

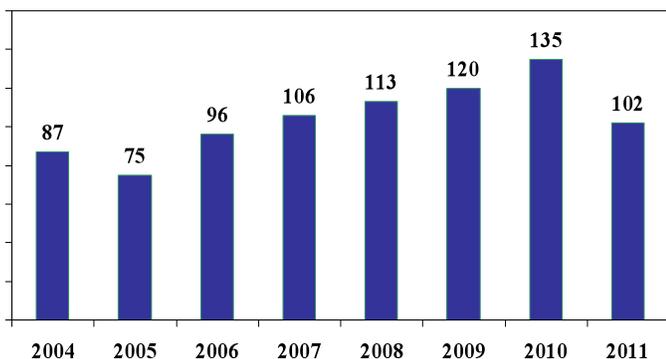
Veteran Status of Suicide Victims in Rhode Island, 2005–2009

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INTRODUCTION

Suicide remains a leading cause of mortality in the United States. It is the tenth leading cause of death overall and the fourth leading cause of death for persons aged 18-65. Rhode Island has historically reported lower rates of suicide than the nation as whole but the number of suicides steadily increased during the years 2005-2010 (Figure 1). This resulted in a 2010 population rate (135 suicides = 12.9 /100,000) that approximated the U.S. rate for that year (12.4 /100,000). Prospective cohort studies have confirmed that veterans are at increased risk of suicide compared to non-veterans.⁴ To explain this, researchers point to higher rates of psychiatric morbidity as well as comfort and familiarity with firearms.

Figure 1. Number of suicides reported by year, Rhode Island 2004–2011



Not only do veterans have a higher rate of firearm possession than non-veterans, but suicidal veterans have further been found to be more likely to own firearms than nonsuicidal veterans.⁶ Veterans are significantly more likely to use firearms to complete suicide than non-veterans.⁵

Recent years have seen an increased focus on post-traumatic stress disorder (PTSD) as a potential risk factor for suicide.¹ This is of particular concern in young veterans, of whom one fifth meet criteria for PTSD. A cohort study of Operation Enduring Freedom/ Operation Iraqi Freedom veterans found a higher rate of suicide among former active duty veterans compared to the general population.³ Only 23-40% of these ill young men and women seek mental health care, with the stigma of psychiatric illness within military culture serving as a significant barrier to care.²

METHODS

The study population included males 18 years of age or older who committed suicide in Rhode Island during the five-year period 2005–2009. There were two female veteran suicides in Rhode Island over the course of the period studied who were not included in the analysis. Data regarding all decedents was obtained from the Rhode Island Violent Death Reporting System funded in the State by the national Centers for Disease Control and Prevention (CDC) since 2003. Rhode Island demographics were obtained from 2005–2009 American Community Survey 5-Year Estimates. Both veteran and non-veteran decedents were stratified into four age groups. Where appropriate, Pearson’s chi-squared test of independence was used to assess the relationship between two variables.

RESULTS

Of males aged 18 and above who committed suicide in Rhode Island during 2005-2009, 90 were veterans and 284 were non-veterans. Table 1 displays the demographic patterns of interest observed in the two populations. The mean

Table 1. Rhode Island male suicide decedent demographics by veteran status from 2005–2009.

	Veterans	Nonveterans
Mean Age	57.8 years	44.0 years
Number By Age		
18-34	9 (10.0%)	74 (26.0%)
35-54	27 (30.0%)	149 (49.3%)
55-64	25 (27.8%)	42 (14.8%)
65+	29 (32.2%)	19 (6.7%)
Marital Status		
Married	34 (37.8%)	89 (31.4%)
Divorced	24 (26.7%)	52 (18.0%)
Never Married	20 (22.2%)	125 (44.2%)
Widowed	11 (12.2%)	10 (3.5%)
Single (NOS)	1 (1.1%)	8 (2.8%)
Race		
White	83 (92.2%)	250 (88.0%)
Hispanic	1 (1.1%)	18 (6.3%)
Black	1 (1.1%)	6 (2.1%)
Asian	0	4 (1.4%)
Unknown	5 (5.6%)	6 (2.1%)

age of the veteran decedent population exceeded that of the non-veteran population by over 10 years. The veteran decedents were significantly more likely to be widowed and significantly less likely to be never married than non-veterans. Both groups were predominantly white.

