Physical Health Problems and Suicide in Virginia:

A Report from the Virginia Violent Death Reporting System

2007-2010

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Introduction

Suicide usually occurs in the context of multiple personal and social stressors such as mental health problems, intimate partner conflict, and financial problems. One common stressor is a physical health problem. This paper focuses on 629 Virginians whose suicide is linked to a physical health problem, and attempts to answer two questions: who is at risk for health-related suicides, and what health problems are related to suicide in Virginia?

This report uses 2007-2010 data from the Virginia Violent Death Reporting System (VVDRS), which is part of the National Violent Death Reporting System (NVDRS).[1] In the NVDRS coding schema, a physical health problem is noted when the suicide and the health problem are *explicitly* linked, or the decedent has a terminal or debilitating illness and there is little information to otherwise explain the suicide. Information about physical health problems are uncovered in notes left by the decedent and in interviews with surviving family and friends.

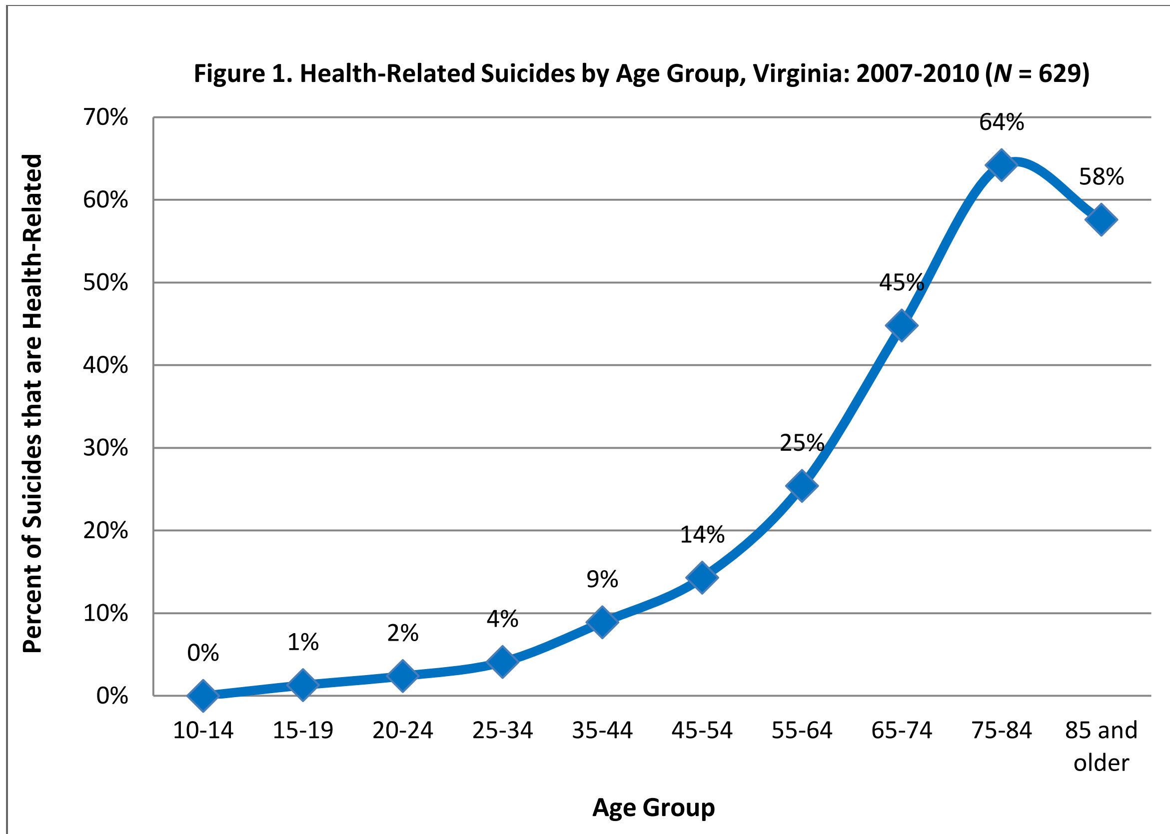
VVDRS information is collected from existing death investigation records. These records do not always provide specific diagnoses, nor do the decedent's own words always specify their exact physical health problem. A suicide note may discuss heart problems but will not go into detail about whether the problems are due to congestive heart failure, a series of heart attacks, or an arrhythmia. Similarly, surviving family members may note that the decedent was recently diagnosed with prostate cancer, but there is no information regarding the stage of the cancer or the prognosis. Therefore, this discussion of health problems is necessarily broad and typically will not provide information about specific diagnoses.

