

Preliminary Analysis of Traumatic Brain Injuries (TBI) Among Victims of Domestic Violence, in Arizona, 2011-2017



Office of Injury Prevention
Arizona Department of Health Services

Domestic Violence (DV) Related Deaths

- Arizona Coalition to End Sexual and Domestic Violence (ACESDV):
 - Online system searches keywords from media sources for violence events
 - DV related if criteria is met (A.R.S 13-33601)
 - Relationship between perpetrator & victim
 - Crime committed
 - Data sent to local teams to conduct DV fatality reviews

**DV Related Deaths,
Identified from ACESDV
AZ, 2011-2017**



DV Related Deaths w/ TBI

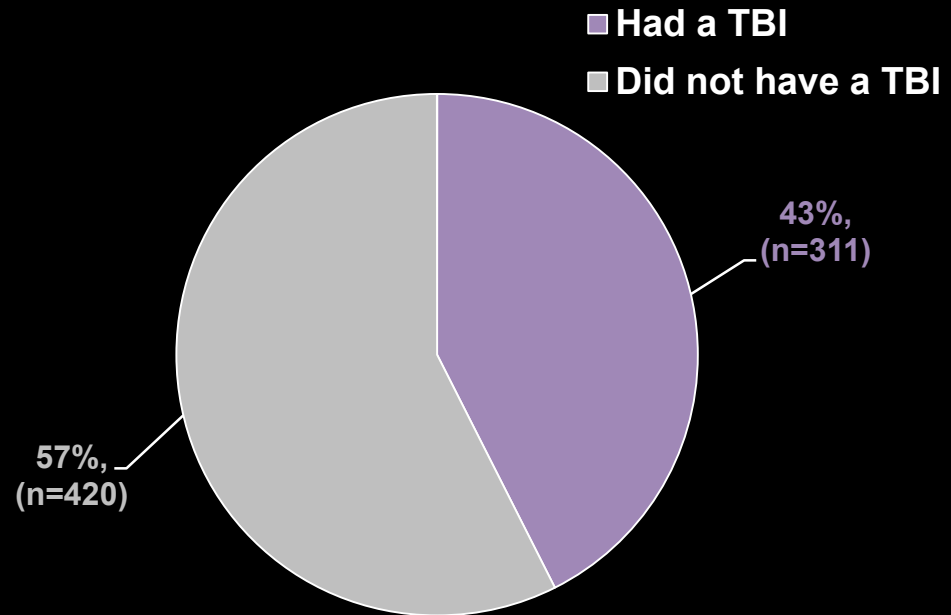
Death Certificates

- Info-characteristics of the deceased, manner, and cause of death, etc.
- TBI diagnosis codes from CDC
 - Open wound or laceration of scalp
 - Fracture of skull and facial bone
 - Intracranial/crushing head injury, etc.

▪ Data Mining:

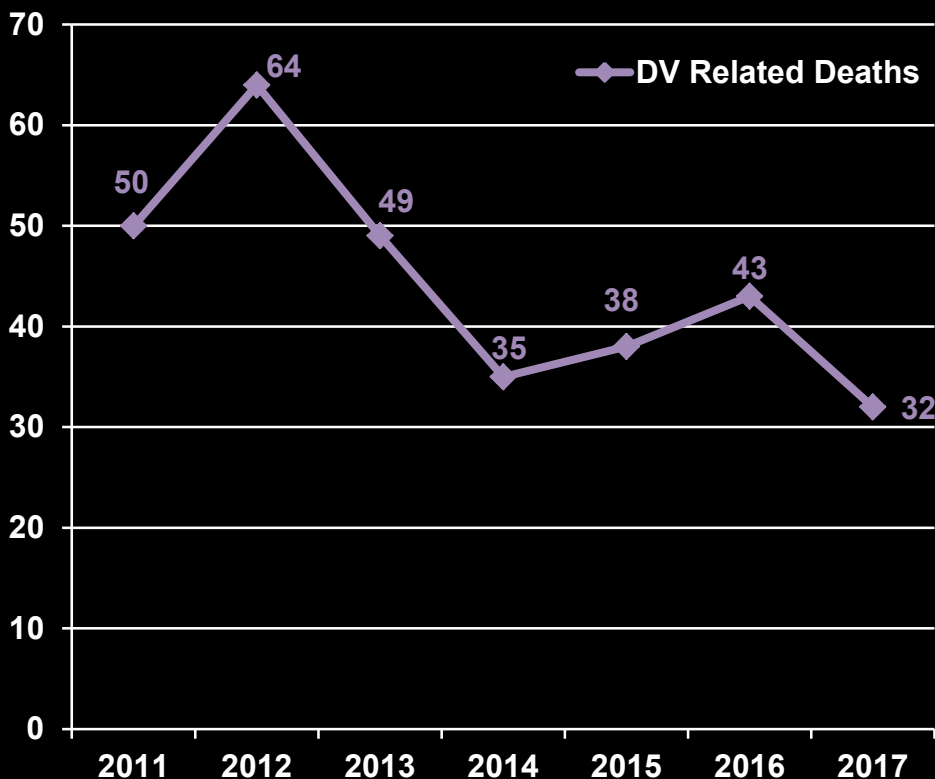
- DV Related Deaths were linked to Death Certificates that had a TBI diagnosis
- Tedious Q&A: misspelled name, wrong age, DOB, unknown, other missing info
- 97% data match

Percentage of DV Related Deaths Identified, by TBI Diagnosis, AZ, from 2011-2017 (N=731)

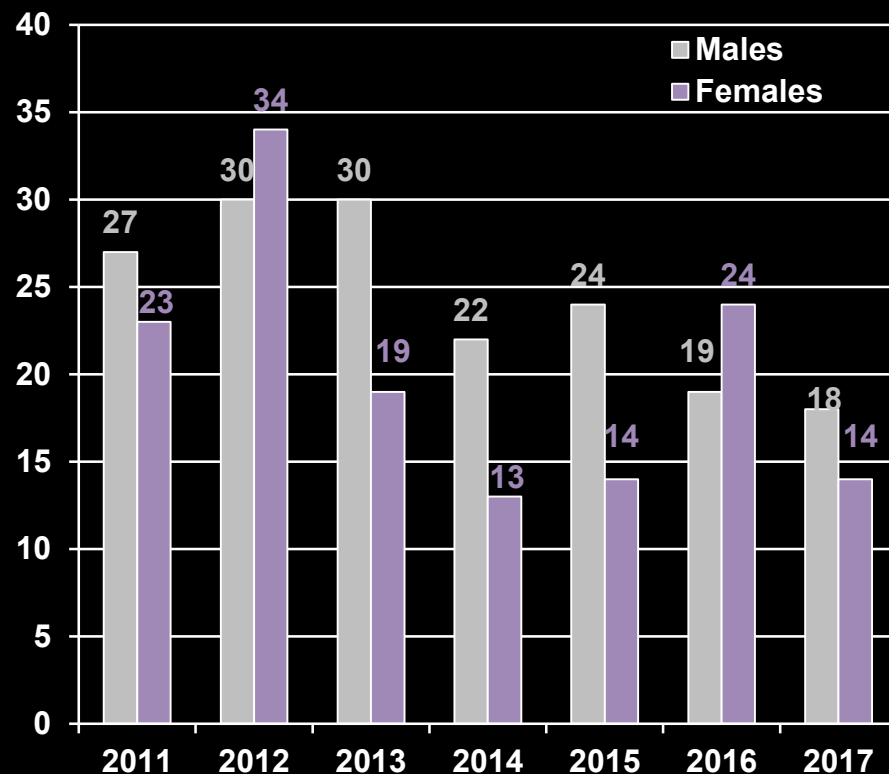


7 Year Trend DV Related Deaths Identified, w/ TBI, by Year & Sex

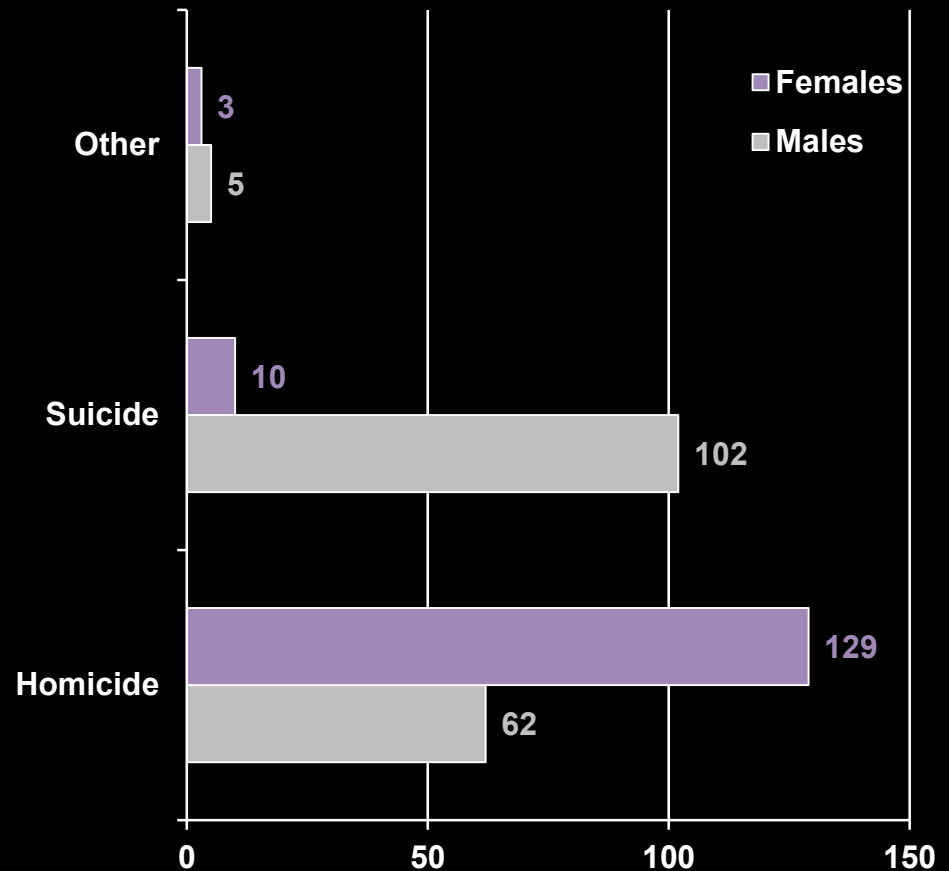
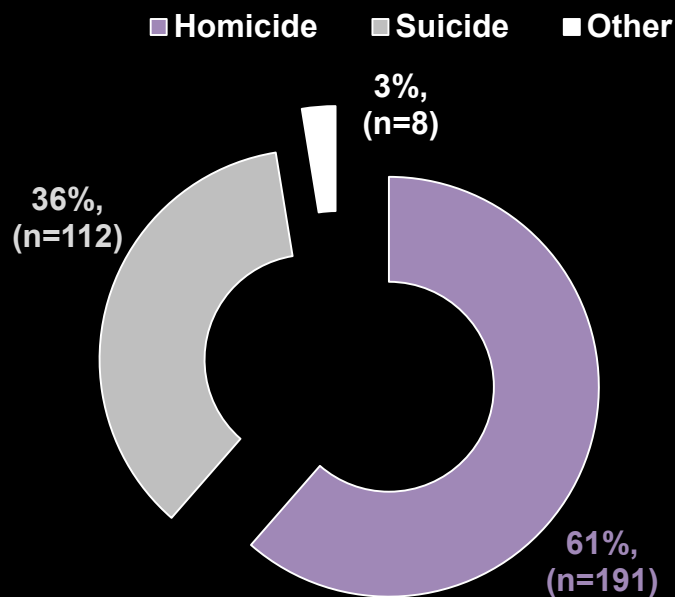
Number of DV Related Deaths with TBI, by Year, AZ, from 2011-2017



