

Injury among Residents of Navajo County, Arizona 2007

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

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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 Navajo 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 Navajo County Residents, Arizona 2007

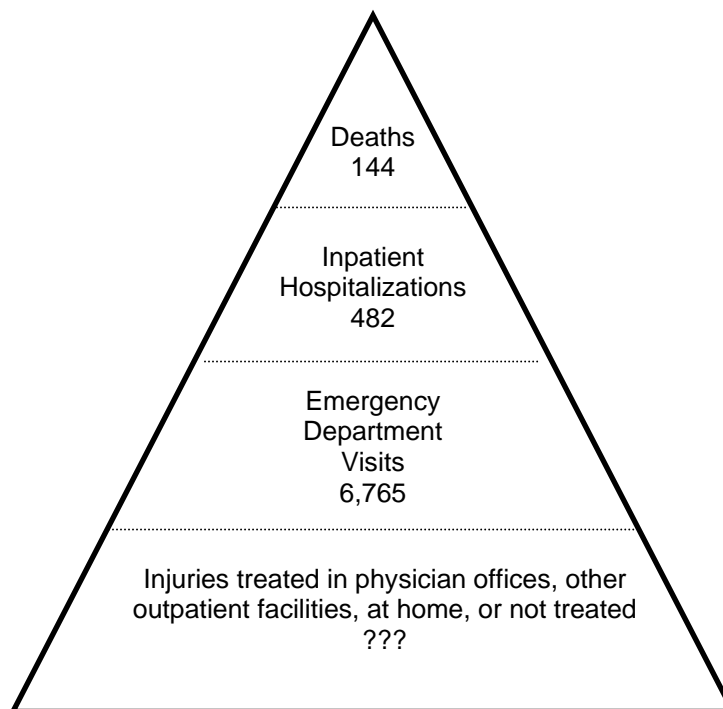


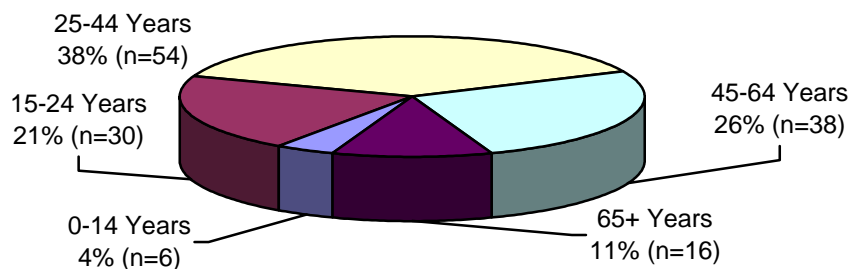
Figure 1 shows an injury pyramid for residents of Navajo County during 2007. This pyramid shows that deaths represent the smallest proportion of injuries. The proportions increase towards the foundation of the pyramid, which is comprised of

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 144 injury-related deaths in Navajo County. Most of these deaths were among males (74 percent, n=107), and females accounted for 26 percent (n=37). The largest percentage of deaths was among individuals ages 25 to 44 years (38 percent, n=54). Age distributions are shown in Figure 2.

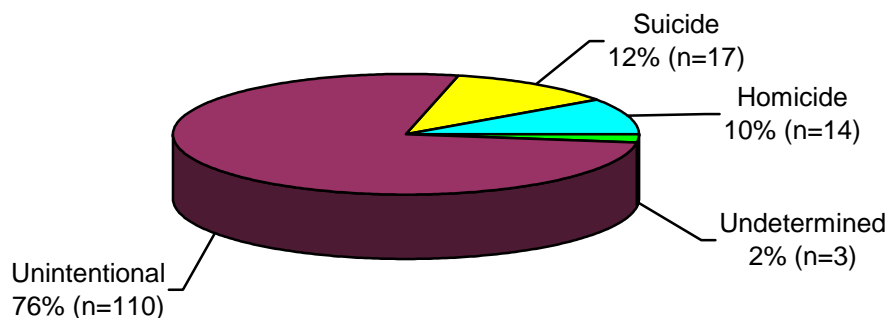
Figure 2. Injury-Related Deaths by Age Group, Navajo County, Arizona 2007 (n=144)



