

# Screening Youth for Suicide Risk in Medical Settings

## Time to Ask Questions

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This paper focuses on the National Action Alliance for Suicide Prevention's Research Prioritization Task Force's Aspirational Goal 2 (screening for suicide risk) as it pertains specifically to children, adolescents, and young adults. Two assumptions are forwarded: (1) strategies for screening youth for suicide risk need to be tailored developmentally; and (2) we must use instruments that were created and tested specifically for suicide risk detection and developed specifically for youth. Recommendations for shifting the current paradigm include universal suicide screening for youth in medical settings with validated instruments.

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### **Introduction**

Suicide remains a leading cause of death for youth worldwide.<sup>1</sup> Screening for risk of suicide and suicidal behavior is an important and necessary first step toward suicide prevention in young people. Implementing effective screening programs involves targeting high-risk populations in favorable settings.<sup>2</sup> Medical settings have been designated as key venues to screen for suicide risk and are therefore the focus of this article.

The National Action Alliance for Suicide Prevention (Action Alliance) developed 12 Aspirational Goals as a way of structuring a suicide prevention research agenda aimed at decreasing suicides in the U.S. by 40% over the next decade. Aspirational Goal 2 pertains to screening for suicide risk: “to determine the degree of suicide risk among individuals in diverse populations and in diverse settings through feasible and effective screening and assessment approaches.”<sup>3</sup>

As an adjunct to a separate article in this supplement that proposes a paradigm shift for suicide screening

instrument development and research aligned with this Aspirational Goal,<sup>4</sup> this paper focuses on suicide screening as it pertains specifically to children, adolescents, and young adults. The aims of this paper are to describe how youth suicide prevention strategies need to be considered independently of adult suicide prevention strategies, underscore the need for universal screening with validated suicide screening instruments for youths in all medical settings, and describe paradigm shifts that would need to occur to achieve reductions in youth suicide/suicidal behavior.

### **Assumptions of Screening for Suicide Risk**

#### **Assumption 1: Strategies for Screening Youth for Suicide Risk Need to be Tailored Developmentally**

In the field of pediatrics, there is a well-known maxim: “Children are not just small adults.” This tenet is applicable to suicide prevention strategies. As with many types of public health threats, a one-size-fits-all approach will not be effective. Suicide risk changes at each developmental stage of a young person's life, increasing with age throughout adolescence and early adulthood.<sup>5</sup> Although death by suicide does occur in children under 12 years,<sup>6</sup> suicide and suicidal behavior are rare prior to puberty, in part because mood disorders, for example, are less common in younger children. Risk of suicide increases in the late teen years, coinciding with increased risk of mood disorder onset. Nevertheless, half of all mental illness onset begins in childhood, making it a critical period of time to intervene.<sup>7</sup>

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Developmental trajectories are the main characteristics that set children apart from adults (Figure 1), considering factors such as variable physical growth; differences in cognition (ability to think abstractly); language (ability to communicate needs); and social competence (ability to make friends). These streams of development are all happening at different times and rates in children and adolescents. Converging upon these trajectories are critical risk factors such as mental illness, family history of mental illness, and history of suicidal ideation or behavior. In addition, other psychiatric comorbid conditions, such as substance abuse, may help promote the transition from suicidal ideation to behavior.

Some psychological traits can increase risk, such as impulsive aggression in which a child may have a tendency to react aggressively to frustrating situations or have other maladaptive coping strategies. Environmental factors such as psychosocial stressors, poverty, and “non-intact” families may contribute to hopelessness. Many youth have acute stressors that include interpersonal conflict, loss, and problems with school.<sup>8</sup> These factors can all increase a young person’s risk for suicide. Ideally, protective factors such as strong relationships with adults, academic success, or religious beliefs can modify these risk factors and reduce risk for suicidal behaviors—but even these are not always sufficiently protective.

