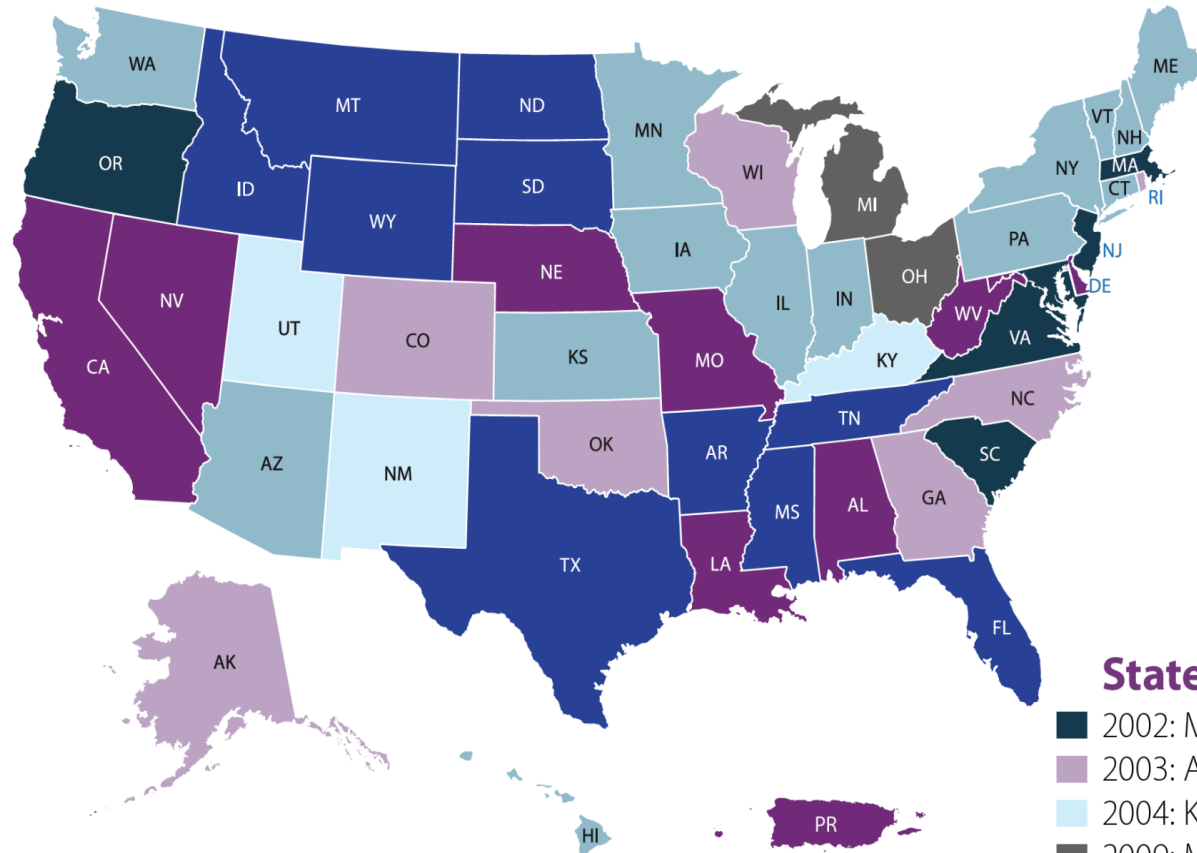


# Arizona Violent Death Reporting System

## *AZ-VDRS*

# National Scope of NVDRS



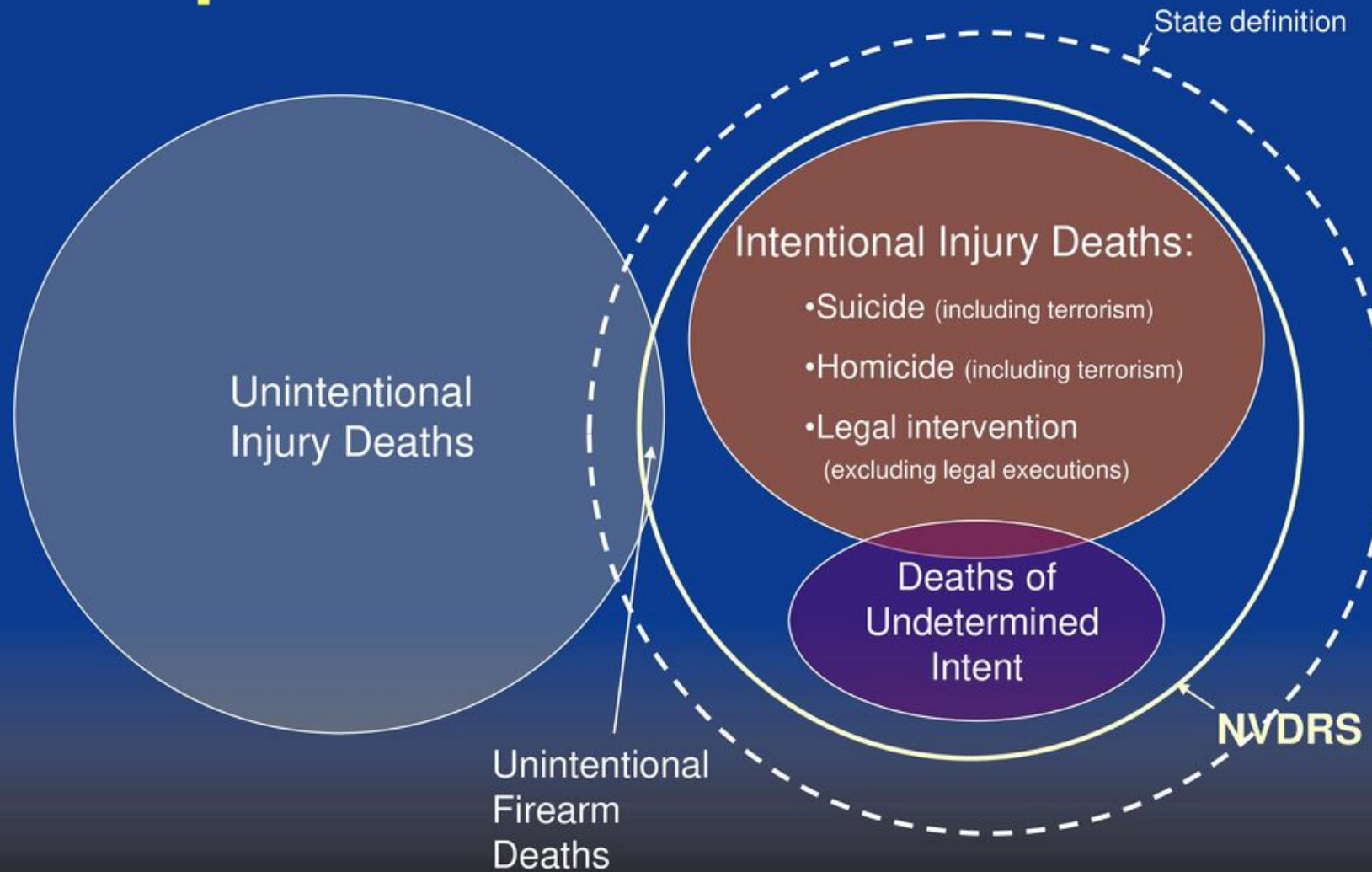
## The Reach of NVDRS

NVDRS began collecting data on violent deaths from six states in 2002, followed by progressive additions to the system over several years. **In 2018, NVDRS was expanded to include data collection from all 50 states, Puerto Rico, and the District of Columbia.** This expansion brings NVDRS closer to the goal of providing a complete picture of violent deaths across the nation

### States added by year:

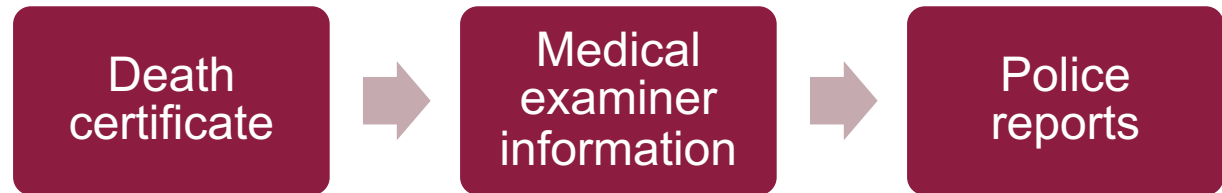
- 2002: MA, MD, NJ, OR, SC, VA
- 2003: AK, CO, GA, NC, OK, RI, WI
- 2004: KY, NM, UT
- 2009: MI, OH
- 2014: AZ, CT, HI, IA, IL, IN, KS, ME, MN, NH, NY, PA, VT, WA
- 2016: AL, CA, DE, DC, LA, MO, NE, NV, Puerto Rico, WV
- 2018: AR, FL, ID, MS, MT, ND, SD, TN, TX, WY

# Scope of NVDRS



# Un-redacted sources of data contributing to AZ-VDRS

- Death Certificates (100% coverage)  
Arizona Department of Health Services
- Medical Examiner Reports (90% coverage)  
All medical examiners offices in AZ  
Gila Mortuary  
New Mexico ME
- Law Enforcement Reports (80% coverage)  
City police  
Sheriffs departments
- Other sources  
Hospital data, MOU in place, IRB approved



# Examples of types of data

## ➤ Demographics

- e.g., age, sex, education, occupation, etc.
- Suspect information

## ➤ Cause & manner of death

- Homicide or suicide
- ICD-10 codes and descriptions

## ➤ Toxicology data

## ➤ Weapon type

## ➤ Circumstance information

- Incident-level (e.g., time & place, wounds, etc.)
- Individual-level (e.g., criminal history, relationship & life stressors, etc.)

## ➤ Mental & physical health issues

- e.g., substance abuse, history of suicide attempts or ideation, terminal illness, etc.