Number of DV Related Deaths with TBI, by Year and Sex, AZ, from 2011-2017

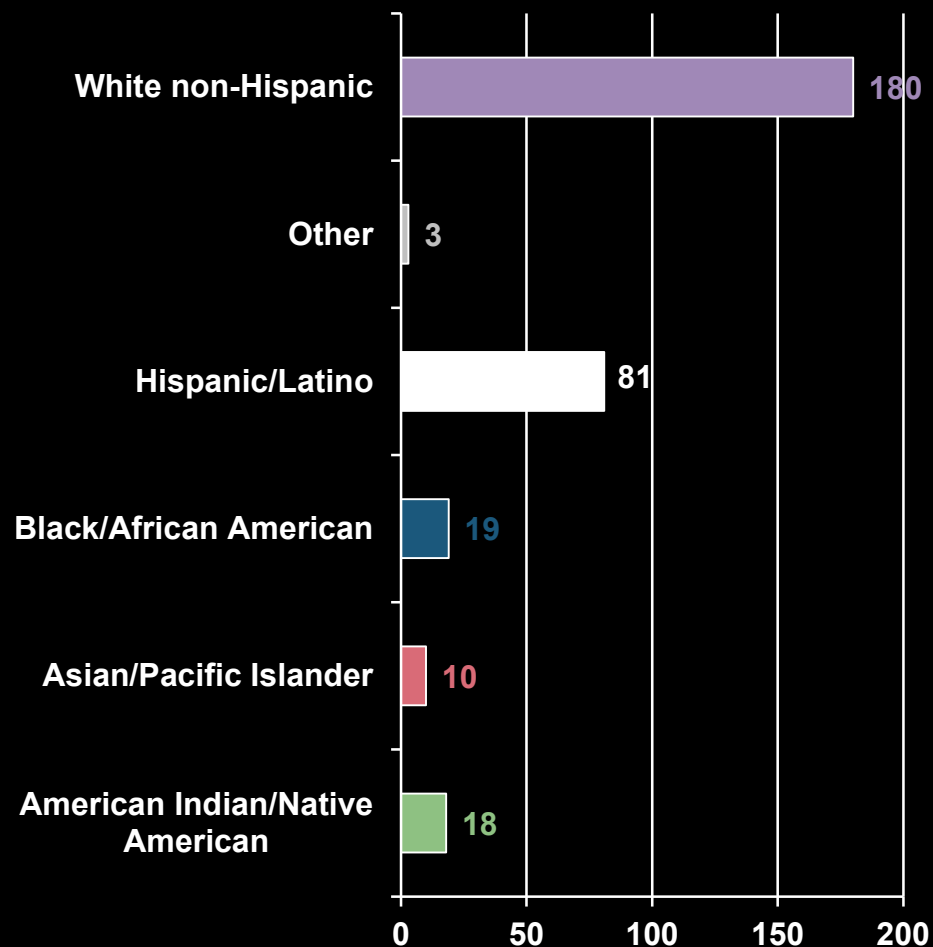
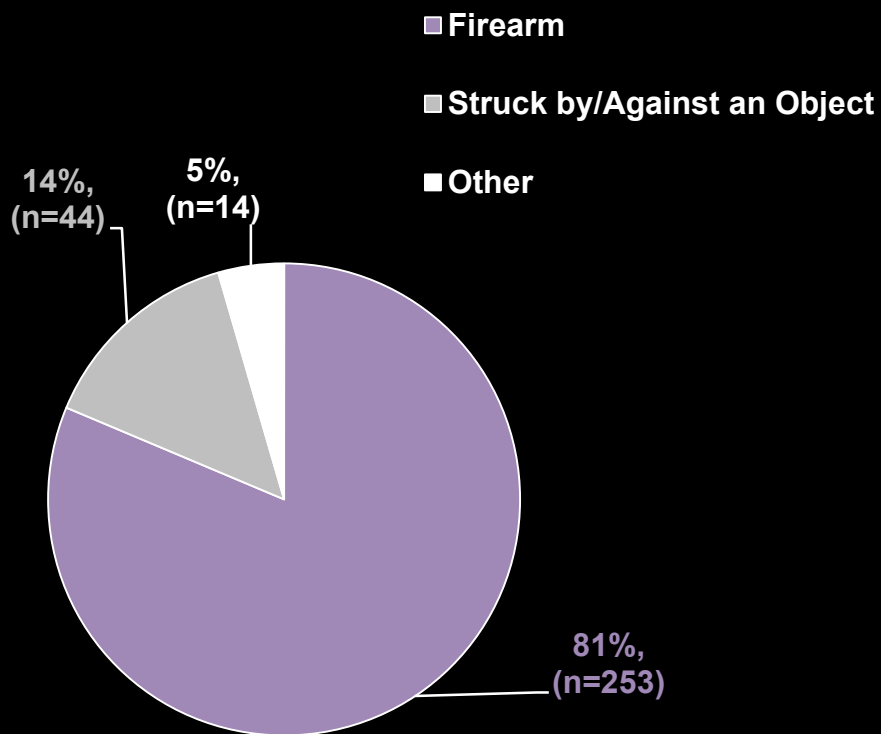


