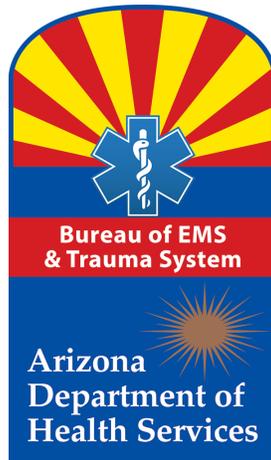


**ARIZONA DEPARTMENT OF HEALTH SERVICES
BUREAU OF EMERGENCY MEDICAL SERVICES AND TRAUMA SYSTEM**



**COUNTY TRAUMA REPORTS:
COCONINO COUNTY
ASTR 2012**

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Purpose:

The purpose of this report is to describe the incidence of trauma in your county using the Arizona State Trauma Registry (ASTR). This information can develop and strengthen injury prevention programs at the county level.

Methods:

In 2012, the Arizona State Trauma Registry (ASTR) received data from 31 state-designated trauma centers. Three additional healthcare institutions participated in the registry but were not designated. The Arizona trauma system had eight Level I trauma centers - six were located in the central county of Maricopa with 60 percent of the state's population; the remaining two Level I trauma centers were located in the northern-most county of Coconino and the southern county of Pima. For the 2012 reporting year, there were twenty designated Level IV and three Level III trauma centers dispersed primarily in the rural areas of the state. There are a total of 32,602 records in the ASTR for 2012.

Limitations:

Data is limited to participating hospitals in the state. Information on patients that were treated at out of state and non-participating hospitals will be missed. Injuries included in this registry are those which fit the ASTR inclusion criteria (Appendix 1). As such, injuries reported are reflective of severe injuries, and may not be a complete picture of injury in your county.

Geo-Population:

Arizona is 400 miles long and 310 miles wide for a total area of 114,006 square miles. The topography of the state is 364 square miles of water and a blend of deserts, mountains, and plateaus. Arizona shares contiguous borders with the states of California, Colorado, Nevada, New Mexico, and Utah. Internationally, the Mexican states of Sonora, Chihuahua, and Baja California Norte share a border with Arizona.

The total reported population in 2012 was 6,498,570; this was up from the 2011 reported number of 6,438,178 residents.¹ In 2012, 84.2 percent of the population lived in urban counties (Maricopa, Pima, Pinal, and Yuma). The remaining counties (Apache, Cochise, Coconino, Gila, Graham, Greenlee, La Paz, Mohave, Navajo, Santa Cruz, and Yavapai) were home to 15.8 percent of the population.

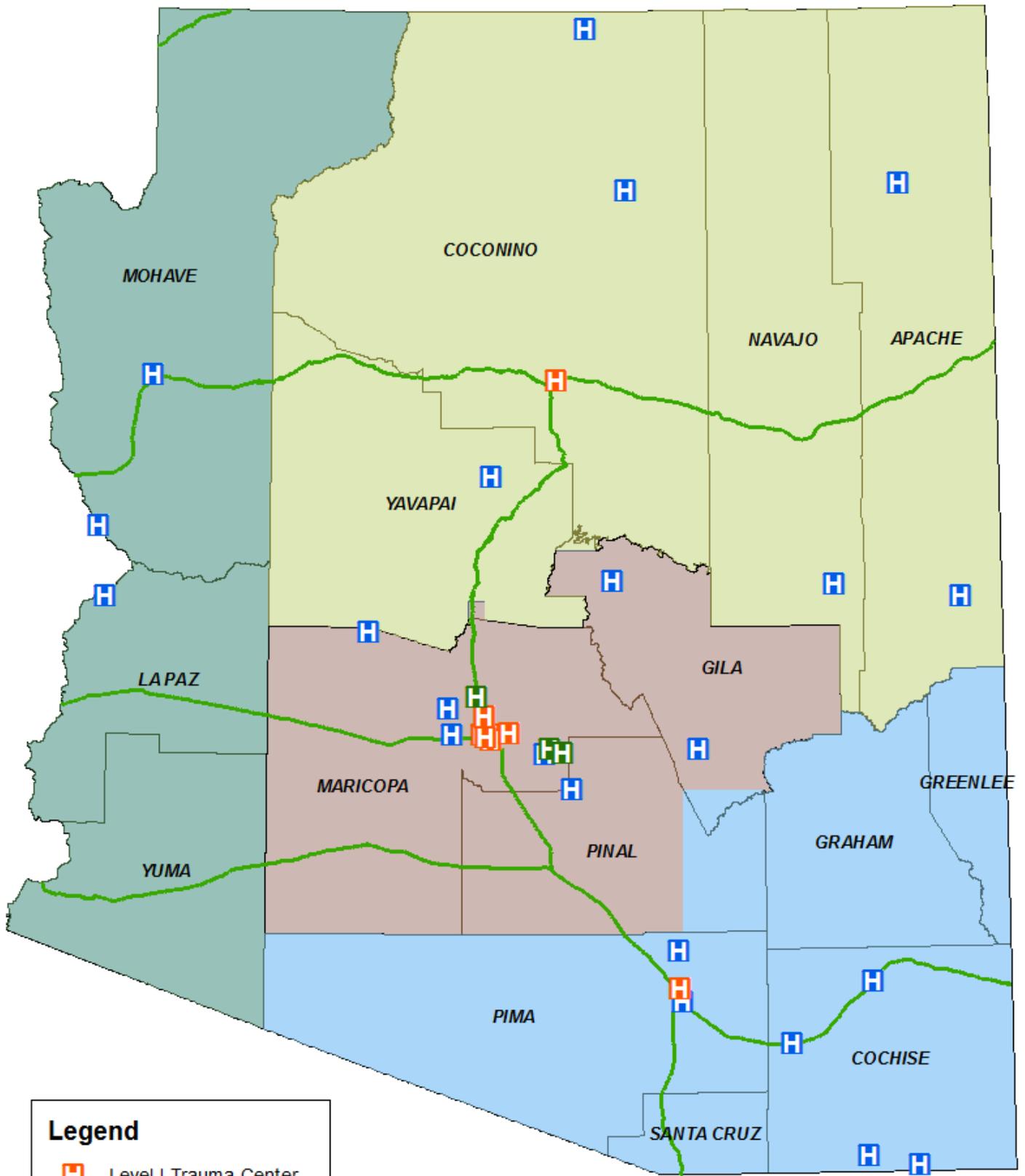
Additionally, Arizona has within its borders twenty-two (22) federally recognized American Indian tribes, comprising a 2012 collective population of 305,029.