American Indians accounted for the majority of injury-related deaths in Navajo County (59 percent, n=85), followed by Non-Hispanic Whites (34 percent, n=49). 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 Navajo County and in the state of Arizona as a whole.¹ Seventy-six percent of injury-related deaths in Navajo County were due to unintentional injuries (n=110); 12 percent were suicides (n=17); 10 percent were homicides (n=14); and 2 percent were of undetermined intent (n=3). Figure 3 shows injury-related deaths by intent.

Figure 3. Injury-Related Deaths by Intent, Navajo County, Arizona 2007 (n=144)



1. Arizona Health Status and Vital Statistics 2007.

Navajo County Injury-Related Deaths Compared to Other Arizona Counties

Table 1 shows the intent of injury-related deaths for residents of Navajo County compared to residents of the rest of Arizona. The leading intent of injury-related deaths was unintentional for both Navajo County and the remaining counties, accounting for the majority of injury-related deaths. Navajo County had a smaller percentage of suicides (12 percent) than the rest of Arizona (22 percent).

Navajo County (n=144)		Arizona, excluding Navajo County (n=4,389)	
Intent	Percent of Total	Intent	Percent of Total
Unintentional	76	Unintentional	64
Suicide	12	Suicide	22
Homicide	10	Homicide	11
Undetermined	2	Undetermined	3

Suicide

Males accounted for the majority of suicides in Navajo County (88 percent, n=15), while females accounted for 12 percent (n=2). Thirty-five percent of suicides were among individuals ages 15 to 24 years (n=6); 41 percent were among individuals ages 25 to 44 years (n=7); and 24 percent were among individuals 45 years and older (n=4). The most common causes of suicide were suffocation (59 percent, n=10) and firearms (41 percent, n=7).

Unintentional Injury

The most common cause of unintentional injury-related deaths in Navajo County was motor vehicle traffic crashes (50 percent, n=55). Fifteen percent of unintentional injury deaths were due to poisonings (n=16). The causes of unintentional injury-related deaths during 2007 in Navajo County are shown in Table 2.

Cause	Number	Percent
Motor vehicle traffic	55	50%
Poisoning	16	15%
Fall	13	12%
Suffocation	9	8%
Other land transport	4	4%
Nature/environment	3	3%
Other pedestrian	3	3%
Other/unspecified	3	3%
Drowning	2	2%
Fire/hot object	1	1%
Other transport	1	1%
Total	144	100%

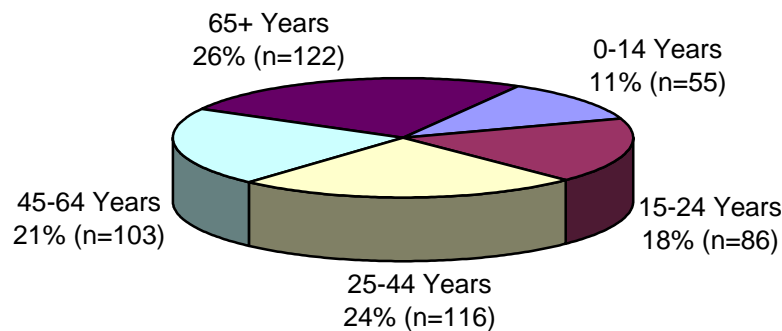
Motor vehicle traffic crashes

Males accounted for 71 percent of unintentional motor vehicle traffic-related deaths (n=39) and females accounted for 29 percent (n=16). Four percent of these deaths were among children 14 years and younger (n=2); 22 percent were among individuals ages 15 to 24 years (n=12); 69 percent were among individuals ages 25 to 64 years (n=38); and 5 percent were among individuals 65 years and older (n=3). For 78 percent of the motor vehicle traffic-related deaths, the location of the injured person was not specified on the death certificate (n=43).

