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## CALL TO ACTION

# Suicide Prevention And Intervention in the Emergency Department (ED)

Released Spring 2019

## Suicide Prevention and Intervention in the ED

Released March 2019 | Next update Fall 2019

MN Health Collaborative partners have developed and adopted shared standards for suicide prevention and intervention in Emergency Departments (EDs) to improve care for people experiencing mental health crisis and support the people who serve them in EDs. The recommendations provide evidence-based guidance on:

- Screening
- Assessment and Intervention
- Transitions and Follow-up

MN Health Collaborative recommendations provide guidance to health systems that is evidence-based, adaptable to local context, and align with CMS and new 2019 Joint Commission requirements related to National Patient Safety goals.

*In Minnesota, the suicide rate has increased by 40.6% since 1999, with 783 deaths by suicide reported in 2017. (CDC)*

*54% of people who died by suicide in 2016 did not have a known mental health condition. (CDC)*

*Suicide is the second leading cause of death for people ages 10-34 years old in the United States and 8<sup>th</sup> for all age groups in Minnesota. (CDC)*

Improving interventions to support people experiencing suicidal thoughts in emergency departments is a critical need. In Minnesota, the suicide rate has increased by 40.6%, with 783 deaths by suicide reported in 2017.<sup>1</sup> Nationally, nearly 45,000 lives were lost to suicide in 2016, and more than half of people who died by suicide did not have a known mental health condition.<sup>2</sup>

The Emergency Department (ED) is a critical setting in which to identify people at risk and provide support: Approximately 8% of all adults visiting an ED report suicidal ideation, including those with a non-psychiatric reason for their visit.<sup>3</sup> Further, 40% of patients who died by suicide were seen in an ED within 12 months of their death.<sup>4,5</sup>

The period following ED discharge is a time of high risk for patients seen initially for suicidal thoughts and/or behaviors. Within one year following their ED visit, the risk of suicide for at-risk patients can be 66 times higher than that of the general population,<sup>6</sup> yet follow-up is often lacking. A large population study in 2018 found that approximately 70% of at-risk patients did not have an outpatient visit within 30 days of ED discharge.<sup>7</sup>

In order to better support patients and emergency departments to meet these needs, physicians and other leaders from both emergency departments and psychiatry within the MN Health Collaborative have developed – and are adopting – evidence-based recommendations for suicide prevention and intervention in EDs.

MN Health Collaborative partnering organizations are particularly focused on ensuring the use of evidence-based tools and practices, including conducting screening, a comprehensive assessment and intervention, and supporting people through transitions and follow-up. These recommendations for suicide prevention and intervention in EDs are based on current evidence (see Appendix A for Evidence Summary) as well as expert consensus from the working group.

This first edition is disseminated to support organizations' initial implementation efforts. The recommendations will be updated in Fall 2019 to incorporate further input gained from additional stakeholders and incorporating implementation learnings from the MN Health Collaborative partners.

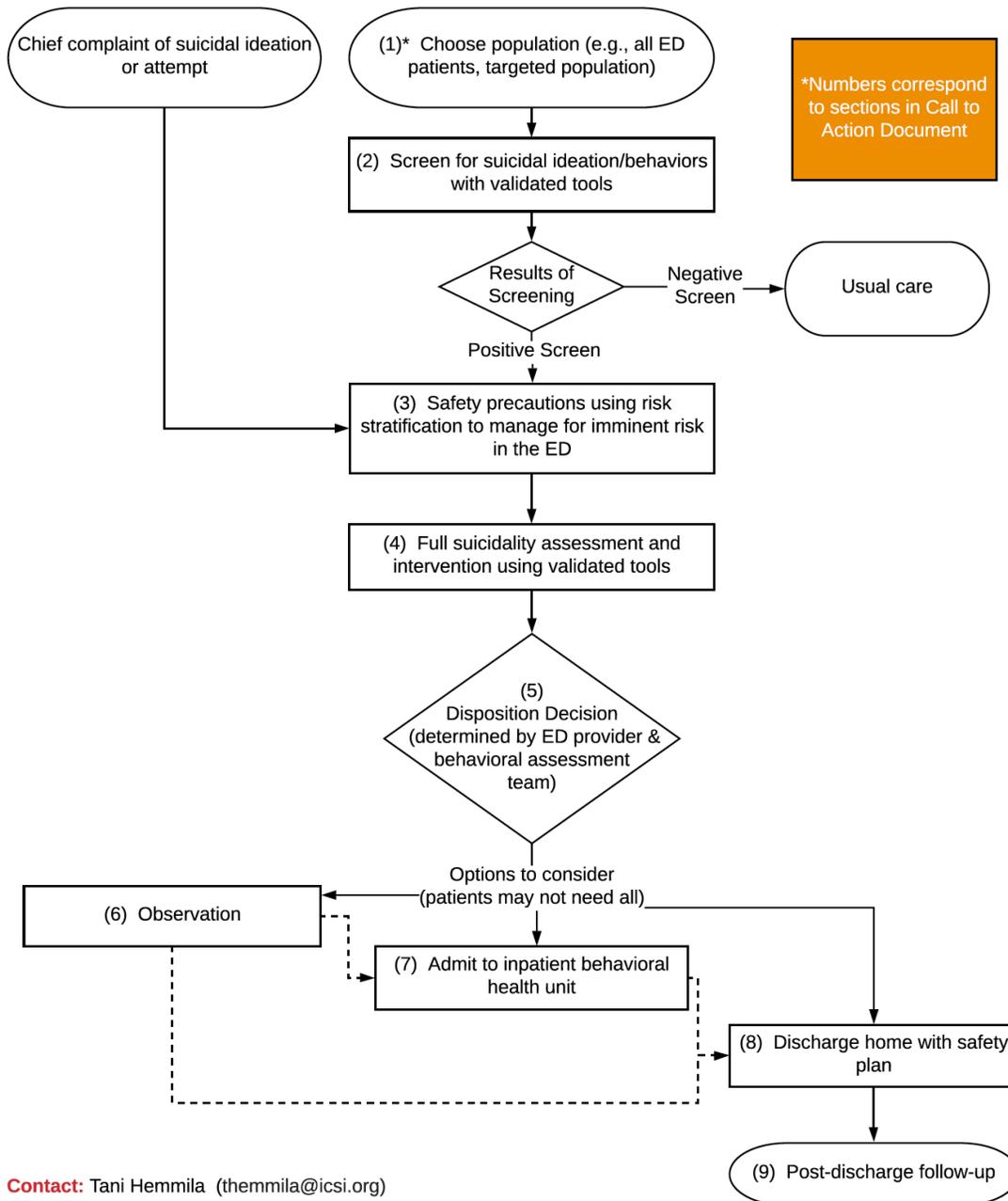
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*Recommendations for Suicide Prevention and Intervention in the ED are part of a larger goal of the MN Health Collaborative: **To develop and implement shared standards for patients with mental health needs in the ED.** As part of this goal MN Health Collaborative partners have also developed and adopted shared standards for [Medical Clearance Evaluation](#) prior to a person's transition to inpatient psychiatric facilities. Further recommendations are in development.*