7 Year Trends DV Related Deaths w/ TBI, by Intent & Sex

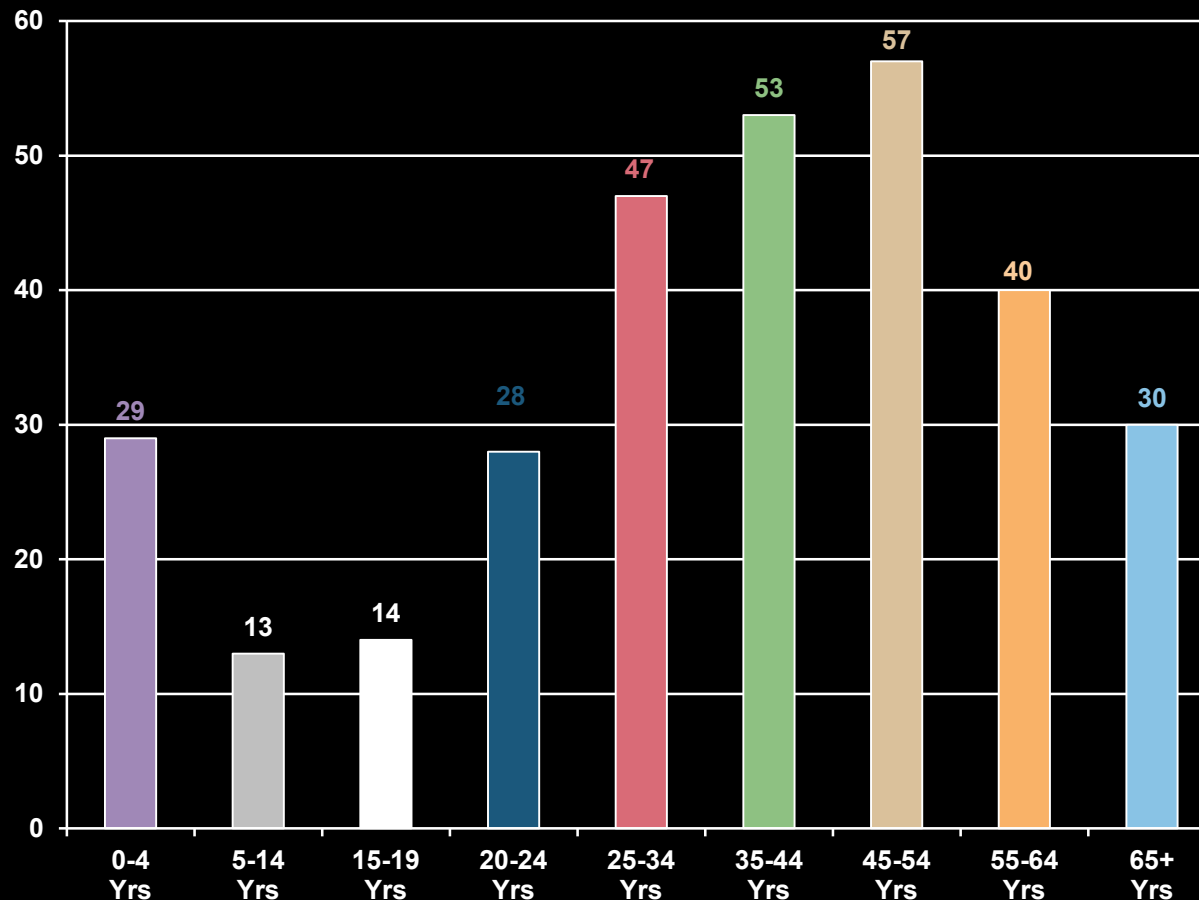


* Majority of suicides were murder suicides

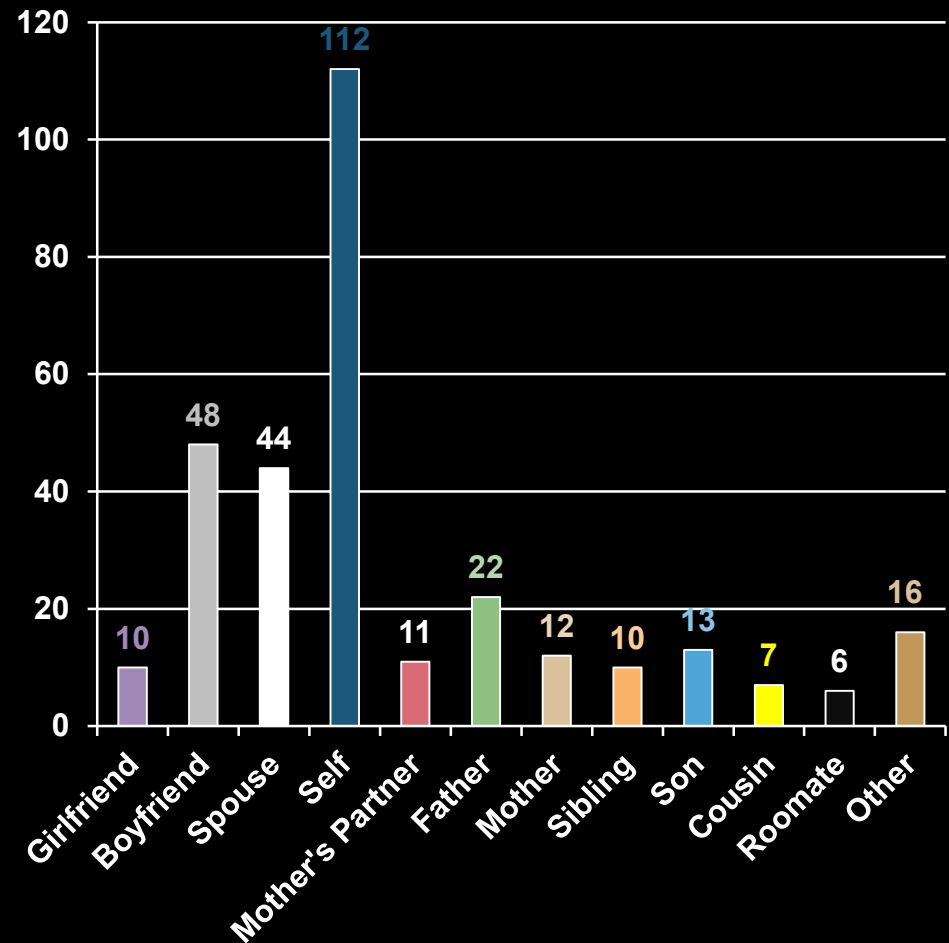
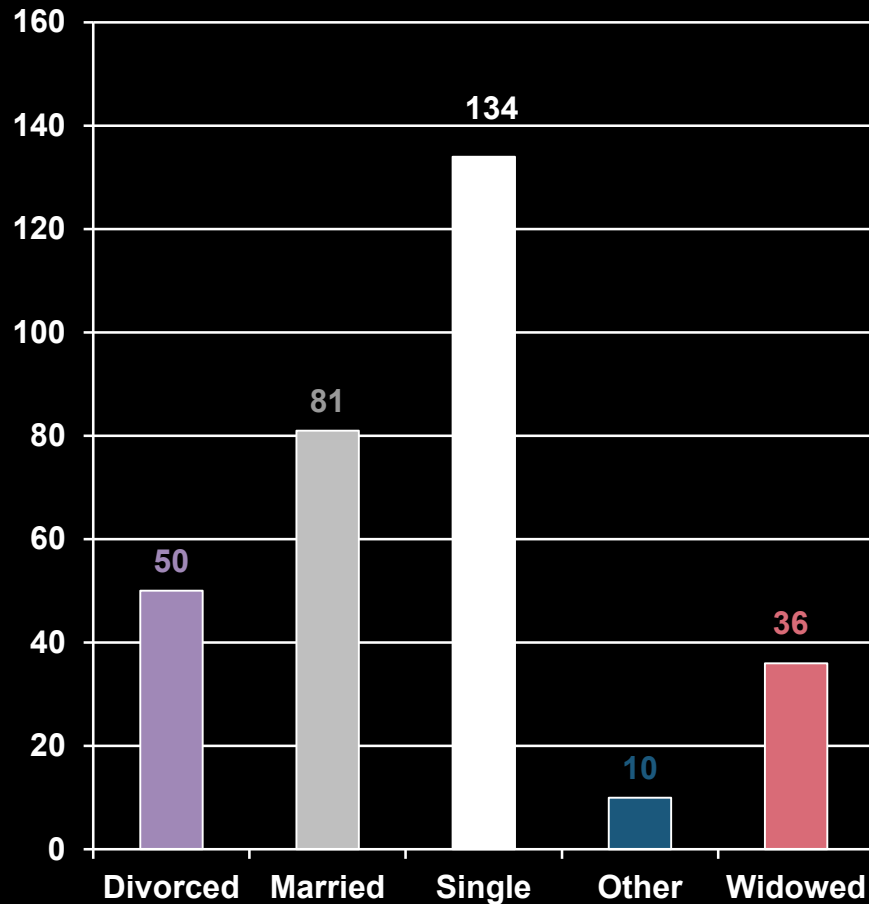
7 Year Trend DV Related Deaths w/ TBI, by Cause & Race/Ethnicity Group



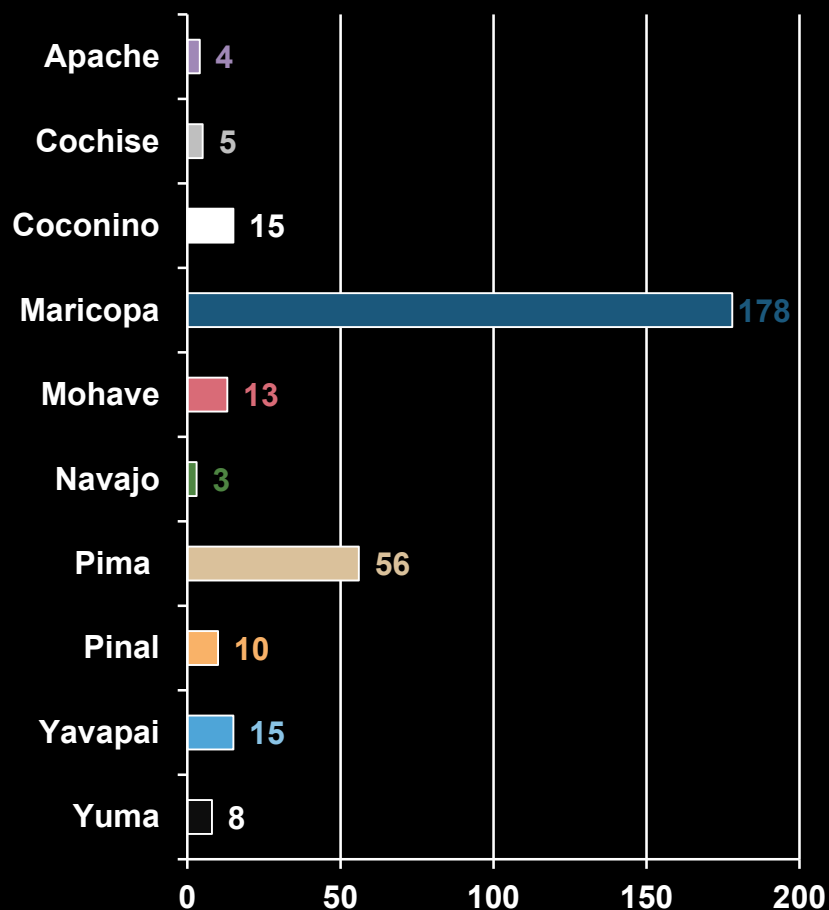
7 Year Trends DV Related Deaths w/ TBI, By Age Group



7 Year Trends DV Related Deaths w/ TBI, By Marital Status & Perpetrator



7 Year Trends DV Related Deaths w/ TBI, By Location



Primary Care Area	Number
MARYVALE VILLAGE	19
NORTH MOUNTAIN VILLAGE	11
TUCSON SOUTH	10
TUCSON FOOTHILLS	9
BULLHEAD CITY	8
ESTRELLA VILLAGE & TOLLESON	8
MESA CENTRAL	8
TEMPE SOUTH	8
PRESCOTT	7
SCOTTSDALE CENTRAL	7

DV Related Hospital Discharge w/ TBI

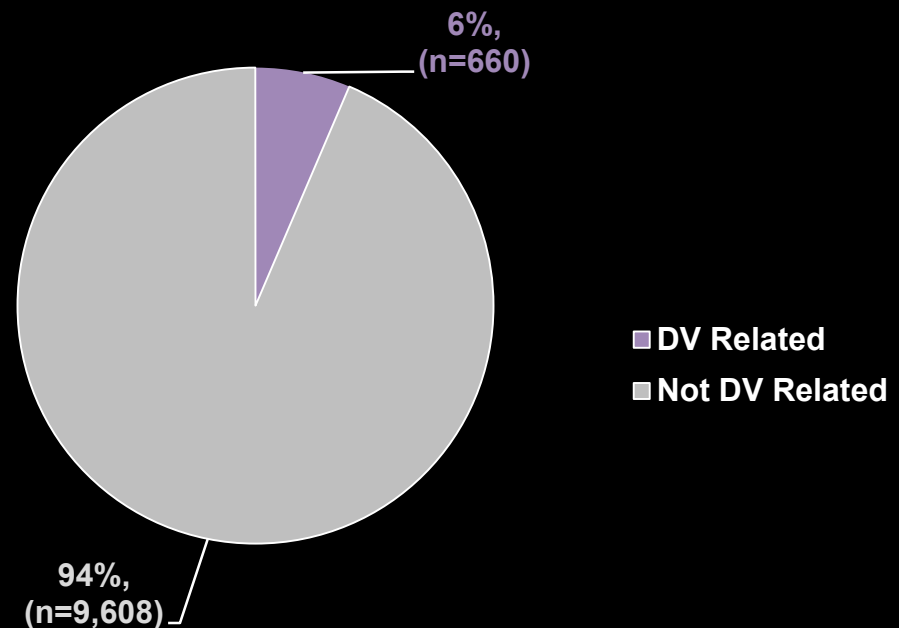
■ Inpatient Hospitalizations (IP)

- TBI diagnosis codes from CDC
- IP Limitation: No literal text
 - Uncertainty of DV relation
- Proposal for DV confirmation:
 - crossed TBI w/ selected confirmed/ suspected abuse codes (SA, PA)

