BEHAVIORAL HEALTH (L ZUN, SECTION EDITORS)



Identification, Assessment, and Management of Suicide Risk in Emergency Departments: Significant Updates in Research and Practice

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Abstract

Purpose of Review It is estimated that emergency departments (EDs) could prevent 5% of all suicide attempts and 8% of suicide deaths, making EDs a critical setting in which to identify individuals at risk for suicide and to intervene to mitigate the risk. The goal of this review was to detail recent advances in the identification, assessment, and management of suicide risk in emergency medicine and to provide best practice recommendations for these processes.

Recent Findings Advances in caring for patients who present to EDs with suicide risk include improved workflows and tools for ED providers to identify, assess, and manage suicide risk, increased patient-centeredness and quality of ED care for patients at risk of suicide, and shifting beliefs of ED providers regarding the feasibility of integrating the assessment and management of suicide risk into emergency care.

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Summary ED suicide prevention efforts have notably changed in recent years. Strategies for universal screening, secondary screening tools, and evidence-based workflows for the management of suicide risk all show potential for feasibly addressing suicide risk in EDs. Effective implementation of evidence-based practices is necessary as integrating these new practices requires significant change in the clinical practice and culture of many EDs.

Keywords Suicide · Screening · Assessment · Management · Emergency department · Emergency medicine

Introduction

Rates of emergency department (ED) visits for suicide attempts and self-injury have doubled in the last two decades and these problems account for approximately 420,000 ED visits annually [1]. A large segment of those who die by suicide seek treatment in EDs in the weeks and months prior to death [2, 3], highlighting the critical role that ED settings can play in identifying at-risk individuals and intervening to mitigate risk for suicide. If optimally delivered, ED-based interventions for suicide risk have the potential to prevent 5% of suicide attempts and 8% of suicide deaths each year [4]. The Joint Commission's most recent Sentinel Event Alert has heightened attention to the need to prevent suicides in all health care settings [5••].

Notable developments in ED-based suicide prevention have occurred in recent years. Evidence from Emergency Department-Safety Assessment and Follow-up Evaluation (ED-SAFE [6]), the largest pragmatic clinical trial to date examining ED screening and intervention efforts, is shedding light on the feasibility and effectiveness of universal screening [7•], the factors associated with suicidal behavior following



ED screening [8], and provider attitudes in caring for suicidal patients [9]. There has been increased emphasis on utilizing secondary screening instruments [10] and providing patient-centered, empathic care for ED patients at risk of suicide [11••]. All advances are a departure from the fragmented and stigmatizing care that ED patients with psychiatric complaints have experienced [12]. This review details the recent progress in ED screening, assessment, and management of suicide risk and describes best practice recommendations and current implementation for each process. As suicide is a common reason for litigation, medicolegal considerations are integrated throughout the review. The review concludes with suggestions for future directions in the field.

Identification of Suicide Risk and Screening

Levels of Screening

The first step in appropriately addressing suicide risk in the ED is to identify the patients who are at risk. The prevalence of active suicidal ideation in ED patients is approximately 8% [13, 14]. Furthermore, a multisite study of universal screening across six diverse EDs found that among the 7.3% of non-psychiatric ED patients who endorsed suicidal ideation via screening, almost half (3.3%) had a prior attempt, constituting a group at increased risk [15]. Suicidal thoughts or behavior may be disclosed as the reason for the visit, may be divulged only as part of another mental health complaint, or may present incidentally along with another "chief complaint" given for seeking emergency treatment.

Screening methods allow for the systematic detection of risk in these different populations and follow the general schema of indicated, selective, and universal screening [16]. At the most targeted level, indicated screening is aimed at individuals with apparent risk factors or conditions that elevate risk for suicidal ideation or behavior. For instance, outward display of emotional distress or agitation in the ED visit, psychosocial stressors, hopelessness, or psychosis may be indications for screening. Selective screening focuses on groups known to be at higher risk for suicidal thoughts and behaviors. Substance use disorders, certain mental disorders, domestic violence, and other conditions are associated with higher risk and might warrant screening.

