



# Involving Firearm Stakeholders in Community-Based Suicide Prevention Efforts

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Published online: 3 May 2019  
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## Abstract

**Purpose of Review** About half of all suicide deaths in the USA are by firearm. Putting time and distance between a person in suicidal crisis and means of inflicting lethal force is an effective suicide prevention strategy. The current review summarizes the emerging literature on the involvement of firearm stakeholders in community-based efforts to reduce access to lethal means for people at risk for suicide.

**Recent Findings** A small but growing set of scholarly articles indicates that the personal values underlying firearm ownership need not be impediments to firearm suicide prevention. By engaging gun owners in helping to craft culturally relevant messages and encouraging trusting and mutually respectful relationships between gun owners and non-gun-owners, it is possible to advance toward a common goal of reducing death and suffering.

**Summary** If fewer people in suicidal crisis have ready access to firearms, the USA will see a reduction in its suicide rate. To date, the academic literature on lethal means reduction predominantly consists of healthcare-based, clinician-led interventions. An emerging literature on community-based, firearm stakeholder-engaged efforts suggests that these inclusive models present major opportunities to amplify key messages and normalize life-saving behaviors.

**Keywords** Suicide prevention · Firearm · Gun · Lethal means · Community-based · Collaboration

## Introduction

Suicide is the 10th leading cause of death in the USA; approximately 45,000 people died by suicide in 2016 (the most recent year of available data). The suicide rate plateaued throughout the early 2000s, but increased 26% from 2004 to 2016 [1]. In the USA, firearms are present in approximately one in three homes and are responsible for half (51%) of suicides [1, 2].

Firearms are highly lethal means of self-injury. When a firearm is used, about 85% of suicide attempts result in death [3]. Putting time, distance, and other barriers between a person with a suicidal impulse and a highly lethal method—known as “reducing access

to lethal means” or “means reduction”—is one of a limited number of empirically based, high-impact suicide prevention strategies [4]. International studies have found that when widely used and highly lethal means of suicide are made less available or less lethal, suicide rates overall have declined by 30–50%. Notable examples are detoxification of domestic gas in England, reduced toxicity of pesticides in Sri Lanka, and reduced firearm access to military weapons in Israel and Switzerland [5••].

One of the main reasons that this strategy works is that many suicide attempts occur with little planning during a short-term crisis [6, 7]. If a person has access to a gun during this high-risk time and uses it, he or she is very likely to die [3]. If a person chooses a less lethal method, he or she is not only more likely to survive that attempt, but is also likely to *never* go on to die by suicide later [8]. This simple truth undergirds the effectiveness of means restriction, but runs contrary to widespread (incorrect) public perception that suicide has a high degree of inevitability and, thus, limited scope for prevention.

Despite evidence at the population level that lethal means restriction saves lives and is a crucial part of any public health approach to suicide prevention, it is not a widespread approach in the USA [5••, 9, 10]. However, awareness has grown in recent years, particularly since the Surgeon General issued the 2012 National Strategy for Suicide

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**Electronic supplementary material** The online version of this article (<https://doi.org/10.1007/s40471-019-00198-1>) contains supplementary material, which is available to authorized users.

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This article is part of the Topical Collection on *Injury Epidemiology*

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Prevention (“National Strategy”). This high-profile report, on which many state and organizations model their suicide prevention strategies, calls for reducing access to lethal means for high-risk individuals as part of a public health approach to suicide prevention [9, 11].

To date, the academic literature on lethal means reduction predominantly consists of healthcare-based, clinician-led interventions aimed either at counseling those at risk of suicide to reduce access to firearms [12] or at dispensing generic safe storage messages at primary care/pediatric visits or community health fairs [13]. The literature on community-based partnerships between suicide prevention groups and gun owners to reduce access to lethal means is modest by comparison. However, this model of community-based partnerships has drawn increased attention in recent years, given that (1) gun-owning homes face suicide risk that is at least two times higher than in homes without guns and (2) changes in how guns are stored ultimately depend on the prevention-driven buy-in and behaviors of the people who own them [5•]. Recognizing this, the National Strategy includes an objective to “partner with firearm dealers and gun owner groups to incorporate suicide awareness as a basic tenet of firearm safety and responsible firearm ownership” [11]. Such partnerships follow the tried-and-tested public health approach of facilitating intervention at multiple levels—individual, relationship, and community, and societal—to promote well-being and prevent adverse outcomes [14].

