

Characteristics of Violent Deaths Among Homeless People in Maryland, 2003–2011



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Introduction: People experiencing homelessness are susceptible to many adverse health events, including violence. The purpose of this study was to provide a descriptive analysis of homeless individuals who suffered a violent death in Maryland. Characterizing these deaths will provide a basis for additional analyses that can inform violence prevention activities.

Methods: This study used data from the Maryland Violent Death Reporting System to examine violent deaths of homeless people occurring from 2003 through 2011. This surveillance system collects information on all violent deaths occurring in Maryland. Victim demographics, injury and death information, precipitating circumstances contributing to deaths, and toxicology information were examined. All analyses were conducted in 2014 and 2015.

Results: Among all violent death victims from 2003 through 2011 (N=14,327), a total of 279 (2.0%) were identified as homeless victims. More than half (65.2%) of deaths were of undetermined intent, 21.2% were homicides, and 13.6% were suicides. The most common method of injury was poisoning (59.0%). Substance abuse and having a current mental health problem were among the most commonly reported circumstances relating to death.

Conclusions: This study found substance abuse and mental health problems to be major circumstances precipitating violent death among people experiencing homelessness. This study will serve as a starting point for more in-depth analyses on experiences of violent death among homeless people that can inform violence prevention policy and programming.

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Introduction

Homelessness is a continuing challenge facing the U.S. A point-in-time survey in 2013 estimated about 610,042 people were homeless nationally on a given night, and of those, about 8,200 were located in Maryland.¹

Morbidity and mortality rates are higher among those experiencing homelessness than for housed individuals.²

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Physical and mental health conditions may develop and worsen through exposure to communicable disease, malnutrition, weather exposure, and violence while living in shelters or on the street.² Stresses and challenges, including lack of access to medical care, comorbid physical and mental health problems, stigma toward homeless people, involvement in the criminal justice system, and traumatic experiences and safety concerns may lead to the development of or exacerbate existing health conditions and substance abuse problems.³

Homelessness also puts people at higher risk for being victims of crime.² A study of violence among homeless people across five U.S. cities reported that 49% of study participants had been the victim of a violent attack while homeless and 62% had witnessed an attack on another homeless person.⁴ Studies examining mortality among homeless populations in North America show that violence and injury, including suicide, homicide, and drug poisoning, contribute substantially to mortality and

that violent and injury-related death rates are higher among homeless people compared with the general population.^{5–9}

Using data collected from the Maryland Violent Death Reporting System (MVDRS), this study describes violent death among homeless people in Maryland from 2003 through 2011 in order to identify affected subpopulations, characteristics describing the incident of injury leading to death, and circumstances precipitating the death. This analysis seeks to increase awareness of this oft-neglected topic and will serve as a basis for more in-depth analyses that can help address the problems of homelessness and violence.

Methods

Study Population

This study used data collected through MVDRS, a surveillance system that collects information on all violent deaths occurring in Maryland. Victims are included in the system if they died within the state and were issued a Maryland death certificate. MVDRS is part of the National Violent Death Reporting System (NVDRS) maintained by the Centers for Disease Control and Prevention.

Information on each victim is collected from the death certificate, medical examiner report (including toxicology information), and law enforcement reports. Collected information includes victim demographics, manner of death, weapon and suspect information, precipitating circumstances surrounding the death, and toxicology results. Precipitating circumstances are identified from the review of medical examiner and law enforcement narratives providing details regarding the events leading up to death. Circumstances fall broadly into several categories: mental health and substance abuse problems, interpersonal problems, suicide markers, life stressors, arguments/conflicts, and crime-related circumstances.

Measures

Violent deaths occurring in 2003 through 2011 among individuals identified as homeless were used in this analysis. NVDRS defines homelessness as “having no fixed address and living in a shelter, on the street, in a car, or in makeshift quarters in an outdoor setting.”¹⁰ Homeless status was unknown for 1.9% ($n=270$) of all violent death victims in Maryland.

