Published in final edited form as:

Am J Prev Med. 2018 February ; 54(2): 259–265. doi:10.1016/j.amepre.2017.10.023.

Hospital Emergency Department Lethal Means Counseling for Suicidal Patients

Carol W. Runyan, MPH, PhD^{1,2}, Ashley Brooks-Russell, MPH, PhD^{2,3}, Gregory Tung, MPH, PhD^{2,4}, Sara Brandspigel, MPH², Marian E. Betz, MD, MPH^{2,5}, Douglas K. Novins, MD⁶, and Robert Agans, PhD⁷

¹Department of Epidemiology, Colorado School of Public Health, University of Colorado, Aurora, Colorado

²Program for Injury Prevention, Education, and Research, Colorado School of Public Health, University of Colorado, Aurora, Colorado

³Department of Community and Behavioral Health, Colorado School of Public Health, University of Colorado, Aurora, Colorado

⁴Department of Health Systems, Management and Policy, Colorado School of Public Health, University of Colorado, Aurora, Colorado

⁵Department of Emergency Medicine, University of Colorado School of Medicine, Aurora, Colorado

⁶Department of Psychiatry, University of Colorado School of Medicine, Aurora, Colorado

⁷Department of Biostatistics, Gillings School of Global Public Health, University of North Carolina-Chapel Hill, Chapel Hill, North Carolina

Abstract

Introduction—Lethal means counseling of suicidal individuals in emergency departments has the potential to reduce suicide. This study examines the provision of lethal means counseling and the presence of written protocols in a region with high rates of both firearm ownership and suicide.

Methods—In 2015–2016, emergency department nurse managers in hospital-based emergency departments throughout eight states were surveyed using an 80-item survey developed through qualitative interviews and pilot testing. Questions focused on discharge counseling with suicidal patients and the presence of written protocols. Using survey weights to adjust for nonresponse, relationships of protocols with counseling practices were examined.

Results—Data were obtained from 52.3% of all 363 eligible hospital emergency departments in the region. Among facilities that discharge suicidal patients, 79.7% (95% CI=75.0%, 84.4%) reported asking about access to firearms and 68.9% (95% CI=62.9%, 74.8%) counsel about safe storage when patients reported access. Forty-four percent of emergency departments reported

Address correspondence to: Carol W. Runyan, MPH, PhD, Department of Epidemiology, Colorado School of Public Health, 13001 East 17th Place, Mailstop B119; Aurora CO 80045. carol.runyan@ucdenver.edu.

No financial disclosures were reported by the authors of this paper.

having written protocols for lethal means counseling. Presence of written protocols was associated with a higher rate of counseling for all suicidal patients even if they were not planning to use a gun (45.0% [95% CI=33.4%, 56.7%] in hospitals with protocols vs 21.5% [95% CI=14.9%, 29.0%] in facilities without protocols).

Conclusions—There are significant gaps in attention to lethal means counseling in emergency departments. This signals an opportunity to increase consistency and thoroughness of care for suicidal patients in the emergency department and for leadership from key professional organizations to advocate for protocols.

INTRODUCTION

Emergency departments (EDs) are an important venue for suicide prevention.^{1–3} In the U.S., EDs treat more than 800,000 patients annually for attempted suicide and self-inflicted injury,⁴ and the visit rate for suicidal ideation and attempts is rising.^{5,6} Many patients are not admitted,⁷ making prevention critical in the ED. In 2016, the Joint Commission recommended that facilities address lethal means access.⁸ National groups recommend that all health and behavioral health organizations have specific written policies and procedures for the care of suicidal people.^{9,10}

Firearm access increases suicide risk.^{11–14} Limiting access to firearms during crises is an important strategy,^{15,16} showing success through ED-based education with parents of suicidal youth.^{17–19} Lethal means counseling may be underutilized by EDs,^{20–22} as many providers do not routinely assess lethal means access, despite recommendations.^{9,10,23–26}

Guidelines of the U.S. Preventive Services Task Force for clinical issues are commonplace, and there is increasing recognition of evidence-based practices, but adherence is variable.²⁷ However, the U.S. Preventive Services Task Force makes no recommendations about suicide prevention. To the authors' knowledge, no prior research has examined how protocols for lethal means counseling are devised or implemented.