Non-Fatal Inpatient Hospitalizations

In 2007, there were 482 non-fatal inpatient hospitalizations due to injury among residents of Navajo County. Fifty-eight percent were male (n=278) and 42 percent were female (n=204). Twenty-six percent of the hospitalizations were among individuals age 65 years and older (n=122). Figure 4 shows injury-related inpatient hospitalizations by age group among residents of Navajo County.

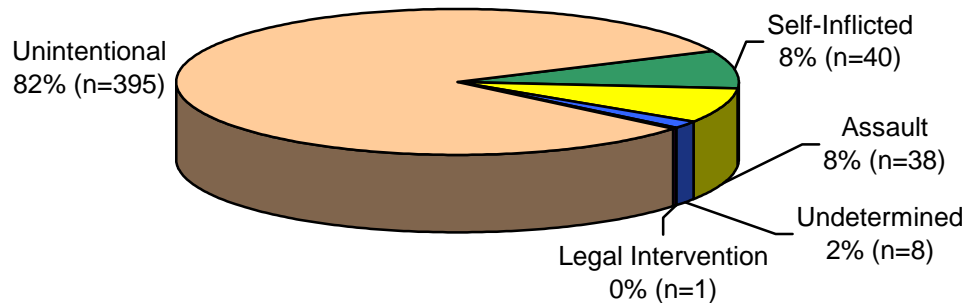
Figure 4. Injury-Related Inpatient Hospitalizations by Age Group, Navajo County, Arizona 2007 (n=482)



There were 233 injury-related hospitalizations among American Indians residents of Navajo County (48 percent). The second highest number was among Non-Hispanic White residents (45 percent, n=216). Rates by racial/ethnic groups could not be calculated due to small sample sizes.

Eighty-two percent of the inpatient hospitalizations were due to unintentional injuries (n=395); 8 percent were due to self-inflicted injuries (n=40); 8 percent were due to assaults (n=38); and 2 percent were of undetermined intent (n=8). There was one injury-related hospitalization due to legal intervention. Figure 5 shows injury-related hospitalizations by intent.

Figure 5. Injury-Related Inpatient Hospitalizations by Intent, Navajo County, Arizona 2007 (n=482)



Navajo County Injury-Related Hospitalizations Compared to Other Arizona Counties

Table 3 shows the intent of injury-related hospitalizations for residents of Navajo County compared to residents of the rest of Arizona. **The leading intent of injury-related hospitalizations was unintentional for both Navajo County and the remaining counties, accounting for the majority of injury-related hospitalizations.** Navajo County had a larger percentage of assaults (8 percent) than the remaining counties (6 percent).

Table 3. Intent of Injury-Related Inpatient Hospitalizations, Navajo County Compared to Other Arizona Counties, 2007			
Navajo County (n=482)		Arizona, excluding Navajo County (n=32,093)	
Intent	Percent of Total	Intent	Percent of Total
Unintentional	82	Unintentional	83
Self-Inflicted	8	Self-Inflicted	9
Assault	8	Assault	6
Undetermined	2	Undetermined	2

The most common causes of unintentional injury-related hospitalizations in Navajo County were falls (39 percent, n=154) and motor vehicle traffic crashes (22 percent, n=87). Table 4 shows the causes of unintentional injury-related hospitalizations among residents of Navajo County.