■ Snapshot

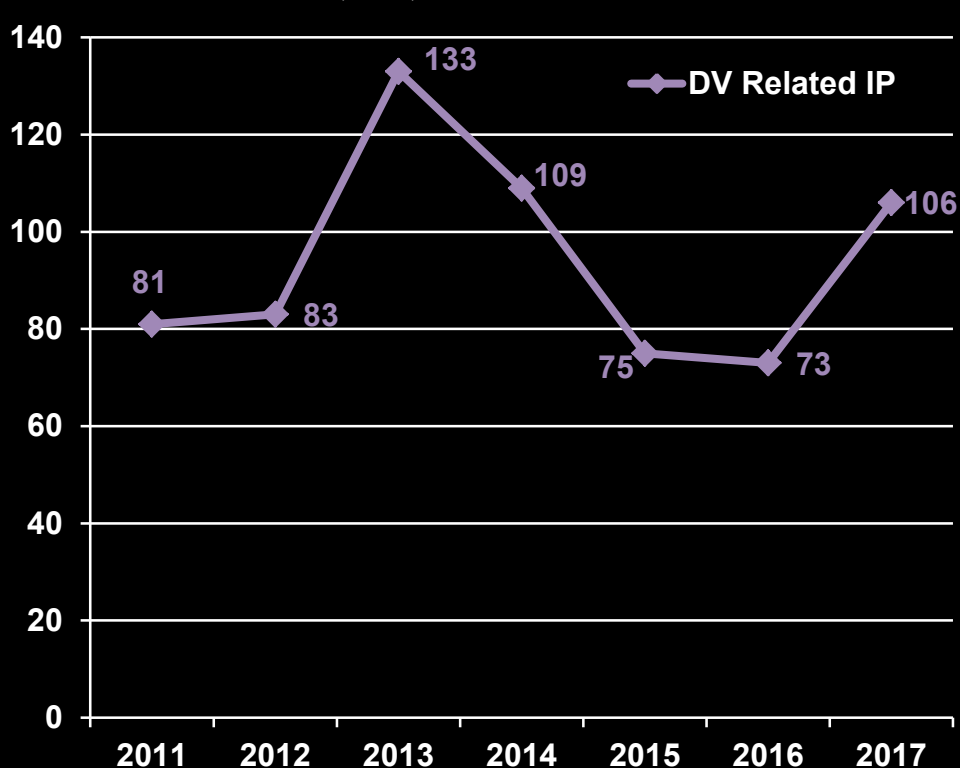
- 660 DV related TBI Hospitalizations identified from 2011-2017
- On average the length of stay for DV Related TBI IP was 6 days
- The average cost charged to hospital for DV Related TBI IP
\$ 78,021

**% of TBI Related Hospitalizations
Associated with DV, AZ, from
2011-2017
(N=10,268)**

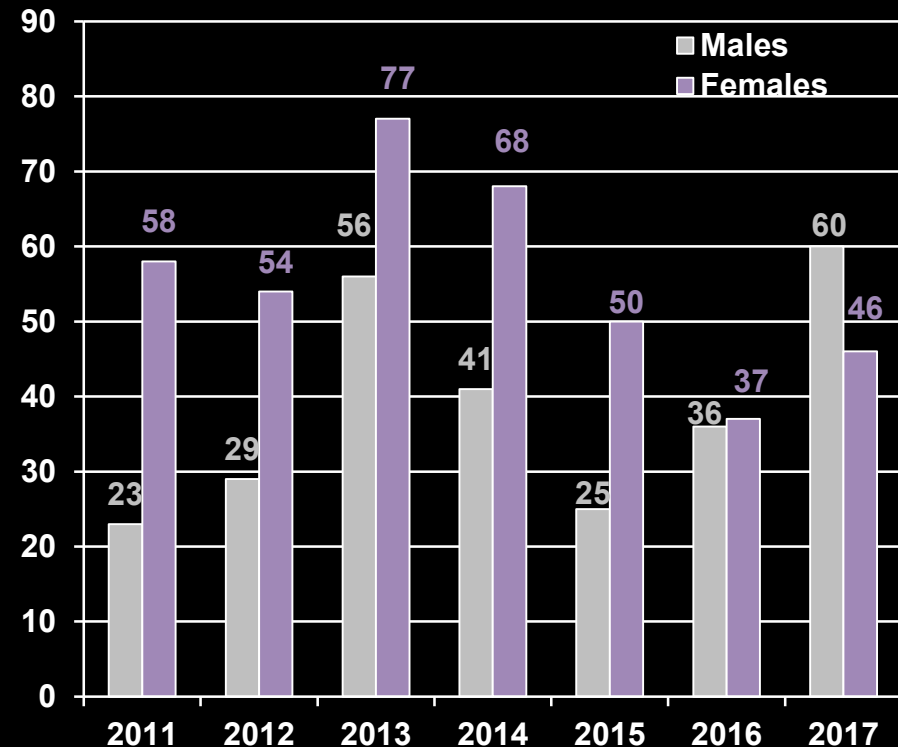


7 Year Trend DV Hospitalizations (IP), w/ TBI, by Year & Sex

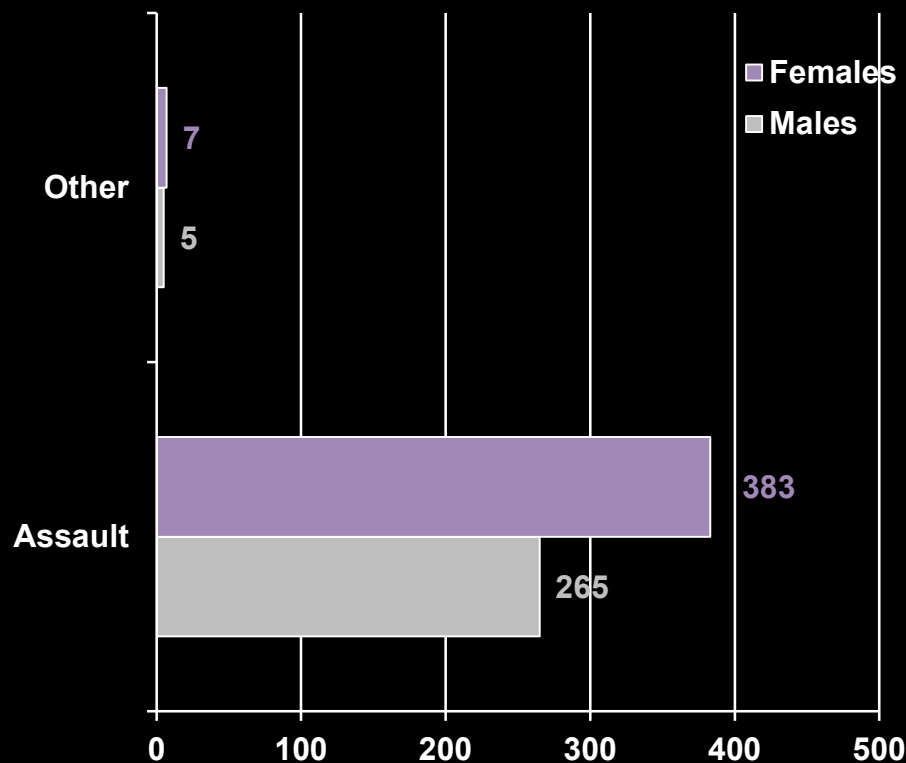
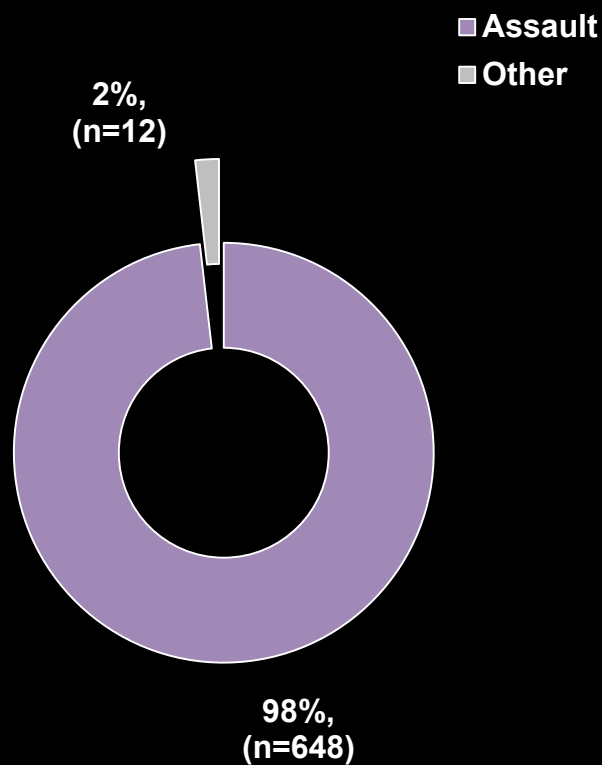
Number of DV Related IP with TBI, by
Year, AZ, from 2011-2017



Number of DV Related IP with TBI, by
Year and Sex, AZ, from 2011-2017

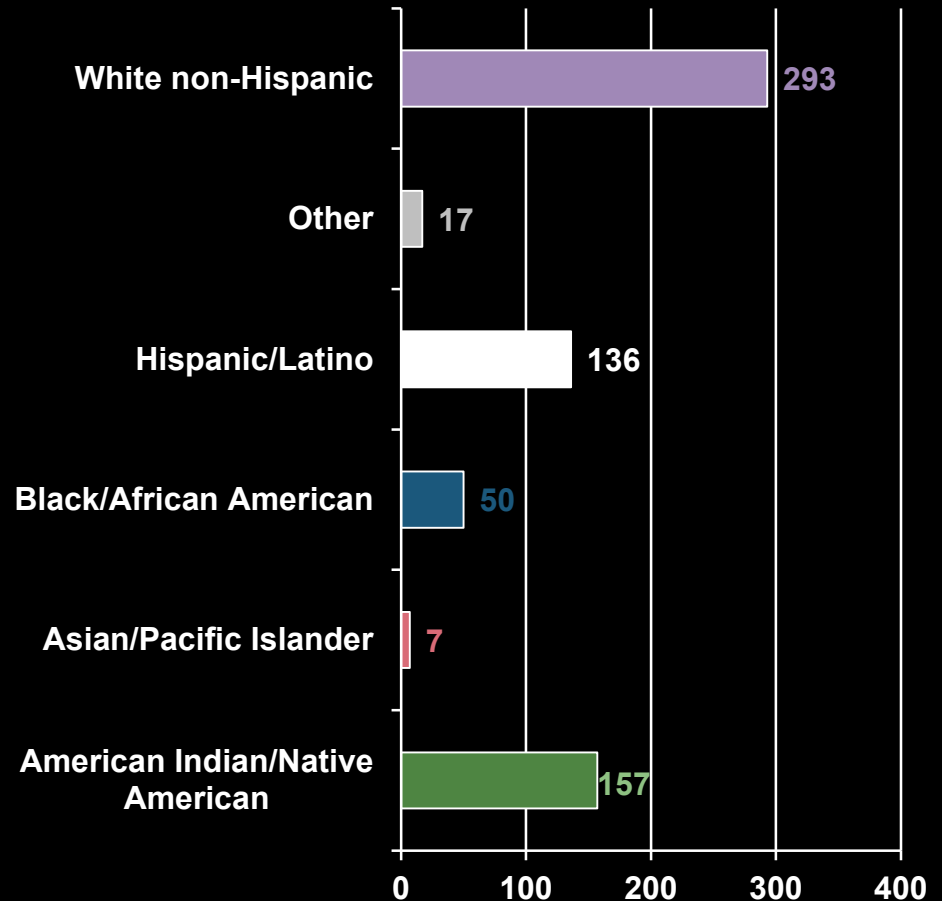
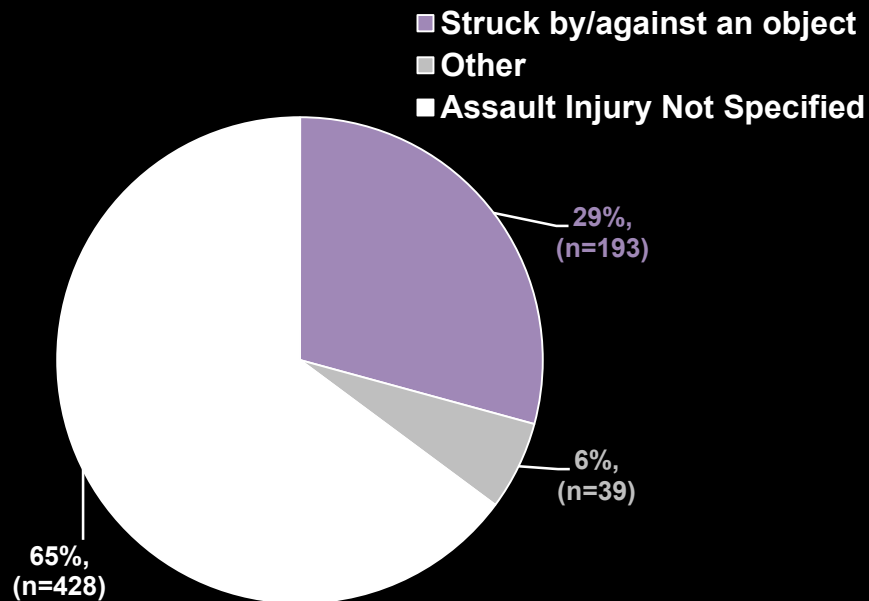


