Suicide Among Oregon Veterans

2008-2012

Oregon Violent Death Reporting System,
Oregon Health Authority, Public Health Division

5/12/2014

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Executive Summary

Suicide is a serious health problem among Oregon veterans. Suicide is the leading cause of death among veterans under 45 years of age.

The estimate of veterans living in Oregon was nearly 333,000 between 2008 and 2012. Veterans constituted 8.7 percent of Oregon's population (3), but accounted for approximately 23 percent of suicide deaths among Oregon residents. The suicide rate was significantly higher among veterans than among non-veterans, particularly among young male veterans.

The rate of death due to suicide was higher for both male and female veterans compared to male and female non-veterans in Oregon between 2008 and 2012. The rate of suicide among male veterans was more than double the rate for female veterans, and nearly 97 percent of veteran suicides were males.

From 2001-2012, the number of deaths by suicide among veterans remained relatively steady. However, because the population of veterans declined during that time, the rate of death by suicide among Oregon veterans increased. On average there were approximately 150 deaths, or 45 deaths per 100,000 veterans each year.

Firearms were the most common mechanism of injury among male veterans who died by suicide, accounting for 73 percent of male suicide deaths versus 56 percent among non-veteran males.

Psychological, behavioral, physical health problems and life stressors are known risk factors for suicide. Oregon Violent Death Reporting System (ORVDRS) data show that mental health problems, alcohol and /or substance use problems, relationship problems, and physical health problems are common and associated with suicide incidents among Oregon veterans.

The frequency and rate of suicide among veterans varied by county in Oregon. Coos, Curry, Jackson, Klamath, Lane and Marion counties had veteran suicide rates that were statistically higher than the state average; no veteran suicide deaths were observed in Sherman and Gilliam counties from 2008-2012.

Key Factors in Reducing Veteran Suicide

Well-being and wellness are conditions that veterans must be encouraged to strive for and prioritize in civilian life. Adoption of a range of healthy lifestyle choices can improve and maintain wellbeing.

A safety consciousness and culture is a condition that veterans must achieve in order to thrive in civilian life. Decreasing risky driving and motor vehicle crashes, self-harming behavior, access to firearms among high risk veterans, sports and recreational injury, and interpersonal violence are an important focus for improving individual and community safety.

Measures for individual veteran and community wellbeing and wellness, and safety could be developed to benchmark and monitor safety.

Background

This special report on Suicides among Veterans in Oregon analyzes data from the Oregon Violent Death Reporting System, a program housed at the Oregon Health Authority's Public Health Division. The program is funded by the Center for Disease Control and Prevention. Data for the report are collected from police reports, medical examiner reports, toxicology reports, and death certificates. ORVDRS staff use aggregated data to monitor suicide as a leading cause of death among Oregonians aged 15-45 years. The program produces an annual report that contains a brief section on suicide among veterans. This data report expands upon the annual report by examining the rate of suicide among veterans in Oregon, trends during the past decade, and factors associated with incidents of veteran suicide. State and federal officials and local communities are deeply concerned about this problem and engaging in activities to reduce suicide among veterans (1).