¹ <http://www.azdhs.gov/plan/menu/info/pop/index.php?pg=2012>

| Health Care Institution | Address | Effective Date | Expiration Date |
|--------------------------------------------------------------------------------|---------------------------------------------------|----------------|-----------------|
| Level I Trauma Centers | | | |
| Banner Good Samaritan Medical Center | 925 E. McDowell Rd., Phoenix, AZ 85006 | 11/19/11 | 11/19/14 |
| Dignity Health, dba Chandler Regional Medical Center (Provisional Designation) | 1955 W. Frye Rd., Chandler, AZ 85224 | 3/24/14 | 9/24/15 |
| Flagstaff Medical Center | 1200 N. Beaver St., Flagstaff, AZ 86001 | 05/27/14 | 05/27/17 |
| John C. Lincoln - North Mountain | 250 E. Dunlap Ave., Phoenix, AZ 85020 | 04/24/14 | 04/24/15 |
| Maricopa Medical Center | 2601 E. Roosevelt, Phoenix, AZ 85008 | 12/20/11 | 12/20/14 |
| Phoenix Children's Hospital | 1919 E. Thomas Rd., Phoenix, AZ 85016 | 08/31/12 | 08/31/15 |
| St. Joseph's Hospital & Medical Center | 350 W. Thomas Rd., Phoenix, AZ 85013 | 11/20/13 | 11/20/16 |
| Scottsdale Healthcare – Osborn | 7400 E. Osborn, Scottsdale, AZ 85251 | 10/25/11 | 10/25/14 |
| The University of Arizona Medical Center | 1501 N. Campbell Ave., Tucson, AZ 85724 | 11/12/11 | 11/12/14 |
| West Valley Hospital (Provisional Designation) | 13677 W. McDowell Road, Goodyear, AZ 85395 | 7/21/14 | 1/21/16 |
| Level III Trauma Centers | | | |
| Banner Baywood Medical Center | 6644 E. Baywood Ave., Mesa, AZ 85206 | 05/12/14 | 02/25/15 |
| John C. Lincoln Deer Valley Hospital | 19829 N. 27 th Ave., Phoenix, AZ 85027 | 06/09/14 | 4/08/17 |
| Mountain Vista Medical Center | 1301 S. Crismon Rd., Mesa, AZ 85209 | 7/23/14 | 7/26/16 |
| Level IV Trauma Centers | | | |
| Banner Boswell Medical Center | 10401 W. Thunderbird Blvd., Sun City, AZ 85351 | 12/17/12 | 12/17/15 |
| Banner Del E. Webb Medical Center | 14502 W. Meeker Blvd, Sun City West, AZ 85375 | 01/09/14 | 01/09/17 |
| Banner Estrella Medical Center | 9201 W. Thomas Road, Phoenix, AZ 85037 | 08/30/12 | 08/30/15 |
| Banner Gateway Medical Center | 1900 N. Higley Road, Gilbert, AZ 85234 | 01/02/13 | 01/02/16 |
| Banner Ironwood Medical Center | 37000 N. Gantzel Rd., San Tan Valley, AZ 85140 | 10/11/12 | 10/11/15 |
| Banner Page Hospital | 501 N. Navajo, Page, AZ 86040 | 11/05/11 | 11/05/14 |
| Benson Hospital | 450 S. Ocotillo Ave., Benson, AZ 85602 | 03/03/14 | 03/03/17 |
| Chinle Comprehensive Health Care Facility | P.O. Drawer PH, Chinle, AZ 86503 | 09/09/13 | 09/09/16 |
| Cobre Valley Regional Medical Center | 5880 S. Hospital Dr., Globe, AZ 85501 | 11/26/12 | 11/26/15 |
| Copper Queen Community Hospital | 101 Cole Ave., Bisbee, AZ 85603 | 12/01/12 | 12/01/15 |
| Havasupai Regional Medical Center | 101 Civic Center Ln., Lake Havasu City, AZ 86403 | 01/20/14 | 01/20/17 |
| Kingman Regional Medical Center | 3269 Stockton Hill Rd., Kingman, AZ 86409 | 10/15/12 | 10/15/15 |

