

Military-Related Suicide in Virginia

A Report from the Virginia Violent Death Reporting System

2003-2010

Commonwealth of Virginia
Virginia Department of Health
Office of the Chief Medical Examiner
October, 2012

Military-Related Suicide in Virginia

A Report from the Virginia Violent Death Reporting System

2003-2010

Published October, 2012

by:

Marc E. Leslie, MS, VVDRS Coordinator Richmond Baker, VVDRS Surveillance Coordinator Jennifer Burns, VVDRS Surveillance Coordinator Debra Clark, VVDRS Surveillance Coordinator Tom Kincaid, VVDRS Surveillance Coordinator Virginia Powell, PhD, VVDRS Principal Investigator

Questions or comments should be directed to:

Marc Leslie
(804) 205-3855
marc.leslie@vdh.virginia.gov

VVDRS online: http://www.vdh.virginia.gov/medExam/NVDRS.htm

Suggested citation: Virginia Violent Death Reporting System (VVDRS), Office of the Chief Medical Examiner, Virginia Department of Health. *Military-Related Suicide in Virginia: 2003-2010*. Published October, 2012.

The research files for this report were created on February 17, 2012. Data may continue to be entered and altered in VVDRS after this date.

The publication was supported by Award Number U17/CE001315 from the Centers for Disease Control and Prevention. Its contents are solely the responsibility of the authors and do not necessarily represent the official views of the Centers for Disease Control and Prevention.

Acknowledgements

This report is possible through the support and efforts of those who generously contribute their time and expertise to the VVDRS. We gratefully acknowledge the ongoing contributions of our Forensic Pathologists and Pathology Fellows whose expertise adds depth to our knowledge. We acknowledge the contributions of the OCME State and District Administrators who support the project's human resources requirements. We recognize the critical role of our Medicolegal Death Investigators and Medical Examiners in the collection and analysis of information that is the foundation for our work. We appreciate the support of all office and forensic staff who participate actively in our quest for information. Finally, we applied the efforts of our Surveillance Coordinators whose commitment moves this project forward.

Virginia Violent Death Reporting System Advisory Committee Members

Christina Benton, MPH Suicide Prevention Coordinator Division of Prevention and Health Promotion Virginia Department of Health

Leah L.E. Bush, MS, MD Chief Medical Examiner Office of the Chief Medical Examiner Virginia Department of Health

Joseph L. Cannon Special Agent in Charge Department of Alcoholic Beverage Control

K. Scott Downs First Sergeant Virginia Department of State Police

Andrew Goddard President Virginia Center for Public Safety

Sherrie N. Goggans Project Manager

Virginia Sexual and Domestic Violence Action Alliance

John W. Jones Executive Director Virginia Sheriff's Association Rita L. Katzman Program Manager Child Protective Services Virginia Department of Social Services

Peter M. Marone, MS
Director

Virginia Department of Forensic Science

James M. Martinez, Jr., MEd Director Office of Mental Health Services

Virginia Department of Behavioral Health and Developmental Services

Janet M. Rainey Director Division of Vital Records

Virginia Department of Health

Calvin T. Reynolds
Director
Division of Health Statistics
Virginia Department of Health

Dana G. Schrad, Esq. Executive Director Virginia Association of Chiefs of Police

Johanna W. Schuchert Executive Director Prevent Child Abuse Virginia

INTRODUCTION

Suicide in the military has become a significant concern in the United States. As military involvement in Afghanistan passes the 10-year mark and an increasing number of U.S. troops serve multiple tours of duty, combat stress is seen as a factor in military suicide rates. And while public attention has been on suicide risk among combat troops, suicide is also a problem among persons who are no longer actively serving in the military and among enlisted military personnel who may have never been in combat.

Active duty and veteran suicide is particularly relevant for Virginia. As of 2010, 11% of all U.S. active duty members are stationed in Virginia, the second-highest number of all U.S. states. Virginia is fourth among all states for the number of veterans per capita. The occurrence of active duty and veteran suicide, therefore, directly affects the suicide rate in Virginia; 23% of all Virginia suicide decedents - and 29% of male suicide decedents - are active duty military or veterans.

