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## **Original Investigation** | Psychiatry

# Mental Health Treatment Seeking and History of Suicidal Thoughts Among Suicide Decedents by Mechanism, 2003-2018

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# Abstract

**IMPORTANCE** Understanding mental health and substance use treatment seeking and suicidality among suicide decedents is important to determine prevention efforts.

**OBJECTIVE** To evaluate differences in treatment seeking and suicidality between suicide decedents who died by firearms and those who died by other methods.

**DESIGN, SETTING, AND PARTICIPANTS** Cross-sectional data were collected on 234 652 suicide decedents from 2003 to 2018. Participant information was reported by their state of residence to the National Violent Death Reporting System. Statistical analysis was performed from July 1, 2021, to January 21, 2022.

**MAIN OUTCOMES AND MEASURES** Main outcomes were treatment for mental health and substance use at time of death, previous treatment for mental health and substance use, history of suicidal ideation or plans, history of suicide attempts, and disclosure of suicidal ideation or plans.

**RESULTS** A total of 234 652 participants (182 520 male [77.8%]; 205 966 White [87.8%]; mean [SD] age, 46.3 [18.2] years [range, 3-112 years]) were included in this study. Compared with suicide decedents who died by another method (n = 117 526 [50.1%]), those who died by firearm (n = 117 126 [49.9%]) were more likely to have disclosed thoughts or plans of suicide within the month prior to death (odds ratio [OR], 1.16 [95% CI, 1.13-1.18]) and were less likely to have previously attempted suicide (OR, 0.44 [95% CI, 0.43-0.46]). Compared with those who died by poisoning, those who used a firearm were more likely to have had a history of suicidal thoughts or plans (OR, 1.19 [95% CI, 1.15-1.23]) and to have disclosed their thoughts or plans of suicide within the month prior to death (OR, 1.06 [95% CI, 1.03-1.10]). Compared with those who died by hanging, those who used a firearm were more likely to have disclosed their thoughts or plans of suicide to another person within the month prior to their death (OR, 1.14 [95% CI, 1.11-1.17]).

**CONCLUSIONS AND RELEVANCE** These findings provide information that suggests who is at risk to die by firearm suicide. Community-based interventions in suicide prevention could help reduce access to firearms during a time of crisis. The finding that firearm suicide decedents were more likely to disclose their suicidal thoughts or plans provides an important avenue for prevention.

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# Introduction

In the United States, suicide rates have increased 33% during the last 18 years,<sup>1</sup> and research suggests that our understanding of the risk factors for suicide is limited.<sup>2</sup> The need for alternate approaches to suicide prevention is clear. *Means safety* or *means restriction*, defined as rendering suicide methods less lethal or available, is 1 potentially effective possibility.

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## Key Points

Question Does the use of treatment for mental health and substance use and do suicidal thoughts or plans differ between suicide decedents who died by firearm and those who died by other methods?

Findings Results from a cross-sectional study of 234 652 suicide decedents indicated that those who used a firearm were less likely to engage in treatment, more likely to disclose suicidal thoughts or plans, and less likely to have previously attempted suicide.

Meaning This study suggests that suicide decedents who die by firearm are less likely to seek treatment, more likely to die on their first attempt, and more likely to tell someone about their suicidal thoughts or plans, thus emphasizing the importance of community-based interventions for suicide prevention.

#### + Supplemental content

Author affiliations and article information are listed at the end of this article.

