

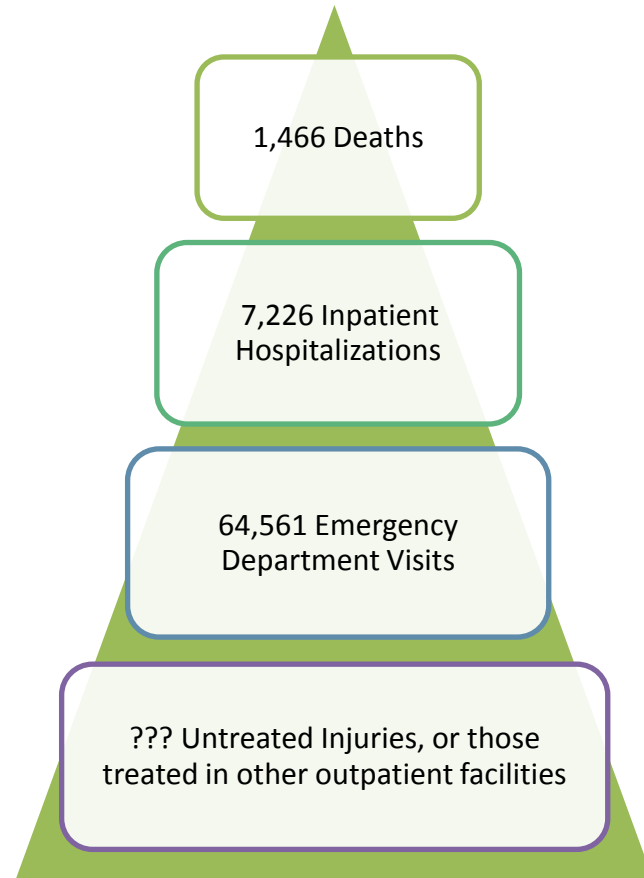


TRAUMATIC BRAIN INJURIES (TBI)

AMONG ARIZONA RESIDENTS 2015

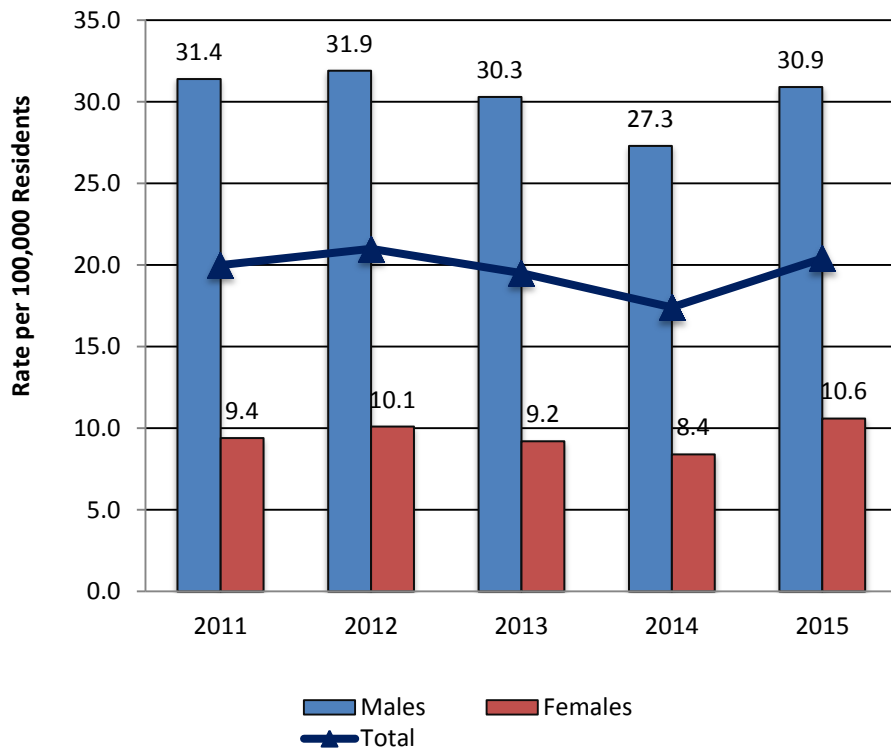
2015 SNAPSHOT OF TBI IN AZ

- During 2015, a TBI was sustained by *73,253 residents in Arizona*.
 - On death certificates, where TBI was reported as the cause of death, the age adjusted mortality rate was **20.4 deaths per 100,000 residents** (N=1,466)
 - For residents hospitalized due to TBI, the age adjusted rate was 100.8 hospitalization per 100,000 residents (N=7,226)
 - **Total hospital charge of Non-fatal Hospitalization was 657.7 million**
 - For residents treated and relapsed from Emergency Dept. the TBI mortality rate was 954.4 visits per 100,000 residents (N=64,561)
 - **Total hospital charge of Non-fatal Emergency Dept. Visit was 440 million**



