

# Elder 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  
Updated: March, 2013

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## 2003-2010

Updated: March, 2013

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This paper was created to provide information that can be used to prevent violent death in the future. Please notify Marc Leslie (see contact information above) if you distribute or use any portion of this report for training, policy decisions, or other uses.

Suggested citation: Virginia Violent Death Reporting System, Office of the Chief Medical Examiner, Virginia Department of Health. Elder Suicide in Virginia: 2003-2010. Updated: March, 2013.

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 the OCME's Forensic Pathologists and Pathology Fellows whose expertise adds depth to our knowledge; the OCME State and District Administrators who support the project's human resources requirements; 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; and the support of all office and forensic staff who participate actively in our quest for information. Finally, we applaud the efforts of our Surveillance Coordinators, past and present, whose commitment moves this project forward.

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### **Highlighted Findings**

- From 2003 to 2010 an average of 17% of Virginia's population was age 60 or older.
- There were 1,595 elder suicides from 2003-2010 with a rate of 15.6 per 100,000 persons.
- Elder males have a higher suicide risk than non-elder males; elder females have a *lower* suicide risk than non-elder females.
- Elder men are six times more likely than elder women to die from suicide. As they age the suicide rate increases for elder men while it decreases for elder women,
- Elder whites are more than three times more likely than elder Blacks to die from suicide.
- Marriage is a protective factor for elder men, while other marital statuses increase suicide risk. Marital status has little impact on suicide risk for elder women.
- A firearm was the most common method of fatal injury for elder men and second-most common for elder women; men's firearm suicide rate is 13 times the rate for women.
- Elder suicide rates are highest in southwestern Virginia and lowest in northern Virginia.
- Mental health problems were noted for 51% of elder suicide decedents; physical health problems were a factor for 50%.
- Most elder suicide decedents do not present classic warnings of suicide by disclosing intent to commit suicide or experiencing non-fatal suicide attempts before the fatal suicide.
- Elder suicide dynamics are unique to elders. Prevention efforts should address these distinctive qualities and acknowledge elder and non-elder suicide as different social phenomena.



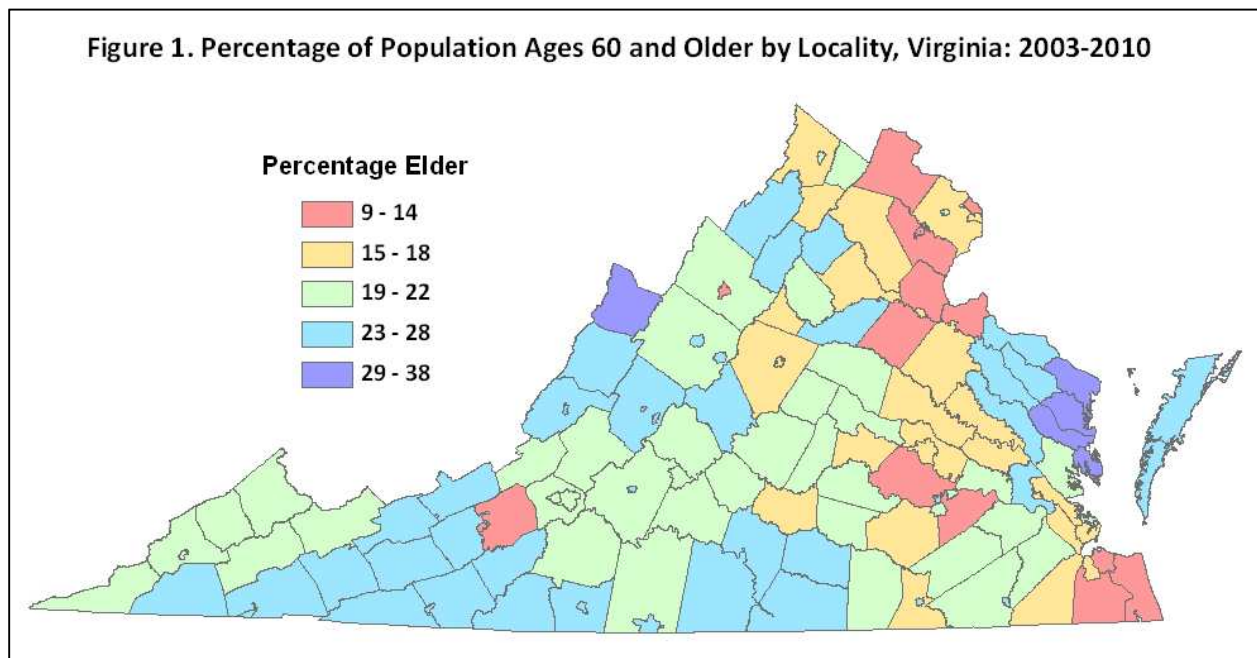
## **Introduction**

Suicide among elder persons is a substantial and complicated social problem. Elder suicide, however, is rarely recognized as such by the media and prevention specialists, who tend to focus on suicide among youth, veterans, or college students. This report examines the characteristics and dynamics of suicide among persons 60 years of age and older in Virginia.<sup>1</sup> More specifically, data presented will address the following questions:

1. What are the demographic traits of elders who die from suicide?
2. How does elder suicide manifest differently in men and women?
3. What methods of fatal injury are used in fatal suicides?
4. How does the rate and pattern of elder suicide differ by geographic region within Virginia?
5. What are the problems and life issues experienced by elders at the time of their suicide?

## **Scope of the Problem**

Looking cumulatively at the years 2003-2010, 17% of Virginia's population was age 60 or older. Virginia's elder population increased 23% in this time period. **Figure 1** shows the proportion of the population that is elder in Virginia localities.



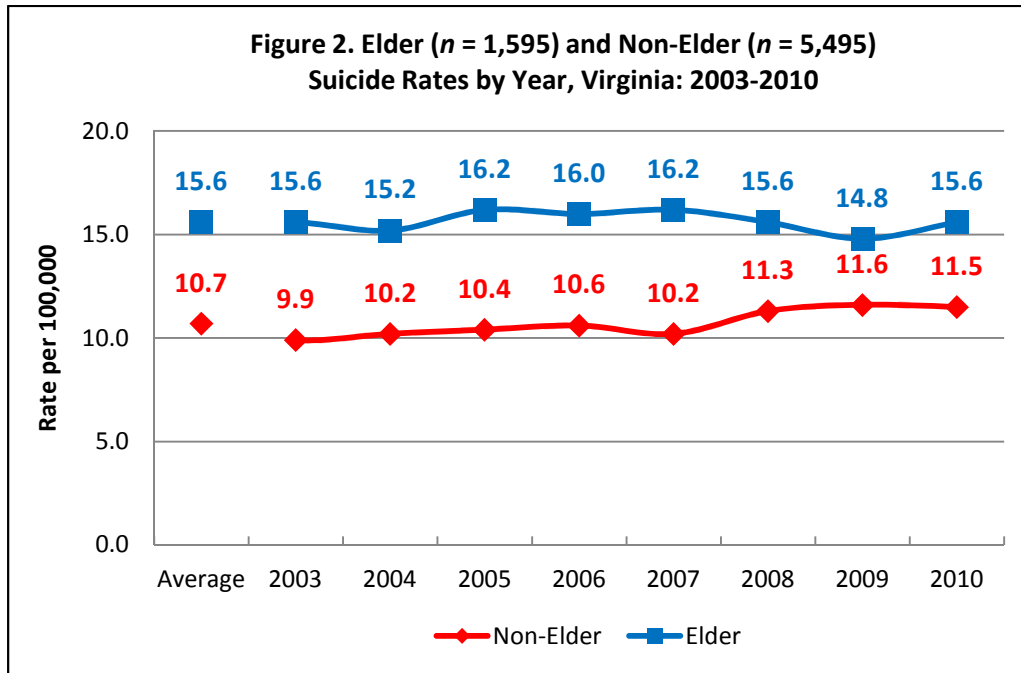
During this time period, there were 1,595 suicides among elder Virginia residents. The elder suicide rate<sup>2</sup> averaged 15.6, making suicide 1.5 times more common among elders than non-elders. The proportion of all suicide decedents in this period who were elder (23%) exceeded the proportion of Virginia residents who were elder (17%).

<sup>1</sup> These data were collected as part of the National Violent Death Reporting System (NVDRS) and the Virginia Violent Death Reporting System (VVDRS). See Appendix A for more information about these systems.

<sup>2</sup> All rates describe risk per 100,000 persons.