Means safety has been found to reduce rates of suicide. For example, the Israel Defense Forces saw a 40% reduction in suicide rates among young service members when they instituted a policy that did not let them take their firearms on leave).<sup>3</sup> In the US, 1 way to increase the effectiveness of means safety is to assess who uses firearms in their suicide death. Although research is limited, firearm suicide decedents were shown to more likely be men, store their firearms unloaded, and own a handgun compared with those who died by another method<sup>4-7</sup>; these suicide decedents who died by firearm were also more likely to own a firearm and be younger than those who died by hanging.<sup>8</sup> Research has found that men who used a firearm in their suicide death were more likely than women to be married and die at home, and unmarried men were more likely than married men to die by hanging.<sup>9</sup> Decedents who died using a firearm have also been shown to be less likely than those who died by other methods to have had a previous suicide attempt.<sup>10</sup> Although these findings are informative, little is known about other factors (eg, mental health or substance use treatment-seeking behavior) associated with means selection.

Most research on help-seeking behavior for suicide has been conducted among individuals who survived an attempt,<sup>11</sup> making it difficult to generalize to those who have died by suicide. The research that does exist has not examined how help-seeking habits differ among those who use specific methods.<sup>12</sup> In addition, limited research has examined what factors are associated with the choice to disclose thoughts of suicide. To our knowledge, no study has examined whether individuals who die by suicide using specific methods are more or less likely to disclose suicidal thoughts prior to their death.

Those who die by firearm are thought to represent a unique subset of decedents who differ from other decedents who die by suicide on a number of variables. Research has shown that those who identify with gun culture often also identify with traditional masculine norms,<sup>13</sup> which may negatively affect help-seeking. Specifically, masculinity has been associated with delays in helpseeking, including for depression.<sup>14,15</sup> The potentially decreased rates of help-seeking among those who own firearms may be associated with firearm decedents seeking mental health care at lower rates than decedents who died by another method. Given that those who die by a firearm likely come in contact with mental health care less frequently, it is likely that their medical records would show lower rates of suicidal ideation and disclosure of ideation compared with those who died by other means.

Previous studies used the National Violent Death Reporting System (NVDRS) to examine treatment prior to a death by suicide. A study by Niederkrotenthaler and colleagues<sup>16</sup> found that 28.5% of individuals sought treatment before their death and that those who died by poisoning, had a history of suicide attempt, and had nonalcoholic substance use or dependence were more likely to be receiving treatment. Additional research is needed to assess how treatment seeking differs among those who use methods other than poisoning and how other factors are associated with method selection. Another study<sup>17</sup> examined the differences between male and female firearm suicide decedents and found that multiple factors (eg, diagnosis of mental health problems) are associated with the odds of using a firearm in a suicide death. To our knowledge, prior work has not been able to assess the differences between those who used a firearm and those who used other methods (ie, hanging and poisoning).

Although previous studies have sought to understand method selection, these studies were limited largely by their methods and sample sizes. Specifically, many studies featured small sample sizes (eg, 97 suicide decedents)<sup>18</sup> or were restricted to specific geographic locations (eg, Colorado).<sup>19</sup> In addition, most data were collected from family and friends of decedents, with data collection sometimes occurring years after the death.<sup>20</sup> The NVDRS is a national data set maintained by the Centers for Disease Control and Prevention (CDC) that addresses many of these concerns. The data are compiled from death certificates, medical examiners, and additional sources.<sup>21</sup> The comprehensive nature of this data set allows for an extension of previous work by assessing whether treatment-seeking habits and previous suicidality differentiate suicide decedents who use certain methods. This study furthers the research previously done with the NVDRS by using data from 32

states, including multiple treatment-seeking and suicide variables, and examining differences among those who used different methods of suicide. The present study examined whether treatment seeking, disclosure of previous suicidal thoughts, and previous suicide attempt differentiate those who died by suicide with a firearm from those who died by another method. It is hypothesized that those who died by suicide via firearm will have sought less services, disclosed thoughts of suicide at lower rates, and have lower rates of prior suicide attempt compared with those who died by suicide using another method. We will also explore whether these differences hold when comparing suicide decedents who died by firearm with those who died specifically by hanging (the second most lethal method of suicide) or poisoning (the most commonly used method in suicide attempt). Evaluating these differences will allow for a better understanding of method selection and more effective and customized means safety efforts.