In this review, we will summarize the small existing literature on the involvement of firearm stakeholders in collaborative efforts to reduce access to lethal means for people at risk for suicide.

## Methods

We performed a comprehensive review of the literature on the involvement of firearm stakeholders such as gun retailers, firearm instructors, outdoor writers, hunting groups, and gun rights advocates in suicide prevention efforts between 2013 and 2018. Searches were performed in August 2018. PubMed database was searched for articles that contained the terms in the title and/or abstract that were relevant to the current review. The terms were “suicide” AND (“firearm,” or “gun,” or “lethal means”) AND (“retail,” or “shop,” or “store,” or “stored,” or “storage,” or “dealer,” or “range,” or “sell,” or “owner,” or “ownership,” or “buy,” or “purchase,” or “purchased,” or “partnership”). We also examined bibliographies of relevant articles and papers previously known to the authors. This resulted in 128 articles that were further evaluated for their relevance. Eleven were selected for inclusion because they directly examined the cultural and collaborative dimensions of firearm stakeholders as it pertains to suicide prevention (Table 1). This review excluded articles that were

primarily focused on interventions in healthcare settings, though this area of the literature has grown significantly in recent years. Because the literature on partnerships with firearm stakeholders is small, we included both research studies and commentaries.

Five themes emerge from our review of these articles: (1) Attitudes and Culture Surrounding Firearms and Suicide; (2) Messages and Messengers for Firearm Suicide Prevention; (3) Collaboration Between Firearm Stakeholders and Health Professionals; (4) Improving and Protecting Health Outside of Clinic Walls; and (5) Common Goals and Common Norms. As the results in the articles feature mostly non-quantitative evidence, this narrative review will describe these themes from the current literature and provide a qualitative synthesis of key information.

## Attitudes and Culture Surrounding Firearms and Suicide

Eight articles considered firearm-related attitudes and culture as it relates to suicide prevention [5•, 10, 15•, 16•, 17, 18•, 19, 20•]. In the USA, there is significant political and moral controversy surrounding the topic of guns, and discomfort in talking about guns may exacerbate existing ambivalence to discuss the topic of suicide [17]. The contentious nature of guns may also be part of the reason that lethal means reduction strategies have been slow to spread in the USA, and why health-related organizations and gun groups have not historically worked together to reduce gun-related injuries and deaths [15•, 18•].

The literature encourages an expansive view of the role of firearms not only in controversy but also in culture. Ownership of, and attitudes toward, guns are steeped in deeply held traditions, family histories, social policy views, conceptions of risk, and identity politics [10, 18•]. While proponents of gun rights often view firearms as symbols of personal freedom (and gun regulation as inherently limiting freedom), the community is not monolithic. Different sub-populations of gun owners (e.g., hunters, sport shooters, gun collectors), for example, may each have their own sociocultural orientation to firearms [18•, 20•].

Available articles emphasized that the political, moral, and cultural beliefs of gun owners are not antithetical to the goals of suicide prevention [5•, 18•, 20•]. Gun owners tend to have a strong culture around protecting loved ones, handling firearms responsibly, and preventing unintentional shootings—values that are well-aligned with suicide prevention goals [5•, 19]. Other research has indicated that, with respect to firearm regulation, the majority of gun owners believe that more needs to be done to reduce gun deaths; they support most of the same policies