This brief report provides an overview of suicide in Virginia, comparing three groups which are organized by their relationship to military status. A "veteran" is any person who served as a member of the Armed Services at some point in his/her life but not at the time of death. An "active duty" member was enlisted in the U.S. Armed Forces at the time of his/her suicide. Neither of these designations implies that the decedent experienced combat duty during their time in the military. Finally, "civilians" are persons ages 18 and over who never enlisted in the armed forces.

All persons discussed in this report died from suicide and were known to be residents of Virginia at the time of their death. This report will occasionally cite information about enlisted active duty members on a national level to contextualize figures about those who died by suicide in Virginia.

It is important not to equate active duty or veteran suicide with combat trauma or issues related to military service. The data provided here suggest that suicide is a complex act. Those who served in combat are likely to have multiple stressors that led to suicide. An active duty or veteran suicide may be unrelated to military service.

DATA SOURCES AND CONSIDERATIONS

Data Sources

Fatal suicide data used in this report come from the Virginia Violent Death Reporting System (VVDRS). The VVDRS is part of the National Violent Death Reporting System (NVDRS). The NVDRS documents violent deaths that originate within a state's borders. It compiles information from sources used in violent death investigation, and links decedents to circumstances such as drug and alcohol abuse and mental illness. The VVDRS is the operation and reporting system of the NVDRS within Virginia, and uses the same methodology, definitions, coding schema, and software of the NVDRS.³

¹ Department of Defense. "Demographics 2010: Profile of the Military Community." n.d. Web. Accessed 20 August 2012 at www.militaryhomefront.dod.mil.

² National Center for Veterans Analysis and Statistics. "Veteran Population." n.d. Web. Accessed 15 August 2012 at www.va.gov.

³ Complete descriptions of the NVDRS and the data elements collected by this system can be found in the NVDRS coding manual: http://www.cdc.gov/ncipc/pub-res/nvdrs-coding/VS2/default.htm.

The VVDRS abstracts death investigation information from several sources, primarily the Office of the Chief Medical Examiner (OCME), law enforcement, the Virginia Division of Vital Records, and the Virginia Department of Forensic Science. A "suicide decedent" is someone whose death has been ruled a suicide after a thorough medicolegal death investigation.

Active duty and veteran suicide decedents are identified primarily from Virginia's Death Certificate. This form has a checkbox indicating if the decedent was ever a member of the U.S. Armed Forces. Additionally, the decedent's occupation is described on the Death Certificate, the OCME report, and the law enforcement report; these occupation fields identify persons currently enlisted in the military.

Strengths and Limitations

There are three issues involved with accurately identifying all active duty military suicide decedents who were Virginia residents. First, persons who were reservists and had other non-military jobs may not have been captured here by their occupation title. For example, an active duty reservist who also works as a carpenter may be identified by the occupation of carpenter, not military reservist. They would, however, still be identified as veterans. Second, if the suicide happened while the decedent was serving overseas the death is investigated by the military, not by the OCME; it is unknown how many of these suicides have occurred. Third, if the suicide occurred on a military base or installation in Virginia, this death may be investigated by the military instead of the OCME; there is an average of two of these cases per year. The suicides in these latter two instances would not be captured in VVDRS. As a result, overall counts of active duty suicide decedents are likely conservative.

An unknown factor for both veterans and active duty military is if the decedent had ever served in a combat situation. This description is rarely provided during death investigations. It is tempting to assume that active duty members or veterans would most likely have seen combat. However, information from the U.S. Military shows that among all current active duty members, 42% have not been deployed in the past 11 years.⁴

Another unknown characteristic is the length and type of military service. Someone who spent two months in basic training before being discharged and someone who served multiple tours of duty are both veterans; someone who enlisted yesterday and someone who has been in the military for 20 years are both active duty.

