

Injury among Residents of Coconino County, Arizona 2008

Resources for the development of this report were provided through funding to the Arizona Department of Health Services from the Centers for Disease and Control and Prevention, Cooperative Agreement 5U17CE924770-04, Integrated Core Injury Prevention and Control Program

Permission to quote from or reproduce materials from this publication is granted when acknowledgment is made.



Prepared by: Alana Shacter, MPH
150 North 18th Avenue, Suite 320
Phoenix, AZ 85007
Injury Prevention Program
Bureau of Women's and Children's Health
Arizona Department of Health Services
September 2009

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 Coconino 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 Coconino County Residents, Arizona 2008

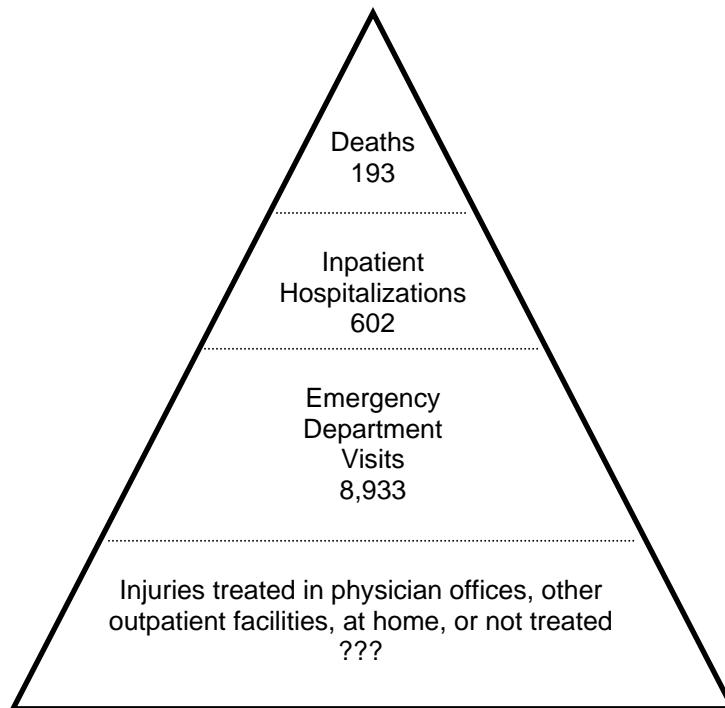
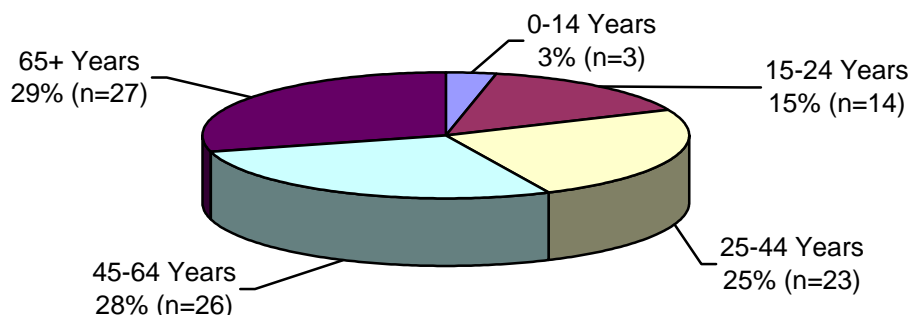


Figure 1 shows an injury pyramid for residents of Coconino County during 2008. This pyramid shows that deaths represent the smallest proportion of injuries. The proportions increase towards the foundation of the pyramid, which is comprised of hospital discharges, emergency department visits, and self 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 193 injury-related deaths in Coconino County. Most of these deaths were among males (67 percent, n=68), and females accounted for 33 percent (n=31). The largest percentage of deaths was among individuals ages 65 years and older (29 percent, n=27). Age distributions are shown in Figure 2.