**Appendix A: Evidence Summary**

**Appendix B: Overview of Tools and Protocols**

## Suicide Prevention Workflow in the Emergency Department



*\*This workflow is designed to serve as a template – modifications may be needed depending on organizational resources.*

## Recommendations

### Suicide Prevention and Intervention in the ED

See Appendix A for a full evidence summary and appendix B for an overview of tools.

#### 1. Choose Population

**Recommendation:** Determine patient populations for which to conduct screening for suicide risk, using one of two approaches:

- a) Conduct targeted screening for specific patient populations where risk is higher. This includes people presenting with an acute mental health need or who have a mental health disorder diagnosis. Organizations may choose to prioritize additional patient populations.
- b) Universal screening (all patients who present in the ED). While evidence shows universal screening in the ED identifies more patients at risk of suicide and is feasible, more evidence is needed on its relationship to suicidal outcomes (suicidal thoughts and/or behaviors).

#### **Implementation Considerations:**

What approach is appropriate considering your patient population? What fits considering your organizational resources? Recognize there is risk with both approaches:

- **Universal screening** involves the use of more resources (both to screen and manage). With universal screening there will be more false positive screens that lead to utilization of follow-up resources.
- **With targeted screening**, there is a risk of not identifying suicidal patients, particularly those who do not present with suicidal ideation or attempt. People who are feeling suicidal are known to go to the ED in the weeks before a suicide, presenting to the ED for physical concerns without disclosing their suicidal thoughts and intent.

#### 2. Screen

**Recommendation:** Use a validated, evidence-based tool to screen for suicide risk. While the field continues to evolve with the development of new tools, the MN Health Collaborative currently recommends the following tools:

- [Columbia-Suicide Severity Rating Scale \(C-SSRS\)](#) screener for children (5 years and older), adolescent and adult patients.
- For patients ages 10 to 24, an alternate screen is [Ask Suicide-Screening Questions \(ASQ\)](#). The ASQ addresses feelings of being a “burden” which can be especially relevant to pediatric populations.

**Implementation Considerations:**

- Determine who should do the screening. We recommend screening be done at triage or as early in the process as possible.
- Consider having patients self-report by filling out a questionnaire. This may elicit more honest responses.
- Asking screening questions is a relatively quick process and triage staff may not have time to listen to the whole story. Screening staff need to be trained to ask questions compassionately and then transition to the provider with a warm hand-off.
- Staff need to be trained on next steps once the information is collected, including how to compassionately transition the patient to additional care.

### 3. Conduct Risk Stratification

**Recommendation:** Conduct risk stratification based on screening results to determine ED rooming and resource needs. Use the least restrictive interventions and setting for any given risk level. Risk stratification may assist decision-making on safety precautions such as rooming, clothing, sitter needs, and video/audio monitoring.

**Implementation Considerations:**

- Each organization should determine the procedures to follow for each level of risk.
- Not every patient needs high risk precautions, and in fact these can sometimes be counterproductive.
- Both the CSSRS and the ASQ provide risk stratification guidance based on the answers to the screen.

### 4. Assessment & Intervention

**Recommendation:** If screen indicates risk of suicide, a comprehensive assessment and intervention is needed. Use an evidence-based tool or protocol to aid in the clinical assessment of patients with suicidal thoughts and/or behaviors and provide evidence-based interventions.

**If time and resources are a challenge,** we recommend one or more of the following validated tools to assist with clinical assessment and intervention:

- [Suicide Assessment Five-step Evaluation and Triage \(SAFE-T\) Interview](#) (which includes Safety Planning Intervention, below)
- [Safety Planning Intervention](#)
- [Columbia-Suicide Severity Rating Scale \(C-SSRS\) Risk Assessment](#) in conjunction with Safety Planning Intervention (above)
- Additional tools/protocols to supplement the above may include training in [Counseling Access to Lethal Means \(CALM\)](#) and [Coping Long Term and Active Suicide Program \(CLASP-ED\) protocol](#)

**For a more comprehensive assessment and intervention, we recommend staff training in evidence-based protocols such as:**

- [Linehan Risk Assessment and Management Protocol \(LRAMP\)](#)
- [Collaborative Assessment and Management of Suicide \(CAMS\)](#)
- [Family Intervention for Suicide Prevention \(FISP\)](#)

#### **Conduct follow-up contacts**

- Conduct follow-up contact for those patients discharged to home or community as part of the intervention. (See *post-discharge, below*)

#### **Implementation Considerations:**

- Consider obtaining concurrent assessments: Assessments for substance misuse, increased agitation and risk of harm to others are clinically important to understand as part of a suicide assessment.
- Choose tools and create protocols based on your population, organizational make-up and resources and which resources are in your community for referral.
- For health systems with limited or no behavioral health services, consider using county crisis services or telemedicine.