## **Methods**

Data for this cross-sectional study were collected on 234 652 suicide decedents from 2003 to 2018. Main outcomes were treatment for mental health and substance use at time of death, previous treatment for mental health and substance use, history of suicidal ideation or plans, history of suicide attempts, and disclosure of suicidal ideation of plans. Statistical analysis was performed from July 1, 2021, to January 21, 2022. This report follows the Strengthening the Reporting of Observational Studies in Epidemiology (STROBE) reporting guideline for cross-sectional studies.

The NVDRS data set was provided by the CDC and was granted exemption from institutional review board oversight by the CDC because no identifiable information was requested. The NVDRS funds and supports states' data collection efforts. Data are collected from death records, coroner or medical examiner reports, and law enforcement reports to provide comprehensive information on violent deaths.<sup>21,22</sup> Examining data from multiple sources helps increase consistency and comprehension of the information in the data set. Each state manages data collection through their state department or subcontractor (eg, medical examiner) and codes data for cases that occurred in their state. Abstractors are trained on how to code data included in the NVDRS data set; ongoing support (eg, monthly calls<sup>23</sup>) is provided, and cases are reviewed to ensure accuracy.

The NVDRS provides a coding manual<sup>23</sup> that includes information about how the cause of death, circumstances, and weapon variables should be coded. For example, for the variable indicating whether the decedent ever received treatment for a mental health or substance use problem, coders are instructed to code "yes" if there is evidence in the decedent's file that the decedent had a current prescription for a psychiatric medication, had seen a mental health professional, or met the other listed criteria. For more information on the coding process of the NVDRS, please see the resources provided by the CDC.<sup>23</sup>

#### **Statistical Analysis**

SPSS Statistical Package, version 26 (IBM Corp) was used to perform analysis on cross-sectional data. Significance was set at *P* < .05, and regressions were 2-sided. A single, multivariable binary logistic regression was used to evaluate differences between suicide decedents who used a firearm and those who used another method. Method type (firearm vs other) was included as the dependent variable, and current treatment, lifetime treatment, history of ideation, history of attempts, and disclosure of ideation were included as the independent variables. Multinomial logistic regressions were used in exploratory analyses to evaluate differences between firearm suicide decedents and those who died by poisoning or hanging.

# Results

A total of 234 652 participants (182 520 male [77.8%]; 205 966 White [87.8%]; mean [SD] age, 46.3 [18.2] years [range, 3-112 years]) were included in this study (**Table 1**). The 3 most common methods of suicide were firearm (n = 117 126 [49.9%]); hanging, strangulation, or suffocation (n = 62 674 [26.7%]); and poisoning (n = 35 937 [15.3%]). Most decedents (n = 171 782 [73.2%]) were not receiving treatment for a mental health or substance abuse disorder at the time of their death, had not sought treatment in their lifetime (n = 155 756 [66.4%]), did not have a documented lifetime history of suicidal ideation or plans (n = 188 562 [80.4%]) or suicide attempt (n = 192 313 [82.0%]), and had not disclosed suicidal ideation or plans within the month prior to their death (n = 179 939 [76.7%]).