## AZ-VDRS Partner Agencies

<b>Police Departments (n=39)</b>		<b>Arizona Department of Health Services</b>
Apache Junction	Prescott	<b>Bureau of Vital Records</b>
Buckeye	Prescott Valley	
Bullhead City	Safford	
Casa Grande	Sahuarita	<b>Medical Examiners (n=11)</b>
Chandler	Scottsdale	Apache County ME
Chino Valley	Sedona	Coconino County ME
Clarkdale	Show Low	Gila Messinger Mortuary
Cottonwood	Sierra Vista	Maricopa County ME
Douglas	Snowflake-Taylor	Mohave County ME
Eloy	St. John's	Navajo County ME
Flagstaff	Surprise	New Mexico State ME
Gilbert	Tempe	Pima County ME
Glendale	Tucson	Pinal County ME
Kingman	Winslow	Yavapai County ME
Lake Havasu	Yuma	Yuma County ME
Marana		
Maricopa	<b><u>Sheriffs' Offices (n=8)</u></b>	
Mesa	Cochise County SO	
Nogales	Coconino County SO	
Oro Valley	Mohave County SO	
Payson	Navajo County SO	
Peoria	Pima County SO	
Paradise Valley	Pinal County SO	
Phoenix	Yavapai County SO	
	Yuma County SO	

# Major data collection gaps

- State Agencies

  - AZ DOC (22), AZ DPS (16) (in progress), FBI (16)

- Tribal Lands

  - BIA (17) Navajo Nation PD, Gila River PD (13), Salt River PD (7),

- Non-participating Sheriff's Departments

  - Apache (3), Gila (17), Greenlee (2), La Paz (6), **Maricopa (128)**, Santa Cruz (7)

- Remaining Local Agencies

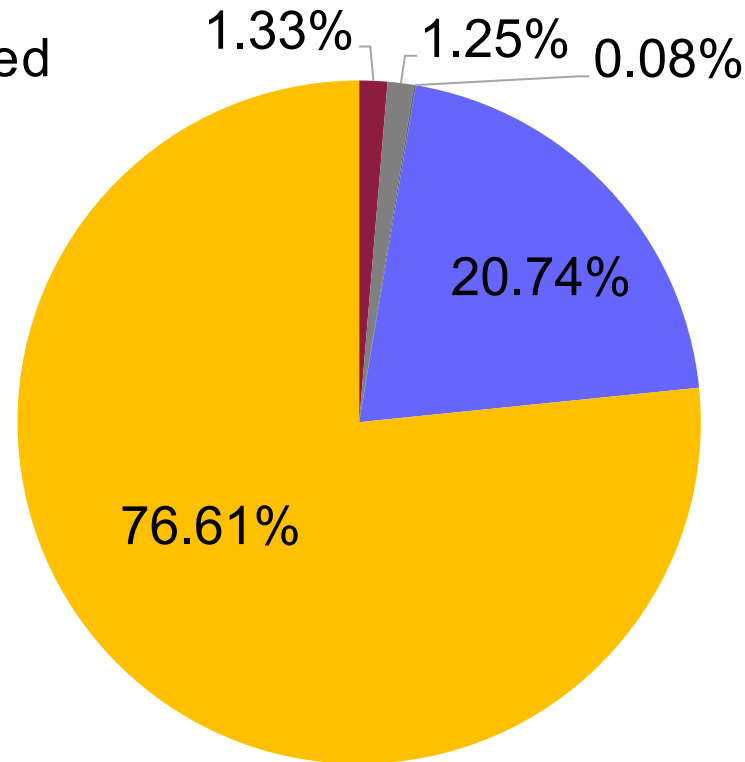
  - Goodyear (19) Avondale PD (14) (in progress), Globe (6)

# Homicide and Suicide, 2015-2017



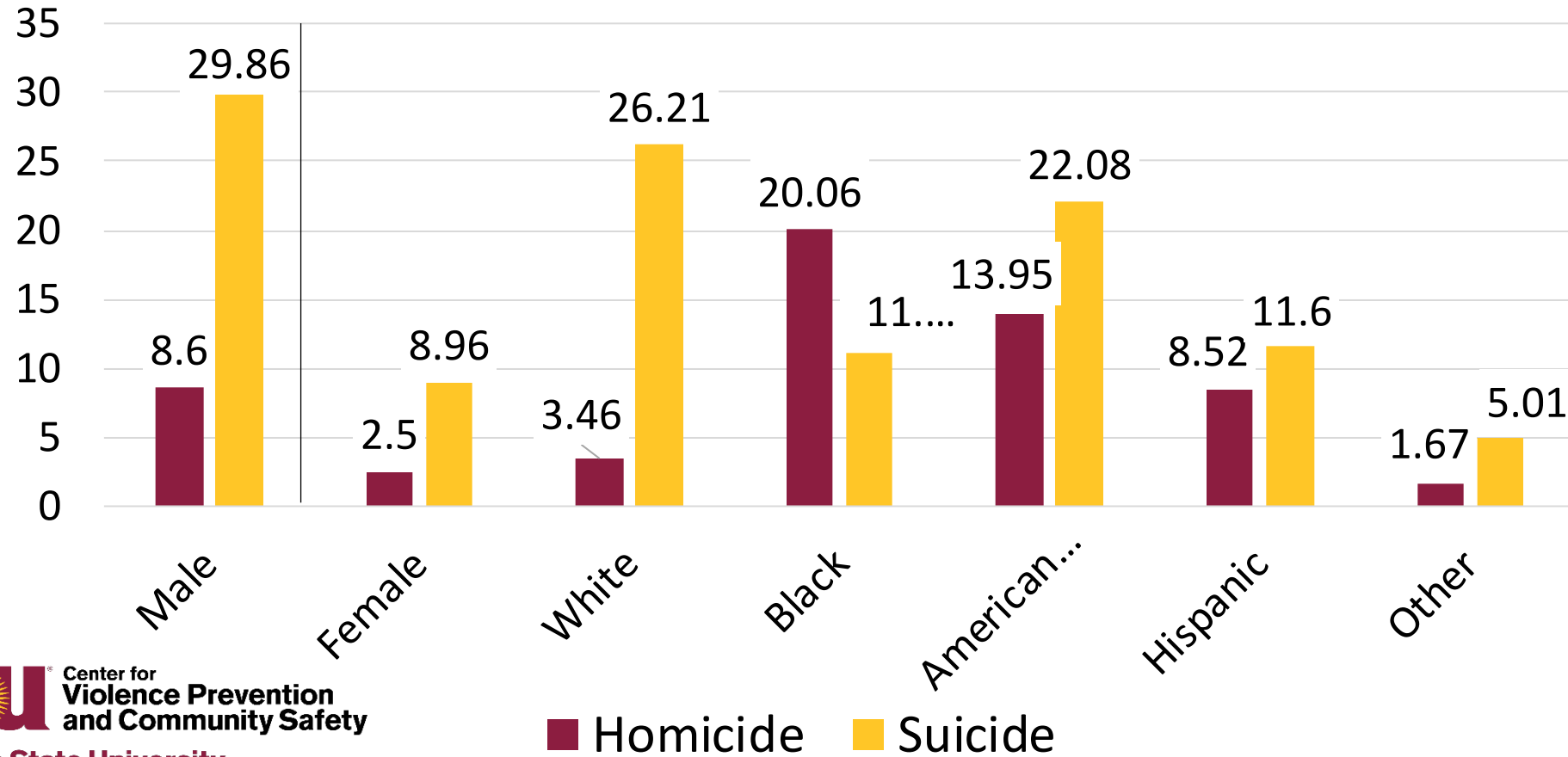
# Homicide and Suicide by Incident Type, 2015-2017

- Homicide(s) followed by suicide(s)
- Multiple Homicide
- Multiple suicide
- Single homicide
- Single suicide



- 4,976 total homicide and suicide victims in the State of Arizona
- 76.61 percent were single suicide incidents
- 20.74 percent were single homicide incidents
- Approximately 2.66 percent were incidents of homicide(s) followed by suicide(s), multiple homicide, or multiple suicide

# Homicide and Suicide Rates per 100,000 Population by Sex and Race/Ethnicity, 2015-2017



# Homicide and Suicide by Age, 2015-2017

## Homicide

- Median age: 33
- Mean age: 36
- Most common age group: 25-29
- Least common age group: 75-79

## Suicide

- Median age: 49
- Mean age: 48
- Most common age group: 55-59
- Least common age group: 10-14

# Homicide and Suicide by Method, 2015-2017

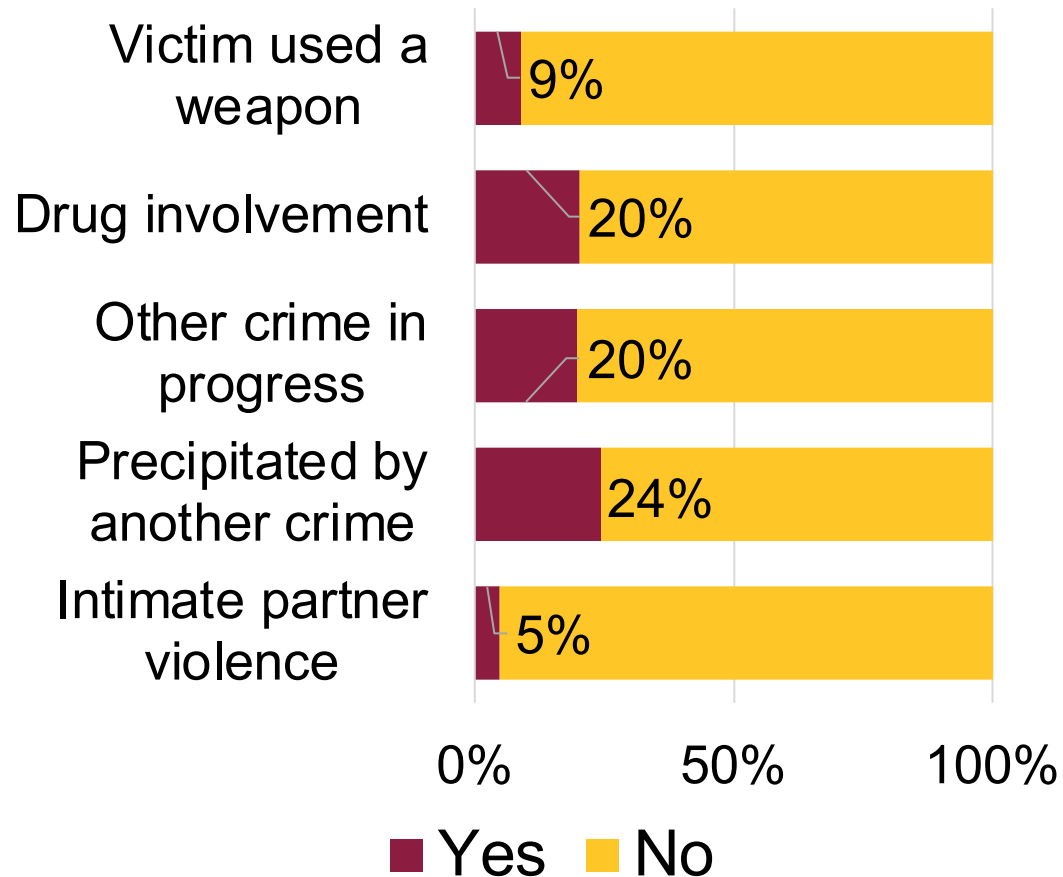
## Homicide

Firearm	69.05%
Sharp instrument	12.80%
Blunt instrument	11.56%
Hanging, strangulation or suffocation	3.44%
Other	2.39%
Unknown	0.48%
Poisoning	0.29%