Percentages based on 20 or fewer cases are considered statistically unreliable and should be interpreted and used with caution. Such percentages are included here in the interest of complete reporting.

Rates

Calculations of a separate suicide rate for veterans and active duty members were not possible due to a lack of data regarding the numbers of these two populations. A combined rate for both veterans and active duty members, however, could be calculated for Virginia. Estimates for 2003-2010 show that Virginia active duty and veteran suicide decedents have a combined suicide rate of 25.6 per 100,000. By comparison, the overall rate for Virginia civilians ages 18 and over was 13.0 for the same time period.

⁴ Martinez, Luis and Bingham, Amy. "U.S. Veterans: By the Numbers." ABC News. 11 Nov. 2011. Accessed 15 August 2012 at www.abcnews.go.com.

⁵ Population data to estimate rates comes from http://www.va.gov/vetdata/Veteran_Population.asp and from the National Center for Health Statistics. Accessed 14 June 2012.

The most alarming suicide rates are seen in young males. Male active duty and veterans in the age group 18-29 had a suicide rate of 48.5; civilian males of the same age group had a rate of 17.1. Overall, as age increases the suicide rate for active duty and veteran decedents decreases and aligns more closely with their civilian counterparts. These estimates suggest that military service, especially among young males, leads to an increased risk for suicide as compared to those who do not serve in the military. If military service impacts suicide rates in the short run, this affect is likely to decline over time.

National data point to increased suicide risk among those serving in combat. A 2012 report found nearly one suicide per day among combat troops in the first part of the year. Another report documented that the suicide rate for all Iraq and Afghanistan veterans who used Veterans Administration health care is 38 per 100,000, three times the Virginia average rate. Another forthcoming study suggests that 70% of U.S. soldiers who see "heavy combat" in Afghanistan attempt suicide.

FINDINGS

General Results

The VVDRS identified 1,647 active duty or veteran suicide decedents from 2003-2010. Most (91%, 1,494 persons) were veterans. Nine percent, or 153 persons, were active duty members. This report also discusses the 5,258 civilian suicides that occurred during this same time period.

Military Branch

Among active duty suicide decedents, the most common military branches of service match the military installations in Virginia: of the approximately 33 installations in Virginia (including the Coast Guard), 36% are Navy and 30% are Army. Table 1 shows the military branch of active duty suicide decedents.

Table 1. Military-Related Suicide and Active Duty Branch, Virginia: 2003-2010

Active Duty Dianell, Vilgilia. 2003 2010							
	#	%					
Navy	76	50					
Army	30	20					
Air Force	19	12					
Marines	9	6					
Coast Guard	5	3					
National Guard	4	3					
Army Reserve	2	1					
Marine Reserve	1	1					
Unknown	7	5					
Total	153	100					

⁶ Thompson, Mark. "U.S. Military Suicides in 2012: 155 Days, 154 Dead." Time Magazine. 8 June 2012. Web. Accessed 13 August 2012 at www.time.com.

⁷ Martinez, Luis and Bingham, Amy. "U.S. Veterans: By the Numbers." ABC News. 11 Nov. 2011. Accessed 15 August 2012 at www.abcnews.go.com.

⁸ Moulton, Kristen. "U. study: Combat puts soldiers at high suicide, PTSD risk." *The Salt Lake Tribune*. 23 July 2012. Web. Accessed 17 August 2012 at www.sltrib.com.

⁹ Militarybases.com. n.d. Web. Accessed 15 August 2012 at www.militarybases.com and Department of Defense. "Demographics 2010: Profile of the Military Community." n.d. Web. Accessed 20 August 2012 at www.militaryhomefront.dod.mil.

Demographic Information

Table 2 provides basic information about suicide among the 153 active duty members, 1,494 veterans, and 5,258 civilians identified by VVDRS.