Introduction

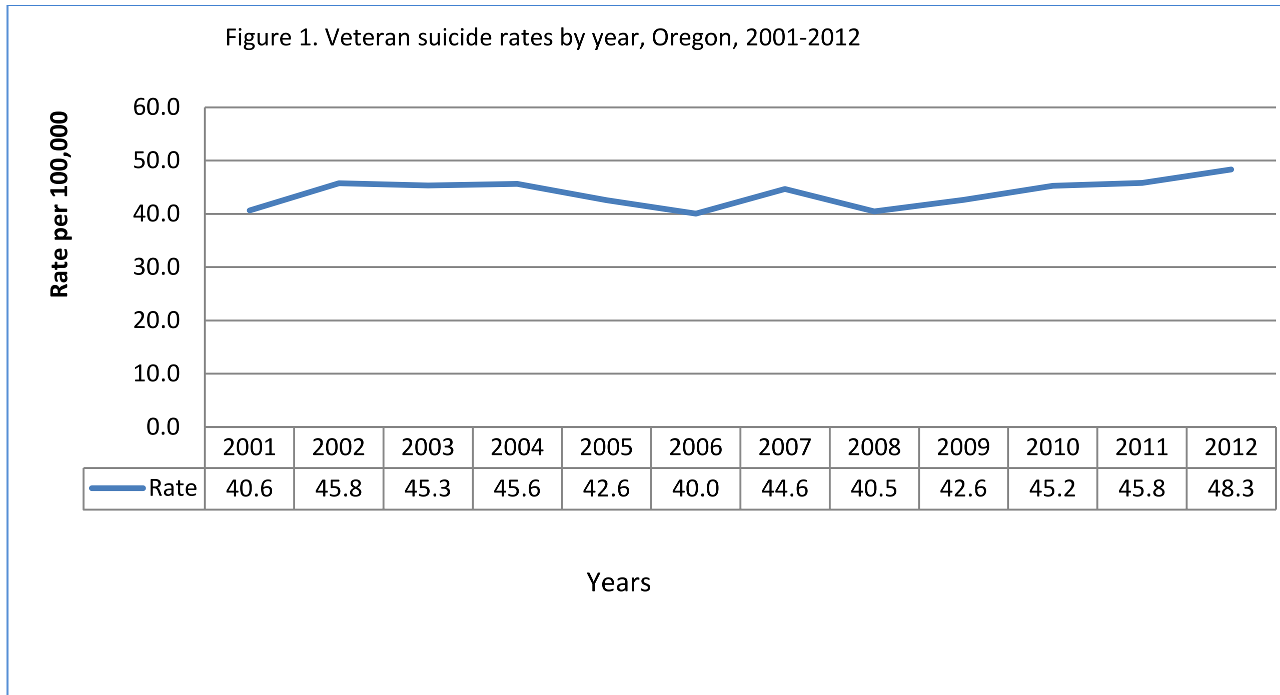
Veteran suicide is tragic. Attention to the problem of suicide among veterans has increased following U.S. military combat operations in Iraq and Afghanistan. The number of suicide deaths among Oregon veterans peaked in 2002 (Table 1).

Table 1. Veteran suicides by year, sex and age group, Oregon

Year	*Sex*		*Age group in years*			*Total*
	Male	*Female*	*18-34*	*35-54*	*>=55*	
2001	*150*	*5*	*18*	*55*	*82*	*155*
2002	*168*	*4*	*18*	*66*	*88*	*172*
2003	*164*	*4*	*10*	*55*	*103*	*168*
2004	*160*	*7*	*10*	*54*	*103*	*167*
2005	*149*	*5*	*9*	*39*	*106*	*154*
2006	*136*	*7*	*9*	*48*	*86*	*143*
2007	*155*	*2*	*9*	*44*	*104*	*157*
2008	*134*	*4*	*12*	*41*	*87*	*140*
2009	*135*	*10*	*9*	*38*	*98*	*145*
2010	*146*	*5*	*12*	*43*	*96*	*151*
2011	*144*	*6*	*10*	*47*	*93*	*150*
2012	*150*	*5*	*9*	*51*	*95*	*155*

Source: Death certificate data, Oregon Health Authority

The rate of suicide among veterans increased between 2001 and 2012 (Figure 1).



	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Rate	40.6	45.8	45.3	45.6	42.6	40.0	44.6	40.5	42.6	45.2	45.8	48.3

Source: Death certificate data, Oregon Health Authority.
Veteran population data, U.S. Department of Veterans Affairs

Suicide was the leading cause of death among Oregon veterans under the age of 45 years of age (Table 2).

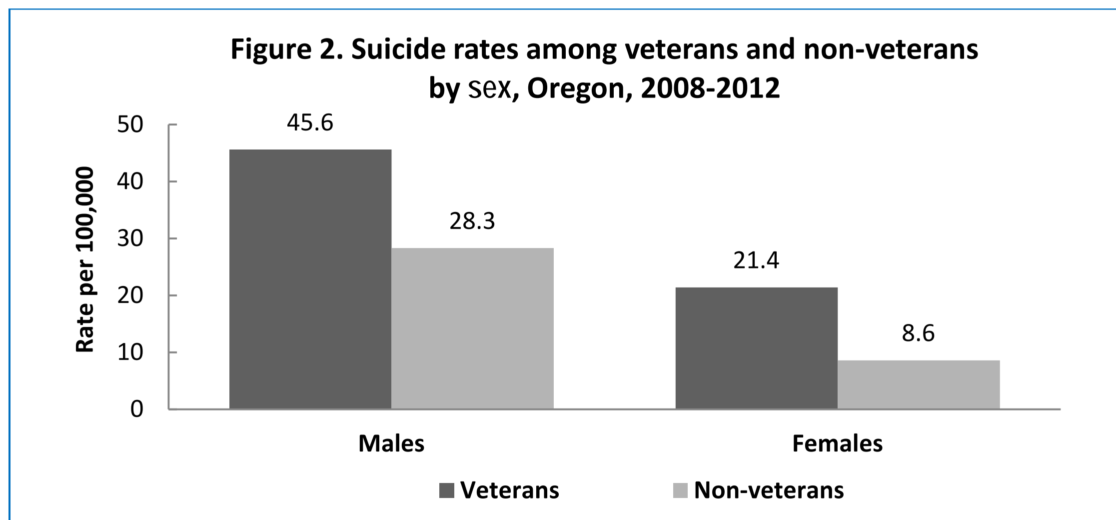
Table 2. Ten Leading Causes of Death Among Veterans by Age Group in Years, Oregon, 2008-2012

