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Violent death among people experiencing homelessness in Colorado, 2004-2015: A summary from the Colorado Violent Death Reporting System

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Introduction

Year to year, homelessness continues to be a challenge facing the United States. It is estimated that on a given night in January 2016, 549,928 people were experiencing homelessness in the U.S.[1] About 10,550 homeless individuals were located in Colorado, representing a 6 percent increase in the homeless population in Colorado from 2015.[1] Not only are the homelessness rates rising in Colorado, but morbidity and mortality rates have also been shown to be higher among people experiencing homelessness when compared to non-homeless individuals.[2] Both physical and mental health conditions may become exacerbated when exposed to communicable disease, extreme weather conditions, and violence while living in homeless shelters or on the street.[3] Additionally, stressors that often come with homelessness—including lack of access to medical care, stigma toward people experiencing homelessness, and involvement in the criminal justice system—contribute to the worsening of health conditions and the development of substance abuse issues.[4] People experiencing homelessness are also at greater risk for being exposed to violence and being victims of crime.[3] Several studies that have examined mortality among homeless individuals in the U.S. have concluded that violence and injury-related death rates, including suicide and homicide, are higher among the homeless population when compared with the general population.[5-6]

In an effort to help reduce the burden of violent death, the Colorado Violent Death Reporting System (CoVDRS) was implemented at the Colorado Department of Public Health and Environment (CDPHE) in 2004. The CoVDRS is a public health surveillance system designed to obtain a complete census of all violent deaths occurring in Colorado, to collect demographic information and associated risk factor data, and to track the circumstantial information surrounding each death. A violent death includes any death by suicide, homicide, unintentional firearm discharge, legal intervention, or acts of terrorism, as well as selected deaths of undetermined intent when the death may have been the result of violence.

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Colorado is one of 42 states currently participating in the broader National Violent Death Reporting System (NVDRS), which is maintained and funded by the Centers for Disease Control and Prevention (CDC). The NVDRS is the centralized database consisting of de-identified violent death data submitted by all participating states. The CoVDRS collects and inputs data from multiple sources including death certificates, coroner/medical examiner reports, and law enforcement investigations. Data collected are maintained in a single electronic database for analysis and reporting.

This report presents findings using CoVDRS surveillance data from 2004 to 2015 and includes summaries of demographic characteristics and trends of homeless violent death decedents in Colorado. Life and situational circumstances most frequently associated with violent death will also be presented. The purpose of this report is to increase awareness of violent death among the homeless population, to explore homeless violent death trends in recent years, and to gain a better understanding of the homeless populations that may be at risk for violent death in Colorado. This information may be used to inform prevention and intervention efforts by agencies interested in decreasing the impact of violent death among people experiencing homelessness.

Please note that in this report the term "person experiencing homelessness" is synonymous with "homeless decedent" or "homeless person." Although person-first language is always preferred, it was sometimes necessary to use alternatives to ensure clarity in the report.

Methods

Data for this report were obtained from the CoVDRS database and include homicide, suicide, and deaths of undetermined intent that occurred in Colorado among the homeless population from 2004 to 2015. A suicide death is defined as "a death resulting from the intentional use of force against oneself."[7] A homicide death is defined as "a death resulting from the intentional use of force or power, threatened or actual, against another person, group, or community."[7] Finally, an undetermined death is defined as "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."[7]

Deaths were selected for inclusion in the CoVDRS based on either the indication of violent death as the manner of death on the death certificate or International Classification of Disease, 10th Revision (ICD-10)-coded underlying cause of death as reported on the death certificate. A full description of the data collection processes of the NVDRS is provided elsewhere.[8] For the purposes of this report, legal intervention deaths and unintentional firearm deaths were excluded. Circumstances associated with most violent deaths were obtained through information contained in the death certificates, coroner/medical examiner investigation and autopsy reports, and the law enforcement investigation reports.

Decedents of violent death were characterized as homeless if they reside in one of the following: "1) Places not designed for or ordinarily used as a regular sleeping accommodation for human beings, including a car or other private vehicle; park, on the street or other outdoor place; abandoned building; bus or train station; airport; or camping ground, or 2) A supervised publicly or privately operated shelter or drop-in center designated to provide temporary living arrangements; or transitional housing for homeless persons."[7]

Violent deaths were analyzed by county where the fatal injury occurred, age, gender, race/ethnicity, marital status, veteran status, years of education, Health Statistics Region (HSR) where the fatal injury occurred, type of injury location, manner of death, lethal means, associated precipitating circumstances, and toxicology. For this report, lethal means are reported as one of seven possible categories: firearm, hanging/asphyxiation/suffocation, poisoning (including illicit and prescription drugs as well as carbon monoxide), sharp instrument, blunt instrument, fall, personal weapons, and other (including transportation vehicles). Deaths are presented as the number of cases for a given category or percent of the total number of deaths for a given category. To calculate death frequencies by geographic location within the state, counties in Colorado were categorized in two different ways. First, counties were categorized as urban, rural, or frontier, according to the Colorado Rural Health Center.[9] For purposes of this analysis, rural and frontier counties have been combined. Second, Colorado counties were also categorized by Health Statistics Region (HSR), a method often used to examine regional differences for various health indicators within Colorado.

Chi-square tests were used to assess associations between demographic characteristics and homeless and not homeless status. All analyses were performed using SAS 9.4 (SAS Inc., Cary, NC). Significance was assessed using an alpha level of 0.05.