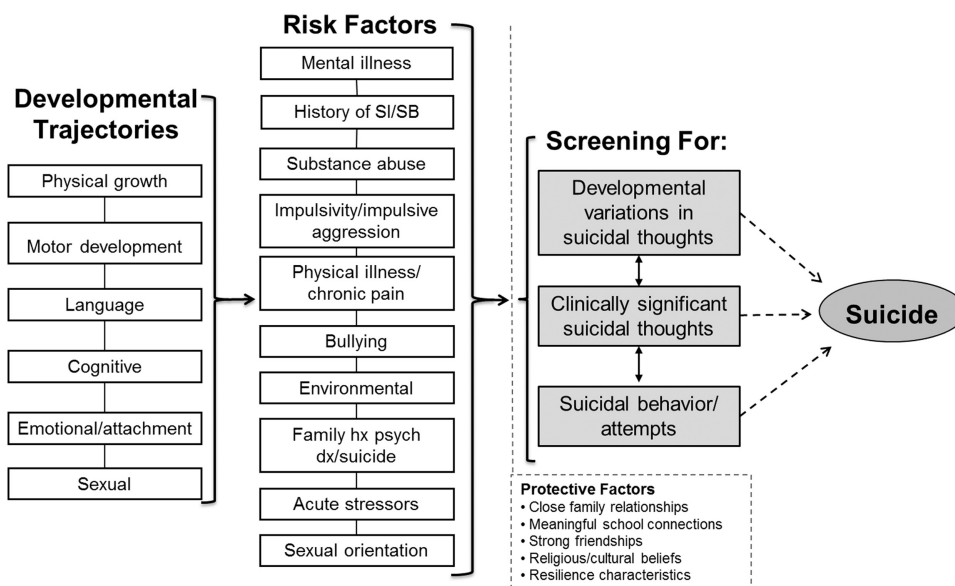
According to the most recent CDC data, 15.8% of all high school students in the U.S. have seriously considered suicide.<sup>9</sup> Some existential questioning is expected in adolescence; however, when these thoughts become more frequent or expand into plans to end one’s life, they

become clinically significant. Manifestations along the continuum of suicide, from thoughts to behavior, are important because they can all be predictive of death by suicide. The hope is that screening and early detection can have an impact and thwart the progression from ideation to behavior.

Another important difference when evaluating and treating youth as compared to adults is that most youth are accompanied by parents or guardians when they visit a medical setting. This has implications for the first assumption noted above, as these adult caregivers can provide useful collateral information that assists with suicide risk assessment. In addition, having a parent/guardian aware of elevated suicide risk in their child affords them the opportunity to help with means restriction and other important safeguards that can aid in prevention of suicide. Currently, however, there is no empirical evidence about whether including parental questions in a suicide screening tool is more effective than only screening the child, nor are there clinical guidelines for how to proceed if parents and youth disagree in their answers.

**Assumption 2: We Must Use Instruments that Were Developed and Tested Specifically for Suicide Risk Detection and Developed Specifically for Youth**

This section emphasizes the importance of using instruments that have been validated to detect the condition of interest—suicide risk in youth. Sometimes, suicide risk detection strategies are created for the general public and are then utilized for children and adolescents, even if



**Figure 1.** Developmental considerations in youth suicide  
SI, suicidal ideation; SB, suicidal behavior; hx, history of; dx, diagnosis

age-specific validity has not been proven. Given all the variables mentioned above, adult instruments may not always be appropriate for screening youth for suicide risk.

The current paradigm is that screening occurs in a non-standardized manner with patients who appear at high risk to non-mental health clinicians, who may or may not be knowledgeable about the risk factors. Screening items and suicide screening practices differ across and within hospitals depending on knowledge and training of staff, which varies greatly. The current national practice for suicide screening in most hospitals has not been assessed. For example, when the Joint Commission issued Patient Safety Goal 15A in 2007 requiring all behavioral health patients to be screened for suicide,<sup>10</sup> nurses were asked to screen patients, but were not given validated instruments for making such inquiries. This would be akin to asking a nurse to guess a patient's body temperature without giving them a thermometer.

Nurses reported a wide range of screening questions, from indirect questions such as *Are you safe?* and *How will I know when you're angry?* to very specific questions such as *Have you had any thoughts of wanting to harm yourself or others?* (L. Horowitz, National Institute of Mental Health, and J. Bridge, The Research Institute at Nationwide Children's Hospital and The Ohio State University College of Medicine, personal communication, 2013). A national survey on what is being asked and how to standardize the questions would be useful.

A proposed paradigm shift is to implement validated tools and training staff to use clinical practice guidelines developed for managing positive screens safely. Screening would not be limited to patients with a known psychiatric history; rather, it would occur universally in certain settings. However, specific guidelines will need to be established for setting up screening parameters for who should administer the screening instrument, when during the visit the patient should be screened, and, most importantly, how positive screens will be managed.