7 Year Trends DV Related Hospitalizations w/ TBI, by Intent & Sex



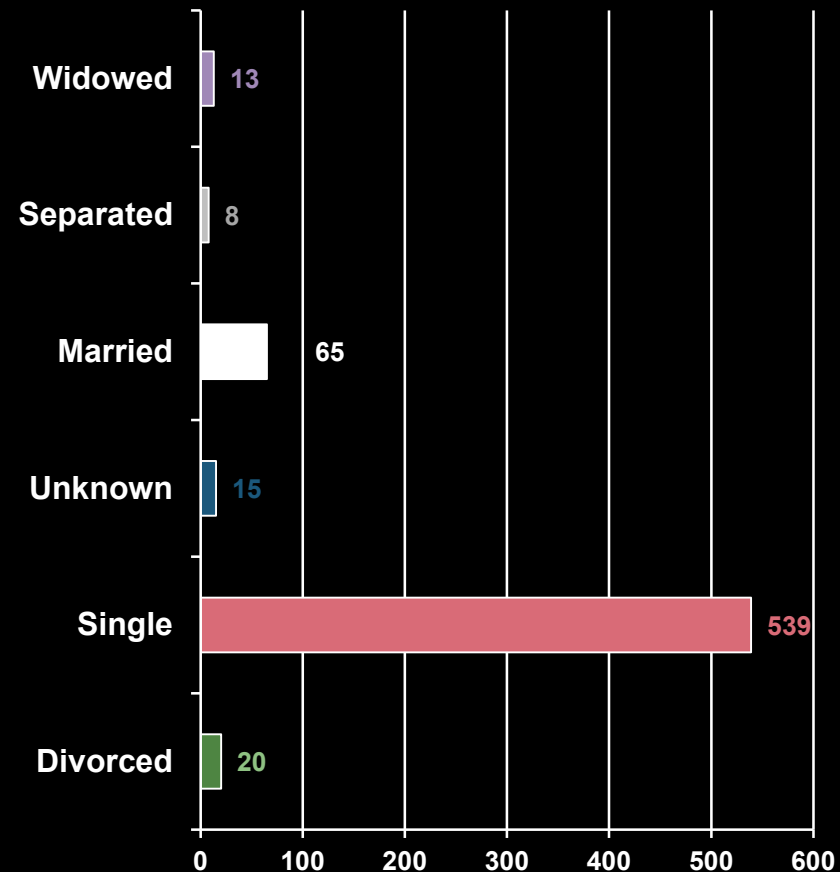
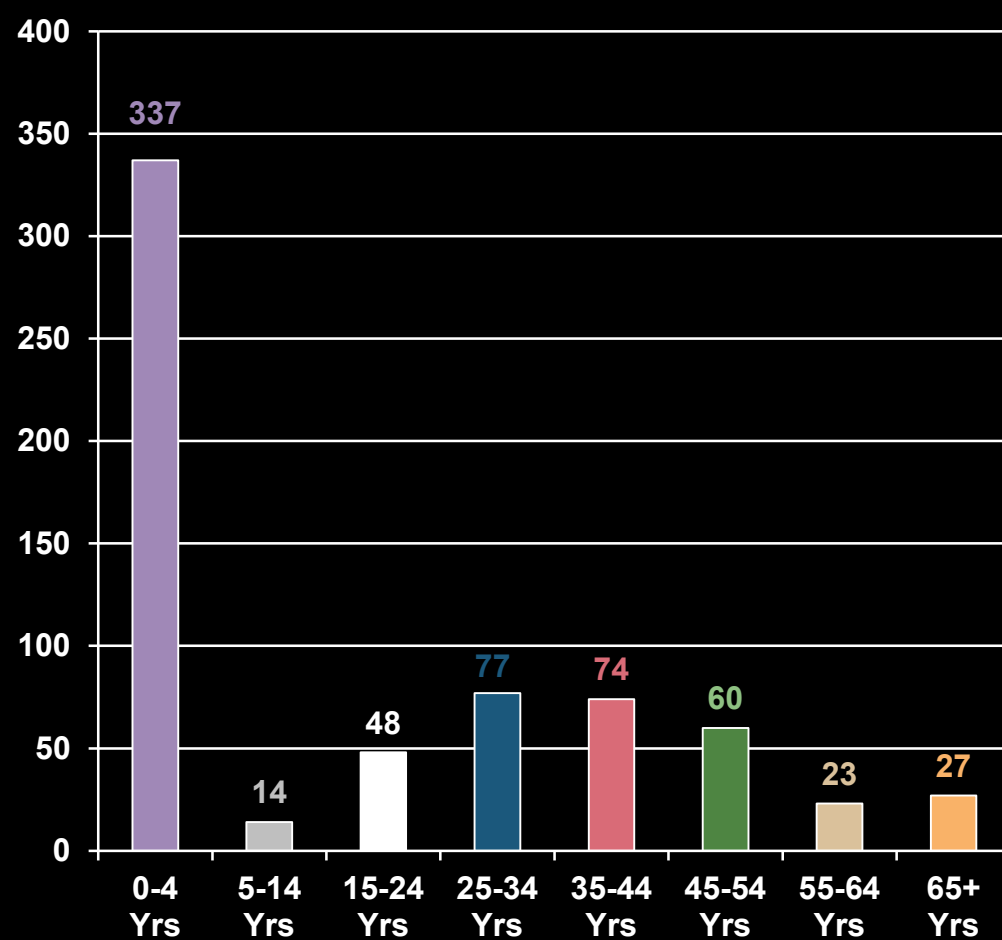
*DV among self-inflicted not accurately captured

7 Year Trend DV Related Hospitalizations w/ TBI, by Cause & Race/Ethnicity Group



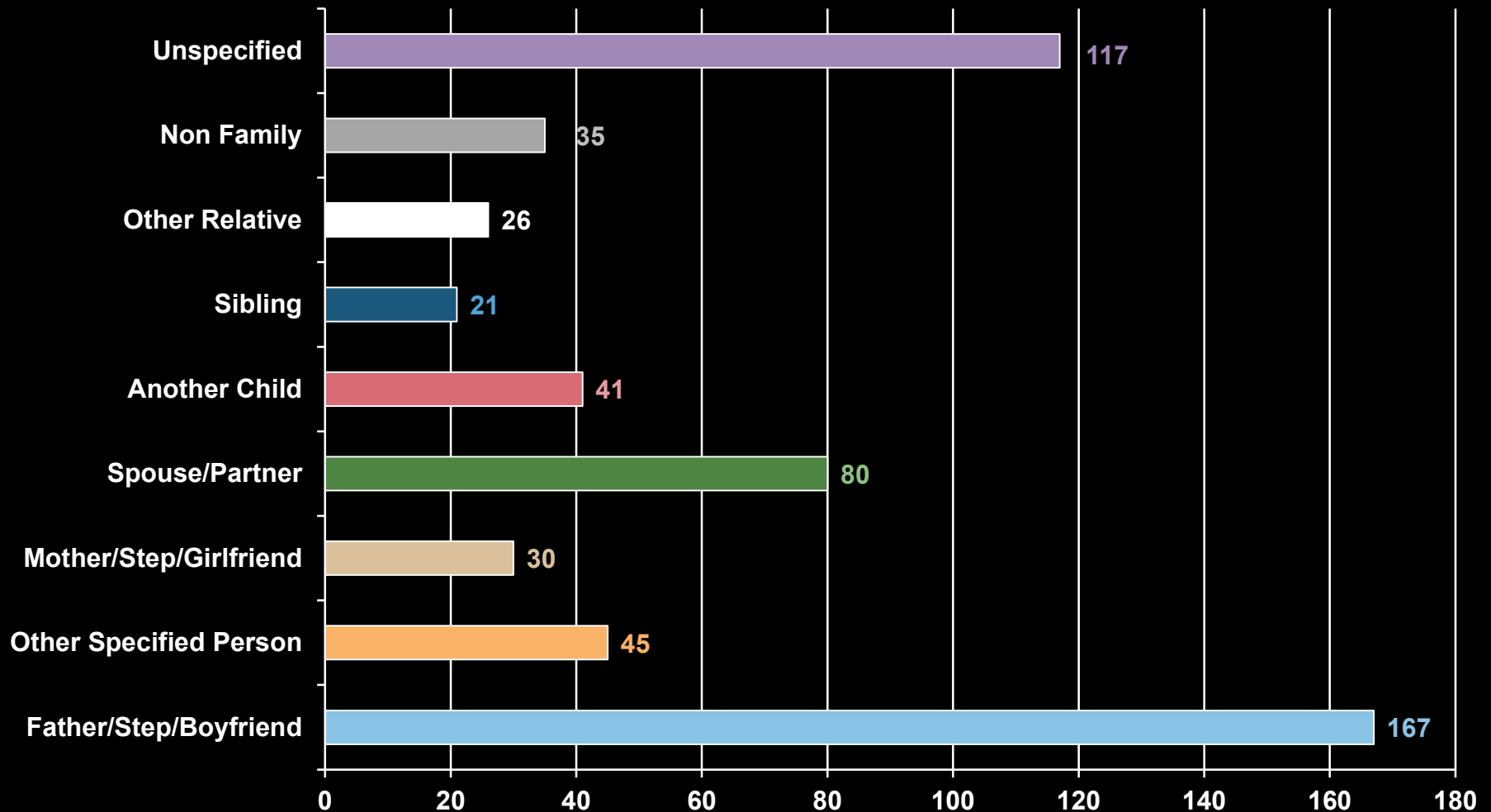
* For HDD, not all injuries are specified by mechanism

