Published in final edited form as:

Depress Anxiety. 2013 October ; 30(10): 1005–1012. doi:10.1002/da.22071.

Knowledge, Attitudes and Practices of Emergency Department Providers in the Care of Suicidal Patients

Marian E. Betz, MD, MPH¹, Ashley F. Sullivan, MS, MPH², Anne P. Manton, PhD, APRN³, Janice A. Espinola, MPH², Ivan Miller, PhD⁴, Carlos A. Camargo Jr., MD DrPH², Edwin D. Boudreaux, PhD⁵, and on behalf of the ED-SAFE Investigators

¹Department of Emergency Medicine, University of Colorado School of Medicine; Denver, Colorado, USA

²Department of Emergency Medicine, Massachusetts General Hospital, Boston, MA.

³ Cape Cod Hospital, Hyannis, MA

⁴Butler Hospital, Providence, RI

⁵Departments of Emergency Medicine, Psychiatry, and Quantitative Health Sciences, University of Massachusetts Medical School, Worcester, MA, USA.

Abstract

Background—We sought to examine the knowledge, attitudes and practices of emergency department (ED) providers concerning suicidal patient care and to identify characteristics associated with screening for suicidal ideation (SI).

Methods—631 providers at eight EDs completed a voluntary, anonymous survey (79% response rate).

Corresponding author: Marian E. Betz, MD, MPH (Corresponding author) Department of Emergency Medicine, University of Colorado School of Medicine 12401 E. 17th Ave B-215; Aurora, CO 80045 marian.betz@ucdenver.edu; Telephone: (720) 848-6777; Fax: (720) 848-7374.

Author contributions: IM, CAC, and EDB conceived the study, designed the survey, and obtained research funding. AFS, IM, CAC, and EDB undertook recruitment of participating centers and managed the data, including quality control. MEB supervised the conduct of the survey and data collection at one participating site. AFS, AM, IM, CAC, and EDB serve on the ED-SAFE Steering Committee. MEB, JAE, IM, CAC, and EDB designed the statistical analysis and JAE analyzed the data. MEB drafted the manuscript, and all authors contributed substantially to its revision. MEB and EDB take responsibility for the paper as a whole.

CONTRIBUTIONS & ACKNOWLEDGMENTS

IM, CAC, and EDB conceived the study, designed the survey, and obtained research funding. AFS, IM, CAC, and EDB undertook recruitment of participating centers and managed the data, including quality control. MEB supervised the conduct of the survey and data collection at one participating site. AFS, AM, IM, CAC, and EDB serve on the ED-SAFE Steering Committee. MEB, JAE, IM, CAC, and EDB designed the statistical analysis and JAE analyzed the data. MEB drafted the manuscript, and all authors contributed substantially to its revision. MEB and EDB take responsibility for the paper as a whole. We would like to acknowledge the time and effort of the research coordinators and research assistants from the 8 participating sites.

ED-SAFE Investigators

Michael Allen, MD (University of Colorado Denver); Edward Boyer, MD, PhD (University of Massachusetts); Jeffrey Caterino, MD (Ohio State University Medical Center); Robin Clark, PhD (University of Massachusetts); Mardia Coleman (University of Massachusetts); Barry Feldman, PhD (University of Massachusetts); Amy Goldstein, PhD (National Institute of Mental Health); Talmage Holmes, PhD (University of Arkansas for Medical Sciences Medical Center); Maura Kennedy, MD (Beth Israel Deaconess Medical Center); Frank LoVecchio, DO (Maricopa Medical Center); Sarah A. Ting, PhD (Massachusetts General Hospital); Lisa Uebelacker, PhD (Memorial Hospital of Rhode Island); Wesley Zeger, DO (University of Nebraska Medical Center)