Universal screening involves asking all ED patients, regardless of presenting complaint or personal history, about suicidal thoughts and behaviors. While this proposition raises concerns regarding an undue time burden for ED providers, universal screening offers the opportunity to identify suicide risk in many more patients than selective or indicated screening. Results from the ED-SAFE [7•] screening outcome evaluation suggest that universal screening during routine care is feasible (documented screenings rose from 26 to 84%).

Increased screening rates led to an almost two-fold increase in detection of suicide risk (2.9 to 5.7%), and Boudreaux and colleagues point out that increased detection could identify an additional 10,000 patients at elevated suicide risk annually in the eight EDs in the trial. As rates of screening, risk assessment, and psychiatric consultation increased during the ED-SAFE trial, there was a decrease in the number of providers who endorsed the belief that universal screening would slow down care [17].

Instruments for Universal Screening

The Joint Commission [5••] recently recommended that providers in both non-acute and acute care settings regularly administer structured evidenced-based measures to identify patients at risk for suicide. Routine and universal administration of instruments such as the Patient Health Questionnaire-9 (PHQ-9 [18]), ED-SAFE Patient Safety Screener (PSS [6]), or the Suicide Behaviors Questionnaire-Revised (SBQ-R [19]) would offer a structured approach to suicide screening in the ED setting. Endorsement of item 9 (thoughts of death or self-harm) on the PHQ-9 was found to be a strong predictor of suicide attempt and a moderate predictor of suicide death [20]. The PSS, a 3-item measure, has excellent concurrent validity with the Beck Scale for Suicide Ideation ($\kappa = 0.95$) and was designed for ED settings [21]. When adopting a suicide screening instrument, it is recommended that EDs select measures that are commensurate with the brevity and scope of this setting and to use technology to the extent possible to aid screening efforts [22].

Secondary Screening Instruments

Secondary suicide screening instruments offer ED providers a resource to guide decisions about disposition and mental health consultation following a positive screen. The Suicide Prevention Resource Center (SPRC) recently released the sixitem Decision Support Tool [10], and the ED-SAFE trial [6] also created a six-item secondary suicide risk screener. Item selection for both measures included review of the literature to identify the strongest predictors of acute suicide risk among ED patients as well as expert consensus. In the SPRC's Decision Support Tool [10], current suicidal ideation and any of six major factors would suggest the need for an immediate, thorough risk assessment. In addition to current ideation, these included planning, intent, prior attempt, significant mental health condition, substance use disorder, or signs of arousal such as agitation, irritability, or aggression. Individuals with none of these factors are viewed as low imminent risk; that is, they are unlikely to make an attempt in the foreseeable future. The secondary screening then serves as a form of triage, a bridge between screening and comprehensive suicide risk assessment, and may help providers identify



whether discharge with brief intervention for suicide risk or further psychiatric consultation is more appropriate. This binary distinction between low and elevated risk drives immediate nursing management and further assessment. However, this negative prediction strategy has yet to be empirically tested.

Mental Health Consultation Based on Screening Findings

While no clear literature exists to inform when to consult a mental health provider, the following circumstances present reasonable scenarios for a referral: ED treatment following a suicide attempt, suicidal ideation that co-occurs with a mental health diagnosis, recent discharge from inpatient psychiatry, repeated and unexplained ED visits, and/or pattern of injuries or risk-taking behavior [23]. Before consulting a mental health provider for a comprehensive suicide risk assessment, ED providers conduct a focused medical assessment directed at vital signs, history, physical exam, and cognitive functioning [24] (Fig. 1). In other words, the patient should be determined to be medically stable and capable of engaging in a psychiatric assessment.

Assessment and Stratification of Suicide Risk

Assessment of Suicide Risk

Although this is frequently misunderstood, the goal of risk assessment is not the prediction of suicide at an individual level [25]. Attempts at prediction result in high sensitivity and low specificity with many false positives. Rather, the goal of risk assessment is to determine the factors associated with elevated risk for a given individual and the means of managing that risk. For those at the highest risk, the tools necessary to further assess and manage risk will be available only in a hospital setting. For others, the risk can be routinely addressed in the community or a more robust plan can be developed that reduces or manages risk with additional planning and coordination.