*The purpose of an assessment is not only to understand potential risk or imminent risk of suicide to keep patients safe at the moment, rather, it is key in intervening and actually managing and reducing the risk of suicide.*

*An assessment gains further insight into the patient's thoughts and behaviors, including **risk factors** (e.g., access to lethal means, a history of suicide attempts, substance abuse, mood disorder.), **protective factors** (e.g. effective mental health care, counseling on lethal means, safety planning, immediate family support, caregiver contact when combined with an intervention), and **medical and mental health history**.*

## **5. Decision for Disposition**

**Recommendation:** Disposition is to be determined by the ED team in conjunction with whomever completes the full suicide assessment and intervention. Disposition decisions should be a collaborative team effort which includes the patient and their loved ones.

The most common disposition options include:

- Observation
- Admission to inpatient behavioral health unit
- Discharge home

## **6. Observation**

**Recommendation:** Clinical reassessment and compassionate stabilization should continue throughout observation. [Collaborative Assessment and Management of Suicidality \(CAMS\)](#) is one tool to consider. Reassessment with the C-SSRS is not indicated during ongoing observation and care.

**Implementation Considerations:**

- If there is access to behavioral health services, behavioral health specialists should continue to provide assessment and intervention during observation period.
- If there is limited or no access to behavioral health services, consider connecting with local county crisis teams, community organizations and chaplains to find additional support for patients with prolonged ED stays.
- Leverage technology to provide ongoing crisis support during time in observation.

## 7. Admit to Inpatient Behavioral Health Unit

**Recommendation:** Once decision is made to transfer patient to inpatient unit, stabilization should continue until transfer is complete. Labs should only be obtained that are medically necessary.

**Implementation Considerations:**

- Communicate with inpatient team to determine potential interventions in the ED while patient waits for placement.
- If there is access to behavioral health services, behavioral health specialists should continue to stabilize patients while in ED.
- If there is limited or no access to behavioral health services, consider connecting with local county crisis teams, National Alliance on Mental Illness (NAMI) and/or chaplains to find additional support for patients with prolonged ED stays.
- Leverage technology to provide ongoing crisis support, including cell phone apps, computer-based psychoeducation and computer assisted interventions
- Do not conduct routine lab orders for patients with suicidal ideation/attempt. Labs should only be obtained as indicated medically necessary by history and physical. (See [MN Health Collaborative Recommendations for Medical Clearance Evaluation](#))

## 8. Discharge to Home with Safety Plan

**Recommendation:** For patients who are discharged from the ED:

- Conduct safety planning using a validated tool such as the safety planning intervention (if not already completed). Reconsider disposition plan to discharge if patient cannot credibly commit to a safety plan.
- Coordinate a follow-up appointment with either primary care or outpatient behavioral health whenever possible.
- Provide a sheet for the patient and family with emergency crisis hotline numbers to contact if the patient is feeling suicidal. **This alone is not sufficient; ensure safety planning and coordination of follow-up.**

**Implementation Considerations:**

- Consider a standard template for discharge to ensure integrity of the process
- Expedite the follow-up appointment, particularly for higher risk patients

## 9. Post Discharge Follow-up

**Recommendations:** Follow-up is indicated as the time following an ED visit is a time of high risk. Follow-up may be conducted in multiple ways:

**Bridging (immediate) Follow-up:** Try to follow up with patient within 24 hours to provide a supportive bridge to their outpatient appointment.

**Continued Follow-up:** Follow-up phone calls to further review and enhance Safety Planning intervention have been shown to be beneficial for suicide prevention.

**Non-Demand Follow-Up (Caring Contact):** Mail a letter or postcard or follow up with a phone call to express concern and care for the patient's well-being and a desire to stay in touch without setting any expectations for patients to provide anything in return.

- The evidence from randomized controlled trials shows significant preventive effect of letters and postcards regarding suicidal behaviors. For at risk patients who refuse ongoing care within the health care system and only receive letters or postcards, the preventive effect is significant for at least two years; whereas for at risk patients who receive letters or postcards in addition to ongoing care, the effect can last up to five years. In the studies, the first contact was generally made a month after discharge. The contacts were then continued monthly for the first four to eight months and then every two to three months depending on the study.