| Health Care Institution | Address | Effective Date | Expiration Date |
|-----------------------------------------------|--------------------------------------------------|----------------|-----------------|
| La Paz Regional Hospital | 1200 W. Mohave Rd., Parker, AZ 85344 | 06/02/12 | 06/02/15 |
| Mt. Graham Regional Medical Center | 1600 S. 20 th Ave., Safford, AZ 85546 | 03/20/14 | 03/20/17 |
| Northern Cochise Community Hospital | 901 W. Rex Allen Dr., Willcox, AZ 85643 | 12/04/11 | 12/04/14 |
| Oro Valley Hospital | 1551 East Tangerine Road, Oro Valley, AZ 85755 | 4/18/13 | 4/18/16 |
| Payson Regional Medical Center | 807 S. Ponderosa Street, Payson, AZ 85541 | 11/22/13 | 11/22/16 |
| Summit Healthcare Regional Medical Cen- | 2200 Show Low Lake Rd., Show Low, AZ 85901 | 08/12/14 | 08/12/17 |
| The University of Arizona Medical Center | 2800 E. Ajo Way, Tucson, AZ 85713 | 08/13/13 | 08/13/16 |
| Tuba City Regional Health Care Corp. | P.O. Box 600, Tuba City, AZ 86045 | 05/06/12 | 05/06/15 |
| Verde Valley Medical Center | 269 S. Candy Ln., Cottonwood, AZ 86326 | 08/18/11 | 08/18/14 |
| White Mountain Regional Medical Center | 118 S. Mountain Ave., Springerville, AZ 85938 | 06/18/12 | 06/18/15 |
| Wickenburg Community Hospital | 520 Rose Ln., Wickenburg, AZ 85390 | 08/08/14 | 08/08/17 |
| Yavapai Regional Medical Center – West Campus | 1003 Willow Creek Road, Prescott, AZ 86301 | 01/10/14 | 01/10/17 |
| Yavapai Regional Medical Center – East | 7700 E. Florentine, Prescott Valley, AZ 86314 | 6/24/14 | 6/24/17 |

Updated as of October 1, 2014



Legend

-  Level I Trauma Center
-  Level III Trauma Center
-  Level IV Trauma Center

FIGURE 1: Coconino County population by age, gender, and race/ethnicity, AZ Health & Vital Statistics

| | Group | Population | Percent |
|-----------------------|----------------------------------|-------------------|----------------|
| Age | <1 | 1,728 | 1.3% |
| | 1-4 | 7,197 | 5.4% |
| | 5-9 | 8,743 | 6.5% |
| | 10-14 | 8,579 | 6.4% |
| | 15-19 | 13,255 | 9.9% |
| | 20-24 | 15,896 | 11.8% |
| | 25-29 | 9,925 | 7.4% |
| | 30-34 | 8,176 | 6.1% |
| | 35-39 | 7,839 | 5.8% |
| | 40-44 | 7,640 | 5.7% |
| | 45-49 | 8,653 | 6.4% |
| | 50-54 | 9,279 | 6.9% |
| | 55-59 | 8,667 | 6.5% |
| | 60-64 | 6,673 | 5.0% |
| | 65-69 | 4,453 | 3.3% |
| | 70-74 | 2,983 | 2.2% |
| | 75-79 | 2,035 | 1.5% |
| | 80-84 | 1,350 | 1.0% |
| 85+ | 1,091 | 0.8% | |
| Gender | Male | 66,560 | 49.6% |
| | Female | 67,602 | 50.4% |
| Race/Ethnicity | White non-Hispanic | 74,778 | 55.7% |
| | Hispanic or Latino | 16,568 | 12.3% |
| | Black or African American | 1,907 | 1.4% |
| | American Indian or Alaska Native | 38,790 | 28.9% |
| | Asian or Pacific Islander | 2,120 | 1.6% |
| Total | | 134,162 | 100% |

FIGURE 2: Trauma frequency and rate per 100,000 by county

| County of Injury | Total Population | Percent of Population | Trauma Count | Percent of All Traumas | Trauma Rate per 100,000 |
|----------------------|------------------|-----------------------|---------------|------------------------|-------------------------|
| Apache | 72,310 | 1.1% | 742 | 2.3% | 1,026 |
| Cochise | 130,753 | 2.0% | 1,127 | 3.5% | 862 |
| Coconino | 134,313 | 2.1% | 1,853 | 5.7% | 1,380 |
| Gila | 53,627 | 0.8% | 551 | 1.7% | 1,027 |
| Graham | 37,313 | 0.6% | 119 | 0.4% | 319 |
| Greenlee | 8,599 | 0.1% | 41 | 0.1% | 477 |
| La Paz | 20,902 | 0.3% | 156 | 0.5% | 746 |
| Maricopa | 3,884,706 | 59.8% | 14,873 | 45.6% | 383 |
| Mohave | 203,072 | 3.1% | 970 | 3.0% | 478 |
| Navajo | 107,922 | 1.7% | 873 | 2.7% | 809 |
| Pima | 990,380 | 15.2% | 4,925 | 15.1% | 497 |
| Pinal | 389,192 | 6.0% | 1,738 | 5.3% | 447 |
| Santa Cruz | 48,725 | 0.7% | 180 | 0.6% | 369 |
| Yavapai | 211,582 | 3.3% | 1,037 | 3.2% | 490 |
| Yuma | 205,174 | 3.2% | 2,062 | 6.3% | 1,005 |
| Other | - | - | 552 | 1.7% | - |
| Total | 6,498,570 | 100% | 32,602 | 97.5% | 502 |
| <i>Missing = 803</i> | | | | | |

