Prioritizing Research to Reduce Youth Suicide and Suicidal Behavior

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The goal of the National Action Alliance for Suicide Prevention is to reduce suicide and suicide attempts in the U.S. by 40% in the next decade. In this paper, a public health approach is applied to suicide prevention to illustrate how reductions in youth suicide and suicidal behavior might be achieved by prioritizing research in two areas: (1) increasing access to primary care–based behavioral health interventions for depressed youth and (2) improving continuity of care for youth who present to emergency departments after a suicide attempt. Finally, some scientific, clinical, and methodologic breakthroughs needed to achieve rapid, substantial, and sustained reductions in youth suicide and suicidal behavior are discussed.

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Introduction

Suicide is the third-leading cause of death in young people aged 10–19 years in the U.S. and represents a worldwide public health problem.[1,2] Nonfatal suicidal behavior is more prevalent and results in significant morbidity and increased risk of suicide.[2–4] The National Action Alliance for Suicide Prevention (Action Alliance) envisions "a nation free from the tragic experience of suicide"[5,6] and charged its Research Prioritization Task Force (RPTF) with developing a public health–oriented research agenda aimed at reducing rates of suicide and suicidal behavior in the U.S. by 40% within the next decade.[6] For young people aged 10–19 years, this would represent roughly 700 fewer suicide deaths and more than 100,000 averted suicide attempts annually.[1,3]

The RPTF's research agenda development process identified 12 aspirational goals (AGs), defined as important, practical, and results-oriented research efforts that have the potential to rapidly and substantially reduce suicide in the U.S.[7] AGs are assumed to be "big ideas" rather than circumscribed research projects.[5,7] This article will discuss youth suicide prevention within the context of two AGs: (1) AG8 aims to ensure that affordable, accessible, and effective care is available to all individuals at risk for suicidal behavior; and (2) AG9 aims to reduce treatment dropout at all stages of the care process by enhancing continuity of care for suicidal individuals.[5]

The authors first describe how rapid reductions in youth suicide might be achieved by prioritizing research targeting access to behavioral health interventions for depressed youth in pediatric primary care settings. Next, rapid reductions in youth suicide are discussed within the context of improving continuity of care for young people who present to emergency departments (EDs) after a suicide attempt. These two service settings are emphasized because the majority of young people who die by suicide have had contact with a primary care clinician (PCC) or ED in the year prior to death.[8,9] Finally, some methodologic/conceptual barriers to achieving these AGs in youth suicide prevention research are discussed.

Public Health Approach to Youth Suicide Prevention

The public health–based approach to suicide prevention adopted by the Action Alliance and the National Institute of Mental Health (NIMH) involves four steps: (1) identifying large subgroups of individuals with elevated risk of suicide and in service settings appropriate for intervention; (2) pairing at-risk subgroups with effective interventions; (3) estimating the results of implementation; and (4) assessing timelines for implementation and research.[6] An additional element is to identify targets for

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intervention that are prevalent, strongly associated with suicide risk, and modifiable.[10]

Two risk factors, depression and suicide attempts, are highlighted below as targets for intervention in pediatric primary care and ED settings. Depression is common, impairing, and likely the most relevant remediable risk factor for youth suicide, given its association with suicide attempts and 30-fold increased risk of completed suicide.[2,11] According to the 2011 National Youth Risk Behavior Survey, 7.8% of all students in Grades 9–12 attending public and private school in the U.S. attempted suicide in the past year, and 2.4% made a serious attempt requiring medical attention.[3] A prior suicide attempt is the single most potent predictor of youth suicide.[2]

The authors describe below how the first three steps of the public health–based approach to suicide prevention can be applied to prioritizing research to improve access to care for depressed youth and continuity of care for adolescent suicide attempters. It must be emphasized that the estimates and underlying assumptions used to calculate potential reductions in youth suicide are imprecise, owing to limitations of the existing evidence base.

Aspirational Goal 8: Access to Effective Care

Pediatric primary care is an ideal service setting for intervention research aimed at rapidly reducing suicide and suicidal behaviors among U.S. youth. In 2010, there were more than 25 million adolescents aged 12–17 years in the U.S.,[1] and national survey data suggest that 82% visit their PCC at least once annually.[12] PCCs prescribe most pediatric psychoactive medications[13] and up to 80% of youth who die by suicide were seen by their PCC or an outpatient physician in the year prior to their death.[8,9] The American Academy of Pediatrics recognizes suicide prevention as a priority for pediatricians[14] and has endorsed guidelines for the care of depressed youth in primary care.[15,16]

Meaningful improvements in the management of psychiatric disorders in primary care settings require systemic changes in primary care practice and access to a comprehensive system of mental health services.[17] Collaborative care models integrate mental health professionals into primary care as educators, consultants, and clinicians in order to bridge the gap between specialty and primary care, improve communication and continuity of care, and determine the most appropriate level of care.[18]

Collaborative care interventions for depressed older adults within primary care that improve recognition of depression and access to evidence-based diagnosis and treatment have proven successful in decreasing both depressive symptomatology and suicidal ideation.[19–22] Applying lessons learned from these studies, the Youth Partners in Care (YPIC) study compared a 6-month quality improvement intervention designed to improve access to evidence-based cognitive–behavioral therapy (CBT) and antidepressant medication for adolescent depression in primary care (n=211) to usual care (n=207) enhanced by PCC education. Six months after baseline assessment, patients who received the intervention experienced significantly greater improvements in access to mental health care, depressive symptoms, mental health–related quality of life, and satisfaction with care.[23]

The rate of suicide attempts or self-harm declined by 55% in participants receiving the intervention, from 14.2% at baseline to 6.4% at 6 months, compared to an 18% reduction (11.6% to 9.5%) for patients receiving usual care. The difference was not statistically significant (OR=0.55, 95% CI=0.23, 1.34; p=0.19), perhaps because of the low base rate of suicidal behavior at study entry.[23] Collectively, collaborative care interventions in primary care show promise in improving care for youth with depression and reducing suicidal ideation and attempts.

The following example assumes an annual prevalence rate of roughly 8% for suicide attempts in youth with depression, and that 200–300 suicide attempts are made for every completed pediatric suicide.[1,2,11,24] Based on the available literature[23,25] and assuming a screening measure with adequate sensitivity and specificity,[26] broad-scale screening for depression in pediatric primary care that reached 25% of adolescents aged 12–17 years in the U.S. would identify more than 1 million youths who are screen positive for major or minor depression (Table 1). According to the promising YPIC study results,[23] if the rate of suicide attempt within 1 year could be halved by a collaborative care depression intervention relative to usual care, then about 125–208 lives a year could be saved. This represents 13%–22% of the 936 suicide deaths that occurred on average in the U.S. among 12–17-year-olds between 2006 and 2010 (Table 1).

Aspirational Goal 9: Continuity of Care

Adolescents presenting to the ED after a suicide attempt represent a high-risk target subgroup,[6] with more than 103,000 presenting to U.S. EDs in 2011 after deliberate self-harm, and 77,000 after a suicide attempt (Table 2).[27] Most (73%) are discharged to the community from the ED, yet less than 40% receive a follow-up visit within 30 days[28] despite being at high risk for reattempt, especially within the first 6 months.[2] Moreover, up to 50% of youth who die by suicide present to the ED within the year preceding death.[8]

Three RCTs of interventions to promote mental health treatment engagement and compliance for adolescents