Population at Risk

In Virginia 18% of all suicides are related to physical health problems; this proportion swells to 47% among those ages 60 and over. These physical health problems occur in similar proportion among males (18%) and females (17%) and are about twice as common among Whites (20%) when compared to Blacks (9%) and Asians (10%).

The best predictor of a health-related suicide is age. The median age of someone who dies in a health-related suicide is nearly two decades older than those who die in suicides that are not related to health (63 and 46 years, respectively). This age difference is most prominent among males (20 years), Whites (16 years), and Blacks (13 years), and less pronounced among females (8 years). **Figure 1** shows the percentage of suicides that are health-related for each age group.

[1] Virginia is one of eighteen states participating in the National Violent Death Reporting System (NVDRS). For more about the NVDRS, see http://www.cdc.gov/ViolencePrevention/NVDRS/index.html. For definitions of terms see the NVDRS coding manual: http://www.cdc.gov/violenceprevention/pdf/NVDRS_Coding_Manual_Version_3-a.pdf.



At the same time, where a person lives has little impact on the proportion of suicides that are health-related. The Southwest Health Planning Region has the highest percentage (20%), but this is just slightly higher than the Northern, Northwest, and Central Health Planning Regions (19% each). The Eastern Region of Virginia has the lowest proportion of suicides that are health-related (14%).

Types of Physical Health Problems

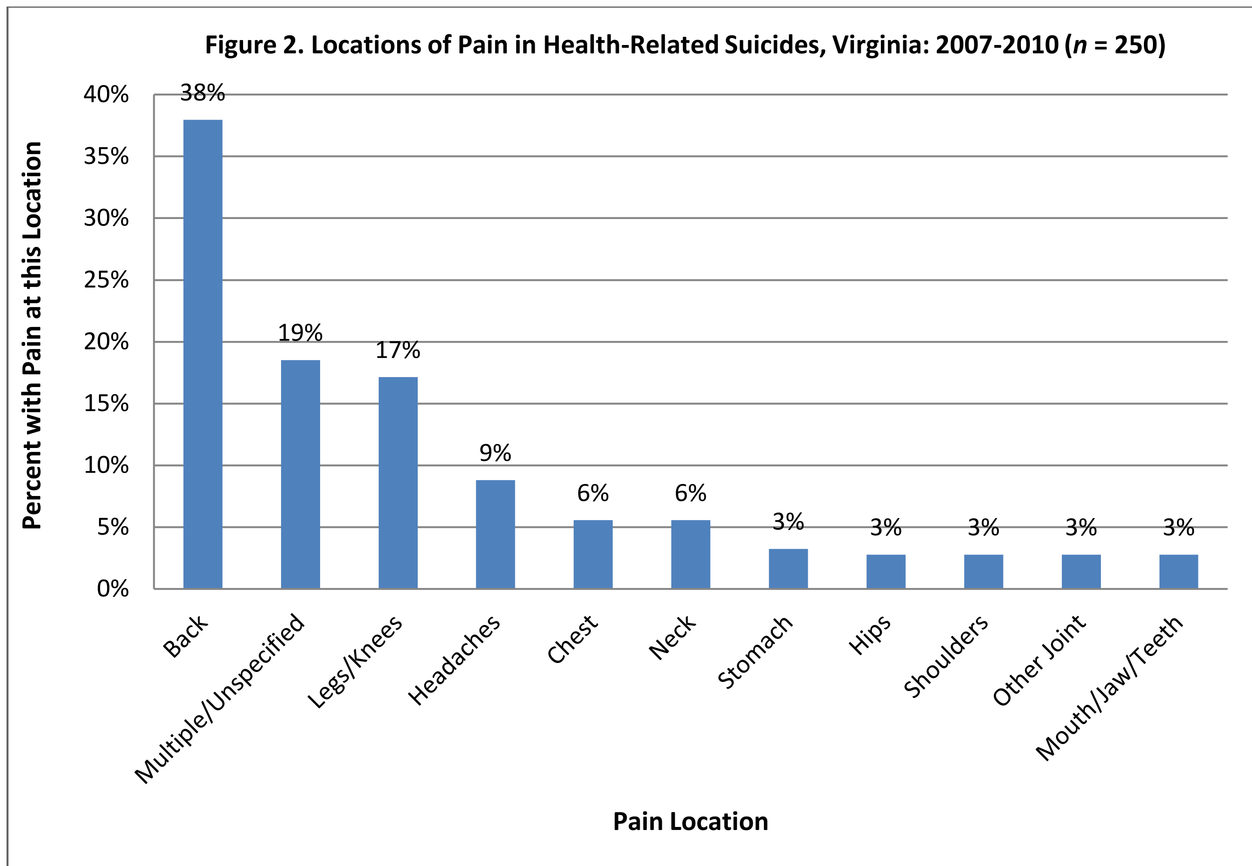
The classification of physical health problems is divided into seven broad, over-lapping categories: pain, cancer, chronic disease, mobility/sensory problems, heart problems, lung problems, and infectious disease.