5-Year Trends in TBI Deaths

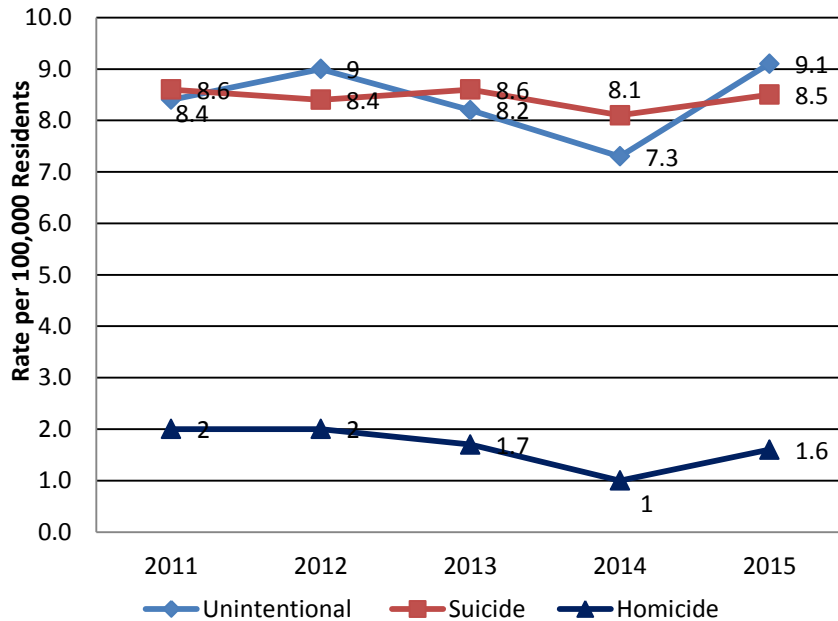
Figure 1. Age-Adjusted TBI Mortality Rates by Sex, Arizona 2011-2015



- From 2011-2015, the age-adjusted mortality rate due to TBI injuries increased slightly by 2 percent
- Although the male mortality rates decreased by 1.6%, the female mortality rates increased by 12.7%.
- The age-adjusted mortality rates among males were three times more than the rates of females.

5-Year Trends in TBI Deaths Cont.

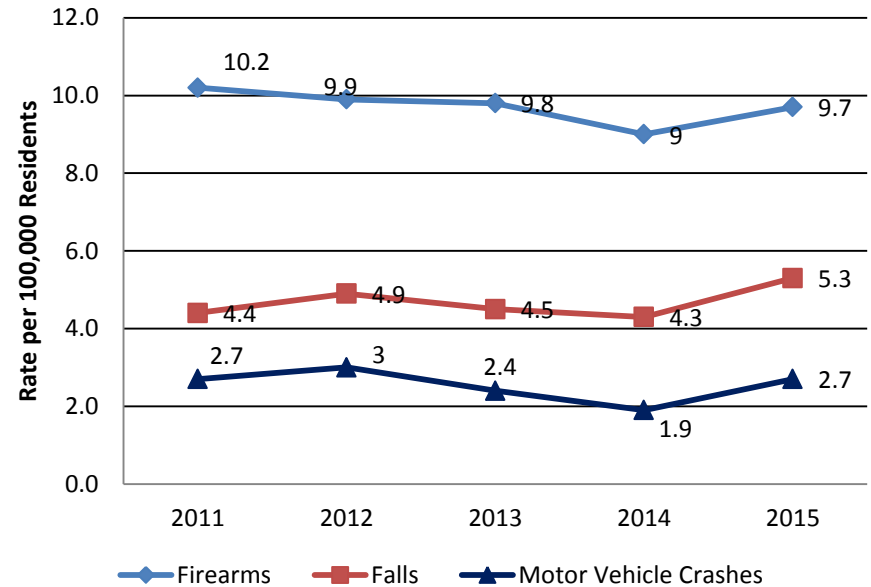
Figure 2. Age-Adjusted TBI Mortality Rates by Manner of Death, Arizona 2011-2015



-The age-adjusted rate of unintentional TBI-related deaths increased 8% from 2011 and 24% from 2014.

