

Suicides Involving Older Adults in Arizona

Arizona Violent Death Reporting System

January 2022

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January 1, 2015 – December 31, 2019

The Arizona Violent Death Reporting System (AZ-VDRS) collects violent death data from multiple sources: death certificates issued by the Arizona Department of Health Services (ADHS), police reports obtained from investigating agencies, and death investigation and autopsy reports from medical examiner offices. The purpose of this project is to assist stakeholders with strategic planning and prevention efforts aimed toward reducing the number of violent deaths that occur each year in Arizona. The data used for this report – *Suicides Involving Older Adults in Arizona* – were drawn from the compilation and analysis of five years of AZ-VDRS data, from January 1, 2015 through December 31, 2019.

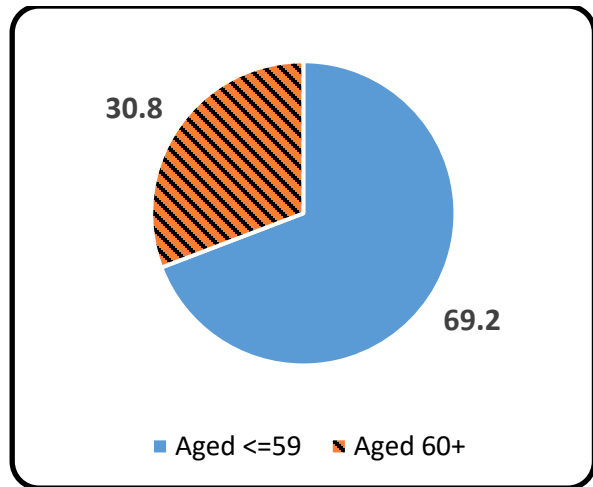
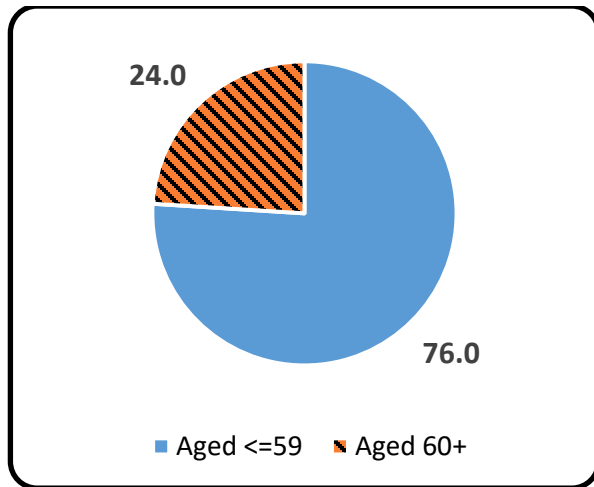
The AZ-VDRS recorded a total of 9,801 violent deaths for this period; circumstance data were available for 8,809 (89.9%) of the decedents. From these, we excluded 1,884 (21.4%) homicides and 750 (8.5%) violent deaths of unintentional or undetermined manner, leaving 6,175 (70.1%) suicides for analysis. The analyses for this report used two categories of suicide victims for comparison: those aged 59 years or younger and those aged 60 years or older. The selection of 60 years as our threshold for “Older Adults” was chosen based on multiple factors, including guidance from federal legislation in the *Older Americans Act* and the *Elder Justice Act*. These federal acts govern a variety of issues concerning older adults, including benefit eligibility, and funding for special programs targeted toward older adults, among others. Further, population estimates from the U.S. Census are available for age groups that use 60 years of age as a dividing line.

For population estimates, we relied on the U.S. Census (2020 decennial) and its American Community Survey five-year and one-year estimates for 2015 through 2019 available at the writing of this report. Note that in all exhibits below, the data and analyses represented are for the state of Arizona, 2015–2019, unless otherwise indicated. Further, it should be noted that rates presented in this report are crude rates (e.g., not age-adjusted) and are standardized to per 100,000 population.

Exhibit 1: Percentage of older adults by Arizona population and number of suicides, 2015–2019