This study examines ED lethal means counseling practices in a region with higher suicide rates than in the U.S. (18.2 vs 12.1 per 100,000),²⁸ a 44% prevalence of firearm ownership,²⁹ and where nearly 60% of suicides involve firearms.²⁸ The relationship between the presence of written protocols in EDs and lethal means discharge counseling is examined, expecting EDs with protocols to do more counseling.

METHODS

Study Population

This cross-sectional survey examined practices at hospital EDs within the Mountain West. An 80-item questionnaire was created to ascertain ED counseling practices and policies based on qualitative interviews. Two interviewers recorded and summarized interviews with ED physicians, nurses, and mental health providers and two investigators validated each summary. The survey was pilot tested for length, comprehension, and content with 12 randomly selected hospitals from contiguous states listed in the 2012 Centers for Medicare

and Medicaid Services Provider of Service Files database.³⁰ Respondents were debriefed to identify confusing questions and missing topics.

The same Centers for Medicare and Medicaid Services file and a list of Veterans Administration (VA) facilities was used to identify all hospitals within the region with an ED and screening by phone to confirm ED presence. Indian Health Service hospitals were excluded because timing did not permit tribal IRB clearance.

Measures

With input from the authors' advisory group, the original plan to interview ED medical directors was changed to nurse managers because of difficulty reaching physicians, concluding that nurse managers are familiar with institutional protocols.

The questionnaire was converted into a computer-assisted telephone interview (Blaise, version 4.8). Twelve trained interviewers made calls at variable days and times between December 2015 and May 2016. For nurses not reached after 20 attempts, a letter was mailed and paper instrument with a self-addressed, stamped, return envelope, including a \$2 bill as an incentive. There was also the option of completing the survey online and entering a drawing for an iPad. Because of IRB constraints, VA respondents were only contacted by phone.

The Colorado Multiple IRB and the VA Research and Development Committee and Subcommittee on Research Safety approved the study protocol.

Statistical Analysis

Two data entry clerks entered data from the paper and online responses, checked for inconsistencies, and resolved discrepancies. All responses were checked for value ranges, accepting partial data if a respondent completed at least half the questions. Sample weights were created by adjusting for stratum-specific nonresponse based on the number of hospital beds (< 70 vs ≥ 70) and type of hospital (private nonprofit, private for profit, state/local, church/other, or VA) to adjust for stratum-specific nonresponse.³¹ Weighted means and proportions with 95% CIs calculated using SAS, version 9.4, are reported.

RESULTS

Figure 1 describes the study population. The final number of eligible hospitals was 363 and data were collected from 190; a response rate of 52%.³² An unexpected finding was that 21% (SD=4.3%) of the hospitals either transferred or admitted all suicidal patients. Within this paper, subsequent analyses are based on the subset ($n=149$) that reported discharging suicidal patients from the ED.

Hospitals from each of the eight states participated proportional to their representation in the sampling frame (Table 1). The responding hospitals ($n=190$) were similar to the overall distribution by bed count, rural/urban location, and hospital type (private, public, VA). The analysis sample ($n=149$) was also comparable.

The authors conducted 171 surveys by phone, with 15 completions via mail and four online. The final group consisted of 127 nurse managers and 44 chief nursing officers or nursing directors. Among participating EDs, 43% were independent and 45% were part of a system (13% were unknown). More than half (53%) reported <15,000 annual ED visits, with 45% seeing 15,000. Forty-one EDs reported transferring or admitting all suicidal patients.

Among the 149 EDs discharging suicidal patients, most indicated that their discharge counseling addresses presence of firearms in the home (80%) and access to alcohol in the home (68%), whereas 65% reported the ED “instructs suicidal patients or their families on safe storage of medications” (Table 2). Fifty-two percent indicated they address all three.