#### Table 1. Sample Characteristics of Suicide Decedents

	Suicide decedents, No. (%)						
Characteristic	Total (N = 234 652)	Firearm (n = 117 126)	Hanging (n = 62 674)	Poisoning (n = 35 937)			
Age, mean (SD) [range], y	46.3 (18.2) [3-112]	49.2 (19.2) [8-105]	39.8 (16.4) [3-103]	48.4 (14.9) [7-100]			
Sex							
Male	182 520 (77.8)	101 296 (86.5)	49 147 (78.4)	17 994 (50.1)			
Female	52 072 (22.2)	15 851 (13.5)	13 513 (21.6)	17 936 (49.9)			
Unknown	49 (0.02)	22 (0.02)	13 (0.02)	6 (0.02)			
Race and ethnicity							
American Indian or Alaska Native	3097 (1.3)	1196 (1.0)	1380 (2.2)	322 (0.9)			
Asian or Other Pacific Islander	5109 (2.1)	1150 (1.0)	2430 (3.9)	556 (1.5)			
Black or African American	15 228 (6.5)	7481 (6.4)	4334 (6.9)	1579 (4.4)			
White	205 966 (87.8)	105 356 (89.9)	52 543 (83.8)	32 860 (91.4)			
Other or unspecified <sup>a</sup>	1962 (0.8)	586 (0.5)	827 (1.3)	182 (0.5)			
≥2 Races	2843 (1.2)	1254 (10.1)	950 (1.5)	374 (1.0)			
Unknown	537 (0.2)	150 (0.1)	210 (0.3)	64 (0.2)			
Military affiliation							
No	179231(76.7)	82 779 (71.0)	52 128 (83.5)	29 301 (81.9)			
Yes	40 654 (17.3)	28 295 (24.3)	6160 (9.9)	4053 (11.3)			
Unknown	13 690 (5.9)	5589 (4.8)	4137 (6.6)	1409 (6.7)			
Marital status							
Never married	80781 (34.5)	34 188 (29.2)	28 552 (45.6)	10 027 (27.9)			
Married	77 965 (33.3)	44 795 (38.3)	17 189 (27.4)	10 800 (30.1)			
Widowed	13 777 (5.9)	8473 (7.2)	1830 (2.9)	2602 (7.2)			
Divorced	50 385 (21.5)	24 357 (20.8)	11 629 (18.6)	10674 (29.7)			
Separated	5626 (2.4)	2738 (2.3)	1617 (2.6)	979 (2.7)			
Single	3226 (1.4)	1503 (1.3)	1096 (1.8)	395 (1.1)			
Unknown	2644 (1.1)	1000 (0.9)	715 (1.1)	427 (1.2)			
Educational level							
≤8th Grade	7513 (3.3)	3528 (3.1)	2820 (4.6)	675 (1.9)			
Some high school	24 529 (10.7)	11 566 (10.1)	8495 (13.8)	2798 (8.0)			
High school degree	71 562 (31.2)	36 873 (32.3	19 403 (31.5)	9993 (28.5)			
Some college	28914 (12.6)	14 561 (12.8)	7303 (11.9)	4543 (13.0)			
Associate's degree	13 207 (5.8)	6714 (5.9)	2981 (4.8)	2485 (7.1)			
Bachelor's degree	20 596 (9.0)	9590 (8.4)	5157 (8.4)	3551 (10.1)			
Master's degree	7132 (3.1)	3265 (2.9)	1770 (2.9)	1305 (3.7)			
Advanced degree	3222 (1.4)	1476 (1.3)	766 (1.2)	561 (1.6)			
Unknown	52 547 (22.9)	26 478 (23.2)	12 912 (21.0)	9142 (26.1)			

<sup>a</sup> The data set from the Centers for Disease Control and Prevention does not define these other races and ethnicities.

Results from the binary logistic regression (**Table 2**) indicate that decedents who were receiving treatment for mental health or a substance use problem at the time of their death (odds ratio [OR], 0.85 [95% CI, 0.82-0.88]), had ever received treatment for mental health or a substance abuse problem (OR, 0.75 [95% CI, 0.72-0.78]), or had previously attempted suicide before their death (OR, 0.44 [95% CI, 0.43-0.46]) were significantly less likely to use a firearm. Decedents with a recent disclosure of suicidal plans within the last month had higher odds of using firearms (OR, 1.16 [95% CI, 1.13-1.18]). The 2 groups did not differ in terms of a history of suicidal ideation or plans (OR, 1.00 [95% CI, 0.98-1.02]). Findings were consistent when restricting the sample to only men or women and when covarying for age. Owing to the large range of ages, analyses were conducted among a sample restricted to those aged 18 to 84 years (n = 221398), and the results were unchanged. When we repeated analyses while restricting inclusion to the states that have contributed data to each year of the NVDRS, the findings did not change.