## Suicide

Firearm	59.02%
Hanging, strangulation or suffocation	21.74%
Poisoning	13.94%
Blunt instrument	2.80%
Sharp instrument	1.49%
Other	1.01%
Unknown	0%

# Homicide Circumstances, 2015-2017

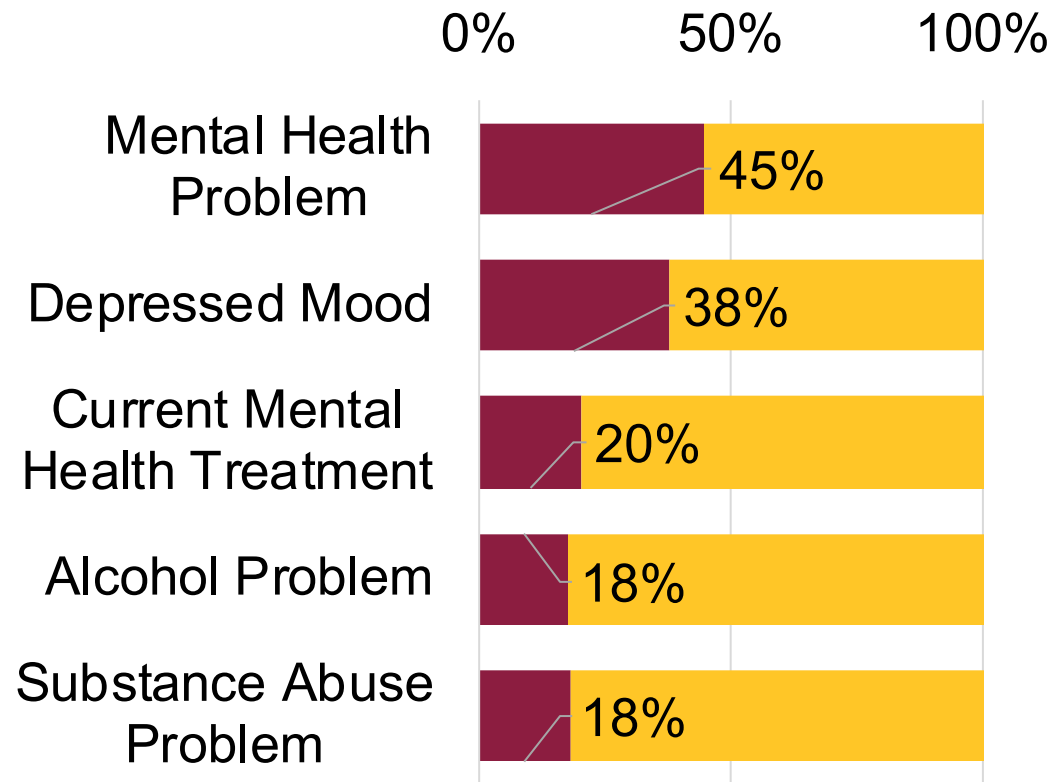


- Approximately 9 percent of homicide victims used a weapon
- One-fifth of homicides occurred while another serious crime was in progress and/or had drug involvement
- Nearly a quarter of homicides were precipitated by another crime
- About 5 percent of homicides were due to intimate partner violence

# Homicide by Victim to Suspect Relationship, 2015-2017

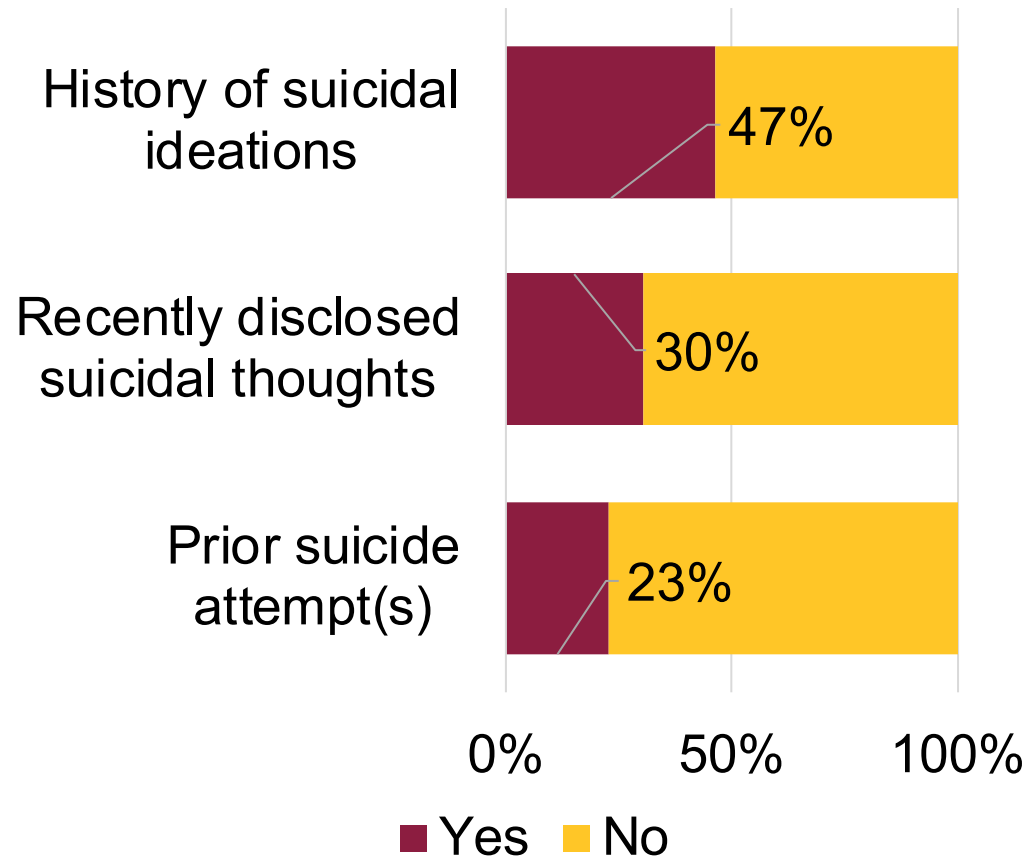
Unknown Relationship	26.9%
Friend or Acquaintance	20.9%
Stranger	16.4%
Family members (e.g. parents, child, sibling, cousin)	11.5%
Other person, known to victim*	11%
Spouse	5.7%
Current intimate partner	5.1%
Former intimate partner or spouse	2.36%

# Suicide Circumstances, 2015-2017



- Nearly half of all suicide victims suffered from a mental health problem
- About 38 percent of suicide victims had a depressed mood around the time of the incident
- Approximately 20 percent of suicide victims were receiving current mental health treatment
- Substance abuse problems and alcohol problems were equally present in suicide victims at around 18 percent

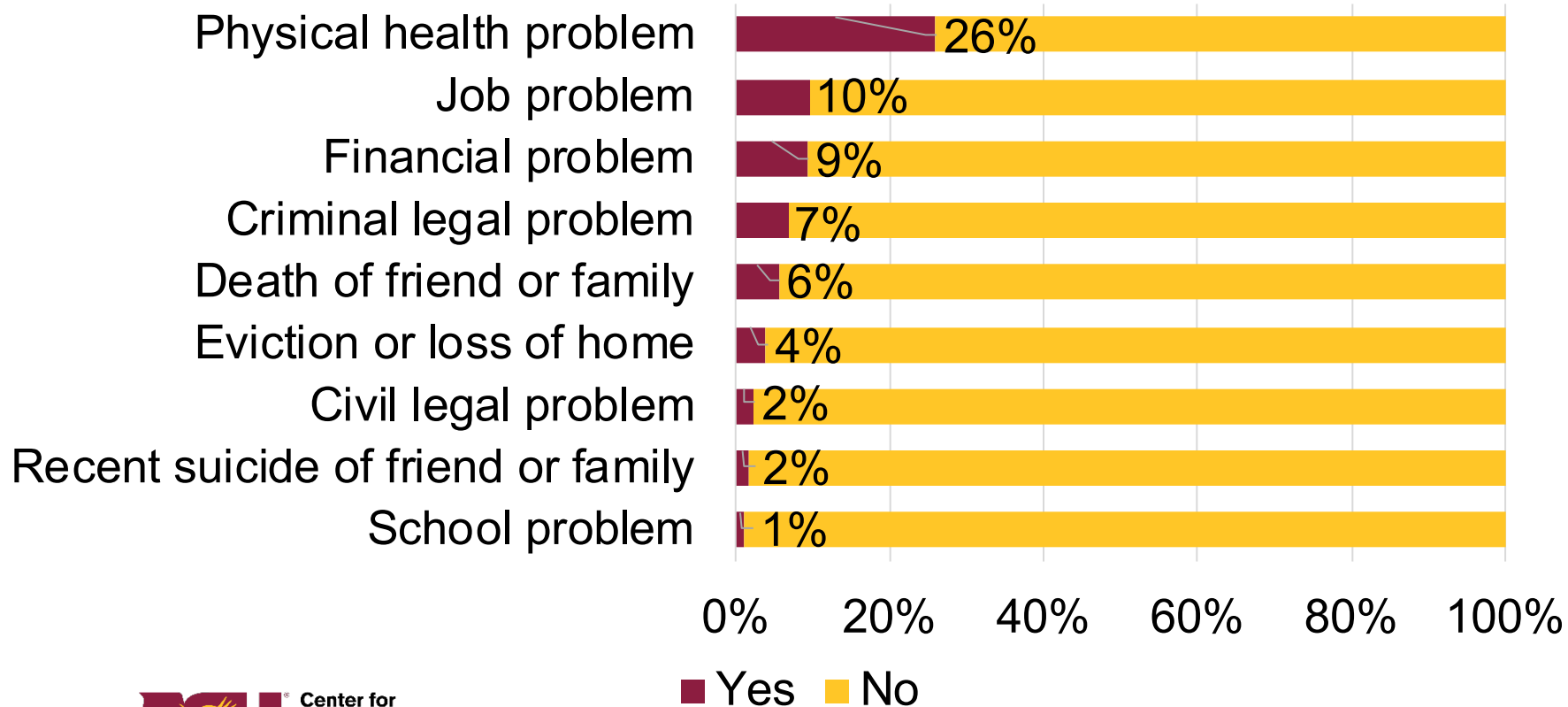
# Suicide Circumstances, 2015-2017



- Nearly half of all suicide victims had a known history of expressing suicidal ideations
- Approximately 30 percent of all suicide victims disclosed suicidal thoughts within 30 days of the incident
- About 23 percent of suicide victims had a prior suicide attempt(s)