### **Elder and Non-Elder Suicide**

Several factors indicate that elder suicide and non-elder suicide are fundamentally different. First, elders have a higher suicide risk (rate of 15.6) than non-elders (rate of 10.7). This is a consistent pattern for each of the eight years captured in this report (see **Figure 2**).

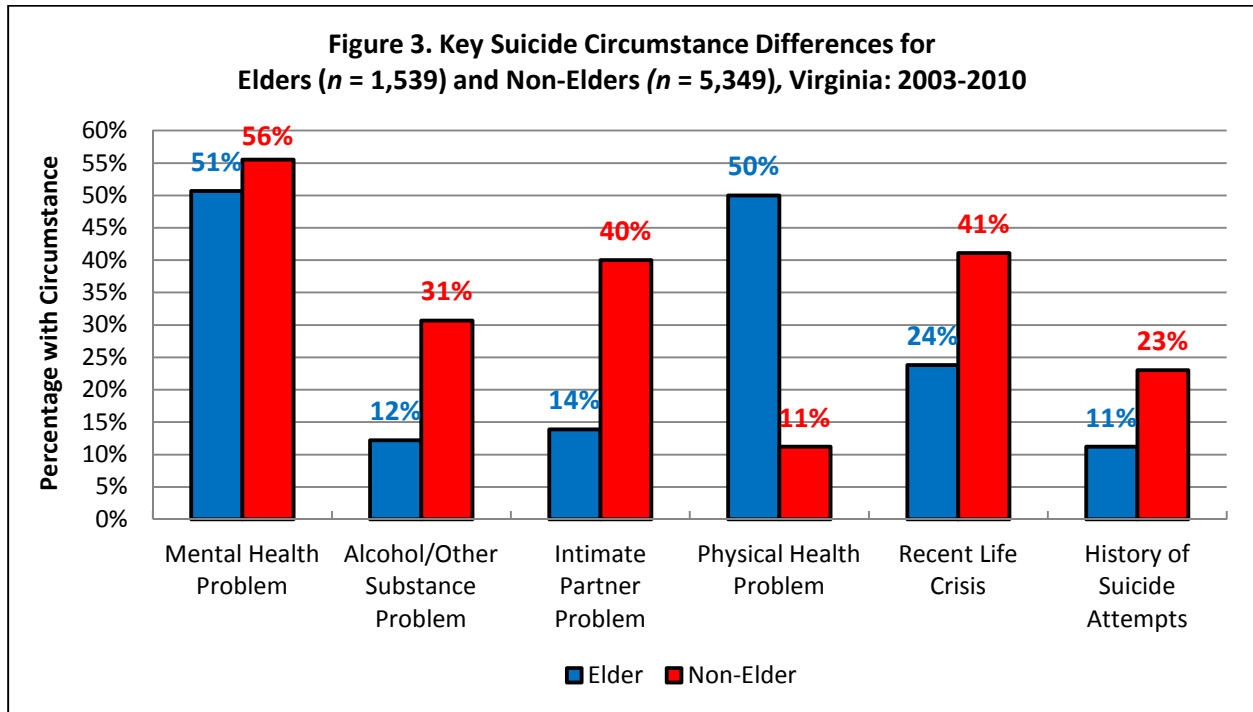


This pattern holds true only among males. The suicide rate for elder males is 1.8 times the rate for non-elder males (29.4 and 16.2, respectively); for all eight years of this study the elder male rate is greater than the non-elder male rate. For females, the average elder suicide rate (4.9) is less than the non-elder female suicide rate (5.2). For the eight years of this study there is no consistent pattern; some years elder females have a higher rate and some years non-elder females have a higher rate.

The second primary difference between elder and non-elder suicide involves the race and gender characteristics of decedents. While non-elder suicide decedents are predominately male (76%) and White (85%), these traits are even more pronounced among elder decedents who are 82% male and 93% White. Compared to others, Whites and male are at increased risk for suicide throughout the lifespan, especially later in life.

Third, and most importantly, elder and non-elder suicides differ notably in the circumstances and life events that lead to suicide (see **Figure 3**). Elders are more often dealing with physical health problems (50%) than non-elders (11%). Non-elders have a higher frequency of mental health problems (56%) than elders (51%), are more frequently reacting to a life crisis (41%) than are elders (24%), and are dealing with intimate partner problems (40%) nearly three-times more often than elders (14%). Additionally, non-elders have nearly three-times the occurrence of alcohol and/or substance abuse problems than do elders (31% and 12%, respectively). Finally, while both groups have similar proportions who disclosed intent to commit suicide (38% of

elders, 36% of non-elders), non-elders more commonly have a history of suicide attempts (23%) than elders (11%).



### Who is at Risk?

#### **Gender, Race, and Age Group**

The risk for elder suicide varies widely according to gender, race, and age group. Elder men are six times more likely than elder women to complete a suicide (rates of 29.4 and 4.9, respectively). The rate for Whites (17.9) is more than three times the rate for Blacks (5.3) and twice the rate for Asians (9.0) (see **Table 1**). Looking at both gender and race, White men have the highest suicide rate (33.4), followed by Black men (11.2), and then White women (5.5).<sup>3</sup>

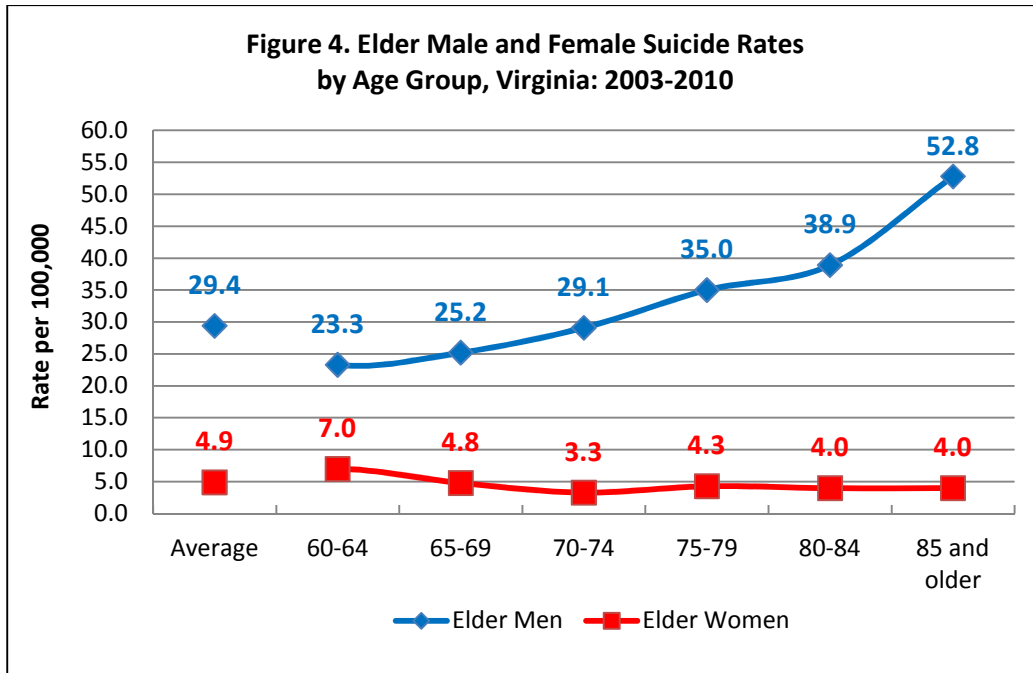
<sup>3</sup> Due to relatively small numbers of suicides (less than 20) among Asian men, Asian women, and Black women during this study period, these groups are not discussed in detail.