Table 2. Military-Related Suicide Decedents, Selected Demographic Characteristics, Virginia: 2003-2010¹⁰

Science Bei		Duty	Civilians (18+)		Veterans	
Race	#	%	#	%	#	%
White	111	73	4,513	86	1,345	90
Black	33	22	564	11	144	10
Other	9	6	181	4	5	<1
Gender						
Male	142	93	3,752	71	1,440	96
Female	11	7	1,506	29	54	4
Age						
18-39	114	75	2,050	39	200	13
40-59	37	24	2,378	45	531	36
60 and over	2	1	830	16	763	51
Median age	31	-	44	-	60	-
Marital Status (ages 15+)						
Married	62	41	1,772	34	636	43
Never married	56	37	1,703	32	198	13
Married, separated	25	16	465	9	129	9
Divorced	10	7	1,037	20	330	22
Widowed	0	0	264	5	200	13
Education (ages 25+)						
Less than High School	0	0	327	7	101	7
Some High School	1	1	634	14	124	9
High School	39	37	1,875	40	595	41
More than High School	61	58	1,720	37	630	43
Residence HPR ¹¹						
Eastern	97	63	1,041	20	392	26
Northern	24	16	1,049	20	239	16
Central	12	8	953	18	241	16
Southwest	12	8	1,304	25	357	24
Northwest	7	5	908	17	264	18
Occupation						
Employed	153	100	3,432	65	901	60
Student	1	<1	198	4	9	1
Unemployed	0	0	781	15	125	8
Retired	0	0	270	5	375	25
Disabled	0	0	310	6	76	5

¹⁰ Table excludes unknown values. Totals may not add up to the total number for each group. Percentages are rounded up and therefore may not total 100%.

¹¹ HPR stands for "Health Planning Region."

- As with suicide overall, most active duty and veteran suicide decedents were White and male. In the U.S. military overall, 70% of active duty members are White and 86% are male. ¹²
- The median age of an active duty suicide decedent was about half the median age of a veteran decedent. Most active duty suicide decedents were under the age of 40.
- Young, active duty males were more often married than their veteran or civilian counterparts. Including those who were separated, 38% of active duty males ages 18-29 were married; this was true for 13% of civilians and 26% of veterans of the same age range. Marrying at a relatively young age has been correlated with divorce.¹³
- Marriage generally provides a protective factor for male suicide and, to a lesser extent, female suicide. However, the fallout from marital disruption has devastating consequences on male suicide rates. For all male suicide decedents,¹⁴ the suicide rate for those who are married is 14.5 per 100,000. This rate rises when males are divorced (52.6), widowed (59.6), or separated (91.5).
- Most active duty suicide decedents had a high school education or an education beyond high school and active duty decedents had higher education levels than their veteran or civilian counterparts. Education is a protective factor against suicide once a certain level is achieved. Previous analysis done by the VVDRS shows that those with a high school education have higher suicide rates than those with lower education level; once education beyond high school is reached, suicide rates are cut in half as compared to those with a high school education.
- Most active duty suicide decedents live in the Eastern Health Planning Region (HPR) where they are most likely to be stationed. Of the approximately 33 military bases or installations in Virginia, 52% are in the Eastern HPR.¹⁶
- All active duty suicide decedents are employed by the military; reservists (approximately 2% of the group) may have been employed part-time. Employment should be a protective factor and decrease risk for suicide.
- One-quarter (25%) of veteran suicide decedents were retired and 8% were unemployed. Male veterans were less often unemployed than their civilian counterparts (16%); female veterans were more often unemployed than female civilians (19% and 13%, respectively).

¹² Department of Defense. "Demographics 2010: Profile of the Military Community." n.d. Web. Accessed 20 August 2012 at www.militaryhomefront.dod.mil.

¹³ Luscombe, Belinda. "Are Marriage Statistics Divorced from Reality?" Time Magazine. 24 May 2010. Web. Accessed 14 August 2012 at www.time.com

¹⁴ Statistics on marriage reflect persons age 15 and older.

¹⁵ Statistics on education reflect person ages 25 and older.

¹⁶ Militarybases.com. n.d. Web. Accessed 15 August 2012 at www.militarybases.com and Department of Defense. "Demographics 2010: Profile of the Military Community." n.d. Web. Accessed 20 August 2012 at www.militaryhomefront.dod.mil.

