

**Arizona State University's
2016 Annual Report on Suicide in Arizona**

Prepared by
Center for Violence Prevention and Community Safety

Sponsored by
Centers for Disease Control and Prevention

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About the Center for Violence Prevention and Community Safety

In order to become more committed to the Arizona community and to society as a whole, Arizona State University is setting a new standard for research universities through the model of the New American University. As a New American University, ASU is measured not by who we exclude, but by whom we include; our pursuit of research that considers the public good; and we assume major responsibility for the economic, social, and cultural vitality of our community. Social embeddedness is core to the development of ASU as the New American University. Social embeddedness is a university-wide, interactive, and mutually supportive partnership with the communities of Arizona.

Toward the goal of social embeddedness, Arizona State University established the Center for Violence Prevention and Community Safety in July 2005 to respond to the growing need of Arizona's communities to improve the public's safety and well-being. The Center for Violence Prevention and Community Safety is a research unit within the Watts Family College of Public Service and Community Solutions at Arizona State University. The Center's mission is to generate, share, and apply quality research and knowledge to create "best practice" standards. The center specifically evaluates policies and programs, analyzes and evaluates patterns and causes of violence, develops strategies and programs, develops a clearinghouse of research reports and "best practice" models, educates, trains and provides technical assistance, and facilitates the development of and construction of databases. For more information about the Center for Violence Prevention and Community Safety please contact us using the information provided below.

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Apache County Medical Examiner's Office	Oro Valley Police Department
Coconino County Medical Examiner's Office	Paradise Valley Police Department
Gila Messenger Mortuary	Peoria Valley Police Department
Maricopa County Medical Examiner's Office	Phoenix Police Department
Mohave County Medical Examiner's Office	Prescott Police Department
Navajo County Medical Examiner's Office	Prescott Valley Police Department
New Mexico Office of the Medical Examiner	Safford Police Department
Pima County Medical Examiner's Office	Sahuarita Police Department
Pinal County Medical Examiner's Office	Scottsdale Police Department
Yavapai County Medical Examiner's Office	Sedona Police Department
Yuma County Medical Examiner's Office	Show Low Police Department
	Sierra Vista Police Department
Apache Junction Police Department	Snowflake Taylor Police Department
Buckeye Police Department	St. John's Police Department
Casa Grande Police Department	Surprise Police Department
Chandler Police Department	Tempe Police Department
Chino Valley Police Department	Tucson Police Department
Douglas Police Department	
El Mirage Police Department	Coconino County Sheriff Office
Flagstaff Police Department	Maricopa County Sheriff Office
Gilbert Police Department	Navajo County Sheriff Office
Glendale Police Department	Pima County Sheriff Office
Kingman Police Department	Pinal County Sheriff Office
Lake Havasu City Police Department	Yavapai County Sheriff Office
Marana Police Department	Yuma County Sheriff Office
Maricopa Police Department	
Mesa Police Department	ADHS, Bureau of Vital Records
Nogales Police Department	

During 2016, the AZ-VDRS Advisory Board provided input, advice and support. These individuals and their agencies were paramount to establishing and maintaining the program. We would especially like to thank Tomi St. Mars and Pam Goslar for their serving as the executive leaders of the steering committee. They have been our strongest champions and provided continuous leadership throughout the project. We would be remiss if we did not thank our CDC science officer Dr. Shane Davis-Jack and our CDC project officer Michele LaLand for their tireless support and answering all of our questions.

Introduction

The National Violent Death Reporting System (NVDRS) is a state-based surveillance tool to improve our understanding of violent deaths. Given the magnitude of the suicide problem in the United States, improved data collection and research efforts are critical to finding and implementing better intervention and prevention efforts. Currently, 50 states, plus Puerto Rico and the District of Columbia participate in the National Violent Death Reporting System (NVDRS). NVDRS is a national state-based surveillance system for violent deaths developed by the Centers for Disease Control and Prevention (CDC).