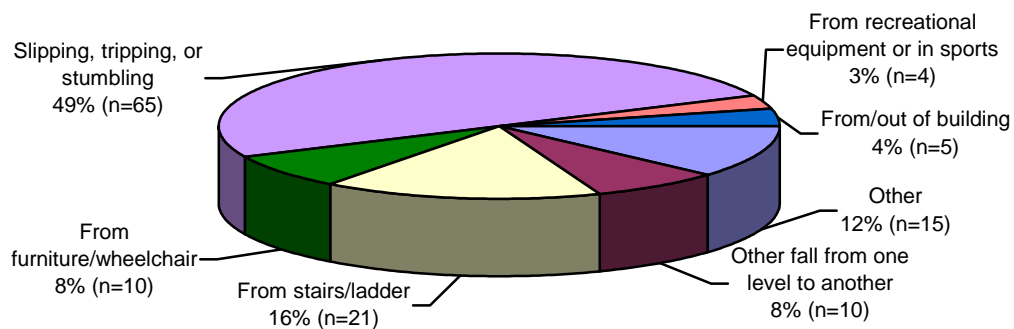
Table 4. Causes of Unintentional Injury-Related Inpatient Hospitalizations among Navajo County Residents, Arizona 2007		
Cause	Number	Percent
Fall	154	39%
Motor vehicle traffic	87	22%
Other/unspecified	37	9%
Poisoning	24	6%
Motor vehicle non-traffic	22	6%
Cut/pierce	17	4%
Transport	16	4%
Nature/environment	15	4%
Fire/hot object	12	3%
Struck by/against	11	3%
Total	395	100%

Falls

Males accounted for 47 percent of unintentional fall-related hospitalizations (n=73) and females accounted for 53 percent (n=81). Ten percent of fall-related hospitalizations were among children 14 years and younger (n=16); 6 percent were among individuals ages 15 to 24 years (n=9); 31 percent were among individuals ages 25 to 64 years (n=47); and 53 percent were among individuals 65 years and older (n=82).

For 16 percent of unintentional fall-related inpatient hospitalizations, information regarding contributing event was not specified in the hospital discharge database (n=24). Among the hospitalizations for which contributing event was specified, 49 percent were due to slipping, tripping, or stumbling (n=65). Figure 6 shows unintentional fall-related hospitalizations by contributing event.

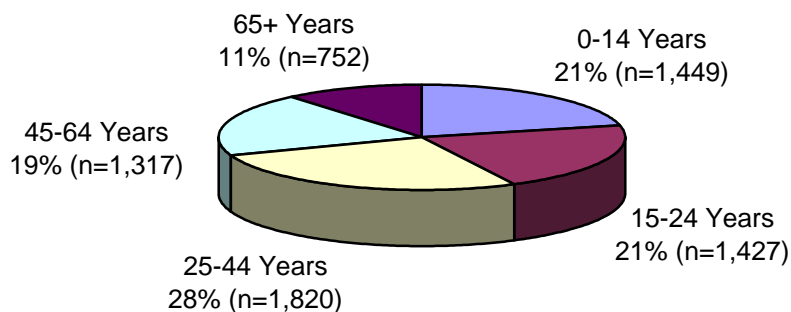
Figure 6. Inpatient Hospitalizations due to Unintentional Falls by Contributing Event, Navajo County, Arizona 2007 (n=130)



Non-Fatal Emergency Department Visits

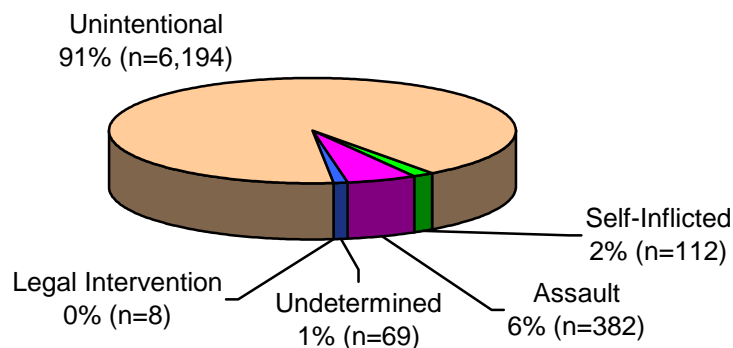
In 2007, there were 6,765 injury-related emergency department visits among residents of Navajo County. Males accounted for 57 percent of these visits (n=3,860) and females accounted for 43 percent (n=2,905). The largest percentage of visits was among individuals ages 25 to 44 years (28 percent, n=1,820). Figure 7 shows injury-related emergency department visits by age group.