Method of Fatal Injury

Table 3 presents information about the most common methods of fatal injury.

Table 3. Military-Related Suicides and Most Common Methods of Fatal Injury, Virginia: 2003-2010¹⁷

Wiost Common Methods of Fatal Injury, Virginia. 2005-2010									
	Active Duty		Civilian	s (18+)	Veterans				
Firearms	#	%	#	%	#	%			
All persons	102	67	2,741	52	1,071	72			
Males	97	68	2,228	59	1,055	73			
Females	5	46	513	34	16	30			
Hanging/Suffocation									
All persons	31	20	1,128	22	191	13			
Males	27	19	864	23	182	13			
Females	4	36	264	18	9	17			
Poison									
All persons	11	7	1,065	20	162	11			
Males	10	7	454	12	136	9			
Females	1	9	611	41	26	48			

- Active duty suicide decedents used firearms more often than civilians. This is true even when males of the same age group are compared.
- Veteran and active duty decedents have different levels of firearm use, but this is primarily due to age and gender. When comparing older veteran and active duty males, frequencies of firearm use as the method of fatal injury are similar.
- Female active duty members used firearms more often than their civilian or veteran counterparts.¹⁸
 This finding suggests that greater access to firearms could be related to selecting a firearm as the method of fatal injury.
- Female civilians used poison at more than four times the frequency of female active duty suicide decedents (41% and 9%, respectively).

¹⁷ More than one method of fatal injury may be reported per suicide.

¹⁸ It is unknown if these differences are statistically significant due to the relatively small number of cases.

Circumstances at Death

Table 4 provides basic information about problems and life stressors at death. Some of these circumstances, such as physical health problems, were known to be a motivating factor in the suicide. Others, such as intimate partner problems or mental health problems, *may* have been a motivating factor for the suicide or may have simply been noted as a problem in the decedent's life.

Table 4. Military-Related Suicides and Problems at Death, Virginia: 2003-2010^{19,20}

rable 4. Willitary-Nelat	Active		Civilian		Veterans		
Mental Health	#	%	#	%	#	%	
Current Problem	61	42	2,909	57	708	49	
Current treatment	47	77	2,103	72	463	65	
Prior treatment	7	7	272	8	53	7	
Male	55	41	1,809	50	668	48	
Female	6	60	1,100	74	40	76	
Intimate Partner							
All persons	72	50	1,862	36	372	26	
If separated	22	88	428	92	116	90	
If divorced	5	50	326	32	71	23	
If married	27	48	566	33	138	22	
If never married	18	34	515	32	41	21	
Job ²¹							
All persons	33	23	696	14	140	10	
Male	32	24	560	15	137	10	
Female	1	10	136	9	3	6	
Financial							
All persons	9	6	650	13	171	12	
Ages 18-39	7	7	184	9	22	11	
Criminal Legal							
All persons	31	22	674	13	139	10	
Males age 18-39	25	26	300	20	38	21	
Physical Health							
All persons	8	6	860	17	499	34	
Ages 60 and older	0	-	360	45	409	56	
Ages 70 and older	0	-	187	57	303	65	
Crisis in Past 2 Weeks							
All persons	73	51	1,932	38	461	32	
Male	68	51	1,471	41	451	32	
Female	5	50	461	31	10	19	
Ages 18-39	55	51	911	46	102	51	

-

¹⁹ More than one characteristic may be noted per person. Percentages are based upon the number of decedents with at least one known characteristic.

²⁰ For complete descriptions of how these problems are defined, see section 7 of the NVDRS Coding Manual: http://www.cdc.gov/ncipc/pub-res/nvdrs-coding/VS2/default.htm

²¹ For veterans and civilians this category includes persons listed as retired, disabled, homemaker, or student. This will lower the percentage with a job problem.