Results—The median participant age was 35 (interquartile range: 30–44) years and 57% were female. Half (48%) were nurses and half were attending (22%) or resident (30%) physicians. More expressed confidence in SI screening skills (81–91%) than in skills to assess risk severity (64–70%), counsel patients (46–56%) or create safety plans (23–40%), with some differences between providers. Few thought mental health provider staffing was almost always sufficient (6–20%) or that suicidal patient treatment was almost always a top ED priority (15–21%). More nurses (37%, 95% Confidence Interval [CI] 31–42%) than physicians (7%, 95% CI 4–10%) reported screening most or all patients for SI; this difference persisted after multivariable adjustment. In multivariable analysis, other factors associated with screening most or all patients for SI were self-confidence in skills, (OR 1.60, 95% CI 1.17–2.18), feeling that suicidal patient care was a top ED priority (OR 1.73, 95% CI 1.11–2.69) and 5+ post-graduate years of clinical experience (OR 2.06, 95% CI 1.03–4.13).

Conclusions—ED providers reported confidence in suicide screening skills but gaps in further assessment, counseling or referral skills. Efforts to promote better identification of suicidal patients should be accompanied by a commensurate effort to improve risk assessment and management skills, along with improved access to mental health specialists.

Keywords

Suicide; Emergency Medicine; healthcare provider

INTRODUCTION

The prevalence of suicidal ideation among all emergency department (ED) patients is estimated at 3 to 8%—or up to 9.5 million patients, based on 117 million total ED visits in 2007.^[1–4] Recent trends suggest that the rate of mental health visits to EDs is growing,^[5] with typically long lengths of stay for mental health patients.^[6] With outpatient resource shortages, ED providers have an increasingly important role in the diagnosis and treatment of suicidal patients,^[7, 8] although to date there is not strong evidence about what kinds of ED-based interventions are most effective.

Although mental illness has become a more openly discussed topic in recent decades, depression and self-injurious behavior remain heavily stigmatized, and this may contribute to observations that suicidal patients may not receive adequate assessment or treatment in EDs.^[2, 9, 10] Despite their desire to help, medical providers may avoid these issues due to the associated stigma and may have additional biases based on their prior clinical experiences, “burn-out”, or skepticism in the preventability of suicide.^[7, 11, 12] Additional identified barriers to assessment and care of suicidal patients include fear of being intrusive, lack of training, time constraints, liability concerns, or dislike of additional mandates in a busy work environment.^[10, 13–15]

However, there is increasing attention to the need for improved identification and care of suicidal ED patients.^[7, 16] A National Patient Safety Goal from the Joint Commission on Accreditation of Healthcare Organizations (Joint Commission) now targets suicide prevention in patients hospitalized for emotional or behavioral problems, including conducting a risk assessment, addressing immediate safety needs, and providing information

about outpatient resources on discharge.^[17] While many EDs utilize on- or off-site mental health professionals for some psychiatric evaluations, in most cases it is the ED provider who is responsible for assessing suicidal patients.^[16] As hospitals and EDs examine how to meet the Joint Commission goal through care protocols and educational programs, a better understanding of the knowledge, attitudes and practices of various kinds of ED providers (physicians, nurses, and other staff) would be helpful.

To date, studies of this issue have involved single sites or only certain types of providers. The Emergency Department Safety Assessment and Follow-Up Evaluation (ED-SAFE) provider survey offers a unique opportunity to use a multi-site sample of multiple types of ED providers to examine the care of suicidal patients in the ED. While self-reported behavior may not align perfectly with actual behavior, the use of an anonymous survey allows examination of provider opinions and beliefs that may be socially undesirable and otherwise difficult to assess. Information about provider beliefs and behavior is important because it could inform efforts to improve ED-based assessment and treatment of suicidal patients through targeted staff education.

The study objectives were to: (1) describe ED provider knowledge, attitudes, and practices related to assessment of suicidal patients, including perceptions of universal suicide screening; and (2) examine whether these reported provider knowledge, attitudes and practices varied by provider type. Because of the new Joint Commission focus on suicide screening, a third study objective was to identify provider characteristics associated with reporting screening most or all patients for suicidal ideation.

