Arizona State University’s
2016 Annual Report on Suicide in Tucson

Prepared by
Center for Violence Prevention and Community Safety

Sponsored by
Centers for Disease Control and Prevention

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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Acknowledgements

The National Violent Death Reporting System (NVDRS) is sponsored by the National Center for Injury Prevention and Control of the Centers for Disease Control and Prevention (CDC), funding participating states through a bona fide agent. Arizona’s site (AZ-VDRS) is operated by the Center for Violence Prevention and Community Safety (CVPCS) at Arizona State University (ASU). This annual report was supported in part by CDC Cooperative Agreement #1U17CE002591-01. Its contents are solely the responsibility of the authors and do not necessarily represent the official views of the CDC. The research files for this report were created on October 28, 2018 and revised in December of 2018. Data may continue to be entered and altered in the AZ-VDRS after this date.

We thank and acknowledge the cooperation and support of the Arizona Department of Health Services, Bureau of Vital Records, and the many local law enforcement agencies and medical examiner offices throughout the State of Arizona that have provided information to the AZ-VDRS. Without our partners, the AZ-VDRS would not be possible. The agencies that provided data for this report are:

Apache County Medical Examiner’s Office     Oro Valley Police Department
Coconino County Medical Examiner’s Office     Paradise Valley Police Department
Gila Messinger 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                    Coconino County Sheriff Office
El Mirage Police Department                  Maricopa County Sheriff Office
Flagstaff Police Department                  Navajo County Sheriff Office
Gilbert Police Department                    Pima County Sheriff Office
Glendale Police Department                   Pinal County Sheriff Office
Kingman Police Department                    Yavapai County Sheriff Office
Lake Havasu City Police Department          Yuma County Sheriff Office
Marana Police Department                     ADHS, Bureau of Vital Records
Maricopa Police Department                   ADHS, Bureau of Vital Records
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 Tucson 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 Tucson, 2016

In 2016, there were a total of 144 suicide victims in Tucson. There were 143 victim(s) of single suicide (99.3%), and 1 victim(s) of homicide(s) followed by suicide(s) (0.7%).

Suicide Victims Reported by Month, 2016

<table>
<thead>
<tr>
<th>Month</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>January</td>
<td>15</td>
<td>10.4</td>
</tr>
<tr>
<td>February</td>
<td>10</td>
<td>6.9</td>
</tr>
<tr>
<td>March</td>
<td>13</td>
<td>9.0</td>
</tr>
<tr>
<td>April</td>
<td>11</td>
<td>7.6</td>
</tr>
<tr>
<td>May</td>
<td>7</td>
<td>4.9</td>
</tr>
<tr>
<td>June</td>
<td>15</td>
<td>10.4</td>
</tr>
<tr>
<td>July</td>
<td>13</td>
<td>9.0</td>
</tr>
<tr>
<td>August</td>
<td>10</td>
<td>6.9</td>
</tr>
<tr>
<td>September</td>
<td>12</td>
<td>8.3</td>
</tr>
<tr>
<td>October</td>
<td>16</td>
<td>11.1</td>
</tr>
<tr>
<td>November</td>
<td>12</td>
<td>8.3</td>
</tr>
<tr>
<td>December</td>
<td>8</td>
<td>5.6</td>
</tr>
<tr>
<td>Unknown</td>
<td>2</td>
<td>1.4</td>
</tr>
<tr>
<td>Total</td>
<td>144</td>
<td>100.0</td>
</tr>
<tr>
<td>Location</td>
<td>Frequency</td>
<td>Percent</td>
</tr>
<tr>
<td>-------------------------------------------------------------------------</td>
<td>-----------</td>
<td>---------</td>
</tr>
<tr>
<td>House, apartment</td>
<td>112</td>
<td>77.8</td>
</tr>
<tr>
<td>At victim's home</td>
<td>109</td>
<td>75.7</td>
</tr>
<tr>
<td>Not at victim's home</td>
<td>3</td>
<td>2.1</td>
</tr>
<tr>
<td>Motor vehicle (excluding school bus and public transportation)</td>
<td>7</td>
<td>4.9</td>
</tr>
<tr>
<td>Jail, prison, detention facility</td>
<td>4</td>
<td>2.8</td>
</tr>
<tr>
<td>Natural area (e.g., field, river, beaches, woods)</td>
<td>4</td>
<td>2.8</td>
</tr>
<tr>
<td>Street/road, sidewalk, alley, highway, freeway</td>
<td>4</td>
<td>2.8</td>
</tr>
<tr>
<td>Parking lot/public parking garage</td>
<td>3</td>
<td>2.1</td>
</tr>
<tr>
<td>Park, playground, public use area, and commercial establishment (e.g., grocery store, retail outlet, etc.)</td>
<td>1</td>
<td>0.7</td>
</tr>
<tr>
<td>Other (i.e., Hospital or medical facility, hotel/motel, office building, public transportation or station, service station, farm, etc.)</td>
<td>9</td>
<td>6.3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>144</strong></td>
<td><strong>100.0</strong></td>
</tr>
</tbody>
</table>
Weapon Type Used in Suicide