Demographic characteristics were presented, including categories for missing and unknown data. For all other measures, victims missing data for a specific measure were excluded from analysis. The victim’s manner of death was categorized as either a homicide, suicide, death of undetermined intent, unintentional firearm death, legal intervention death, or terrorism-related death. A death of undetermined intent (or “undetermined” death) is “a death resulting from the use of force or power against oneself or another person for which the evidence indicating one manner of death is no more compelling than the evidence indicating another manner of death.”¹⁰ A legal intervention death is “a death in which the decedent was killed by a law enforcement officer or other peace officer (persons with specified legal authority to use deadly force),

including military law enforcement, acting in the line of duty.”¹⁰ Table cell counts less than six (including zero) were suppressed owing to confidentiality concerns. Legal intervention deaths, considered a subtype of homicide deaths in NVDRS, were included in the counts with homicides because the number of legal intervention deaths (fewer than six) were too low to present this category alone. “Homicide” is used throughout this report to describe the combination. Circumstances with a count of less than six were excluded from presentation.

Frequency tables were used to examine victim demographics, manner of death, location and method of injury, precipitating circumstances, and toxicology results among all homeless victims. Cross-tabulations were used to examine method of injury, precipitating circumstances, and toxicology results by manner of death. SAS, version 9.3, and SAS, version 9.4, were used to conduct all analyses in 2014 and 2015.

Results

Table 1 shows demographic characteristics of all homeless violent death victims in the study. Of the 14,327 total violent deaths occurring in Maryland from 2003 through 2011, a total of 279 victims (2.0%) were homeless.

Table 2 shows victim injury and death information. Most homeless victims (65.2%) had an undetermined manner of death, followed by homicide (21.2%) and suicide (13.6%). There were no deaths categorized as unintentional firearm deaths or terrorism-related deaths. The most common method of injury was poisoning (59.0%), followed by firearms (11.4%) and hanging, strangulation, or suffocation (8.1%). For undetermined deaths ($n=182$), nearly 90% of victims were injured by poisoning, and more than three quarters ($n=141$, 77.5%) were specifically the result of drug poisoning (ICD-10 codes Y10–Y14, data not shown in the table). Nearly all poisoning deaths were deaths of undetermined intent.

The most commonly reported precipitating circumstances (**Table 3**) among all homeless victims were substance abuse problems (58.9%), alcohol problems (36.4%), and current mental health problems (14.3%). Only 14.7% of victims had a history of mental health or substance abuse treatment and only 6.9% were receiving treatment at the time of death.

Most victims with an undetermined manner of death had a substance abuse problem (74.4%) and almost half (43.9%) had an alcohol problem. Among suicide victims, about a third were reported to have a substance abuse problem and alcohol problem, respectively. A third of suicide victims (35.3%) were also reported to have a current depressed mood at the time of fatal injury. The most commonly reported circumstances among homicide victims were an argument, abuse or conflict (36.4%), precipitated by another crime (21.2%), and drug involvement (18.2%).

Table 1. Demographic Characteristics of Homeless Violent Death Victims in Maryland,^a MVDRS, 2003–2011

Characteristics	n (%)
All MVDRS deaths (2003–2011)	14,327
Homeless	
Yes	279 (2.0)
No	13,778 (96.2)
Unknown/missing	270 (1.9)
Among homeless victims (n=279)	
Sex	
Male	237 (85.0)
Female	42 (15.0)
Race/ethnicity	
Non-Hispanic white	171 (61.3)
Non-Hispanic black	97 (34.8)
Other ^b	11 (3.9)
Age group, years	
0–14	—
15–24	13 (4.7)
25–34	30 (10.8)
35–44	87 (31.2)
45–54	109 (39.1)
55–64	34 (12.2)
≥ 65	—
Unknown/missing	—
Years of education	
≤ 8	31 (11.1)
9–12	185 (66.3)
≥ 13	27 (9.7)
Missing/unknown	36 (12.9)
Marital status	
Married	29 (10.4)
Never married	137 (49.1)
Widowed	12 (4.3)
Divorced	70 (25.1)
Single, not otherwise specified	—
Missing/unknown	—
Ever a member of U.S. Armed Forces	
Yes	31 (11.1)

(continued)

Table 1. (continued)

Characteristics	n (%)
No	228 (81.7)
Missing/unknown	20 (7.8)

Note: Counts <6 (and corresponding percentages) are not reported because of confidentiality concerns and are represented with a dash (—).

^aExcludes Maryland residents who died out of state and non-resident deaths occurring in Maryland.

^bIncludes Hispanic victims and victims not categorized as Hispanic, non-Hispanic white, or non-Hispanic black. Categories combined because of confidentiality concerns.

MVDRS, Maryland Violent Death Reporting System.