Results

Demographic characteristics

From 2004 to 2015, there were 245 violent deaths among people experiencing homelessness in Colorado. Out of a total of 13,720 violent death occurrences in Colorado during this time period, homeless deaths accounted for a total of 1.7 percent of all violent deaths. Table 1 displays demographic characteristics of homeless violent death decedents in Colorado. Of note, Table 1 reveals that 51 percent of homeless decedents in Colorado were in the 45-64 age range, a significantly higher proportion than among non-homeless decedents (35.2%). Additionally, almost 18 percent fewer homeless decedents had an education above high school level as compared to non-homeless decedents (26.5% compared to 44%). Only 11 percent of homeless decedents were married at the time of death, compared to 33 percent of non-homeless decedents. Lastly, there were higher proportions of Black/African American (8.6%) and American Indian (4.1%) homeless decedents compared to non-homeless decedents (5.5% and 1.5%, respectively).

Table 1: Demographic characteristics of homeless violent death decedents in Colorado (2004-2015).

Characteristic‡	Homeless (N=245) N (%)	Not homeless (N=13,475) N (%)
Sex		
Male	201 (82.0)	10,009 (74.3)
Female	44 (18.0)	3,466 (25.7)
Race/ethnicity		
White, non-Hispanic	172 (70.2)	10,364 (76.9)
White, Hispanic	38 (15.5)	1,914 (14.2)
Black/African American	21 (8.6)	737 (5.5)
Asian/Pacific Islander	4 (1.6)	252 (1.9)
American Indian	10 (4.1)	207 (1.5)
Other/unknown	*	*
Age		
0-17	3 (1.2)	760 (5.6)
18-24	17 (6.9)	1,630 (12.1)
25-44	93 (34.0)	4,770 (35.4)
45-64	125 (51.0)	4,749 (35.2)
65+	7 (2.9)	1,566 (11.6)
Education (years)		
≤ 8	15 (6.1)	847 (6.3)
9-12	145 (59.2)	6,551 (48.6)
≥ 13	65 (26.5)	5,923 (44.0)
Unknown/missing	20 (8.2)	154 (1.1)
Marital status		
Never married	109 (44.5)	5,152 (38.2)
Currently married	27 (11.0)	4,534 (33.6)
Divorced	90 (36.7)	3,059 (22.7)
Widowed	3 (1.2)	669 (5.0)

(Table continues on next page.)

Characteristic‡	Homeless (N=245) N (%)	Not homeless (N=13,475) N (%)
Unknown/missing	16 (6.5)	61 (0.5)
Veteran status		
Yes	43 (17.5)	2,426 (18.0)
No	197 (80.4)	11,026 (81.8)
Unknown/missing	5 (2.0)	23 (0.2)
Injury county type		
Urban	219 (89.4)	11,454 (85.0)
Rural/Frontier	18 (7.3)	1,921 (14.3)
Unknown/missing	8 (3.3)	100 (0.7)

Source: Colorado Violent Death Reporting System, Colorado Department of Public Health and Environment.

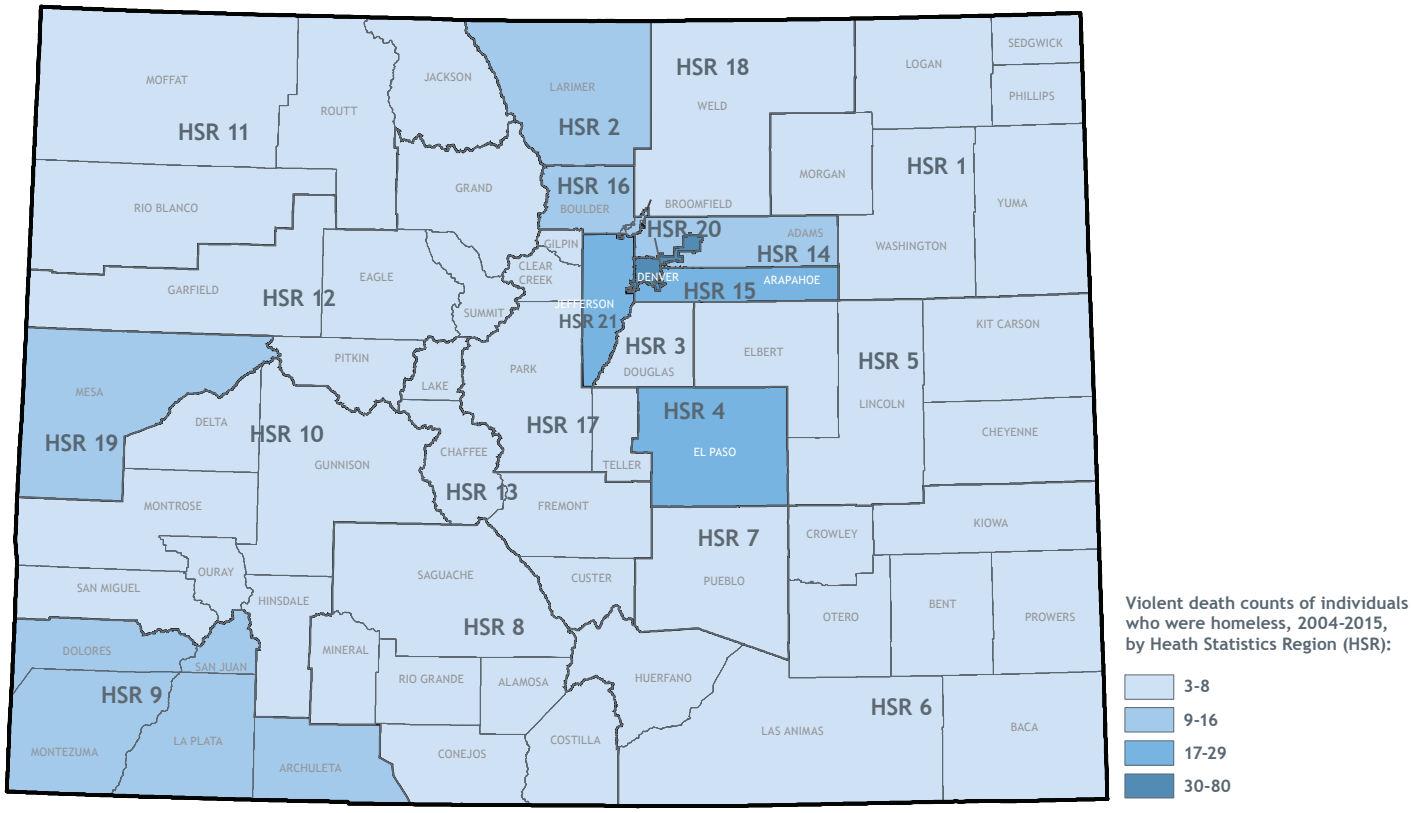
‡ All differences by characteristic are statistically significant at p<.05.