MATERIALS AND METHODS

The ED-SAFE study is a multi-site, NIH-funded project examining ED assessment and interventions for suicidal patients. As part of the ED-SAFE study, providers at each of the eight participating EDs were invited to complete a voluntary, anonymous survey between June, 2010, and March, 2011. The participating sites are located in seven states across the US. Survey questions assessed knowledge, attitudes and practices related to the care of suicidal patients and were developed based on previous surveys,^[18] and expert opinion. Eligible participants were attending and resident physicians, mid-level providers, social workers and nurses who were working at least half-time clinically in the ED; those in leadership positions with lower clinical hours (e.g., department chairs) were also eligible.

The study was coordinated by the Emergency Medicine Network (www.emnet-usa.org). Surveys were completed in English on paper (with a pre-addressed, postage-paid envelope provided) or online. Participating sites assigned a unique numerical ID to each eligible provider that the provider entered on the survey. The data coordinating center was able to tell the individual sites which providers had completed the survey, allowing the sites to redistribute surveys to non-responders. Survey responses were anonymous, as the data coordinating center did not have access to the key linking provider names and IDs, and the eight sites did not have access to the survey data. Each site received institutional review board approval with waived written informed consent.

Basic demographic characteristics of respondents were age, gender, self-described race (White; African-American; Asian; American Indian/Alaskan Native; Native Hawaiian/Other Pacific Islander; Other), and Hispanic ethnicity. For race, more than one response per participant was allowed; for the purposes of analysis, respondents with more than one race were assigned to the smallest group selected. Additional provider variables included current clinical position (Staff/Attending Physician; Resident Physician; Nurse, Other), years of work in medicine or nursing excluding medical or nursing school, and approximate number of suicidal patients seen per month. Participants were asked about their knowledge, attitudes and practices related to the care of potentially-suicidal patients using questions with 4- or 5-point Likert scale response options. For logistic regression analysis, we collapsed responses into 2 categories. Additional questions assessed what providers thought about their current ED staffing and priorities concerning suicidal patient care.

Our primary outcome of interest related to provider practice: reporting screening most or all patients for suicidal ideation. An additional outcome related to provider knowledge was the proportion of providers who believed that most or all suicides are preventable. Provider confidence was measured by the proportions reporting confidence in their own suicide assessment skills and that ED staffing, clinical priorities or administration hardly ever or only sometimes supported suicide interventions. Additional outcome measures for provider practices were the proportion of providers who reported assessing risk severity and creating a safety plan for suicidal patients.

For analysis, we first described the demographic characteristics of participants and then summarized responses by provider type. Mid-level providers and social workers were omitted from this analysis because of the small number in this subgroup ($n=21$). A total of 4 (0.6%) observations were omitted from the main analyses because of missing provider type data. Results were reported using medians with interquartile ranges (IQR) or proportions with 95% confidence intervals (CIs). We used Pearson chi-square (or Fisher exact test if any expected values in cross-tabulations were less than 5) to evaluate response differences between provider types. Cronbach's alpha was used to examine the reliability between responses to specific questions and to consolidate these responses into two scale variables for (a) self-efficacy (confidence in assessment skills) and (b) ED management of suicidal patients. For the self-efficacy scale, the five included questions assessed confidence in skills for: suicide screening; risk assessment; brief counseling; creation of personalized safety plans; and provision of referral resources. For the management scale, the five included questions addressed the proportion of all patients screened for suicidal ideation and the proportion of suicidal patients assessed for risk severity, briefly counseled, given a safety plan, and given referral resources.

Finally, we used multivariable logistic regression to identify provider characteristics associated with the primary outcome of interest (reporting screening most or all patients for suicidal ideation). The final multivariable model simultaneously included variables with a moderately significant ($p<0.2$) or strong (odds ratio [OR] > 2) relation to the outcome. The self-efficacy scale ($\alpha=0.81$) was included as a variable in the logistic regression analysis, but the ED-management scale ($\alpha=0.61$) was not, because of its lower internal consistency reliability.