Rank	Age Group in Years								
	18-24	25-34	35-44	45-54	55-64	65-74	75-84	85+	Totals
1	Unintentional injuries 17	Suicide 38	Suicide 94	Malignant neoplasms 324	Malignant neoplasms 1,793	Malignant neoplasms 3,095	Malignant neoplasms 4,080	Heart disease 4,381	Malignant neoplasms 12,092
2	Suicide 14	Unintentional injuries 37	Unintentional 73	Heart disease 228	Heart 902	Heart disease 1,669	Heart 3,139	Malignant neoplasms 2,743	Heart 10,346
3	Malignant neoplasms 3	Malignant neoplasms 7	Malignant neoplasms 47	Unintentional injuries 155	Bronchitis, asthma, emphysema, CLR 275	Bronchitis, asthma, emphysema, CLR 687	Bronchitis, asthma, emphysema, CLR 1,253	Cerebrovascular diseases 1,146	Bronchitis, asthma, emphysema, CLR 3,200
4	Influenza & pneumonia 1	Homicide 4	Heart disease 25	Suicide 126	Unintentional injuries 259	Diabetes mellitus 392	Cerebrovascular diseases 919	Alzheimer disease 986	Cerebrovascular diseases 2,582
5	War Operation 1	Heart disease 2	Liver 16	Liver disease 87	Diabetes 234	Cerebrovascular diseases 345	Diabetes 518	Bronchitis, asthma, emphysema, CLR 947	Unintentional 1,720
6		Liver disease 2	Cerebrovascular disease 19	Diabetes mellitus 62	Liver disease 231	Unintentional injuries 245	Alzheimer disease 499	Unintentional injuries 548	Diabetes mellitus 1,613
7		Aortic aneurysm and dissection 1	Diabetes mellitus 4	Viral hepatitis 41	Suicide 166	Liver disease 176	Unintentional injuries 386	Diabetes mellitus 403	Alzheimer disease 1,559
8		Benign neoplasm 1	Homicide 4	Bronchitis, asthma, emphysema, CLR 37	Viral hepatitis 141	Suicide 118	Parkinson's disease 350	Influenza & pneumonia 363	Parkinson's disease 777
9		Congenital anomalies 1	HIV 4	Cerebrovascular disease 32	Cerebrovascular diseases 135	Hypertension 99	Nephritis 209	Parkinson's disease 341	Suicide 741
10		Septicemia 1	Hypertension 4	Hypertension 19	Hypertension 64	Parkinson's disease 74	Influenza & pneumonia 188	Nephritis 282	Influenza & pneumonia 665

Suicide rates among veterans were higher than non-veterans.