Respondents were asked about which providers routinely do safety planning at discharge by discussing ways to ensure that the patient is safe after leaving the ED. Sixty-one percent reported that safety planning is done by nurses, 76% by physicians, and 85% by mental health providers, with 53% reporting both nurses and physicians and 37% indicating all three (there was an option to select more than one provider).

Respondents revealed that the circumstances vary under which firearms are discussed (Table 2). Thirty-one percent indicated that, at discharge, their ED addresses safe storage “with all suicidal patients, even if they don’t tell a provider about having or thinking of using a firearm for suicide.” By contrast, 69% indicated that addressing safe storage of firearms is done as part of safety planning if the family reports having firearms in the home, even if it was not part of an expressed suicide plan, whereas 80% discuss safe storage if the patient indicates suicidal intent with a firearm.

The frequency of specific recommendations of where and how firearms could be stored outside the home varied widely (Figure 2). Overall, 71% reported discussing at least one storage option at least some of the time (not shown).

To examine the impact of written protocols on lethal means counseling, respondents were asked if EDs have “written standard practice guidelines or protocols for doing safety planning for suicidal patients before they are discharged from the ED.” Sixty-five EDs (46%) reported having written guidelines/protocols (Table 2). Facilities with (versus without) written protocols were more likely to report counseling all patients on safe storage of medications (75% vs 57%, $p<0.05$) and firearms (45% vs 22%, $p<0.05$), even when suicidal patients did not disclose thinking of using a firearm.

DISCUSSION

It is very concerning, especially in a region with high suicide rates, that fewer than one-third of hospital EDs discuss firearm storage with all suicidal ED patients at discharge. Even when a suicidal patient talks about using a firearm, one-fifth of EDs report that they do not routinely discuss safe storage. These results document that having written protocols increases the likelihood of counseling. In the absence of protocols, counseling practices are left to the discretion of the clinician based on information the patient provides. Future research should further examine the effectiveness of counseling protocols, including specific components, and how to encourage adoption and implementation of protocols.

Prior work, including the large ED-Safety Assessment and Follow-up Evaluation (ED-SAFE) trial, documents that ED clinicians often do not routinely counsel about lethal means^{21,22,33–36} and their counseling can be improved.³⁷ Even with political sensitivities about guns,³⁸ patients are receptive to receiving guidance,^{19,39–41} and counseling can improve storage practices.^{17,19,42} ED-SAFE chart reviews found that although 11% of patients reported having firearms only 50% of those patients had medical record notes indicating lethal means counseling.²² Other evidence indicates that providing safety devices with counseling enhances results.⁴³ Future research should examine the effectiveness of safety messages, with and without providing safety devices and also consider the effectiveness of new “extreme risk protection orders” for temporary removal of guns.^{44–46} The American Medical Association recently resolved that physicians should “educate and counsel patients about firearm safety” and supported physicians having “free and open communication with their patients regarding firearm safety and the use of gun locks in their homes.”⁴⁷ A recent report provides recommendations about who should be trained and what safety counseling should include.⁴⁸

It is also intriguing that more than one-fifth of the EDs that were reached reported that they do not discharge any suicidal patients, but rather admit or transfer all. This finding, coupled with a recent report on services in the region,⁴⁹ suggests that mental health specialists are not readily available, particularly in rural areas.

Limitations

If biases exist because of social desirability, the current findings likely overestimate the extent of counseling or presence of protocols. Though the responding facilities were representative of EDs in the region and were weighted to reflect the broader set of hospitals based on bed count and type of facility, these results may not be generalizable to other regions. Most (92%) responses were by telephone. It is possible, though unlikely, that response mode may have influenced responses.

The nurse managers surveyed are leaders in their facilities and should be expected to know what protocols exist, although their perspectives may differ from other providers. Protocols, even when they do exist, may not always be followed. Because the authors were unable to review charts or verify the detailed content of protocols and whether clinicians in the EDs adhere to them, actual practices cannot be confirmed.