RESULTS

Of 800 eligible providers, 631 completed the survey, for a response rate of 79% (range: 72-87% across sites). The median provider age was 35 years (IQR: 30-44) and 57% of respondents were female. Most respondents were white (94%) and non-Hispanic (97%), and half were nurses (48%; **Table 1**). Providers had worked in healthcare for a median of 8 years (excluding professional school) and reported treating a median of 15 suicidal patients per month.

Approximately half of all respondents said that most or all suicides are preventable, with no significant difference between nurses (42%, 95%CI 37-48%), staff physicians (51%, 95%CI 43-60%), or resident physicians (42%, 95%CI 35-49%). Most providers did feel they knew how to screen patients for suicidality, but fewer felt confident in their skills to assess suicide risk, create a safety plan, or provide brief counseling (**Figure 1, Online Table 1**). More nurses (40%, 95%CI 34-45%) than attending (27%, 95%CI 20-34%) or resident (23%, 95%CI 17-29%) physicians felt confident in their ability to create a personalized safety plan. Approximately half of physicians and nurses said they knew how to find referral resources (**Figure 1, Online Table 1**).

When asked about ED support for suicide interventions, most thought mental health provider staffing was hardly ever or only sometimes sufficient for the patient load, although more nurses (78%, 95%CI 74-83%) than physicians (54%, 95%CI 48-59%) thought this (**Figure 2, Online Table 2**). A minority of providers felt that ED leadership almost always supported improvements in the care of suicidal ED patients (range: 16-26%) or that treatment of suicidal patients was always a top clinical care priority (range: 15-21%; **Figure 2, Online Table 1**).

Provider attitudes concerning universal screening for suicide were mixed. Almost two-thirds of providers (65%, 95%CI 60-70%) thought that universal screening would result in more psychiatric evaluations, without differences between provider types. However, only a third of nurses (34%, 95%CI 29-39%) and half of physicians (51%, 95%CI 45- 56%) thought universal screening would slow down clinical care.

When asked about their typical practice, few attending (8%, 95%CI 3-13%) or resident (6%, 95%CI 3-10%) physicians said they screen most or all patients for suicidal ideation, while five times as many nurses (37%, 95%CI 31-42%) reported doing so. For patients who are suicidal, more physicians and nurses reported assessing risk severity (range: 63-74%) than creating a safety plan (range: 25-51%) or briefly counseling (range: 30-49%; **Figure 3, Online Table 3**). Significantly more resident than attending physicians reported briefly counseling (49%, 95%CI 42-56%; versus 30%, 95%CI 22-38%) or providing outpatient referrals (69%, 95%CI 63-76%; versus 54%, 95%CI 46-63%) to most or all suicidal patients.

In multivariable regression, the strongest predictor of screening most or all patients for suicidal ideation was clinical position (**Table 2**); both attending (OR 0.22, 95%CI 0.11-0.47) and resident physicians (OR 0.18, 95%CI 0.08-0.40) were less likely than nurses to report screening most or all patients for suicidal ideation. Factors associated with greater likelihood

of screening most or all patients for suicidal ideation included: higher self-confidence in a suicide assessment skills (OR 1.60, 95% CI 1.17-2.18), believing that care of suicidal patients was a top clinical priority in the ED (OR 1.73, 95% CI 1.11-2.69), or having five or more years of clinical experience since graduation from professional school (OR 2.06, 95% CI 1.03-4.13). Of note, age, gender, race, ethnicity, and belief that universal screening will slow down clinical care were not significantly associated with screening most or all patients for suicidality.

DISCUSSION

In this large, multi-site study, ED providers expressed confidence in their ability to screen for suicide. However, they reported gaps in skills and usual practices related to further assessment, counseling or referral—the same skills identified as Joint Commission safety goals for suicidal patients.^[17] Many providers reported deficiencies in mental health staffing and administrative support, and nurses, more experienced providers, and providers with increased skills self-confidence or perceived ED support were more likely to report screening patients for suicidal ideation. This study provides useful information to inform ED-based programs for universal or wide-spread suicide screening, issues that are especially relevant as hospitals discuss how to meet Joint Commission requirements.