A thorough suicide risk assessment is often best completed when there is a dedicated multidisciplinary team with expertise in this area [26]. Many ED providers lack advanced training in suicide risk assessment and may not feel confident in their skills [9]. However, there are circumstances in which the ED provider is responsible for the full suicide risk assessment [27]. This section will describe the factors that are important for consideration during a suicide risk assessment, as typically undertaken by mental health consultation team, but which can be conducted by ED providers. Even when consulting mental health professionals, the emergency physician remains the attending of record and may be liable for the assessments and recommendations of other providers. Hence, the emergency

physician should be knowledgeable in suicide risk assessment and management.

In order to properly manage suicide risk in an ED setting, providers first must gather information related to suicide risk and formulate a brief assessment of the risk level. To complete a risk assessment, providers must be able to make a distinction between risk factors, warning signs, and drivers for suicide. Risk factors are historical factors which raise a patient's longterm risk for suicide above the level of risk for the general population and include elements that are immutable or resistant to change such as history of suicide attempts, psychiatric and medical diagnoses, substance use disorders, and ongoing psychosocial stressors [28]. Warning signs are more specifically related to acute risk for suicide in the same way that chest pain and shortness of breath are closely linked to acute risk of having a heart attack [28]. Preparatory behaviors such as obtaining means for a suicide attempt or writing a suicide note are notable warning signs and are essential components of any suicide risk assessment. It is also important to go beyond a checklist approach of asking for specific risk factors and warning signs and to collaboratively assess a particular patient's own reasons for experiencing suicidal ideation [28]. These idiosyncratic reasons have been called drivers of suicide and could include things such as feeling like a burden on one's family, recent job loss, relationship difficulties, or a recent terminal medical diagnosis.

Recent research has identified factors that are associated with future self-directed violence in ED patients that received emergency treatment for suicidal ideation or behavior [8]. In this work, a suicide attempt or death was more likely in the 6 weeks following the index ED visit for patients who reported somatic complaints or suicidal ideation with an intention or a plan [8]. Predictors of suicide attempt or death in the next year were different and included a high school education or less, history of non-suicidal self-injury, an ED visit in the previous 6 months, current alcohol misuse, and suicidal ideation with high severity. Interestingly, alcohol misuse did not differentiate those with near term risk despite being associated with longer term risk [8]. These findings enhance our knowledge of the risk factors for suicide outcomes in this specific sub-group of ED patients and can be used by EDs to inform the implementation of screening, assessment, and management efforts.

To obtain a comprehensive assessment of suicide risk, providers should ask questions across a variety of domains [29–31]. Firstly, characterization of suicidal ideation, intent, and behaviors (e.g., attempts) is essential. A detailed history includes the frequency, intensity, and duration of suicidal ideation, each of which helps determine severity. Determining if an individual has a specific plan for suicide and if they have the intent to die is critical. The more specific the plan and the greater intention to act on it, the higher the risk in most cases. It is also important to obtain a description of the precipitants,



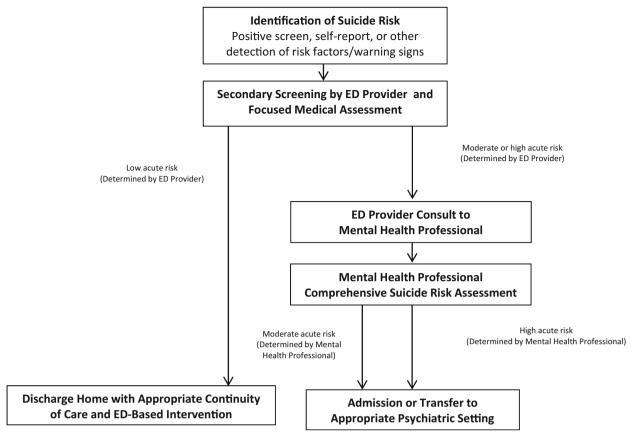


Fig. 1 Workflow for the identification, assessment, and management of suicide risk in EDs. Adapted from Davidson et al. (2014) [23]

particularly relationship disruptions, job loss, or major financial setbacks. Particular attention to validated suicide risk factors such as hopelessness, depression, agitation, and negative life events is warranted. Further, given that one of the strongest predictors of suicidal behavior is past suicide attempts, detailed information on prior attempts is critical including actual lethality and intent to die. However, most deaths by suicide have no known prior attempt so the lack of an attempt cannot be considered to be evidence of low risk. Another crucial component to suicide risk assessment is determining the patient's access to lethal means for suicide, such as firearms or medications, as it can lead to a collaborative effort to reduce access to such means.

