were among individuals ages 25 to 64 years (n=1,833); and 22 percent were among individuals 65 years and older (n=1,134).

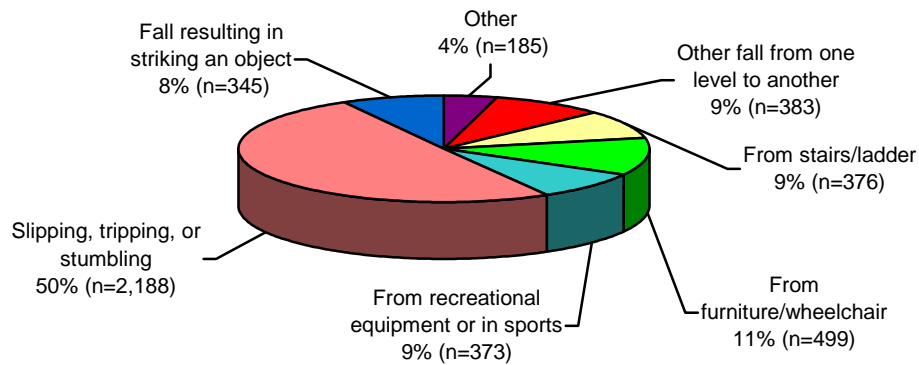
The highest rate of unintentional fall-related emergency department visits was among older adult females. Females 85 years and older had a rate of 6,628.6 fall-related emergency department visits per 100,000 residents. There was also a high rate among males ages 1 to 4 years (5,449.8 per 100,000 residents). Figure 9 shows emergency department visit rates of unintentional falls by age group and sex.

Figure 9. Unintentional Fall-Related Emergency Department Visit Rates per 100,000, Pinal County, Arizona 2008 (n=5,252)



For 17 percent of the unintentional fall-related emergency department visits, information regarding contributing event was not specified in the emergency department database (n=903). Among the emergency department visits for which contributing event was specified, 50 percent of unintentional falls were due to slipping, tripping, or stumbling (n=2,188). Figure 10 shows emergency department visits due to unintentional falls by contributing event.

Figure 10. Emergency Department Visits due to Unintentional Falls by Contributing Event, Pinal County, Arizona 2008 (n=4,349)



Summary

In 2008, there were 163 injury-related deaths in Pinal County, and the largest percentage of deaths was among individuals ages 45 to 64 years (30 percent, n=49). The majority of these deaths were due to unintentional injuries (66 percent, n=107). The most common cause of unintentional injury deaths was motor vehicle traffic crashes (45 percent, n=48). For residents of Pinal County, unintentional injury is the leading cause of death for individuals ages 1 to 44 years.¹ Twenty-five percent of injury-related deaths in Pinal County were suicides (n=41); 9 percent were homicides (n=14); and 1 percent were of undetermined intent (n=1). There were no deaths due to legal intervention.

There were 1,689 non-fatal inpatient hospitalizations due to injury among residents of Pinal County. Twenty-eight percent of the hospitalizations were among individuals ages 25 to 44 years (n=470). Seventy-nine percent of the hospitalizations were due to unintentional injuries (n=1,336); 11 percent were due to self-inflicted injuries (n=187); 8 percent were assaults (n=135); and 2 percent were of undetermined intent (n=29). There were two hospitalizations due to legal intervention. The most common cause of unintentional injury-related hospitalizations was falls (40 percent, n=538).