**Table 1** Summary of recent studies on the involvement of firearm stakeholders in suicide prevention efforts

Reference	Method	Objectives	Key findings
Barber and Miller, 2014 [5••]	Secondary analysis	Present the theory, evidence, and future research directions for lethal means reduction to prevent suicide and the importance of engaging gun owners in collaborating on solutions.	Gun owner groups are important partners in lethal means reduction. More research is needed, especially regarding individual-level interventions.
Runyan et al., 2017 [15•]	Cross-sectional survey	Examine the extent to which law enforcement agencies (LEAs) and gun retailers are willing to offer voluntary, temporary gun storage	74.8% of LEAs and 47.6% of retailers already provide storage; LEAs are most willing to provide storage when mental health concerns are raised.
Vriniotis et al., 2015 [16••]	Cross-sectional survey and participant observation	Evaluate New Hampshire firearm dealers' use of materials aimed at increasing awareness about suicide and reducing access to guns for those at risk for suicide.	After six months, 48% of dealers had at least one product on display. Display was more likely among those who believed the life-saving potential of means reduction.
Jin, Khazem, and Anestis, 2016 [17]	Secondary analysis	Discuss recent research on reducing access to lethal means ("means safety") as a suicide prevention strategy in the United States.	Means safety holds promise for reducing the suicide rate. Cultural factors surrounding firearms may necessitate non-regulatory approaches.
Marino et al., 2016 [18••]	Focus groups and key informant interviews	Explore gun culture in a rural U.S. community, including acceptable gun safety and suicide prevention methods.	Culturally-competent dialog with gun owners is key to an effective lethal means reduction strategy.
Barber, Frank, Demicco, 2017 [19]	Commentary	Describes recent efforts to collaborate with gun owner groups on suicide prevention, and clinical care implications.	When helping reduce access to lethal means for at-risk people, gun owners are ideal messengers. Clinicians can also be effective by respecting patient autonomy and culture.
Buttersworth and Anestis, 2018 [10]	Cross-sectional survey	Examine association between region, political beliefs, and openness to firearm means safety among U.S. firearm owners.	Social policy views were highly correlated with openness to means safety, but only for others (not self).
Stewart et al., 2018 [20•]	Consensus report	Report on the consensus of the American College of Surgeons Committee on Trauma on reducing firearm injury and death.	Calls for dialog and partnership that cuts across traditional political and ideological lines to advance safe firearm ownership.
Runyan et al., 2018 [9]	Cross-sectional survey	Assess key influencers for professionals in healthcare, law enforcement agencies, and gun retail involved in lethal means counseling.	For firearm retailers, local law enforcement and national firearm organizations are most influential.
Marino et al., 2018 [21]	Cross-sectional survey	Assess the effects of culturally-specific suicide prevention messages on the likelihood of restricting firearms for people showing warning sign of suicide.	Respondents who received culturally-specific messages along with standard suicide prevention messages were most likely to report taking steps to reduce access to firearms.
Pierpoint et al., 2018 [22••]	Cross-sectional survey	Identify the obstacles that gun retailers face in providing voluntary, temporary gun storage for people at risk of suicide.	58% perceived federal laws and 25% perceived state laws to be storage barriers. Other obstacles include liability, space, and cost.

of non-gun-owners on areas such as prohibitions on certain people having guns, enhanced background checks, and increased oversight over gun dealers [23].

It should be noted that several authors contend that there are also numerous voluntary, non-regulatory strategies to preventing gun death which do not require regulation, which can allow gun owners and non-gun-owners alike to feel heard and respected, and which are more realistic in a country where guns are widely available [5••, 16••, 17]. Nevertheless, the mistaken assumption that firearm suicide prevention is "anti-gun", in combination with the general perception that suicide is non-preventable, may have slowed the spread of lethal

means restriction efforts in the USA by focusing attention on political contentiousness rather than the core tenet of safety [5••, 16••, 18••].

## Messages and Messengers for Firearm Suicide Prevention

One of the key non-regulatory approaches raised in the literature about lethal means is crafting culturally relevant messages to engage target groups and shift social norms [5••, 9, 10]. Persuasive messages focus on safety, rather than loss of

access to guns. Marino et al. [21] found that rural gun owners in Oregon who received messages that respect their pro-gun values were more likely to remove firearms temporarily (for a family member, friend, or self) than those who received standard suicide prevention messaging. The effect was more pronounced for those respondents who were politically conservative, lived in more rural areas, and/or had stronger belief in the right to bear arms. Women were also more likely than men to reduce access to firearms for a family member. The authors conclude that lethal means messages that resonate with gun-owning families can never be “culture neutral” [21, p., 402].

In order for these culturally relevant messages to lead to concrete preventive action, they must be delivered by highly trusted sources [5•, 18•]. Gun owners are among the best messengers: they are often closely affected by the issue, due to their disproportionate personal loss of family and friends to firearm suicide; they understand the emotional difficulty of temporarily reducing access to guns; and they are best positioned to affect changes in peer behavior [16•, 18•, 19]. By contrast, Marino et al. [18•] found that questions about firearm ownership that come for a non-trusted source can be perceived by gun owners to be “potentially threatening and antagonistic” (p.S116) as some gun owners may perceive an attempt to infringe upon their right to bear arms.

## Collaboration Between Firearm Stakeholders and Health Professionals

While the right messages and messengers are key inputs to addressing any public health problem, launching strategies that modify social norms and behaviors requires community-based, collaborative action. To date, only six studies appear to have been completed evaluating specific community-based interventions to reduce access to lethal means outside of a healthcare context with the goal of preventing suicide or other firearm-related morbidity and mortality [16•, 24–28]. However, only one of the six, Vriniotis et al. [16•], included gun owners as full partners in, not just recipients or informants of, the intervention, the New Hampshire Gun Shop Project.