-Suicide mortality rates decreased 1% since 2011 and increased 5% since 2014.

Figure 3. Age-Adjusted TBI Mortality Rates By Lead Cause of Death, Arizona 2011-2015

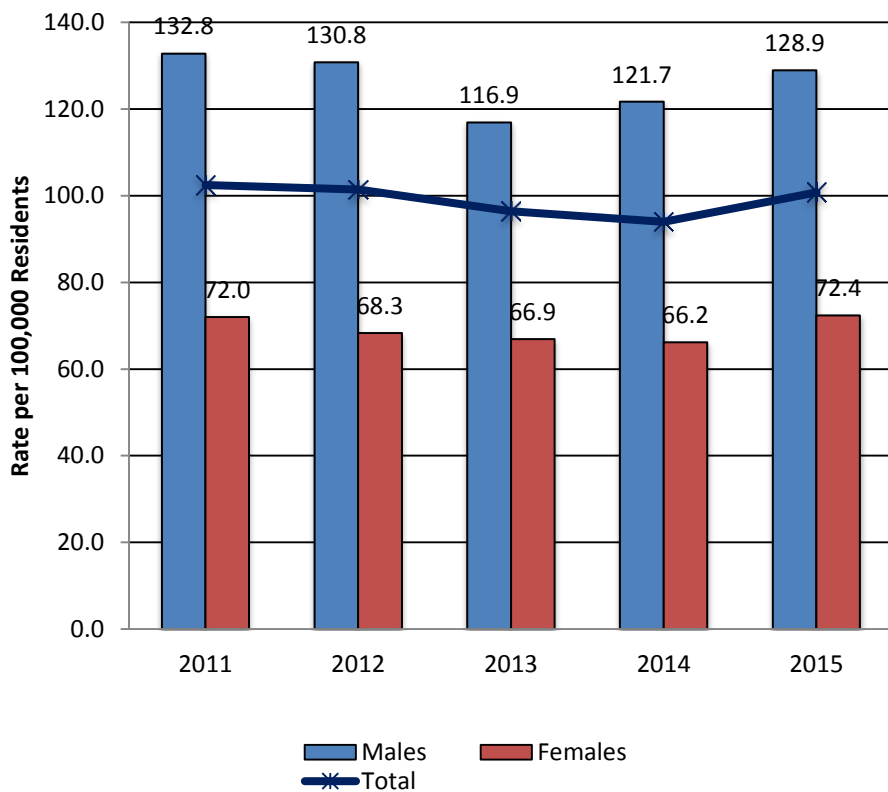


-Firearms is the leading cause of TBI Deaths, followed by Falls and MVC

-The age-adjusted rates of TBI-related: Firearms increased by 8%, MVC increased by 42%, and Falls increased by 23% since.

5-Year Trends in TBI Inpatient Hospitalization

Figure 4. Age-Adjusted Non-Fatal TBI-Related Inpatient Hospitalization Rates by Sex, Arizona 2011-2015



- From 2011-2015, the age-adjusted rate of TBI-related Inpatient Hospitalizations decreased 1.6%.
- On average, the age-adjusted hospitalization rates among males were 1.8 times higher than the rates of females during the same 5 year period.
- Rates for males decreased 3% from between 2011 and 2015, and rates for females increased slightly by 0.5

5-Year Trends in TBI Inpatient Hospitalization Cont.

Figure 5. Age-Adjusted Non-Fatal TBI-Related Inpatient Hospitalization By Manner of Injury, Arizona 2011-2015