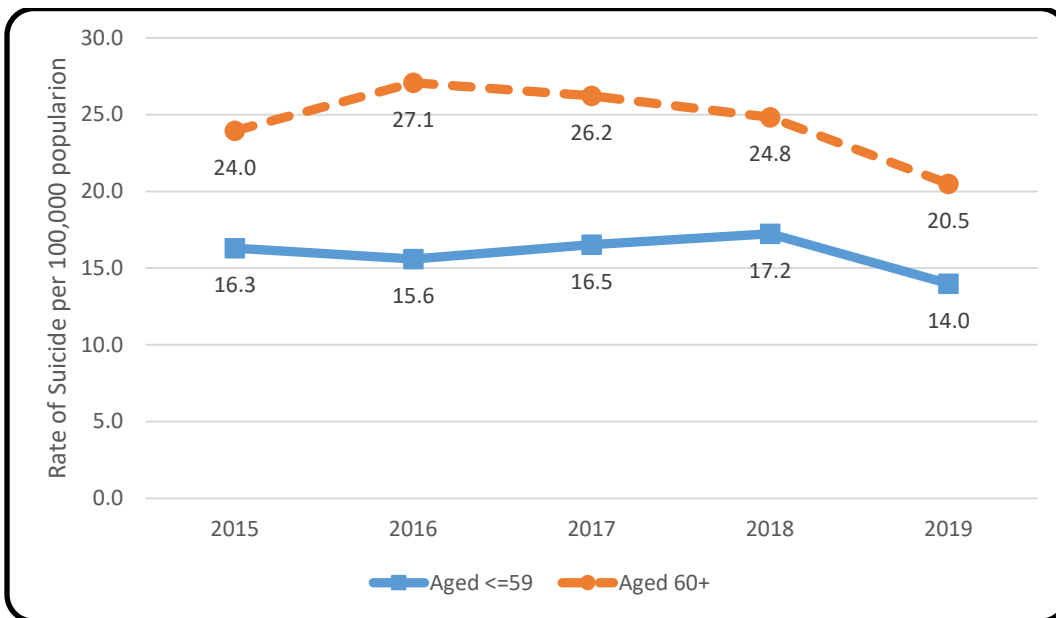
Arizona population by older adult status
(N=7,278,717)

Suicides by older adult status (n=6,775)



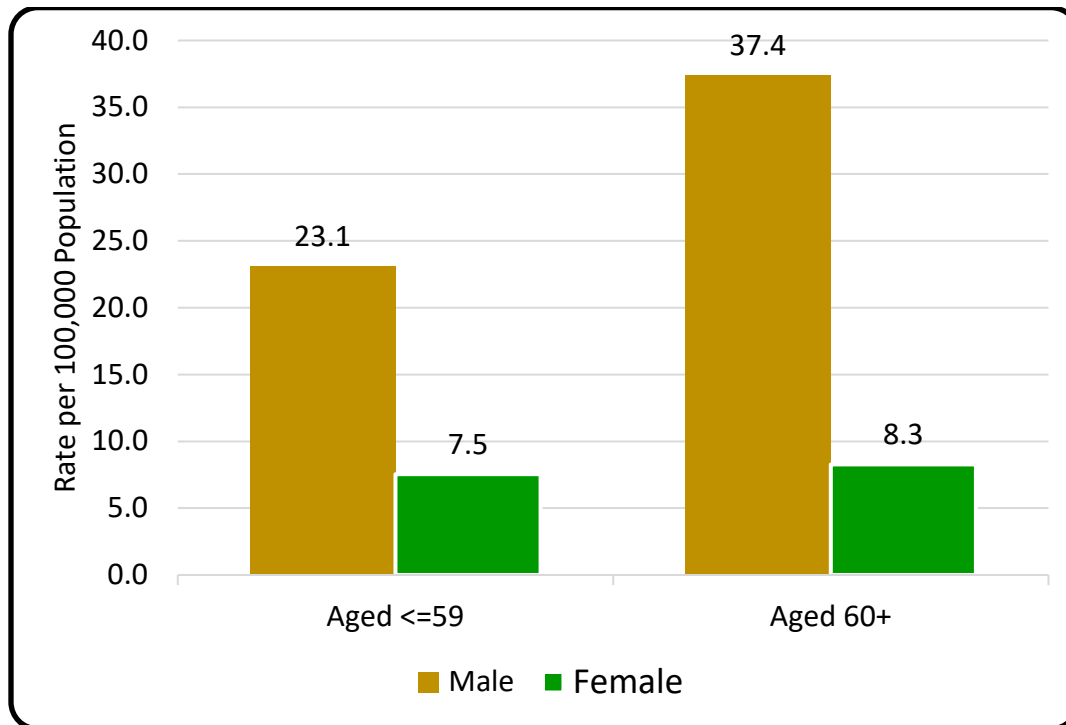
- During the period of 2015–2019, in Arizona, older adults accounted for almost 1 in 3 (30.8%) suicide victims while comprising only about 1 in 4 (24.0%) individuals among Arizona’s population.