**Implementation Considerations:**

- Consider what staff is needed to do post-discharge follow-up
- Develop organizational process for this follow-up
- Build communications pathways with other community partners to ensure wrap-around support for patients across the continuum of care

*See Appendix A for a full evidence summary and appendix B for an overview of tools.*



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## References

1. Centers for Disease Control and Prevention, National Center for Health Statistics. Underlying Cause of Death on CDC WONDER Online Database: 1997-2017, released 2018.
2. Minnesota Department of Health. Suicide, Alcohol and Opioid Deaths in Minnesota. Alcohol and Other Drugs Quick Facts. <https://www.health.state.mn.us/communities/alcohol/data/suicideopioidalcohol.html>
3. Centers for Disease Control and Prevention. Ten Leading Causes of Death and Injury. Data and Statistics (WISQARS Fatal and Nonfatal Injury). 2016. <https://www.cdc.gov/injury/wisqars/leadingcauses.html>
4. Ilgen MA, Walton MA, Cunningham RM, et al. Recent suicidal ideation among patients in an inner city emergency department. *Suicide Life Threat Behav.* 2009;39:508-517.
5. Gairin I, House A, Owens D. Attendance at the accident and emergency department in the year before suicide: retrospective study. *Br J Psychiatry.* 2003 Jul;183:28-33.
6. Da Cruz D, Pearson A, Saini P, et al. Emergency department contact prior to suicide in mental health patients. *Emerg Med J.* 2011;28: 467-471. 12.
7. Hawton K, Witt KG, Salisbury TLT, et al. Psychosocial interventions following self-harm in adults: a systematic review and meta-analysis. *Lancet Psychiatry.* 2016;3:740–50
8. Hunter J, Maunder R, Kurdyak P, et al. Mental health follow-up after deliberate self-harm and risk for repeat self-harm and death. *Psychiatry Res* 2018;259:333–9.

## Appendix A: Evidence Summary

### Suicide Prevention and Intervention in the ED

#### Screening Population

<b>Suicide Prevention Screening Consensus Recommendation</b>
Your organization should determine for which populations you will conduct suicidality screening. The screening may be: 1) Targeted to specific patient populations where risk is higher (e.g., mental health disorder diagnosis, acute mental health need), or 2) Universal (all patients who present in the Emergency Department (ED)).
<p><b>Benefit:</b> Screening in the ED may identify patients at risk of suicide, particularly those who do not specifically present with suicidal ideation or attempt.</p> <p><b>Harm:</b> With screening there will be false positives that lead to utilization of follow-up resources.</p> <p><b>Benefit-Harm Assessment:</b> Suicide statistics show many people with suicidal thoughts seek care in the emergency department, thus EDs could play a key role in managing suicide risk in those patients. Determine how your organization will conduct the screening based on the available resources.</p>
<p>Relevant Resources: Roaten, 2018 (observational study); Stuck, 2017 (observational study); Boudreaux, 2016 (observational study); King, 2009 (observational study); Pena, 2006 (systematic review)</p>

#### Summary

Low quality evidence shows that universal screening for suicide risk identifies more patients at risk of suicide and is feasible to conduct in the ED for both adults and adolescents.

There is insufficient or inconclusive evidence that universal screening for suicide risk in the ED effects suicidal outcomes such as ideation and/or behaviors.

#### Review of Universal Screening

##### Universal Screening: Suicide Risk Identification and Feasibility

The ED-SAFE study involved 1376 adult patients across 8 EDs in the United States. The rate of screenings increased from 26% in Phase 1 of the study, which included only those patients with behavioral health needs, to 84% in Phase 3 of the study, which included all patients presenting in the ED. Detection of suicide risk increased from 2.9% in Phase 1 to 5.7% in Phase 3 which was further confirmed during patient interviews (Boudreaux, 2016). In the same study, a survey of 1289 providers found increasing proportions of providers who felt universal screening would result in more psychiatric consultations, while decreasing proportions believed it would slow down clinical care as long as adequate resources are provided (Betz, 2015).

A 2018 study of the development and implementation of a universal suicide risk screening program in 328,064 adult encounters in a large safety net health care system found that 6.3% of the screens were positive in the ED, 1.6% in the inpatient units and 2.1% in the outpatient clinics. Thus, the odds of a positive suicide screening in the ED was 4.29 times higher than the inpatient units and 3.13 times higher than the outpatient clinics. The study also suggested that universal screening was not burdensome to the system and could be managed effectively as long as the clinical resources are allocated appropriately (Roaten, 2018).

A 2009 observational study of 298 adolescents seeking pediatric or psychiatric emergency services found that the suicide risk screening demonstrated utility in identifying 1) adolescents at elevated risk for suicide who presented to the ED with unrelated medical concerns and 2) a subgroup of adolescents who may be at highly elevated risk for suicide due to the combination of depression, alcohol abuse, suicidality, and impulsivity (King, 2009). An observational study of 266 adolescents and their parents visiting the ED for non-psychiatric concerns found suicide screening of non-psychiatric patients in the ED is feasible in terms of acceptability to parents, prevalence of suicidal thoughts and behaviors, practicality to ED flow, and patient opinion (Horowitz, 2010).

#### Universal Screening: Suicidal Outcomes

A 2006 systematic review of 2 randomized trials of suicide screening for adolescents had mixed findings on suicide outcomes. One trial had fewer suicide attempts in the group that received screening than in the control group; the other trial reported no difference between the groups (Pena, 2006).

A retrospective observational study of 95 patients who were last seen in the ED within 12 months of death by suicide found increased suicide screening rates after the implementation of the universal suicide risk screening protocol, but not significantly reduced risk of suicide within one year of the encounter (Stuck, 2017).

#### Additional Considerations

U.S. Preventive Services Task Force (USPSTF) does not have recommendations regarding suicide risk screening in the ED; however, a 2013 systematic review found insufficient evidence to determine the benefits of screening in primary care populations. They did not, however, identify any serious harms from screening (O'Connor, 2013).