CONCLUSIONS

Lethal means counseling is more prevalent in EDs having discharge counseling protocols, but fewer than half have protocols. This work supports recommendations to develop discharge protocols to improve lethal means counseling.^{23,50–52} Though no single protocol has been tested, useful information appears in a recent consensus document published by the Suicide Prevention Resource Center³ and Counseling on Access to Lethal Means offers online training.⁵³

Acknowledgments

We appreciate the guidance from our external advisory panel: Catherine Barber, Glenn Currier, Stephen Hargarten, Jarrod Hindman, Matthew Miller, and Garen Wintemute; the assistance of Lisa Brenner and Rebecca Leitner for assistance in navigating the IRB process within the Veteran's Administration; the work of Erin Kelly in conducting qualitative interviews, the assistance of J. Michael Bowling and Anna Hoffmeyer and their team at the Carolina Survey Research Laboratory, respectively, in sampling and data collection; and of Alexandria Erkenbeck in conducting preliminary analyses. And, of course, we acknowledge the study participants from hospitals throughout the region who gave us their time in responding to the survey.

This project was supported by a grant from the National Institute of Mental Health (R21 MH105827). This project was approved by Colorado Multiple IRB (#14-1644) and the Veteran's Administration Research and Development Committee and Subcommittee on Research Safety.

CR, AB-R, GT, MB, DN, and SB conceived the study and obtained research funding. GT supervised qualitative data collection; SB collected qualitative data, RA supervised sampling and survey data collection and prepared data for analysis; CR, AB-R, GT, MB, and SB constructed data collection instruments; AB-R and GT conducted data analysis; CR, AB-R, GT, MB, SB, RA, and DN interpreted the data; and CR drafted the manuscript. All authors contributed substantially by crafting tables, writing components, and contributing to revisions. They all take responsibility for the manuscript as a whole.

References

1. Larkin GL, Beautrais AL. Emergency departments are underutilized sites for suicide prevention. *Crisis*. 2010; 31(1):1–6. <https://doi.org/10.1027/0227-5910/a000001>. [PubMed: 20197251]
2. Betz ME, Wintersteen M, Boudreaux ED, et al. Reducing suicide risk: challenges and opportunities in the emergency department. *Ann Emerg Med*. 2016; 68(6):758–765. <https://doi.org/10.1016/j.annemergmed.2016.05.030>. [PubMed: 27451339]
3. Suicide Prevention Resource Center. Caring for adult patients with suicide risk: a consensus guide for emergency departments. www.sprc.org/edguide. Accessed November 22, 2017
4. National Hospital Ambulatory Medical Care Survey. 2011 Emergency department summary tables. Table 17 www.cdc.gov/nchs/fastats/suicide.htm. Accessed January 31, 2017
5. Ting SA, Sullivan AF, Boudreaux ED, Miller I, Camargo CA Jr. Trends in U.S. emergency department visits for attempted suicide and self-inflicted injury, 1993–2008. *Gen Hosp Psychiatry*. 2012; 34(5):557–565. <https://doi.org/10.1016/j.genhosppsych.2012.03.020>. [PubMed: 22554432]
6. Larkin GL, Smith RP, Beautrais AL. Trends in U.S. emergency department visits for suicide attempts, 1992–2001. *Crisis*. 2008; 29(2):73–80. <https://doi.org/10.1027/0227-5910.29.2.73>. [PubMed: 18664232]
7. Chakravarthy B, Toohey S, Rezaimehr Y, et al. National differences between ED and ambulatory visits for suicidal ideation and attempts and depression. *Am J Emerg Med*. 2014; 32(5):443–447. <https://doi.org/10.1016/j.ajem.2013.12.044>. [PubMed: 24637133]
8. The Joint Commission. Sentinel Event Alert 56: detecting and treating suicide ideation in all settings. www.jointcommission.org/sea_issue_56/. Published February 24, 2016. Accessed January 18, 2016
9. National Action Alliance for Suicide Prevention. Suicide care in systems framework. <http://actionallianceforsuicideprevention.org/sites/actionallianceforsuicideprevention.org/files/taskforces/ClinicalCareInterventionReport.pdf>. Published 2011. Accessed November 22, 2017
10. Zero Suicide in Health and Behavioral Health Care, a project of the Suicide Prevention Resource Center and the National Action Alliance for Suicide Prevention. Zero suicide toolkit. <http://zerosuicide.sprc.org/>. Accessed November 22, 2017
11. Conwell Y, Duberstein PR, Connor K, et al. Access to firearms and risk for suicide in middle-aged and older adults. *Am J Geriatr Psychiatry*. 2002; 10(4):407–416. <https://doi.org/10.1097/00019442-200207000-00007>. [PubMed: 12095900]
12. Miller M, Hemenway D. The relationship between firearms and suicide: a review of the literature. *Aggress Violent Behav*. 1999; 4:59–75. [https://doi.org/10.1016/S1359-1789\(97\)00057-8](https://doi.org/10.1016/S1359-1789(97)00057-8).