- Mental health problems were more common for female active duty members than for males. A
 mental health problem was noted among civilians more often because female suicide decedents
 were more likely to be civilians.
- Active duty suicide decedents with a mental health problem more often received treatment than their civilian or veteran counterparts. However, female active duty suicide decedents had *lower* frequencies of mental health treatment than female veteran or civilian decedents.
- Active duty decedents are more often facing intimate partner conflict half of all active duty
 decedents compared to 36% of civilians and 26% of veterans. When comparing active duty,
 veterans, and civilians of the same age, the presence of intimate partner conflict is similar. For
 active duty decedents, however, the presence of intimate partner problems remained steady with
 age; these problems declined with age among veterans and civilians.
- Marriage may play a role in intimate partner conflict; intimate partner problems are less common
 for active duty suicide decedents who were never married than for those who were married,
 divorced, or separated.
- Nearly a quarter of active duty suicide decedents had job problems such as being unhappy with their job or facing disciplinary action or possible termination. This trend was most notable among active duty males.
- Financial problems were about twice as common for civilians and veterans as they were for active duty decedents. This pattern is similar among persons of the same age groups.
- Criminal legal problems were far more common for active duty decedents than for veterans or civilians. The presence of criminal legal problems can be especially troubling for active duty members because a criminal problem could translate into being discharged from the military or in disciplinary action. When comparing just males of the same age group, the differences between these groups are less notable.
- Physical health problems are most closely related to age. With a median age of 60, veterans are more often affected by this problem. Even when comparing veterans and civilians of the same age groups, veteran suicides are more frequently linked to physical health problems.
- Over half (51%) of active duty suicide decedents had a crisis in the two weeks prior to their suicide.
 Of those who had a recent life crisis, 63% were also having intimate partner problems; by contrast just 37% without life crises were having intimate partner problems.
- For active duty suicide decedents, the presence of a recent life crisis does not decline notably with age. For veteran and civilian suicide decedents, increased age generally corresponded with a decrease in precipitating life crises.

Warning Signs of Suicide

Table 5 provides information about clear warning signs of suicide: disclosing intent with time for intervention and having a known history of prior, nonfatal, suicide attempts.

Table 5. Military-Related Suicides and Explicit Warning Signs of Suicide, Virginia: 2003-2010²²

Active	Duty	Civilians (18+)		Veterans	
#	%	#	%	#	%
41	29	2,545	50	607	42
37	28	1,705	47	581	42
4	40	840	57	26	49
31	29	1,037	52	99	50
30	21	1,912	37	505	35
28	21	1,371	38	487	35
2	20	541	37	18	34
23	22	763	38	73	37
14	10	1,175	23	182	13
12	9	662	18	163	12
2	20	513	35	19	36
10	9	535	27	43	22
	# 41 37 4 31 30 28 2 23 14 12 2	41 29 37 28 4 40 31 29 30 21 28 21 2 20 23 22 14 10 12 9 2 20	# % # 41 29 2,545 37 28 1,705 4 40 840 31 29 1,037 30 21 1,912 28 21 1,371 2 20 541 23 22 763 14 10 1,175 12 9 662 2 20 513	# % # % 41 29 2,545 50 37 28 1,705 47 4 40 840 57 31 29 1,037 52 30 21 1,912 37 28 21 1,371 38 2 20 541 37 23 22 763 38 14 10 1,175 23 12 9 662 18 2 20 513 35	# % # % # 41 29 2,545 50 607 37 28 1,705 47 581 4 40 840 57 26 31 29 1,037 52 99 30 21 1,912 37 505 28 21 1,371 38 487 2 20 541 37 18 23 22 763 38 73 14 10 1,175 23 182 12 9 662 18 163 2 20 513 35 19

- When compared with veterans and civilians, active duty members less frequently disclosed their intent to attempt suicide with time for intervention and to have prior, nonfatal, suicide attempts.
- Male active duty suicide decedents less commonly show these warning signs than male veteran or civilian decedents.
- Female active duty decedents gave warning signs more often than their male counterparts in the military, but did so far less often than female civilians or veterans. When comparing females of the same age, active duty decedents are more similar to veteran decedents; however, active duty decedents still show less explicit warning signs than civilians.