Many of these health problems were so severe that they limited independence (21%), were terminal (15%), or prevented the decedent from working (9%); overall, 39% of health-related suicides fell into one or more of these three descriptions. Roughly one in five persons (18%) expressed hopelessness about resolving their health problem; the proportion who felt hopeless is identical among those with and without a terminal condition.

Pain

The problem of pain occurred as an independent health issue and as a by-product of another problem, for example, arthritis or cancer. Pain is noted in 40% of health-related suicides, including 35% of males and 57% of females. Two-fifths (42%) of those with pain cite no other contributing health problems. Among those where the location of pain is specified, the most common areas are the back,

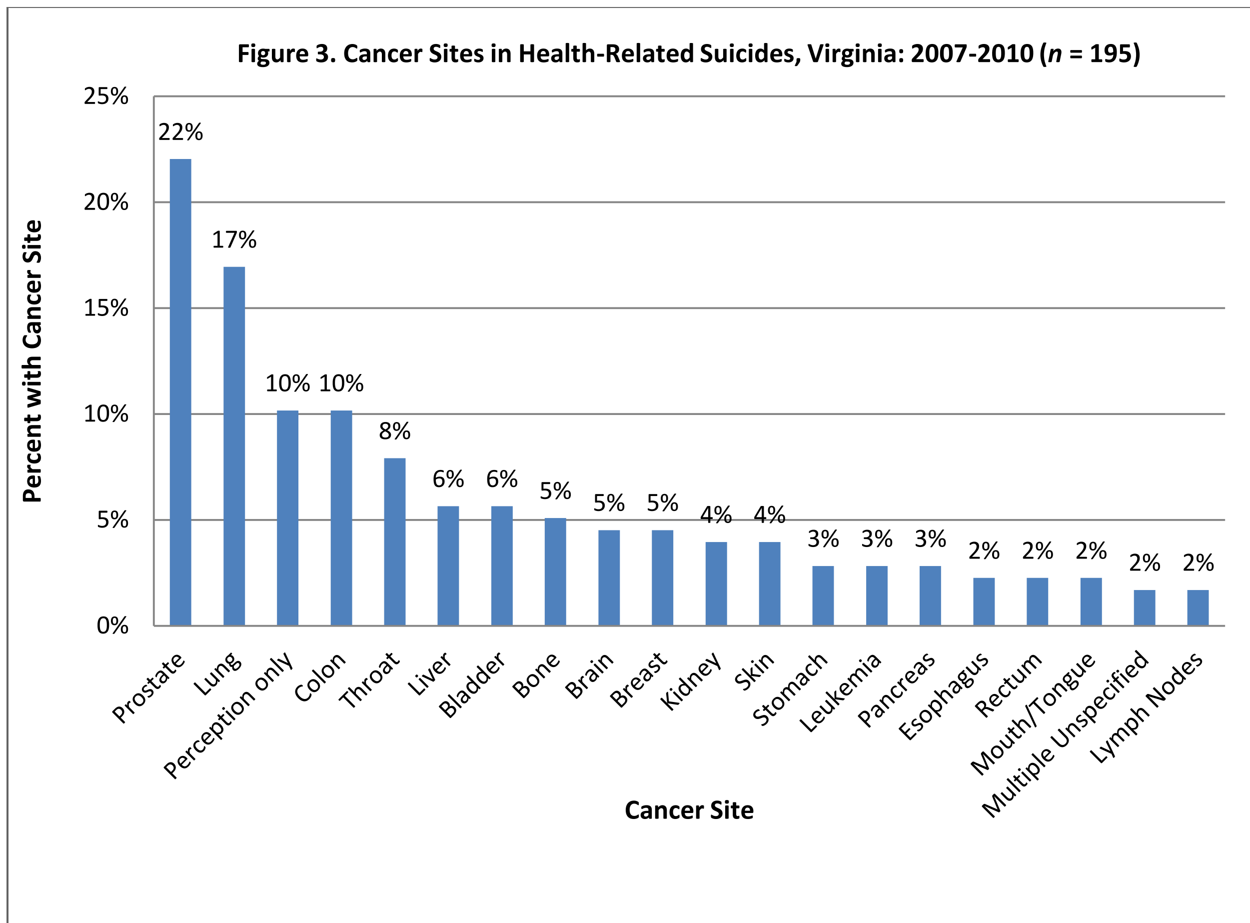
multiple unspecified locations, legs/knees, and headaches. See **Figure 2** for a full array of common locations of pain.