**Table 1. Demographics Characteristics of Elder Suicide Decedents, Virginia: 2003-2010**

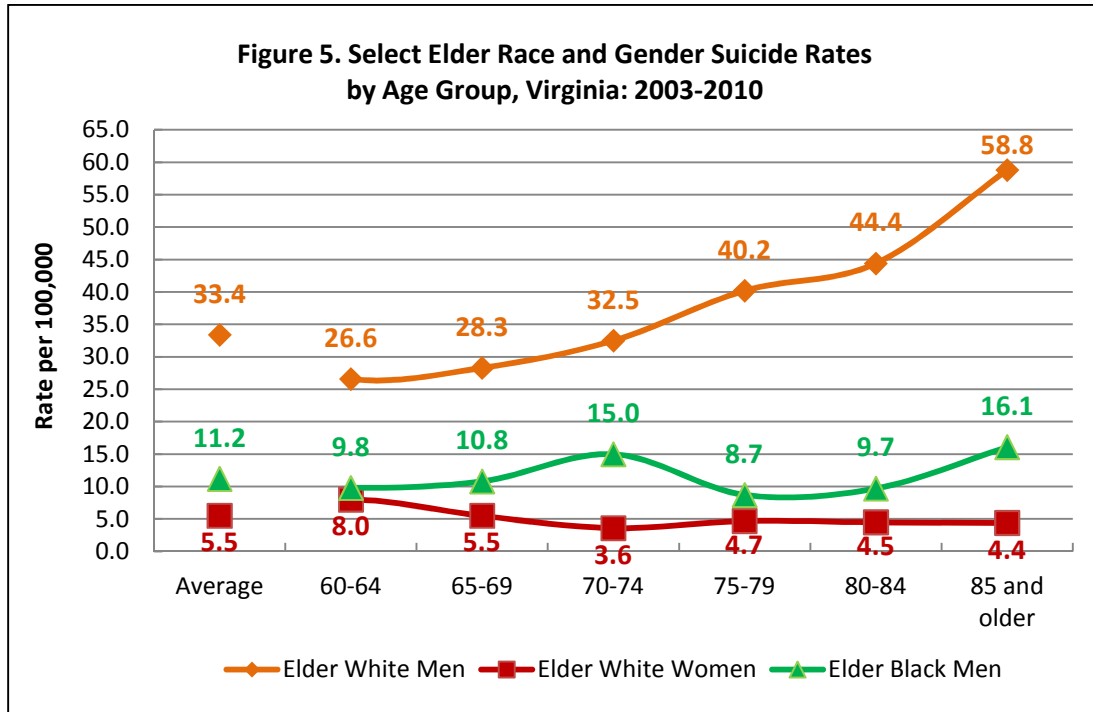
Gender	#	%	Rate <sup>A</sup>
Men	1,315	82.4	29.4
Women	280	17.6	4.9
<b>Race</b>			
White	1,479	92.7	17.9
Black	83	5.2	5.3
Asian	31	1.9	9.0
Native American	1	0.1	3.6
Other	1	0.1	-
<b>Age Group</b>			
60-64	442	27.7	14.8
65-69	317	19.9	14.4
70-74	256	16.1	14.9
75-79	235	14.7	17.1
80-84	175	11.0	17.0
85 and older	170	10.7	18.8
<b>Total</b>	<b>1,595</b>	<b>100.0</b>	<b>15.6</b>

<sup>A</sup> Rates reflect risk per 100,000 persons. The symbol - refers to cells where a rate cannot be calculated.

The interaction of gender and age group affects risk differently for men and women. As men grow older, the risk for suicide increases, eventually more than doubling. For women, age does not have a linear effect on suicide rates and the rates generally decrease with age (see **Figure 4**).



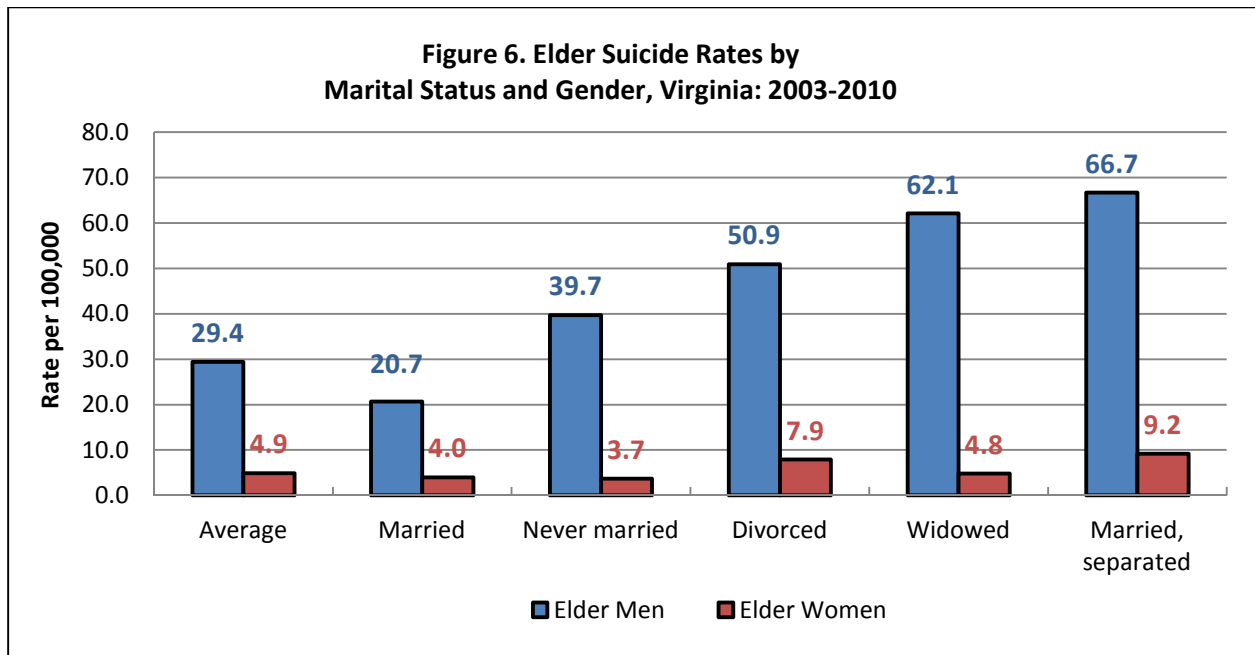
Examining the interaction of gender, race, and age group shows subgroups with clearly defined and different pictures of risk. White men of any age group have higher rates of suicide than *any other* gender, race, and age grouping. The suicide rate for White men peaks at ages 85 and older (58.8). White women’s suicide risk is highest at ages 60-64 (8.0) and lowest at ages 70-74 (3.6). Black men’s suicide risk steadily rises until ages 70-74 (15.0), decreases significantly until ages 80-84, and then increases again at ages 85 and older (16.1) (see **Figure 5**).



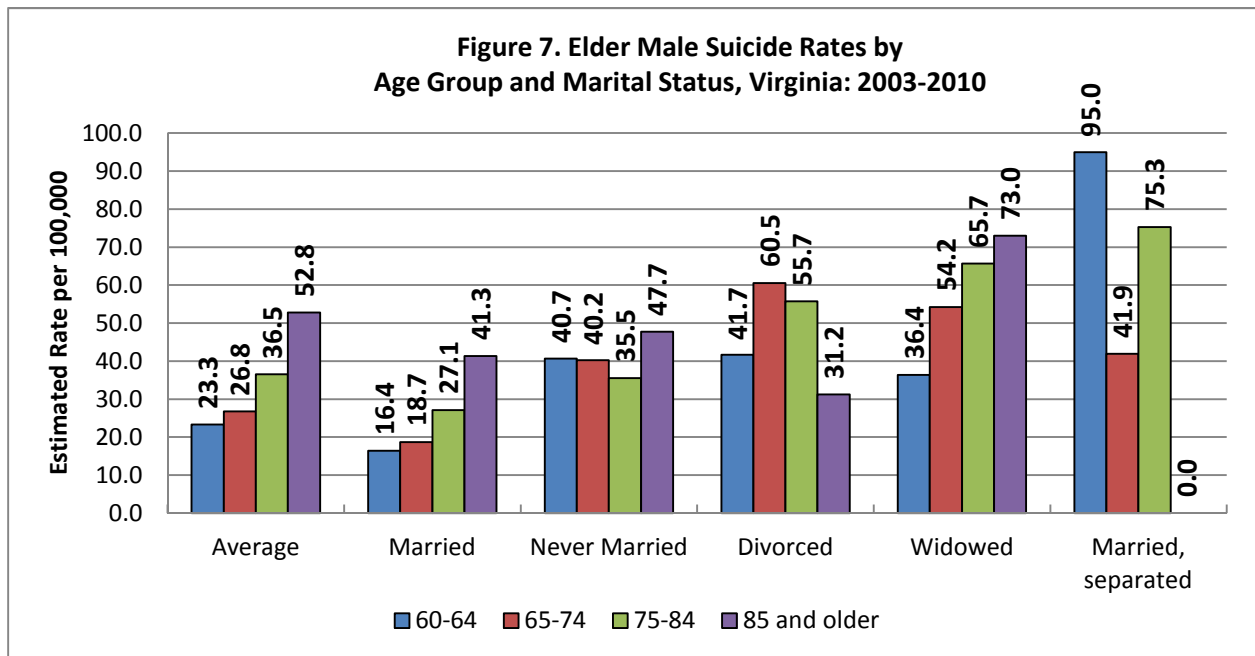
### Marital Status

The intersection of age, gender, and marital status can dramatically impact the portrait of suicide risk. Elder suicide decedents are typically married (50%) or widowed (23%). Most men are married (52%) while this is less common for women (39%) who are more often widowed (33%). **Figure 6** shows the impact of marital status on elder male and female suicide rates.<sup>4</sup>

<sup>4</sup> See Appendix B for a discussion on how marital status suicide rates were calculated.