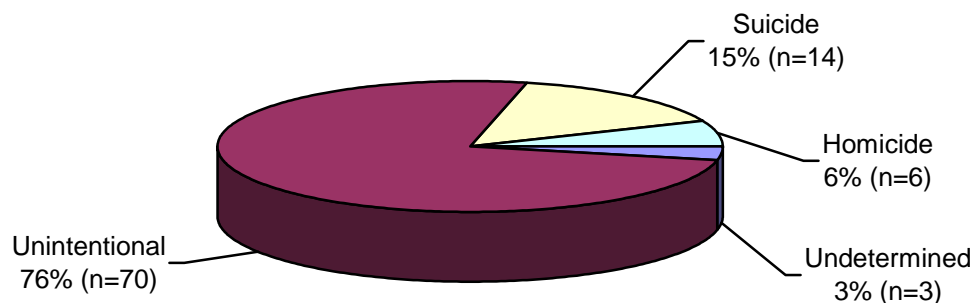
Figure 2. Injury-Related Deaths by Age Group, Coconino County, Arizona 2008 (n=93)



American Indians accounted for the largest percentage of injury-related deaths in Coconino County (45 percent, n=42), followed by Non-Hispanic Whites (44 percent, n=41). Rates by racial/ethnic groups could not be calculated due to small sample sizes.

Unintentional injury is the leading cause of death among individuals ages 1 to 44 years in Coconino County and in the state of Arizona as a whole.¹ Seventy-six percent of injury-related deaths in Coconino County were due to unintentional injuries (n=70); 15 percent were suicides (n=14); 6 percent were homicides (n=6); and 3 percent were of undetermined intent (n=3). Figure 3 shows injury-related deaths by intent.

Figure 3. Injury-Related Deaths by Intent, Coconino County, Arizona 2008 (n=93)



1. Arizona Health Status and Vital Statistics 2008.

Coconino County Injury-Related Deaths Compared to Other Arizona Counties

Table 1 shows the intent of injury-related deaths for residents of Coconino County compared to residents of the rest of Arizona. The leading intent of injury-related deaths was unintentional for both Coconino County and the remaining counties, accounting for the majority of injury-related deaths. Coconino County had a smaller percentage of suicides (15 percent) and homicides (6 percent) than the remainder of Arizona (22 percent and 11 percent, respectively).

Coconino County (n=93)		Arizona, excluding Coconino County (n=3,860)	
Intent	Percent of Total	Intent	Percent of Total
Unintentional	76	Unintentional	64
Suicide	15	Suicide	22
Homicide	6	Homicide	11
Undetermined	3	Undetermined	2

The most common cause of unintentional injury-related deaths in Coconino County was motor vehicle traffic crashes (41 percent, n=29). Twenty-one percent of unintentional injury deaths resulted from poisonings (n=15). The causes of unintentional injury-related deaths during 2008 in Coconino County are shown in Table 2.

Cause	Number	Percent
Motor vehicle traffic	29	41%
Poisoning	15	21%
Fall	10	14%
Suffocation	5	7%
Other transport	4	6%
Other/unspecified	3	4%
Other pedestrian	2	3%
Drowning	1	1%
Nature/environment	1	1%
Total	70	100%

Motor vehicle traffic crashes

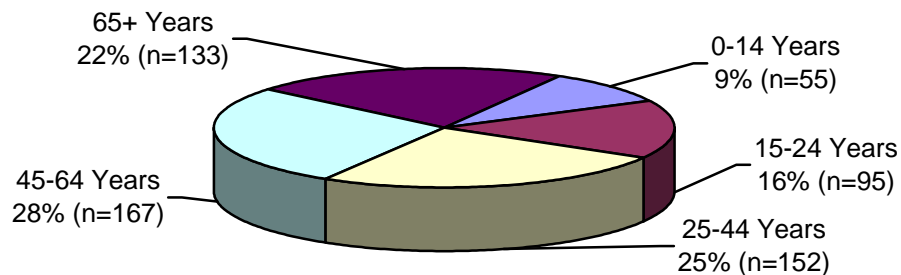
Males accounted for 62 percent of unintentional motor vehicle traffic-related deaths (n=18) and females accounted for 38 percent (n=11). Thirty-one percent of these deaths were among individuals 24 years and younger (n=9); 17 percent were among individuals ages 25 to 44 years (n=5); 31 percent were among individuals 45 to 64 years (n=9); and 21 percent were among individuals ages 65 years and older (n=6).