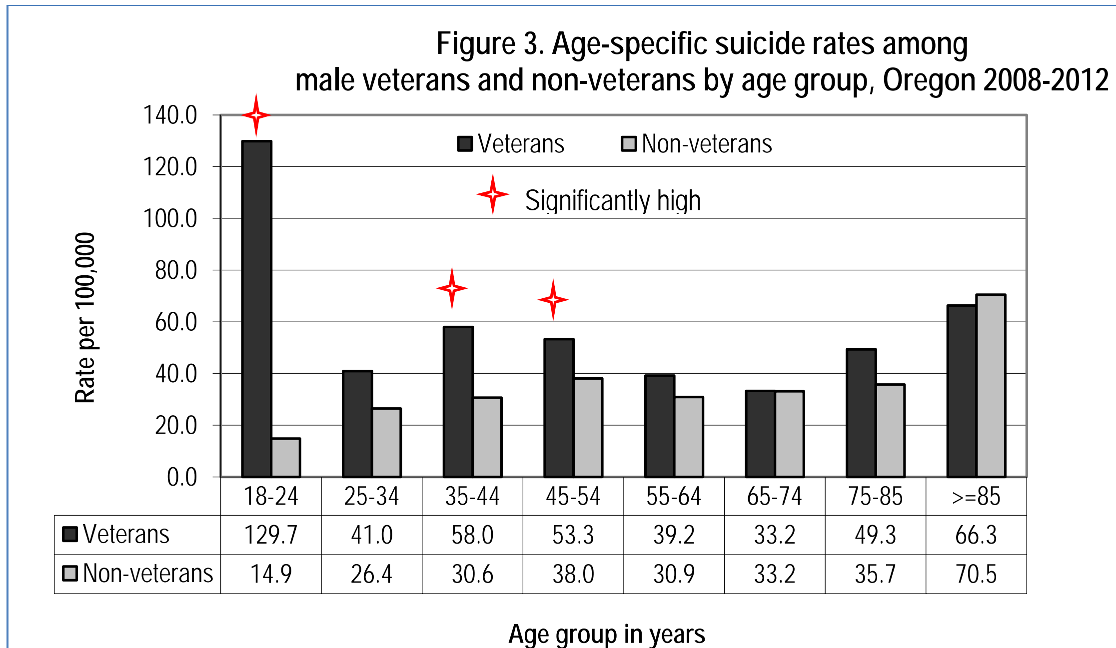
While 8.7 percent of Oregon's residents were veterans between 2008 and 2012, 23 percent of suicide deaths in Oregon occurred among veterans. Veterans are dying by suicide in disproportionate numbers when compared to non-veterans.

In Oregon, between 2008 and 2012, suicide rates among veterans were significantly higher compared to non-veterans for both males (45.6 vs. 28.3 per 100,000) and females (21.4 vs. 8.6 per 100,000). The suicide rate among male veterans in Oregon was more than double the rate of female veterans during this time.



Source: Death certificate data, Oregon Health Authority.
Veteran population data, U.S. Department of Veterans Affairs
Oregon population data, the National Center for Health Statistics

Nearly 97 percent of suicides among veterans in Oregon occurred among males. Compared to non-veteran males, significantly high rates were noted among young male veterans ages 18-24, 35-44 and 45-54 years. For males aged 18-24 years, the rate of suicide among veterans was eight times that of non-veterans.

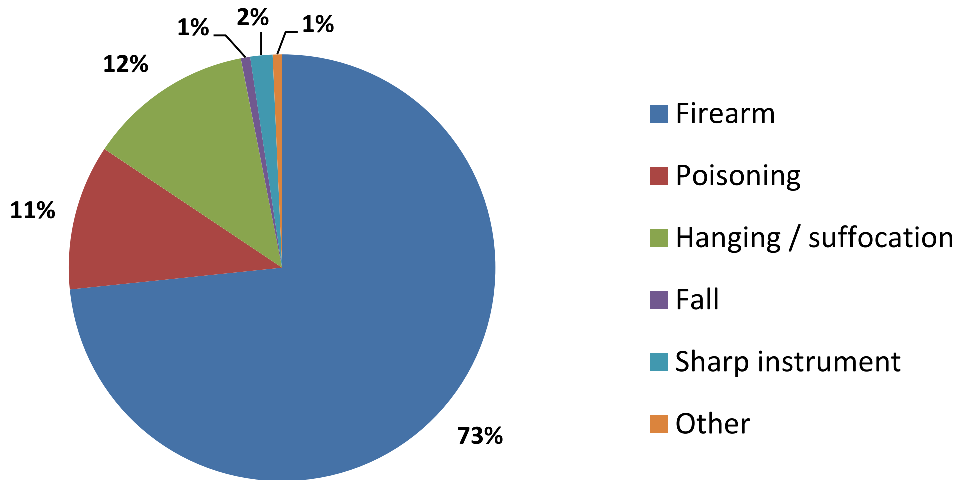


	18-24	25-34	35-44	45-54	55-64	65-74	75-85	>=85
Veterans	129.7	41.0	58.0	53.3	39.2	33.2	49.3	66.3
Non-veterans	14.9	26.4	30.6	38.0	30.9	33.2	35.7	70.5