Statewide, there were 32,602 traumatic injuries seen at state designated trauma centers— a rate of 502 per 100,000 Arizona residents.

Coconino County makes up about two percent of the total population of Arizona. Injuries occurring in the county make up about six percent of the trauma cases from state designated trauma centers. The county-specific trauma rate, 1,380 per 100,000 county residents, is higher than the state average (Figure 3).

FIGURE 3: County-specific trauma rates per 100,000 residents

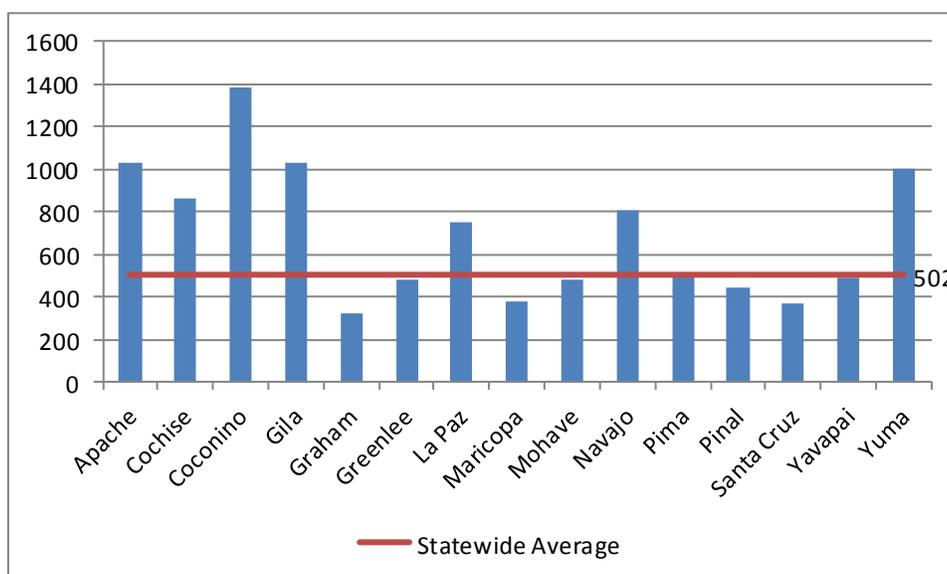


FIGURE 4: Frequency and rate of trauma by age, race/ethnicity, and gender in Coconino County

| Group | | Population | Percent | Rate per 100,000 |
|----------------|-------------------------------|--------------|---------------|------------------|
| Age | <1 | 11 | 0.6% | 629 |
| | 1-4 | 40 | 2.2% | 568 |
| | 5-9 | 58 | 3.1% | 658 |
| | 10-14 | 75 | 4.0% | 869 |
| | 15-19 | 182 | 9.8% | 1,422 |
| | 20-24 | 229 | 12.4% | 1,454 |
| | 25-34 | 321 | 17.3% | 1,752 |
| | 35-44 | 290 | 15.7% | 1,881 |
| | 45-54 | 251 | 13.5% | 1,484 |
| | 55-64 | 174 | 9.4% | 1,092 |
| | 65-74 | 85 | 4.6% | 1,022 |
| | 75-84 | 87 | 4.7% | 2,477 |
| 85+ | 50 | 2.7% | 4,507 | |
| Gender | Female | 643 | 34.7% | 949 |
| | Male | 1,210 | 65.3% | 1,817 |
| Race/Ethnicity | Hispanic | 100 | 5.4% | 584 |
| | White | 596 | 32.2% | 783 |
| | American Indian/Alaska Native | 1,115 | 60.2% | 2,977 |
| | Black/African American | 14 | 0.8% | 872 |
| | Asian or Pacific Islander | 20 | 1.1% | 1,019 |
| Total | | 1,853 | 100.0% | 1,380 |

The trauma rate is higher in Coconino County for all age groups (Figure 4), as compared to the rest of the state. The highest trauma rate is among the >85 age group (4,507 traumatic injuries per 100,000 county residents), due to the small number of Coconino County residents that are within that age group.