## Screening Tools

Suicide Prevention Screening Tools Recommendation	Quality of Evidence
Use a validated, evidence-based tool to screen for suicide risk.	Quality of Evidence: Low Strength of Recommendation: Strong
<p><b>Benefit:</b></p> <ul style="list-style-type: none"> <li>Standardized screening tools help identify patients at suicide risk.</li> </ul> <p><b>Harm:</b></p> <ul style="list-style-type: none"> <li>Psychometric properties of the screening tools from validation studies are important. Tools with poor properties may falsely identify patients who are at risk for suicide, or, conversely, may score negative on patients who truly are suicidal.</li> </ul> <p><b>Benefit-Harm Assessment:</b> Screening tools with good psychometric properties help identify patients at suicide risk; however, the clinicians should not solely rely on these screens to determine the level of suicidal risk. Full clinical and standardized assessment of suicidal risk and protective factors is necessary for patients with clinician concern about suicide risk or who screen positive.</p>	
<p><b>Relevant Resources:</b> The Columbia Lighthouse Project, 2017 (evidence summary); Newton, 2017 (systematic review)</p>	

A body of evidence supports the psychometric properties of C-SSRS question domains on suicidal ideation and behaviors used to screen for suicide risk (The Columbia Lighthouse Project, 2017).

A 2017 systematic review of six studies of instruments to identify suicide risk in pediatric population presenting in pediatric ED for psychiatric or non-psychiatric concerns found that the Ask Suicide-Screening Questions (ASQ) is highly sensitive (98%) and has strong evidence for ruling out suicide risk (Newton, 2017). ASQ is a brief four-item self-report screen validated for use in pediatric ED for patients with psychiatric and non-psychiatric concerns that screens for current thoughts of being better off dead, current wish to die, current suicidal ideation, and past suicide attempts (Horowitz, 2012).

## Assessment and Intervention

<b>Suicide Prevention Assessment and Intervention Recommendation</b>	<b>Quality of Evidence and Strength of Recommendation</b>
If screen indicates risk of suicide, a comprehensive assessment and intervention is recommended. Use an evidence-based tool or protocol to aid in the clinical assessment of patients with suicidal thoughts and/or behaviors and provide evidence-based interventions.	Quality of Evidence: Moderate-High Strength of Recommendation: Strong
<p><b>Benefit:</b></p> <ul style="list-style-type: none"> <li>• Appropriate assessment in the ED can prevent unnecessary admissions and reduce ED wait times. Not all reports of suicidal ideation warrant admission to an inpatient psychiatric unit and proper assessment can better identify those who can be discharged from the ED.</li> <li>• Suicidality assessment is needed to understand suicidal risk and protective factors in suicidal patients.</li> <li>• Effective interventions help manage or reduce patient’s risk of suicide.</li> </ul> <p><b>Harm:</b></p> <ul style="list-style-type: none"> <li>• Additional resources may be needed for comprehensive assessment and interventions.</li> </ul> <p><b>Benefit-Harm Assessment:</b> Given the large evidence base that suicide risk assessments and interventions in the ED reduce the risk of suicide in suicidal patients who present in the ED, the potential lives saved and potential cost-savings outweigh the harm of increased resources that may be needed.</p>	
<p><b>Relevant Resources:</b> McCabe, 2018 (systematic review); Stanley, 2018 (randomized controlled trial); Borges, 2017 (meta-analysis); Miller, 2017 (sequential design study); Zalsman, 2016 (systematic review); Darvishi, 2015 (meta-analysis); Wilcox, 2004 (review); Harris, 1997 (systematic review).</p>	

### Summary

- The following risk factors (moderate-high quality of evidence) contribute significantly to suicide risk: prior suicide attempts, substance abuse, mood disorders, and access to lethal means.
- The following protective factors (moderate-high quality of evidence) that significantly reduce suicide risk: effective mental health care that draws upon psychological theories and techniques including safety planning intervention, restricting access on lethal means, available family support, follow-up contact as part of an intervention.
- Interventions that incorporate the risk and protective factors assessment information have been shown to be effective in reducing suicide risk. Some of the interventions were studied specifically in the ED settings or with patients after attending the ED, while

others were studied across different health care settings. Interventions with evidence of effectiveness specific to the ED are:

1. Brief interventions (during or after ED visit) that combine early therapeutic management based on psychological theory and techniques, information provision, and safety planning intervention,
2. Follow up contact post-ED discharge, and
3. Family-based interventions (found to be effective in suicidal adolescents).

## Risk Factors

### Prior Suicide Attempts, Mood disorders and Substance abuse

A 2015 meta-analysis of 31 studies found a significant association between alcohol use disorder and suicidal ideation, suicide attempt and completed suicide (Darvishi, 2015). A systematic review of 249 studies found that patients with mood disorders, attempted suicide and those who had abused alcohol were at an increased risk of dying by suicide (Harris, 1997). A follow-up review that included 42 additional studies specific to association of alcohol use disorder and drug use disorder to suicide mortality found a statistically significant direct effect of alcohol use disorder, opioid use disorder, intravenous drug use, mixed drug use and heavy drinking on suicide mortality (Wilcox, 2004). A meta-analysis of seven studies found that acute use of alcohol (without alcohol use disorder) was associated with an increased likelihood of a suicide attempt and is dose dependent (blood alcohol level  $>0.00$  risk averages three to six times higher for an attempt and blood alcohol level  $\geq 0.08$  increases the risk of suicide attempt by 38 times) (Borges, 2017).

### Access to Lethal Means

A systematic review of 30 studies found that availability of firearms in households increased the risk of suicides and there is a large evidence base that restricting access to lethal means would mitigate the suicide risk (Zalsman, 2016). In addition to firearms, this review found emerging evidence that changing packaging of analgesics, and restricting access to hot-spots for “suicide by jumping” also helped mitigate the risk (Zalsman, 2016).

### Violent Behavior

There is some low-quality evidence from case control studies showing that violent behavior in the past year increases the risk of completed suicide in all people, with or without acute alcohol use or alcohol use disorder (Ilgen, 2010; Conner, 2001). More high-quality studies are needed to better understand this risk factor.