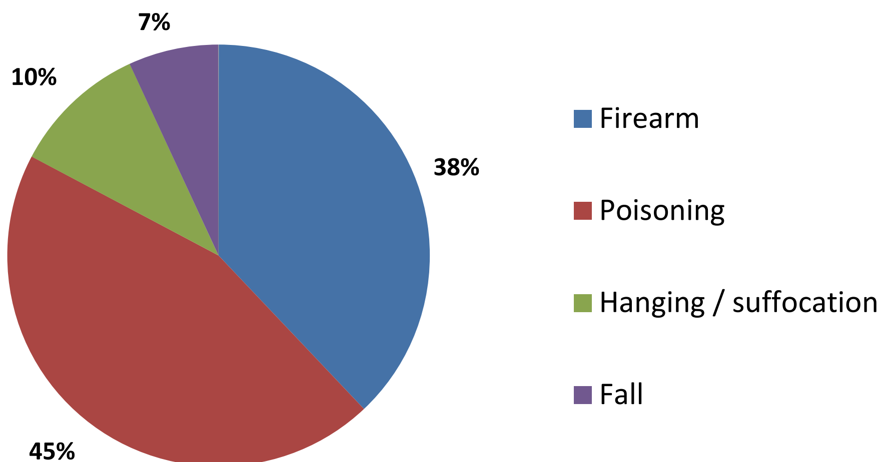
Source: Death certificate data, Oregon Health Authority. Veteran population data, U.S. Department of Veterans Affairs, Oregon population data, the National Center for Health Statistics

Firearms were the most common mechanism of suicide death among male veterans

Firearms were the mechanism of death for 73% of male veterans who died by suicide; followed by hanging / suffocation (12%), and poisoning (11%). The firearm suicide rate among male veterans was higher (insert rate) when compared to non-veteran males (insert rate). Poisoning was the mechanism of death among 45 % of female veterans who died by suicide; followed by firearm (38%) and hanging / suffocation (10%).



Source: Oregon Violent Death Reporting System



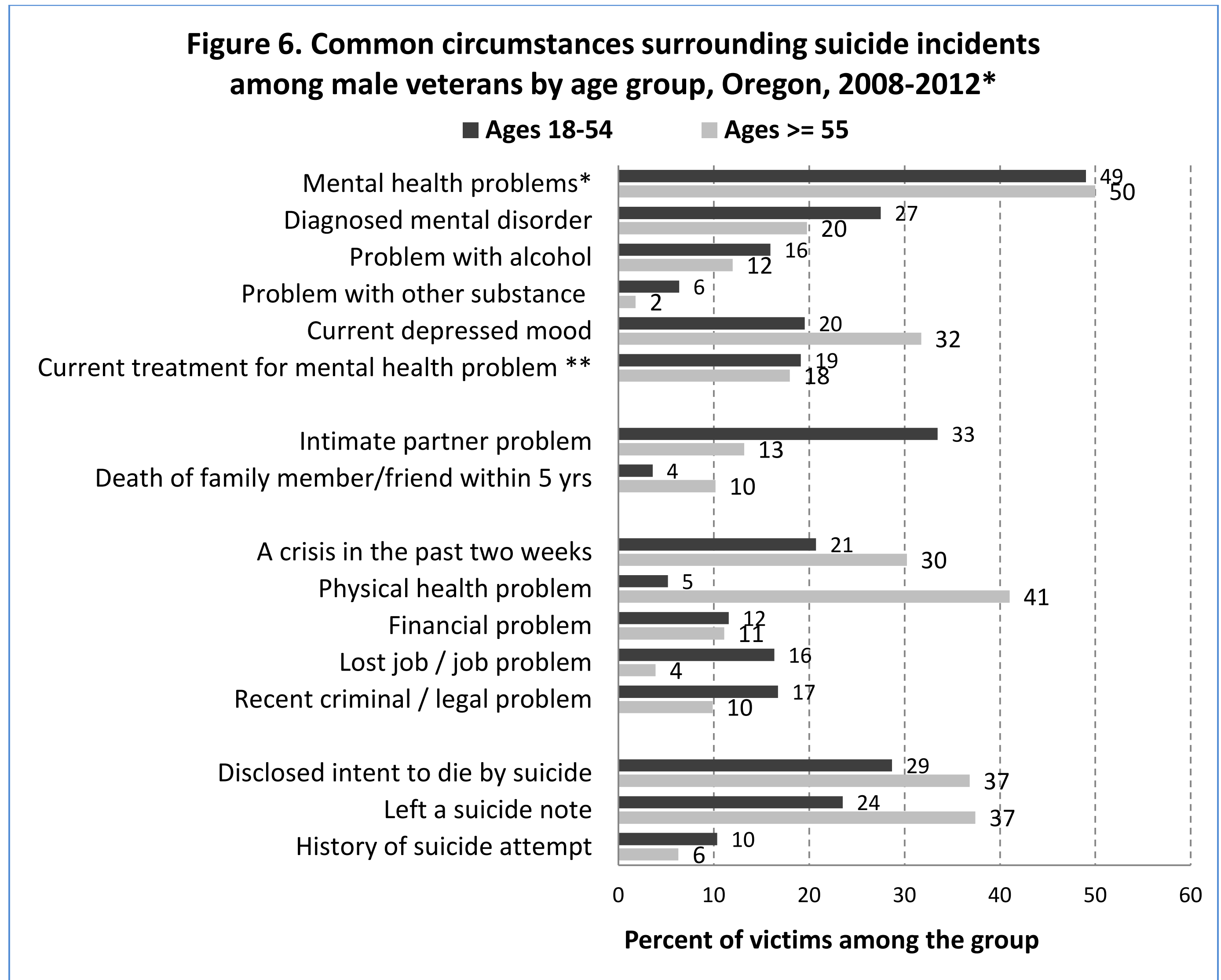
Source: Oregon Violent Death Reporting System

