



- Vital Records
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## Suicide Among First Responders in Colorado, 2004-2014: A Summary from the Colorado Violent Death Reporting System

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### Introduction

Suicide is a critical public health concern that adversely affects a diverse population of Americans. The number of suicides has increased over the past decade for the United States and also in Colorado. Colorado had the seventh highest suicide rate (19.1 deaths per 100,000 population) among all states.<sup>1</sup> First responders as an occupation, have a unique relationship with suicide deaths. They are often the people who come into contact with suicidal individuals and respond to suicide deaths within their day-to-day work. Additionally research has shown that first responders may be at higher risk for suicide.<sup>2-4</sup> In response to this, the Suicide Prevention Commission of Colorado recommends developing suicide prevention strategies specific to these occupations.<sup>5</sup>

In an effort to help better understand this issue we can analyze first-responder suicides using the Colorado Violent Death Reporting System (CoVDRS). The CoVDRS is a public health surveillance system designed to obtain a complete census of all violent deaths occurring in Colorado, and was implemented at the Colorado Department of Public Health and Environment (CDPHE) in 2004. CoVDRS collects information from death certificates, coroner/medical examiner reports, and law enforcement reports, which allows for greater case detail than death certificates alone. Using CoVDRS we are able to analyze the unique circumstances and characteristics of first-responder suicides.

### Methods

Data for this report were obtained from the CoVDRS database and include suicide deaths among Colorado first responders from 2004 to 2014. Cases were defined as a first responder based on a structured review of the *Usual Industry and Usual Occupation* text fields collected from the death certificate. These fields are intended to reflect the type of job the individual was engaged in for most of his

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or her working life. A master list of applicable occupation and industry fields was created, which was then used to pull deaths from all years of data within our sample. Based on exploratory findings, first-responder occupations were categorized as traditional fire, EMS, and police/law enforcement occupations, as well as security, corrections, and dispatchers (related to emergency services). Our comparison group included all suicides among Colorado residents from 2004 to 2014.

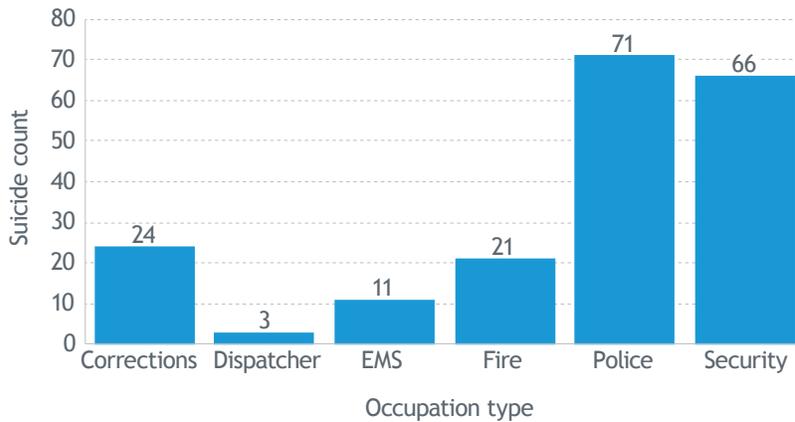
Suicide deaths were analyzed by occupation, lethal means of suicide, age, veteran status, and associated precipitating circumstances. For this report, lethal means are reported as one of four possible categories: firearm, hanging/asphyxiation/suffocation, poisoning (including illicit and prescription drugs and carbon monoxide), and other (including all other methods). Suicide deaths are presented as number of cases and percent of total number of deaths for a given category.

## Results

### Suicide Deaths

From 2004-2014 there were 196 suicide deaths among first responders. Of the six included occupations police/law enforcement had the highest count of suicides (n=71) followed closely by security (n=66).

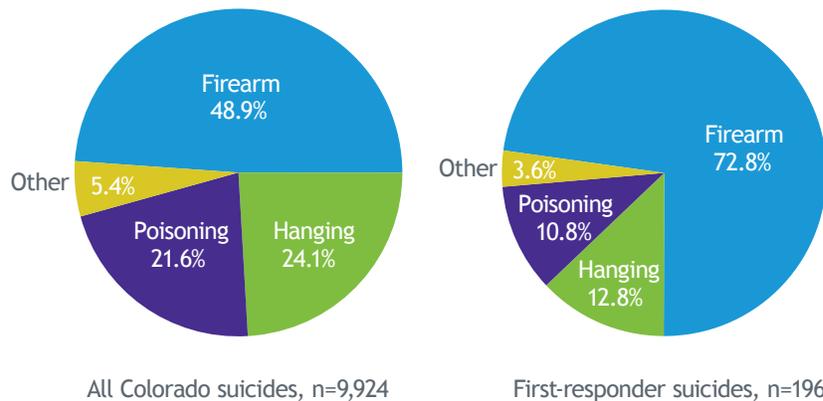
**Figure 1. Suicide deaths of first responders by included occupation (2004-2014).**



### Suicide Methods

The methods used to inflict fatal injury in first-responder suicides are compared to all Colorado suicides in Figure 2. The vast majority of first-responder suicides were via firearm (72.8%), compared to 48.9 percent in the all-Colorado suicide population.