If universal screening is to be implemented, the initial screening tool will have to be brief, highly sensitive, highly specific, and validated on the targeted population for the condition under evaluation. Several measures have been used to screen patients for suicide risk in various medical settings: for specific use in the pediatric emergency department (ED) population, the Risk of Suicide Questionnaire (RSQ)<sup>11</sup> and the Ask Suicide-Screening Questions (ASQ);<sup>12</sup> and in primary care (PC) clinics, the Behavioral Health Screen (BHS),<sup>13</sup> the Columbia Suicide Severity Rating Scale (CSSRS),<sup>14</sup> and others.<sup>2,15</sup> Validation studies should test for sensitivity, specificity and negative and positive predictive values. Prospective predictive validity of completed suicide and

suicidal behavior has yet to be established on the tools mentioned above, and is greatly needed.

Because depression and suicide are frequently linked, clinicians often use depression screens as suicide risk detection instruments. Yet, depression screens are not necessarily designed to be sensitive or specific enough instruments for recognizing suicidal thoughts and behaviors, especially in medical patients.<sup>16</sup>

A widely used valid and reliable depression screening instrument, the Patient Health Questionnaire (PHQ-9),<sup>17</sup> provides an illustrative example. The ninth item on the PHQ-9 asks the patient how often he or she is *bothered by the thought that you would be better off dead, or of hurting yourself in some way* and is widely used clinically and in research studies to screen for suicide risk. This item simultaneously and indistinguishably measures both passive thoughts of death and suicide ideation, both symptoms of depression. Because the question contains an "or," it has been found to be overly sensitive in that it detects patients who have passive thoughts of death or thoughts of hurting themselves.

In patients with serious medical illnesses, thoughts of death are common and may be categorically unrelated to suicide. Recent studies examining the use of Item 9 to assess for suicide risk in medically ill patients suggest that this question provides ambiguous, non-specific, and difficult-to-interpret information that may overburden already strained mental health resources.<sup>18</sup> In addition, inquiring about hurting and killing oneself, especially for adolescents, may identify two different problems. In settings where mental health resources are limited, asking youth as directly as possible about suicide may be critical for more accurate detection.

## Recommendations

The public health import of utilizing universal screening in medical settings as a way to identify youth at risk for suicide and suicidal behavior is immense. Screening positive on validated instruments may not only be predictive of future suicidal behavior but also be a proxy for other serious mental health concerns that require further mental health attention and follow-up. For example, it may not be feasible to screen for every sociobehavioral risk factor in a busy ED setting.

However, once a young person screens positive for suicide risk and receives a mental health evaluation, they can be further assessed for serious mental illness, substance abuse, homicidal ideation, and history of physical and sexual abuse. The proposed paradigm shift is that an effective suicide screening instrument not only will detect imminent risk but can also identify youth with significant emotional distress warranting further mental health

attention, which if otherwise ignored can lead to serious personal and societal consequences (e.g., school absenteeism, antisocial behavior, school dropout, and increased use of healthcare services).

Any setting in which a healthcare provider delivers medical care, such as PC clinics, EDs, inpatient medical units, and school-based clinics, may be ideal venues to identify youth at elevated risk. More than 80% of youths visit their PC doctor each year, making the PC clinic well situated to identify young people at risk. Wintersteen<sup>19</sup> showed that there was a 4-fold increase in detection of suicidal ideation by pediatricians when screening tools were used in outpatient clinics (base rate=0.8%, screening tools=3.6%). The study, however, emphasized that these data translated into one additional youth per week requiring further mental health follow-up, which did not overwhelm the pediatric care clinics.

Similar results have been found in pediatric emergency care settings. For those who are not connected to a PC clinic, estimated to be about 1.5 million youth, the ED is their sole contact with the healthcare system,<sup>20</sup> creating not only an opportunity but a responsibility to screen for suicide risk. A recent Canadian study revealed that 80% of youth who died by suicide visited a PC provider, an ED, or had an inpatient medical hospitalization within 3 months prior to their death.<sup>21</sup> The obvious clinical challenge is that these individuals do not walk into their doctor's office and say, "I want to kill myself"; rather, they frequently present with somatic complaints (e.g., headaches, stomachaches), and may not talk about their suicidal thoughts unless asked directly.

Pediatric ED studies show that screening for suicide risk can reveal previously undetected thoughts of suicide in youth presenting with medical/surgical chief complaints.<sup>18</sup> Moreover, screening was found to be acceptable to clinicians, parents, and youth and was found to be non-disruptive to ED workflow. Several studies reveal that young patients embrace the notion of being screened for suicide risk in medical settings.<sup>22,a</sup>

Larkin and Beautrais<sup>23</sup> describe the ED as an important nexus for suicide-related endophenotypes (e.g., alcohol and substance abuse, pain syndromes, medical comorbidities). These high-risk groups include young people who may be disenfranchised, may have dropped out of school, are not employed, or are in the foster care system. These young people are often isolated and do not have a connection with someone who can recognize that they need help. An ED visit can provide this opportunity.