Finally, practitioners are highly encouraged to collect collateral information from a knowledgeable person in the patient's life in order to obtain vital information that may not have previously been reported, to facilitate in mitigating risk, and/or to reduce the risk for litigation. Providers are faced with a challenging decision about obtaining collateral information when patients do not consent to communication with third parties for such information gathering [32]. HIPAA does not prohibit gathering information and it permits communication with collateral informants despite patient objection when done to facilitate the treatment of a patient deemed to be a danger to self or others. Negotiation with the patient, minimal disclosure

of protected health information, and consideration of the risks and benefits of this action should be taken seriously but so should obtaining critical missing information from collaterals, particularly other health care providers [32]. Such lapses are particularly damaging in hindsight relative to putative HIPAA violations.

Stratification of Suicide Risk

Suicide risk can be stratified in terms of both severity—low, moderate, or high—and temporality—acute or chronic [33]. In emergency settings, the most important assessment is the level of "acute" or "imminent" risk because it informs the provider of the risk of injury or death due to suicidal behaviors in the near term (see Table 1 for a determination of acute risk [29, 34]). Differentiating acute risk from long-term or chronic risk allows ED providers to better determine final disposition in a setting in which the treatment of acute issues takes precedence [33]. Figure 1 presents a work flow that displays recommended disposition actions for low, moderate, and high acute risk.

If an individual is deemed to be at low acute risk, there are usually no significant changes to treatment or discharge plans and the patient can be considered for discharge without the need for further mental health evaluation. Documentation



Table 1 Risk factors, warning signs, and treatment recommendations associated with levels of acute suicide risk

Level of risk	Low risk	Moderate risk	High risk
Risk factors and warning signs	No current suicidal ideation or ideation without plan or intent No preparatory behaviors No or mild sadness or depression Absence of psychotic symptoms Hopeful about the future No or limited anger No recent attempt or history of 1 attempt with low lethality or intentionality No or limited use of substances Good social support, accepting of help	 Presence of suicidal ideation, plan, or intent Moderate depression, hopelessness, anger, or hostility Frequent suicidal ideation and/or threats Substance abuse or dependence Few to moderate relationships or social supports Unwilling or unable to seek help 	Frequent, intense, and enduring suicidal ideation Engagement in recent preparatory behaviors Recent suicide attempt Specific plan for suicide Subjective or objective markers of intent (e.g., means, recent attempt with high lethality) Access to lethal means Evidence of impaired self-control, severe dysphoria, preoccupation with hopelessness or worthlessness Many risk factors and no or little protective factors Refusing help
Treatment recommendation	Follow-up with outpatient mental health provider	Consult mental health specialist; may discharge to community after appropriate ED-based interventions	Inpatient psychiatric hospitalization

should include relevant mental health diagnoses (e.g., depression), as well as recommendations regarding appropriate outpatient treatment (e.g., referral to primary care provider or outpatient mental health provider for treatment of depression).

An individual with moderate acute risk (e.g., presenting with combination of multiple risk factors and some warning signs) should be held in a safe area within the ED under observation until assessment by a mental health specialist [11••]. Many individuals will accumulate chronic risk factors over time and may be vulnerable to suicidal behavior under some circumstances over many years. However, in the absence of precipitants, drivers, and warning signs, their acute risk may be such that it is not necessarily a focus of emergency care even though it could be deemed moderate. For these individuals, discharge to the community may be done safely, but requires a safety plan [35] which is a list of realistic strategies that the patient can use before or during a crisis to manage their risk. Post-discharge, outreach has been found to be an effective means for bridging the transition to outpatient treatment, and for facilitating greater adherence with discharge plans. For example, telephone outreach in the ED-SAFE trial reduced suicides and suicide attempts by 27% relative to usual care [36].

