Suicides Involving Veterans: A Preliminary Report

Arizona Violent Death Reporting System

November 2021

Center for Violence Prevention and Community Safety

Arizona State University

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AZ VDRS Violent Death Reporting System

Suicides Involving Veterans, 2015–2019: A Preliminary Report

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Arizona Violent Death Reporting System

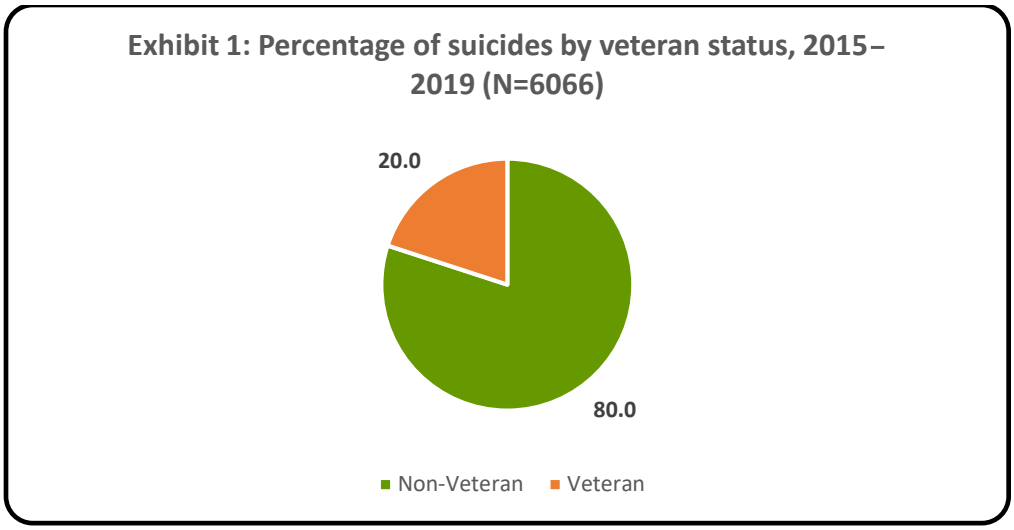
January 1, 2015 – December 31, 2019

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 preliminary report – *Suicides Involving Veterans* – were drawn from the compilation and analysis of five years of AZ-VDRS data, from January 1, 2015, through December 31, 2019.

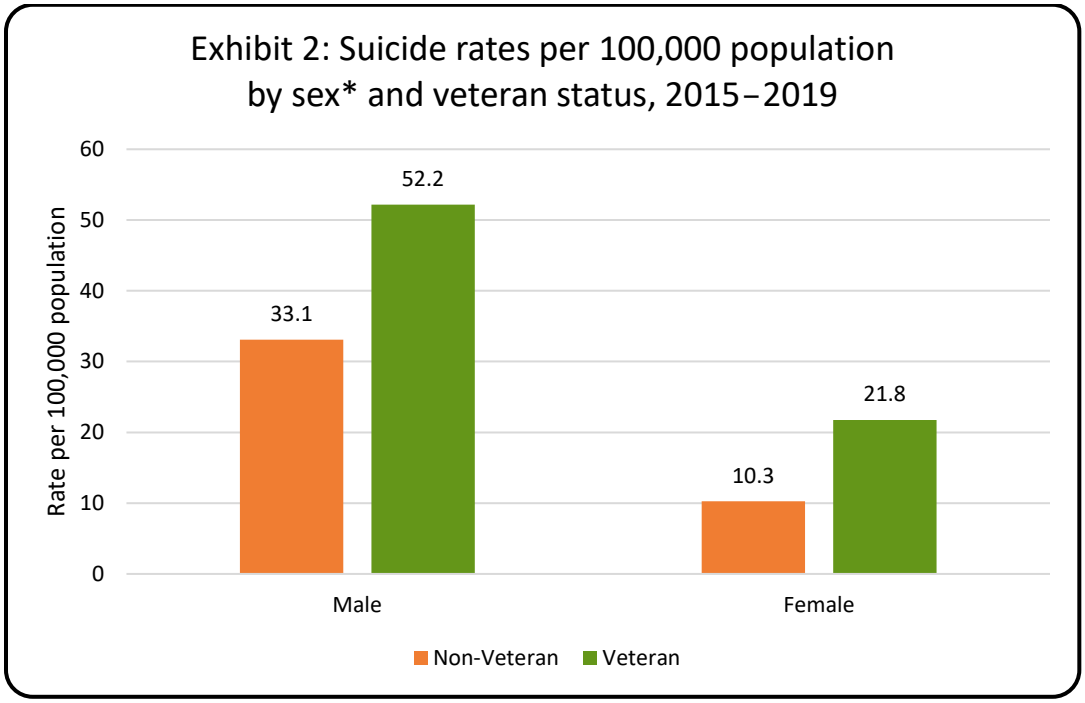
AZ-VDRS recorded a total of 9,801 violent deaths for this period; circumstance data were available for 8,809 (89.9%) of the decedents. From these, we excluded 1,884 (21.4%) homicides and 750 (8.5%) violent deaths of undetermined manner, leaving 6,175 (70.1%) suicides for analysis. We further excluded 109 (1.8%) cases for which the decedents' veteran status was unknown, after which our sample consisted of 6,066 suicides for which circumstance and veteran status data were available.