The 2011 Joint Commission National Patient Safety Goals related to suicide apply “only to psychiatric hospitals and patients being treated for emotional or behavioral disorders in general hospitals,”^[17] which has been interpreted to include patients treated in EDs. The specific suicide requirements are: “(1) Conduct a risk assessment that identifies specific patient characteristics and environmental features that may increase or decrease the risk for suicide; (2) Address the patient’s immediate safety needs and most appropriate setting for treatment; and (3) When a patient at risk for suicide leaves the care of the hospital, provide suicide prevention information (such as a crisis hotline) to the patient and his or her family.”^[17]

However, many providers in this study did not feel they had the skills to assess risk severity or provide brief counseling or a safety plan for patients, which is consistent with prior work.^[19] Notably, scores on a self-efficacy scale incorporating these questions was significantly associated with behavior in multivariable analysis. That is, those providers with increased self-confidence in their skills were more likely to report screening most or all patients for suicidality, after controlling for provider type, years of experience, and perceived administrative support. This may be especially important at smaller or more rural hospitals with less access to mental health resources, where ED providers may have more responsibility in counseling and creating care plans for suicidal patients.^[20] Recent work has documented gaps in training of mental health professionals concerning suicide risk assessment and care, but less has been described concerning training and abilities of ED providers. For successful implementation of ED programs to improve care of suicidal patients, further study of this issue will be important, as will focused in-person or web-based training^[8, 21] to improve provider knowledge and skills.^[19, 22]

At the same time, providers identified several administrative barriers to care of suicidal patients, including inadequate mental health provider staffing and limited administrative support for suicide interventions. Providers who said that care of suicidal patients was a “top clinical priority” in their ED were more likely to screen most or all patients for suicidal ideation, highlighting the importance of true culture change compared to additional mandated tasks. In a previous study of a planned implementation of a four-item suicide screen, nurses were supportive of improved patient care but worried the screening would be perceived as “one more thing they would have to do” and therefore meet resistance.^[13]

Individual beliefs can also be a barrier to care of suicidal patients; providers in this sample expressed skepticism about the preventability of suicide, despite evidence that suicide prevention measures can prevent deaths.^[23] In fact, physician education for the recognition and treatment of depression or suicidality is one of the two suicide prevention methods with strong scientific evidence.^[23] Healthcare providers are susceptible to the same biases towards persons with mental illness that are still common in general society, as well as additional issues related to frustration or discomfort with, or dislike or misunderstanding of, suicidal patients.^[11, 19, 24-26] It is important to acknowledge these biases and knowledge gaps when designing provider education programs or care protocols, and focused training programs have been shown to have positive short-term effects on provider attitudes.^[11, 27, 28]

A minority of providers in this multi-site sample reported screening most or all patients for suicidal ideation; of note, none of the included sites had universal screening protocols in place at the time of the study. Far more nurses than physicians reported screening patients, which may reflect traditional models of care with triage nurse assessments followed by more focused physician and primary nurse evaluation. That is, a triage nurse might screen for suicidal thoughts in a patient with risk factors or a concerning complaint, but if he or she documents a “no” response, the physician or primary nurse may not reassess for suicidal ideation. Both physicians and nurses had similar trends in their reported care of suicidal patients, with about two thirds assessing risk severity but fewer creating safety plans, referring, or briefly counseling. These findings paralleled provider self-confidence in skills for these tasks, again highlighting the importance of focused provider training to improve care. The fact that many providers did not refer patients to resources or create a safety plan may reflect that providers do not give referrals to patients admitted to psychiatric hospitals, or that providers are pessimistic about follow-up given limited local resources.^[19]

After adjustment for provider type, we found that experience (years in healthcare since training) was positively associated with screening most or all patients for suicidality. This is in line with previous work showing that providers with more years of experience have more positive attitudes towards suicidal patients and suicide prevention.^[25, 29, 30] However, for other questions, attending and resident physicians were similar in many of their responses. For example, there were no significant differences between attendings and residents concerning self-confidence in skills related to suicidal patients suggesting that physicians learn these skills during residency rather than later in their careers. Recent work concluded, however, that there may be little formal training in psychiatry for emergency medicine trainees,^[31] and our finding highlights the importance of inclusion of suicide assessment

skills in residency curricula. It is interesting that more residents than attending physicians reported briefly counseling and providing outpatient referrals for most or all suicidal patients. It is difficult to assess whether this relates to clinical work flow issues (such as residents spending more time with patients or preparing discharge instructions) or training (with resident education about other kinds of brief screening for public health-related issues), but these questions merit further investigation.