<table>
<thead>
<tr>
<th>Weapon</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Firearm</td>
<td>78</td>
<td>54.2</td>
</tr>
<tr>
<td>Hang/Strangle/Suffocate</td>
<td>37</td>
<td>25.7</td>
</tr>
<tr>
<td>Poison/Personal</td>
<td>21</td>
<td>14.6</td>
</tr>
<tr>
<td>Sharp instrument</td>
<td>3</td>
<td>2.1</td>
</tr>
<tr>
<td>Fall</td>
<td>3</td>
<td>2.1</td>
</tr>
<tr>
<td>Motor vehicle including buses, motorcycles</td>
<td>1</td>
<td>0.7</td>
</tr>
<tr>
<td>Other transport vehicle, eg, trains, planes, boats</td>
<td>1</td>
<td>0.7</td>
</tr>
<tr>
<td>Total</td>
<td>144</td>
<td>100.0</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Sex</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>103</td>
<td>71.5</td>
</tr>
<tr>
<td>Female</td>
<td>41</td>
<td>28.5</td>
</tr>
<tr>
<td>Total</td>
<td>144</td>
<td>100.0</td>
</tr>
</tbody>
</table>
### Age

**Age of Suicide Victims**

<table>
<thead>
<tr>
<th>Age Range</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-14</td>
<td>0</td>
<td>.</td>
</tr>
<tr>
<td>15-24</td>
<td>22</td>
<td>15.3</td>
</tr>
<tr>
<td>25-34</td>
<td>22</td>
<td>15.3</td>
</tr>
<tr>
<td>35-44</td>
<td>16</td>
<td>11.1</td>
</tr>
<tr>
<td>45-54</td>
<td>30</td>
<td>20.8</td>
</tr>
<tr>
<td>55-64</td>
<td>24</td>
<td>16.7</td>
</tr>
<tr>
<td>65-74</td>
<td>20</td>
<td>13.9</td>
</tr>
<tr>
<td>75+</td>
<td>10</td>
<td>6.9</td>
</tr>
<tr>
<td>Total</td>
<td>144</td>
<td>100.0</td>
</tr>
</tbody>
</table>

### Race

**Race of Suicide Victims**

<table>
<thead>
<tr>
<th>Race</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>White</td>
<td>127</td>
<td>88.2</td>
</tr>
<tr>
<td>Black</td>
<td>6</td>
<td>4.2</td>
</tr>
<tr>
<td>American Indian</td>
<td>5</td>
<td>3.5</td>
</tr>
<tr>
<td>Asian</td>
<td>4</td>
<td>2.8</td>
</tr>
<tr>
<td>Pacific Islander</td>
<td>1</td>
<td>0.7</td>
</tr>
<tr>
<td>Multi-Race</td>
<td>1</td>
<td>0.7</td>
</tr>
<tr>
<td>Total</td>
<td>144</td>
<td>100.0</td>
</tr>
</tbody>
</table>

### Ethnicity

**Ethnicity of Suicide Victims**

<table>
<thead>
<tr>
<th>Ethnicity</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not Hispanic</td>
<td>108</td>
<td>75.0</td>
</tr>
<tr>
<td>Hispanic</td>
<td>35</td>
<td>24.3</td>
</tr>
<tr>
<td>Unknown</td>
<td>1</td>
<td>0.7</td>
</tr>
<tr>
<td>Total</td>
<td>144</td>
<td>100.0</td>
</tr>
</tbody>
</table>
### Marital status

**Marital Status of Suicide Victims**

<table>
<thead>
<tr>
<th>Marital Status</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Never Married</td>
<td>49</td>
<td>34.0</td>
</tr>
<tr>
<td>Divorced</td>
<td>42</td>
<td>29.2</td>
</tr>
<tr>
<td>Married/Civil Union/Domestic Partnership</td>
<td>41</td>
<td>28.5</td>
</tr>
<tr>
<td>Widowed</td>
<td>7</td>
<td>4.9</td>
</tr>
<tr>
<td>Married, but separated</td>
<td>3</td>
<td>2.1</td>
</tr>
<tr>
<td>Unknown</td>
<td>2</td>
<td>1.4</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>144</strong></td>
<td><strong>100.0</strong></td>
</tr>
</tbody>
</table>