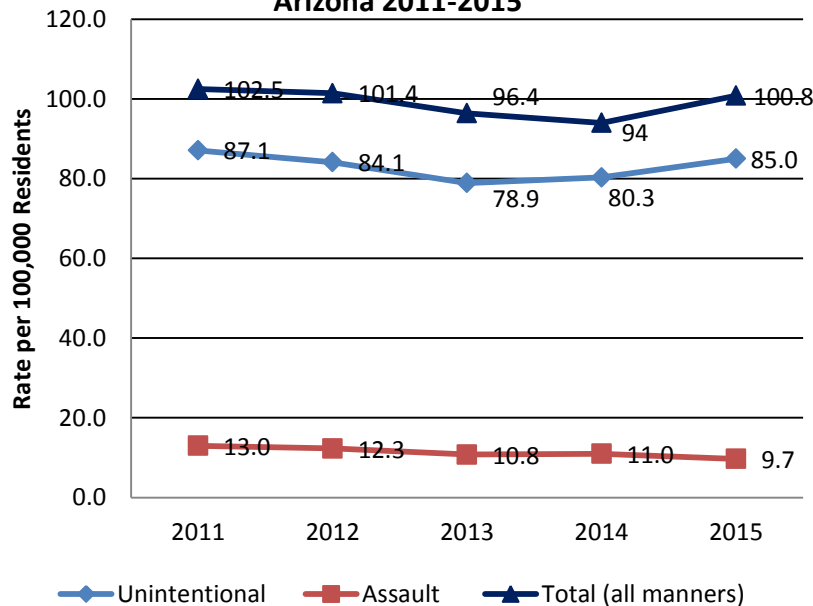
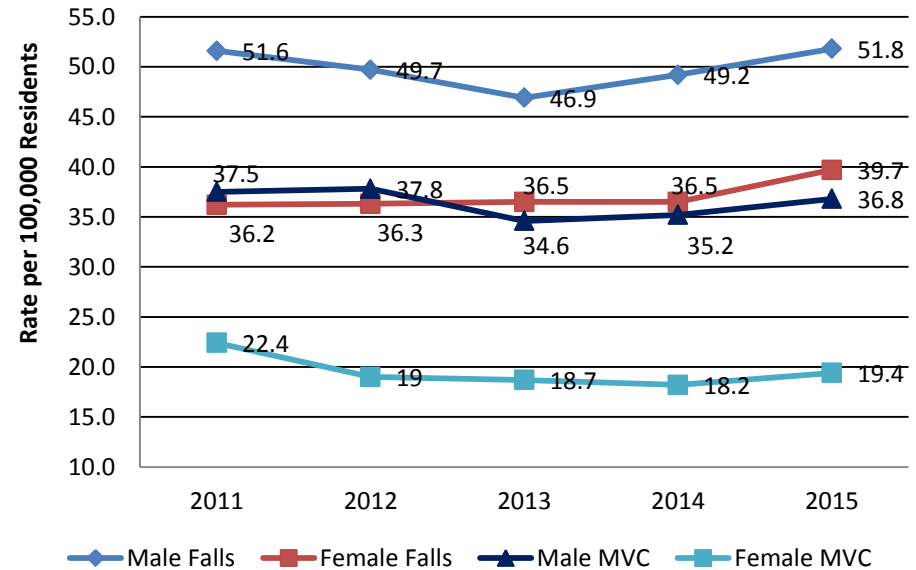


Figure 6. Age-Adjusted Non-Fatal TBI Inpatient Hospitalization Rates by Mechanism and Sex, Arizona 2011-2015