A major barrier to screening for suicide risk is the concern about how to safely manage patients who screen positive. What does a positive screen on a validated

instrument that was created to detect suicide risk actually mean? Screening positive means a patient has a symptom that requires further evaluation. To use a medical analogy, this is akin to a pediatric patient who is found to have high blood pressure during an ED visit. They are not immediately administered an anti-hypertensive medication; rather, a further assessment ensues to determine what is causing the high blood pressure and what may happen to the patient if the hypertension persists.

Screening positive on a suicide risk screen is similar; something is amiss and further evaluation is necessary. A patient who screens positive is in need of a psychiatric evaluation by a trained mental health professional who can examine related symptoms, judge risk of self-harm, and, if necessary, guide the primary physician in appropriate disposition decisions and link the patient with mental health treatment if needed. It does not necessarily mean a constant observer is necessary or that the child needs to be hospitalized on an inpatient psychiatric unit, although these are potential outcomes.

Not inquiring about suicide risk would be akin to not measuring blood pressure because the system did not want to find out the child had hypertension. In addition, taking into account developmental needs, a child-sized blood pressure cuff would be needed to measure blood pressure properly. The patient has the symptom whether or not a healthcare provider asks about it. But if we do not ask, chances are the patient will not tell us, and they may not get the help they need.

Important research pathways will include validating screening instruments with targeted populations in the specific healthcare settings in which they will be used. This effort would require conducting universal screening and developing clinical practice guidelines tailored for youth to manage positive screens safely and effectively in each setting, with long-term follow-up for youth who screen positive and negative to determine the validity and full impact of screening.

Critical stakeholders in the screening process will need to be identified, such as hospital administrators, whose commitment to implementing effective screening programs and providing mental health resources for positive screens will be essential. Importantly, we will need nurse and physician champions to help with changing clinical practice to include screening and reduce stigma associated with patients who screen positive. We will need to educate families about what positive screens imply, the need for mental health follow-up services for the patient, and guidance sessions for the parents.

Screening for suicide risk can become part of core performance improvement measures for hospitals and clinics by adding screening to hospital scorecards and Healthcare Effectiveness Data and Information Set

<sup>a</sup>Contact corresponding author for additional references.

(HEDIS) measures. Currently, more than 90% of American health insurance plans use HEDIS as a tool to measure performance on critical dimensions of health-care delivery.<sup>24</sup> The current metrics include “adolescent well-visits” or “anti-depressant medication management,” and “cervical cancer screening in adolescent females,” but suicide screening is notably absent

Barriers to universal screening include strapped mental health resources and limited patient care time. Other roadblocks include myths of iatrogenic risk. Many, including healthcare providers, still believe that we may be putting ideas of suicide into a youth’s mind if we ask them directly about suicide; however, there have been several studies that refute this myth.<sup>25,a</sup> Another barrier is the lack of mental health resources available in medical settings to manage positive screens, especially providers trained in child/adolescent mental health. Linkage rates to mental health providers have been low with people who have screened positive, partly due to few resources, but also because the stigma of having mental health concerns still plagues patients and prevents them from initiating conversations about their mental suffering and seeking help.

Opponents of universal screening may argue that suicide is a low-base rate event, especially in young people, so we cannot develop instruments that accurately predict suicide. Although it is true that we do not currently have tools that predict which youths will kill themselves, we do have tools that can detect suicidal ideation, which should not be minimized in young people. Nock et al.<sup>26</sup> found that approximately one third of youth with suicidal ideation go on to develop a suicide plan in adolescence, and about 60% of those with a plan will attempt suicide. The hope is that intervening early, during ideation, will lead to prevention.

## Conclusions

Youth suicide prevention strategies will need to be designed with developmental considerations in mind. It is time for all youth in medical settings to be screened for suicide risk, just as they are routinely screened for hypertension, fever, and falls risk. We cannot rely solely on depression screens or non-validated instruments to identify young people at risk for suicide. We as researchers need to create and test developmentally sound tools for healthcare providers to use.

Demonstration projects in pediatric medical settings with these instruments will highlight strengths and uncover future challenges to overcome. Importantly, screening can only take us so far. We must turn our research efforts toward developing more effective interventions. Lastly, we must hold ourselves, as clinicians and

researchers, accountable for lowering the youth suicide rate within the next decade. Every healthcare provider can have an impact.

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