For most of the motor vehicle traffic-related deaths, the location of the injured person was not specified on the death certificate (72 percent, n=21). Two deaths were of pedestrians (7 percent); four deaths were of motor vehicle occupants (14 percent); and two deaths were motorcyclists (7 percent).

Non-Fatal Inpatient Hospitalizations

In 2008, there were 602 non-fatal inpatient hospitalizations due to injury among residents of Coconino County. Fifty-four percent were among males (n=327) and 46 percent were among females (n=275). Twenty-eight percent of the hospitalizations were among individuals ages 45 to 64 years (n=167). Figure 4 shows injury-related inpatient hospitalizations by age group among residents of Coconino County.

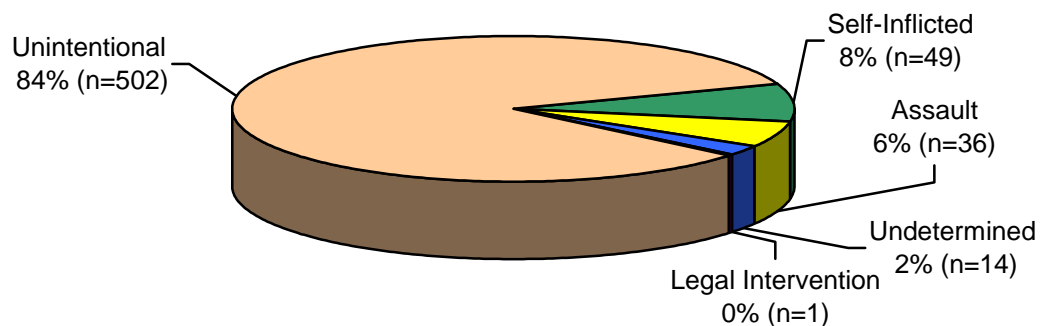
Figure 4. Injury-Related Inpatient Hospitalizations by Age Group, Coconino County, Arizona 2008 (n=602)



There were 372 injury-related hospitalizations among White, Non-Hispanic residents of Coconino County (62 percent). The second highest number was among American Indians (26 percent, n=154). Rates by racial/ethnic groups could not be calculated due to small sample sizes.

Eighty-three percent of the inpatient hospitalizations were due to unintentional injuries (n=502); 8 percent were due to self-inflicted injuries (n=49); 6 percent were due to assaults (n=36); and 2 percent were of undetermined intent (n=14). One hospitalization was due to legal intervention. Figure 5 shows injury-related hospitalizations by intent.

Figure 5. Injury-Related Inpatient Hospitalizations by Intent, Coconino County, Arizona 2008 (n=602)



Coconino County Injury-Related Hospitalizations Compared to Other Arizona Counties

Table 3 shows the intent of injury-related hospitalizations for residents of Coconino County compared to residents of the rest of Arizona. **The leading intent of injury-related hospitalizations was unintentional for both Coconino County and the remaining counties, accounting for the majority of injury-related hospitalizations.** Overall, Coconino County had a smaller percentage of self-inflicted injuries (8 percent) than the rest of Arizona (10 percent).

Coconino County (n=602)		Arizona, excluding Coconino County (n=32,507)	
<u>Intent</u>	<u>Percent of Total</u>	<u>Intent</u>	<u>Percent of Total</u>
Unintentional	84	Unintentional	82
Self-Inflicted	8	Self-Inflicted	10
Assault	6	Assault	6
Undetermined	2	Undetermined	2

The most common causes of unintentional inpatient hospitalizations in Coconino County were falls (44 percent, n=219) and motor vehicle traffic crashes (20 percent, n=102). Table 4 shows the causes of unintentional injury-related hospitalizations among residents of Coconino County.