FIGURE 5: Trauma rate per 100,000 residents by age

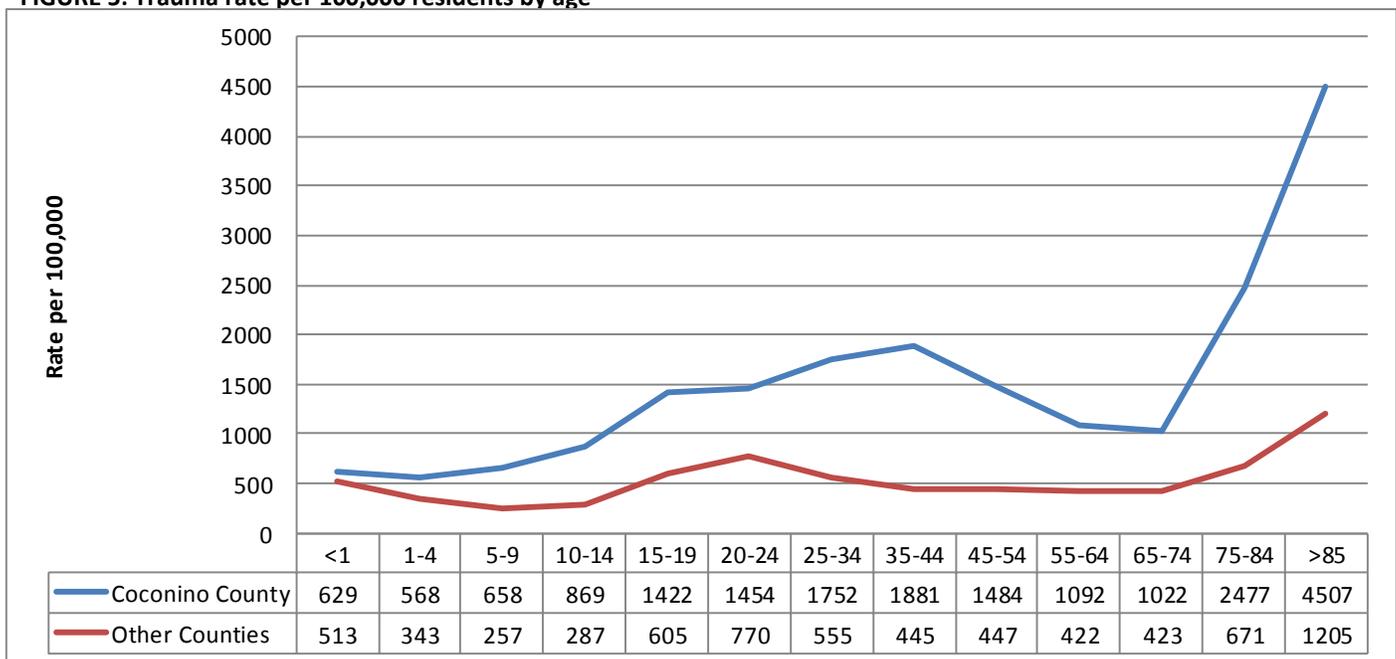
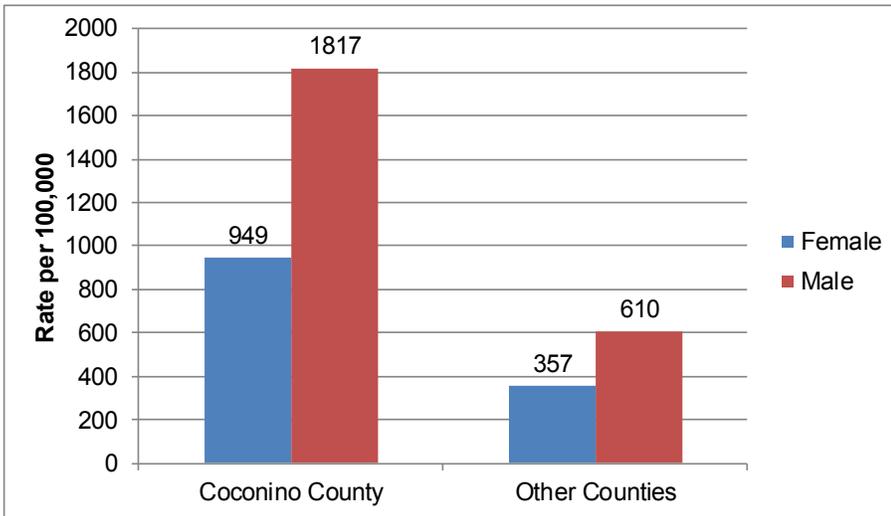
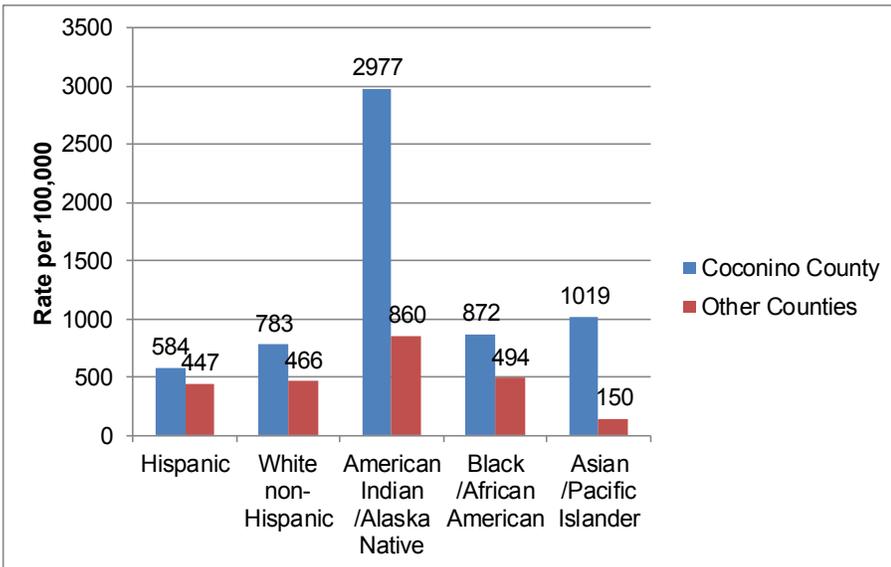


FIGURE 6: Trauma rate per 100,000 residents by gender



Both males and females in Coconino County have higher trauma rates than their counterparts in other counties (Figure 6).