Exhibit 2: Suicide rates per 100,000 population by older adult status



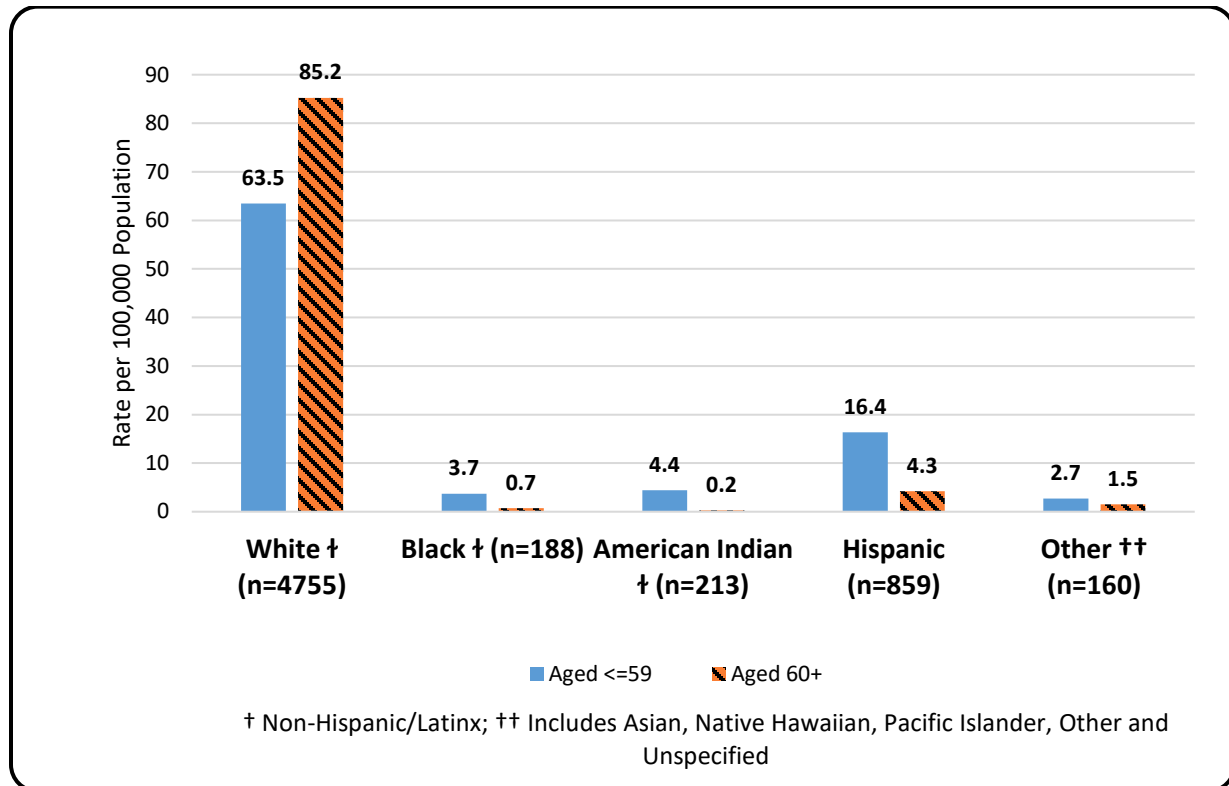
- Older Arizonans had significantly higher rates of suicide per 100,000 population than those aged 59 years or younger across all years from 2015 through 2019.

Exhibit 3: Suicide rates per 100,000 by sex and older adult status, 2015–2019



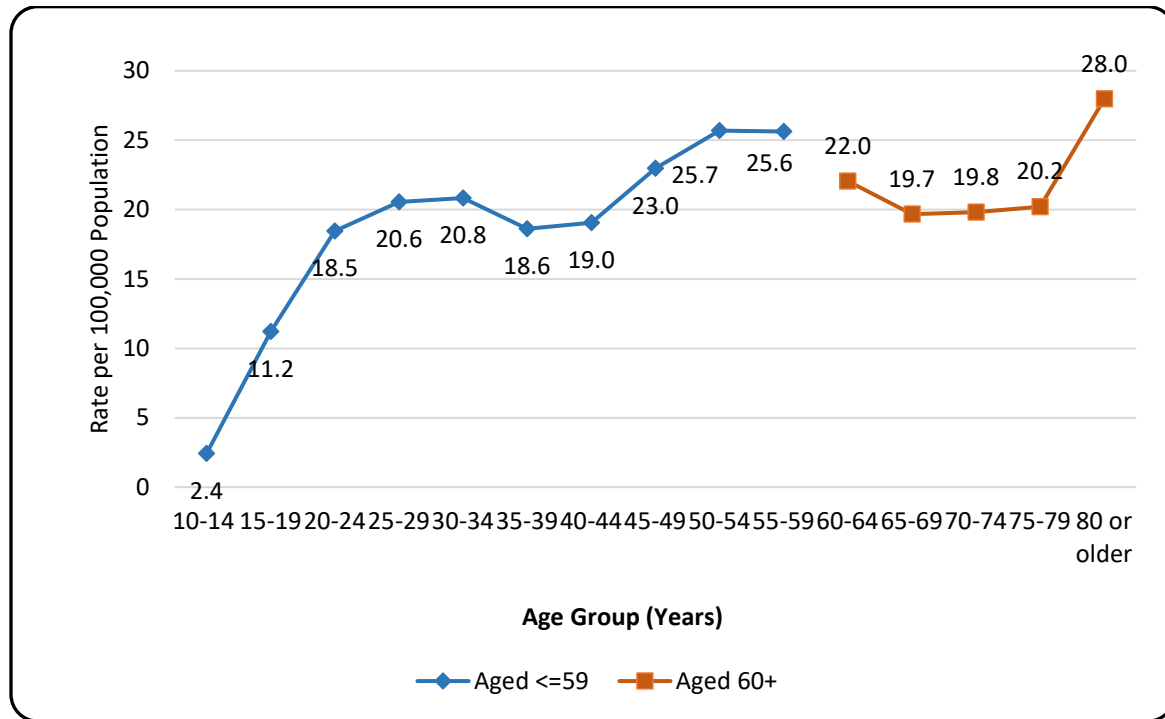
- Overall suicide rates per 100,000 population were significantly higher for male victims, 26.3, than for female victims, 7.7 (*not shown*).¹
- Older males were at significantly greater risk of dying by suicide than males who were aged 59 or younger; during this period, the suicide rate for older males was 61.9% greater than the rate for younger males (37.4 vs. 23.1).