# Suicide by Life Stressors, 2015-2017



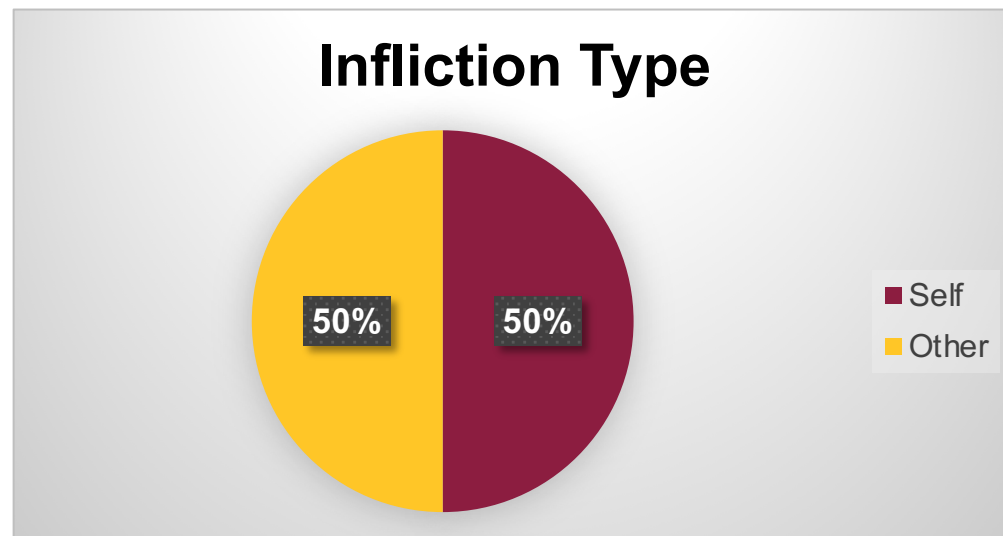
- More than one-fourth of suicides were contributed to a physical health problem
- A job problem accounted for approximately 10 percent of suicides
- About 1 percent of suicides were due to a school problem

# Accidental/Unintentional Firearm Deaths, 2015-2017

**AZ-VDRS Data Analysis Results**

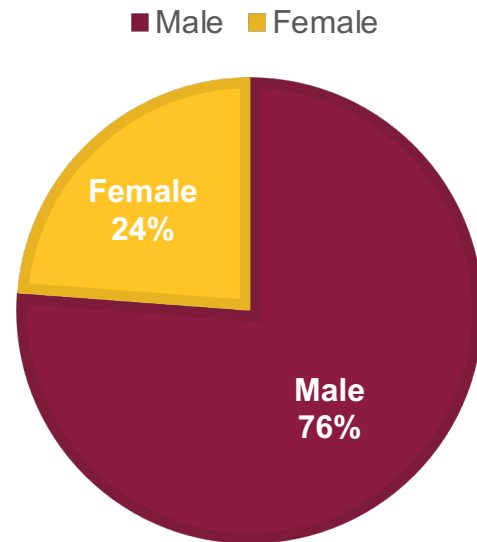
# Accidental and Unintentional Firearm Deaths among AZ-VDRS Data

- **42 unintentional firearm deaths in Arizona from 2015-2017**
- **Operationalization of terminology:**
  - NVDRS defines an unintentional firearm death as “a death resulting from a penetrating injury or gunshot wound from a weapon that uses a powder charge to fire a projectile when there is a preponderance of evidence that the shooting was not intentionally directed at the victim.”\*
  - Unintentional shootings that occur while attempting to use a firearm to intimidate or control are not considered to meet this definition.