FIGURE 7: Trauma rate per 100,000 residents by race/ethnicity



The trauma rate for all race/ethnicities is higher in Coconino County than in other counties (Figure 7).

Figure 9 shows the top causes of traumatic injury in Coconino County, as compared with other counties (rates per 100,000).

FIGURE 8: Frequency of top causes of trauma in Coconino County

| Cause | Count | Percent |
|-----------------------|-------|---------|
| Motor Vehicle Traffic | 416 | 31.27% |
| Falls | 546 | 27.49% |
| Struck by/Against | 353 | 14.29% |
| Transport, other | 163 | 8.63% |
| Cut/Pierce | 75 | 5.53% |
| Unspecified | 63 | 3.91% |

FIGURE 9: Top causes of trauma, rates per 100,000 residents

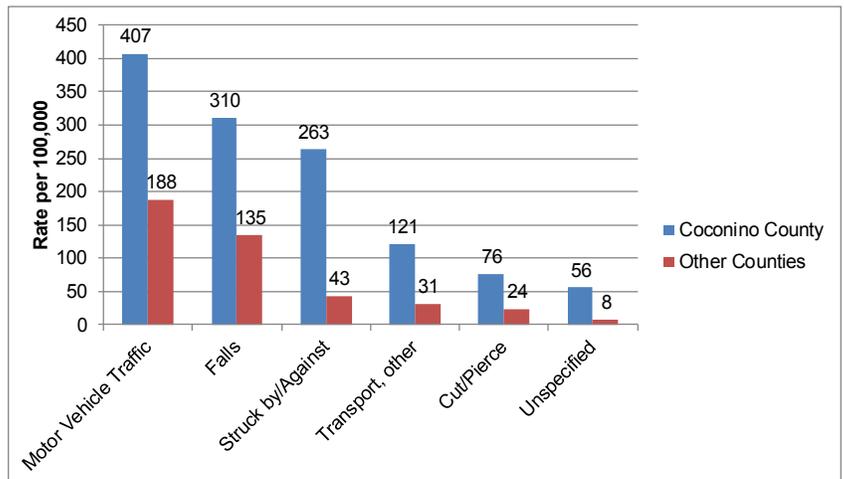
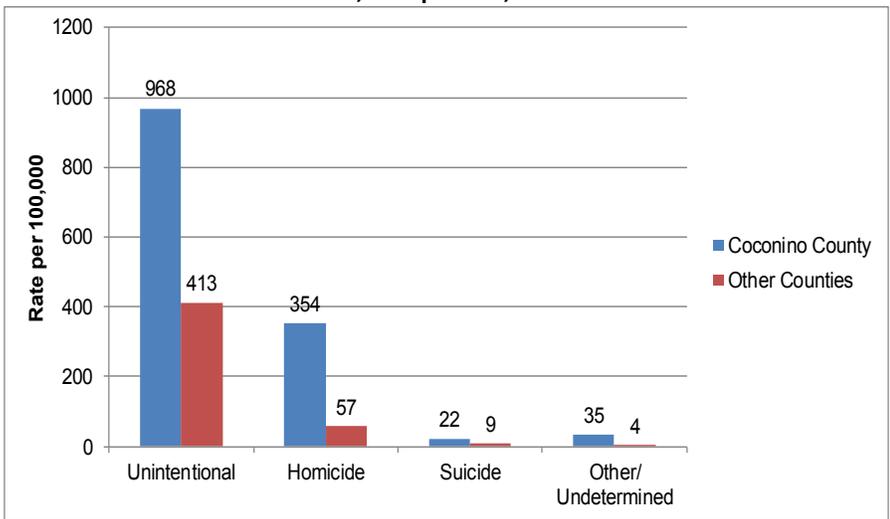


FIGURE 10: Intention of trauma, rate per 100,000 residents



The rates of all types of trauma intent in Coconino County are higher than in other Arizona counties, especially unintentional intent and homicidal intent (Figure 10).

Documented alcohol and drug use was present in 35.6% and 7.8% of traumatic injuries in Coconino County, respectively (Figure 11).

Alcohol and drug use is defined as any indication of use through testing or self-report, regardless of level of impairment.