Exhibit 4: Suicide rates per 100,000 by race/ethnicity and older adult status, 2015–2019



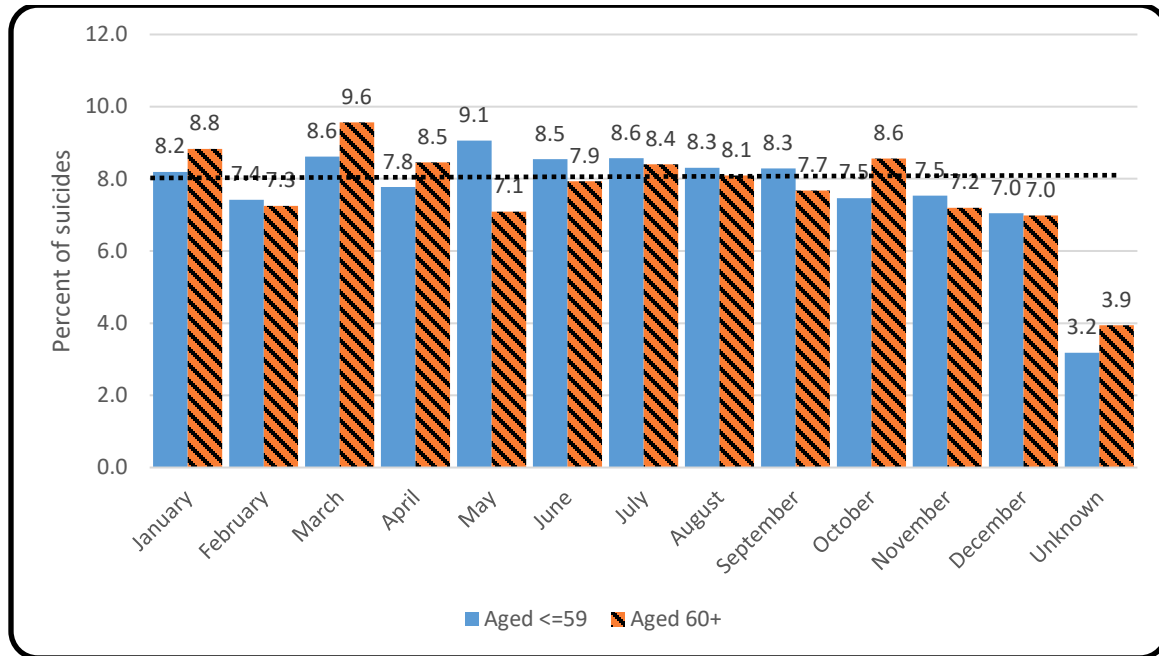
- Suicide rates for the two groups differed significantly across race/ethnicity.
- The suicide risk was highest for White non-Hispanic/Latinx older adults, with a rate of 86.2 per 100,000 population.
- Within all minority racial/ethnic groups, older adults were at lower risk of suicide than their younger counterparts; only white, non-Hispanic/Latinx older adults showed a higher rate than their younger cohort (85.2, 63.5).