Results from the exploratory multinomial logistic regression (**Table 3**) were similar to those found in the binary logistic regression, with some differences. Compared with decedents who died by poisoning, those who died by firearm were significantly more likely to have a history of suicidal ideation or plans (OR, 1.19 [95% CI, 1.15-1.23]) and to have disclosed their thoughts or plans of suicide within the month prior to death (OR, 1.06 [95% CI, 1.03-1.10]). Decedents who died by hanging and those who died by firearm did not significantly differ with regard to receiving treatment for a mental health or substance abuse problem at the time of death (OR, 0.99 [95% CI, 0.95-1.03]). Compared with those who died by hanging, those who used a firearm were more likely to have disclosed their thoughts or plans of suicide to another person within the month prior to their death (OR, 1.14 [95% CI, 1.11-1.17]). Owing to the large range of ages, the exploratory multinomial regression was conducted among a sample restricted to those aged 18 to 84 years. Results comparing poisoning with firearms remained unchanged. When comparing hanging with firearms, the age-restricted sample found that those who died by firearm were more likely to have been receiving treatment at the time of their death (OR, 0.94 [95% CI, 0.90-0.98]; P = .002); all other results were unchanged. See eTables 1 to 4 in the Supplement for logistic regression results stratified by racial and ethnic group.

#### Table 2. Logistic Regression Differences Between Method Selection<sup>a</sup>

	Suicide decedents, N	0. (%)			
Variable <sup>b</sup>	Other methods (n = 117 526)	Firearm (n = 117 126)	OR (95% CI)	P value	
Current treatment	38 589 (33.0)	24 252 (20.7)	0.85 (0.82-0.88)	<.001	
Lifetime history of treatment	47 695 (40.7)	31 140 (26.6)	0.75 (0.72-0.78)	<.001	
Lifetime history of suicidal ideation or plans	24891 (21.3)	21 159 (18.1)	1.00 (0.98-1.02)	.89	
Lifetime history of suicide attempt(s)	29796 (25.4)	12 507 (10.7)	0.44 (0.43-0.46)	<.001	
Past month disclosure of suicidal ideation or plans	27 220 (23.2)	27 462 (23.4)	1.16 (1.13-1.18)	<.001	

#### Abbreviation: OR, odds ratio.

<sup>b</sup> All variables are binary (no or yes) and coded as 0 or 1 (other = 0 and firearm = 1).

<sup>a</sup> Covaried for race and ethnicity, sex, and marital status.

## Table 3. Exploratory Multinomial Regression Comparing Firearms With Poisoning and Hanging<sup>a</sup>

	Suicide by poisoning (n = 35 937)				Suicide by hanging (n = 62 674)			
Variable <sup>b</sup>	No. (%)	OR (95% CI)	Wald	P value	No. (%)	OR (95% CI)	Wald	P value
Current treatment	16 031 (44.6)	0.53 (0.51-0.56)	548.855	<.001	17 414 (27.8)	0.99 (0.95-1.03)	0.394	.53
Lifetime history of treatment	18 274 (50.9)	0.86 (0.81-0.90)	32.260	<.001	22 819 (36.4)	0.77 (0.74-0.80)	183.215	<.001
Lifetime history of suicidal ideation or plans	7427 (20.7)	1.19 (1.15-1.23)	99.557	<.001	14 103 (22.5)	0.90 (0.87-0.92)	66.4555	<.001
Lifetime history of suicide attempt(s)	11 430 (31.8)	0.39 (0.38-0.41)	3171.070	<.001	14 463 (23.1)	0.47 (0.46-0.49)	2714.068	<.001
Past month disclosure of suicidal ideation or plans	8902 (24.8)	1.06 (1.03-1.10)	15.064	<.001	14 519 (23.2)	1.14 (1.11-1.17)	107.979	<.001

Abbreviation: OR, odds ratio.