Mental health problems, problems with intimate partners and physical health problems are common factors associated with suicide incidents.

Veterans who die by suicide might experience a variety of circumstances or precipitating factors. Mental health problems, which include a diagnosed mental disorder, substance use

disorder and/or depressed mood at the time of incident were reported among 50% of male veterans who died by suicide. About one in five veterans were observed to be receiving treatment for a mental health problem. Problems with an intimate partner were reported among 33% of veterans ages 18-54 years, and physical health problems were reported among 41% of veterans ages 55 years and older. Overall, circumstances observed among veterans and non-veterans who died by suicide were similar (2).

Figure 6. Common circumstances surrounding suicide incidents among male veterans by age group, Oregon, 2008-2012*



Source: Oregon Violent Death Reporting System
*Due to the small number of suicide deaths among female veterans, no specific circumstance data are presented for female veterans in this report.
**Includes any circumstances of diagnosed mental disorder, problem with alcohol and / or other substances, and / or depressed mood at the time of incident.
***Include treatment of mental disorder and problem with alcohol and/or other substance.

More information on suicide deaths among females can be found in "Suicides in Oregon: Trends and Risk Factors" (2).

Alcohol is often involved when suicide occurs

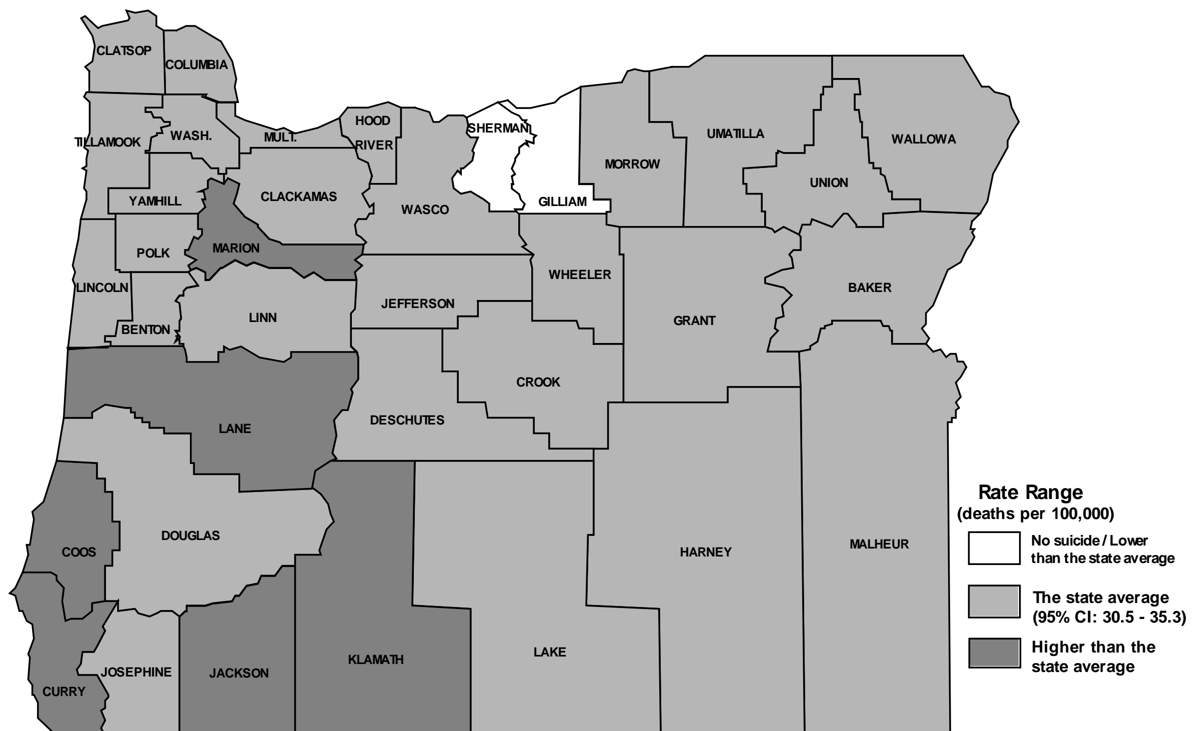
According to the data from Oregon Violent Death Reporting System, investigating officers and medical examiners noted that they suspected alcohol use prior to the incident in one of three suicide deaths among veterans ages 18-54 years.