Exhibit 5: Suicide rates by age group and older adult status, 2015–2019



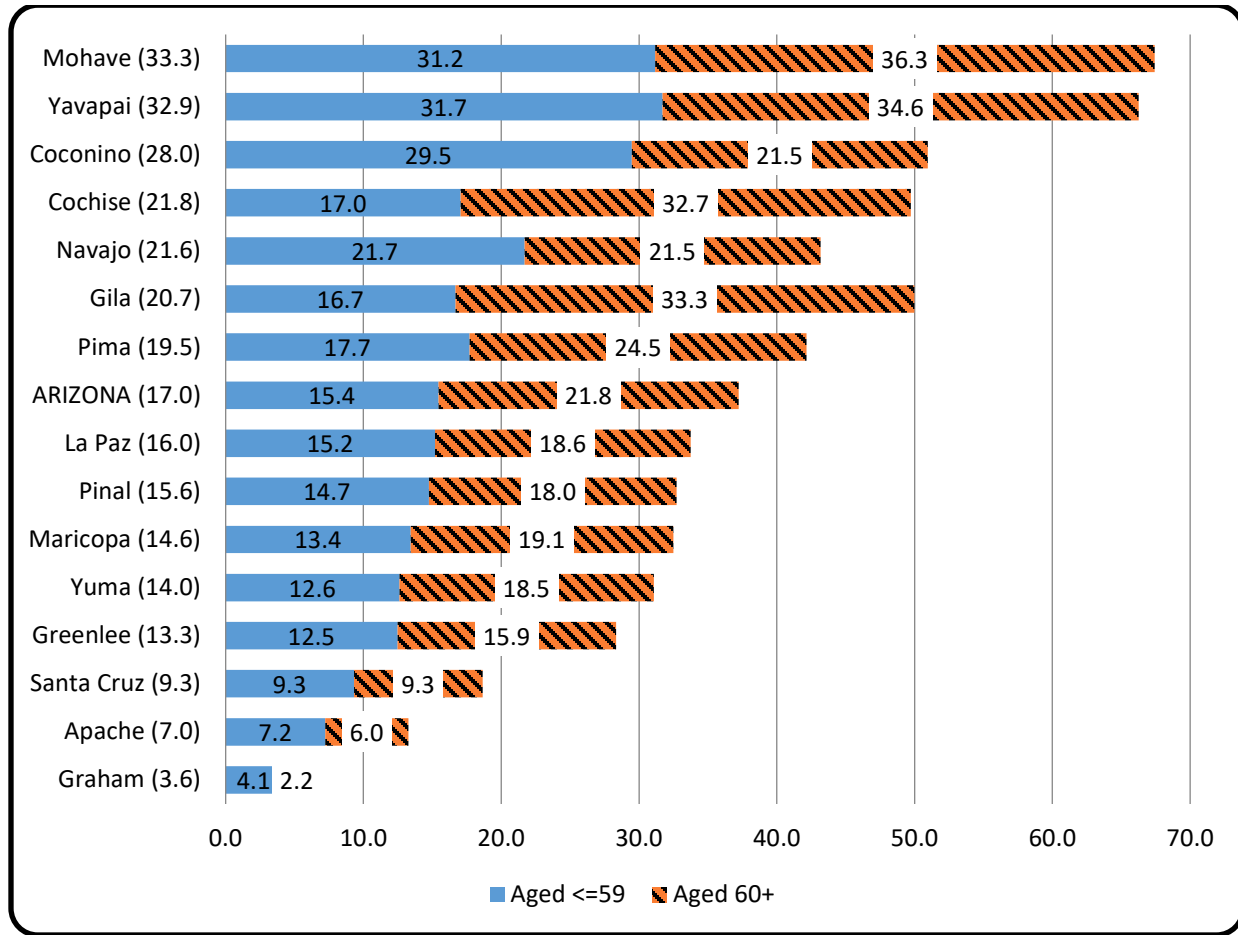
- Suicide rates per 100,000 population for ages 20 through 79 ranged between 18.5 and 25.7; the highest rate was among those aged 80 or older (28.0).

Exhibit 6. Percentage of suicides by month of death and older adult status, 2015–2019



- Examining the month of death, we found no difference between those aged 59 or younger and those aged 60 or older in the month of death.

Exhibit 7. Suicide rates per 100,000 population by county and older adult status, 2015–2019



- Suicide rates across counties in Arizona showed substantial differences between older adult status.
- In Arizona, during 2015–2019, the statewide suicide rate among older adults was substantially higher than the rate among those aged 59 and younger (21.8 and 15.4 per 100,000 population, respectively).
- Suicide rates among older adults were substantially lower than those for their younger cohorts in Coconino (21.5 vs. 29.5) and Graham (2.2 vs. 4.1) Counties.
- Conversely, in Cochise (32.7 vs. 17.0), Gila (33.3 vs. 16.7), Pima (24.5 vs. 17.7), Maricopa (19.1 vs. 13.4), and Yuma (18.5 vs. 12.6) Counties, older adults had substantially higher rates of suicide.

Exhibit 8: Completed education, marital status, veteran status and birthplace among suicide victims aged 18 or older by older adult status, 2015-2019

| | Aged <=59 | | Aged 60+ | | Total | |
|--------------------------------|-----------|------|----------|------|----------|------|
| | (n=4272) | | (n=1903) | | (n=6175) | |
| | n | % | n | % | n | % |
| Completed Education * | | | | | | |
| <= 8th grade | 151 | 3.5 | 52 | 2.7 | 203 | 3.3 |
| 9th - 12th grade | 596 | 14.0 | 103 | 5.4 | 699 | 11.3 |
| High school or GED grad | 1483 | 34.7 | 598 | 31.4 | 2081 | 33.7 |
| Some college credit | 943 | 22.1 | 375 | 19.7 | 1318 | 21.3 |
| Associate or bachelor's degree | 797 | 18.7 | 482 | 25.3 | 1279 | 20.7 |
| Advanced degree | 211 | 4.9 | 209 | 11.0 | 420 | 6.8 |
| Unknown | 91 | 2.1 | 84 | 4.4 | 175 | 2.8 |
| Marital Status * | | | | | | |
| Never married | 2095 | 49.0 | 139 | 7.3 | 2234 | 36.2 |
| Married | 938 | 22.0 | 778 | 40.9 | 1716 | 27.8 |
| Married, but separated | 223 | 5.2 | 44 | 2.3 | 267 | 4.3 |
| Divorced | 887 | 20.8 | 580 | 30.5 | 1467 | 23.8 |
| Widowed | 67 | 1.6 | 326 | 17.1 | 393 | 6.4 |
| Single, unspecified | 11 | 0.3 | 4 | 0.2 | 15 | 0.2 |
| Unknown | 51 | 1.2 | 32 | 1.7 | 83 | 1.3 |
| Veteran Status * | | | | | | |
| Non-Veteran | 3761 | 88.0 | 1093 | 57.4 | 4854 | 78.6 |
| Veteran | 449 | 10.5 | 763 | 40.1 | 1212 | 19.6 |
| Unknown | 62 | 1.5 | 47 | 2.5 | 109 | 1.8 |
| Birthplace | | | | | | |
| Arizona | 1421 | 33.3 | 162 | 8.5 | 1583 | 25.6 |
| Other US state or territory | 2435 | 57.0 | 1548 | 81.3 | 3983 | 64.5 |
| Foreign Country | 328 | 7.7 | 117 | 6.1 | 445 | 7.2 |
| Unknown | 88 | 2.1 | 76 | 4.0 | 164 | 2.7 |