7 Year Trends DV Related IP w/ TBI, By Age Group and Marital Status



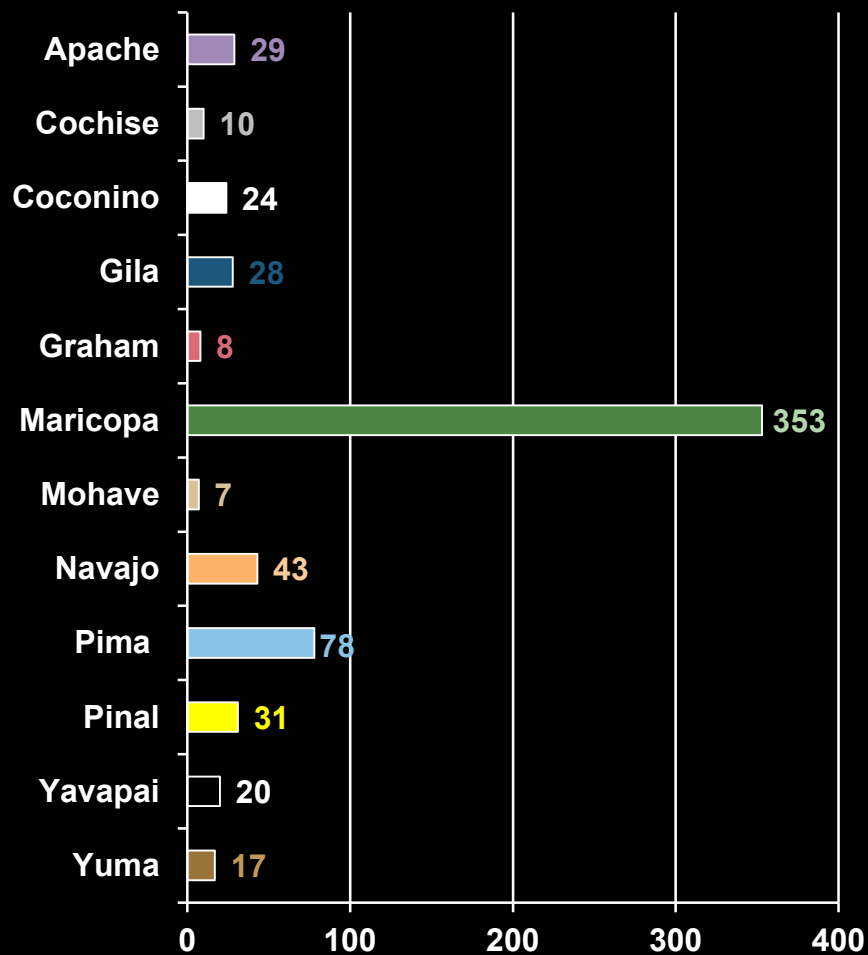
*Annually, DV TBI Related IP among 0-4 years of age was 48

7 Year Trends DV Related IP w/ TBI, By Perpetrator



*Missing values n=98

7 Year Trends DV Related IP w/ TBI, By Location



*Missing values n=20

Primary Care Area	Number
NAVAJO NATION	40
MARYVALE VILLAGE	22
WHITE MOUNTAIN APACHE TRIBE	22
TUCSON SOUTH	20
ALHAMBRA VILLAGE	17
SAN CARLOS APACHE TRIBE	17
CAMELBACK EAST VILLAGE	15
MESA WEST	15
SOUTH MOUNTAIN VILLAGE & GUADALUPE	15
CENTRAL CITY VILLAGE	14
ENCANTO VILLAGE	14

DV Related Hospital Discharge w/ TBI

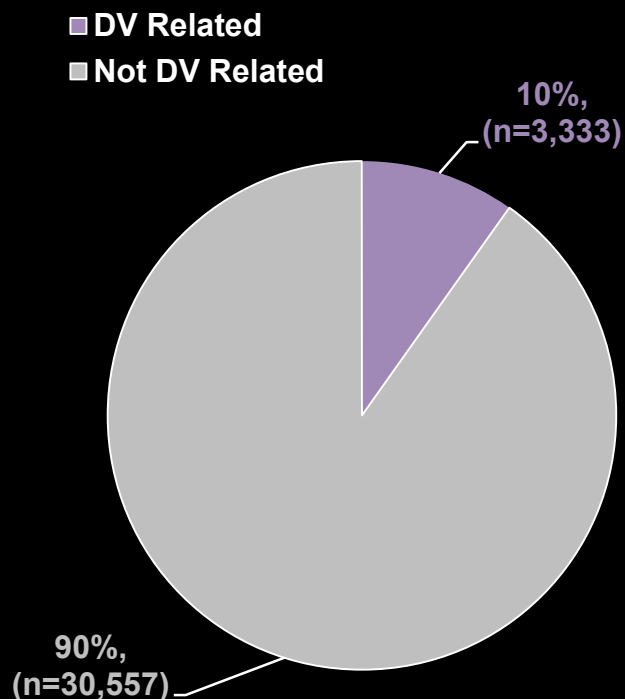
▪ Emergency Department Visit (EDV)

- TBI diagnosis codes from CDC
- EDV Limitation: no literal text
 - Uncertainty of DV relation
- Proposal for DV confirmation:
 - crossed TBI w/ selected confirmed/ suspected abuse codes (SA, PA)

▪ Snapshot

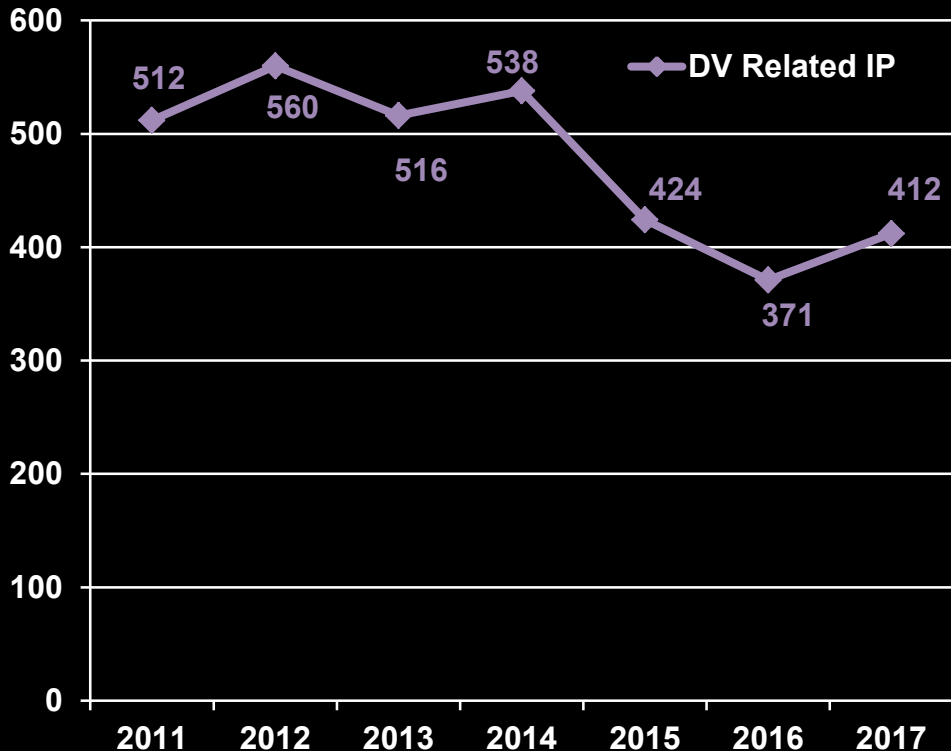
- 3,333 DV related TBI Hospitalizations identified from 2011-2017
- On average the length of stay for DV Related TBI EDV was <1 day
- The average cost charged to hospital for DV Related TBI EDV
\$ 7,336