This survey included providers working at eight academic EDs in seven states, but the results might not generalize to other settings. However, the included sites have different local practices and protocols, the large sample included a variety ED physicians and nurses with different years of experience, and the survey response rate was high. This study relied on self-reported behavior without verification; this raises the possibility of bias if providers differentially recalled or reported their opinions and practices. However, a reliance on self-report allowed the survey to be anonymous, which may have increased participation and truthfulness, and the use of survey methodology allowed us to examine provider perceptions and beliefs that cannot be assessed through patient chart review. Future phases of the ED-SAFE study will examine actual provider behavior through chart review. Another limitation relates to the survey design, as the question about safety plans did not specify what constituted a safety plan, and providers may have interpreted this in different ways. In addition, questions about safety plans and outpatient referrals did not distinguish between patients with and without a formal mental health evaluation, or between patients who were admitted versus discharged. Thus, although provider behavior likely varies depending on whether a mental health professional is consulted and depending on the patient's disposition, we were not able to further analyze this issue. However, 34% of nurses, 13% of attending physicians and 8% of resident physicians reported providing referral resources to no suicidal patients, which suggests they would not do so even for discharged patients. Another limitation related to the survey design is that the questions did not include patient characteristics such as prior attempts or other suicide risk factors, although such variables might affect providers' behaviors and should be examined in more detail in future studies. In addition, the survey questions did not directly address the Joint Commission requirements because the study began before the 2011 safety goals were announced. As is the case with all cross-sectional studies, we are not able to draw conclusions about temporal or causal relationships between any variables and our outcomes of interest. However, the information provided from this study could be useful in the design of future research and ED protocols.

CONCLUSION

This multi-site survey of over 600 ED physicians and nurses provides important new information about the knowledge, attitudes and reported practices of in the care of suicidal patients. Notably, providers expressed gaps in their skills and practices related to risk assessment and provision of referral resources, which were recently identified as Joint Commission goals for suicidal patients. With increasing discussion about ED-based universal screening and brief interventions for suicide, an understanding of provider beliefs and behaviors is important for the design of effective programs to improve care.

Supplementary Material

Refer to Web version on PubMed Central for supplementary material.

Acknowledgments

We would like to acknowledge the time and effort of the research coordinators and research assistants from the 8 participating sites.

Funding: This project was supported by Award Number U01MH088278 from the National Institute of Mental Health. The content is solely the responsibility of the authors and does not necessarily represent the official views of the National Institute of Mental Health or the National Institutes of Health.