We determined veteran status using the indicator for military veteran on the official death certificate; we did not seek external validation, and our data may thus overcount non-veterans as veterans. Use of this definition is consistent with NVDRS standards and with prior research.[1] Note that the term *veteran* may be defined differently elsewhere; for example, individuals who are ineligible for benefits based on discharge status may be excluded in other contexts. AZ-VDRS data analyses and rate calculations may also differ from those of other sources, such as the ADHS, when our respective analytic processes differ; for example, AZ-VDRS counts *occurrent* deaths (those occurring within the state, regardless of legal residency) rather than *resident* deaths (those of Arizona residents, regardless of the location where death occurs). AZ-VDRS analyses include all decedents for whom we have sufficient data from the sources noted above, including but not limited to official death certificates. As a result, AZ-VDRS and ADHS reports overlap; at the same time, these organizations can each offer unique insights reflecting their respective analytic strategies. For this report, there are no known systematic errors in the AZ-VDRS veteran status counts.

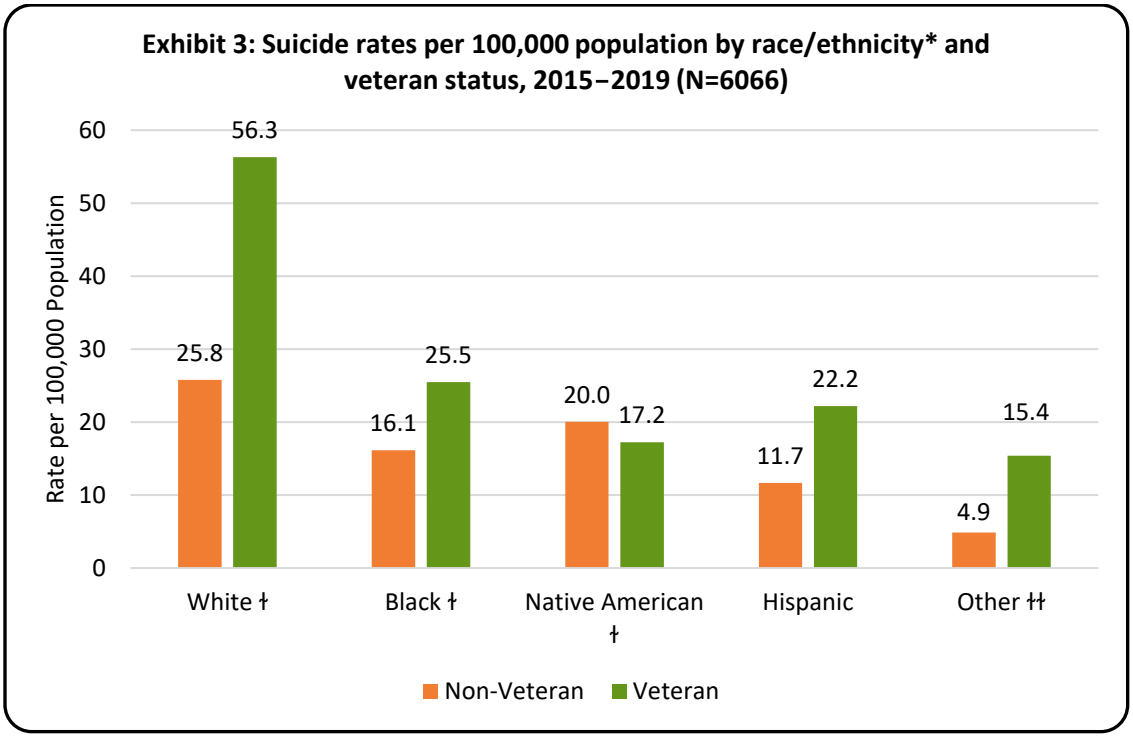
For population estimates, we relied on the American Community Survey (US Census) 5-year and one-year estimates for 2015 through 2019 available at the writing of this report. Note that in all of the exhibits below, the data and analyses represented are for the state of Arizona, 2015–2019, unless otherwise indicated.