**% of TBI Related ED Visits
Associated with DV, AZ, from
2011-2017
(N=33,890)**

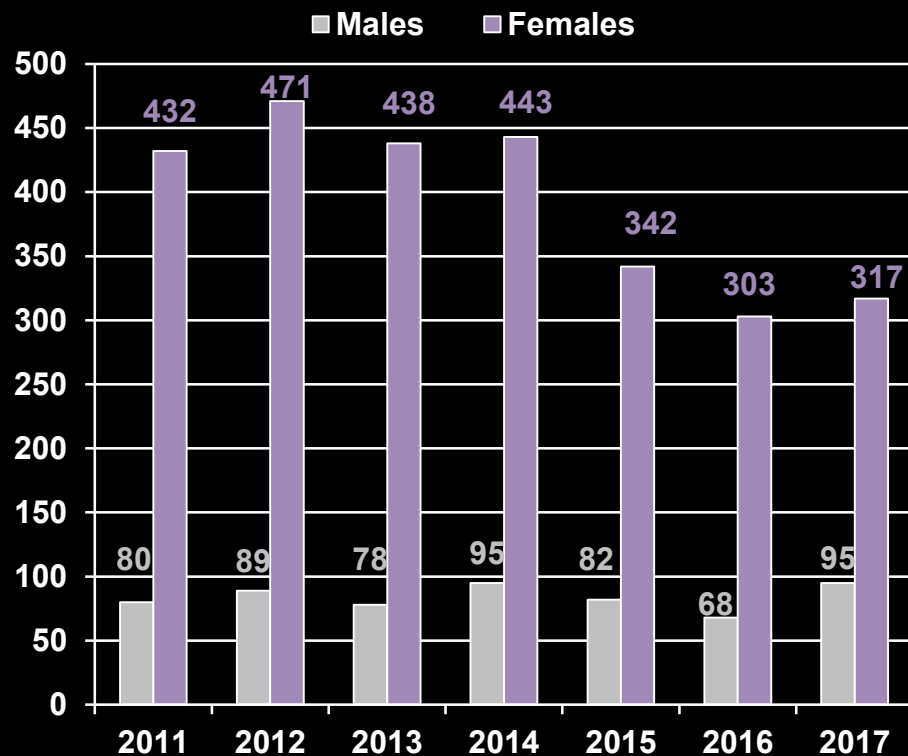


7 Year Trend DV ED Visits (EDV), w/ TBI, by Year & Sex

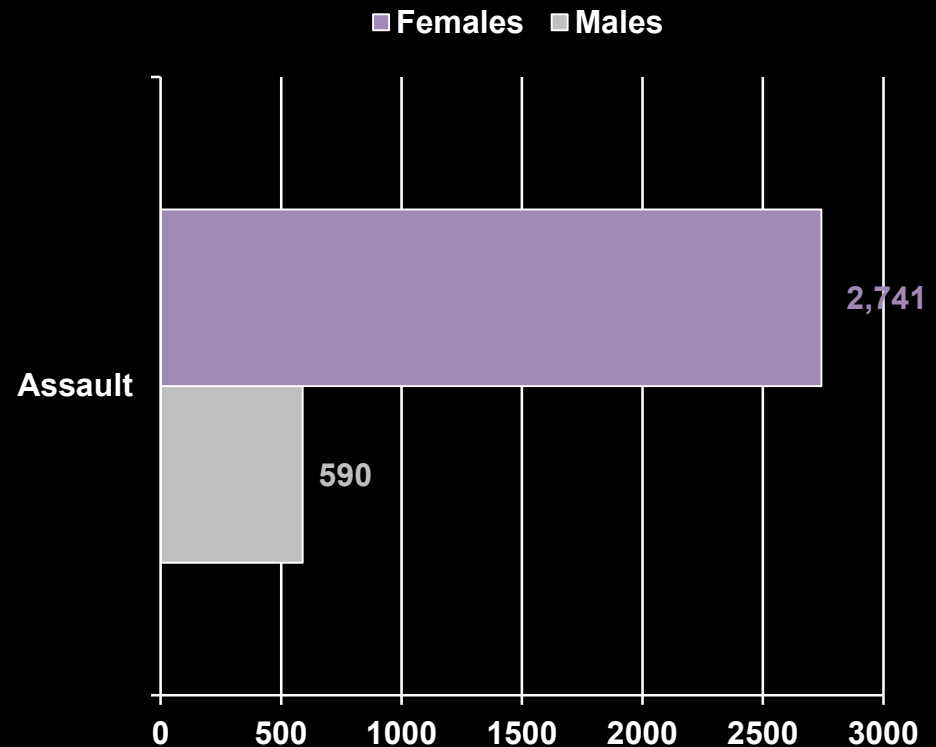
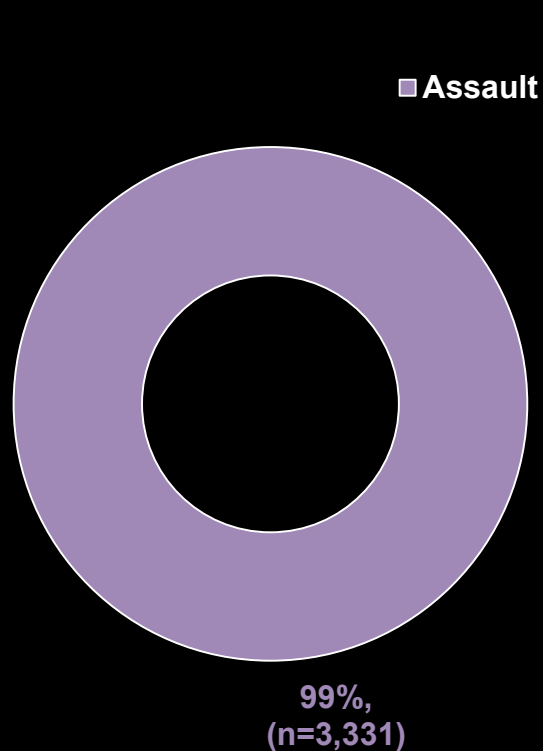
Number of DV Related EDV with TBI, by
Year, AZ, from 2011-2017



Number of DV Related EDV with TBI, by
Year and Sex, AZ, from 2011-2017



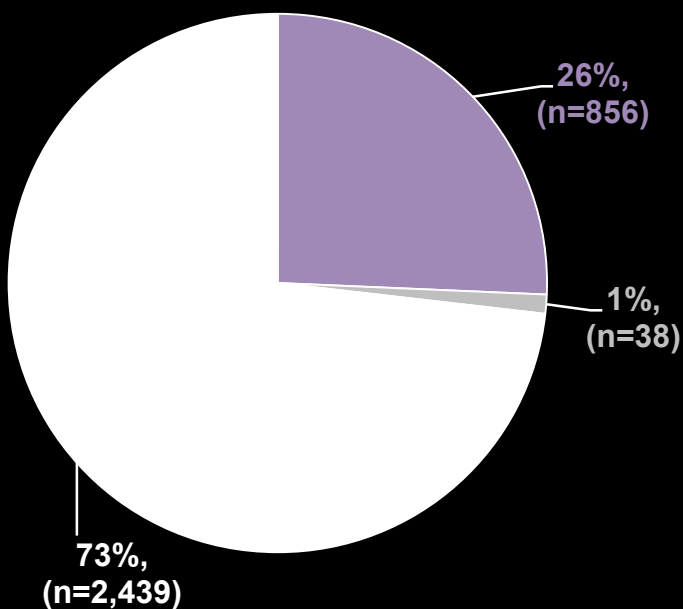
7 Year Trends DV Related EDV w/ TBI, by Intent & Sex



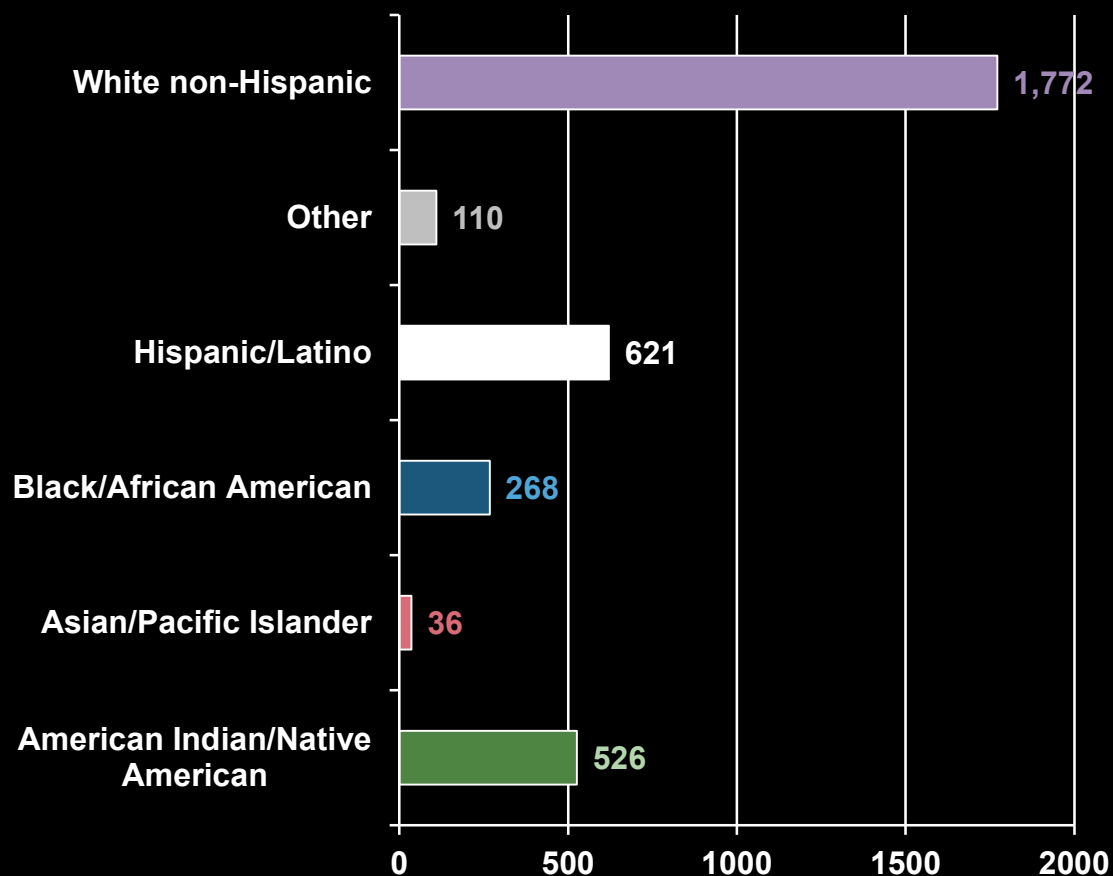
*DV among self-inflicted not
accurately captured