REFERENCES

1. Boudreaux ED, Cagande C, Kilgannon H, et al. A prospective study of depression among adult patients in an urban emergency department. *Prim Care Companion J Clin Psychiatry*. 2006; 8(2): 66–70. [PubMed: 16862229]
2. Kemball RS, Gasgarth R, Johnson B, et al. Unrecognized suicidal ideation in ED patients: are we missing an opportunity? *Am J Emerg Med*. 2008; 26(6):701–5. [PubMed: 18606326]
3. Claassen CA, Larkin GL. Occult suicidality in an emergency department population. *Br J Psychiatry*. 2005; 186:352–3. [PubMed: 15802695]
4. Niksa R, Bhuiya N, Xu J. National Hospital Ambulatory Medical Care Survey: 2007 emergency department summary. *National Health Statistics Report*. 2010:26.
5. Larkin GL, Smith RP, Beautrais AL. Trends in US emergency department visits for suicide attempts, 1992–2001. *Crisis*. 2008; 29(2):73–80. [PubMed: 18664232]
6. Chang G, Weiss AP, Orav EJ, et al. Hospital variability in emergency department length of stay for adult patients receiving psychiatric consultation: A prospective study. *Ann Emerg Med*. 2011; 58(2):127–136. e1. [PubMed: 21227544]
7. D'Onofrio G, Jauch E, Jagoda A, et al. NIH roundtable on opportunities to advance research on neurologic and psychiatric emergencies. *Ann Emerg Med*. 2010; 56(5):551–64. [PubMed: 21036295]
8. Horowitz LM, Ballard ED, Pao M. Suicide screening in schools, primary care and emergency departments. *Curr Opin Pediatr*. 2009; 21(5):620–7. [PubMed: 19617829]
9. Hickey L, Hawton K, Fagg J, Weitzel H. Deliberate self-harm patients who leave the accident and emergency department without a psychiatric assessment: a neglected population at risk of suicide. *J Psychosom Res*. 2001; 50(2):87–93. [PubMed: 11274665]
10. Habis A, Tall L, Smith J, Guenther E. Pediatric emergency medicine physicians' current practices and beliefs regarding mental health screening. *Pediatr Emerg Care*. 2007; 23(6):387–93. [PubMed: 17572523]
11. Berlim MT, Perizzolo J, Lejderman F, et al. Does a brief training on suicide prevention among general hospital personnel impact their baseline attitudes towards suicidal behavior? *J Affect Disord*. 2007; 100(1-3):233–9. [PubMed: 17056123]
12. Larkin GL, Beautrais AL, Spirito A, et al. Mental health and emergency medicine: A research agenda. *Acad Emerg Med*. 2009; 16(11):1110–9. [PubMed: 20053230]
13. Folse VN, Hahn RL. Suicide risk screening in an emergency department: Engaging staff nurses in continued testing of a brief instrument. *Clin Nurs Res*. 2009; 18(3):253–71. [PubMed: 19411625]
14. Houry D. Suicidal patients in the emergency department: Who is at greatest risk? *Ann Emerg Med*. 2004; 43(6):731–2. [PubMed: 15159704]
15. 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; 16:278–81. [PubMed: 20501472]
16. Ronquillo L, Minassian A, Vilke GM, et al. Literature-based recommendations for suicide assessment in the emergency department: A review. *J Emerg Med* 2012. 2012 Epub Oct. 5.

17. Hospital National Patient Safety Goals. Joint Commission on Accreditation of Healthcare Organizations. 2011. Available at: http://www.jointcommission.org/assets/1/6/2011_NPSGs_HAP.pdf
18. Magid DJ, Sullivan AF, Cleary PD, et al. The safety of emergency care systems: Results of a survey of clinicians in 65 US emergency departments. *Ann Emerg Med.* 2009; 53(6):715–23. e1. [PubMed: 19054592]
19. Knesper, DJ. Continuity of care for suicide prevention and research: Suicide attempts and suicide deaths subsequent to discharge from the emergency department or psychiatry inpatient unit. American Association of Suicidology and Suicide Prevention Resource Center (Education Development Center, Inc.); Newton, MA: 2010. p. 26-40.
20. Baraff LJ, Janowicz N, Asarnow JR. Survey of California emergency departments about practices for management of suicidal patients and resources available for their care. *Ann Emerg Med.* 2006; 48(4):452–8. 458, e1–2. [PubMed: 16997683]
21. Horwitz SM, Heinberg LJ, Storfer-Isser A, et al. Teaching physicians to assess suicidal youth presenting to the emergency department. *Pediatr Emerg Care.* 2011; 27(7):601–605. [PubMed: 21712747]
22. Giordano R, Stichler JF. Improving suicide risk assessment in the emergency department. *J Emerg Nurs.* 2009; 35(1):22–6. [PubMed: 19203676]
23. Mann JJ, Apter A, Bertolote J, et al. Suicide prevention strategies: A systematic review. *JAMA.* 2005; 294(16):2064–74. [PubMed: 16249421]
24. Ito H, Kawano K, Kawashima D, Kawanishi C. Responses to patients with suicidal ideation among different specialties in general hospitals. *Gen Hosp Psychiatry.* 2008; 30(6):578–80. [PubMed: 19061686]
25. Anderson M, Standen P, Nazir S, Noon JP. Nurses' and doctors' attitudes towards suicidal behaviour in young people. *Int J Nurs Stud.* 2000; 37(1):1–11. [PubMed: 10687805]
26. Herron J, Ticehurst H, Appleby L, et al. Attitudes toward suicide prevention in front-line health staff. *Suicide Life Threat Behav.* 2001; 31(3):342–7. [PubMed: 11577918]
27. Tsai WP, Lin LY, Chang HC, et al. The effects of the gatekeeper suicide-awareness program for nursing personnel. *Perspect Psychiatr Care.* 2011; 47(3):117–25. [PubMed: 21707626]
28. Ellis IK, Philip T. Improving the skills of rural and remote generalists to manage mental health emergencies. *Rural Remote Health.* 2010; 10(3):1503. [PubMed: 20858020]
29. Anderson M. Nurses' attitudes towards suicidal behaviour--a comparative study of community mental health nurses and nurses working in an accidents and emergency department. *J Adv Nurs.* 1997; 25(6):1283–91. [PubMed: 9181428]
30. McCann T, Clark E, McConnachie S, Harvey I. Accident and emergency nurses' attitudes towards patients who self-harm. *Accid Emerg Nurs.* 2006; 14(1):4–10. [PubMed: 16330213]
31. Santucci KA, Sather J, Baker MD. Emergency medicine training programs' educational requirements in the management of psychiatric emergencies: current perspective. *Pediatr Emerg Care.* 2003; 19(3):154–6. [PubMed: 12813298]