13. Kellermann AL, Rivara FP, Somes G, et al. Suicide in the home in relation to firearm ownership. *N Engl J Med*. 1992; 327(7):467–472. <https://doi.org/10.1056/NEJM199208133270705>. [PubMed: 1308093]
14. Anglemyer A, Horvath T, Rutherford G. The accessibility of firearms and risk for suicide and homicide victimization among household members: a systematic review and meta-analysis. *Ann Intern Med*. 2014; 160(2):101–110. <https://doi.org/10.7326/M13-1301>. [PubMed: 24592495]
15. Yip PS, Caine E, Yousuf S, et al. Means restriction for suicide prevention. *Lancet*. 2012; 379(9834):2393–2399. [https://doi.org/10.1016/S0140-6736\(12\)60521-2](https://doi.org/10.1016/S0140-6736(12)60521-2). [PubMed: 22726520]
16. Mann JJ, Apter A, Bertolote J, et al. Suicide prevention strategies: a systematic review. *JAMA*. 2005; 294(16):2064–2074. <https://doi.org/10.1001/jama.294.16.2064>. [PubMed: 16249421]
17. Kruesi MJP, Grossman J, Pennington JM, et al. Suicide and violence prevention: parent education in the emergency department. *J Am Acad Child Psychiatry*. 1999; 38(3):250–255. <https://doi.org/10.1097/00004583-199903000-00010>.
18. Fendrich M, Kruesi MJP, Wislar JS, et al. Implementing means restriction education in urban EDs. *Am J Emerg Med*. 1998; 16(3):257–261. [https://doi.org/10.1016/S0735-6757\(98\)90096-1](https://doi.org/10.1016/S0735-6757(98)90096-1). [PubMed: 9596427]
19. Runyan CW, Becker A, Brandspiegel S, et al. Lethal means counseling for parents of youth seeking emergency care for suicidality. *West J Emerg Med*. 2016; 17(1):8–14. <https://doi.org/10.5811/westjem.2015.11.28590>. [PubMed: 26823923]
20. Betz ME, Arias SA, Miller M, et al. Change in emergency department providers' beliefs and practices after use of new protocols for suicidal patients. *Psychiatr Serv*. 2015; 66(6):625–631. <https://doi.org/10.1176/appi.ps.201400244>. [PubMed: 25726978]
21. Betz ME, Barber CW, Miller M. Firearm restriction as suicide prevention: variation in belief and practice among providers in an urban emergency department. *Inj Prev*. 2010; 16(4):278–281. <https://doi.org/10.1136/ip.2009.025296>. [PubMed: 20501472]
22. Betz ME, Miller M, Barber C, et al. Lethal means access and assessment among suicidal emergency department patients. *Depress Anxiety*. 2016; 33(6):502–511. <https://doi.org/10.1002/da.22486>. [PubMed: 26989850]
23. U.S. DHHS. Office of the Surgeon General and National Action Alliance for Suicide Prevention. 2012 National strategy for suicide prevention: goals and objectives for action. www.surgeongeneral.gov/library/reports/national-strategy-suicide-prevention/full_report-rev.pdf. Published September 2012. Accessed January 31, 2017
24. Substance Abuse and Mental Health Services Administration (SAMHSA). Emergency department means restriction education intervention in the National Registry of Evidence-based Programs and Practices. <http://legacy.nreppadmin.net/ViewIntervention.aspx?id=15>. Accessed November 22, 2017
25. U.S. Department of Veterans Affairs, Department of Defense. VA/DoD clinical practice guidelines. assessment and management of patients at risk for suicide. Assessment and Management of Risk for Suicide Working Group; Prepared by the www.healthquality.va.gov/guidelines/MH/srb/. Published June 2013. Accessed January 18, 2017
26. Workgroup on Suicidal Behaviors. American Psychiatric Association. Practice guideline for the assessment and treatment of patients with suicidal behaviors. https://psychiatryonline.org/pb/assets/raw/sitewide/practice_guidelines/guidelines/suicide.pdf. Published November 2003. Accessed January 31, 2017
27. Francke AL, Smit MC, de Veer AJ, Mistiaen P. Factors influencing the implementation of clinical guidelines for health care professionals: a systematic meta-review. *BMC Med Inform Decis Mak*. 2008; 8:38. <https://doi.org/10.1186/1472-6947-8-38>. [PubMed: 18789150]
28. CDC, National Center for Injury Prevention and Control. Web-Based Injury Statistics Query and Reporting System (WISQARS). www.cdc.gov/injury/wisqars/. Accessed January 31, 2017
29. Kalesan B, Villarreal MD, Keyes KM, et al. Gun ownership and social gun culture. *Inj Prev*. 2016; 22:216–220. <https://doi.org/10.1136/injuryprev-2015-041586>. [PubMed: 26124073]
30. Centers for Medicare and Medicaid Services. Provider of service files. <https://www.cms.gov/Research-Statistics-Data-and-Systems/Downloadable-Public-Use-Files/Provider-of-Services/>. Accessed November 22, 2017