*Counts of less than 3 are suppressed.

Region of injury

Figure 1 shows a map of the violent death counts across the state of Colorado by Health Statistics Region (HSR) for 2004 to 2015 (combined). Violent death counts were assembled into quartiles. Over the time period, fatal injuries due to violence occurring in Region 20 (Denver County) accounted for most violent deaths among homeless decedents, with a total of 80 deaths, making up about one-third of the homeless decedents in Colorado.

Figure 1: Map of violent death counts by Health Statistics Region in Colorado (2004-2015).*



Source: Colorado Violent Death Reporting System, Colorado Department of Public Health and Environment.

*Based on location of injury that led to death, by Health Statistics Region.

Table 2 presents the injury locations by homelessness for all violent death occurrences in Colorado between 2004 and 2015. Four-times fewer injuries occurred at a house/apartment among homeless decedents when compared to non-homeless decedents (18.8% compared to 73.8%). Rather, four-times more homeless decedents were injured on "street/road, sidewalks, alleys" (17.5%) and "natural areas" (17.5%) compared to non-homeless decedents (4.5% and 4.1%, respectively).

Table 2: Type of injury location for violent death decedents experiencing homelessness in Colorado (2004-2015).

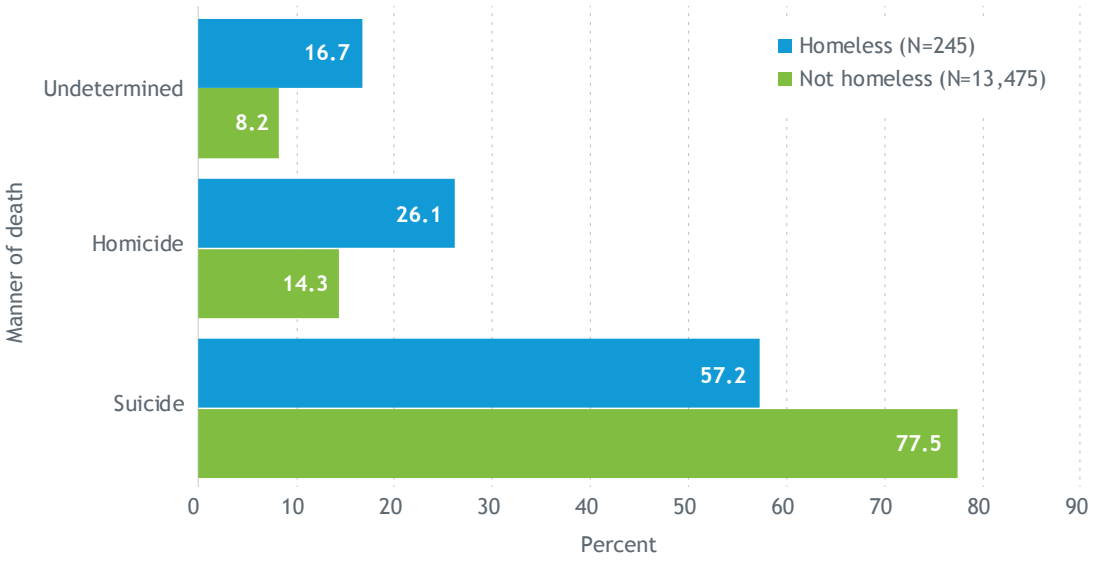
Injury location type	Homeless (N=245) N (%)	Not homeless (N=13,475) N (%)
House, apartment, rooming house, including driveway, porch, yard, garage	46 (18.8)	9,950 (73.8)
Street/road, sidewalk, alley	43 (17.5)	605 (4.5)
Natural area (e.g., field, river, beaches, woods)	43 (17.5)	550 (4.1)
Parking lot/public parking garage	23 (9.4)	398 (2.9)
Hotel/motel	21 (8.6)	364 (2.7)
Park, playground, public use area	17 (6.9)	273 (2.0)
Motor vehicle, regardless of where motor vehicle is located	11 (4.5)	361 (2.7)
Other commercial establishment (e.g., grocery store, restaurants, retail outlet, laundromat)	10 (4.1)	121 (0.9)
Other/unknown	31 (12.7)	853 (6.4)

Source: Colorado Violent Death Reporting System, Colorado Department of Public Health and Environment.

Manner of violent death

Figure 2 displays the manner of death by homelessness for all violent death occurrences in Colorado between 2004 and 2015. This figure reveals that among all violent deaths, 20 percent fewer suicides and 12 percent more homicides occurred among the homeless population as compared to the general population. Notably, homeless decedents had double the amount of deaths of undetermined intent compared to the non-homeless decedents.