Figure 1.
Provide Self-Confidence in Skills for Care of ED Patients, By Provider Type (n=631)

Figure 2.
Provider Opinions of Local ED Environment; by Provider Type (n-631)

Figure 3.
Proportion of Providers who Report Providing Additional Assessment of Care to Most or all Suicidal Patients; by Provider Type (n=631)

Table 1

Characteristics of Responding ED Providers (n=631)

	N	%	95%CI
Age in years; median (IQR)	615	35	30 44
Sex			
Male	269	43	39 47
Female	359	57	53 61
Race			
White	583	94	92 96
Black/African American	10	1.6	0.6 2.6
Asian	22	3.5	2.1 5.0
American Indian/Alaskan Native	3	0.5	0 1.0
Native Hawaiian/Other Pacific Islander	1	0.2	0 0.5
Other	2	0.3	0 0.8
Hispanic or Latino origin	17	2.7	1.4 4.0
Current clinical position			
Nurse	306	48	45 52
Staff/Attending physician	138	22	19 25
Resident physician	187	30	26 33
Years of work in medicine/healthcare, excluding training; median (IQR)	625	8	3 16
Number of suicidal patients seen per month; median (IQR)	626	15	10 20
Enrollment site			
1	93	15	12 18
2	28	4.4	2.8 6.0
3	99	16	13 19
4	80	13	10 15
5	108	17	14 20
6	70	11	9 14
7	117	19	16 22
8	36	5.7	3.9 7.5

IQR, Interquartile Range.

Characteristics Associated with Report of Screening Most or All ED Patients for Suicidal Ideation (n=631)

Table 2

Characteristics	Multivariate Odds Ratio	
	OR	95% CI
Demographic Characteristics		
Age 35	0.60	0.36 1.01
Female	1.58	0.93 2.69
Hispanic	3.14	0.99 9.97
Years in healthcare excluding training 5	2.06	1.03 4.13
Current clinical position		
Nurse	1.00	(reference)
Staff/Attending physician	0.22	0.11 0.47
Resident physician	0.18	0.08 0.40
Knowledge and Attitudes		
Self-efficacy scale score	1.60	1.17 2.18
Belief that universal screening will slow down clinical care	0.63	0.39 1.01
Belief that care of suicidal patients is a top clinical priority in the ED	1.73	1.11 2.69