²² More than one characteristic may be noted per person. Percentages are based upon the number of decedents with at least one known characteristic.

The Significance of Alcohol/Substance Problems and Toxicology

Table 6 contains information on the problematic use of alcohol and other substances.

Table 6. Military-Related Suicides and Alcohol/Other Substance Problems, Virginia: 2003-2010^{23,24}

Alcohol/ Other Substance Problems, Virginia. 2003-2010								
	Active	Duty	y Civilians (18+)		Vete	rans		
Alcohol Problem	#	%	#	%	#	%		
All persons	16	11	976	19	249	17		
Male	15	11	744	21	241	17		
Female	1	10	232	16	8	15		
Ages 18-39	13	12	340	17	37	19		
Other Substance Problem								
All persons	6	4	855	17	104	7		
Male	6	5	585	16	92	7		
Female	0	0	270	18	12	23		
Ages 18-39	5	5	456	23	37	19		
Problem with Either								
All persons	20	14	1,482	29	311	21		
Male	19	14	1,071	30	294	21		
Female	1	10	411	28	17	32		
Ages 18-39	17	16	623	31	62	31		

- When comparing similar age groups, problems with alcohol/other substances were almost twice as common for civilians and veterans as they were for active duty decedents. This suggests that military service may decrease alcohol/other substance use and abuse, which might be a protective factor and lower suicide risk.
- A problem with alcohol and/or other substances was noted for 21% of veteran suicide decedents; this increases to 32% among female veteran decedents.
- Alcohol abuse was slightly more common among male veterans when compared with female veterans (17% and 15%, respectively). Females were more often noted as having a problem with other substances (23% and 7%, respectively).

²³ For complete descriptions of how alcohol/other substance problems are defined, see section 7 of the NVDRS Coding Manual: http://www.cdc.gov/ncipc/pub-res/nvdrs-coding/VS2/default.htm

²⁴ Percentages are based upon the number of decedents with at least one known characteristic.

Table 7 presents information on the presence of alcohol in the decedent's system.

Table 7. Military-Related Suicides and Alcohol Toxicology, Virginia: 2003-2010^{25,26}

	Active	Active Duty Civilians (18+) Vet				
Alcohol present, any level	#	%	#	%	#	%
All persons	54	37	1,553	33	379	28
Male	51	38	1,234	36	366	28
Female	3	33	319	24	13	27
Ages 18-39	43	41	648	35	75	41
Alcohol problem	9	64	505	61	143	66
Intimate partner problem	32	46	702	41	149	43
Alcohol present, < .08 BAC						
All persons	20	14	548	12	135	10
Male	19	14	401	12	128	10
Female	1	11	147	11	7	14
Ages 18-39	13	12	209	11	24	13
Alcohol problem	1	7	102	12	24	11
Intimate partner problem	10	14	215	13	46	13
Alcohol present, ≥ .08 BAC						
All persons	34	24	1,005	21	244	18
Male	32	24	833	24	238	18
Female	2	22	172	13	6	12
Ages 18-39	30	28	439	24	51	28
Alcohol problem	8	57	403	49	119	55
Intimate partner problem	22	31	487	29	103	30

- Toxicology studies at death revealed the presence of alcohol in 37% of active duty suicide decedents, including 38% of males and 33% of females.
- A blood alcohol concentration of .08 or greater was found in 24% of active duty suicide decedents, including 28% among those ages 18-39. When active duty, veteran, and civilian decedents of this same age group were compared, they were similar.
- The presence of alcohol was found in 28% of veteran suicide decedents, and 18% had a blood alcohol concentration of .08 or greater. As age increased, there was a significant decline in alcohol consumption prior to suicide among veteran suicide decedents.

²⁵ Percentages are based upon the number of suicides where the decedent was tested for alcohol post-mortem. These figures exclude persons who used alcohol as a fatal poison.