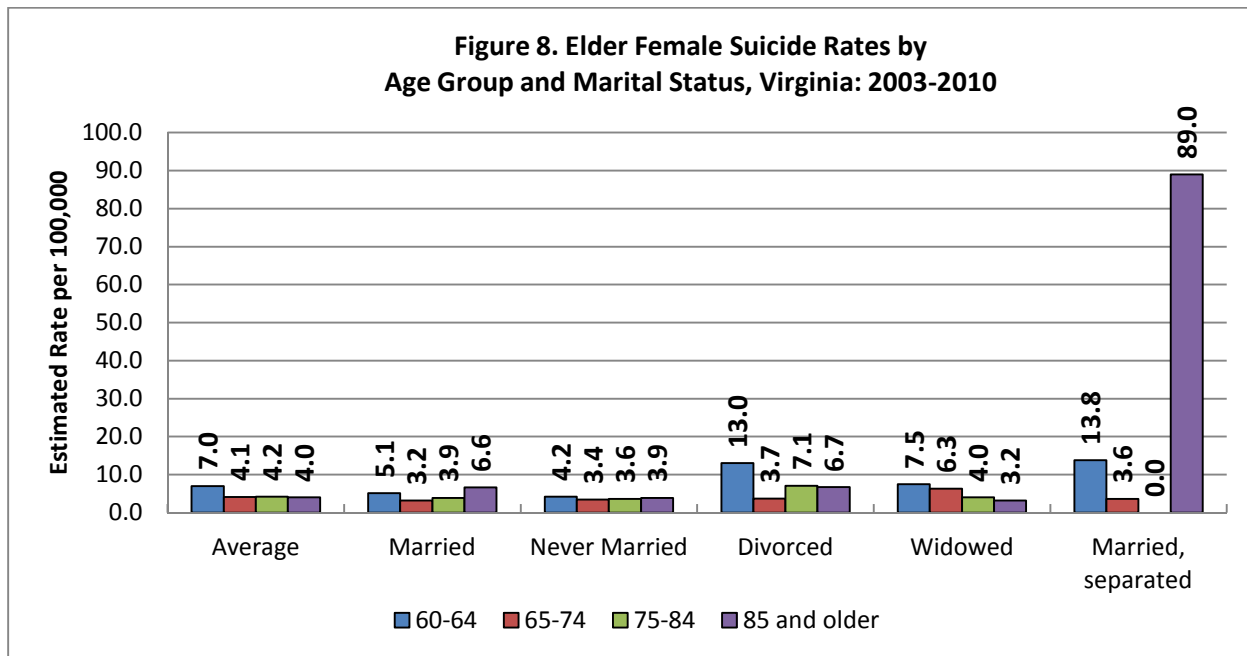
The interaction of marital status, gender, and age group<sup>5</sup> creates different pictures of risk for men (see **Figure 7**) and women (see **Figure 8**).



Overall, marriage decreases suicide risk for elder men. For all age groups, married men have a lower suicide rate than average. All other marital statuses *increase* suicide risk for all age groups, with the exception of divorced men ages 85 and older. Marriage is a protective factor for

<sup>5</sup> Age groups are reclassified to match the categories of the U.S. Census American Community Survey. See Appendix B for more information about this methodology.

suicide among elder men, while not having that form of support, or losing that support, increases their suicide risk.



For women, marital status has little overall influence on suicide risk. Elder women who are married or never married have lower suicide rates than average, with the exception of those who are married and 85 or older. The rate for divorced women is 1.6 times the average rate, and the rate for married but separated women is 1.9 times the average rate.<sup>6</sup> The effects of divorce and marital separation, however, seem to decline with age. The rate for widowed elder women is almost the same as the average rate.

### Occupation

The most common occupations among elder suicide decedents were retired (35%), homemaker (5%), unemployed (4%), and disabled (4%). Other common occupations or titles represented by 20 or more persons included farmer (2%), carpenter/handyman (2%), truck driver (1%), owner of a retail store (1%), teacher (1%), and sales (1%). Overall, nearly half (48%) of elder suicide decedents were not in the workforce at the time of their death.

### Timing and Location

Most suicides (86%) took place within the decedent's home or on the property surrounding their home. This is a notably greater proportion than for non-elder suicide (72%).

Time of day, day of week, and month of year of fatal injury were insignificant. Most fatal injuries (80%) happened between 6:00 am and 8:00 pm; no single time period accounted for more than 14% of the suicides. The most common day of the week was Monday (17%), but every day of the week had 13% or greater of all elder suicides. May (11%) and October (10%) were the most common months while January (6%) and February (7%) were least common.

<sup>6</sup> The rate of 89.0 for married but separated women in Figure 8 represents one decedent.

## **Methods of Fatal Injury**

Most elder suicide decedents used a firearm (72%), poison (11%), or hanging/suffocation (10%) to complete suicide; 93% of all decedents used at least one of these three methods. All other methods were used by 2% of decedents or less (see **Table 2**).

**Table 2. Method of Fatal Injury by Gender for Elder Suicide Decedents, Virginia: 2003-2010<sup>A</sup>**

	Men (n = 1,315)			Women (n = 280)			Total (N = 1,595)		
	#	%	Rate <sup>B</sup>	#	%	Rate	#	%	Rate
<b>Firearm</b>	1,048	79.7	23.4	101	36.1	1.8	<b>1,149</b>	<b>72.0</b>	<b>11.3</b>
<b>Poison</b>	75	5.7	1.7	104	37.1	1.8	<b>179</b>	<b>11.2</b>	<b>1.8</b>
<b>Hanging/Suffocation</b>	123	9.4	2.7	43	15.4	0.8	<b>166</b>	<b>10.4</b>	<b>1.6</b>
<b>Sharp Instrument</b>	29	2.2	0.6	6	2.1	0.1	<b>35</b>	<b>2.2</b>	<b>0.3</b>
<b>Drowning</b>	21	1.6	0.5	12	4.3	0.2	<b>33</b>	<b>2.1</b>	<b>0.3</b>
<b>Fall</b>	18	1.4	0.4	12	4.3	0.2	<b>30</b>	<b>1.9</b>	<b>0.3</b>
<b>Fire or Burn</b>	2	0.2	0.0	4	1.4	0.1	<b>6</b>	<b>0.4</b>	<b>0.1</b>
<b>Other Transport Vehicle</b>	1	0.1	0.0	1	0.4	0.0	<b>2</b>	<b>0.1</b>	<b>0.0</b>
<b>Motor Vehicle</b>	1	0.1	0.0	0	0.0	0.0	<b>1</b>	<b>0.1</b>	<b>0.0</b>
<b>Other</b>	4	0.3	0.1	3	1.1	0.1	<b>7</b>	<b>0.4</b>	<b>0.1</b>

<sup>A</sup> More than one method of fatal injury may be reported per suicide. Methods of fatal injury will not sum to the total number of suicides, nor sum to 100%.

<sup>B</sup> Rates reflect risk per 100,000.

Men and women used different methods of fatal injury. Most men (80%) used a firearm compared to just over one-third (36%) of women; the firearm suicide rate for men (23.4) is 13 times that of women (1.8). For men, the firearm suicide rate increases with each age group, and peaks for those 85 and older (42.2). For women, the rate of firearm use generally declines with age; women ages 60-64 used a firearm 2.3 times as often as women 85 and older. Firearms used were most often handguns (75%), followed by shotguns (15%) and rifles (9%).

Women used poison at seven times the frequency of men (37% and 6%, respectively) but male and female poisoning rates were nearly identical. Most persons who used a poison used one or more prescribed medications (68%) or over-the-counter medications (20%).

Method choice also varies by where in Virginia the decedent was living. Firearm use is highest in the Southwest area of the state (83%) and lowest in northern Virginia (51%), where poisoning is more common (19%).

## **Geography**

Of the 134 Virginia cities and counties, 131 (98%) had at least one elder resident die by suicide in the study period. Fairfax County had the highest number of elder suicides (149) but a rate (12.4) below the state average. The highest elder suicide rate was in Page County (43.9), which was almost 3 times the state average. **Figure 9** presents elder suicide rate ranges in Virginia.<sup>7</sup>

<sup>7</sup> See Appendix A for elder suicide rates for each Virginia locality.