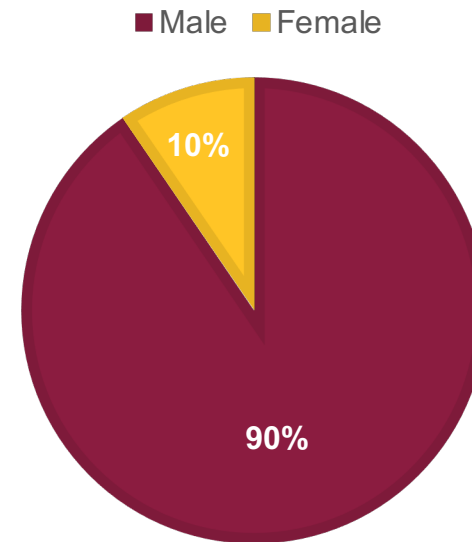


# Gender

**VICTIM GENDER**



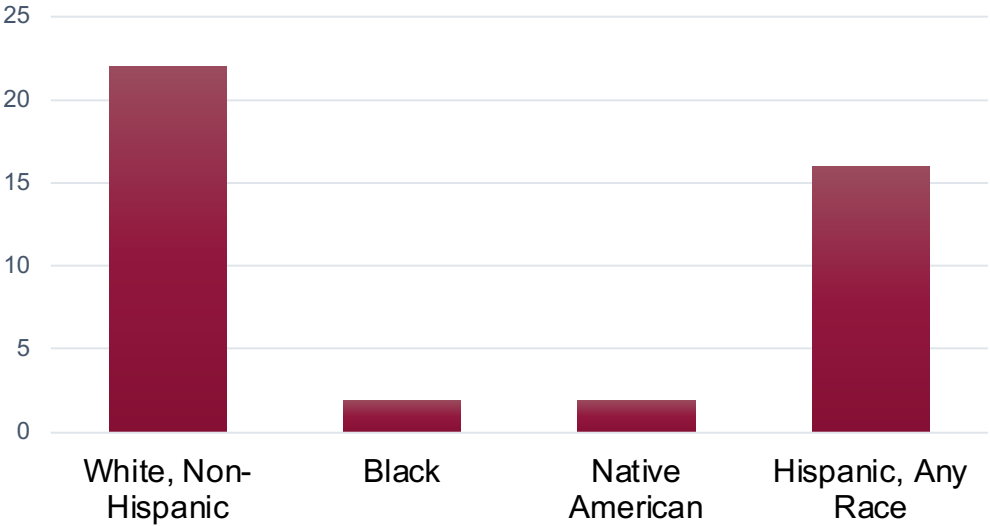
**SHOOTER GENDER**



- Predominantly male for both victim and shooter

# Age & Race/Ethnicity

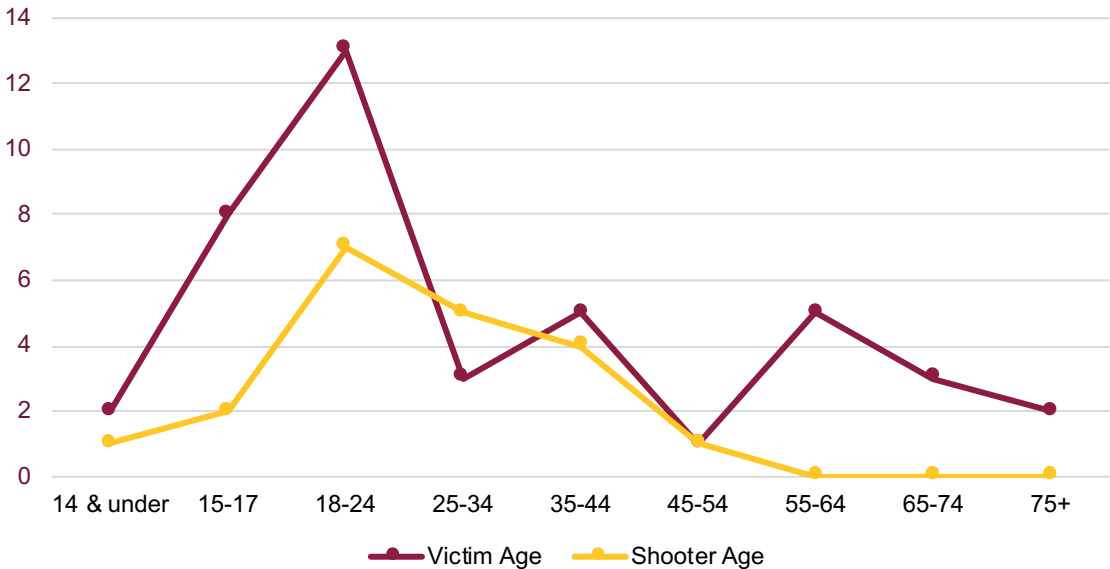
Number of Victims by Race/Ethnicity



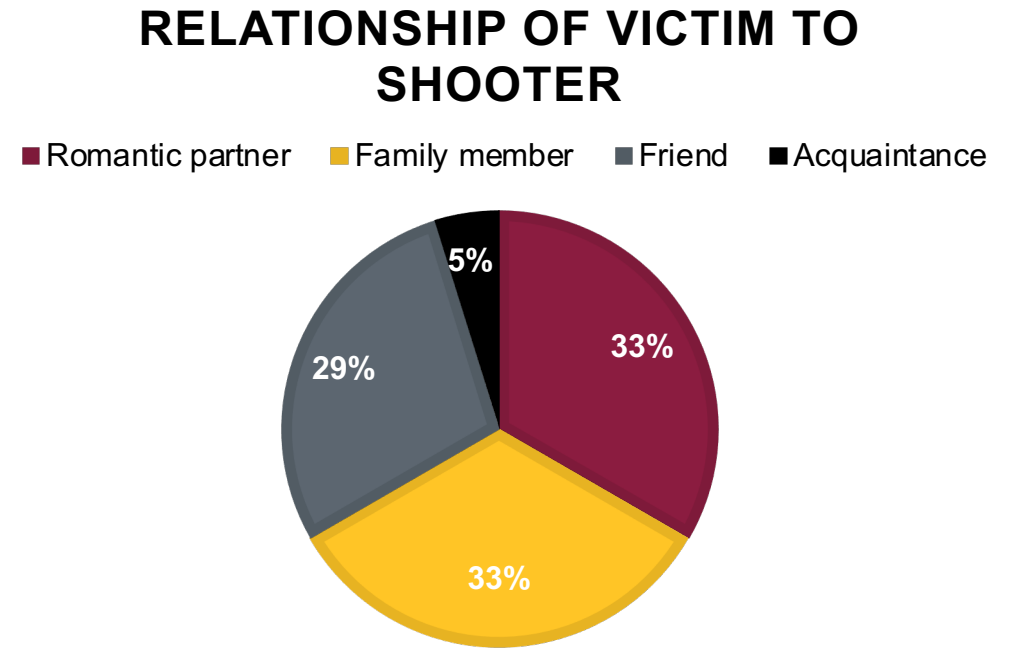
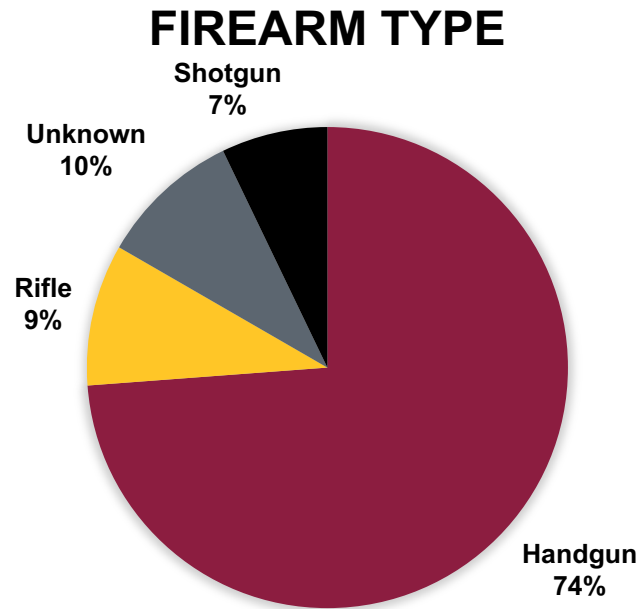
Median Ages of Victim and Shooter

Individual	Median Age
Victim	21.5
Shooter	24

Number of Victims/Shooters per Age Group



# Firearm Type & Relationship of Victim to Shooter



# Context and Mechanism of Shooting

(As many as applicable)

## Context

Context	Frequency	Percent
Hunting	1	2.4
Target shooting	0	0.0
Self-defensive shooting	0	0.0
Celebratory firing	0	0.0
Loading/unloading gun	1	2.4
Cleaning gun	8	19.0
Showing gun to others	4	9.5
Playing with gun	15	35.7
Other	15	35.7

## Mechanism

Mechanism	Frequency	Percent
Thought safety was engaged	0	0.0
Thought gun was unloaded	18	42.9
Unintentionally pulled trigger	22	52.4
Bullet ricochet	1	2.4
Gun defect/malfunction	1	2.4
Fired while holstering/unholstering	1	2.4
Dropped gun	2	4.8
Fired while operating safety/lock	1	2.4
Gun mistaken for a toy	0	0.0

# Gang-Involved Homicides, 2015-2017



# Gang Related or Motivated Homicides

- The NVDRS uses the following definition to identify cases that are gang-related or motivated:

Gang-related homicide can vary by law enforcement agency or coroner/medical examiner and tend to capture deaths that are classified as gang motivated (i.e., motive of the incident was gang related) or had suspected involvement of a gang member (i.e., a gang member was a suspect or victim in the incident). This variable captures both types of gang-related deaths reported by agencies.

# Gang-Related and Gang-Like

In order to expand this narrow definition, nationally recognized gang experts were consulted to identify additional potential “gang-like” homicides, based on the following criteria.

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## Criteria used to classify a homicide as “gang-like”

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1. Weapon (gun, knife or blunt object);
2. Victim-Suspect Relationship (stranger, acquaintance, rival gang member, other person known to victim or person missing) and:
3. Circumstances
  - LE or CME circumstance indicated victim was a bystander, involved in a drive-by shooting or was involved in a brawl
4. Location of where the homicide occurred (porch, street, parking lot)

# Gang Homicides by Incident Type, 2015-2017

## Gang-Involved Homicides in Arizona by Incident Type, 2015-17

Incident Type	Gang-Related		Gang-Like		Non-Gang	
	n	%	n	%	n	%
Single homicide	67	82.7	126	89.4	659	79.0
Multiple homicide	14	17.3	15	10.6	96	11.5
Homicide(s) followed by suicide(s)	0	0.0	0	0.0	72	8.6
Other †	0	0.0	0	0.0	7	0.8
<b>Total (of Gang/Non-Gang)</b>	<b>81</b>	<b>7.7</b>	<b>196</b>	<b>13.4</b>	<b>1030</b>	<b>100.0</b>

† "Other" cases include, but not necessarily limited to homicides followed by undetermined or legal intervention deaths of the homicide suspect(s).

# Gang-Involved Homicides by Sex and Race/Ethnicity, 2015-2017

Characteristics of Gang-Involved Homicides in Arizona, 2015-2017

Characteristic	Gang-Related (n=81)		Gang-Like (n=141)		Non-Gang (N=834)	
	n	%	n	%	n	%
<b>Sex*</b>						
Male	69	85.2	123	87.2	625	74.9
Female	12	14.8	18	12.8	209	25.1
<b>Race/Ethnicity*</b>						
White	12	14.8	21	14.9	344	41.2
Black or African-American	21	25.9	40	28.4	118	14.1
Native American	9	11.1	13	9.2	71	8.5
Hispanic/Latino	38	46.9	66	46.8	272	32.6
Other †	1	1.2	1	0.7	16	1.9

† Includes Asian/Pacific Islander, multi-racial and unspecified or unknown race/ethnicity.

\* Statistically significant at  $p \leq .05$

# Gang-Involved Homicides, by Age and Age Group, 2015-2017

Characteristic	Gang-Related (n=81)		Gang-Like (n=141)		Non-Gang (n=834)	
	n	%	n	%	n	%
<b>Age Group*</b>						
< 14 years	0	0.0	1	0.7	44	5.3
15-24 years	31	38.3	53	37.6	161	19.3
25-34 years	30	37.0	48	34.0	212	25.4
35-44 years	13	16.0	20	14.2	145	17.4
45-54 years	4	4.9	14	9.9	121	14.5
55-64 years	1	1.2	5	3.5	89	10.7
65-74 years	1	1.2	0	0.0	34	4.1
75+ years	1	1.2	0	0.0	26	3.1
Unknown	0	0.0	0	0.0	2	0.2
	mean	SD	mean	SD	mean	SD
Age (in years)*	29.7	12.0	30.0	11.1	37.4	17.5

\* Statistically significant at  $p \leq .05$

# Gang-Involved Homicides, by County, 2015-2017

Gang-Involved Homicides in Arizona by County, 2015-2017						
County	Gang-Related		Gang-Like		Non-Gang	
	n	%	n	%	n	%
Apache	2	2.5	1	0.7	5	0.6
Cochise	1	1.2	0	0.0	13	1.6
Coconino	1	1.2	1	0.7	26	3.1
Gila	1	1.2	1	0.7	6	0.7
Graham	0	0.0	0	0.0	3	0.4
Greenlee	0	0.0	0	0.0	0	0.0
La Paz	0	0.0	0	0.0	3	0.4
Maricopa	52	64.2	104	73.8	545	65.3
Mohave	0	0.0	2	1.4	22	2.6
Navajo	1	1.2	0	0.0	15	1.8
Pima	17	21.0	24	17.0	117	14.0
Pinal	6	7.4	5	3.5	39	4.7
Santa Cruz	0	0.0	0	0.0	0	0.0
Yavapai	0	0.0	0	0.0	18	2.2
Yuma	0	0.0	2	1.4	13	1.6
Unknown county †	0	0.0	1	0.7	9	1.1
<b>Total (of Gang/Non-Gang)</b>	<b>81</b>	<b>7.9</b>	<b>141</b>	<b>13.7</b>	<b>834</b>	<b>81.0</b>
† Actual county where fatal injury occurred is unknown.						

# AZ-VDRS Missing Data, 2015-2017

# The Missing Data Problem

- Two chief reasons for missing data on decedents:
  1. Non-participating agencies; and
  2. Poor data collection and recording protocols by responsible agencies.



# Non-Participating LE Agencies

- From 2015-2017, there were 805 violent deaths that occurred in non-participating law enforcement jurisdictions.
- These represented about 14.1% of the 5,711 violent deaths that occurred in Arizona in that time.
- 13 agencies are responsible 61.1% (n=492) of missing data.

# Non-Participating LE Agencies

- Currently, two of these previously top 13 non-participating agencies have agreed, or are in-process, of participating totaling 74 deaths.
- Unsuccessful recruitment attempts have been made with the others – most pronounced among these is the Maricopa County Sheriff (n=186).

# Non-Participating LE Agencies

Deaths	Agency
186	Maricopa County Sheriff
38	Avondale PD *
36	Gila River Tribal PD
36	Gila County Sheriff *
34	Navajo Nation PD
33	AZ-DOC
29	AZ-DPS

Deaths	Agency
21	Bureau of Indian Affairs
21	Goodyear PD
16	La Paz County Sheriff
15	Graham County Sheriff
14	Camp Verde Marshall
13	Santa Cruz County Sheriff

- Denotes an agency that currently is in the process of signing an AZ-VDRS partnership MOU.