Figure 2: Manner of death for violent deaths among people experiencing homelessness in Colorado (2004-2015).



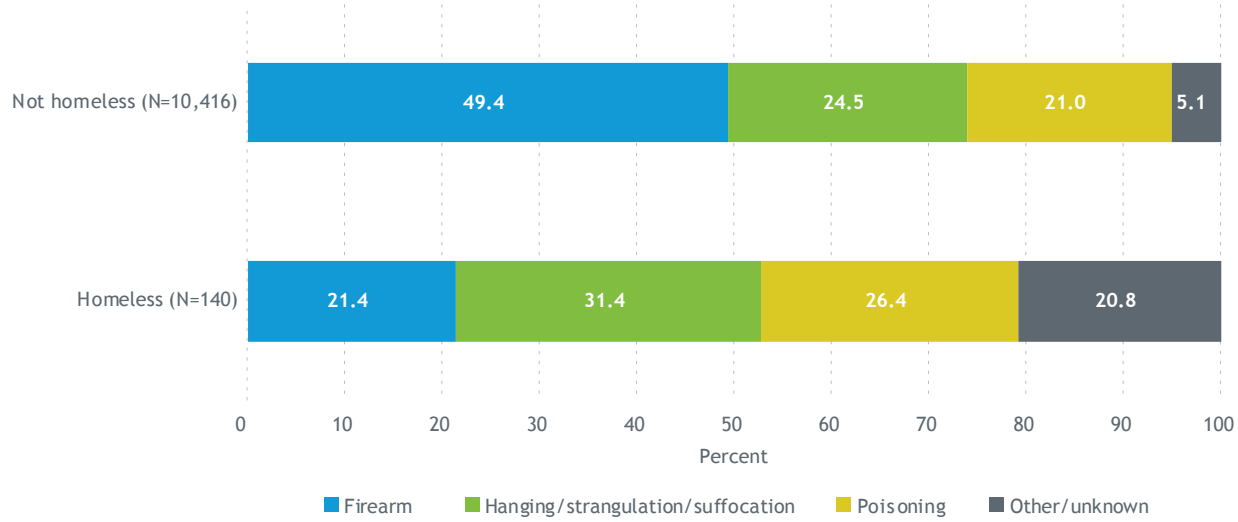
Source: Colorado Violent Death Reporting System, Colorado Department of Public Health and Environment.

Suicide deaths

Methods

Figure 3 shows the suicide method used to inflict the fatal injury between homeless and non-homeless decedents. Homeless suicide decedents had almost 30 percent fewer deaths by firearm compared to non-homeless decedents. Homeless suicide decedents also had a larger proportion of "other/unknown" types of weapons. This proportion is largely explained due to suicide deaths by a fall from a height, which constitutes 9.3 percent of the total (i.e. nearly one-half of deaths due to "other/unknown"). In comparison, suicide deaths by a fall total 1.5 percent for all non-homeless decedents (data not shown).

Figure 3: Suicide methods among people experiencing homelessness in Colorado (2004-2015).



Source: Colorado Violent Death Reporting System, Colorado Department of Public Health and Environment.

Circumstances

Table 3 outlines the circumstances most frequently associated with suicide deaths among the homeless population in Colorado. The most frequent circumstance associated with homeless suicide deaths was indication by family, friends, or acquaintances that the decedent was exhibiting a "depressed mood" (including being noted as feeling "sad" or "despondent") close to the date/time of death (55.1%). There are numerous circumstances related to mental health and treatment as well as other adverse life events that were documented to be more often related to the homeless suicide deaths. Of note, almost 20 percent more homeless suicide decedents had been experiencing a financial problem, when compared to non-homeless decedents. Additionally, almost eight-times more homeless suicide decedents had experienced an eviction or loss of home that contributed to the suicide death, compared to non-homeless suicide decedents, indicating a portion of homeless decedents who had recently become homeless.

Table 3: Circumstances for suicide deaths among people experiencing homelessness in Colorado (2004-2015).

Circumstances	Homeless (N=140)		Not homeless (N=10,439)	
	N	%	N	%
All deaths with 1+ known circumstance	138	98.6	10,010	95.9
Current depressed mood	76	55.1	6,097	60.9
Current mental health problem	67	48.5	4,374	43.7
Ever treated for mental health problem	60	43.5	3,848	38.4
Crisis within two weeks of the death	58	42.0	3,330	33.3
Financial problem	54	39.1	2,013	20.1
Disclosed intent to commit suicide	48	34.8	3,497	34.9
Intimate partner problem	45	32.6	3,731	37.3
Eviction or loss of home	42	30.4	394	3.9
Problem with alcohol	41	29.7	2,705	27.0
Job problem	41	29.7	2,077	20.7
History of prior suicide attempts	38	27.5	2,705	27.0
Current mental health treatment	36	26.1	3,116	31.1
Problem with other substance	36	26.1	1,640	16.4
Physical health problem	36	26.1	3,359	33.6
Left a suicide note	35	25.4	3,925	39.2
Contributing criminal legal problem	34	24.6	1,564	15.6
Family relationship problem	30	21.7	1,511	15.1
Diagnosis of depression	29	21.0	3,182	31.8
History of suicidal thoughts or plans	25	18.1	1,357	13.6
Death preceded by argument	19	13.8	1,724	17.2
Diagnosis of bipolar disorder	19	13.8	750	7.5

Source: Colorado Violent Death Reporting System, Colorado Department of Public Health and Environment.