- During the period of 2015–2019, in Arizona, veterans comprised more than 1 in 5 (20.0%) suicide victims.



- Overall suicide rates per 100,000 population were significantly higher for male victims, 36.4, than for female victims, 10.4 (*not shown*).[2]
- Males who were veterans were at significantly greater risk of dying by suicide than males who were not veterans; during this period, the suicide rate for veterans was 57.7% greater than the rate for their non-veteran counterparts (52.2, 33.1).
- Female veterans were more than twice as likely to die by suicide as females who were not veterans (21.8, 10.3).

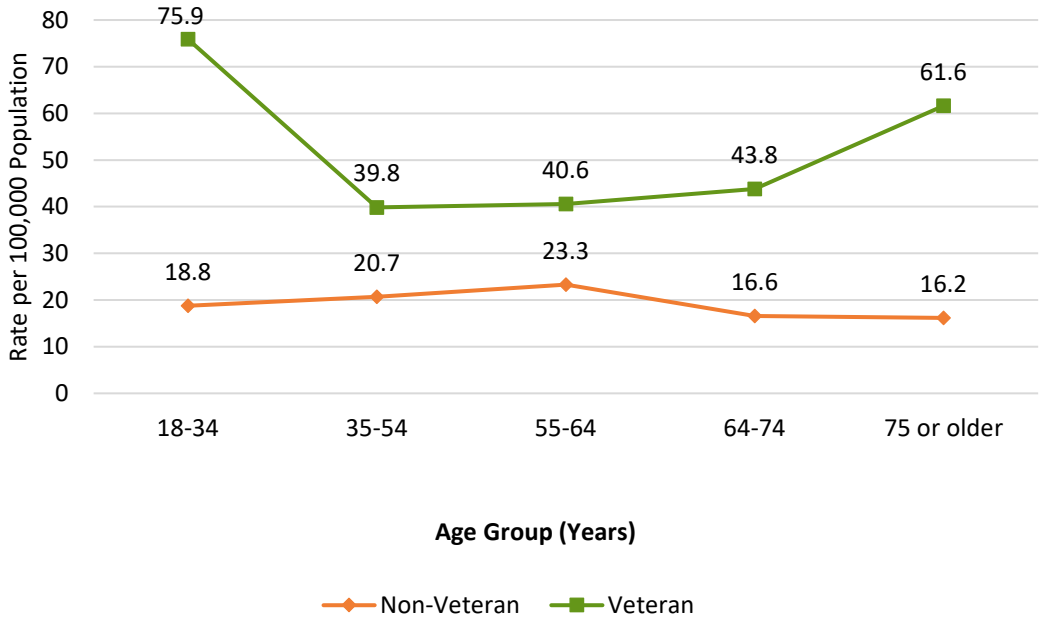


ǂ Non-Hispanic/Latino; ǂǂ Includes Asian, Native Hawaiian, Pacific Islander, Other, and Unspecified

* Statistically significant at $p \leq .05$

- Across racial/ethnic groups, relative suicide rates for veterans and non-veterans differed significantly.
- The suicide risk was highest for white non-Hispanic veterans, with a rate of 56.3 per 100,000 population.
- Within most racial/ethnic groups, veterans were at greater risk of suicide than non-veterans; the exception was Native Americans, for whom the suicide rate for non-veterans was significantly higher than the rate of veterans (20.0, 17.2).