# Data Collection Quality/Completeness

- Data quality and completeness is the second critical component to resolving the AZ-VDRS missing data problem.
- Among participating agencies, some of the reports generated are very sparse on details, especially regarding the circumstance variables that are so critical.
- AZ-VDRS codes circumstances based on the details provided primarily in report narratives, and protocol requires explicit information to be present in the source document in order to endorse the specific circumstance.

# Data Collection Quality/Completeness

Medical Examiner Circumstances Known						
Manner	Missing		Endorsed		Total	
	n	%	n	%	n	%
Suicide	210	5.7	3468	94.3	3678	68.6
Homicide	91	8.7	955	91.3	1046	19.5
Other	32	5.0	606	95.0	638	11.9
Total	333	6.2	5029	93.8	5362	100.0

# Data Collection Quality/Completeness

Law Enforcement Circumstances Known						
Manner	Missing		Endorsed		Total	
	n	%	n	%	n	%
Suicide	912	24.8	2766	75.2	3678	68.6
Homicide	276	26.4	770	73.6	1046	19.5
Other	256	40.1	382	59.9	638	11.9
Total	1444	26.9	3918	73.1	5362	100.0

# Conclusion

- AZ-VDRS data offers an important contribution to understanding violent deaths in Arizona.
- Improving the program depends first on greater partner participation.
- Better and more thorough report completion is needed to improve understanding and guidance regarding suicides and homicides across Arizona.





# Morrison Institute for Public Policy

**Arizona State University**

## Firearm Deaths in Arizona 2015 - 2017: Facts and Trends

Melissa Kovacs | David Schlinkert

January 29, 2020



## **Morrison Institute partnered with ASU's Center for Violence Prevention and Community Safety to analyze Arizona's firearm death data from 2015 - 2017**

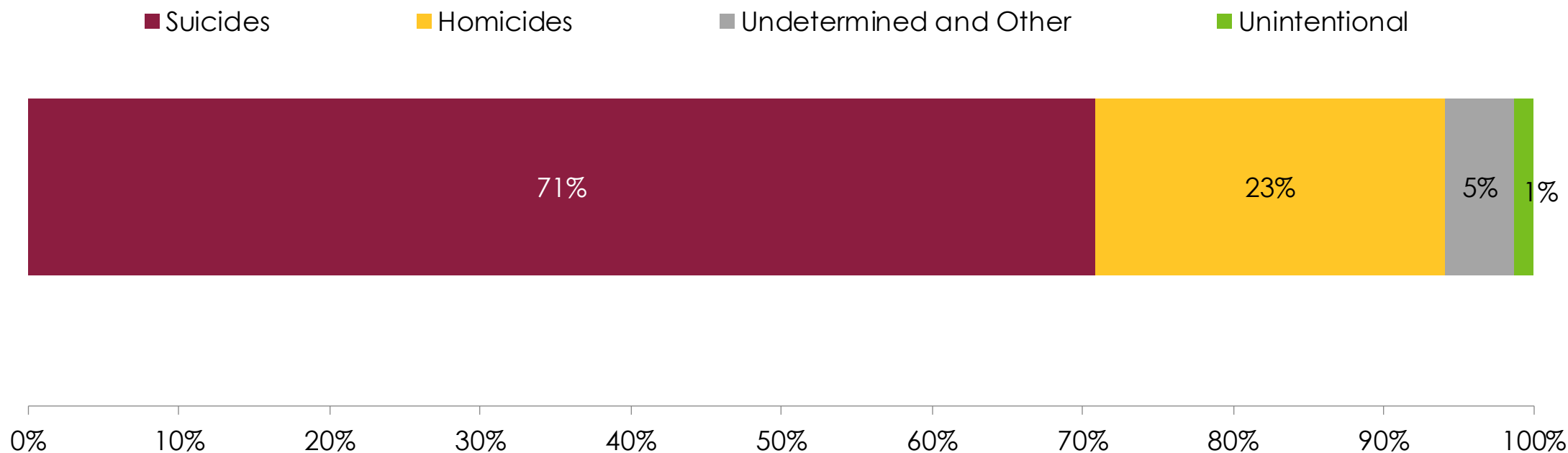
### Findings:

- Manner of Death
- Demographics
- Location of Death
- Firearm Type
- Firing Action Category

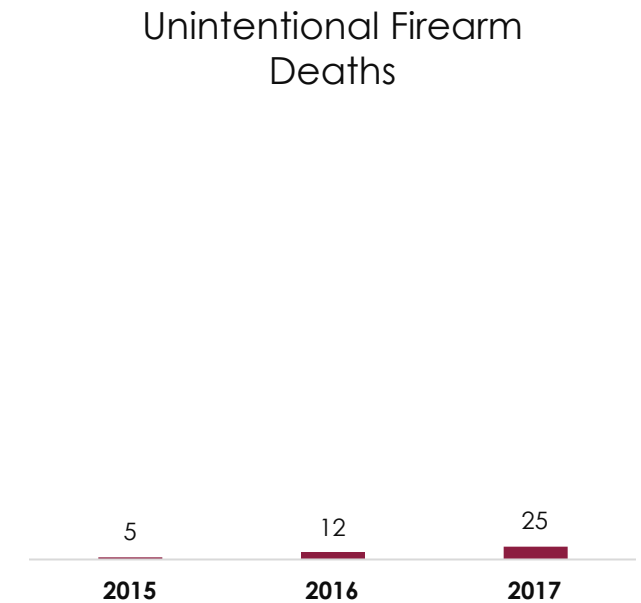
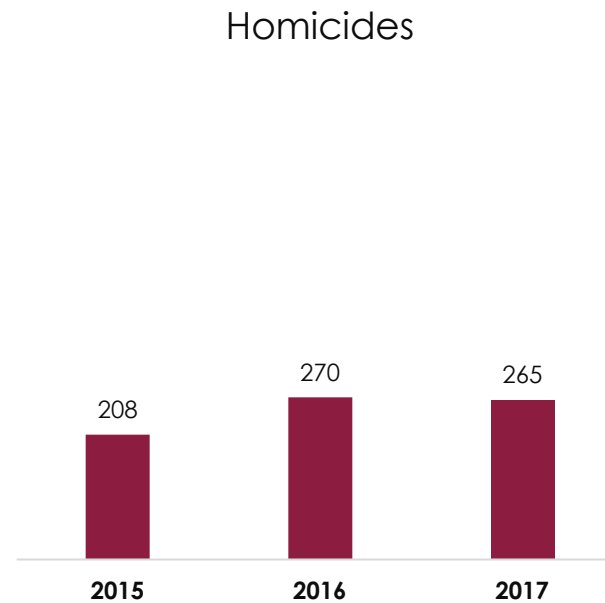
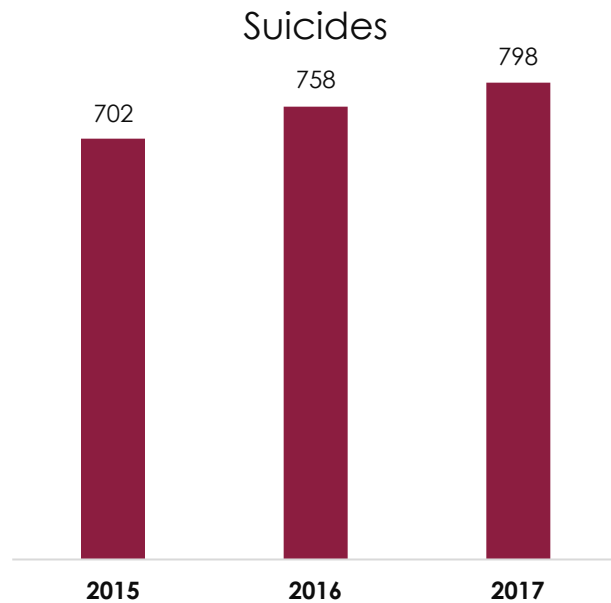
## Firearm Deaths in Arizona, 2015 - 2017

Year	Number of Gun Deaths
2015	961
2016	1,095
2017	1,132
<b>Total</b>	<b>3,188</b>

