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Points of influence for lethal means counseling and safe gun storage practices

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Suicide – a critical public health issue

In 2016, suicide was the tenth leading cause of death in the US, with at least 51% of the 44,965 U.S. suicide deaths involving a firearm.¹ Within the Mountain West region (Arizona, Colorado, Idaho, Montana, New Mexico, Nevada, Utah, and Wyoming) suicide rates are especially high, with age adjusted rates per 100,000 population for the period 2014–16 ranging from 17.6 in Arizona to 26.0 in Montana, compared to the overall US rate of 13.9.¹ Firearms are responsible for as many as 61% of the suicides in these states. Attempts with firearms are more likely to result in fatality than attempts by any other means.² Multiple studies have shown an association between firearm access and increased risk of death by suicide, and in states where gun ownership is higher, suicide rates are higher.^{3, 4} Estimates suggest that had household firearm access been reduced 25%, approximately 3,600–3,900 suicide deaths in 2010 could have been avoided.⁵ Consequently, a successful public health approach to suicide prevention must address reducing firearm access during periods of crisis. This involves changes to multiple systems - from health professionals recommending that individuals in crisis store firearms outside the home, to an increase in the availability of community storage options.

Preventing suicide through addressing access to “lethal means”

There are reasons to be optimistic that such systems changes are possible. Multiple national organizations already have adopted positions on lethal means counseling or safe storage practices. For example, both the most recent National Strategy for Suicide Prevention⁶ and a consensus guide on care of suicidal patients in emergency departments (EDs) support lethal means assessment and counseling,⁷ as does a 2016 Joint Commission Sentinel Alert.⁸ In 2015, eight professional health associations, along with the American Bar Association,

published a joint statement on firearm violence that included support for lethal means safety: “Reducing firearm-related violence and suicide requires keeping firearms out of the hands of persons who may harm themselves or others...”⁹ Local and national partnerships between suicide prevention professionals and firearm retailers also endorse safe storage during times of suicide risk.^{10,11} However, recommendations alone are unlikely to spur change by themselves.

Encouraging health care providers to counsel about safe storage

Prior work has demonstrated that lethal means counseling may occur for less than half of ED patients with suicide risk,¹² in part because of clinician-level barriers like skepticism about the preventability of suicide and lack of comfort with counseling^{13,14}. Standardized pathways of care, along with training, may address some of these barriers. Our work demonstrates that EDs with discharge protocols or written practice guidelines are more likely to address safe storage of firearms during discharge planning. In our multi-state survey, 45% of EDs with protocols (versus 21% of those without) reported routinely counseling all suicidal patients about safe storage of firearms.¹⁵ But changing hospital practices will require support from leaders who make decisions about creation and implementation of protocols. This, in turn, requires convincing these leaders that suicide is preventable and that lethal means counseling is a feasible component of quality care with growing evidence of effectiveness.^{16,17,18,19}

To guide efforts to promote safe storage counseling at discharge from EDs, we sought to examine the points of influence for the decisions-makers within hospitals EDs and firearm storage partners (law enforcement agencies and gun retailers). Our methods for obtaining these data are explained elsewhere^{15, 20} and the results are summarized in the Table. Among nurse managers, more than 90% indicated that the hospital’s legal, risk management, quality improvement representatives or the nursing director in the ED have “significant influence in any decision to adopt new standards or to change standard practice guidelines or protocols for the care of suicidal patients in your ED,” and more than 80% indicated significant influence on the part of the hospital administrator, medical director of the ED, and hospital chief of staff (Table). Almost all (96%) nurses indicated that mental health providers within their organization have significant influence if the hospital used internal mental health teams, and 75% reported that mental health providers from outside organizations had influence when they were the ones providing care. Among mental health providers, the greatest proportion (84%) indicated that their own team would have the most influence. Many mental health providers also reported significant influence by the same groups endorsed by nurses, particularly the medical director of the ED and risk management officers (Table).

Both nurses and mental health providers cited most of the groups as being “somewhat” or “very influential” in developing or revising standard practice guidelines or protocols for addressing safety planning in their ED with suicidal patients being discharged. Neither appeared to rely on health insurance organizations (Table). Nearly half of nurses (41%) and mental health providers (48%) listed the Joint Commission as the most influential group.

The second most influential group was the American College of Emergency Physicians, chosen by 27% of nurses and 11% of mental health providers.

Encouraging community-based partners for storage

One practical limitation to temporary safe storage of firearms is the availability of community resources for storage; something that has only begun to be documented.²⁰ In our survey of gun retailers and law enforcement agencies, more than 70% of law enforcement agencies (police and sheriffs) and nearly half of gun retailers surveyed reported already providing temporary gun storage. Most expressed willingness to provide storage particularly in situations involving a family member having a mental health crisis.²⁰ In ongoing analyses we are examining barriers to offering storage among law enforcement agencies and gun retailers. The concerns range from cost to space issues to legal concern and how to know it is safe to return guns²¹.

We have also examined what groups and organizations are most influential for law enforcement agencies and gun retailers (see Table). Among law enforcement agencies, groups most often cited as influential were the overall community (90%), mental health organizations (82%), and leaders of health organizations (82%, online Table 2). The group most often listed by gun retailers as influential was local law enforcement (78%), followed by the National Rifle Association (69%) and the National Shooting Sports Foundation (68%; online Table 2).

What should be done?

Going forward, suicide prevention advocates need to engage with the groups that appear to hold sway over the decisions makers in health care organizations (e.g., Joint Commission, risk management professionals, ED physicians, American College of Emergency Physicians). Advocacy efforts that present arguments in the context of quality improvement and risk management may be particularly persuasive.