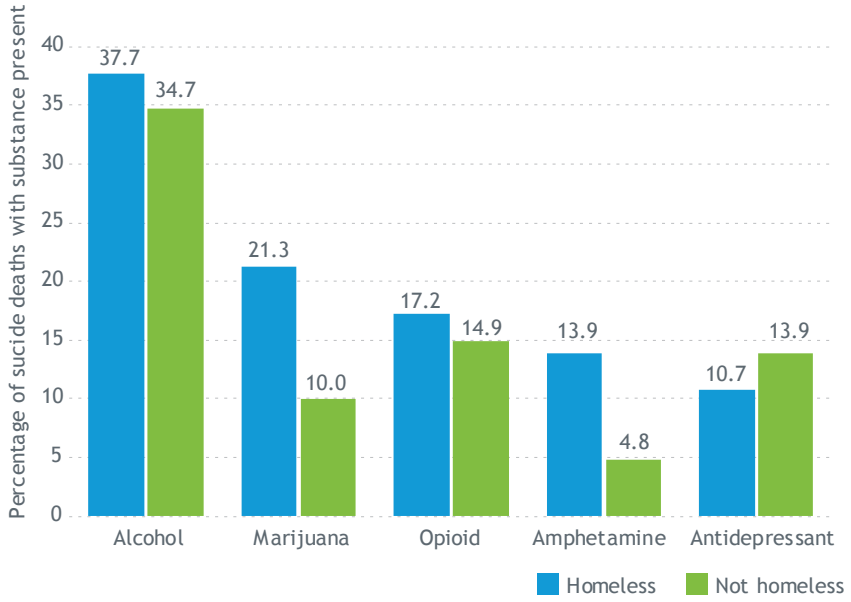
The percent of "all deaths with 1+ known circumstance" is of total violent deaths; the percent for individual circumstances is of this "all Deaths with 1+ known circumstance" total.

Highlighted cells represent the 5 most commonly documented circumstances.

Toxicology

Figure 4 presents the top five toxicological results associated with homeless suicide deaths in Colorado, that is, what substances were present in the decedent's body at the time of death. Among homeless suicide deaths for which toxicology results were available, alcohol (37.7%) was the most frequently identified substance, followed by marijuana (21.3%) and opioids (17.2%; includes both prescription opioids and illicit, such as heroin).

Figure 4: Toxicology for suicide deaths among people experiencing homelessness in Colorado (2004-2015).



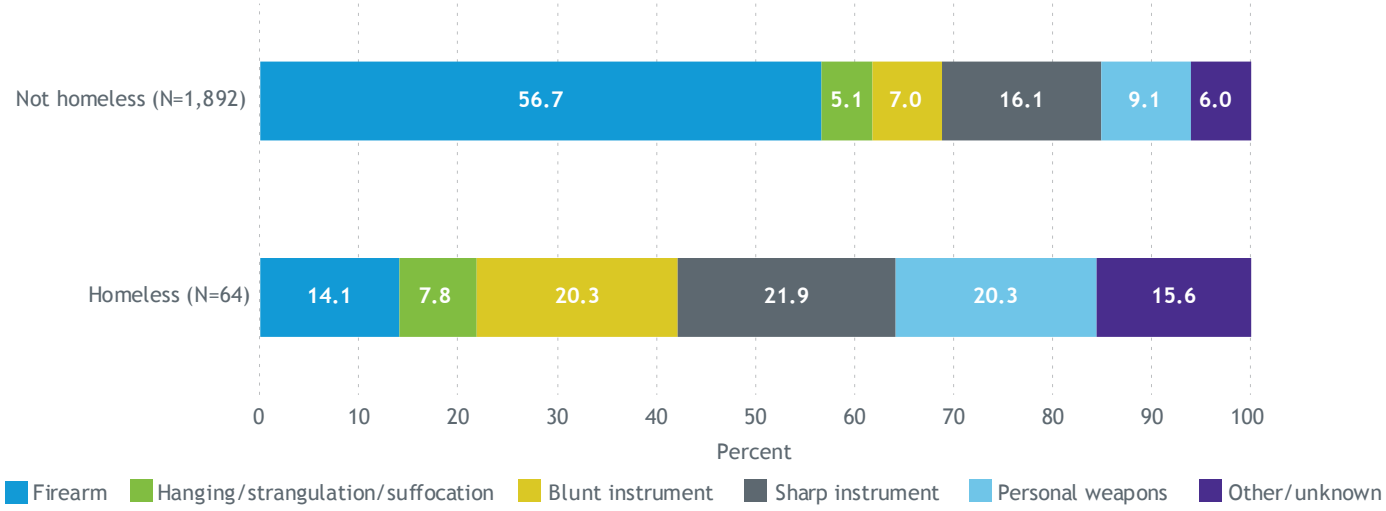
Source: Colorado Violent Death Reporting System, Colorado Department of Public Health and Environment.

Homicide deaths

Methods

Figure 5 shows homicide deaths by the methods used to inflict the fatal injury, between homeless and non-homeless decedents. Among homicide deaths in both groups, there were four-times fewer homicide deaths by firearm and three-times greater homicide deaths by blunt instrument among homeless decedents when compared to non-homeless decedents. Homeless homicide decedents also had a larger proportion of "other/unknown" types of weapons. This proportion is largely explained due to homicide deaths where the method of injury could not be discerned, which constitutes 6.3 percent of the total (i.e. nearly one-half of deaths due to "other/unknown"). In comparison, homicide deaths by unknown methods total less than 1 percent for all non-homeless decedents (data not shown).

Figure 5: Homicide methods among people experiencing homelessness in Colorado (2004-2015).