31. Kalsbeek, WD., Agans, RP. Sampling and weighting in household telephone surveys. In: Lepkowski, JM. Tucker, C. Brick, JM., et al., editors. *Advances in Telephone Survey Methodology*. Hoboken, NJ: John Wiley & Sons, Inc; 2008. p. 29-55. <http://dx.doi.org/10.1002/9780470173404.ch2>
32. American Association for Public Opinion Research. *Standard Definitions: Final Dispositions of Case Codes and Outcome Rates for Surveys*. 5th. Lenexa, KS: American Association for Public Opinion Research; 2008.
33. Kuehn BM. Battle over Florida legislation casts a chill over gun inquiries. *JAMA*. 2015; 313(19): 1893–1895. <https://doi.org/10.1001/jama.2015.3410>. [PubMed: 25901487]
34. Wintemute G, Betz ME, Ranney M. Yes, you can: physicians, patients, and firearms. *Ann Intern Med*. 2016; 165(3):205–213. <https://doi.org/10.7326/M15-2905>. [PubMed: 27183181]
35. Betz ME, Miller M, Barber C, et al. Lethal means restriction for suicide prevention: beliefs and behaviors of emergency department providers. *Depress Anxiety*. 2013; 30(10):1013–1020. <https://doi.org/10.1002/da.22075>. [PubMed: 23495002]
36. Roszko PJ, Ameli J, Carter PM, Cunningham RM, Ranney ML. Clinician attitudes, screening practices, and interventions to reduce firearm-related injury. *Epidemiol Rev*. 2016; 38(1):87–110. <https://doi.org/10.1093/epirev/mxv005>. [PubMed: 26905894]
37. Pompili M, Girardi P, Ruberto A, et al. Emergency staff reactions to suicidal and self-harming patients. *Eur J Emerg Med*. 2005; 12(4):169–178. <https://doi.org/10.1097/00063110-200508000-00005>. [PubMed: 16034262]
38. Parmet WE, Smith JA, Miller M. Physicians, firearms, and free speech —overturning Florida’s firearm-safety gag rule. *N Engl J Med*. 2017; 376(20):1901–1903. <https://doi.org/10.1056/NEJMp1702516>. [PubMed: 28402707]
39. Walters H, Kulkarni M, Forman J, et al. Feasibility and acceptability of interventions to delay gun access in VA mental health settings. *Gen Hosp Psychiatry*. 2012; 34(6):692–698. <https://doi.org/10.1016/j.genhosppsych.2012.07.012>. [PubMed: 22959420]
40. Betz ME, Azrael D, Barber C, et al. Public opinion regarding whether speaking with patients about firearms is appropriate: results of a national survey. *Ann Intern Med*. 2016; 165(8):543–550. <https://doi.org/10.7326/M16-0739>. [PubMed: 27455516]
41. Knoepke C, Allen A, Ranney M, et al. Loaded questions: internet commenters’ opinions on physician-patient firearm safety conversations. *West J Emerg Med*. 2017; 18(5):903–912. <https://doi.org/10.5811/westjem.2017.6.34849>. [PubMed: 28874943]
42. Simonetti JA, Rowhani-Rahbar A, King C, Bennett E, Rivara FP. Evaluation of a community-based safe firearm and ammunition storage intervention. *Inj Prev*. In press. Online June 22, 2017.
43. Weinberger SE, Hoyt DB, Lawrence HC III, et al. Firearm-related injury and death in the United States: a call to action from 8 health professional organizations and the American Bar Association. *Ann Intern Med*. 2015; 162(7):513–516. <https://doi.org/10.7326/M15-0337>. [PubMed: 25706470]
44. McCourt AD, Vernick J, Betz ME, Brandspiegel S, Runyan CW. Temporary transfer of firearms from the home to prevent suicide: legal obstacles and recommendations. *JAMA Intern Med*. 2017; 177(1):96–101. <https://doi.org/10.1001/jamainternmed.2016.5704>. [PubMed: 27842186]
45. Vernick JS, Alcorn T, Horwitz J. Background checks for all gun buyers and gun violence restraining orders: state efforts to keep guns from high-risk persons. *J Law Med Ethics*. 2017; 45(1 suppl):98–102. <https://doi.org/10.1177/1073110517703344>. [PubMed: 28661309]
46. Swanson JW, Norko MA, Hsiu-Ju L, et al. Implementation and effectiveness of Connecticut’s risk-based gun removal law: does it prevent suicides? *Law Contemp Probl*. 2017; 80:179–208.
47. American Medical Association House of Delegates. Resolution 419. Improving physicians’ ability to discuss firearm safety. www.ama-assn.org/sites/default/files/media-browser/public/hod/a17-sunday-tote-v2.pdf. Published June 2017. Accessed November 22, 2017
48. Allchin, A., Chaplin, V. Educational fund to stop gun violence on behalf of the Consortium for Risk-Based Firearm Policy. Consortium for Risk-Based Firearm Policy; Breaking through barriers: the emerging role of healthcare provider training programs in firearm suicide prevention. <https://efsgv.org/wp-content/uploads/2017/09/Breaking-through-Barriers-September-2017-Consortium-for-Risk-Based-Firearm-Policy-FINAL.pdf>. Published 2017. Accessed November 22, 2017