When an individual presents in crisis, appears to be at high acute risk, and safety in the community cannot be achieved, holding for observation is indicated [11••]. Those with higher risk might require inpatient psychiatric treatment, and those with significant, active medical issues may require inpatient medical stabilization prior to psychiatric care [11••]. If necessary, transfer to a safe and stable recovery environment should be completed as soon as is practicable. It is imperative that the

high-risk individual is housed within the ED in a safe space, monitored appropriately, and escorted by trained staff in order to ensure safety prior to a "hand off" to psychiatry/mental health services. In the case that already established mental health care providers have been identified, consultation and correspondence regarding continuity of care should be completed. State laws concerning involuntary hospitalization ("emergency commitment") vary [37], so it is recommended that providers are aware of relevant policies in their geographic area of practice.

ED-Based Interventions for Suicide Prevention

Brief interventions in the ED [10], including education, rapid referral, safety planning, and lethal means counseling, are important for patients being discharged home, though they may also benefit patients being admitted to psychiatric or medical facilities. These interventions are more effective when bundled [10, 38]. Regardless of the anticipated disposition, all patients should receive patient-centered, empathic care [11••] and attention to safety (e.g., removal of potentially harmful objects from exam rooms and/or constant supervision) when indicated [39–41]. When physical or chemical restraints are indicated by the clinical scenario—ideally after other methods of de-escalation have failed—staff should follow Joint Commission, hospital, and other relevant policies [42]. Typically, these policies include the use of timed and dated flow sheets.

Education to the patient and their loved ones (when possible) about the patient's condition, treatment options, and



follow-up recommendations may encourage engagement in treatment for suicide risk or related concerns and instill hope related to the effectiveness of treatment. This is crucial as ED patients commonly do not engage in follow-up mental health care [10]. Patients being discharged should be provided with referral options and hotlines, including the National Suicide Prevention Hotline (1-800-273-TALK [8255], a free telephone and online chat resource) and Veteran-specific resources when appropriate [10, 11••].

Ideally, ED providers would make a follow-up appointment for the patient, but this is often not feasible [43]. Rapid referral, or ensuring follow-up within 7 days of the ED visit, may be facilitated if an ED compiles a list of outpatient resources in their area and works to create pre-existing agreements with outpatient providers for such referrals [10]. "Caring contacts" are telephone calls, text messages, postcards, or other contacts that occur in the days to month after a patient has been discharged that are coordinated by the ED or another central resource (e.g., suicide hotline); early results suggest they may reduce suicide risk [44].

Safety planning entails collaboratively creating a list of the patient's coping strategies and resources to use preceding or during a crisis [10, 35, 45]. A safety plan is most effective when the items on the plan are specific and personally meaningful. Importantly, "safety planning" is different from "contracting for safety," which has no empirical evidence of effectiveness and is not recommended. A safety plan can be completed on paper or with mobile applications (e.g., MY3, MYPLAN [46]), and templated guides exist [35].

Counseling for patients and loved ones about how to reduce access to lethal means is an equally important component of care for suicidal patients, especially for those being discharged home. The rationale for such counseling is that suicide attempt fatality rates depend on the method chosen [47] because attempts often occur in a short-lived crisis [48]. Such counseling may be acceptable to patients [49], especially when done in a patient-centered and non-judgmental fashion [50], and there are no laws prohibiting physician questioning or education about firearms in the context of suicide risk [51].