Figure 9. Elder Suicide Rates by Locality, Virginia: 2003-2010

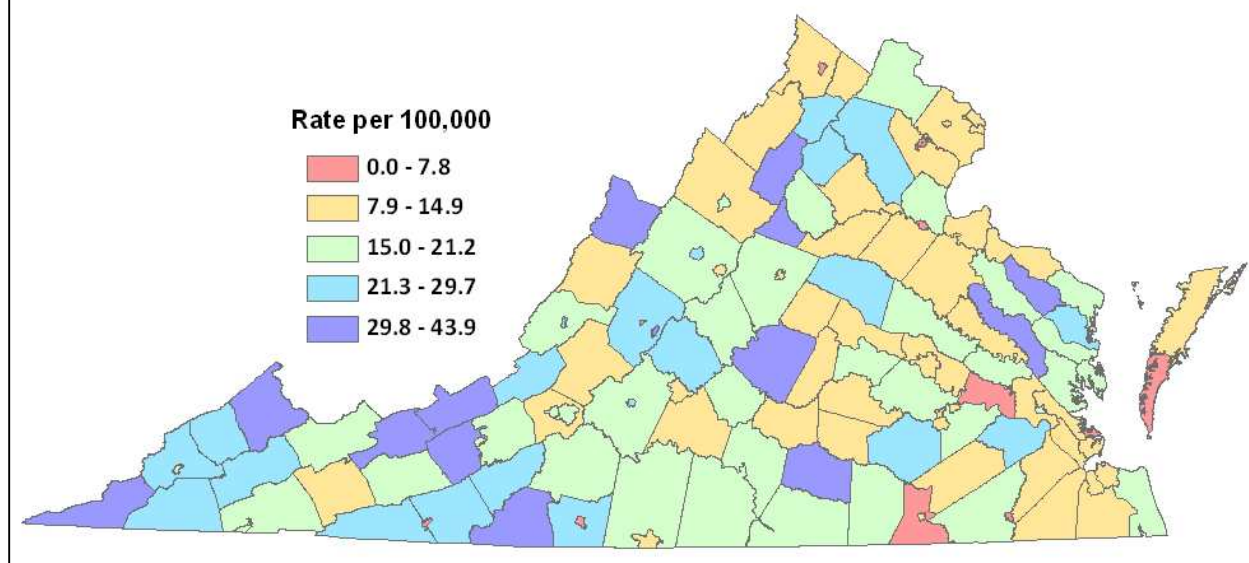


Figure 10 classifies suicide rates for each Virginia locality as being equal to/below or above the state average of 15.6.

Figure 10. Elder Suicide Rates as Equal To/Below or Above State Average Rate, Virginia: 2003-2010

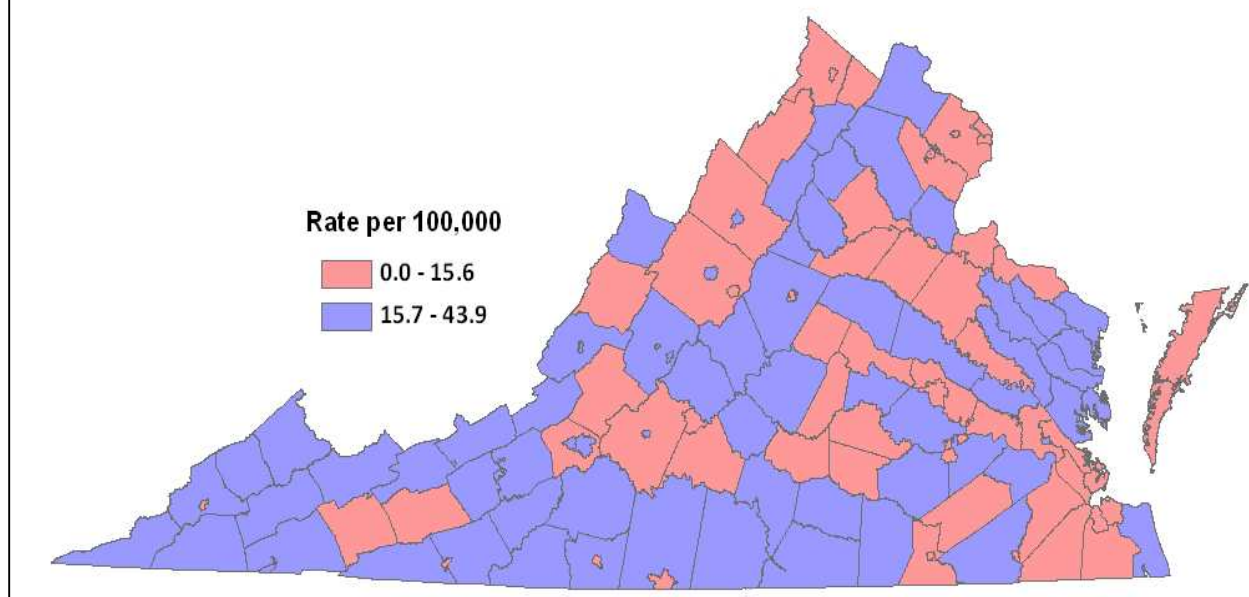


Figure 10 better shows how suicide risk clusters geographically. Large sections of the state are above the average suicide rate, and these tend to cluster in more rural areas.

Table 3 shows differences in elder suicide rates by Virginia Health Planning Region. Among Health Planning Regions, the highest rates were in the Southwest (19.9) and Northwest (17.0)

regions. The other three regions had rates below the state average. The rate was lowest in the Northern Health Planning Region (12.4).

**Table 3. Number and Rate of Elder Suicides by Health Planning Region, Virginia: 2003-2010<sup>A</sup>**

	#	Rate
Southwest	454	19.9
Northwest	276	17.0
Central	277	15.4
Eastern	319	13.7
Northern	269	12.4
<b>Virginia</b>	<b>1,595</b>	<b>15.6</b>

<sup>A</sup> Rates reflect risk per 100,000 persons.

### **Circumstances**

Circumstances surrounding suicide can reflect motivations for the suicide and/or co-occurring life issues.<sup>8</sup> Understanding the circumstances of the suicide illuminates where prevention efforts should be targeted and where elder suicide decedents have common problems. At least one circumstance was known for most elder suicide decedents ( $n = 1,539$  or 96%). What circumstances stand out are often quite different from the notable circumstances for non-elder suicide decedents. As with other factors, elder men and women generally differed on suicide circumstances (see **Table 4**).

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<sup>8</sup> Some circumstances discussed in this section were collected from 2007-2010 only. See Appendix B for a discussion of these supplementary data.