* Statistically significant at $p \leq .05$

- Older adult suicide victims differed significantly from victims aged 59 years or younger with respect to education completed, marital status, veteran status, and birthplace.
- Older adult suicide victims were substantially more likely to have earned some college credit or a degree, compared to younger victims (51.0%, 45.7%).
- Older adult suicide victims were also significantly more likely than younger victims to have been married (including married but separated; 43.2%, 26.0%) or divorced (30.5%, 20.8%).

- Younger suicide victims were more than six times as likely as older adult victims to have never married (49.0%, 7.3%).
- Older adult suicide victims were almost four times as likely to be a veteran, compared to younger victims (40.1%, 10.5%).
- Older adult suicide victims were significantly more likely than younger victims to have been born in a US state other than Arizona (81.3%, 57.0%).

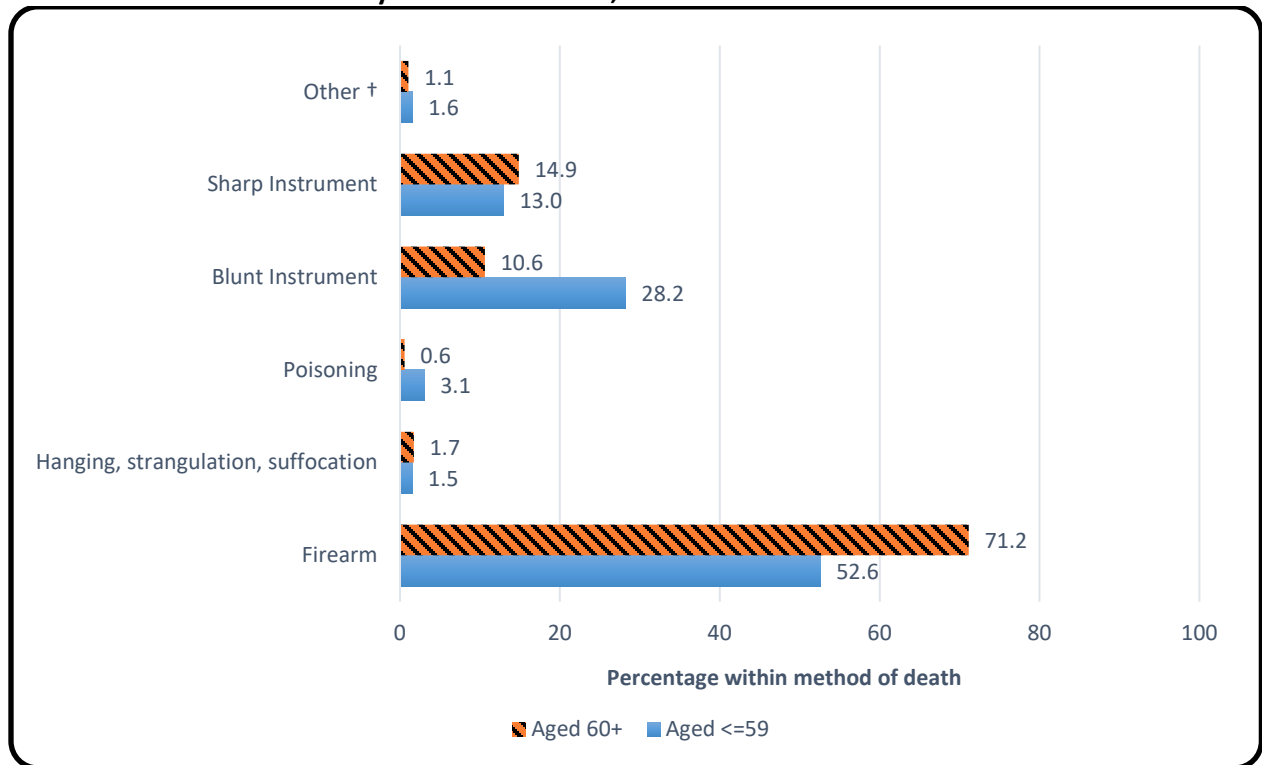
Exhibit 9: Location of injury by older adult status, 2015-2019