Implementation of Best Practices

Several best practice guidelines for suicide prevention exist, and the resources most relevant to ED settings include the SPRC's Caring for Adults Patients with Suicide Risk: A Consensus Suicide for Emergency Departments [10], the Joint Commission's Standards BoosterPak for Suicide Risk (National Patient Safety Goal 15.01.01) [52], and the VA/DoD Clinical Practice Guideline for Assessment and Management of Patients at Risk for Suicide [53]. Since the presence of clinical practice guidelines in isolation has been shown to have limited impact on physician behavior [54],

successful uptake of these practice guidelines will depend on rigorous implementation or quality improvement efforts, such as audit and feedback interventions or Plan-Do-Check-Act cycles [55]. Healthcare payment and delivery models are also increasingly emphasizing the provision of evidence-based care, and as such, identifying the factors that influence providers' clinical decision making at the point of care [56] may enhance guideline-concordant and evidence-based care for patients at risk of suicide in EDs.

A small body of work is beginning to specifically identify the patient, provider, practice site, and healthcare system factors that are barriers and facilitators to ED suicide risk assessment and management. In a recent qualitative examination of ED providers' perspectives regarding suicide risk assessment, elements of the practice environment (e.g., limited time and privacy, tendency to collaborate and consult with other health care professionals), providers' communication style, and patient engagement in assessment were found to be important implementation considerations [57]. Previous work has additionally found that ED providers may experience frustration and a desire to focus on patients' medical concerns rather than on psychosocial needs when working with patients who present with suicide-related concerns [58, 59] and may be skeptical about the ability to prevent suicide deaths [9]. Continuing to identify the factors that can be modified to enhance ED providers' ability to deliver evidence-based care for suicide risk is needed and will be the key in designing effective policies and procedures for ED suicide prevention efforts.

Future Directions

One of the central problems of suicide risk assessment has been the fact that suicidal individuals do not necessarily identify themselves for various reasons while those that do are not necessarily at the highest risk. This problem of ascertainment of risk is reflected in the conundrum that an individual's worst suicidal ideation in the past is a better predictor of suicide than their current ideation [60]. It is possible that big data might provide a means of "flagging" individuals at risk based on the presence and timing of elements in their medical record. Of course, this presumes a pre-existing record exists and will be less sensitive early in a patient's trajectory.

EDs struggle with patient volumes and fear the prospect of "boarding" patients at risk for suicide as they wait for psychiatric assessment and placement. Better assessment and safety planning would likely have the opposite effect as many more suicidal individuals may be assigned to a lower risk category which can facilitate their disposition to the community rather than reflexively attempting to admit them to scarce psychiatric beds

Once individuals at risk of suicide are identified, fragmentation of care remains a serious problem. Despite an



appreciation of suicide risk and some effort to treat it, many suicides occur in the transition from hospital to clinic. While this is partly a reflection of the natural history of suicidal crises, it is also partly attributable to gaps in care and failures of communication. This is a major focus of the "Zero Suicide" movement. Zero Suicide is a set of practices that begins with leadership commitment and training and entails adoption of strategies to identify, engage, and treat suicidal individuals while following them carefully through transitions and finally using data to improve these processes [61, 62•].

One possibility for an ED to reduce fragmentation of care is to develop a relationship with their local suicide prevention hotline. The National Suicide Prevention Lifeline has provided toolkits to assist local Lifeline centers in developing procedures for "warm hand off" of suicidal individuals to Lifeline centers who then provide ongoing assessment and monitoring of individuals until their crisis has passed or care is established in the community. This strategy is based on several studies which show reduced suicidal behavior with low intensity contacts such as caring letters and telephone outreach. For example, over 1000 cases have been followed in this way from seven EDs in Colorado [63]. Since these centers are open 24/7 and are familiar with local treatment resources, they can provide a reassuring bridge to outpatient services.

Conclusions

Emergency department screening and intervention for suicide risk has the potential to prevent many suicide deaths [4, 7•]. The landscape of suicide prevention in EDs has significantly changed in recent years and calls for improved identification and management of suicide risk in all health care settings [5, 62•] will undoubtedly increase the momentum. Universal screening approaches, secondary screening tools, and evidence-based workflows for the management of suicide risk show potential for feasibly managing suicide risk in EDs [10]. Ensuring effective implementation of and fidelity to evidence-based practices will be crucial as integrating these new practices requires significant change in the clinical practice and culture of many EDs [62•].

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Compliance with Ethical Standards

Conflict of Interest The authors declare that they have no conflict of interest.



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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