More than half of victims with toxicology information (Table 4) tested positive for alcohol and opiates, respectively. Most victims testing positive for alcohol had a blood alcohol content greater than the standard for intoxication in Maryland. Nearly three quarters (73.9%) of victims with an undetermined manner of death tested positive for opiates, nearly one third (32.8%) for cocaine, and nearly half (48.9%) tested positive for other drugs (excluding amphetamines, antidepressants, cocaine, and opiates). Among homicide victims, 34.5% tested positive for cocaine, 22.4% for opiates, and 31.0% for other drugs. Fewer than 20% of suicide victims tested positive for antidepressants, and 50.0% tested positive for other drugs.

Discussion

This study found most violent deaths among people experiencing homelessness in Maryland were deaths of undetermined intent caused by drug poisoning. This study's identification of poisoning as a leading method of injury-related death among people experiencing homelessness mirrors current literature naming poisoning as the leading method of injury-related death in the broader U.S. population.¹¹ Circumstance and toxicology information show that drug and alcohol addiction were common at the time of death. Few victims with identified mental health or substance abuse problems were receiving treatment.

In Maryland, the Office of the Chief Medical Examiner uses the “undetermined” category to classify deaths more frequently than other states, particularly for overdose deaths. A previous study reported that as high as 85% of drug poisoning deaths in Maryland between 2008 and 2010 had an undetermined manner of death.^{12,13} For this reason, these deaths, which may be perceived as unintentional, are characterized by MVDRS as violent deaths.

Existing data support the findings that substance abuse and mental health problems are important contributors to morbidity and mortality among homeless people.^{5,14–16}

Table 2. Manner of Death and Injury Information, Homeless Violent Death Victims in Maryland,^a MVDRS, 2003–2011

Characteristics	All deaths, n (%)	Undetermined, n (%)	Homicide/legal intervention, n (%)	Suicide, n (%)
Manner of death (n=279)				
Suicide	38 (13.6)			
Homicide/legal intervention	59 (21.2)			
Undetermined	182 (65.2)			
Location of injury (n=277)				
House, apartment	77 (27.8)			
Natural area (field, river, etc.)	41 (14.8)			
Street/road, sidewalk, alley	39 (14.1)			
Abandoned house, building, or warehouse	29 (10.5)			
Motor vehicle (excluding school bus and public transportation)	13 (4.7)			
Supervised residential facility (e.g., shelter, halfway house, group home)	13 (4.7)			
Hotel/motel	13 (4.7)			
Parking lot/public parking garage	10 (3.6)			
Park, playground, public use area	9 (3.3)			
Other	33 (11.9)			
Method of injury ^b				
Poisoning	160 (59.0)	156 (89.1)	—	—
Firearm	31 (11.4)	—	22 (37.9)	9 (23.7)
Hanging/strangulation/suffocation	22 (8.1)	—	—	18 (47.4)
Sharp instrument	12 (4.4)	—	10 (17.2)	—
Blunt instrument	12 (4.4)	—	12 (20.7)	—
Other individual method	14 (5.0)	8 (4.6)	—	—
Poisoning and other method	11 (4.1)	9 (5.1)	—	—
Other combination of methods	9 (3.3)	—	7 (12.1)	—

Note: Counts <6 (and corresponding percentages) are not reported because of confidentiality concerns and are represented with a dash (—).

^aExcludes Maryland residents who died out of state and non-resident deaths occurring in Maryland.

^bMethod of injury: all deaths (n=271); undetermined (n=175); homicide/legal intervention (n=58); suicide (n=38). MVDRS, Maryland Violent Death Reporting System.

This study's results suggest the need for mental health and substance abuse treatment in Maryland that addresses the unique needs of homeless populations, who face barriers to treatment of mental and physical health conditions in the traditional healthcare system.^{17,18}

Limitations

Reliable estimates of the homeless population in Maryland are not available, preventing the calculation of

mortality rates and complicating analysis comparing homeless violent death victims to the rest of the homeless population. Also, it is possible that the “undetermined” manner of death category contains a number of deaths that are actually suicides or unintentional in manner. This may have resulted in an overestimate of total violent deaths for the state and an underestimate of the true number of suicides. Lastly, circumstance information may be underestimated if family and friends of victims

Table 3. Most Common Precipitating Circumstances^a Related to Homeless Violent Death Victims in Maryland,^b MVDRS, 2003–2011