FIGURE 11: Substance use in traumatic injuries in Coconino County

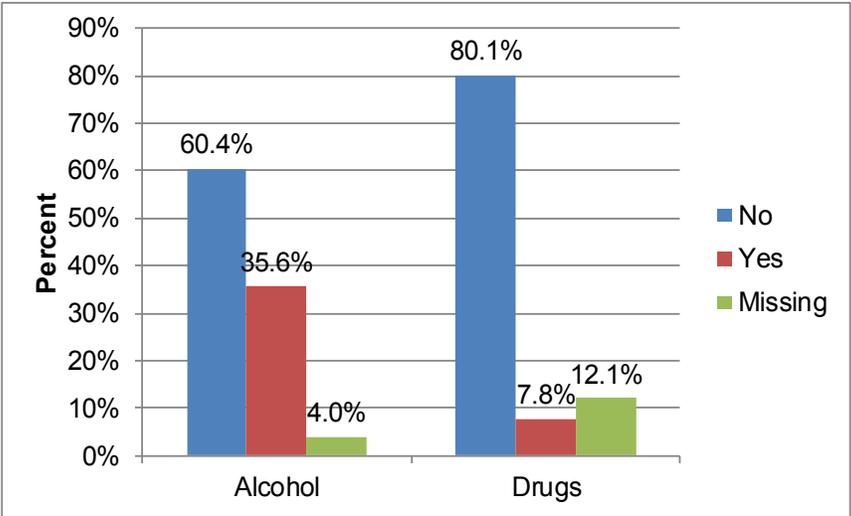


FIGURE 12: Frequency of substance use in traumatic injuries in Coconino County

| Substance Use | | Frequency | Percent |
|---------------|---------|-----------|---------|
| Alcohol | No | 1,119 | 60.39% |
| | Yes | 659 | 35.56% |
| | Missing | 75 | 4.05% |
| | Total | 1,853 | 100% |
| Drugs | No | 1,484 | 80.09% |
| | Yes | 145 | 7.83% |
| | Missing | 224 | 12.09% |
| | Total | 1,853 | 100% |

FIGURE 13: Proportion of ground and air ambulance transports in Coconino County

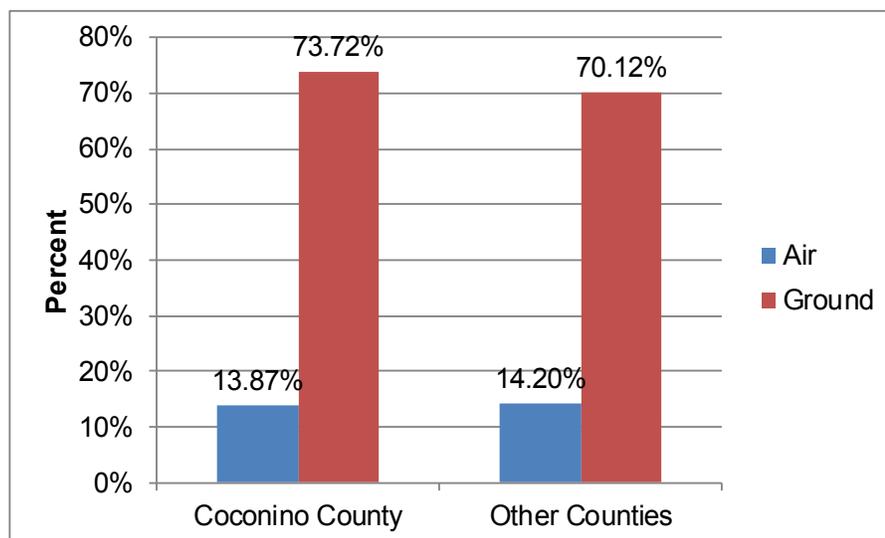


FIGURE 14: Count of ground and air ambulance transports

| | Air | Ground | Other | Missing |
|-----------------|-------|--------|-------|---------|
| Coconino County | 257 | 1366 | 225 | 5 |
| Other Counties | 4,367 | 21,561 | 4,718 | 103 |

FIGURE 15: Golden hour by transport type

The term “golden hour” refers to the hour immediately following traumatic injury. Theoretically, the chance of survival is highest when medical treatment to prevent irreversible internal damage is obtained within this time period.

Due to the large amount of missing data on golden hour, results on the proportion of patients arriving at the hospital within one hour are not conclusive.