## ED Interventions

A 2018 systematic review of four controlled studies with a total of 3412 patients in the ED found high-quality evidence that brief psychological interventions that combine early therapeutic engagement, information provision, safety planning intervention and follow-up contact for at least 12 months reduced incidence of suicide and suicide attempts (McCabe, 2018).

The effectiveness of safety planning intervention (brief clinical intervention that combines evidence-based strategies to reduce suicidal behavior through a prioritized list of coping skills and strategies in the ED) plus a follow-up telephone call post-discharge home was further confirmed by findings from a 2018 cohort study of 1640 veterans who visited the VA ED for a suicide-related concern. In that study, patients were provided with safety planning intervention in the ED. For post-discharge home follow-up (over six months after their ED visit), they were contacted at least twice to monitor suicide risk, review and revise their safety plan, and support treatment engagement. This study found that the patients who received safety planning intervention plus follow up had a reduction in suicidal behavior and increased treatment engagement following ED discharge compared to those who received usual care (Stanley, 2018).

The ED-SAFE study of adult 1376 patients in the ED who had a suicide attempt or ideation within the week prior to the ED visit found that those who received intervention based on CLASP-ED protocol (see Resources for description) compared to those patients who received treatment as usual had small but meaningful reductions in suicide risk with a relative reduction of 20% and number-needed-to-treat (NNT) 22. Participants in the intervention phase had 30% fewer suicide attempts than participants in the treatment as usual or screening alone phase (Miller 2017). This study had limitations in that it was a sequential design and not a randomized controlled trial. Additionally, patients in treatment as usual group also received some intervention due to ethical concerns of not providing information to patients in that group (Miller, 2017).

In adolescent populations, interventions involving family are efficacious in managing suicidal risk. A 2016 systematic review found that family-based interventions reduced suicidal ideation and suicide risk factors and enhanced protective factors compared with routine care in suicidal adolescents (Zalsman, 2016). A brief family-based crisis intervention with suicidal adolescents in the ED showed reduced psychiatric hospitalization and suicide attempts at 3 month follow-up (Zalsman, 2016).

### Post-Discharge Follow-up

The evidence from randomized controlled trials shows a significant preventive effect of letters and postcards on suicidal behaviors. These are sent to at-risk patients post-discharge to express concern, care, and a desire to stay in touch without setting any expectations for patients to provide anything in return. For at-risk patients who refuse ongoing care within the health care system and only receive letters or postcards, the preventive effect is significant for at least two years; whereas, for at-risk patients who receive letters or postcards in addition to ongoing care, the effect can last up to five years.

A 2013 randomized controlled trial of 772 patients aged 16 years and over who were treated in the hospital for self-poisoning found that those patients who received standard treatment and were sent eight postcards in the 12 months post-discharge had significantly reduced self-poisoning event rates and reduced psychiatric admissions event rates after five years compared to the control group that received standard treatment only (Carter, 2013).

A 2001 randomized controlled trial of 843 patients who were hospitalized for a depressive or suicidal state and refused ongoing care post-discharge found that patients who were contacted by letter eight times in the first year post-discharge and then four times every year over the next four years (for a total of 24 letters over five years) had significantly lower suicide rates for the first two years and lower suicide rate in all five years of the study compared to patients in the control group that received no contact (Motto, 2001).

### **Additional Interventions**

#### Psychotherapies

A mix of studies (systematic reviews, meta-analyses, randomized trials and quasi-experimental studies) found evidence that problem-solving therapy, cognitive behavioral therapy (CBT) and dialectic behavioral therapy (DBT) are effective (in comparison to treatment as usual or minimal treatment) in reducing suicidal ideation and behavior in adolescents, adults (with mixed results), and patients with schizophrenia and patients with borderline personality disorder (Zalsman, 2016). DBT was found to reduce suicidal ideation and behavior in adolescents and women with borderline personality disorder (Zalsman, 2016). Specific to adolescents, a therapy approach that combines improved parenting skills, community, school, and peer support, and engagement in pro-social activities was associated with a reduction of suicidal attempts when compared with hospitalization (Zalsman, 2016).

#### Social Support Strategies

Studies assessing social support strategies in different populations and settings showed inconsistent effects on suicide attempts and ideation, but positive effects on depressive symptoms (Zalsman, 2016).

#### Social Connectedness

Center for Disease Control and Prevention (CDC) promotes connectedness between individuals, family members, community organizations, and social institutions for suicide prevention (U.S. Centers for Disease Control and Prevention, n.d.).

#### Emerging Interventions

Computer-assisted interventions in the ED, identifying behavioral markers for suicide risk and text messaging for follow up, are being studied.

## Assessment and Intervention Tools

<b>Combination of Standardized Suicide Prevention Assessment and Clinical Assessment Recommendation</b>	<b>Quality of Evidence and Strength of Recommendation</b>
Use an evidence-based tool or protocol to aid in the clinical assessment of patients with suicidal thoughts and/or behaviors and provide evidence-based interventions.	Quality of Evidence: Low Strength of Recommendation: Strong
<p><b>Benefit:</b></p> <ul style="list-style-type: none"> <li>Standardized suicidality assessment tools aid in clinical assessment of suicidal risk and protective factors.</li> </ul> <p><b>Harm:</b></p> <ul style="list-style-type: none"> <li>Psychometric properties of assessment tools from validation studies are important. Tools with poor properties may falsely identify patients with suicide risk, thus limited resources may be allocated to provide interventions to patients who do not need it. Conversely, tools can also result in false negatives which may miss patients who truly need appropriate interventions to manage their suicide risk.</li> <li>Providers may get overconfident in relying on the tools to determine the level of care for patients.</li> </ul> <p><b>Benefit-Harm Assessment:</b> Evidence-based tools can aid in the clinical assessment of patients with suicidal thoughts or behaviors. Use of a validated tool may help improve identification of patients in need of intervention.</p>	
<p><b>Relevant Resources:</b> Brown, 2015 (observational study)</p>	

### Summary

Evidence supports the use of standardized assessment tools to aid in clinical assessment of suicidal patients.