Cancer

Overall, 31% of those with a health-related suicide had cancer (34% of males, 20% of females). Of those with cancer, 57% cite no other contributing physical health problem and 24% have a co-occurring problem with pain.

Among those with an identified cancer site the most common are the prostate, lung, colon, and throat. See **Figure 3** for a list of common cancer sites. Ten percent of these persons believed they had cancer despite a lack of medical evidence or the presence of contrary medical information. More than one-third (36%) of those with cancer had a terminal health problem. While 17% of those with terminal cancer felt hopeless about resolving their health problem, this was also the case among 18% of those with a non-terminal cancer.



Chronic Disease

The category of chronic disease is comprised of the following conditions: Chronic fatigue syndrome, Crohn's disease, diabetes, fibromyalgia, liver problems, lupus, Lyme disease, multiple sclerosis, Parkinson's disease, kidney problems, seizures, and hypertension. Overall, 18% have a chronic disease including 25% of females and 17% of males. Persons with a chronic disease tend to have other health problems such as heart problems (32%), pain (31%), mobility/sensory issues (21%), and cancer (20%). More than one-fourth (28%) of those with a chronic disease were limited in their independence and 12% were unable to work due to their illness.

Mobility/Sensory Problems

Problems involving mobility or senses include: amputation, arthritis, back problems, hearing loss, general and unspecified mobility problems, joint/bone problems, vision loss, and stroke. Overall, 17% have a mobility/sensory problem, occurring in equal proportions among males (17%) and females (16%). Persons with mobility/sensory problems also have co-occurring problems with pain (33%), chronic diseases (23%), heart problems (18%), and cancer (12%). Those with mobility/sensory problems have the highest occurrence of the health problem limiting their independence (47%). Additionally, 21% felt hopeless about their health problem.

Heart Problems

Heart problems are a factor among 14% of all persons in this report, including 17% of males and 4% of females. Those with heart problems have co-occurring conditions of chronic diseases (41%), pain (29%), lung problems (22%), mobility/sensory problems (21%), and cancer (19%). Limited independence is a common factor among these persons (29%) as is hopelessness about resolving or managing their health problem (19%). Persons with heart problems also have the highest median age – 72 compared to 62 for those without heart problems.

Lung Problems

Lung problems are noted for 11% of all persons including 12% of males and 9% of females. Those with lung problems have co-occurring problems with their heart (29%), pain (27%), chronic disease (25%), and cancer (21%). Limited independence is common (29%) among these persons.

Infectious Disease

Infectious diseases (Hepatitis C, HIV/AIDS, and sepsis) were present for 4% of persons completing a health-related suicide including 5% of males and 1% of females. Persons with infectious diseases were less likely to have co-occurring problems with chronic disease (22%), mobility/sensory problems (22%), lungs problems (15%), and pain (11%). Two-fifths (41%) had a terminal health problem; those with a terminal problem expressed hopelessness l*ess often* than those without a terminal problem (18% and 25%, respectively).

Table 1 summarizes some key findings for the broad classifications of physical health problems.