49. Kovar, V. Structure and delivery of adult emergency and crisis mental health services in the Mountain West region. www.ucdenver.edu/academics/colleges/PublicHealth/research/ResearchProjects/piper/Documents/Structure%20and%20Delivery%20of%20Adult%20Emergency%20and%20Crisis%20Mental%20Health%20Services%20in%20the%20Mountain%20West%20Region.pdf. Published September 2016. Accessed November 22, 2017
50. Strong BL, Ballard SB, Braund W. The American College of Preventive Medicine policy recommendations on reducing and preventing fire-arm-related injuries and deaths. *Am J Prev Med*. 2016; 51(6):1084–1089. <https://doi.org/10.1016/j.amepre.2016.09.023>. [PubMed: 27743624]
51. Attorney General of Massachusetts. Talking to patients about gun safety. www.mass.gov/ago/doing-business-in-massachusetts/health-care/talking-to-patients-about-gun-safety.html. Published 2017. Accessed February 15, 2017
52. Miller IW, Camargo CA Jr, Arias SA, et al. Suicide prevention in an emergency department population: the ED-SAFE Study. *JAMA Psychiatry*. 2017; 74(6):563–557. <https://doi.org/10.1001/jamapsychiatry.2017.0678>. [PubMed: 28456130]
53. Suicide Prevention Resource Center. CALM: counseling on access to lethal means online course. www.sprc.org/resources-programs/calm-counseling-access-lethal-means. Accessed February 1, 2017

Figure 1.