**Table 4. Selected Circumstances of Elder Suicide by Gender, Virginia 2003-2010<sup>A,B</sup>**

	Men (n = 1,262)		Women (n = 277)		Total (N = 1,539)	
	#	%	#	%	#	%
<b>Mental Health Characteristics</b>						
<b>Current Mental Health Problem</b>	594	47.1	187	67.5	<b>781</b>	<b>50.7</b>
<b>Mental Health Treatment<sup>C</sup></b>	428	33.9	167	60.3	<b>595</b>	<b>38.7</b>
<i>Current Mental Health Treatment</i>	393	31.1	157	56.7	<b>550</b>	<b>35.7</b>
<i>Noncurrent Mental Health Treatment</i>	35	2.8	10	3.6	<b>45</b>	<b>2.9</b>
<b>Substance Use Characteristics</b>						
<b>Problems with Alcohol, Other Substances<sup>D</sup></b>	157	12.4	30	10.8	<b>187</b>	<b>12.2</b>
<i>Problem with Alcohol</i>	135	10.7	19	6.9	<b>154</b>	<b>10.0</b>
<i>Problem with Other Substances</i>	16	1.3	9	3.2	<b>25</b>	<b>1.6</b>
<i>Problem with Alcohol &amp; Other Substances</i>	6	0.5	2	0.7	<b>8</b>	<b>0.5</b>
<b>Relationship Characteristics</b>						
<b>Intimate Partner Problem</b>	181	14.3	33	11.9	<b>214</b>	<b>13.9</b>
<b>Death of Family Member/Friend, Past Five Years</b>	120	9.5	33	11.9	<b>153</b>	<b>9.9</b>
<b>Non-intimate Partner Relationship Problem</b>	55	4.4	24	8.7	<b>79</b>	<b>5.1</b>
<b>Perpetrator of Interpersonal Violence, Past Month</b>	56	4.4	4	1.4	<b>60</b>	<b>3.9</b>
<b>Suicide of Family Member/Friend, Past Five Years</b>	12	1.0	2	0.7	<b>14</b>	<b>0.9</b>
<b>Victim of Interpersonal Violence, Past Month</b>	2	0.2	0	0.0	<b>2</b>	<b>0.1</b>
<b>Life Stressor Characteristics</b>						
<b>Physical Health Problem</b>	663	52.5	107	38.6	<b>770</b>	<b>50.0</b>
<b>Financial Problem</b>	117	9.3	32	11.6	<b>149</b>	<b>9.7</b>
<b>Job Problem</b>	66	5.2	7	2.5	<b>73</b>	<b>4.7</b>
<b>Recent Criminal Legal Problem<sup>E</sup></b>	53	4.2	3	1.1	<b>56</b>	<b>3.6</b>
<b>Eviction/Housing Loss/Foreclosure</b>	13	1.0	8	2.9	<b>21</b>	<b>1.4</b>
<b>Noncriminal Legal Problem</b>	15	1.2	3	1.1	<b>18</b>	<b>1.2</b>
<b>Event Characteristics</b>						
<b><i>Disclosed Intent and/or History of Attempts</i></b>	527	41.8	142	51.3	<b>669</b>	<b>43.5</b>
<b>Current Depressed Mood</b>	534	42.3	120	43.3	<b>654</b>	<b>42.5</b>
<b>Disclosed Intent to Commit Suicide<sup>F</sup></b>	475	37.6	103	37.2	<b>578</b>	<b>37.6</b>
<b>Left a Suicide Note</b>	394	31.2	112	40.4	<b>506</b>	<b>32.9</b>
<b>Crisis within Two Weeks of the Suicide</b>	312	24.7	55	19.9	<b>367</b>	<b>23.8</b>
<b>History of Suicide Attempt</b>	100	7.9	72	26.0	<b>172</b>	<b>11.2</b>

<sup>A</sup> More than one characteristic may be noted per person. Percentages are based on the number of suicides where characteristics are known.

<sup>B</sup> For complete descriptions of these characteristics, see section 7 of the NVDRS Coding Manual at: <http://www.cdc.gov/ncipc/pub-res/nvdrs-coding/VS2/NVDRS%20Coding%20Manual%20Full.pdf>.

<sup>C</sup> *Current Mental Health Treatment*: Treatment received within the two months preceding the suicide. *Noncurrent Mental Health Treatment*: Treatment received more than two months before the suicide.

<sup>D</sup> *Problem with Other Substances* automatically includes persons with a positive postmortem test for cocaine who did not die from cocaine poisoning.

<sup>E</sup> *Recent Criminal Legal Problem* automatically includes persons who were incarcerated or died by suicide to avoid an impending arrest.

<sup>F</sup> *Disclosed Intent to Commit Suicide* includes persons who reported suicidal ideation.

## Mental Health and Physical Health

Mental and physical health issues were the two most common circumstances shaping elder suicides. Mental health issues were a factor for 51% of all persons and affected a greater percentage of women (68%) than men (47%). Physical health problems were a factor for 50% of all decedents, and for a greater percentage of men (53%) than women (39%).

Mental health problems and physical health problems were examined jointly to understand their interaction (see **Table 5**). A mental health problem by itself was more common among women (46%) than men (27%), while a physical health problem by itself was more common among men (32%) than women (17%). The majority of men and women had one or both of these problems.

**Table 5. Combined Physical Health Problems and Mental Health Problems  
Among Elder Suicide Decedents by Gender, Virginia: 2003-2010**

	Men		Women		Total	
	#	%	#	%	#	%
<b>Mental Health</b>	337	26.7	128	46.2	<b>465</b>	<b>30.2</b>
<b>Physical Health</b>	406	32.2	48	17.3	<b>454</b>	<b>29.5</b>
<b>Mental Health &amp; Physical Health</b>	257	20.4	59	21.3	<b>316</b>	<b>20.5</b>
<b>Neither Problem</b>	262	20.7	42	15.2	<b>304</b>	<b>19.8</b>
<b>Total</b>	<b>1,262</b>	<b>100.0</b>	<b>277</b>	<b>100.0</b>	<b>1,539</b>	<b>100.0</b>

## Mental Health Problems

Most persons with a mental health problem were engaged in treatment to some degree. Of those with a mental health problem, 88% were known to have taken prescribed mental health medications at some point and 77% took them in the past 30 days. Among those where the type of mental health professional seen was known, the most common was a psychiatrist (70%) followed by a primary care physician (20%).

Elders being treated for mental health problems were at increased risk for poisoning in general and using mental health poisons specifically. Of those persons who had ever been treated for a mental health problem with medication, 20% used a poison in the fatal suicide compared to 8% who had never been treated.<sup>9</sup> More specifically, among those who ever took mental health medication, 10% used a mental health medication as a poison in the fatal suicide compared to 2% of those without mental health treatment. Among women, 26% with mental health treatment used a mental health medication as a poison compared to 9% of others.

## Physical Health Problems

Physical health problems were classified into three broad categories: cancer, pain, and other problems (see **Table 6**). Other physical health problems are those other than cancer and pain (e.g., diabetes, lung problems), although these physical health problems may cause pain.

<sup>9</sup> This trend was found among elder women, but not among elder men.

**Table 6. Classification of Physical Health Problems  
Experienced by Elder Suicide Decedents by Gender, Virginia: 2007-2010**

	Men		Women		Total	
	#	%	#	%	#	%
<b>Cancer</b>	75	23.4	5	11.1	<b>80</b>	<b>21.9</b>
<b>Pain</b>	30	9.3	15	33.3	<b>45</b>	<b>12.3</b>
<b>Other problem</b>	119	37.1	15	33.3	<b>134</b>	<b>36.6</b>
<b>Cancer, Pain</b>	19	5.9	1	2.2	<b>20</b>	<b>5.5</b>
<b>Cancer, Other problem</b>	27	8.4	4	8.9	<b>31</b>	<b>8.5</b>
<b>Pain, Other problem</b>	34	10.6	4	8.9	<b>38</b>	<b>10.4</b>
<b>Cancer, Pain, Other problem</b>	11	3.4	0	0.0	<b>11</b>	<b>3.0</b>
<b>Unknown</b>	6	1.9	1	2.2	<b>7</b>	<b>1.9</b>
<b>Total</b>	<b>321</b>	<b>100.0</b>	<b>45</b>	<b>100.0</b>	<b>366</b>	<b>100.0</b>

These physical health problems affected mobility/senses (20%) and were chronic conditions (18%). The problem was terminal for 19% and limited independence for 28%. One-fifth (20%) were hopeless that their health problem could be resolved.

More specifically, the site of the cancer was most commonly the prostate (29%), lungs (22%), colon (11%), or throat (9%). Pain problems were typically found in the back (36%), legs or knees (18%), or multiple locations (15%). The most common other health problems were heart problems (33%), lung/breathing problems (24%), diabetes (13%), and vision problems (11%).

### **Intimate Partner Problems**

Overall, 14% of elder suicide decedents had intimate partner problems at the time of their suicide; this was slightly higher for men (14%) than for women (12%). Intimate partner problems were most often with spouses (52%) and separated spouses (26%). Most decedents with intimate partner problems lived with that intimate partner either at the time of the suicide (64%) or in the past (29%).

The majority of intimate partner problems were related to the relationship coming to an end (42%) through a break-up, separation, or divorce. Other problems included general relationship conflict (27%) and infidelity (9%). For 28% of suicide decedents with intimate partner problems, the suicide occurred during or immediately after an argument with the intimate partner, demonstrating the volatility of intimate partner conflict.

### **Warnings of Suicide**

More than two-fifths (44%) of elder suicide decedents disclosed intent to commit suicide<sup>10</sup> and/or had prior non-fatal suicide attempts. This means that 56% of elder suicide decedents were *not* known to display these most clear warning signs of suicide. A larger percentage of women disclosed intent and/or had a history of suicide attempts (51%) than did men (42%).

<sup>10</sup> In the NVDRS coding schema, *disclosed intent* is endorsed if the decedent communicated their intent to commit suicide to another person, explicitly or implicitly, and that person had reasonable time to intervene for safety.

## Disclosed Intent to Commit Suicide

Among decedents where it was known to whom they disclosed intent, the most common types of persons were family members (46%), followed by current or former intimate partners (42%), and friends or acquaintances (19%). After disclosing intent, family and/or friends of these decedents had a variety of reactions; 2% took the threats seriously but did not take any preventative action while 10% did not take the suicidal threats seriously.