<sup>a</sup> Covaried for race and ethnicity, sex, and marital status.

<sup>&</sup>lt;sup>b</sup> All variables are binary (no or yes) and coded as 0 or 1 (other = 0 and firearm = 1).

#### Discussion

The present study examined differences in mental health and substance use treatment-seeking behavior, prior suicide attempt, history of suicidal ideation or plans, and disclosure of suicidal thoughts and plans preceding death between decedents who used a firearm and those who died using other methods. As hypothesized, relative to those who died using other methods, decedents who used a firearm were significantly less likely to have previously sought mental health treatment or to have received mental health treatment at the time of their death. In addition, decedents who used a firearm were significantly less likely to have previously attempted suicide compared with those who died by a different method. Contrary to our hypothesis, those who died using a firearm were more likely to have disclosed their suicidal ideation or plans in the month preceding their suicide. There were no differences in the rates of prior suicidal thoughts and plans between decedents who used a firearm and those who died using another method, and most decedents had no history of suicidal thoughts.

Analyses examining specific subgroups of decedents (those who died by either poisoning or hanging) relative to decedents who used a firearm had similar findings to those comparing decedents who used a firearm with individuals who died by any other method; however, there were some differences. Specifically, those who died by firearm were more likely than decedents who used poisoning to have had previous suicidal ideation or plans and to have disclosed these thoughts or plans to someone in the month prior to their death. Decedents who used hanging and those who used a firearm did not differ with regard to receipt of mental health or substance use treatment at the time of their death.

The finding that decedents who used a firearm were less likely to have previously attempted suicide is consistent with previous literature<sup>10</sup>; however, most decedents did not have a documented history of suicide attempt. This finding suggests that those who use a firearm typically die on their first suicide attempt rather than using a firearm after having survived an earlier attempt using a less lethal method. Furthermore, results consistently indicated that decedents who used a firearm were less likely to engage with the mental health care system, suggesting that many evidence-based suicide prevention interventions are unlikely to reach those at risk of dying by firearm suicide given that they require that individuals engage with the mental health care system. An inability of our existing mental health care system to reach and help those in need highlights the importance of upstream or population-level interventions for firearm suicide prevention. Decedents whose highest level of education was a high school degree represented the largest percentage of deaths across all methods. A high school degree may be indicative of socioeconomic circumstances that increase the risk for suicide behaviors. In line with this possibility, a previous study found that a low education level increases the risk for suicide among men.<sup>24</sup> Future longitudinal research should explore the potential connection between educational attainment, suicide means, and suicidal behavior.

Upstream interventions can take many forms, and research has begun to answer questions on how these interventions are best handled. One possible avenue is to increase safe storage of firearms. Previous research has demonstrated that safe storage of firearms is associated with decreased risk of firearm suicide.<sup>23</sup> Implementation of such strategies, however, can be challenging. Practices to increase safe storage of firearms should include messages and messengers that are considered credible to firearm owners. For example, using messaging surrounding firearm safety that resonates with firearm owners and reflects their culture<sup>25</sup> may increase adherence with safe storage recommendations. Prior findings indicated that these interventions were more effective among those who were politically conservative, lived in rural areas, and more strongly supported gun rights,<sup>26</sup> which suggests that this strategy may be a way to reach those who have historically been considered hard to reach. Several studies have shown that law enforcement, military veterans, and military service members are perceived to be more credible sources of information regarding firearm safety.<sup>27,28</sup> Using these sources may be important in efforts to increase safe storage of firearms.