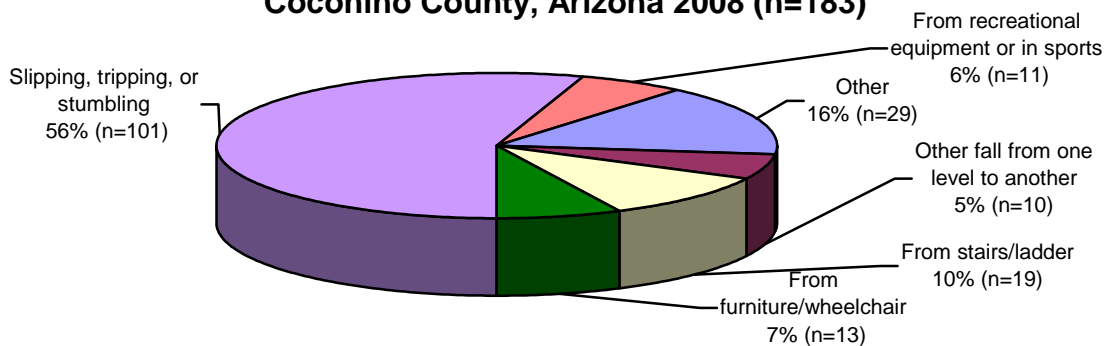
Cause	Number	Percent
Fall	219	44%
Motor vehicle traffic	102	20%
Other/unspecified	48	10%
Transport	39	8%
Poisoning	29	6%
Pedal cyclist, other	18	4%
Struck by/against	16	3%
Fire/hot objects	12	2%
Natural/environment	10	2%
Cut/pierce	9	2%
Total	502	100%

Falls

Males accounted for 38 percent of unintentional fall-related hospitalizations (n=84) and females accounted for 62 percent (n=135). Seven percent of fall-related hospitalizations were among children 14 years and under (n=16); 7 percent were among individuals ages 15 to 24 years (n=15); 39 percent were among individuals ages 25 to 64 years (n=86); and 47 percent were among individuals 65 years and older (n=102).

Sixteen percent of non-fatal inpatient hospitalizations for unintentional falls did specify a cause of the fall (n=36). Among the hospitalizations for unintentional falls with a specified contributing event, 55 percent were due to slipping, tripping, or stumbling (n=101). Figure 6 shows unintentional fall-related hospitalizations by contributing event.

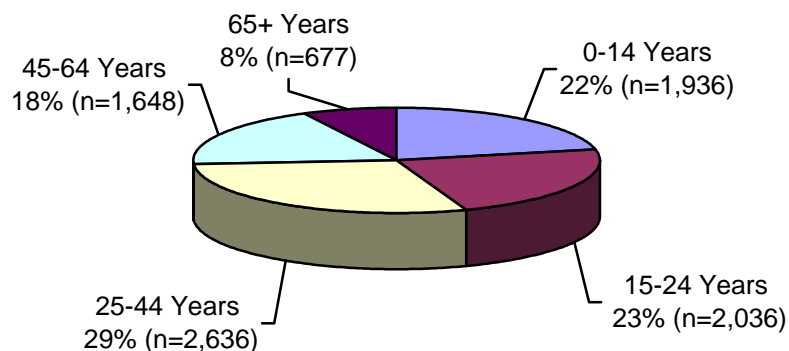
Figure 6. Inpatient Hospitalizations due to Unintentional Falls by Contributing Event, Coconino County, Arizona 2008 (n=183)



Non-Fatal Emergency Department Visits

In 2008, there were 8,933 injury-related emergency department visits among residents of Coconino County. Males accounted for 56 percent of these visits (n=4,996) and females accounted for 44 percent (n=3,937). The largest percentage of visits was among individuals ages 25 to 44 years (29 percent, n=2,636). Figure 7 shows injury-related emergency department visits by age group.