Figure 7. Injury-Related Emergency Department Visits by Age Group, Navajo County, Arizona 2007 (n=6,765)



Ninety-one percent of the emergency department visits were due to unintentional injuries (n=6,194); 6 percent were due to assaults (n=382); 2 percent were due to self-inflicted injuries (n=112); and 1 percent were of undetermined intent (n=69). There were eight emergency department visits due to legal intervention. Figure 8 shows emergency department visits by intent.

Figure 8. Injury-Related Emergency Department Visits by Intent, Navajo County, Arizona 2007 (n=6,765)



Navajo 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 Navajo County compared to residents of the rest of Arizona. The leading intent of injury-related visits was unintentional for both Navajo County and the remaining counties, accounting for the majority of injury-related visits. Overall, Navajo 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, Navajo County Compared to Other Arizona Counties, 2007			
Navajo County (n=6,765)		Arizona, excluding Navajo County (n=378,222)	
<u>Intent</u>	<u>Percent of Total</u>	<u>Intent</u>	<u>Percent of Total</u>
Unintentional	92	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 Navajo County was falls (31 percent, n=1,925). Table 6 shows the causes of unintentional injury-related emergency department visits for Navajo County residents in 2007.

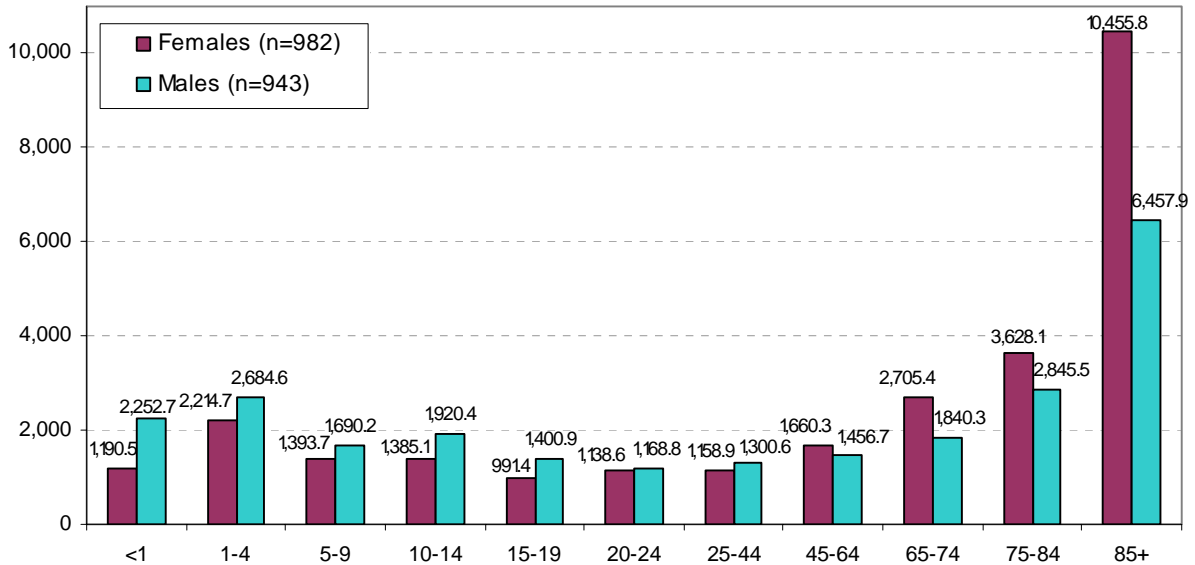
Table 6. Causes of Unintentional Injury-Related Emergency Department Visits among Navajo County Residents, Arizona 2007		
Cause	Number	Percent
Fall	1,925	31%
Other/unspecified	890	14%
Struck by/against	822	13%
Motor vehicle traffic	691	11%
Overexertion	650	10%
Cut/pierce	484	8%
Nature/environment	239	4%
Poisoning	175	3%
Motor vehicle non-traffic	140	2%
Fire/hot objects	105	2%
Other pedal cycle	73	1%
Total	6,194	100%

Falls

There were 1,925 emergency department visits due to unintentional falls. Males accounted for 49 percent of these visits (n=943) and females accounted for 51 percent (n=982). Individuals ages 25 to 64 years had the highest percentage of unintentional fall-related emergency department visits (39 percent, n=742). Twenty-seven percent of visits were among children 14 years and younger (n=525); 12 percent were among individuals ages 15 to 24 years (n=237); and 22 percent were among individuals 65 years and older (n=421).