Table 1: Highlighted Findings by Category of Physical Health Problems for Suicide, Virginia: 2007-2010

	Male (%)	Terminal (%)	Limited Independence (%)	Opiates (%)	Firearm (%)	Median Age (Years)	TOTAL (%)
Pain	68	8	16	35	58	57	**40**
Cancer	86	36	12	32	80	69	**31**
Chronic Disease	70	6	28	21	63	63	**18**
Mobility/Sensory	78	6	47	35	69	67	**17**
Heart	93	8	29	33	80	72	**14**
Lungs	82	9	29	11	79	69	**11**
Infectious Disease	96	41	19	0	41	63	**4**
TOTAL	**77**	**15**	**21**	**25**	**67**	**63**	**-**

Other Circumstances

Other common life stressors seen in these health-related suicides are mental health problems (56%), problems with alcohol and/or substance abuse (17%), and intimate partner conflict (11%). In 45% of these deaths the decedent was observed by others to appear depressed prior to the suicide, a cue to friends and family that the individual is at risk.

A more explicit sign of risk is having a prior history of suicide attempts and disclosing intent to commit suicide. A large proportion (45%) disclosed intent to commit suicide prior to the fatal injury. Intent is disclosed explicitly (i.e., "I am going to shoot myself tomorrow") and implicitly (i.e., "I will not let this cancer run its course"). Intent is most commonly disclosed to family members (53%), including adult

children, siblings, and parents. Other common groups to whom intent is disclosed are current or former intimate partners (41%), friends or acquaintances (22%), and medical professionals (8%).

Among those who disclosed intent, 9% were not taken seriously and 4% were taken seriously but no action was taken to prevent the suicide. For 16%, some action was known to take place to prevent the suicide. Most commonly (40%) this action involved trying to persuade the person to not carry out the suicide, or otherwise trying to monitor the person to ensure safety. Another common action was to limit firearm access (33%).[2] The other common preventative action taken was to seek mental health care (27%) in a variety of forms from voluntary outpatient therapy to involuntary hospital admission.

Methods of Fatal Injury

The most common methods of fatal injury are firearms (67%), poisons (17%), and hanging/suffocation (11%). Firearms are used more often by males than females (77% and 32%, respectively); conversely, females used poison (47%) more frequently than males (8%).

Most poisoning suicides involved at least one prescription medication (86%), usually pain or mental health medications. Sixty percent of health-related poisoning suicides involved an opiate pain medication compared to 36% of poisoning suicides that were not health-related. Opiate pain medication was used in 71% of poisoning suicides with a pain-related health problem compared to 38% of health-related suicides that were not linked to pain.

Opiate Use

The medical use of opiate pain medications is a common theme in health-related suicides. Overall, 32% were known to take their own prescribed pain medication in the past two months; by contrast, this is found in 6% of suicides that are not health-related. In 25% of health-related suicides - and 35% where pain is a known factor - post-mortem toxicology revealed the presence of opiates; among suicides that are not health-related this proportion drops to 8%.[3]

Conclusion

Suicide prevention efforts should address physical health problems as a life stressor that may lead to suicide, especially among high risk populations like elderly persons and White males. This paper shows that even health problems *perceived* to be real, but not diagnosed, have real consequences. These findings should prompt medical professionals to understand how outcomes at the doctor's office, even those considered to be minor, can lead to self-harm at home. Health care providers working with patients should consider the significance of their diagnosis in the context of the patient's social support network, medication, level of pain, and resilience. Assessment for suicide risk should be integrated with these diagnostic and plan of care procedures.

This paper found that the same proportion of those with and without terminal health problems expressed hopelessness. While this appears counter-intuitive, it shows that reactions to health problems may not be based on the prognosis for resolving or successfully managing the condition. While conventional reasoning suggests that more serious health problems lead to an increased suicide risk, the findings presented here suggest that an individual's personal experience with an illness or their perception of a diagnosis may have more impact than actual consequences to health.

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[2] Of these persons 80% did eventually use a firearm to inflict the fatal injury.

[3] These figures exclude persons who used an opiate as a fatal poison.

A further concern is the paradox of prescribing pain medications to those at risk for a health-related suicide. While pain medications are often necessary for treating certain health problems, 67 persons here used their own pain medication to inflict the fatal injury. The greater use of opiates for poisoning in health-related versus other suicides strongly suggests that, by itself, access to these medications may lead to increased risk for intentional poisoning. Among persons who had health-related suicides, those with pain problems - who are likely to get access to pain medication - more often used opiates as a poison than those without pain problems. The use of therapeutic medication to inflict a fatal injury creates a clear dilemma for health care providers; while persons may need medication, prescribing powerful prescriptions can have the unintended consequence of providing a fatal suicide method to someone who is at increased risk for suicide.