Flow chart depicting sample and respondent disposition.

CMS, Centers for Medicare and Medicaid Services; ED, emergency department.

Figure 2. Frequency of providing firearm-related counseling when discharging suicidal patients from hospital EDs, $n=149$. ED, emergency department.

Table 1Characteristics of Participating Hospitals ($n=190$) Analysis Sample ($n=149$) and Eligible Hospitals ($n=363$)

Characteristic	Analysis subsample (weighted) ($n=149$)	Participating hospitals (weighted) ($n=190$)	Eligible hospitals (unweighted) ($n=363$)
Location, state			
Arizona	14.6 (20)	12.2 (21)	17.9 (65)
Colorado	26.0 (37)	23.6 (43)	19.6 (71)
Idaho	13.4 (22)	12.2 (26)	10.2 (37)
Montana	12.0 (22)	15.9 (35)	15.1 (55)
Nevada	8.6 (11)	10.0 (17)	9.1 (33)
New Mexico	11.1 (15)	9.6 (17)	9.6 (35)
Utah	6.6 (10)	8.4 (15)	11.3 (41)
Wyoming	7.6 (12)	8.0 (16)	7.2 (26)
Urban/rural ^a			
Rural	58.1 (99)	58.7 (127)	54.8 (199)
Urban	41.9 (50)	41.3 (63)	45.8 (164)
Number of beds ^b			
<70	52.4 (96)	54.8 (127)	55.1 (200)
70	47.6 (53)	45.2 (63)	44.9 (163)
Type ^b			
Private (for-profit, nonprofit, other)	67.1 (94)	66.9 (120)	66.9 (243)
Public (local/state)	28.7 (47)	29.8 (62)	29.8 (108)
Veterans Administration	4.2 (8)	3.3 (8)	3.3 (12)

Note: Values are % (n).

^aCore Based Statistical Area geographic entities, defined by the U.S. Office of Management and Budget, indicates whether the county is defined as urban or rural.^bVariables used for weighting to adjust for nonresponse.

Table 2

Content of Discharge Counseling by Presence of a Written Protocol or Standard Practice Guidelines, Among Hospitals Discharging Suicidal Patients ($n=149$)

Protocol or practice guideline	Total, % (95% CI) ($n=149$) ^a	Written practice guidelines or protocol, % (95% CI) ($n=65$) ^a	No written practice guidelines, ^b % (95% CI) ($n=82$) ^a	<i>p</i> -value ^c
Addressing whether firearms are kept in the home	79.7 (75.0, 84.4)	84.9 (79.8, 89.9)	75.4 (68.1, 82.8)	0.13
Access to alcohol	67.7 (62.0, 73.4)	73.5 (65.6, 81.5)	63.2 (55.0, 71.4)	0.22
Safe storage of medications	64.5 (58.4, 70.5)	74.5 (66.6, 82.4)	56.6 (48.0, 65.1)	0.04
Safe storage of firearms...				
when patient talked about using firearm for suicide)	79.5 (74.4, 84.6)	82.2 (76.3, 88.1)	77.0 (69.2, 84.9)	0.45
when family reports having a firearm but it is not an expressed part of suicide plan	68.9 (62.9, 74.8)	74.9 (67.4, 82.24)	64.1 (55.5, 72.6)	0.18
with all patients, even if they do not tell provider about having or thinking of using a firearm for suicide	31.0 (24.5, 37.4)	45.0 (33.4, 56.7)	21.5 (14.9, 29.0)	0.01

Note: Boldface indicates statistical significance ($p<0.05$).

^a n for each column reflect unweighted numbers, data in table are weighted. Denominators vary by item based on missing responses

^b Includes four individuals who indicated presence of protocol was "unknown."

^c Rao-Scott χ^2 .