| Location * | Aged <=59 (n=4272) | | Aged 60+ (n=1903) | | Total (n=6175) | |
|--|-----------------------|--------------|----------------------|--------------|-------------------|--------------|
| | n | % | n | % | n | % |
| House or Apartment | 2992 | 70.0 | 1535 | 80.7 | 4527 | 73.3 |
| Street/road, sidewalk, alley | 152 | 3.6 | 51 | 2.7 | 203 | 3.3 |
| Motor vehicle (excluding school bus and public transportation) | 289 | 6.8 | 85 | 4.5 | 374 | 6.1 |
| Commercial establishment (e.g., bar, store, service station, etc.) | 35 | 0.8 | 7 | 0.4 | 42 | 0.7 |
| Parking lot/public parking garage | 92 | 2.2 | 34 | 1.8 | 126 | 2.0 |
| Jail, prison, group home, shelter, other supervised residential facility | 75 | 1.8 | 20 | 1.1 | 95 | 1.5 |
| Park, playground, public use area | 62 | 1.5 | 19 | 1.0 | 81 | 1.3 |
| Natural area (e.g., field, river, beaches, woods) | 248 | 5.8 | 67 | 3.5 | 315 | 5.1 |
| Hotel/motel | 141 | 3.3 | 42 | 2.2 | 183 | 3.0 |
| Other | 170 | 4.0 | 36 | 1.9 | 206 | 3.3 |
| Unknown | 16 | 0.4 | 6 | 0.3 | 22 | 0.4 |
| Total | 4272 | 100.0 | 1902 | 100.0 | 6174 | 100.0 |

* Statistically significant at $p \leq .05$

- Among both older and younger suicide victims, about 3 in 4 suicides occurred in private residences.
- Although locations where suicides occurred varied significantly based on older adult status, for any single location type, there were few substantive differences between the two groups.

Exhibit 10: Method of death by older adult status, 2015–2019



- There were significant differences in the methods or causes of death between older adults and those aged 59 or younger among suicide victims.
- Notably, more than 7 in 10 older adult suicide victims used a firearm, compared to about half of younger victims (71.2%, 52.6%).
- Older adult suicide victims also died by blunt instrument or blunt force trauma (10.6%) far less frequently than younger suicide victims (28.2%).

Exhibit 11: Circumstances of suicide victims by older adult status, 2015–2019

| | Aged <=59 (n=4272) | | Aged 60+ (n=1903) | | Total | |
|---|-----------------------|------|----------------------|------|-------|------|
| | n | % | n | % | n | % |
| Mental Health | | | | | | |
| Current Mental Health Problem* | 1951 | 55.6 | 704 | 45.6 | 2655 | 52.5 |
| Current Depressed Mood* | 1407 | 40.1 | 583 | 37.8 | 1990 | 39.4 |
| Current Treatment for Mental Illness or Substance Misuse* | 959 | 27.3 | 304 | 19.7 | 1263 | 25.0 |
| Ever Treated for Mental Illness or Substance Misuse* | 1350 | 38.5 | 383 | 24.8 | 1733 | 34.3 |
| Any Mental Health Problem* | 2336 | 66.6 | 885 | 57.4 | 3221 | 63.7 |
| Substance Abuse / Addiction | | | | | | |
| Alcohol Problem* | 838 | 24.0 | 216 | 14.0 | 1054 | 20.9 |
| Other Substance Problem* | 924 | 26.4 | 115 | 7.5 | 1039 | 20.6 |
| Other Addiction (gambling, sexual, etc.) | 27 | 0.8 | 8 | 0.5 | 35 | 0.7 |
| Any Addiction Problem* | 1321 | 37.8 | 263 | 17.1 | 1584 | 31.5 |
| Interpersonal | | | | | | |
| Family Relationship Problem* | 425 | 12.2 | 83 | 5.4 | 508 | 10.1 |
| Intimate Partner Problem* | 1365 | 39.1 | 192 | 12.5 | 1557 | 31.0 |
| Other Relationship Problem* | 93 | 2.7 | 18 | 1.2 | 111 | 2.2 |
| Perpetrator of Interpersonal Violence in Past Month* | 122 | 3.5 | 27 | 1.8 | 149 | 3.0 |
| Victim of Interpersonal Violence in Past Month* | 22 | 0.6 | ≤5 | ≤0.2 | ≥23 | ≥0.5 |
| Suicide of Friend/Family in Past 5 Years | 85 | 2.4 | 27 | 1.8 | 112 | 2.2 |
| Other Death of Friend/Family* | 203 | 5.8 | 153 | 10.0 | 356 | 7.1 |
| Any Interpersonal Problem* | 1676 | 48.0 | 389 | 25.3 | 2065 | 41.1 |
| Life Stressor | | | | | | |
| Physical Health Problem* | 485 | 13.9 | 912 | 59.3 | 1397 | 27.8 |
| Job Problem* | 464 | 13.3 | 63 | 4.1 | 527 | 10.5 |
| Recent Criminal Related Legal Problem* | 345 | 9.9 | 60 | 3.9 | 405 | 8.0 |
| Other Legal Problems* | 155 | 4.4 | 29 | 1.9 | 184 | 3.7 |
| Financial Problem* | 392 | 11.2 | 137 | 8.9 | 529 | 10.5 |
| School Problem* | 82 | 2.3 | 0 | 0.0 | 82 | 1.6 |
| Eviction or Loss of Home* | 164 | 4.7 | 49 | 3.2 | 213 | 4.2 |
| Any Life Stressor* | 1398 | 40.0 | 963 | 62.7 | 2361 | 46.9 |
| Suicide Event | | | | | | |
| History of Suicide Attempts* | 1075 | 30.6 | 254 | 16.4 | 1329 | 26.2 |
| Disclosed Intent to Complete Suicide* | 1207 | 34.3 | 490 | 31.7 | 1697 | 33.5 |
| History of Suicidal Thoughts* | 1989 | 56.6 | 823 | 53.2 | 2812 | 55.5 |
| Any Indication of Suicide* | 2163 | 61.5 | 862 | 55.7 | 3025 | 59.7 |