Arizona began its partnership in the surveillance system with the collection of 2015 violent death data. Through the mechanisms of data integration and abstraction from death certificates, medical examiner reports, and law enforcement reports the Arizona Violent Death Reporting System (AZ-VDRS), as an NVDRS site, seeks to contribute to these efforts of reducing suicides in Arizona. By gaining a deeper understanding into the scope and nature of the suicide problem at state and local levels, local and state authorities, policymakers and other stakeholders are better able to assist in determining resource allocation and are able to find more effective or efficient strategies as a response to suicide. This report presents findings from the AZ-VDRS, which is sponsored by the Centers for Disease Control and Prevention (CDC) and describes suicide patterns and trends in Arizona in calendar year 2016. This report was auto-generated through a computer program. If you recognize errors in text or in the reporting of figures, please notify us so we can address the problem(s).

Data and Methods

Data presented in this report are from the Arizona Violent Death Reporting System (AZ-VDRS), from January 1, 2016 through December 31, 2016. The violent death data are collected from three sources and are used to populate an aggregated, anonymous database. The three sources include death certificates, medical examiner reports, and law enforcement reports. AZ-VDRS contain data on victim/suspect demographics and specific circumstances about the incident including, but not limited to, mental health problems, recent problems with a job, finances, or relationships, and physical health problems. These original data sources are de-identified, abstracted and aggregated into a CDC-managed database.

Data collection and abstraction in Arizona begins with the death certificate. The Arizona Department of Health Services and its Division of Vital Records provide the AZ-VDRS with a comprehensive death certificate file containing year-to-date deaths defined by ICD-10 codes encompassing all manner of suicide, homicide, legal intervention, unintentional firearm injuries, and deaths of undetermined intent, on a monthly basis. Requests are then made to the responsible medical examiner for autopsy investigation and toxicology reports, and to the relevant law enforcement jurisdiction for all incident and investigation reports, for each decedent. This report primarily uses data gathered on all occurrent suicide decedents in the AZ-VDRS database with a date of death from January 1, 2016 through December 31, 2016. Most analyses are presented using rates. Rates for this report were calculated using incidence counts per 100,000 population, as estimated by the U.S. Census Bureau, specifically its 2016 American Community Survey 5-Year Estimates.

Findings

Suicides in Arizona, 2016

In 2016, there were a total of 1265 suicide victims in Arizona. There were 626 victim(s) of single suicide (49.4%), 10 victim(s) of homicide(s) followed by suicide(s) (0.8%), 4 victim(s) of multiple suicide (0.3%), and 626 victim(s) of single suicide (49.4%).

Suicide Victims Reported by Month, 2016

Month	Frequency	Percent
January	111	8.8
February	92	7.3
March	122	9.6
April	102	8.1
May	92	7.3
June	102	8.1
July	112	8.9
August	86	6.8
September	86	6.8
October	112	8.9
November	91	7.2
December	84	6.6
Unknown	73	5.8
Total	1,265	100.0

Location Type of Injury Incident per Suicide Victim

Location	Frequency	Percent
House, apartment	947	74.9
At victim's home	906	71.6
Not at victim's home	35	2.8
Unknown home	6	0.5
Motor vehicle (excluding school bus and public transportation)	59	4.7
Natural area (e.g., field, river, beaches, woods)	54	4.3
Street/road, sidewalk, alley, highway, freeway	50	4.0
Parking lot/public parking garage	27	2.1
Park, playground, public use area, and commercial establishment (e.g., grocery store, retail outlet, etc.)	23	1.8
Jail, prison, detention facility	16	1.3
Other (i.e., Hospital or medical facility, hotel/motel, office building, public transportation or station, service station, farm, etc.)	80	6.3
Unknown	9	0.7
Total	1,265	100.0

Weapon Type Used in Suicide

Weapon	Frequency	Percent
Firearm	760	60.1
Hang/Strangle/Suffocate	287	22.7
Poison/Personal	159	12.6
Fall	18	1.4
Sharp instrument	16	1.3
Motor vehicle including buses, motorcycles	12	0.9
Other transport vehicle, eg, trains, planes, boats	4	0.3
Fire or burns	3	0.2
Drowning	3	0.2
Other (e.g. taser, electrocution, nail gun)	1	0.1
Explosive	1	0.1
Biological weapons	1	0.1
Total	1,265	100.0

Note: Multiple Firearms were used in several suicides. Personal weapons include fists, feet, and hands in actions such as punching, kicking or hitting.