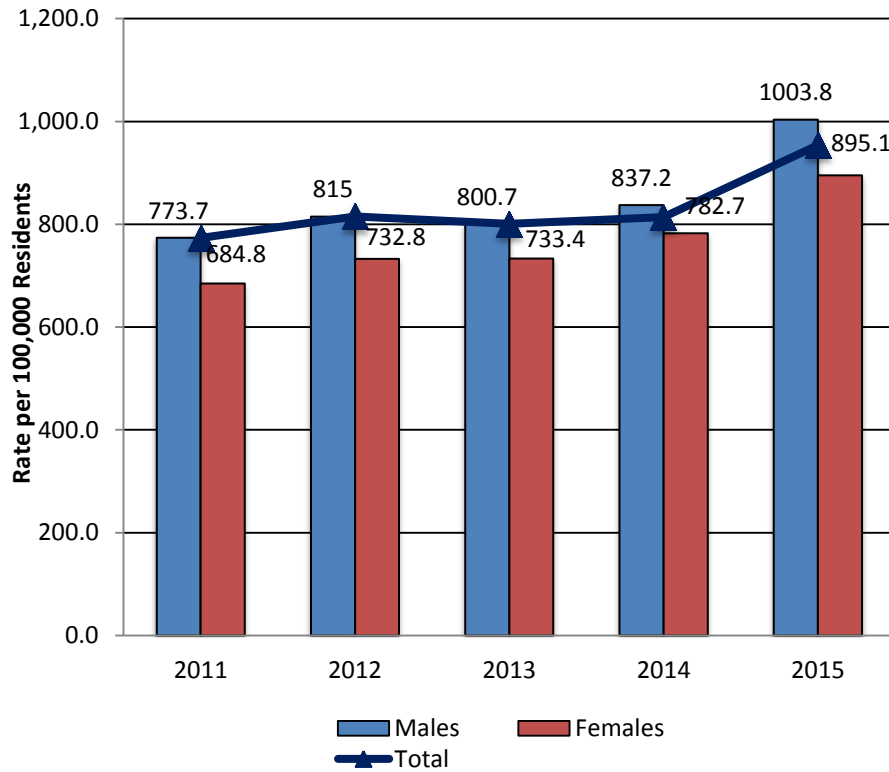


-Overall the age-adjusted rate of TBI-related IP by all manners has decreased since 2011. However, unintentional injuries increased by 6% since 2014.
 - Assault decreased 12% from 2014.

-The leading cause for TBI-related injuries is Falls, followed by Motor Vehicle Crashes.
 -The age-adjusted rate for Falls for males increased by 5% and for females 9%.
 -Males have significant higher rates than females.

5-Year Trends in TBI Emergency Dept. Visit

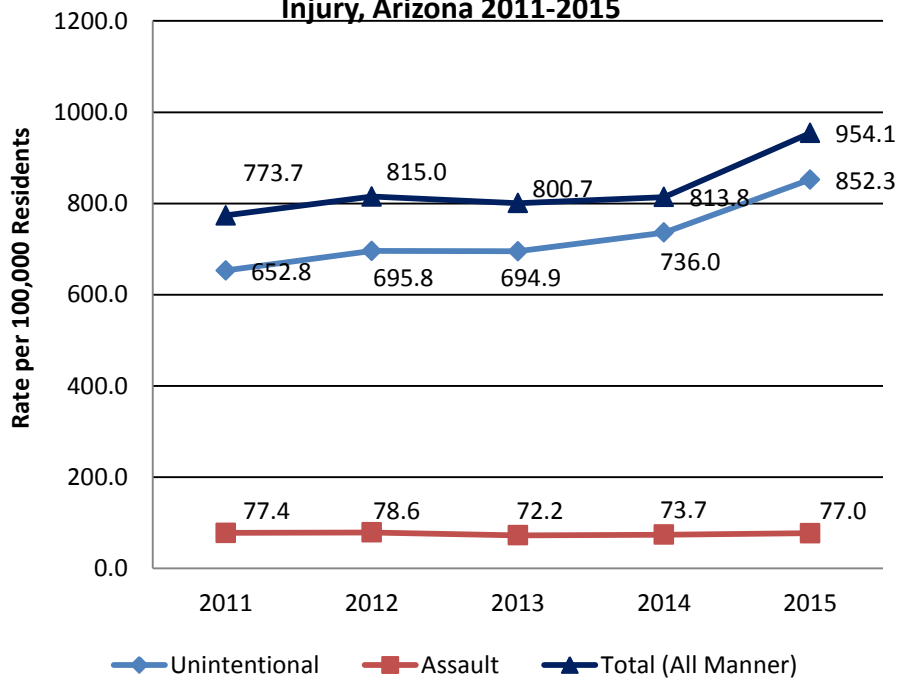
Figure 7. Age-Adjusted Non-Fatal TBI-Related Emergency Department Visit Rates by Sex, Arizona, 2011-2015



- From 2011-2015, the age-adjusted rate of non-fatal TBI-related emergency department visits (EDV) increased by 23% overall.
- The age-adjusted EDV rates among males were higher than rates among females for the last five years.
- Among males, the rate increased 30%, and among females, the rate increased 31%.