Source: Colorado Violent Death Reporting System, Colorado Department of Public Health and Environment.

Circumstances

Table 4 outlines the circumstances most frequently associated with homicide deaths among the homeless population in Colorado. The most frequent circumstance associated with homeless homicide deaths was indication that the death was preceded by an argument (62.1%). Additionally, 31 percent of homeless homicide decedents had a problem with alcohol, which is about five-times more than non-homeless homicide decedents. More than twice the proportion of homeless suicide decedents were documented to have a problem with other substances (including prescription or illicit drugs) than non-homeless decedents (13.5% compared to 6.5%).

Table 4: Circumstances for homicide deaths among people experiencing homelessness in Colorado (2004-2015).

Circumstances	Homeless (N=64)		Not homeless (N=1,930)	
	N	%	N	%
All deaths with 1+ known circumstance	58	90.6	1,715	88.9
Death preceded by argument	36	62.1	920	53.6
Problem with alcohol	18	31.0	97	5.7
Precipitated by another crime	12	20.7	467	27.2
Problem with other substance	8	13.8	112	6.5
Death preceded by physical fight	8	13.8	108	6.3
Random violence	8	13.8	140	8.2
Other crime in progress	6	10.3	235	13.7
Drug involvement	6	10.3	223	13.0
Current mental health problem	4	6.9	56	3.3
Victim of violence in the past 30 days	4	6.9	72	4.2
Brawl (3 or more people in a physical fight)	4	6.9	83	4.8
Intimate partner violence	3	5.2	323	18.8
Gang involvement	*	*	187	10.9

Source: Colorado Violent Death Reporting System, Colorado Department of Public Health and Environment.

*Counts of less than 3 are suppressed.

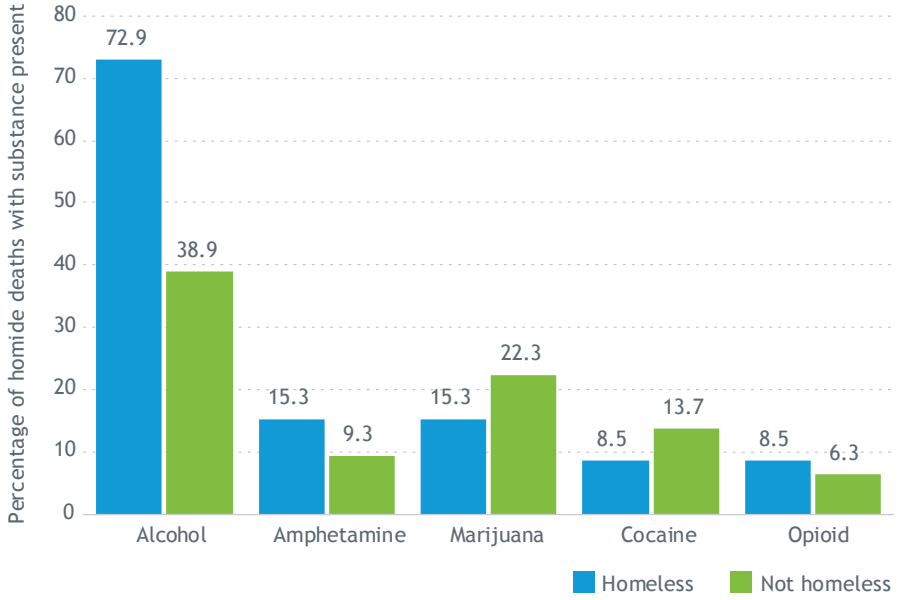
The percent of "all deaths with 1+ known circumstance" is of total violent deaths; the percent for individual circumstances is of this "all deaths with 1+ known circumstance" total.

Highlighted cells represent the 5 most commonly documented circumstances.

Toxicology

Figure 6 presents the top five toxicological results associated with homeless homicide deaths in Colorado, that is, what substances were present in the decedent's body at the time of death. Among homeless homicide deaths for which toxicology results were available, alcohol (72.9%) was the most frequently identified substance, followed by amphetamine (15.3%) and marijuana (15.3%). Notably, the proportion of homeless homicide decedents with alcohol present in their system at death is almost double that of non-homeless decedents.

Figure 6: Toxicology for homicide deaths among people experiencing homelessness in Colorado (2004-2015).



Source: Colorado Violent Death Reporting System, Colorado Department of Public Health and Environment.

Deaths of undetermined intent

Methods

Table 5 shows the method used to inflict the fatal injury that resulted in an undetermined manner of death for homeless decedents. Of all poisoning deaths among homeless decedents, 34 percent result in an undetermined manner, as compared to 24 percent among non-homeless decedents. Also notable, out of all deaths that were caused by a fall among homeless decedents, 30 percent resulted in an undetermined manner, as compared to 16 percent among non-homeless decedents.

Table 5: Methods resulting in undetermined deaths among people experiencing homelessness in Colorado (2004-2015).

	Total deaths by method (N)	Number resulting in undetermined intent (N(%))
Poisoning (N=2,957)		
Homeless	59	20 (33.9)
Not homeless	2,898	698 (24.1)
Blunt instrument (N=193)		
Homeless	16	3 (18.8)
Not homeless	177	43 (24.3)
Fall (N=217)		
Homeless	20	6 (30.0)
Not homeless	197	32 (16.2)
Other/Unknown (N=10,353)		
Homeless	150	12 (8.0)
Not homeless	10,203	256 (2.5)

Source: Colorado Violent Death Reporting System, Colorado Department of Public Health and Environment.