In encouraging law enforcement and firearm retail establishments to offer storage options, it may be helpful to seek endorsement from firearm organizations (e.g., the National Rifle Association or the National Shooting Sports Foundation) as well as local mental health and health care organizations. If health care organizations start requesting help from law enforcement or gun retailers in the community, they may be able to encourage them to provide storage.

As with any behavior change effort, it will also be important to understand the perceived barriers and facilitators to change on the part of the decision-makers so as to guide message development. This will involve careful development of messages to engage the influential groups²², as well as suggesting how they best to encourage behavior change on the part of hospitals, mental health providers and community-based storage partners. At the very least, the messages should emphasize the importance of suicide as a public health issue, the importance of safe storage because of the impulsiveness of many suicide attempts during times of crisis, and the extreme lethality of guns.²³ It is also important for health care professionals in particular, as well as the general public, to realize that suicide is preventable

and that safe storage of firearms is a strategy that has demonstrated effectiveness.^{13,24,25} At the same time, influential organizations should be encouraged to help tailor their approaches in ways that address the barriers identified. For health care providers, addressable barriers include provider ignorance or discomfort discussing firearms,^{13,26} as firearms are a sensitive topic and providers might fear alienating patients or potentially violating state laws.²⁷ However, no current state or federal law prevents physician questioning about firearms in case of suicide risk²⁸, and many patients appear open to respectful, informed education from clinicians^{23,25,29,30}. Within EDs, system-level barriers include time pressures and dynamic multi-disciplinary teams caring for multiple patients in a complex, busy environment.³¹ These barriers might be overcome by thoughtfully designed and implemented interventions. For law enforcement, barriers appear to be related to liability when storing and returning the guns, staff training, and space. For gun retailers, concerns about the background checks and liability issues in returning guns will need to be addressed. Simultaneously, it is critical to continue to add to the evidence base for the effective components of lethal means counseling that lead to safe storage of firearms²³. A comprehensive, thoughtful approach addressing each of these points of influence has the potential to save lives.

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Table 1

Key influencers in the patient care setting as reported by hospital ED nurse managers (n=190) and mental health providers (n=67)

Influencer of patient care providers	Hospital ED nurse managers (n=190) % (95% C.I.)	Mental health providers (n=67) % (95% C.I.)
Who has significant influence in any decision to adopt new standards or to change standard practice guidelines or protocols for the care of suicidal patients in your ED?		
Hospital/organization's legal, risk management, quality improvement representatives	94.9 (91.9, 97.8)	80.6 (70.2, 91.1)
Nursing director in the ED	91.4 (87.4, 95.4)	74.0 (63.4, 84.6)
Hospital administrator	88.5 (84.0, 93.0)	77.8 (67.1, 88.6)
Medical director of ED	86.6 (81.3, 91.9)	80.1 (70.0, 90.3)
Hospital chief of staff	81.8 (75.7, 87.8)	77.6 (66.8, 88.4)
Mental health providers in facility	70.6 (63.6, 77.6)	Not asked
Hospital Board of directors	62.2 (54.8, 69.7)	Not asked
Mental health providers from outside organizations	57.3 (49.5, 65.0)	Not asked
Members of your mental health team	Not asked	84.4 (74.7, 94.2)
Other mental health providers in the community or with the hospital	Not asked	57.3 (44.6, 70.0)
Your organization's board of directors	Not asked	56.5 (44.3, 68.7)
How influential would each of these organizations be in developing or revising standard practice guidelines or protocols for addressing safety planning in your ED [with suicidal patients being discharged]? (responding "very" or "somewhat" influential)		
Joint Commission or other accrediting body	92.4 (89.0, 95.8)	94.8 (89.8, 99.8)
Amer. College of Emergency Physicians	98.1 (96.3, 99.9)	87.3 (78.5, 96.2)
Emergency Nurses Assoc.	96.5 (93.9, 99.2)	75.6 (63.3, 87.9)
State/local public health agencies & CDC	94.3 (91.0, 97.7)	90.8 (83.1, 98.6)
State medical society	91.1 (86.6, 95.6)	87.3 (77.5, 97.1)
State mental health assoc.	94.2 (90.6, 97.8)	83.8 (73.1, 94.6)
Amer. Hospital Assoc.	91.4 (86.9, 95.9)	83.4 (72.8, 94.0)
Health Insurance Organizations	54.7 (47.1, 62.4)	69.3 (57.0, 81.6)
Amer. Psychological Assoc. or Amer. Psychiatric Assoc.	93.7 (90.0, 97.5)	94.5 (87.9, 100.0)

Table 2

Proportions of law enforcement (n=448) and gun retailers (n=95) reporting that specific groups are influential in their decisions to provide temporary gun storage

Proportion responding “very” or “somewhat” influential	Law enforcement (n=448) % (95% C.I.)	Gun retailers (n=95) % (95% C.I.)
National Rifle Association	51.4 (48.1, 54.6)	68.8 (61.0, 76.6)
Local organizations of gun enthusiasts	53.6 (50.4, 56.8)	66.6 (58.6, 74.7)
Other business leaders in your community	66.6 (63.5, 69.7)	54.1 (45.5, 62.8)
Leaders of health organizations in your community	81.8 (79.3, 84.3)	60.7 (52.4, 69.1)
National association of law enforcement professionals	75.4 (72.6, 78.2)	Not asked
Elected officials	80.5 (77.9, 83.0)	Not asked
Community overall	89.6 (87.6, 91.6)	Not asked
Local gun stores	34.2 (31.1, 37.3)	Not asked
A mental health organization	82.2 (79.7, 84.6)	Not asked
Local law enforcement	Not asked	77.8 (70.6, 85.0)
National Shooting Sports Foundation	Not asked	68.0 (60.1, 76.0)