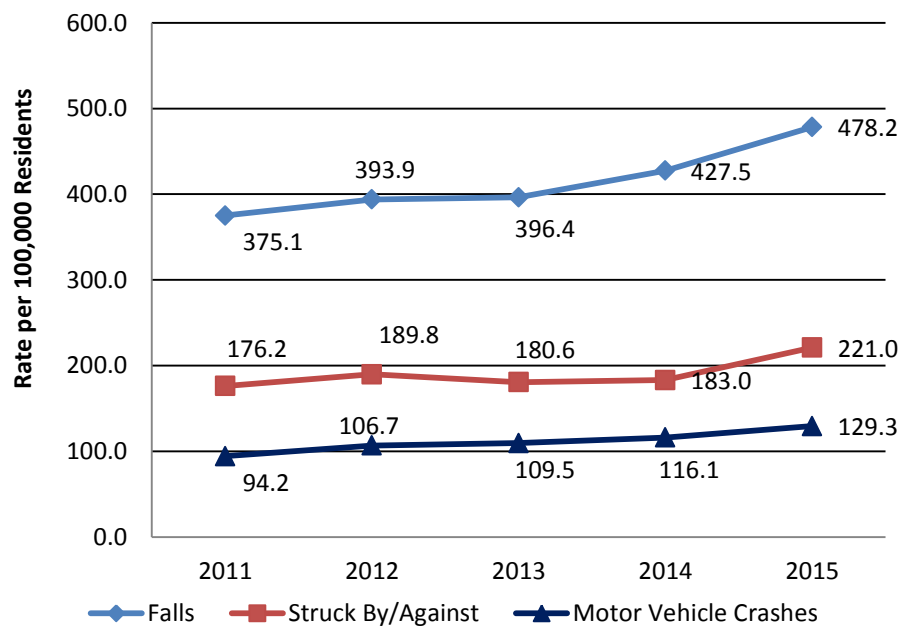
5-Year Trends in TBI Emergency Dept. Visit Cont.

Figure 8. Age-Adjusted Non-Fatal TBI-Related Emergency Department Visit Rates By Manner Of Injury, Arizona 2011-2015



-Unintentional injuries have increased by 30.6% while Assault injuries have decreased by 0.5% since 2011.

Figure 9. Age-Adjusted Non-Fatal TBI-Related Emergency Department Visit By Selected Cause Of Injury, Arizona 2011-2015



-For ED Visits, Falls is the leading cause of TBI-related visits then Struck by, and MVC.
 -From 2011-2015, there was increase in all causes: 27.5% for Falls, 25.4% for Being Struck by/Against, and 37.3% for MVC.

TBI-Related Deaths in 2015

Figure 10. Age-Specific TBI-Related Mortality Rates by Sex and age Group, Arizona 2015

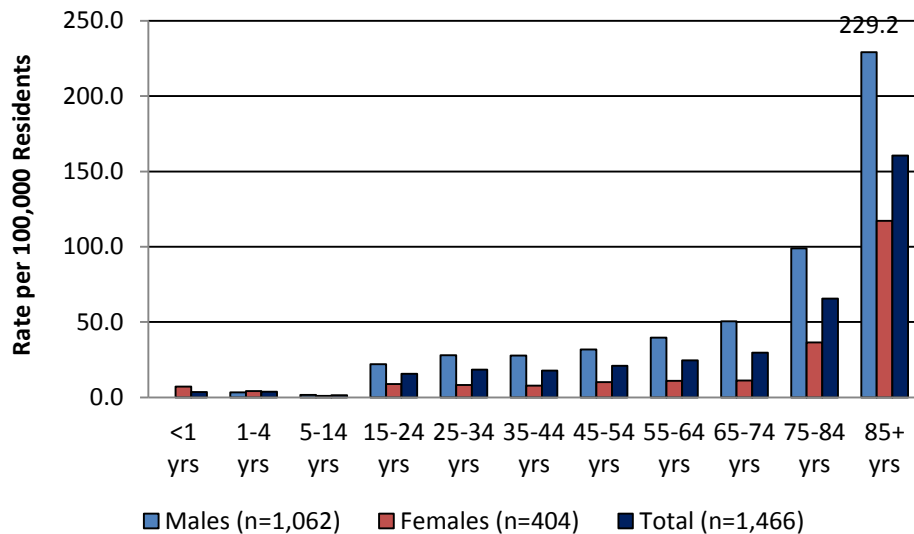
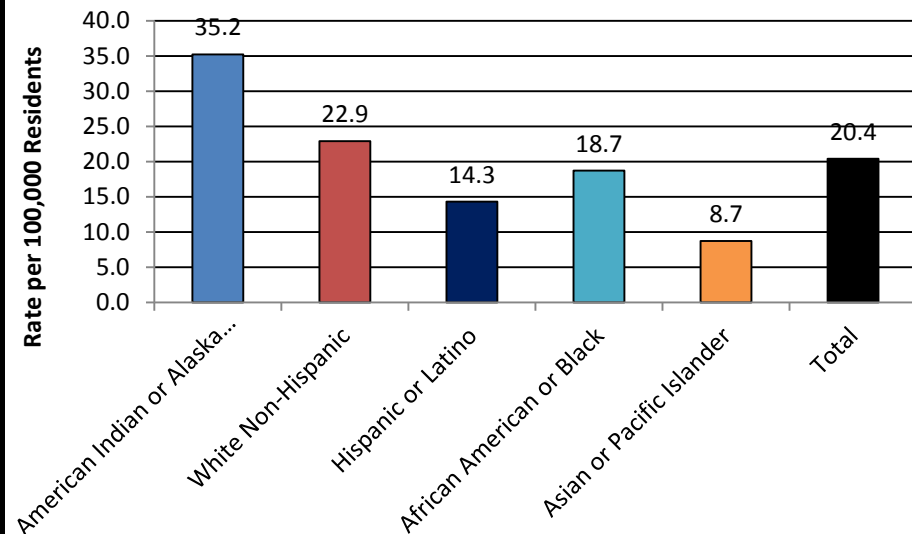