Circumstances

Table 6 outlines the circumstances most frequently associated with deaths of undetermined intent among the homeless population in Colorado. The most frequent circumstance associated with homeless undetermined deaths was indication that the decedent had a problem with alcohol (53.3%), which is almost double that of non-homeless decedents (27.2%).

Table 6: Circumstances for undetermined deaths among people experiencing homelessness in Colorado (2004-2015).

Circumstances	Homeless (N=41)		Not homeless (N=1,106)	
	N	%	N	%
All deaths with 1+ known circumstance	30	73.2	948	85.7
Problem with alcohol	16	53.3	258	27.2
Physical health problem	12	40.0	475	50.1
Problem with other substance	11	36.7	328	34.6
Ever treated for mental health problem	10	33.3	342	36.1
Current mental health problem	9	30.0	365	38.5
Current mental health treatment	7	23.3	299	31.5
Crisis in last two weeks	6	20.0	191	20.1
Intimate partner problem	5	16.7	180	18.9
Financial problem	5	16.7	102	10.8
Eviction or loss of home	5	16.7	26	2.7
Current depressed mood	5	16.7	292	30.8
Diagnosis of bipolar disorder	5	16.7	85	8.9
Diagnosis of depression	*	*	218	23.0
History of previous suicide attempts	4	13.3	170	17.9

Source: Colorado Violent Death Reporting System, Colorado Department of Public Health and Environment.

*Counts of less than 3 are suppressed.

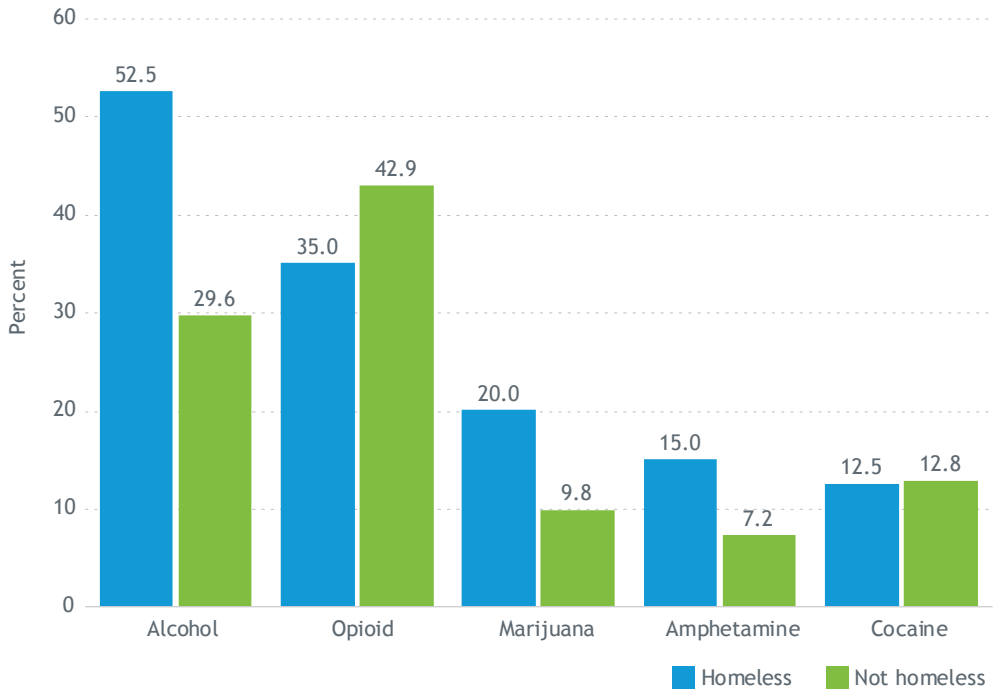
The percent of "all deaths with 1+ known circumstance" is of total violent deaths; the percent for individual circumstances is of this "all Deaths with 1+ known circumstance" total.

Highlighted cells represent the 5 most commonly documented circumstances.

Toxicology

Figure 7 presents the top five toxicological results associated with homeless undetermined deaths in Colorado, that is, what substances were present in the decedent's body at the time of death. Among homeless undetermined deaths for which toxicology results were available, alcohol (52.5%) was the most frequently identified substance, followed by opioids (35.0%; includes both prescription opioids and illicit, such as heroin) and marijuana (20.0%).

Figure 7: Toxicology for undetermined deaths among people experiencing homelessness in Colorado (2004-2015).



Source: Colorado Violent Death Reporting System, Colorado Department of Public Health and Environment.

Discussion

This analysis reveals that violent deaths among people experiencing homelessness in Colorado have several unique characteristics when compared to those not homeless. Significant differences in gender, age, marital status, race, and education level show that a large proportion of homeless violent death decedents are 45-64 year old, white non-Hispanic men without the protective factors of higher education or intimate partner support.[10] Additionally, whereas the majority of violent deaths among the general population occur at a house or apartment, we see that homeless decedents are more often injured in places like roadways, natural areas, parking lots, and hotels. The data presented in this report also uncover important differences between homeless decedents and the general population when it comes to manner of violent death, lethal means, and precipitating circumstances.