The New Hampshire Gun Shop Project emerged from a partnership among firearm sellers, gun rights advocates, and health professionals. It invited firearm dealers to distribute and use materials aimed at increasing awareness about suicide and reducing access to guns for people at risk for suicide. The coalition’s work began in 2009 in the aftermath of a series of three unrelated suicides that occurred in 1 week that were not connected aside from the manner of death: each person died by suicide hours after buying a gun from the same gun shop. The group designed and disseminated posters and brochures intended to (1) help gun dealers avoid selling a firearm to a person in suicidal crisis and (2) educate customers on recognizing signs of suicide risk and temporarily storing the

firearms of a friend or family member who may be at risk of suicide away from home. Firearm retailers and advocates were part of the group that developed the materials, and input from retailers at approximately half of the independent gun shops in the state ( $n = 65$ ) was obtained via in-person interviews. In evaluating take-up of the campaign through unannounced visits 6 months after materials were distributed, roughly half (48%) of retailers were displaying at least one campaign component. The researchers found an association between a dealer’s belief in the effectiveness of reducing access to lethal means as a suicide prevention strategy and his or her support of the campaign (69% vs. 41%,  $p = 0.06$ ) [16•].

While it is not known whether this type of intervention impacts suicidal behavior, observers are optimistic that such culturally relevant campaigns have the potential to change social norms and reduce the suicide rate [17]. Seven years after beginning the work in New Hampshire, several members of the state coalition published an editorial in *JAMA Internal Medicine* reflecting on the success of their model. They described a “fledgling movement” consisting of numerous collaborative and creative endeavors, including producing a suicide prevention training video (<https://vimeo.com/176189702>) for a state concealed carry course, developing an “11 Commandments of Gun Safety” brochure (Electronic Supplementary Material 1) and a Suicide-Safer Home App (<https://appadvice.com/app/suicide-safer-home/911530570>), and distributing educational content (<https://coloradofirearmsafetycoalition.org/>) and public service announcements (<https://www.youtube.com/watch?v=iZ6GAJ9-ED8>) on firearm coalition and retail websites. They indicated that they knew of 20 individual states where activities like these were occurring. At a national level, they noted that the American Foundation for Suicide Prevention and the National Shooting Sports Foundation are working together to generate suicide prevention materials geared toward gun shop and gun range customers [19].

In Utah, the authors have experienced firsthand the importance of the Utah Shooting Sports Council (USSC) as an active coalition partner. The USSC has helped educate healthcare professionals about how to talk about guns with at-risk patients, developed innovative public service announcements around reducing access to lethal means, and supported the creation of a suicide prevention learning module as part of the state’s concealed carry classes. A recent newspaper op-ed, co-authored by the first author and USSC chairman Clark Aposhian, summarized the importance of a diverse and inclusive collaboration:

“Most of all, this kind of work requires deep trust. We must listen, ask questions and put learning new perspectives ahead of winning the arguments. We must enter spaces that are unfamiliar, whether that’s a shooting range or a health care coalition meeting, with a willingness to learn and to move outside our comfort zones. Guided by a



thirst for greater empathy and knowledge, we must bring together the people and data that matter the most for preventing injuries and deaths. Political polarity and emotional vitriol cannot be excuses for inaction” [29].

## Improving and Protecting Health Outside of Clinic Walls

Location and context are very important to the success to firearm suicide prevention. Emerging collaborations employing lethal means strategies work hard to ensure their messages reach and resonate in the intended venue(s) [5•, 16•, 22•]. For example, they identify gun retailers, including gun stores, shooting ranges, and gun shows, as well-situated sites of awareness and brief intervention due to their existing relationships with gun owners, knowledge of gun transfer rules, knowledge of locking devices, and ability to promote suicide prevention as a tenet of firearm safety. Many of these locations also have storage facilities available for firearms [22•]. Hospitals and clinics, while potentially well-suited to conduct lethal means counseling with at-risk patients, generally lack many of these characteristics [5•]. However, exposure to suicide prevention messages in gun retail settings may, in turn, help gun owners to be open to dialog about firearm safety in healthcare settings [19].