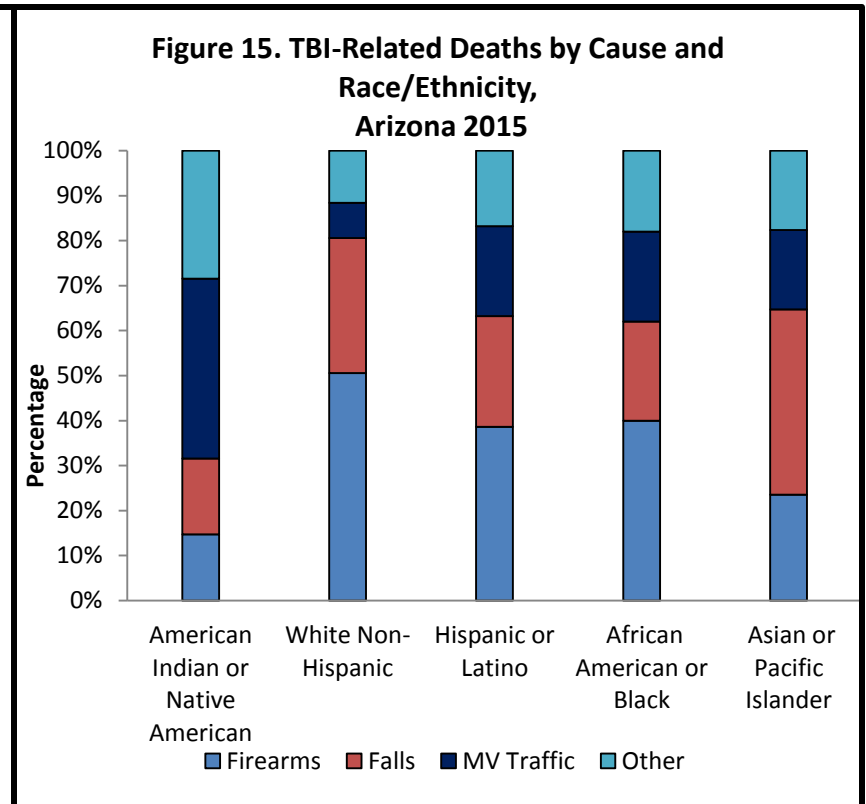
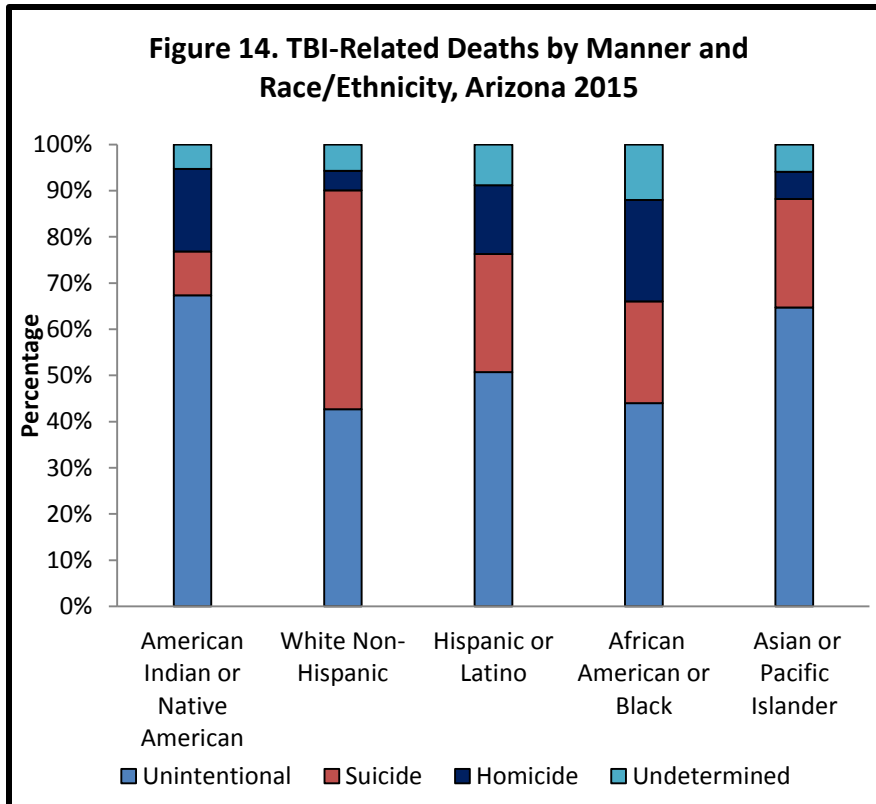
Figure 11. Age-Adjusted TBI-Related Mortality Rates by Race/Ethnicity, Arizona 2015