### Validity of Standardized Assessment

A 2015 observational study of 254 patients in three psychiatric emergency departments found statistically significant agreement between clinical and standardized assessments for both suicide attempts and non-suicidal self-injury behavior. Of note, 18% of patients determined to have made a suicide attempt in the past week by standardized assessment were not identified as such by clinical assessment. In addition, participants who were classified as making a recent suicide attempt by both clinical and standardized assessments reported a significantly higher mean rating on lethality (as measured by C-SSRS) than those for whom only the standardized assessment detected attempts.

## References

- Betz ME, Arias SA, et al. Change in emergency department providers' beliefs and practices after use of new protocols for suicidal patients. *Psychiatr Serv.* 2015 Jun;66(6):625-31.
- Borges G, Bagge CL, et al. A meta-analysis of acute use of alcohol and the risk of suicide attempt. *Psychol Med.* 2017 Apr;47(5):949-957.
- Boudreaux ED, Camargo CA Jr, et al. Improving Suicide Risk Screening and Detection in the Emergency Department. *Am J Prev Med.* 2016 Apr;50(4):445-453.
- Brown GK, Currier GW, et al. Detection and classification of suicidal behavior and nonsuicidal self-injury behavior in emergency departments. *J Clin Psychiatry.* 2015 Oct;76(10):1397-403.
- Conner KR, Duberstein PR, et al. Psychological vulnerability to completed suicide: a review of empirical studies. *Suicide Life Threat Behav.* 2001 Winter;31(4):367-85.
- Darvishi, N, Farhadi, M, et al. Alcohol-Related Risk of Suicidal Ideation, Suicide Attempt, and Completed Suicide: A Meta-Analysis. *PLoS One.* 2015; 10(5): e0126870. Published online 2015 May 20.
- Harris EC, Barraclough B. Suicide as an outcome for mental disorders. A meta-analysis. *Br J Psychiatry.* 1997 Mar;170:205-28.
- Horowitz LM, Bridge JA, et al. Ask Suicide-Screening Questions (ASQ): a brief instrument for the pediatric emergency department. *Arch Pediatr Adolesc Med.* 2012 Dec;166(12):1170-6.
- Horowitz, L, Ballard, E, et al. Feasibility of Screening Patients With Nonpsychiatric Complaints for Suicide Risk in a Pediatric Emergency Department. A Good Time to Talk? [Pediatr Emerg Care. 2010 Nov; 26\(11\): 787–792.](#)
- Ilggen MA, Burnette ML, et al. The association between violence and lifetime suicidal thoughts and behaviors in individuals treated for substance use disorders. *Addict Behav.* 2010 Feb;35(2):111-5.
- King CA, O'Mara RM, et al. Adolescent suicide risk screening in the emergency department. *Acad Emerg Med.* 2009 Nov;16(11):1234-41.
- McCabe, R, Garside, R, et al. Effectiveness of brief psychological interventions for suicidal presentations: a systematic review. *BMC Psychiatry.* 2018; 18: 120. Published online 2018 May 3.
- Miller IW, Camargo CA Jr, et al. Suicide Prevention in an Emergency Department Population: The ED-SAFE Study. *JAMA Psychiatry.* 2017 Jun 1;74(6):563-570.
- Newton AS, Soleimani A, et al. A Systematic Review of Instruments to Identify Mental Health and Substance Use Problems Among Children in the Emergency Department. *Acad Emerg Med.* 2017 May;24(5):552-568.
- Newton AS, Hamm MP, et al. Pediatric suicide-related presentations: a systematic review of mental health care in the emergency department. *Ann Emerg Med.* 2010 Dec;56(6):649-59.
- O'Connor E, Gaynes BN. Screening for and treatment of suicide risk relevant to primary care: a systematic review for the U.S. Preventive Services Task Force. *Ann Intern Med.* 2013 May 21;158(10):741-54.
- Peña JB, Caine ED. Screening as an approach for adolescent suicide prevention. *Suicide Life Threat Behav.* 2006 Dec;36(6):614-37.
- Roaten K, Johnson C, et al. Development and Implementation of a Universal Suicide Risk Screening Program in a Safety-Net Hospital System. *Jt Comm J Qual Patient Saf.* 2018 Jan;44(1):4-11.

Stanley, B, Brown, G, Brenner, L. Comparison of the Safety Planning Intervention With Follow-up vs Usual Care of Suicidal Patients Treated in the Emergency Department. *JAMA Psychiatry*. 2018;75(9):894-900.

Stuck AR, Wilson MP, et al. Health Care Usage and Suicide Risk Screening within 1 Year of Suicide Death. *J Emerg Med*. 2017 Dec;53(6):871-879.

Wilcox HC, Conner KR, Caine ED. Association of alcohol and drug use disorders and completed suicide: an empirical review of cohort studies. *Drug Alcohol Depend*. 2004 Dec 7;76 Suppl:S11-9.

Zalsman G, Hawton K, et al. Suicide prevention strategies revisited: 10-year systematic review. *Lancet Psychiatry*. 2016 Jul;3(7):646-59.