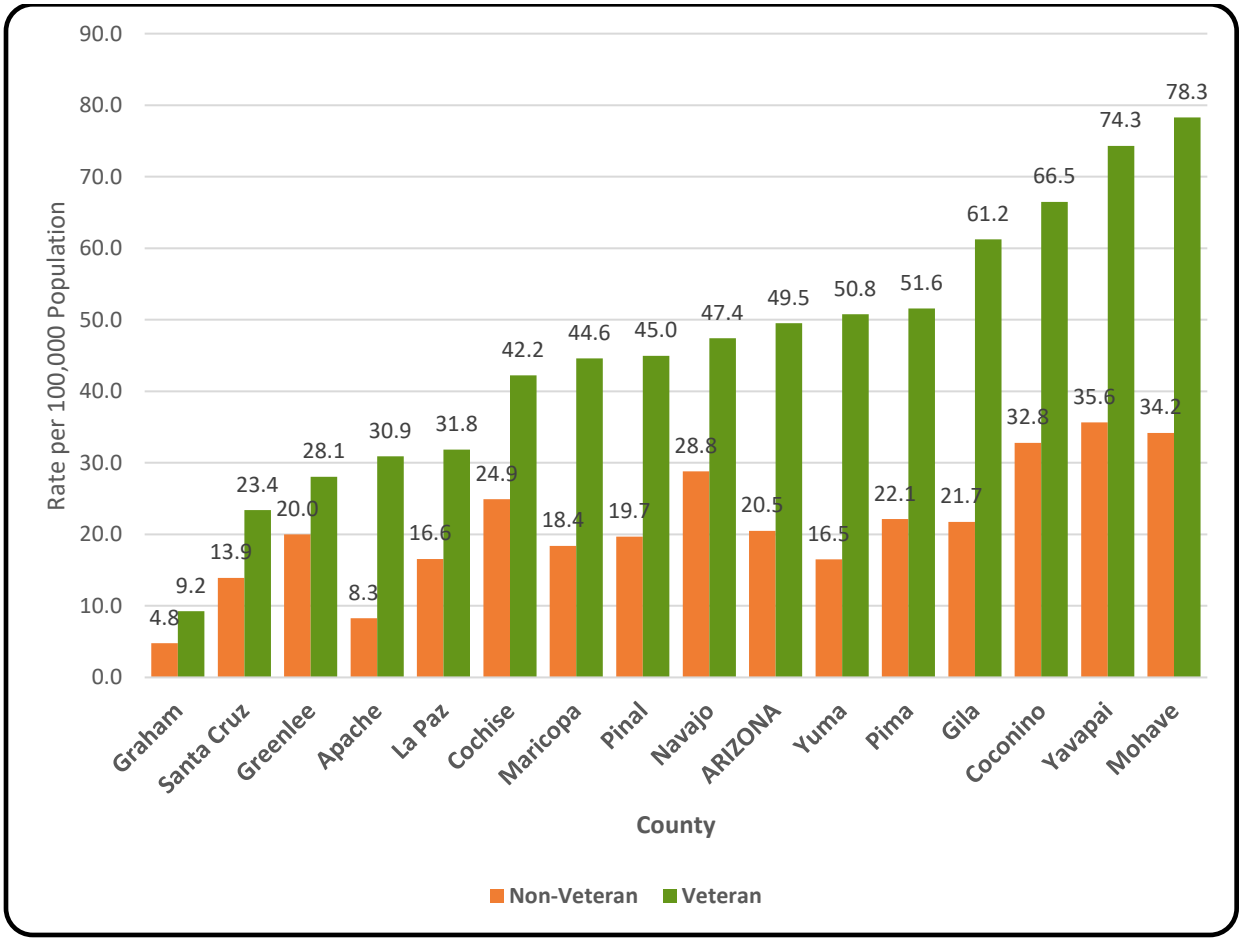
Exhibit 4: Suicide rates per 100,000 population by age group* and veteran status, 2015–2019 (N=6066)



* Statistically significant at $p \leq .05$

- Across all age groups, veterans ages 18–34 had the highest suicide rate (75.9); this rate was lower for those ages 35–54 (39.8) and then gradually increased with age to 61.6 for those 75 or older.
- Across all age groups, non-veteran suicide rates remained relatively level, ranging from 16.2 for those 75 or older to a high of 23.3 for those ages 55–64; regardless of age group, the rate for non-veterans was never higher than that for veterans.