- 72% of TBI deaths were among males (n=1,062) and Males had higher rates of TBI-related mortality across all age groups.
- Males 85 years and older had the highest rate of TBI deaths at 229.2 per 100,000 residents. High rate in this age group was due to unintentional falls (n=151).

- Age-adjusted TBI death rates were highest among American Indian (35.2 deaths per 100,000 residents) and White non-Hispanics (22.9 deaths per 100,000 residents).
- All other race/ethnicity groups had rates below the total for all residents

Difference in Manner and Cause of TBI-Related Death by Race/Ethnicity

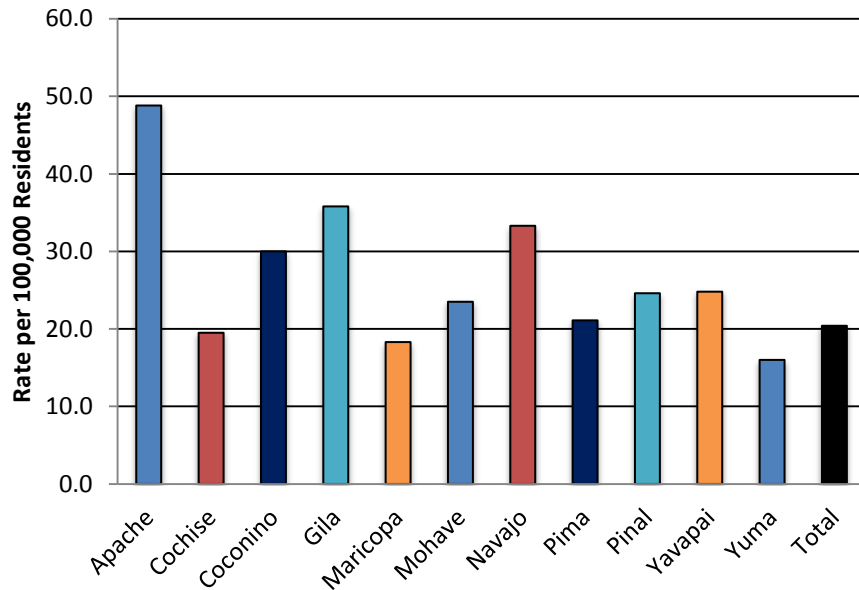


-White non-Hispanic residents were more likely to experience TBI-related deaths due to Suicide. While American Indians were likely to experience unintentional TBI-related Deaths.

-American Indians experience MVC TBI-Related Deaths more than other race/ethnicity groups.

TBI-Related Deaths 2015

Figure 12. Age-Adjusted TBI-Related Mortality Rates by County, Arizona 2015*



-There were eight counties that had age-adjusted TBI mortality rates higher than the state rate (20.4 deaths per 100,000 residents) in 2015. Apache (48.8), Gila (35.0), and Navajo (33.3) had the highest age-adjusted TBI mortality rates per 100,000 residents.

Table 1. Number and Percentage of TBI Deaths by Cause, Arizona 2015

Cause	Number	Percentage
Firearm	672	46%
Fall	414	28%
Motor vehicle traffic	179	12%
Other/unspecified/unknown	151	10%
Other land transport	23	2%
Other Specified	19	<1%
Other pedestrian/pedal cycle	8	<1%
Total	1,466	100%

-Firearms, Falls and MVC were the leading causes of TBI-Related Deaths in 2015.