For some decedents who disclosed intent (20%), friends and/or family took action to prevent the suicide. Among the actions taken, the most common were limiting firearm and/or ammunition access (35%), engaging the decedent with mental health services (29%), calling 911 or law enforcement (14%), trying to persuade the decedent not to complete the suicide (12%), and intensely monitoring the decedent to ensure safety (12%).

Of the decedents whose friends and/or family tried to limit access to firearms or ammunition to prevent suicide, 89% used a firearm in the fatal suicide compared to 70% of persons whose loved ones did not take this type of preventative action. This finding does not imply that means restriction is ineffective; however, it does suggest that means restriction *by itself* may not be effective and should be combined with other preventative measures. This finding also suggests that these decedents' friends and families were correct in their assessment of the situation and the danger at hand, lending credibility to the instincts and reactions of persons who try to prevent suicide.

## History of Suicide Attempts

Women more often had non-fatal prior attempts than men (26% and 8%, respectively). This greater amount of non-fatal prior attempts for women may be related to more frequent use of less lethal methods. More than half (53%) who had a prior attempt had one known prior attempt. The most common method used in a prior non-fatal attempt was poison (39%). Those with prior attempts tended to use less lethal methods of injury in the fatal suicide (see **Table 7**).

**Table 7. Select Fatal Suicide Methods by Prior Attempt Status and Gender, Virginia: 2007-2010**

	Men				Women			
	Prior Attempts (n = 59)		No Prior Attempts (n = 639)		Prior Attempts (n = 45)		No Prior Attempts (n = 100)	
	#	%	#	%	#	%	#	%
<b>Firearm</b>	33	55.9	520	81.4	7	15.6	39	39.0
<b>Poison</b>	8	13.6	28	4.4	22	48.9	39	39.0
<b>Hanging/Suffocation</b>	13	22.0	54	8.5	7	15.6	13	13.0

Among men, those without prior attempts had 1.5 times greater the use of firearms in the fatal suicide; those with a prior attempt used poison 3.1 times more often. For women, those without a prior attempt had more than double the use of firearms compared to women who previously attempted suicide.

Among decedents whose prior attempt methods were known, 29% used the same method in all prior attempts *and* in the fatal suicide. Of those who used the same method each time, 50% used

a poison. Of those who used different methods, nearly half (48%) graduated in lethality and used a firearm in the fatal suicide. This suggests that persons who are suicidal will utilize more lethal methods and change methods in subsequent suicide attempts. Means restriction, therefore, must account for more than the methods used in the previous attempt or attempts.

### Additional Insights into Elder Suicide

**Table 8** presents some additional suicide circumstances.

**Table 8. Selected Additional Circumstances of Elder Suicide by Gender, Virginia: 2007-2010<sup>A</sup>**

	Men (n = 616)		Women (n = 141)		Total (N = 757)	
	#	%	#	%	#	%
<b>Took Prescribed Pain Medication, Past Two Months<sup>B</sup></b>	103	16.7	39	27.7	142	18.8
<b>Crisis in Past 24 Hours</b>	114	18.5	18	12.8	132	17.4
<b>Sleeping Too Little</b>	68	11.0	45	31.9	113	14.9
<b>Tired of Living</b>	33	5.4	14	9.9	47	6.2
<b>Did Not Want to be a Burden</b>	30	4.9	8	5.7	38	5.0
<b>Family History of Suicide</b>	24	3.9	8	5.7	32	4.2

<sup>A</sup> More than one characteristic may be noted for each decedent. Percentages are based on the number of suicides where additional characteristics are known.

<sup>B</sup> Specified as medication prescribed for the decedent.

Many elder suicide decedents (17%) had a crisis in the 24 hours immediately preceding their suicide that led to or contributed to the death. Of all decedents with a crisis in the past two weeks, most (67%) actually had a crisis within 24 hours. While so much of elder suicide is related to chronic issues (mental health, physical health), this finding shows that a fairly high proportion of elder suicide decedents are reacting to a more immediate crisis.

Decedents taking pain medication prescribed for them was found among 19% of decedents. The majority of these persons (66%) had a noted physical health problem and 36% had a known problem with pain. Use of prescribed pain medication was more common among women (28%) than among men (17%).

Use of prescribed pain medication is associated with an increase in poisoning suicides generally and use of pain medication as a fatal poison specifically. Of those who took pain medication in the past month, 24% used pain medication as fatal poison compared with 1% of those who did not have such a prescription. This difference is found among both men and women. Additionally, those with prescribed pain medication had a threefold increase in poisoning suicides compared to those who did not have prescribed pain medication (28% and 9%, respectively).

This use of pain medication as a poison creates a serious quandary for medical professionals. While many persons benefit from pain medication, this medication is too easily used as a fatal poison. Changing and adjusting prescription patterns, and monitoring for suicide risk, are important issues for the medical community to address.

Trouble sleeping was noted for 15% of decedents.<sup>11</sup> This factor was found nearly three times as often in women (32%) than in men (11%). Similar to persons who took pain medication, those with trouble sleeping had increased likelihood of poisoning themselves with sleep medications. Among women who had noted trouble sleeping and poisoned themselves, 61% used Zolpidem, a common sleep medication, as the fatal poison. Of those who were not noted with a sleep problem, there were zero suicides with Zolpidem. This again suggests problems with access to lethal poisons that serve a legitimate medical purpose.

### **Conclusion**

Elder suicide is a complex social problem that is rarely explored as a separate and unique phenomenon associated with aging and the lifespan. Elder men are at increased risk for suicide while elder women experience a relative decrease in suicide risk compared to their non-elder counterparts. Other differences between men and women, often documented in studies of suicide, tend to be amplified among elder decedents.

Marital status has a major effect on elder male suicide rates. The interaction of marital status and age for elder men can double and triple their average suicide rate. Further research should focus on marital status and elder male suicide, to determine how processes of becoming separated, divorced, or widowed are temporally related to suicide. Prevention programs should focus on these turning points in the lives of elder men as potential periods of high suicide risk, and develop trainings to help medical professionals, mental health professionals, and friends and family address this issue.

While there are many circumstances that lead to elder suicide, mental health problems and physical health problems are clearly important and central in the lives of elder suicide decedents. These problems impact men and women to different degrees. Physical health problems create a major barrier to traditional suicide prevention; persons dealing with terminal illnesses or chronic pain may be less likely persuaded by arguments regarding the value of life.

Other unique characteristics of elder suicide are lost when research discusses elder suicide as part of all suicide. Elders with plans to attempt suicide provide less opportunity for intervention and utilize more lethal methods of fatal injury, meaning that the potential for suicide must be addressed earlier and often without the benefit of knowing that someone is, in fact, thinking about committing suicide.

A focused effort on elder suicide prevention must take these and other factors into account and enlist the assistance of medical and mental health care providers as a primary contact point for elders in crisis. More attention should be paid to life-altering events, such as change to marital status or onset of illness, which may have a major impact on the resiliency of elders. While this report gives an overview of elder suicide, it also points to the value of studying male and female elder suicide separately. Why does risk increase steadily with age for men as it simultaneously decreases for women? Elder suicide is an issue that can only be addressed by treating it as distinct from non-elder suicide, and by addressing the unique and nuanced factors known to shape suicide risk among our elder citizens.

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<sup>11</sup> Sleeping too much, which has often been used as an indicator of depression and suicide risk, was found among less than 1% of elder suicide decedents.