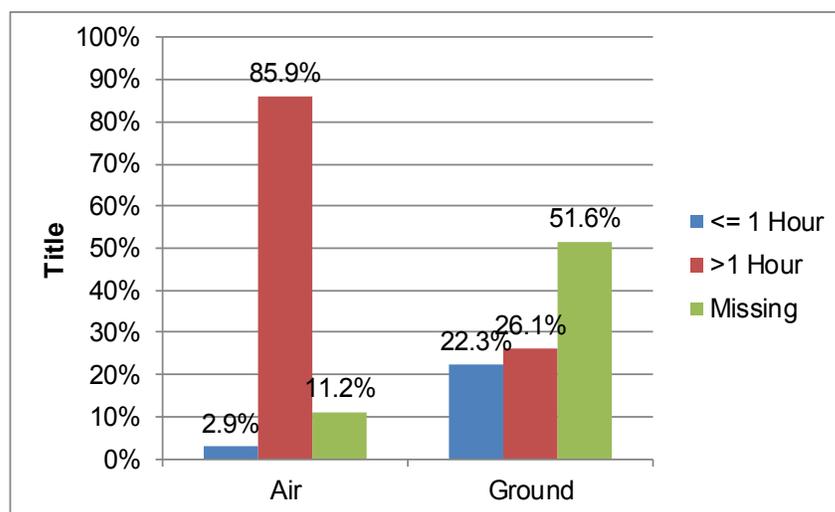


FIGURE 16: Count of golden hour by transport type to trauma center

| Golden Hour | Air Ambulance | | Ground Ambulance | | Total | |
|-------------|---------------|---------|------------------|---------|-------|---------|
| | Count | Percent | Count | Percent | Count | Percent |
| <= 1 Hour | 5 | 2.9% | 272 | 22.3% | 277 | 19.9% |
| > 1 Hour | 146 | 85.9% | 319 | 26.1% | 465 | 33.4% |
| Missing | 19 | 11.2% | 630 | 51.6% | 649 | 46.7% |
| Total | 170 | 100% | 1221 | 100% | 1391 | 100% |

FIGURE 17: Primary payer in Coconino County

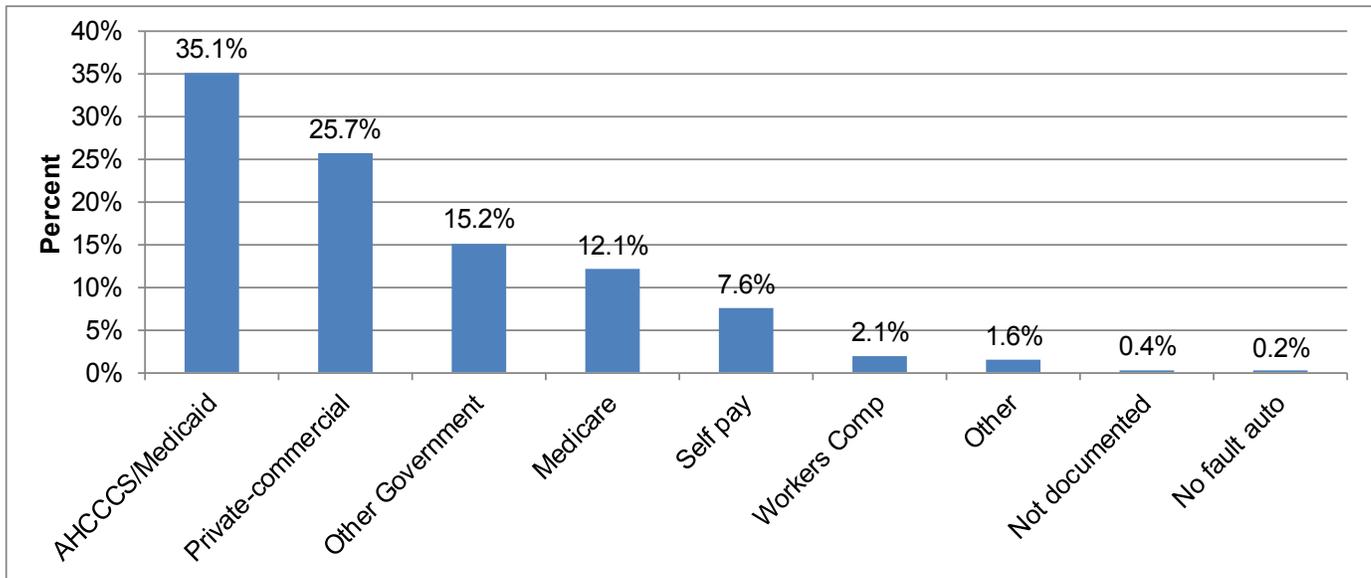


FIGURE 18: Count of primary payer in Coconino County

| Primary Payer | Frequency | Percent |
|--------------------|-----------|---------|
| AHCCCS/Medicaid | 651 | 35.1% |
| Private-commercial | 477 | 25.7% |
| Other Government | 282 | 15.2% |
| Medicare | 225 | 12.1% |
| Self pay | 141 | 7.6% |
| Workers Comp | 38 | 2.1% |
| Other | 29 | 1.6% |
| Not documented | 7 | 0.4% |
| No fault auto | 3 | 0.2% |

AHCCCS/Medicaid is the primary payment source for trauma-related hospital visits in Coconino County (Figures 17 & 18).

The median charge in Coconino County in 2012 was \$9,604 (Figure 19).

FIGURE 19: Charges & reimbursement by primary payer in Coconino County

| Primary Payer | Total Charges | Median Charges | Total Reimbursement |
|--------------------|---------------------|----------------|---------------------|
| AHCCCS/Medicaid | \$13,750,906 | \$4,743 | \$1,393,133 |
| Private-commercial | \$19,488,020 | \$15,978 | \$9,814,733 |
| Other Government | \$6,926,330 | \$8,138 | \$831,099 |
| Medicare | \$8,111,936 | \$15,404 | \$2,480,249 |
| Self pay | \$4,648,829 | \$14,442 | \$153,672 |
| Workers Comp | \$2,331,705 | \$33,636 | \$614,026 |
| Other | \$336,487 | \$4,815 | \$85,360 |
| Not documented | \$93,003 | \$20,887 | \$0 |
| No fault auto | \$79,935 | \$6,006 | \$63,888 |
| Total | \$55,767,152 | \$9,604 | \$15,436,161 |