Victim Demographic Characteristics

The next series of exhibits demonstrate the characteristics of victims involved in Arizona suicides including gender, age, race, and ethnicity.

Sex

Sex of Suicide Victims

Sex	Frequency	Percent
Male	985	77.9
Female	280	22.1
Total	1,265	100.0

Age

Age of Suicide Victims

Age Range	Frequency	Percent
0-14	9	0.7
15-24	153	12.1
25-34	204	16.1
35-44	162	12.8
45-54	228	18.0
55-64	216	17.1
65-74	158	12.5
75+	135	10.7
Total	1,265	100.0

Race

Race of Suicide Victims

Race	Frequency	Percent
White	1,104	87.3
American Indian	62	4.9
Black	37	2.9
Unspecified	29	2.3
Asian	20	1.6
Pacific Islander	7	0.6
Multi-Race	6	0.5
Total	1,265	100.0

Ethnicity

Ethnicity of Suicide Victims

Ethnicity	Frequency	Percent
Not Hispanic	1,022	80.8
Hispanic	180	14.2
Unknown	63	5.0
Total	1,265	100.0

Marital status

Marital Status of Suicide Victims

Marital Status	Frequency	Percent
Never Married	438	34.6
Married/Civil Union/Domestic Partnership	371	29.3
Divorced	316	25.0
Widowed	83	6.6
Married, but separated	36	2.8
Unknown	19	1.5
Single, not otherwise specified	2	0.2
Total	1,265	100.0

Education Level

Education Level of Suicide Victims

Education Level	Frequency	Percent
<= 8th grade	47	3.7
9th - 12th grade	147	11.6
High school or GED graduate	435	34.4
Some college credit	260	20.6
Associate	112	8.9
Bachelor	148	11.7
Master	54	4.3
Doctorate	33	2.6
Unknown	29	2.3
Total	1,265	100.0

Place of birth

Place of Birth of Suicide Victims

Place of Birth	Frequency	Percent
Arizona	320	25.3
Other US States	870	68.8
Other countries	53	4.2
Unknown	22	1.7
Total	1,265	100.0

Circumstance Characteristics of Suicide Victims

AZ-VDRS collects information about the circumstances and conditions surrounding all violent death events, with some specific variations for different manners of death (e.g. suicide event histories collected for suicides). The tables below presents our findings on the frequency of circumstances that surrounded decedents across five major dimensions: mental health; substance abuse and other addictions; interpersonal problems; life stressors; and prior suicide events. The frequencies are the total number of the event occurring and categories within each dimension are not mutually exclusive.

Mental health, substance abuse, and other addiction

Mental Health, Substance Abuse, and Other Addiction of Suicide Victims

Mental Health, Substance Abuse, and Other Addiction	Frequency	Percent
Current Mental Health Problem	502	39.7
Depressed Mood	334	26.4
Current Treatment for Mental Health/Substance Abuse	189	14.9
Ever Treated for Mental Health/Substance Abuse	1,155	91.3
Alcohol Problem	1,150	90.9
Substance Abuse Other (not including alcohol)	149	11.8

Relationship and Life Stressors

Relationship and Life Stressors of Suicide Victims

Relationship and Life Stressors	Frequency	Percent
Prior Exposure to Violence	1,217	96.2
Relationship Problems	1,217	96.2
Life Stressors	1,217	96.2

Manner Specific Circumstances

Manner Specific Circumstances of Suicide Victims

Manner Specific Circumstances	Frequency	Percent
History of Expressed Suicidal Thoughts or Plans	1,037	82.0
History of Suicide Attempts	1,112	87.9
Disclosed Suicidal Thoughts or Plans	1,087	85.9
Left a Suicide Note	986	77.9

Toxicology Results

Toxicology Results of Suicide Victims

Toxicology Results	Total Testing Positive	Percent Testing Positive
Toxicology Test Conducted	748	100.0
Tested Positive for at least One Drug	547	73.1
Alcohol	284	38.0
Amphetamine	75	10.0
Antidepressant	129	17.2
Cocaine	15	2.0
Opiate	143	19.1
Other Substance	237	31.7
Unknown/Not Applicable	740	.