## **Appendix A: Elder Suicide in Virginia Communities**

**Table A1. Percentage of Population Ages 60 or Older by Locality, Virginia: 2003-2010**

Locality	%	Locality	%	Locality	%
Accomack County	22.7	Franklin County	22.2	Nottoway County	22.4
Albemarle County	17.4	Frederick County	16.0	Orange County	22.7
Alexandria City	15.0	Fredericksburg City	17.6	Page County	22.6
Alleghany County	25.3	Galax County	25.5	Patrick County	26.0
Amelia County	20.3	Giles County	22.9	Petersburg City	21.0
Amherst County	21.4	Gloucester County	18.6	Pittsylvania County	21.1
Appomattox County	22.3	Goochland County	19.1	Poquoson City	21.4
Arlington County	13.7	Grayson County	26.5	Portsmouth City	17.4
Augusta County	19.9	Greene County	15.8	Powhatan County	15.5
Bath County	27.1	Greensville County	16.2	Prince Edward County	18.0
Bedford City	27.9	Halifax County	25.1	Prince George County	11.6
Bedford County	19.9	Hampton City	15.7	Prince William County	9.8
Bland County	22.5	Hanover County	17.1	Pulaski County	23.4
Botetourt County	20.9	Harrisonburg City	11.8	Radford City	13.0
Bristol City	27.1	Henrico County	16.8	Rappahannock County	23.7
Brunswick County	20.4	Henry County	23.4	Richmond City	17.8
Buchanan County	20.5	Highland County	31.5	Richmond County	23.6
Buckingham County	18.9	Hopewell City	19.1	Roanoke City	21.4
Buena Vista City	23.6	Isle of Wight County	18.7	Roanoke County	21.8
Campbell County	20.6	James City County	24.1	Rockbridge County	24.1
Caroline County	17.7	King and Queen County	22.8	Rockingham County	19.4
Carroll County	24.4	King George County	13.7	Russell County	21.5
Charles City County	22.4	King William County	16.8	Salem City	22.2
Charlotte County	24.1	Lancaster County	37.5	Scott County	25.5
Charlottesville City	16.3	Lee County	21.5	Shenandoah County	23.5
Chesapeake City	14.1	Lexington City	21.4	Smyth County	23.4
Chesterfield County	13.1	Loudoun County	9.2	Southampton County	19.8
Clarke County	21.1	Louisa County	19.6	Spotsylvania County	12.7
Colonial Heights City	24.3	Lunenburg County	23.1	Stafford County	9.9
Covington City	25.8	Lynchburg City	20.7	Staunton City	25.6
Craig County	21.3	Madison County	22.5	Suffolk City	15.4
Culpeper County	16.0	Manassas City	11.3	Surry County	20.3
Cumberland County	21.8	Manassas Park City	8.7	Sussex County	19.2
Danville City	26.0	Martinsville City	27.2	Tazewell County	22.5
Dickenson County	22.0	Mathews County	31.2	Virginia Beach City	14.0
Dinwiddie County	17.7	Mecklenburg County	25.8	Warren County	17.3
Emporia City	23.8	Middlesex County	31.6	Washington County	22.8
Essex County	23.6	Montgomery County	12.7	Waynesboro City	23.1
Fairfax City	19.5	Nelson County	25.7	Westmoreland County	26.4
Fairfax County	14.7	New Kent County	15.9	Williamsburg City	18.0
Falls Church City	18.7	Newport News City	14.5	Winchester City	20.3
Fauquier County	16.4	Norfolk City	13.3	Wise County	18.8
Floyd County	22.8	Northampton County	26.2	Wythe County	22.9
Fluvanna County	19.0	Northumberland County	36.6	York County	16.5
Franklin City	22.6	Norton City	21.8	<b>VIRGINIA</b>	<b>16.6</b>

**Table A2. Elder Suicide Rates by Locality of Residence, Virginia: 2003-2010<sup>A</sup>**

Locality	Rate	Locality	Rate	Locality	Rate
Accomack County	10.1	Franklin County	16.4	Nottoway County	10.7
Albemarle County	17.8	Frederick County	12.0	Orange County	14.0
Alexandria City	9.7	Fredericksburg City	6.5	Page County	43.9
Alleghany County	18.0	Galax City	7.2	Patrick County	35.4
Amelia County	14.8	Giles County	31.8	Petersburg City	10.9
Amherst County	23.6	Gloucester County	17.7	Pittsylvania County	19.2
Appomattox County	15.7	Goochland County	13.0	Poquoson City	4.9
Arlington County	10.5	Grayson County	23.5	Portsmouth City	14.4
Augusta County	15.2	Greene County	31.4	Powhatan County	17.9
Bath County	9.7	Greensville County	-	Prince Edward County	13.1
Bedford City	28.6	Halifax County	16.6	Prince George County	18.1
Bedford County	15.2	Hampton City	13.2	Prince William County	13.1
Bland County	32.1	Hanover County	18.6	Pulaski County	30.5
Botetourt County	11.2	Harrisonburg City	19.7	Radford City	18.7
Bristol City	15.8	Henrico County	14.7	Rappahannock County	29.3
Brunswick County	20.7	Henry County	29.7	Richmond City	10.3
Buchanan County	32.6	Highland County	32.5	Richmond County	35.0
Buckingham County	32.7	Hopewell City	14.4	Roanoke City	16.3
Buena Vista City	33.1	Isle of Wight County	13.6	Roanoke County	14.1
Campbell County	13.8	James City County	12.1	Rockbridge County	29.1
Caroline County	10.7	King and Queen County	40.2	Rockingham County	13.3
Carroll County	27.9	King George County	12.6	Russell County	28.1
Charles City County	7.8	King William County	14.5	Salem City	20.3
Charlotte County	16.8	Lancaster County	23.0	Scott County	25.7
Charlottesville City	13.2	Lee County	38.7	Shenandoah County	13.3
Chesapeake City	10.2	Lexington City	-	Smyth County	13.2
Chesterfield County	16.5	Loudoun County	17.6	Southampton County	17.6
Clarke County	12.5	Louisa County	22.6	Spotsylvania County	10.9
Colonial Heights City	11.7	Lunenburg County	33.1	Stafford County	21.0
Covington City	23.6	Lynchburg City	13.9	Staunton City	24.7
Craig County	22.9	Madison County	20.7	Suffolk City	10.1
Culpeper County	10.7	Manassas City	6.0	Surry County	26.1
Cumberland County	12.0	Manassas Park City	-	Sussex County	10.8
Danville City	14.9	Martinsville City	6.2	Tazewell County	21.2
Dickenson County	28.1	Mathews County	17.6	Virginia Beach City	16.3
Dinwiddie County	27.2	Mecklenburg County	19.5	Warren County	24.2
Emporia City	9.2	Middlesex County	18.7	Washington County	16.7
Essex County	19.7	Montgomery County	20.1	Waynesboro City	12.7
Fairfax City	11.2	Nelson County	19.3	Westmoreland County	13.7
Fairfax County	12.4	New Kent County	18.7	Williamsburg City	16.9
Falls Church City	18.0	Newport News City	13.7	Winchester City	4.8
Fauquier County	22.2	Norfolk City	9.9	Wise County	22.4
Floyd County	22.3	Northampton County	3.6	Wythe County	15.3
Fluvanna County	13.2	Northumberland County	16.0	York County	13.5
Franklin City	6.4	Norton City	15.2	<b>VIRGINIA</b>	<b>15.6</b>

<sup>A</sup> Rates reflect risk per 100,000 persons. The symbol – indicates localities with no elder suicides in this time period.

## **Appendix B: Methodology**

## **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.<sup>12</sup> 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.

The VVDRS abstracts death investigation information from several sources, primarily the Office of the Chief Medical Examiner, law enforcement, the Virginia Division of Health Statistics, and the Virginia Department of Forensic Science. Each relevant death record is reviewed by a Coordinator. The Coordinator ensures that all information sources required by the NVDRS are in the record, requests reports that are not already in the file, and abstracts and manually enters the relevant information into the database. Continuous quality assurance activities maintain data accuracy as well as consistency among Coordinators. Deaths entered into the VVDRS are reconciled with deaths reported by the Virginia Division of Health Statistics and the Virginia Office of the Chief Medical Examiner for the purpose of comprehensive case identification.

Starting in 2007 Virginia added 123 new data elements to provide additional detail and information about suicide circumstances. This was done through the Plug-in Component, or PIC, a function of the NVDRS software that lets individual states define and add their own data elements. This additional information is used throughout the circumstance section to provide further insight into elder suicide.

In the VVDRS database, age is recorded from three sources: the Death Certificate, Medical Examiner report, and Law Enforcement report. To determine elder status, the age reported by these three sources was compared. Any age differences were reconciled.

Population numbers used to create rates for marital status were estimated using U.S. Census Bureau's 2006-2010 American Community Survey.<sup>13</sup> This is the only available source for numbers regarding marital status by age group and gender. Using these data required several assumptions, primarily that the picture of marital status among elders in 2003-2005 was identical to 2006-2010. This estimate also required reclassifying age groups to match the Census categories.

## **Interpreting Data Based on Small Numbers of Cases**

Data made up of relatively small numbers (20 or fewer cases) are considered statistically unreliable and should be interpreted and used with caution. Numbers, percentages, or rates for 20 or fewer cases are often presented here in the interest of complete reporting.

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<sup>12</sup> Persons who die in Virginia, but were residents of another state, are excluded.

<sup>13</sup> United States Census Bureau. *American Community Survey, 2006-2010*. Accessed 8 January 2013.