Table 2 reports the rate of suicide for both veterans and non-veterans of each age group, as well as the relative risk of suicide conferred by veteran status in Rhode Island over the period studied. The annual incidence of suicide in veteran males was 23.8 per 100,000 compared to 18.1 per 100,000 in non-veterans. The veteran population was found to be at significantly higher risk of suicide than non-veterans. Among veterans, the youngest age group had the highest rate of suicide with an annual incidence of 36.3 per 100,000, with the risk decreasing with each generation. The youngest age group was the only individual age group of veterans that was found to have significantly increased risk of suicide compared to non-veterans of similar age, with a relative risk of 2.8.

The most common methods of completed suicide among

the veterans studied were firearm (47.8%), asphyxiation (24.4%), and poisoning (15.6%). For the non-veteran group, the most common methods of completed suicide were asphyxiation (41.2%), firearm (26.8%), and poisoning (18.7%). Over the period studied, veterans were significantly more likely to commit suicide by firearm than non-veterans.

The rates of firearm use in veteran and non-veteran suicide decedents of each age group are presented in **Table 3**. The rate of firearm use in the veteran decedents was highest in the oldest group, with the youngest veteran group second highest. In the 18-34 age group, the rate of firearm use in veterans was about 130% higher than for the similarly aged non-veterans, making this the age group with the highest increased odds of firearm use based on veteran status and the only individual age group for which veteran status was associated with a statistically significant increase in rate of firearm use for suicide.

Of the 90 veteran male suicide decedents, 75 had no prior history of suicide attempts. Among these 75, 37 (49.3%) used a firearm. Of the 15 veteran male suicide decedents *with* a prior history of suicide attempts, 6 (40%) used a firearm for their completed suicide. Of the 284 non-veteran male suicide decedents, 225 had no prior history of suicide attempts. Of these 225, 69 (31%) used a firearm as their method. Of the 59 non-veteran male decedents *with* a prior history of suicide attempts, 7 (11.9%) used a firearm for their completed suicide.

Table 2. Suicide rates by age group and veteran status.

Age Group	Suicide Rate (per 100,000 per year)		Risk Ratio (95% Conf. Interval)
	Veterans	Nonveterans	
18-34	36.3	12.8	2.84** (1.42-5.66)
35-54	32.0	22.1	1.45 (0.96-2.18)
55-64	24.2	23.5	1.05 (0.64-1.72)
65+	16.8	15.0	1.12 (0.63-2.00)
All Ages	23.8	18.1	1.29* (1.02-1.63)
			*p<.05, **p<.01

Table 3. Firearm use by age group and veteran status

Age Group	Firearm Use for Suicide		Risk Ratio (95% Conf. Intervals)
	Veterans	Nonveterans	
18-34	55.6%	24.3%	2.28* (1.12-4.64)
35-54	33.3%	23.6%	1.41 (0.77-2.59)
55-64	32.0%	33.3%	0.96 (0.47-1.96)
65+	72.4%	47.4%	1.53 (0.90-2.58)
All Ages	47.8%	26.8%	1.78*** (1.33-2.38)
			*p<.05, ***p<.001

DISCUSSION

The rates of suicide in Rhode Island were lower for both veterans and non-veterans as compared to national rates. For each age group, the rate of suicides was higher in veterans than in non-veterans. Consistent with national trends, the rate of suicide was most pronounced in the younger veteran populations, with the incidence of suicide in the 18-34 veteran group almost three times higher than in their non-veteran counterparts.

Our study did appreciate a significantly higher rate of firearm use in the veteran population compared to non-veteran population. Consistent with national trends, the rate of firearm use was highest in the 65+ veteran population. We found that the youngest population of veterans demonstrated the greatest increased odds of firearm use compared to their non-veteran counterparts.

We observed an interesting difference between the two populations in the method of suicide depending on a history of prior suicide attempts. Specifically, we noted that of decedents with a prior history of suicide attempts, 40% of the veterans used a firearm for their completed suicide compared to only 11.9% of non-veterans. Because

the lethality of firearms approaches 100% in suicide attempts, we can assume that almost all subjects who had a prior history of suicide attempts used a method other than firearm.⁷ Thus, our findings suggest that of the subjects that failed suicide with a method other than firearm, veterans may have been significantly more likely to switch their method and complete suicide with a firearm than non-veterans, who would more often continue to use other methods for suicide.

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