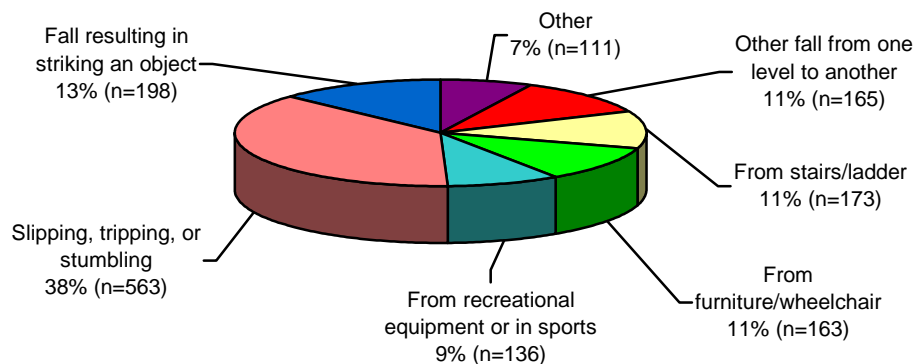
The highest rates of unintentional fall-related emergency department visits were among older adults. Females 85 years and older had a rate of 10,455.8 fall-related emergency department visits per 100,000 residents. Figure 9 shows emergency department visit rates of unintentional falls by age group and sex.

Figure 9. Unintentional Fall-Related Emergency Department Visit Rates per 100,000, Navajo County, Arizona 2007 (n=1,925)



For 22 percent of the unintentional fall-related emergency department visits, information regarding contributing event was not specified in the emergency department database (n=416). Among the emergency department visits for which contributing event was specified, 38 percent of unintentional falls were due to slipping, tripping, or stumbling (n=563). 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, Navajo County, Arizona 2007 (n=1,509)



Summary

In 2007, there were 144 injury-related deaths in Navajo County, and the largest percentage of deaths was among individuals ages 25 to 44 years (38 percent, n=54). The majority of these deaths were due to unintentional injuries (76 percent, n=110). The most common cause of unintentional injury deaths was motor vehicle traffic crashes (50 percent, n=55). For residents of Navajo County, unintentional injury is the leading cause of death for individuals ages 1 to 44 years.¹ Twelve percent of injury-related deaths in Navajo County were suicides (n=17); 10 percent were homicides (n=14); and 2 percent were of undetermined intent (n=3).

There were 482 non-fatal inpatient hospitalizations due to injury among residents of Navajo County. Twenty-six percent of the hospitalizations were among individuals age 65 years and older (n=122). Eighty-two percent of the hospitalizations were due to unintentional injuries (n=395); 8 percent were due to self-inflicted injuries (n=40); 8 percent were assaults (n=38); and 2 percent were of undetermined intent (n=8). There was one hospitalization due to legal intervention. The most common cause of unintentional injury-related hospitalizations was falls (39 percent, n=154). The hospitalization database does not include data from federal or tribal hospitals.