Suicide among homeless veterans

There were four suicide deaths among veterans who were homeless when they died.

Veteran suicide rates varied by county in Oregon

Figure 7: Veteran suicide rate by County, Oregon, 2008-2012



However, small numbers in several counties make rate estimates somewhat unstable (Table 3).

Table 3. Veteran suicides and rates by county, Oregon 2008-2012

County	Number of veterans who died by suicide	Rate per 100,000, per year
Baker	7	-
Benton	9	-
Clackamas	64	35.2
Clatsop	12	-
Columbia	6	-
Coos	29	69.2
Crook	<5	-
Curry	18	-
Deschutes	30	39.6
Douglas	36	53.3
Gilliam	<5	-
Grant	<5	-
Harney	<5	-
Hood River	<5	-
Jackson	58	52.8
Jefferson	<5	-
Josephine	22	43.6
Klamath	22	59.9
Lake	<5	-
Lane	74	46.1
Lincoln	15	-
Linn	20	33.2
Malheur	8	-
Marion	65	51.6
Morrow	<5	-
Multnomah	91	38.0
Polk	9	-
Sherman	<5	-
Tillamook	6	-
Umatilla	13	-
Union	<5	-
Wallowa	<5	-
Wasco	6	-
Washington	79	42.4
Wheeler	<5	-
Yamhill	16	-
Statewide	741	32.9

Because of small death counts in some counties, some rates might not be statistically reliable or stable.
Rates are not calculated on counts less than 20. Cell sizes less than 5 are suppressed.

Source: Death certificate data, Oregon Health Authority
Veteran population data, U.S Department of Veterans Affairs

Discussion

Suicide is preventable. There is no single solution to reduce suicide among veterans. The needs of the few who have served in the military can sometimes be great. Reintegration issues, health challenges, family stressors, and housing issues all increase the risk for suicide among veterans. All sectors of communities, state government, and federal government could become better attuned to the needs of veterans and take action aimed at improving veteran health, wellbeing, and safety.

In 2010 the Legislative Task Force on Veteran's Reintegration produced a report with 17 recommendations to address the needs of veterans returning from deployment (http://www.oregon.gov/ODVA/TASKFORCE/docs/LegislativeTF_Reintegration_sm.pdf).

The Task Force report notes that:

"Veterans returning from Iraq and Afghanistan have significant issues to address, including:

- Post Traumatic Stress Disorder (PTSD) and other emotional/mental conditions – Reports indicate as many as 40 percent of returning Iraq and Afghanistan veterans have some level of PTSD, anxiety, depression or other emotional/mental condition.
- Traumatic Brain Injury (TBI) – with PTSD, TBI is the signature injury of the wars in Iraq and Afghanistan
- Disabilities – Neck, back and knee injuries are common for Iraq and Afghanistan veterans
- Unemployment – 52 percent of the 41st Infantry Brigade Command Team was unemployed when it returned to Oregon in 2010
- Homelessness – When reintegration fails, Oregon's newest veterans are becoming homeless, including female veterans
- Suicide – Suicide is the number one cause of death among Oregon veterans ages 18-24 years
- Law Enforcement – Many veterans are engaging law enforcement due to domestic violence, violent outbursts, erratic driving and other violations that can be attributed to their military service."