Exhibit 5. Suicide rates per 100,000 population by county and veteran status, 2015–2019 (N=6066)



* Statistically significant at $p \leq .05$

- In Arizona, during 2015–2019, the statewide suicide rate among veterans was twice that of non-veterans (49.5, 20.5 per 100,000 population).
- Suicide rates for veterans were substantially and significantly higher than rates for non-veterans in every Arizona county.
- In Greenlee, the suicide rates for veterans and non-veterans were most similar, at 28.1 and 20.0, respectively.
- Mohave County (78.3) had the highest veteran suicide rate, followed closely by Coconino County (74.3); Graham and Santa Cruz had the lowest rates (9.2, 23.4).
- Apache, Yuma, and Gila Counties each had approximately a 3-to-1 ratio of veteran to non-veteran suicide rates.

Exhibit 6. Locations of suicide by veteran status, 2015–2019 (N=6066)

	Non-Veteran		Veteran		Total	
Location*	n	%	n	%	n	%
House or apartment	3511	72.3	947	78.1	4458	73.5
Street/road, sidewalk, alley	168	3.5	33	2.7	201	3.3
Motor vehicle (excluding school bus and public transportation)	303	6.2	64	5.3	367	6.1
Commercial establishment (bar, store, service station, etc.)	37	0.8	--	--	41	0.7
Parking lot/public parking garage	99	2.0	26	2.1	125	2.1
Jail, prison, group home, shelter, other supervised residential facility	85	1.8	--	--	93	1.5
Park, playground, public use area	61	1.3	16	1.3	77	1.3
Natural area (e.g., field, river, beach, woods)	247	5.1	58	4.8	305	5.0
Hotel/motel	147	3.0	31	2.6	178	2.9
Other	176	3.6	22	1.8	198	3.3
Unknown	20	0.4	--	--	23	0.4
Total	4854	100.0	1212	100.0	6066	100.0

* Statistically significant at $p \leq .05$; -- = suppressed due to low cell count.

- Among both veteran and non-veteran suicide victims, about 3 in 4 suicides occurred in private residences.
- Although locations where suicides occurred varied significantly among veteran and non-veteran victims, for any single location type, there were few substantive differences between the two groups.
- Notably, less than 0.7% (n=8 of 1,212 veterans) died by suicide while in jail, prison, a shelter, or another supervised facility, compared to 1.8% (n=85) of non-veteran suicide victims.

Exhibit 7. Method of death by veteran status, 2015–2019 (N=6066)

	Non-Veteran		Veteran		Total	
Method*	n	%	n	%	n	%
Firearm	2584	53.2	955	78.8	3539	58.3
Sharp instrument	78	1.6	17	1.4	95	1.6
Blunt instrument	134	2.8	--	--	139	2.3
Hanging, strangulation, suffocation	1258	25.9	134	11.1	1392	22.9
Poisoning	723	14.9	94	7.8	817	13.5
Other [a]	77	1.6	--	--	84	1.4
Unknown	0	0.0	0	0.0	0	0.0
Total	4854	100.0	1212	100.0	6066	100.0

[a] Including but not limited to falls, fire/burns, motor vehicles, and drowning

* Statistically significant at $p \leq .05$; --=suppressed due to ow cell count

- There were significant differences in the methods or causes of death between veteran and non-veteran suicide victims.
- Notably, most veteran suicide victims used a firearm, compared to about half of non-veteran victims (78.8%, 53.2%).
- Veteran suicide victims also used hanging, strangulation, or suffocation (11.1%) or poisoning (7.8%) far less frequently than non-veteran suicide victims (25.9%, 14.9%, respectively).

[1] Huguet, N., Kaplan, M. S., & McFarland, B. H. (2014). The effects of misclassification biases on veteran suicide rate estimates. *American Journal of Public Health*, *104*(1), 151–155.

[2] 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.