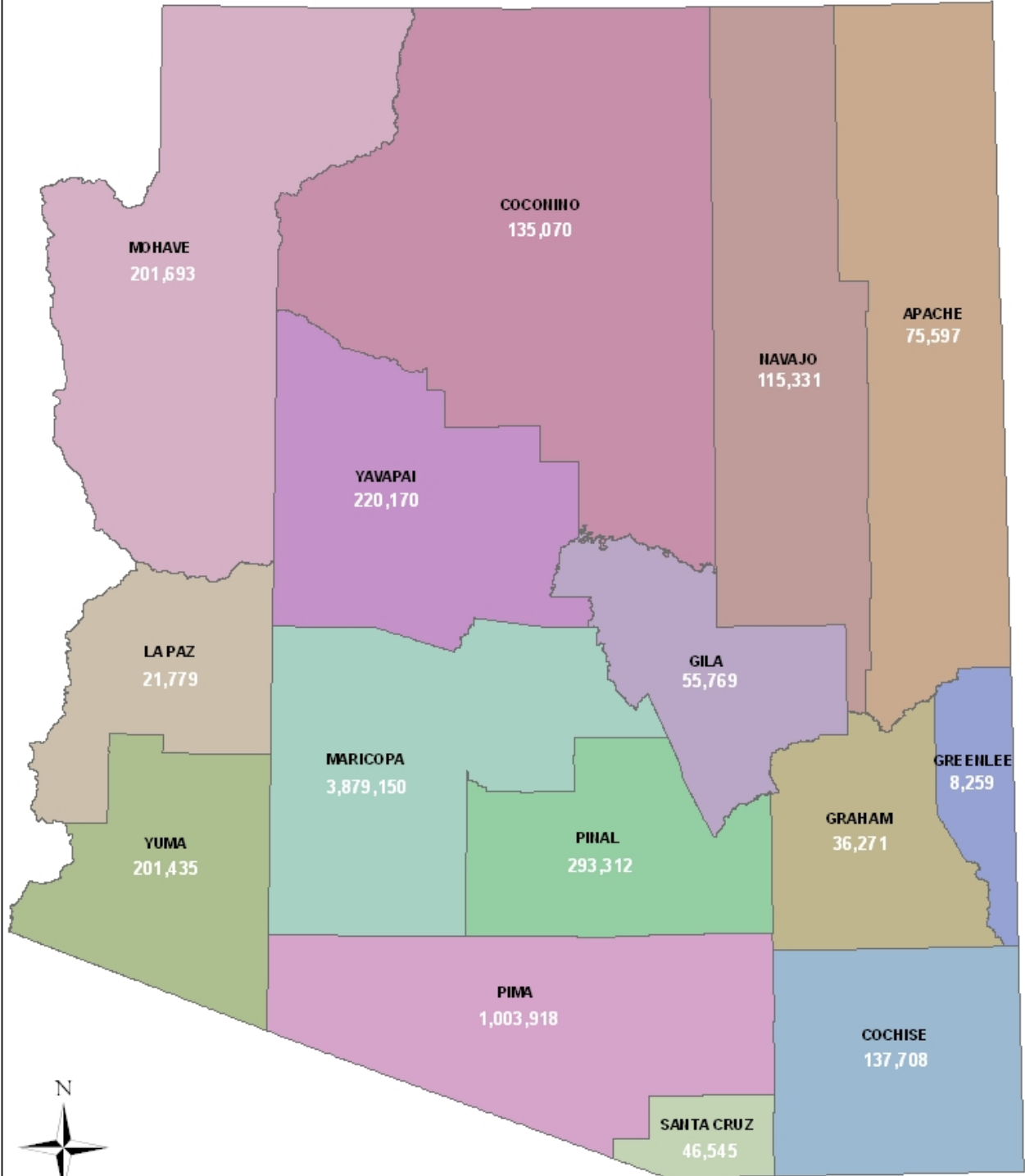
There were 6,765 injury-related non-fatal emergency department visits among residents of Navajo County in 2007. The largest percentage of visits was among individuals ages 25 to 44 years (28 percent, n=1,820). Ninety-one percent of the emergency department visits were due to unintentional injuries (n=6,194); 6 percent were due to assaults (n=382); 2 percent were due to self-inflicted injuries (n=112); and 1 percent were of undetermined intent (n=69). There were eight injury-related emergency department visits due to legal intervention. The most common cause of unintentional injury-related emergency department visits was falls (31 percent, n=1,925). The emergency department database does not include data from federal or tribal hospitals.

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