## Proportion of Firearm Deaths by Manner of Death



## Number of Suicides, Homicides, and Unintentional Firearm Deaths by Year

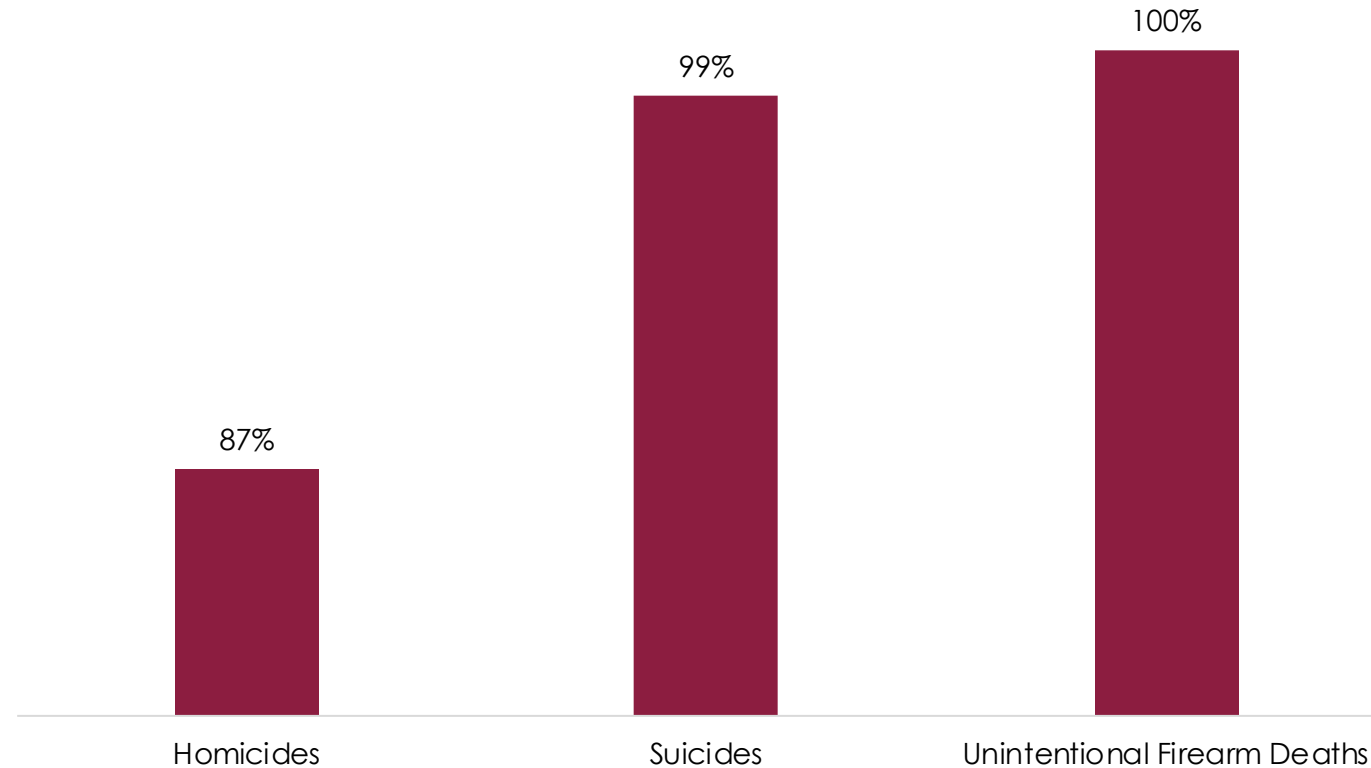


## Rate of Suicides, Homicides, and Unintentional Firearm Deaths by Year

Firearm Death Rates per 100,000 Population by Year			
	<u>2015</u>	<u>2016</u>	<u>2017</u>
Homicides	3.13	4.01	3.89
Suicides	10.57	11.27	11.72
Legal Intervention	0.56	0.58	0.53
Unintentional Deaths	0.08	0.18	0.37
Undetermined Intent	0.14	0.24	0.12

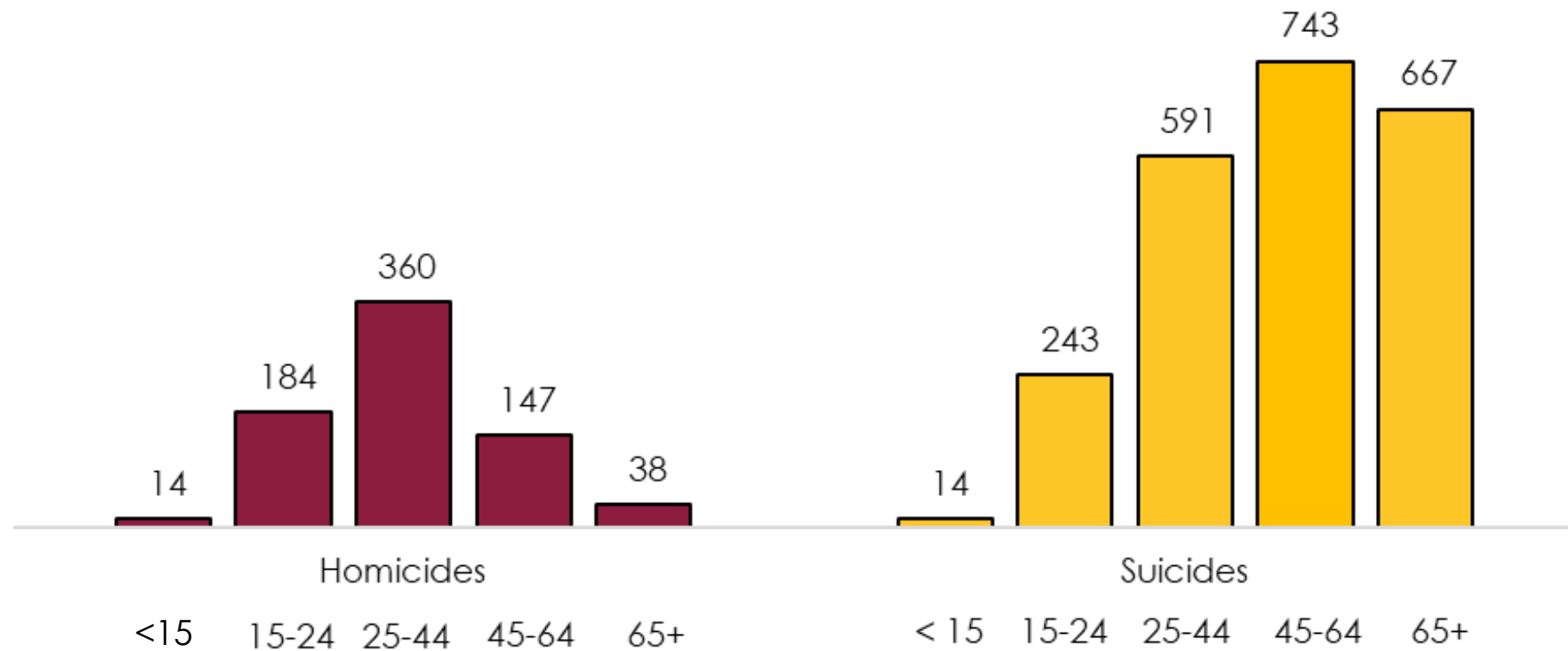
## Firearm Incidents with a Single Victim