* Statistically significant at $p < .05$

Note: Circumstance characteristics are not mutually exclusive, and any particular victim may have any number of circumstances present.

- Older adult suicide victims were **less** likely than younger victims to have mental health and/or substance misuse issues reported; for example, one or more mental health-related circumstances were reported for 57.4% of older adult victims, compared to 66.6% of younger victims.
- Substance misuse problems, not including alcohol, were reported more than three times as often for younger suicide victims as for older adult victims (26.4%, 7.5%).
- Interpersonal problems appeared to be a less significant factor for older adult suicide victims than for younger victims. Some form of interpersonal problem was reported for slightly more than 1 in 4 older adult victims and about 1 in 2 younger victims (25.3%, 48.0%).
- Victims aged 59 or younger were more than three times as likely to have had intimate partner problems that contributed to their suicide compared to older adults (39.1%, 12.5%).
- Conversely, a contributing physical health problem was more than four times as frequent among older adults compared to younger victims (59.3%, 13.9%).
- Suicide victims who were older were significantly less likely than younger victims to be reported as having a history of attempting suicide (16.4%, 30.6%); in fact, older victims were **less** likely to have any prior indicators of suicide risk reported than younger victims (55.7%, 61.5%, respectively).

Implications

Suicide among older adults is an important issue nationally, and this is of paramount concern in the state of Arizona, where AZ-VDRS findings show a significant relationship between older adult status and individual suicide risk. The proportion of people aged 60 and older among the state population is higher than the national average. Given the geographic size and rural nature of much of the state, dispersion of resources becomes a critical component of responding to older adult suicides.

Our analyses showed that suicide victims who were older were less often reported to have experienced substance abuse and interpersonal problems or conflicts than younger victims. Older victims differed significantly and substantially on most life stressor circumstances that contributed to the suicide. Job-related problems, financial problems, criminal legal problems, and other legal problems were all significantly more related to suicide among those aged 59 or younger, compared to older adult victims. The key exception, and of critical importance to intervention and prevention efforts, was physical health problems. The majority (59.3%) of older adult victims had physical health problems that appear to have been related to their suicide. This fact suggests that older adults with major physical health issues need more immediate and effective support throughout prolonged periods of dealing with the physical and emotional trauma and challenges presented by physical impairment.

Most suicide victims in our analyses were male. This is consistent historically and nationally, with males being over-represented in violent deaths in general. Among suicide victims in particular, this may be a lingering cultural influence as men generally are disinclined to reach out for help when experiencing mental and emotional distress. Screening and treatment for males with risk factors for depression are particularly important for suicide prevention.

There were significant geographic differences between older adults and those aged 59 or younger, which can inform statewide suicide prevention efforts for older adults. Some Arizona counties' older adult populations are at much higher risk for suicide. A critical examination of specific factors and conditions contributing to the suicides is still required for informed and effective interventions and preventions.

Almost 47% of all older adult suicide victims (not only males) in this report had been diagnosed with some form of mental illness, and almost 38% had depression or dysthymia (depressed mood) prior to taking their own lives, yet only 19.7% were currently receiving treatment, and only 24.8% had ever received treatment. Further, more than 1 in 2 were known to have had suicidal thoughts, and about 1 in 3 had disclosed their intent to die by suicide shortly before doing so.

As a nation and a state, our older adult population is growing in number. The importance of suicide prevention and intervention efforts will demand greater efforts as the older adult population grows.

¹ AZ-VDRS estimates of suicide rates, particularly those of Native American males, may differ from rates reported by other death surveillance systems due to important variations in data sources and coding protocols. For this reason, comparative analyses outside NVDRS and AZ-VDRS should be approached with caution.