An unexpected yet promising finding from the present study was that those who died by firearm were more likely to have disclosed suicidal ideation or plans in the month preceding their death relative to those who died by other means. This finding suggests another important avenue for firearm suicide prevention. Those who die by firearm are not doing so without any notable risk indicator; rather, they are providing very important information to those around them. This finding also highlights the importance of increasing population-level understanding of means safety and possible mechanisms to limit access to lethal means. By increasing such knowledge, we can empower people to intervene and help friends and loved ones decrease the likelihood of suicide. Furthermore, training those outside the medical field in how to be most effective in conversations surrounding firearm safety may increase the reach and effect of such interventions. In addition, increasing awareness of how extreme risk protection orders work may be important so that individuals may feel more comfortable implementing such strategies if necessary. Several states have also developed maps showing firearm owners where firearms can be voluntarily and temporarily stored outside the home in times of crisis.<sup>29</sup> Increasing public understanding of such projects is important so that those who become aware of an individual's suicidal ideation or plans may offer this information.

The effect size for this finding was fairly small relative to other findings. Firearm decedents were only 14% more likely to have disclosed their thoughts or plans, and most participants had no known history of suicidal thoughts prior to their death. This finding suggests that, although firearm decedents are more likely to have disclosed thoughts or plans, disclosure is quite rare. Strategies to increase population-level knowledge about risk factors and warning signs for suicide, as well as means safety, are needed to better equip individuals to notice suicide risk and intervene.

#### Limitations

This study has some limitations. Information about the specific type of mental health treatment or the length of time of treatment was not able to be coded; both the quantity and quality of treatment might be important factors to consider in future work. It is not clear to whom suicidal thoughts were disclosed and the nature of these discussions. For example, it may be that certain groups (eg, faith leaders) are more likely to be provided information regarding others' suicidal thoughts. A greater understanding of who is most likely to be informed about suicidal thoughts is an important area for future research so that interventions can be specifically tailored to such groups. Specific information regarding the nature of the disclosure was also not available. For example, we do not know whether disclosures were detailed conversations in which an individual expressed his or her suicidal thoughts or whether disclosures took the form of more passing comments (eg, vague comments about wanting to die). Another limitation is that the findings may be associated with the expansion of the NVDRS. For example, the NVDRS included 6 states at its inception in 2003 and currently involves 32 states. The original 6 states thus account for a disproportionate number of deaths and may have an association with findings. In addition, given hindsight bias, it may be that after someone dies by suicide, those reflecting on the death are more likely to see past events as a disclosure when, in reality, such events may not have been considered a disclosure by others. Limited access to sources of information may result in someone being coded as not having suicidal ideation, for example, when they did in fact experience suicidal ideation.

# Conclusions

This study furthers our understanding of who is at risk to die by firearm suicide. The findings suggest that those likely to die by firearm suicide are unlikely to engage with mental health services, yet such services are often tasked with reducing access to lethal means. This study emphasizes the importance of community-based interventions in firearm suicide prevention. The finding that firearm decedents were more likely to have disclosed such thoughts suggests an important avenue for suicide prevention and warrants further research to better understand who these suicide decedents are and what information is disclosed.

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Author Contributions: Ms Bond had full access to all of the data in the study and takes responsibility for the integrity of the data and the accuracy of the data analysis.

Concept and design: All authors.

Drafting of the manuscript: Bond, Bandel, Rodriguez, M. D. Anestis.

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Statistical analysis: Bond.

Supervision: J. C. Anestis, M. C. Anestis.

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#### SUPPLEMENT.

eTable 1. Differences Between White Decedents Who Used a Firearm and White Decedents Who Used Another Method

eTable 2. Differences Between Black/African American Decedents Who Used a Firearm and Black/African American Decedents Who Used Another Method

eTable 3. Differences Between American Indian/Alaskan Native Decedents Who Used a Firearm and American Indian/Alaskan Native Decedents Who Used Another Method

eTable 4. Differences Between Asian/Pacific Islander Decedents Who Used a Firearm and Asian/Pacific Islander Decedents Who Used Another Method