Percentage of Firearm Incidents with a Single Victim by Manner of Death

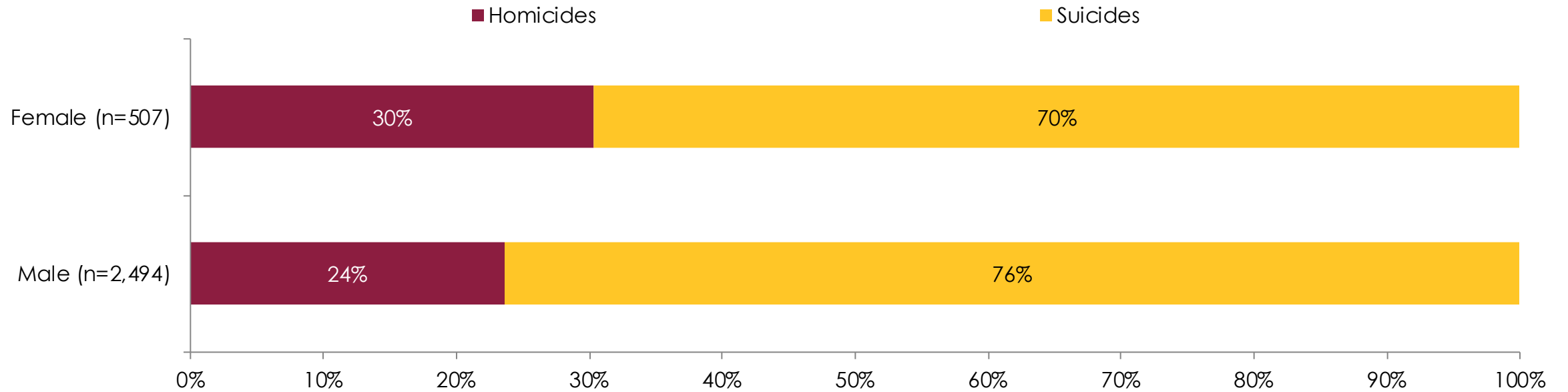


## Age

Number of Homicides and Suicides by Age Category, 2015 - 2017

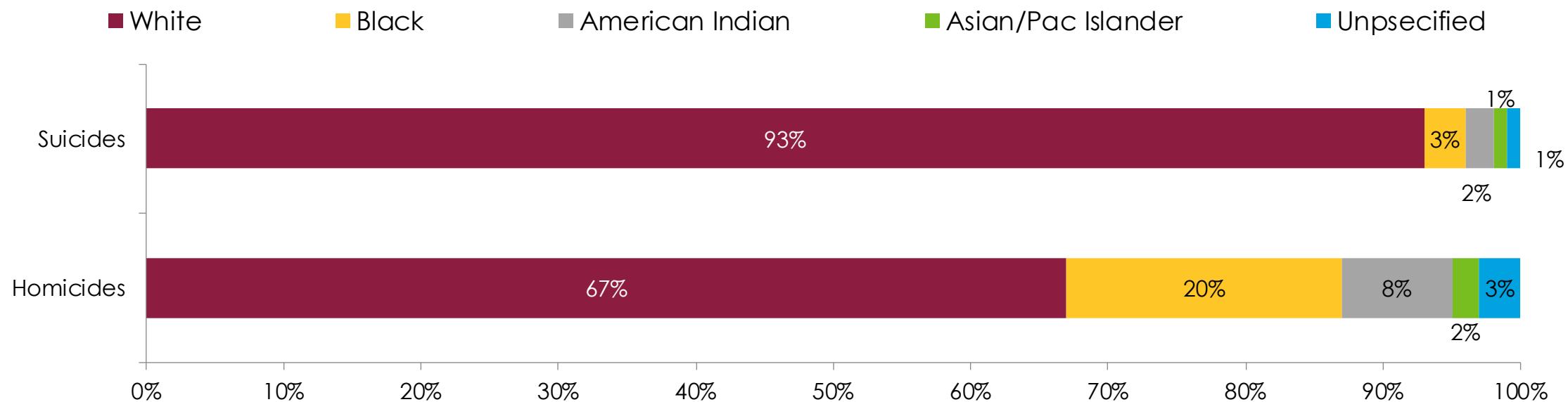


## Sex

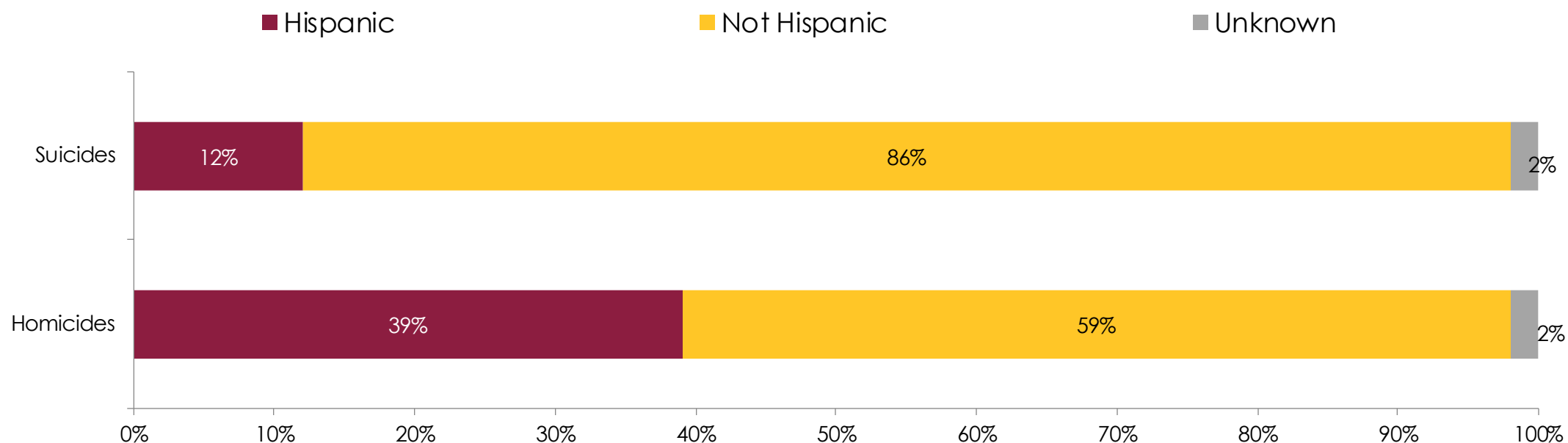




## Firearm Deaths by Race as a Proportion of Total



## Firearm Deaths by Ethnicity as a Proportion of Total



## Victim-Suspect Relationship in Firearm Homicides

### Most Common Victim-Suspect Relationships in Homicides

<u>Relationship</u>	<u>Percentage</u>
Relationship Unknown	28%
Stranger	19%
Acquaintance	13%
Friend	7%
Spouse	7%

## Firearm Deaths by Common Location

### Most Common Locations of Homicides

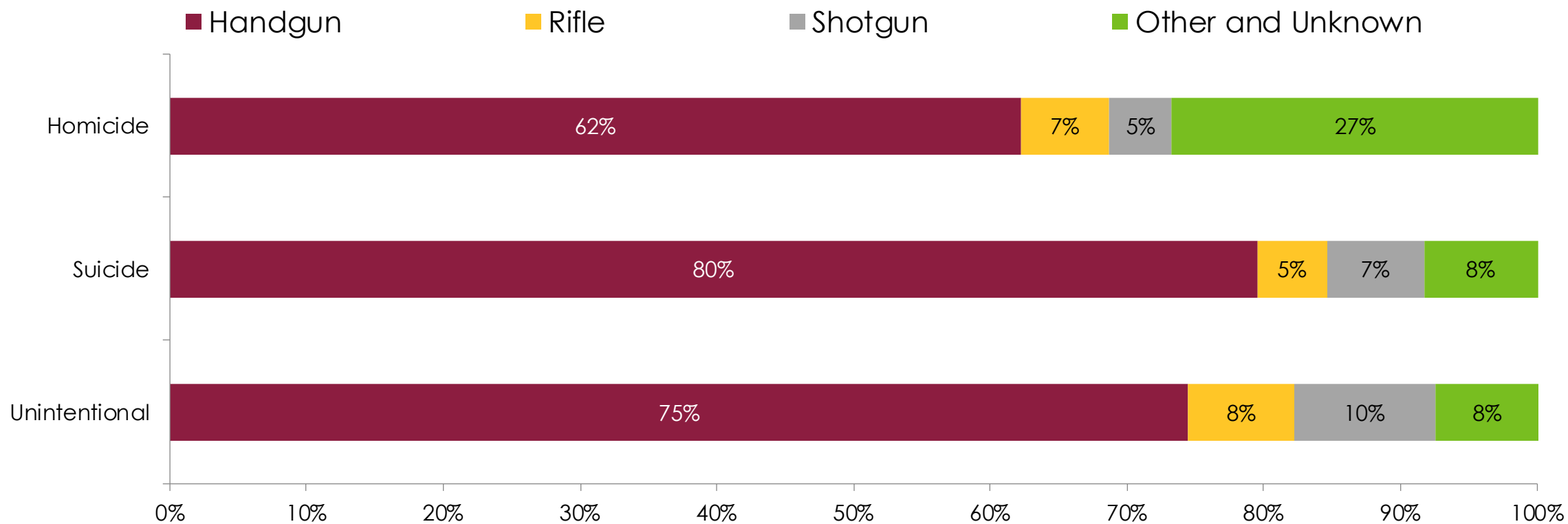
<u>Location</u>	<u>Percentage</u>
House, apartment	49%
Street/road, sidewalk, alley	15%
Parking lot/public parking garage	9%
Motor vehicle (excluding school bus and public transportation)	6%
Unknown	5%

## Firearm Deaths by Common Location

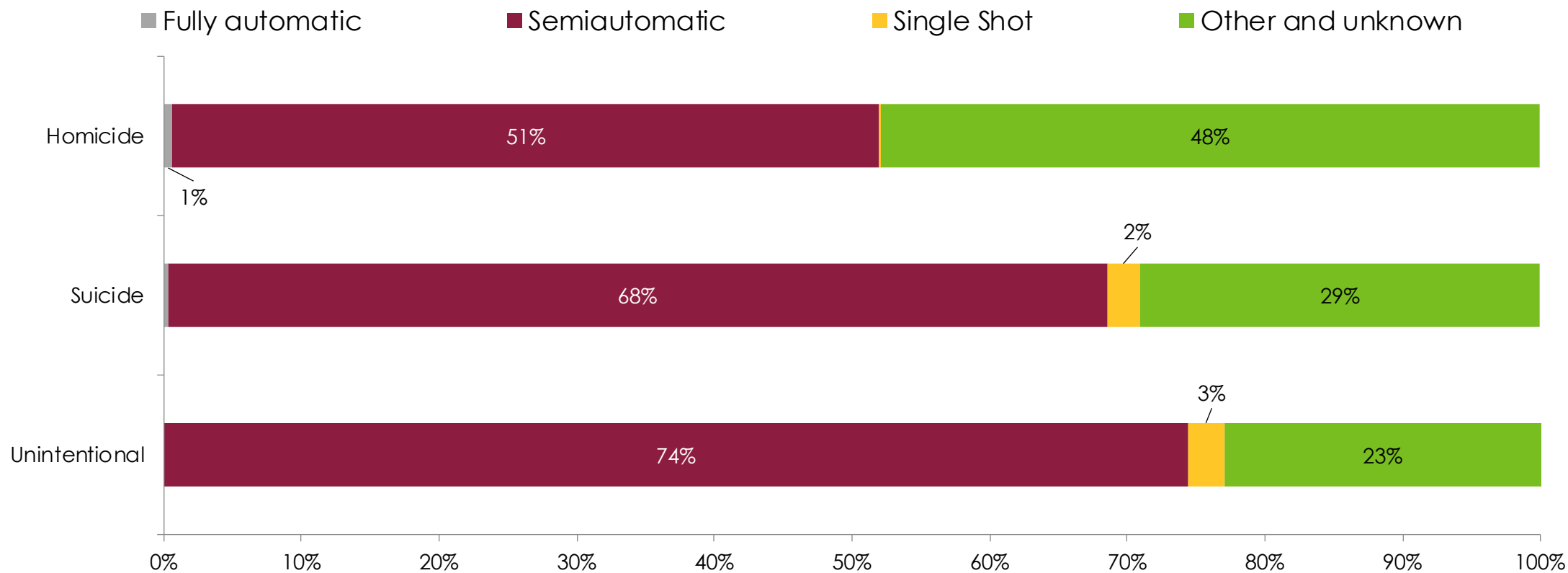
### Most Common Locations of Suicides

<u>Location</u>	<u>Percentage</u>
House, apartment	74%
Motor vehicle (excluding school bus and public transportation)	6%
Natural area (e.g., field, river, beaches, woods)	6%
Street/road, sidewalk, alley	4%
Parking lot/public parking garage	3%

## Manner of Death by Gun Type



## Manner of Death by Firing Action



## Ideas for further study:

Intimate partner violence-related gun deaths and sex;

Trends and patterns of gun deaths regarding Arizona geography;

Potential co-morbidity findings – i.e. substance abuse, mental illness, etc.;

Other dataset elements not yet explored:

- Role of abuse / neglect in a violent firearm incident;
- Other victims non-fatally injured in firearm incident;
- Presence of other demographics (pregnancy status, veteran status, birthplace, sexual orientation, homelessness status, education level).





**Arizona State University**

**Questions?**

**[morrisoninstitute@asu.edu](mailto:morrisoninstitute@asu.edu)**

**Full report available:**

**[morrisoninstitute.asu.edu](http://morrisoninstitute.asu.edu)**

# 10 Recommendations for reducing gun violence (Draft)\*

1

## National Integrated Ballistics Identification Network

Police agencies should participate and sustain best practices associated with ballistic imaging programming to identify and target guns used in multiple crimes

2

## Focused deterrence

Deter gun crime by increasing the swiftness, severity and certainty of punishment by targeting violent offenders for suppression, intervention, and prevention programming

3

## Operation Peacekeeper

Youth outreach workers serve as mentors for youth in violent neighborhoods

4

## Hot spot policing

Focus police resources in small geographic areas that have high levels of gun violence

5

## Homicide review commission

A program that reduces homicides and non-fatal shooting through a multidisciplinary and multiagency homicide review process

6

## Education campaigns and clinical interventions for promoting safe storage

Clinicians should counsel families to store guns safely and provide free gun locks

7

## Child-access prevention laws

Child-access prevention (CAP) laws allow prosecutors to bring charges against adults who intentionally or carelessly allow children to have unsupervised access to firearms

8

## Background checks

Require background checks for all dealers, private sellers, restraining orders, mental illness, NCIS

9

## Revoke stand-your-ground laws

Arizona is one of about 20 states that have stand your ground laws. Stand your ground laws remove the duty to retreat. The legislature should revoke Arizona's stand your ground law

10

## Research on the prevalence of violent deaths among American Indians

Policy makers should focus on understanding the prevalence of violent deaths among American Indians in the context of ethnicity, tribal membership, and place of residency

\* Recommendations are those of the author and not the AZ-VDRS, NVDRS nor the CDC