The opportunity to reinforce health-promoting messages and behaviors in non-clinical environments is described in a 2017 study by Runyan et al. in eight Mountain West states. They completed a cross-sectional survey of law enforcement agencies ( $n = 448$ ) and gun retail managers ( $n = 95$ ) to examine their willingness to provide voluntary, temporary gun storage. They found that roughly 75% of law enforcement agencies and 48% of gun retailers already offered temporary storage of guns. However, respondents’ willingness to offer gun storage varied depending on the circumstances of the request; scenarios in which the highest percentage of gun retailers and law enforcement agencies were “very or somewhat likely” to offer storage involved concerns around the mental health of either the gun owner himself or herself or a family member. A majority of law enforcement and gun retail respondents were also willing to temporarily store guns if approached by a healthcare provider concerned about the safety of a patient [15•].

Pierpoint et al. [22•] completed a companion study to understand the obstacles that gun retailers face in providing voluntary, temporary gun storage. They used the same eight-state sample of gun retailers and cross-sectional survey method as Runyan et al. [9, 15•] and found that 58% perceived federal laws to be barriers to storing guns, and 25% perceived state laws posed the same. They also raised other legal and logistic barriers to offering storage, including liability, space, and cost [22•].

## Common Goals and Common Norms

Describing the key characteristics of multi-stakeholder collaborations, Marino et al. [18•] emphasize the importance of “naming a common goal and establishing solidarity across cultural divides” (S117). In the New Hampshire Gun Shop Project and the many similar endeavors that it inspired, the core collective aspiration is to reduce death and suffering by advancing a new social norm: that no person in suicidal crisis should have ready access to a firearm. Suicide prevention campaigns aspire to make this norm as fundamental in US communities and families as the “friends don’t let friends drive drunk” message became during the 1980s and 1990s [5•, 16•, 19, 20•]. Similar to the way that shifts in social norms around drunk driving were “neither anticar, nor antialcohol” a shift in voluntarily reducing access to firearms for people at risk for suicide can be seen as part of a preventive, and not prohibitive, strategy [19]. Such a social norm has potential to become an extension of firearm owners’ values of family protection, rather than a challenge to their culture [18•].

By engaging individuals and venues well known and well respected by the gun community, other layers of buy-in and collaboration may be possible. Runyan et al. [9] examined which organizations have the greatest influence on gun retailers. Gun retailers were most likely to list local law enforcement (78%), the National Rifle Association (69%) and the National Shooting Sports Foundation (68%) as influential. The authors note that “it may be helpful to seek endorsement from firearm organizations” when it comes to encouraging firearm retailers to provide gun storage. Consistent with this, in the New Hampshire Gun Shop project, some of the firearm retailers who chose not to display materials would have been willing to participate in the campaign if the materials had been approved by major gun advocacy groups or gun manufacturers [16•].

## Conclusions

This review has summarized recent literature on the involvement of firearm stakeholders in community-based efforts to reduce access to lethal means for people at risk for suicide. Relatively few scholarly articles have been written about interventions outside of healthcare settings focused on preventing firearm suicide, and even fewer have addressed community-based intervention programs that include firearm enthusiasts as full partners in collaborative planning and implementation. The available studies suggest that grassroots partnerships that include gun owners and advocates hold considerable promise for overcoming political or ideological differences, building trust and a spirit of learning, and establishing the messages and social norms that can save lives. Firearm stakeholders are among those most affected by suicide and

thus are well-positioned to affect change in social norms and preventive behavior.

To continue to move this work forward, research is needed to evaluate the most effective messages, messengers, and interventions—and how to bring them to scale. Notably, the current evidence base on the effectiveness of means restriction in preventing suicide largely comes from population-based studies; intervening at an individual level is much more complex and less well understood at this point [5•, 9, 17]. In addition, more guidance may be needed to mitigate legal and logistical barriers by helping stakeholders navigate complex laws around firearm storage, transfer, and liability [15•, 19, 22•]. Finally, greater effort is required to foster action-oriented collaboration between health professionals and gun owners to prevent suicide [15•, 19]. As suicide rates in the USA continue to soar, the time has come to move beyond “traditional” approaches, stakeholders, and settings and prioritize the practical steps and critical partners that can save lives.

### Compliance with Ethical Standards

**Conflict of Interest** Morissa Henn declares no potential conflicts of interest. Catherine Barber reports grants from Joyce Foundation during the conduct of the study. David Hemenway reports grants from Joyce Foundation during the conduct of the study. Joyce Foundation had no input the paper’s topic, study design, or writing. The board and project officers of the foundation may or may not agree with the findings of the paper.

**Human and Animal Rights and Informed Consent** This article does not contain any studies with human or animal subjects performed by any of the authors.

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