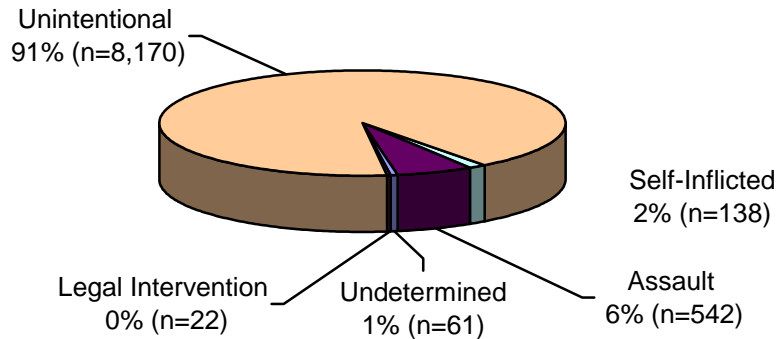
Figure 7. Injury-Related Emergency Department Visits by Age Group, Coconino County, Arizona 2008 (n=8,933)



There were 5,097 injury-related hospitalizations among White, Non-Hispanic residents of Coconino County (57 percent). The second highest number was among American Indians (29 percent, n=2,624). Rates by racial/ethnic groups could not be calculated due to small sample sizes.

Ninety-one percent of the emergency department visits were due to unintentional injuries (n=8,170); 6 percent were due to assaults (n=542); 2 percent were due to self-inflicted injuries (n=138); and 1 percent were of undetermined intent (n=61). There were 22 emergency department visits due to legal intervention. Figure 8 shows emergency department visits by intent.

Figure 8. Injury-Related Emergency Department Visits by Intent, Coconino County, Arizona 2008 (n=8,933)



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

Table 5. Intent of Injury-Related Emergency Department Visits, Coconino County Compared to Other Arizona Counties, 2008			
Coconino County (n=8,933)		Arizona, excluding Coconino County (n=365,770)	
Intent	Percent of Total	Intent	Percent of Total
Unintentional	91	Unintentional	93
Self-Inflicted	2	Self-Inflicted	2
Assault	6	Assault	5
Undetermined	1	Undetermined	< 1

The most common cause of unintentional injury-related emergency department visits in Coconino County was falls (33 percent, n=2,666). Table 6 shows the causes of unintentional injury-related emergency department visits for Coconino County residents in 2008.

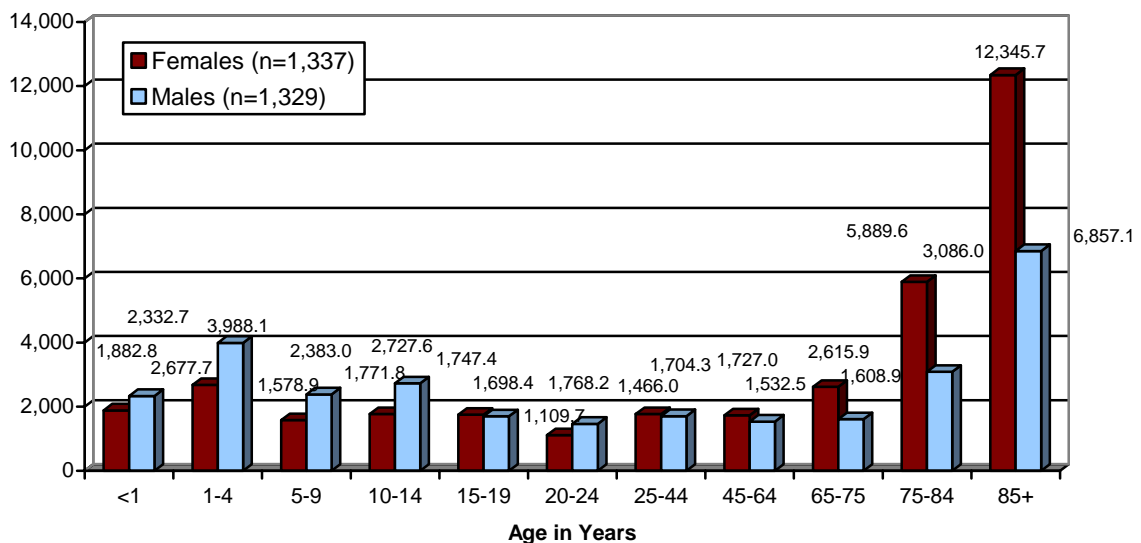
Cause	Number	Percent
Fall	2,666	33%
Struck by/against	1,169	14%
Overexertion	989	12%
Other/unspecified	789	10%
Motor vehicle traffic	746	9%
Cut/pierce	700	9%
Nature/environment	337	4%
Pedal cyclist, other	243	3%
Transport	241	3%
Fire/hot objects	160	2%
Poisoning	130	2%
Total	8,170	100%