This report documents the many complex issues that contribute to an increased risk for suicide among veterans. Oregon is taking steps to address the needs of veterans with the focal point for planning and action at the Oregon Department of Veterans' Affairs.

In 2013, Oregon's Department of Veterans' Affairs convened a ten member interagency team to attend a policy academy sponsored by the Substance Abuse and Mental Health Services Administration's Technical Assistance Center for supporting service members, veterans, and their families. Oregon's Service Members, Veterans and Their Families workgroup was formed. The workgroup has identified suicide prevention as a strategic priority. This workgroup meets quarterly to coordinate information and activities across public agencies and sectors of Oregon's business and nonprofit community. Staff from the Oregon Violent Death Reporting System at the Public Health Division of the Oregon Health Authority participate on this workgroup and contribute data on suicide.

Oregon's legislature passed a number of bills in 2013 to address the needs of veterans for services, housing and homelessness, outreach, employment, education, consumer protections, and legal support. All of these bills represent important steps to support a variety of needs in a population at risk for suicide. One of the bills, SB762A directs the Oregon Department of Veterans' Affairs to create and coordinate a public information campaign to prevent suicide by veterans.

Key Factors in Reducing Veteran Suicide

A 2013 Oregon Department of Veterans' Affairs report to the Governor noted that we spend six months training military recruits to prepare them for deployment and we only spend six days preparing them to re-enter civilian life.

Well-being and wellness are conditions that veterans must be encouraged to strive for and prioritize in civilian life. Adoption of a range of healthy lifestyle choices can improve and maintain well-being.

A consciousness and culture of safety is a condition that veterans must achieve in order to thrive in civilian life. Decreasing risky driving and motor vehicle crashes, self-harming behavior, sports and recreational injury, and interpersonal violence are an important focus for improving individual and community safety.

Measures for individual veteran and community well-being and wellness, and safety could be developed to benchmark and monitor safety.

Definitions

Suicide: A death resulting from the intentional use of force against oneself. A preponderance of evidence should indicate that the use of force was intentional.

Veteran: Person who was/was serving in U.S. armed forces. Veteran status is assigned according to the death certificate ("Was decedent ever in U.S. Armed Forces?"), information typically provided by proxy reporting (e.g., spouse, parent, adult child).

Data source, methods, and limitation

Death certificate data are from the center of health statistics, Oregon Health Authority. In this report, suicide deaths are identified according to International Classification of Diseases, Tenth Revision (ICD-10) codes for the underlying cause of deaths on death certificates. Suicide was considered with code of X60-84 and Y87.0 (5). **Deaths relating to the Death with Dignity Act (physician-assisted suicides) are not classified as suicides by Oregon law and therefore are excluded from this report.**

ORVDRS is a statewide, active surveillance system that collects detailed information on all homicides, suicides, deaths of undetermined intent, deaths resulting from legal intervention, and deaths related to unintentional firearm injuries (5). ORVDRS obtains data from Oregon medical examiners, local police agencies, death certificates, and the Homicide Incident Tracking System. All available data are reviewed, coded, and stored in the National Violent Death Reporting System.

Rates were calculated according to death counts and estimates of population. Veteran population estimates are from U.S. Department of Veteran Affairs (6) and Oregon population are from the National Center for Health Statistics (7).

When comparing rates, 95 percent confidence intervals were calculated. If the 95 percent confidence intervals do not overlap, then the difference is considered to be statistically significant at the 0.05-level (8).

Although ORVDRS collects data from multiple sources, it is a challenge to capture all of the details and circumstances surrounding a death due to suicide. Lack of standardized questionnaires and investigation protocols, and limited witnesses and limited witness contacts with a victim could result in underreporting of some suicides and in particular some circumstances surrounding suicide incidents. For example, if a person who died by suicide lived

alone and did not have many connections with his family members and friends, it is difficult to get information on this person's health status and know his/her life stressors. In addition, all circumstances were based on the reports from the persons who were interviewed by investigators. Those interviewed persons might not recognize some mental health problems. Therefore, this report most certainly underestimates some circumstances surrounding suicide deaths such as mental health problems.

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