Fewer suicide deaths occur in the homeless population when compared to the population not experiencing homelessness, with the bulk of homeless suicide decedents dying by hanging/strangulation/suffocation rather than by firearm, which makes up the highest proportion of suicide deaths among the general population in Colorado. These lethal means results for homeless suicide deaths are consistent with findings from other analyses,[11-12] and may speak to differing lethal means access among the homeless population. Additionally, the table of suicide circumstances contributes to the understanding of this population by revealing a unique breakdown of life stressors. Among suicide deaths in the homeless population, we observe lower levels of diagnosed mental health problems and mental health treatment, suggesting potential barriers to mental health care access and therefore the inability to seek treatment for mental health problems. Physical barriers to mental health care for the homeless population include lack of knowledge about where to go for treatment, lack of access to transportation, and possible lack of personal identification.[13-16] Psychological barriers to mental health care also exist, such as embarrassment and self-consciousness about appearance when living on the streets.[13-16]

The higher proportion of homicide deaths among the homeless population (of all violent deaths), compared to the general population, is also consistent with evidence that people experiencing homelessness have increased exposure to crime and dangerous environments.[3] This is demonstrated by our results showing that larger

proportions of homicide deaths among the homeless are precipitated by arguments, physical fights, and are the result of random violence. It is also striking that more than five-times the proportion of homeless homicide decedents are documented to have a problem with alcohol, which is consistent with the findings that almost three-quarters of these decedents have alcohol in their system at the time of death. Also, twice the proportion of homeless homicide decedents have a documented problem with other substances, including drugs. This relationship between alcohol consumption, drugs, and violence is well-documented and consistent with these results, stating that people who consume alcohol or use drugs are more likely to perpetrate violence, or to be the victims of violence, than people who do not consume alcohol or drugs.[17-20]

Lastly, the homeless population experiences double the proportion of violent deaths that result in an undetermined intent when compared to the general population. The majority of these undetermined-intent deaths among homeless decedents occurred by poisoning or fall, and with only 73 percent of these deaths having at least one known precipitating circumstance, the coroner/medical examiners may not have known enough about the decedents to determine between alternative manners of death.

Information from this analysis can be used to better understand how experiencing homelessness puts this population at higher risk for violence and violent death than people not experiencing homelessness. This analysis can also be used to help create and focus prevention programs addressing known risk factors, promote protective factors and reduce the overall burden of violent death among the homeless population.

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References

1. Henry M, Watt R, Rosenthal L, Shivji A. “The 2016 Annual Homeless Assessment Report (AHAR) to Congress: Part 1 Point-in-Time Estimates of Homelessness.” U.S. Department of Housing and Urban Development (2016). https://www.hudexchange.info/resources/documents/2016-AHAR-Part-1.pdf.
2. Morrison, David S. “Homelessness as an independent risk factor for mortality: results from a retrospective cohort study.” International Journal of Epidemiology 38.3 (2009): 877-883.
3. Homelessness & Health: What’s the Connection? National Healthcare for the Homeless Council; 2011. www.nhchc.org/wp-content/uploads/2011/09/Hln_health_factsheet_Jan10.pdf.
4. Corrigan, Patrick, et al. “Community-based participatory research examining the health care needs of African Americans who are homeless with mental illness.” Journal of health care for the poor and underserved 26.1 (2015): 119.
5. Baggett, Travis P., et al. “Mortality among homeless adults in Boston: shifts in causes of death over a 15-year period.” JAMA internal medicine 173.3 (2013): 189-195.
6. Barrow, Susan M., et al. “Mortality among homeless shelter residents in New York City.” American Journal of Public Health89.4 (1999): 529-534.
7. Centers for Disease Control and Prevention. National Violent Death Reporting System (NVDRS) Coding Manual Revised [Online] 2015 National Center for Injury Prevention and Control, Centers for Disease Control and Prevention (producer). Available from URL: www.cdc.gov/injury
8. National Violent Death Reporting System, Division of Violence Prevention, Centers for Disease Control and Prevention. http://www.cdc.gov/violenceprevention/nvdrs/
9. Colorado Rural Health Center, Colorado Office of Rural Health. Accessed from http://coruralhealth.org/wp-content/uploads/2014/09/2014.RuralHealth.Snapshot.pdf
10. McLean, J., Maxwell, M., Platt, S., Harris, F. M., & Jepson, R. (2008). Risk and protective factors for suicide and suicidal behaviour: A literature review. Scottish Government.
11. Stanley, Jennifer L., et al. “Characteristics of Violent Deaths Among Homeless People in Maryland, 2003–2011.” American journal of preventive medicine 51.5 (2016): S260-S266.
12. Bickley, Harriet, et al. “Suicide in the homeless within 12 months of contact with mental health services.” Social psychiatry and psychiatric epidemiology 41.9 (2006): 686-691.
13. Whitbeck, Les B. Mental health and emerging adulthood among homeless young people. Psychology Press, 2011.
14. Kushel, Margot B., Eric Vittinghoff, and Jennifer S. Haas. “Factors associated with the health care utilization of homeless persons.” Jama 285.2 (2001): 200-206.
15. Wen, Chuck K., Pamela L. Hudak, and Stephen W. Hwang. “Homeless people’s perceptions of welcomeness and unwelcomeness in healthcare encounters.” Journal of General Internal Medicine 22.7 (2007): 1011-1017.
16. Hwang, Stephen W., et al. “Health care utilization among homeless adults prior to death.” Journal of Health Care for the Poor and Underserved 12.1 (2001): 50-58.
17. Collins, James J., and Pamela M. Messerschmidt. “Epidemiology of alcohol-related violence.” Alcohol Research and Health 17.2 (1993): 93.
18. Norton, Robyn N., and Marsha Y. Morgan. “The role of alcohol in mortality and morbidity from interpersonal violence.” Alcohol and Alcoholism 24.6 (1989): 565-576.
19. Parker, Robert Nash, and Kathleen Auerhahn. “Alcohol, drugs, and violence.” Annual review of sociology 24.1 (1998): 291-311.
20. Miczek, Klaus A., et al. “Alcohol, drugs of abuse, aggression, and violence.” Understanding and preventing violence 3 (1994).