7 Year Trend DV Related EDV w/ TBI, by Cause & Race/Ethnicity Group

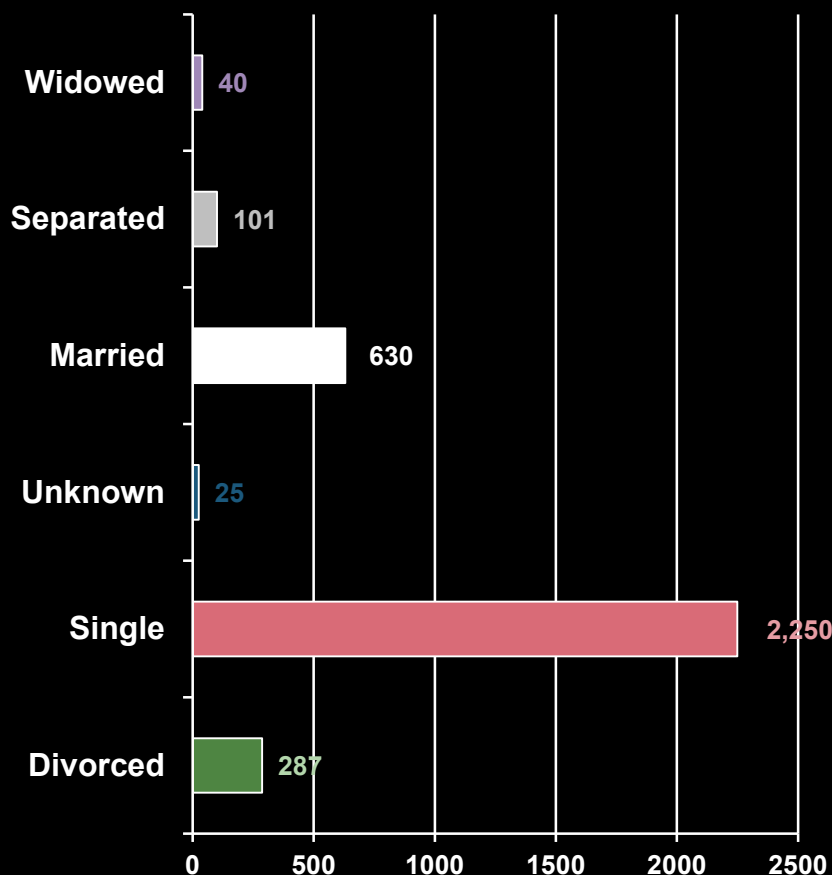
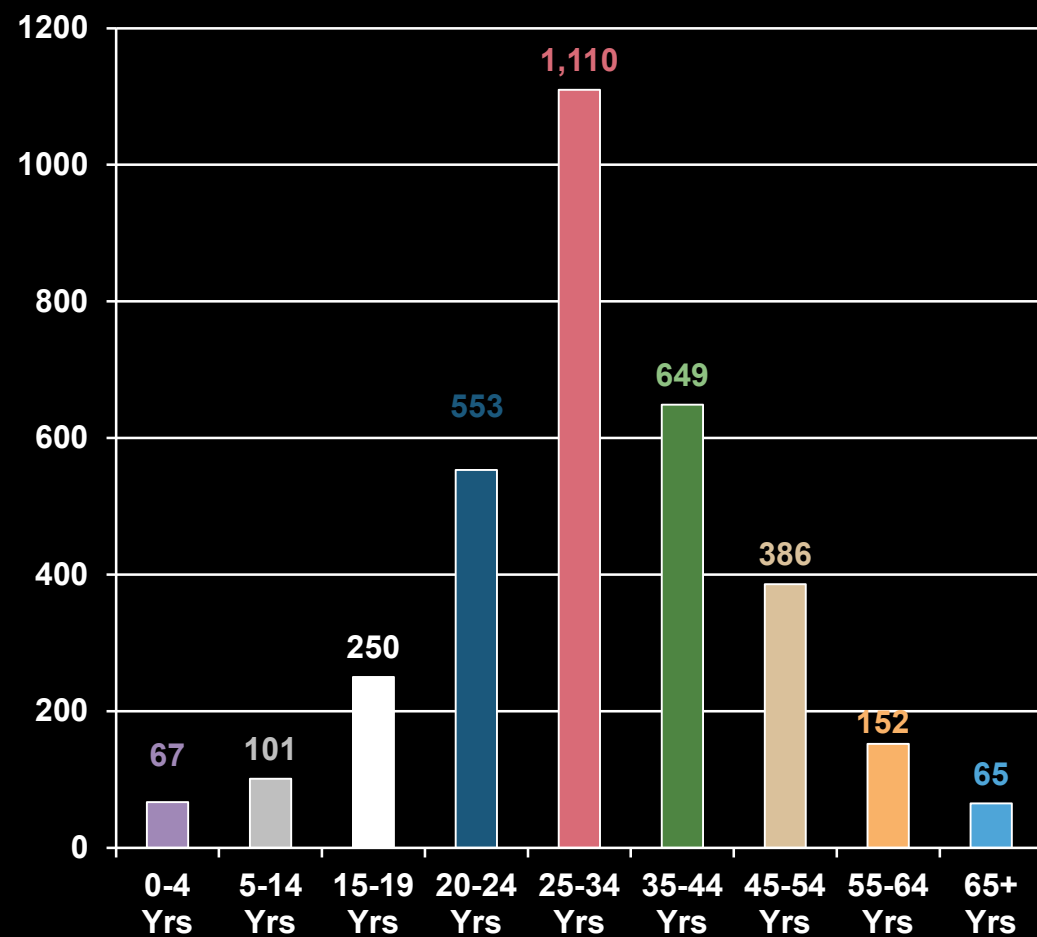
- Struck by/Against an Object
- Cut/Pierce
- Other Assault



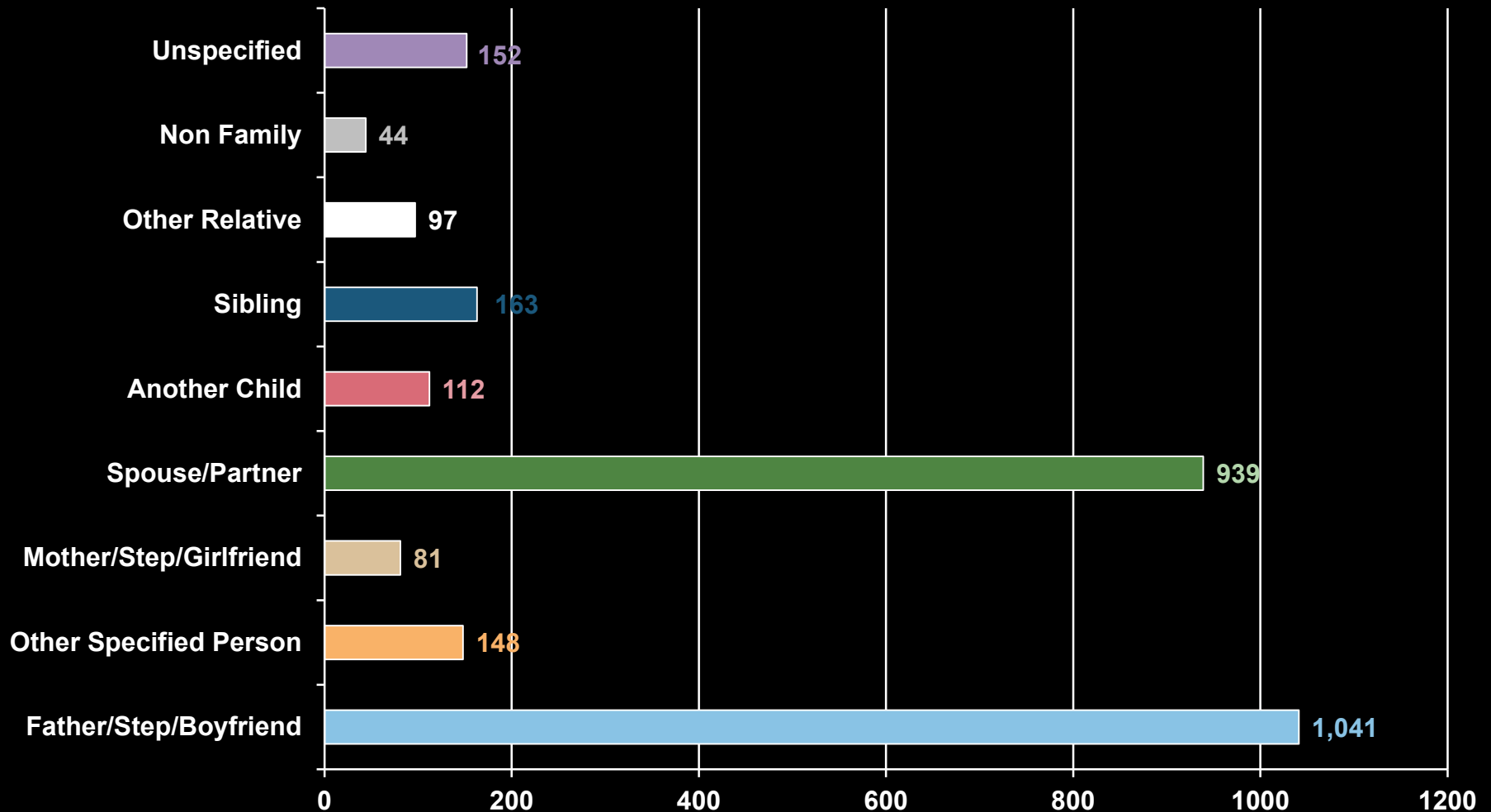
* For HDD, not all injuries are specified by mechanism



7 Year Trends DV Related EDV w/ TBI, By Age Group and Marital Status

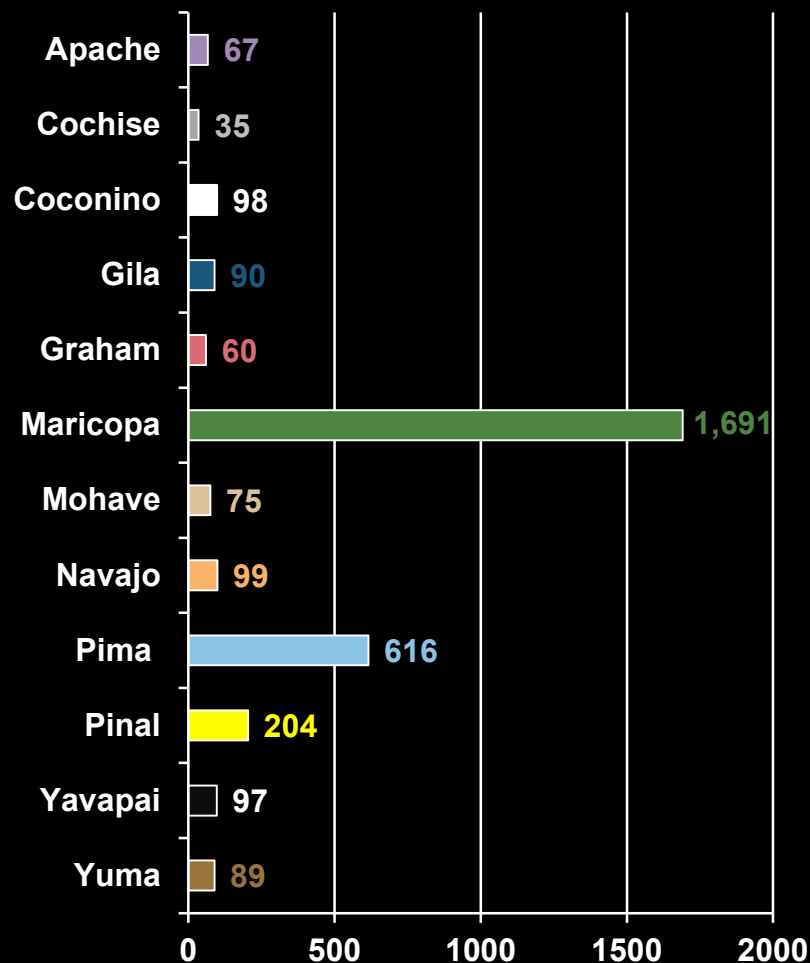


7 Year Trends DV Related EDV w/ TBI, By Perpetrator



*Missing values n=556

7 Year Trends DV Related ED w/ TBI, By Location



*Missing values n=92

Primary Care Area	Number
TUCSON SOUTH	138
TUCSON CENTRAL	120
NORTH MOUNTAIN VILLAGE	100
DEER VALLEY VILLAGE	97
MESA WEST	94
MARYVALE VILLAGE	92
ALHAMBRA VILLAGE	85
TUCSON FOOTHILLS	83
CENTRAL CITY VILLAGE	79
NAVAJO NATION	63
SOUTH MOUNTAIN VILLAGE & GUADALUPE	63