Circumstances	All deaths, n (%)	Undetermined, n (%)	Homicide/legal intervention, n (%)	Suicide, n (%)
Victims with circumstance information	231 (82.8)	164 (90.1)	33 (55.9)	34 (89.5)
Mental health and substance abuse				
Current depressed mood	16 (6.9)	—		12 (35.3)
Current mental health problem	33 (14.3)	22 (13.4)		10 (29.4)
Current mental health treatment	16 (6.9)	11 (6.7)		—
History of mental health treatment	34 (14.7)	24 (14.6)		9 (26.5)
Alcohol problem	84 (36.4)	72 (43.9)		11 (32.4)
Other substance abuse problem	136 (58.9)	122 (74.4)		12 (35.3)
Interpersonal				
Intimate partner problem	10 (4.3)	—		6 (17.7)
Other death of friend or family	8 (3.5)	—		—
Suicide markers				
Left a suicide note	10 (4.3)	—		10 (29.4)
Disclosed intent to commit suicide	15 (6.5)	—		10 (29.4)
History of suicide attempt(s)	11 (4.8)	—		8 (23.5)
Life stressors				
Crisis during previous 2 weeks	9 (3.9)	—		—
Physical health problem	28 (12.1)	23 (14.0)		—
Job problem	7 (3.0)	—		—
Financial problem	6 (2.6)	—		—
Recent criminal legal problem	11 (4.8)	—		7 (20.6)
Crime-related				
Precipitated by another crime	9 (3.9)	—	7 (21.2)	—
Drug involvement	8 (3.5)	—	6 (18.2)	—
Arguments and conflicts				
Other argument, abuse, or conflict ^c	13 (5.6)	—	12 (36.4)	—

Note: Counts < 6 (and corresponding percentages) are not reported because of confidentiality concerns and are represented with a dash (—).

^aCircumstances not included in this analysis may be found in the latest version of the NVDRS coding manual, *National Violent Death Reporting System Web Coding Manual Version 5.1* (available by request at www.cdc.gov/injury).

^bExcludes Maryland residents who died out of state and non-resident deaths occurring in Maryland.

^cExcludes arguments over money or property and intimate partner violence and jealousy related conflicts.

MVDRS, Maryland Violent Death Reporting System.

choose not to report this information in source narratives, or if no contacts of the victim are interviewed.

Conclusions

This report demonstrates the impact of substance abuse and mental health conditions on mortality among people experiencing homelessness. It serves as a starting point

for understanding the scope of violent death among homeless people, improving violent death surveillance in this group, and assisting in developing targeted interventions focused on addressing the precipitating circumstances contributing to violent death.

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Table 4. Toxicology Testing and Results Among Homeless Violent Death Victims in Maryland,^a MVDRS, 2003–2011

Substances	All deaths (n=279)		Undetermined (n=182)		Homicide/Legal intervention (n=59)		Suicide (n=38)	
	Tested	Present	Tested	Present	Tested	Present	Tested	Present
Blood alcohol content (BAC)	270 (96.8)	141 (52.2)	177 (97.3)	94 (53.1)	58 (98.3)	27 (46.6)	35 (92.1)	20 (57.1)
BAC < 0.08 g/dL		43 (30.5)		25 (26.6)		9 (33.3)		9 (45.0)
BAC ≥ 0.08 g/dL ^b		98 (69.5)		69 (73.4)		18 (66.7)		11 (55.0)
Amphetamines	272 (97.5)	—	180 (98.9)	—	58 (98.3)	—	34 (89.5)	—
Antidepressants	272 (97.5)	41 (15.1)	180 (98.9)	31 (17.2)	58 (98.3)	—	34 (89.5)	6 (17.7)
Cocaine	272 (97.5)	85 (31.3)	180 (98.9)	59 (32.8)	58 (98.3)	20 (34.5)	34 (89.5)	6 (17.7)
Opiates	272 (97.5)	149 (54.8)	180 (98.9)	133 (73.9)	58 (98.3)	13 (22.4)	34 (89.5)	—
Other drug(s)	272 (97.5)	123 (45.2)	180 (98.9)	88 (48.9)	58 (98.3)	18 (31.0)	34 (89.5)	17 (50.0)

Note: All data are presented as n (%). Counts < 6 (and corresponding percentages) are not reported because of confidentiality concerns and are represented with a dash (—).

^aExcludes Maryland residents who died out of state and non-resident deaths occurring in Maryland.

^bBAC ≥ 0.08 g/dL used as the standard for intoxication.

MVDRS, Maryland Violent Death Reporting System.

in this article are those of the author(s) and do not necessarily represent the official position of the Centers for Disease Control and Prevention or the Maryland Department of Health and Mental Hygiene.

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