### Education Level

**Education Level of Suicide Victims**

<table>
<thead>
<tr>
<th>Education Level</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;= 8th grade</td>
<td>5</td>
<td>3.5</td>
</tr>
<tr>
<td>9th - 12th grade</td>
<td>15</td>
<td>10.4</td>
</tr>
<tr>
<td>High school or GED graduate</td>
<td>40</td>
<td>27.8</td>
</tr>
<tr>
<td>Some college credit</td>
<td>32</td>
<td>22.2</td>
</tr>
<tr>
<td>Associate</td>
<td>13</td>
<td>9.0</td>
</tr>
<tr>
<td>Bachelor</td>
<td>21</td>
<td>14.6</td>
</tr>
<tr>
<td>Master</td>
<td>8</td>
<td>5.6</td>
</tr>
<tr>
<td>Doctorate</td>
<td>6</td>
<td>4.2</td>
</tr>
<tr>
<td>Unknown</td>
<td>4</td>
<td>2.8</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>144</strong></td>
<td><strong>100.0</strong></td>
</tr>
</tbody>
</table>

### Place of birth

**Place of Birth of Suicide Victims**

<table>
<thead>
<tr>
<th>Place of Birth</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arizona</td>
<td>42</td>
<td>29.2</td>
</tr>
<tr>
<td>Other US States</td>
<td>88</td>
<td>61.1</td>
</tr>
<tr>
<td>Other countries</td>
<td>11</td>
<td>7.6</td>
</tr>
<tr>
<td>Unknown</td>
<td>3</td>
<td>2.1</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>144</strong></td>
<td><strong>100.0</strong></td>
</tr>
</tbody>
</table>
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 present 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

<table>
<thead>
<tr>
<th>Mental Health, Substance Abuse, and Other Addiction</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current Mental Health Problem</td>
<td>69</td>
<td>47.9</td>
</tr>
<tr>
<td>Depressed Mood</td>
<td>40</td>
<td>27.8</td>
</tr>
<tr>
<td>Current Treatment for Mental Health/Substance Abuse</td>
<td>30</td>
<td>20.8</td>
</tr>
<tr>
<td>Ever Treated for Mental Health/Substance Abuse</td>
<td>129</td>
<td>89.6</td>
</tr>
<tr>
<td>Alcohol Problem</td>
<td>134</td>
<td>93.1</td>
</tr>
<tr>
<td>Substance Abuse Other (not including alcohol)</td>
<td>13</td>
<td>9.0</td>
</tr>
</tbody>
</table>

*Relationship and Life Stressors*

Relationship and Life Stressors of Suicide Victims

<table>
<thead>
<tr>
<th>Relationship and Life Stressors</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prior Exposure to Violence</td>
<td>144</td>
<td>100.0</td>
</tr>
<tr>
<td>Relationship Problems</td>
<td>144</td>
<td>100.0</td>
</tr>
<tr>
<td>Life Stressors</td>
<td>144</td>
<td>100.0</td>
</tr>
</tbody>
</table>
**Manner Specific Circumstances**

**Manner Specific Circumstances of Suicide Victims**

<table>
<thead>
<tr>
<th>Manner Specific Circumstances</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>History of Expressed Suicidal Thoughts or Plans</td>
<td>112</td>
<td>77.8</td>
</tr>
<tr>
<td>History of Suicide Attempts</td>
<td>130</td>
<td>90.3</td>
</tr>
<tr>
<td>Disclosed Suicidal Thoughts or Plans</td>
<td>123</td>
<td>85.4</td>
</tr>
<tr>
<td>Left a Suicide Note</td>
<td>110</td>
<td>76.4</td>
</tr>
</tbody>
</table>

**Toxicology Results**

**Toxicology Results of Suicide Victims**

<table>
<thead>
<tr>
<th>Toxicology Results</th>
<th>Total Testing Positive</th>
<th>Percent Testing Positive</th>
</tr>
</thead>
<tbody>
<tr>
<td>Toxicology Test Conducted</td>
<td>105</td>
<td>100.0</td>
</tr>
<tr>
<td>Tested Positive for at least One Drug</td>
<td>80</td>
<td>76.2</td>
</tr>
<tr>
<td>Alcohol</td>
<td>39</td>
<td>37.1</td>
</tr>
<tr>
<td>Amphetamine</td>
<td>5</td>
<td>4.8</td>
</tr>
<tr>
<td>Antidepressant</td>
<td>23</td>
<td>21.9</td>
</tr>
<tr>
<td>Cocaine</td>
<td>2</td>
<td>1.9</td>
</tr>
<tr>
<td>Opiate</td>
<td>21</td>
<td>20.0</td>
</tr>
<tr>
<td>Other Substance</td>
<td>38</td>
<td>36.2</td>
</tr>
<tr>
<td>Unknown/Not Applicable</td>
<td>64</td>
<td></td>
</tr>
</tbody>
</table>