Falls

There were 2,666 emergency department visits due to unintentional falls. Males accounted for 50 percent of these visits (n=1,329) and females accounted for 50 percent (n=1,337). Individuals ages 25 to 64 years had the highest percentage of unintentional fall-related emergency department visits (44 percent, n=1,162). Twenty-seven percent of visits were among children 14 years and younger (n=728); 15 percent were among individuals ages 15 to 24 years (n=394); and 14 percent were among individuals 65 years and older (n=382).

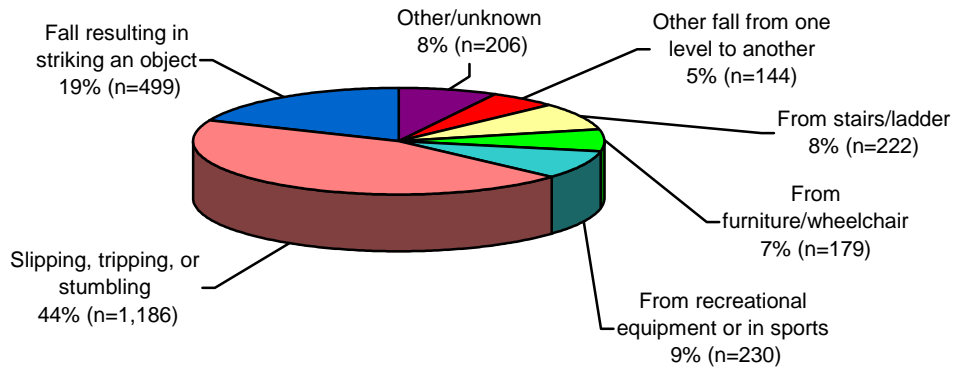
The highest rates of unintentional fall-related emergency department visits were among older adults. Females 85 years and older had a rate of 12,345.7 fall-related emergency department visits per 100,000 residents. Figure 9 shows emergency department visit rates of unintentional falls by age group and sex.

Figure 9. Unintentional Fall-Related Emergency Department Visit Rates per 100,000, Coconino County, Arizona 2008 (n=2,666)



Forty-four percent of unintentional falls with a specified contributing cause were due to slipping, tripping, or stumbling (n=1,186), and 19 percent resulted in striking against an object (n=499). 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, Coconino County, Arizona 2008 (n=2,666)



Summary

In 2008, there were 93 injury-related deaths in Coconino County, and the largest percentage of deaths was among individuals ages 65 years and older (29 percent, n=27). The majority of these deaths were due to unintentional injuries (75 percent, n=70). The most common cause of unintentional injury deaths was motor vehicle traffic crashes (41 percent, n=29). For residents of Coconino County, unintentional injury is the leading cause of death for individuals ages 1 to 44 years.¹ Fifteen percent of injury-related deaths in Coconino County were suicides (n=14); 6 percent were homicides (n=6); and 3 percent were of undetermined intent (n=3).

There were 602 non-fatal inpatient hospitalizations due to injury among residents of Coconino County. Twenty-eight percent of the hospitalizations were among individuals ages 45 to 64 years (n=167). Eighty-three percent of the hospitalizations were due to unintentional injuries (n=502); 8 percent were due to self-inflicted injuries (n=49); 6 percent were assaults (n=36); 2 percent were of undetermined intent (n=14); and 1 inpatient hospitalization was due to legal intervention. The most common cause of unintentional injury-related hospitalizations was falls (44 percent, n=219).