## Appendix B: Overview of Tools and Protocols Suicide Prevention and Intervention in the ED

Tool/Protocol	Description	Website
Columbia Suicide Severity Rating Scale (C-SSRS) Screener	Validated in pediatric (age 5 years and older) and adult populations for screening for suicide risk in various settings including the emergency department.	<a href="http://cssrs.columbia.edu/">http://cssrs.columbia.edu/</a>
Ask-Suicide Screening Questions (ASQ)	For patients ages 10 to 24 years. Addresses feelings of being a “burden” which can be especially relevant to pediatric populations.	<a href="https://www.nimh.nih.gov/abs-at-nimh/asq-toolkit-materials/index.shtml">https://www.nimh.nih.gov/abs-at-nimh/asq-toolkit-materials/index.shtml</a>
C-SSRS Risk Assessment	Includes assessment of risk and protective factors. Does not provide intervention guidance.	<a href="http://cssrs.columbia.edu/">http://cssrs.columbia.edu/</a>
C-SSRS screener in combination with SAFE-T interview	This includes screening questions on suicidal thoughts and behaviors. SAFE-T interview includes questions on patient’s current and past mental health status, presenting symptoms, and family history of suicidal behaviors and mental health diagnoses, assesses for the risk and protective factors, and provides guidelines for suicide risk stratification and development of appropriate interventions to lower suicide risk level. It provides guidance on safety planning.	<a href="http://cssrs.columbia.edu/documents/safe-t-c-ssrs/">http://cssrs.columbia.edu/documents/safe-t-c-ssrs/</a>
Safety Planning Intervention (SPI)	Safety Planning Intervention provides suicidal patients with coping strategies to use to decrease the suicide risk which are created in a collaborative effort between patients and providers. These strategies become part of patient’s treatment or care plan that patients can use during a crisis. The safety plan includes (a) recognizing the warning signs of an impending suicidal crisis; (b) using your own coping strategies; (c) contacting others in order to distract from suicidal thoughts; (d) contacting family members or friends who may help to resolve the crisis; (e) contacting mental health professionals or agencies; and (f) reducing the availability of means to complete suicide.	<a href="http://www.suicidesafetyplan.com/About_Safety_Planning.html">http://www.suicidesafetyplan.com/About_Safety_Planning.html</a>

Tool/Protocol	Description	Website
Linehan Risk Assessment and Management Protocol (LRAMP)	LRAMP is suicide risk assessment and management protocol. It helps patients and clinicians identify pertinent information about the patient’s current suicidal thoughts and behaviors, mental health history, past suicidal behaviors, and suicide risk and protective factors. Based on the assessment, it provides guidance on development of treatment or care plan as an intervention to lower the risk of suicide.	<a href="http://depts.washington.edu/uwbtrc/resources/assessment-instruments/">http://depts.washington.edu/uwbtrc/resources/assessment-instruments/</a>
Collaborative Assessment and Management of Suicide (CAMS)	It is a collaborative effort between patients and providers to assess for suicide risk, provide suicide specific treatment planning, tracking of an on-going risk and clinical outcomes and disposition. It can be used both as one-session brief intervention for suicide risk or an ongoing treatment on a longer-term basis.	<a href="https://cams-care.com/about-cams/">https://cams-care.com/about-cams/</a>
Family Intervention for Suicide Prevention (FISP)	It is a cognitive behavioral family intervention for youth ages 10-18 years presenting in the ED with suicidal ideation or after a suicide attempt. It uses the ED visit as an opportunity to decrease the short-term risk of repeated suicidal ideation and behavior by building the coping skills of youth and their families, enhancing motivation for follow-up mental health treatment, and improving linkage to outpatient follow-up treatment services after discharge from the ED. It has three core components: (1) ED staff training; (2) Youth and family crisis therapy session; and (3) Care linkage telephone contacts. Both the therapy session while in the ED and follow-up contacts aim to increase motivation for accessing follow-up care and to provide linkages to appropriate care and services. Follow-up contacts begin within the first 48 hours after discharge and continue until the youth is linked to care (usually at 1, 2, and 4 weeks after discharge).	<a href="https://www.sprc.org/resources-programs/family-intervention-suicide-prevention-fisp">https://www.sprc.org/resources-programs/family-intervention-suicide-prevention-fisp</a>

Tool/Protocol	Description	Website
Counseling Access to Lethal Means (CALM)	Clinicians use this protocol to work with patients on reducing access to lethal means, particularly firearms and medications. It includes goal setting for reducing access and developing a plan that is acceptable to both clinicians and patients.	<a href="https://www.sprc.org/resources-programs/calm-counseling-access-lethal-means">https://www.sprc.org/resources-programs/calm-counseling-access-lethal-means</a>
Coping Long Term and Active Suicide Program (CLASP) ED Protocol	CLASP-ED was implemented in ED-SAFE study and has three major components: 1) three individual, in-person meetings, 2) one significant other/family meeting and 3) and 11 brief (15-30 min) phone contacts with the patient and his/her significant other. It combines case management, individual psychotherapy, and significant other involvement (if available). The phone calls focus on identifying suicide risk factors, clarifying values and goals, safety and future planning, facilitating treatment engagement/adherence and facilitating patient-significant other problem solving.	<a href="https://www.sprc.org/resources-programs/ed-safe-materials">https://www.sprc.org/resources-programs/ed-safe-materials</a>
Teen Options for Change	A protocol for adolescents between ages 14-19 years that uses motivational interviewing techniques to develop a personalized action plan. Adolescents also receive a handwritten follow-up note and a telephone check-in two to five days after their ED visit to support and facilitate action plan implementation. While this approach shows promising results, the evidence base is still emerging.	<a href="https://www.ncbi.nlm.nih.gov/pubmed/25321886">https://www.ncbi.nlm.nih.gov/pubmed/25321886</a>