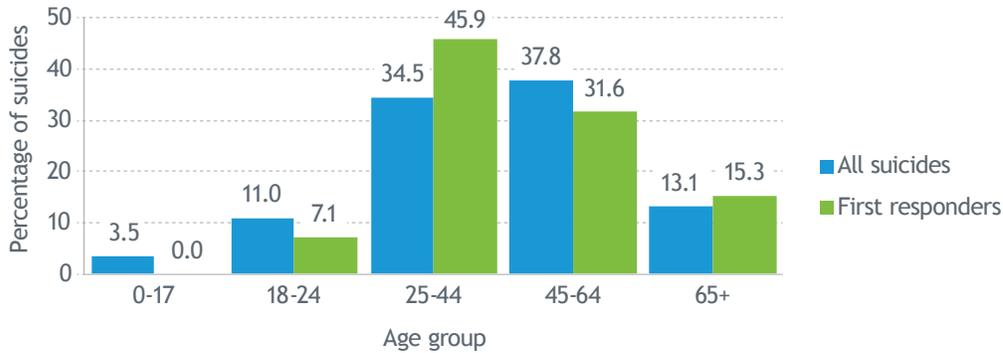
**Figure 2. Colorado first-responder suicide deaths by method (2004-2014).**



### Suicides by Age

Figure 3 reveals that nearly half of suicide deaths among first responders occur among ages 25-44 years, while nearly one-third occur among ages 45-64. Additionally the demographics show that 90.8 percent of first-responder suicides were male while 76.9 percent of all Colorado suicides are male (data not shown).

**Colorado first-responder suicides by age (2004-2014).**



### Suicide Circumstances

The CoVDRS collects circumstances related to violent death. Table 1 shows the most common circumstances in first-responder suicides compared with all Colorado suicides. The percentage is drawn from cases where there is at least one known circumstance. The highlighted rows represent the three highest percentages of circumstances present for the specific population.

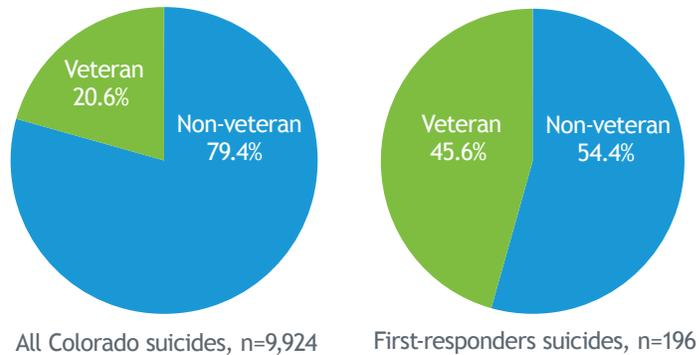
**Table 1. Circumstances for suicides among first responders (2004-2014).**

| Circumstances                          | All suicide |       | First responders |       |
|--|-------------|-------|------------------|-------|
|  | n           | %     | n                | %     |
| Suicides with 1+ known circumstance    | 9,007       | 90.54 | 175              | 89.29 |
| Current depressed mood                 | 5,341       | 59.30 | 99               | 56.57 |
| Current mental health problem          | 3,743       | 41.56 | 65               | 37.14 |
| Left a suicide note                    | 3,462       | 38.44 | 77               | 44.00 |
| Ever treated for mental health problem | 3,328       | 36.95 | 57               | 32.57 |
| Intimate partner problem               | 3,272       | 36.33 | 71               | 40.57 |
| Disclosed intent to commit suicide     | 3,187       | 35.38 | 62               | 35.43 |
| Physical health problem                | 2,898       | 32.17 | 59               | 33.71 |
| Current mental health treatment        | 2,722       | 30.22 | 49               | 28.00 |
| Diagnosis of depression                | 2,689       | 29.85 | 46               | 26.29 |
| History of previous suicide attempts   | 2,383       | 26.46 | 37               | 21.14 |
| Problem with alcohol                   | 2,373       | 26.35 | 41               | 23.43 |
| Job problem                            | 1,880       | 20.87 | 39               | 22.29 |
| Financial problem                      | 1,854       | 20.58 | 30               | 17.14 |
| Problem with other substance           | 1,420       | 15.77 | 16               | 9.14  |
| Crisis within two weeks of the suicide | 1,077       | 11.96 | 22               | 12.57 |

## Suicide by Veteran Status

Figure 4 reveals that first-responder suicide victims were more likely to be veterans of the armed service than all Colorado suicides victims. This may represent a bias where veterans of the armed service are more likely to become first responders following their service.

**Figure 4. Colorado first-responder suicide deaths by veteran status (2004-2014).**



## Discussion

The analysis reveals that first-responder suicide victims in Colorado have several unique characteristics. Differences in gender, age, and veteran status show that a large portion of our first-responder suicides fall in that high risk category of working age male, with a large portion being veterans of the armed services. Additionally, close to 75 percent of first responders used firearms as a method of fatal injury, a higher percentage than among all suicide deaths. The table of circumstances reveals a unique breakdown of life stressors. We observe lower levels of diagnosed mental health problems and mental health treatment, suggesting that our first-responder population may be less inclined to seek treatment for mental health problems. This information can be used to better understand this high-risk group and help create and refine prevention programs aimed to reduce the burden of suicide in this community.

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