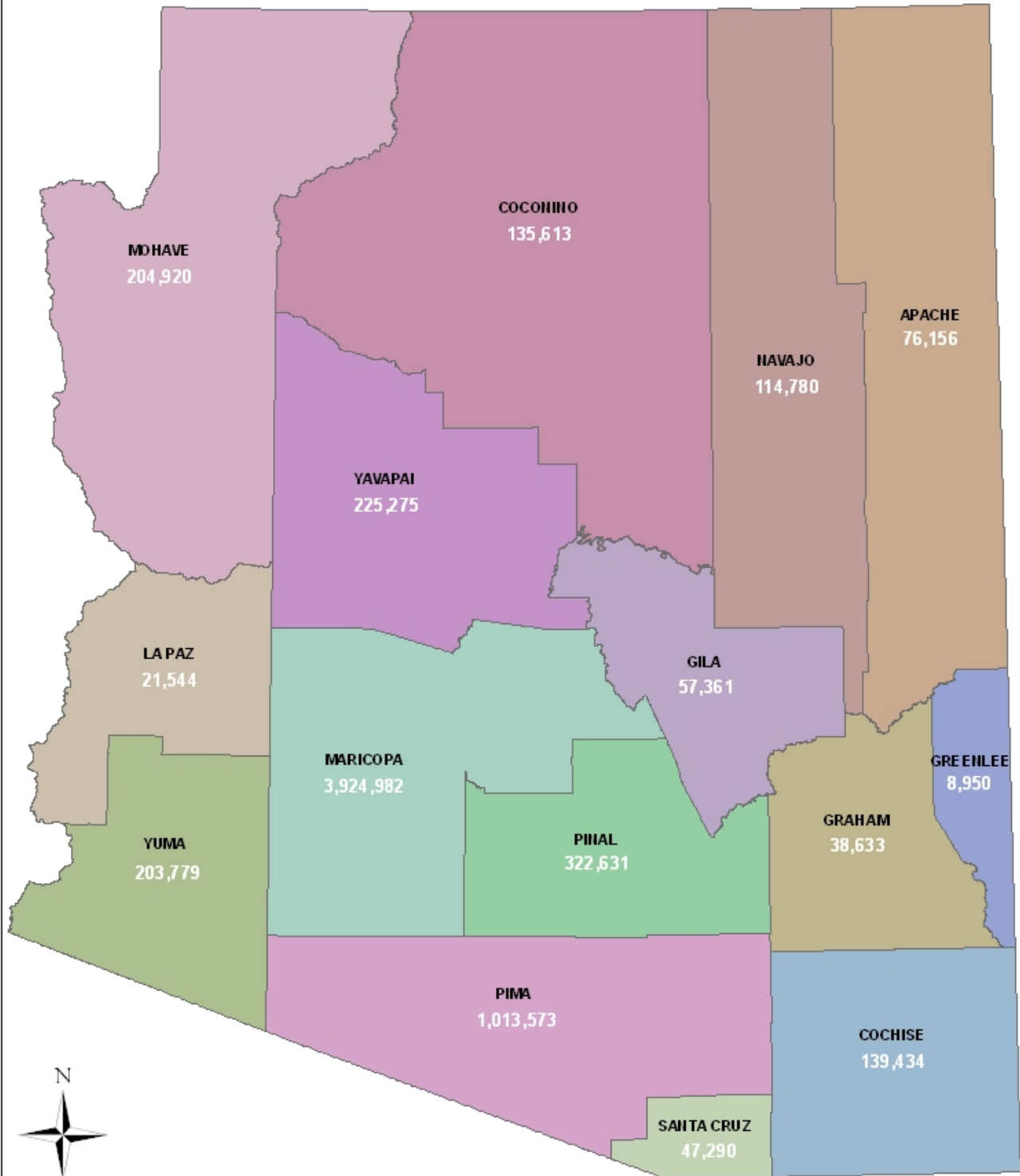
There were 8,933 injury-related non-fatal emergency department visits among residents of Coconino County in 2008. The largest percentage of visits was among individuals ages 25 to 44 years (29 percent, n=2,636). Ninety-one percent of the emergency department visits were due to unintentional injuries (n=8,170); 6 percent were due to assaults (n=542); 2 percent were due to self-inflicted injuries (n=138); and 1 percent were of undetermined intent (n=61). There were 22 injury-related emergency department visits due to legal intervention. The most common cause of unintentional injury-related emergency department visits was falls (33 percent, n=2,666).

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