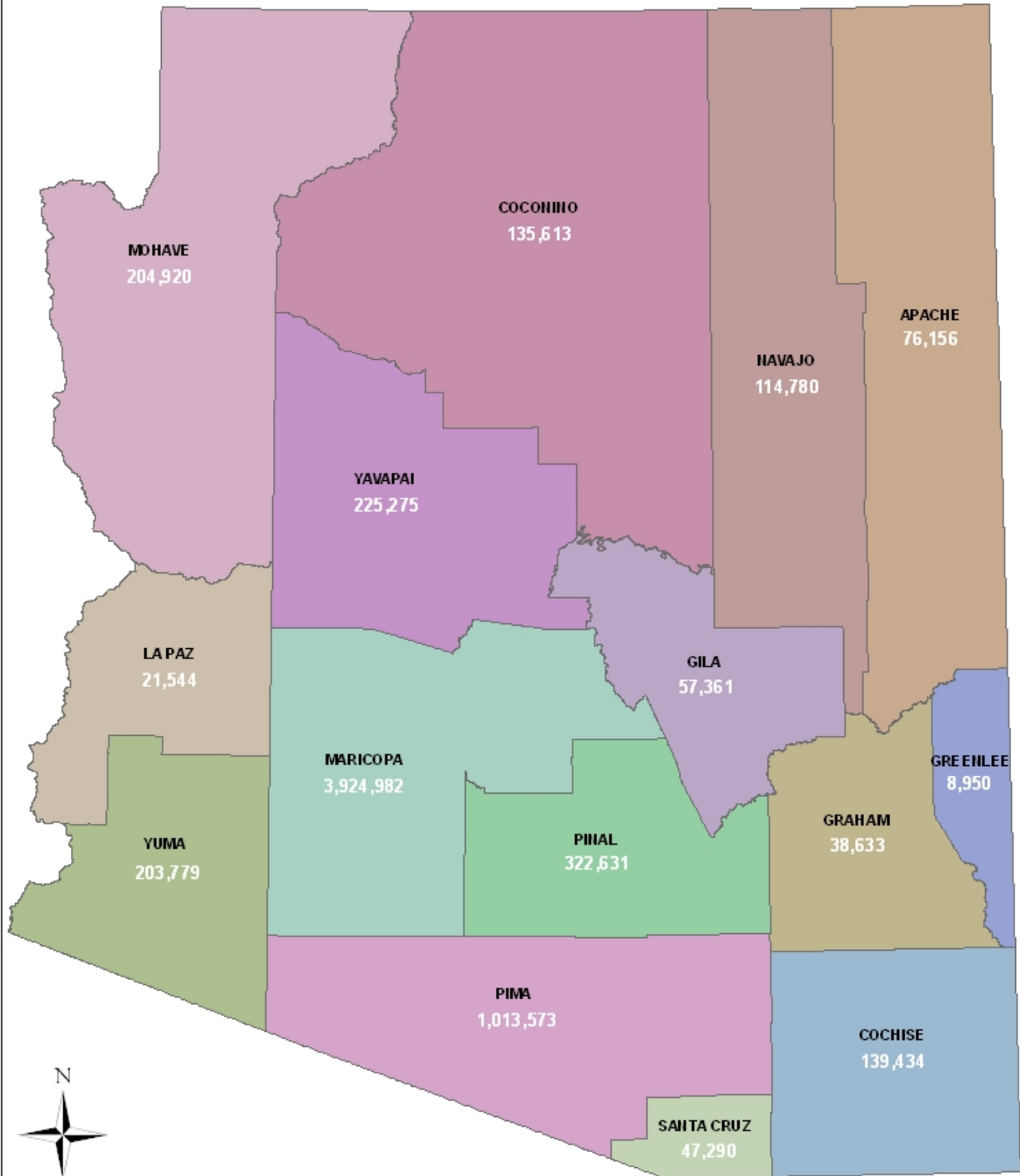
There were 19,073 injury-related non-fatal emergency department visits among residents of Pinal County in 2008. The largest percentage of visits was among individuals ages 25 to 44 years (30 percent, n=5,554). Ninety-three percent of the emergency department visits were due to unintentional injuries (n=17,636); 5 percent were due to assaults (n=1,007); and 2 percent were due to self-inflicted injuries (n=314). Eighty-two injury-related emergency department visits were of undetermined intent and 34 visits were due to legal intervention. The most common cause of unintentional injury-related emergency department visits was falls (30 percent, n=5,252).

Source for deaths: 2008 Death Certificate Database

Source for hospitalizations: 2008 Inpatient Hospital Discharge Database

Source for emergency department visits: 2008 Outpatient Emergency Department Database

Arizona Counties with Population, 2008



1 in = 44 miles

Source: Arizona Health Status and Vital Statistics 2008