²⁶ A BAC of .08 is the legal standard for driving while intoxicated in Virginia. While individual alcohol tolerance does vary, the .08 level is used as a baseline for possible intoxication.

- Prior research suggests a strong association between consuming alcohol prior to suicide, having a BAC ≥ .08, and having a problem with alcoholism.²⁷ Active duty suicide decedents had the lowest frequency of alcohol problems but almost always the highest occurrence of a BAC ≥ .08, which is not consistent with established research. This suggests that the identification of an alcohol problem may have been underreported among active duty decedents.
- Alcohol intoxication is linked to intimate partner conflict. Among active duty, veteran, and civilian suicide decedents, those with an intimate partner problem had about twice the frequency of a BAC ≥ .08 as did those with no intimate partner problem. This difference was found among both older and younger age groups.

CONCLUSION

Active duty suicide decedents had a number of positive and protective factors: higher levels of completed education, less drug and alcohol abuse, greater access to mental health treatment, employment, and lower median age. At the same time there were factors that would likely increase their suicide risk, including intimate partner conflict, the overwhelming proportion of active duty decedents who are White males, the potential for a stressful job, and easy access to fatal methods of injury. Given this balance of protective and risk factors, it would seem that active duty members would have suicide rates similar to other groups. However, estimates for Virginia and other national studies suggest that suicide rates among active duty members are higher than for civilians or veterans.

The lower percentage of active duty members who exhibited explicit warning signs such as disclosing intent or prior nonfatal attempts limits opportunities for prevention and intervention. The military should approach suicide prevention and intervention from a different angle, focusing more on these other identified warning signs while continuing to advocate that service members talk to someone if they have suicidal thoughts. Indirect signs, such as intimate partner conflict, criminal legal problems, and other life crises, may be the only warning that active duty members give.

Active duty suicide is also clearly linked to intimate partner problems. One possible approach is for the military to examine if their policies encourage active duty members to marry at a young age, or if those who join the military are already predisposed to marrying at a young age. If military policy encourages marrying young, this can be having an indirect effect on suicide rates. The military should consider providing training and support to nurture healthy relationships among its enlisted personnel.

This report suggests that suicide is a complex act, revealing that active duty and veteran decedents had multiple life stressors that may have been unrelated to military service or occupation. Preventative programs for active duty members and veterans must focus on all relevant life stressors, not just on issues related to combat or military service. Oversimplifying veteran and active duty suicide as always being military or combat-related may lead to weaker efforts at prevention that ignore the complexity of the issue and overlook other military-related groups who are at risk.

This report also suggests that grouping veterans and active duty suicide decedents together is counterproductive for suicide prevention. While persons who have recently been separated from the military may have more in common with active duty members, veteran and active duty decedents, on the whole,

²⁷ Leslie, Marc E. *Alcohol Consumption Before Fatal Suicides*. August, 2010. Virginia Violent Death Reporting System, Office of the Chief Medical Examiner, Virginia Department of Health.

are significantly different, face different problems, and cannot be reached equally through a "one size fits all" approach to suicide prevention. As veterans age, they look more similar to the civilian population, making a single suicide prevention strategy targeted at all current and former military personnel even more ineffective.

Suicide prevention efforts in Virginia have not yet found inroads to address the single largest group of suicide decedents – White males. The military is in a unique position to reach this population – 30% of all White male suicide decedents in Virginia were active duty military or veterans. Assessing for problems with intimate partners, alcohol use, or job problems, and then addressing these concerns within the context of military service, may serve as a powerful support and intervention to reduce high numbers and rates of suicide among the military population.

As discussed, one area of military-related suicides that VVDRS cannot address is the issue of combat status and military service history of decedents. Future research projects that link suicide decedent information with their Veterans Administration records could draw out and illuminate the differences between combat and non-combat decedents. All indications are that military service has something to do with increased suicide risk, at least in the short term, even as there are many protective factors for active duty members. Understanding the presence of combat and job-related stressors for active duty military and veterans may significantly increase the understanding of how to prevent their suicides.