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## Adverse Childhood Experiences and Suicide Risk: Toward Comprehensive Prevention

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The field of suicide prevention has had numerous promising advances in recent decades, including the development of evidence-based prevention strategies, the National Suicide Prevention Lifeline (1-800-273-TALK), the Suicide Prevention Resource Center, and a revised *National Strategy for Suicide Prevention*.<sup>1</sup> Despite these important advances, suicide prevention still lacks the breadth and depth of the coordinated response truly needed to reduce suicide morbidity and mortality. Suicide prevention requires a comprehensive approach that spans systems, organizations, and environments, combining treatment and intervention with primary prevention efforts beginning in childhood so they can set the stage for future health and well-being. Adverse childhood experiences (ACEs), including exposure to child abuse and neglect, are well-documented risk factors for suicidality,<sup>2–4</sup> and a viable suicide prevention target; however, suicide prevention efforts seldom focus here. The following provides an overview of suicide prevention and intervention, and suggestions for comprehensive suicide prevention programs that address ACE prevention.

The context for suicide prevention in the U.S. is sobering. In 2015, a total of 44,193 individuals died by suicide, and between 1999 and 2015, suicide rates increased more than 25%.<sup>5</sup> Emergency departments recorded 1.4 million discharges for self-inflicted injuries, and acute care hospitals recorded an additional 758,000 discharges in 2013.<sup>6</sup> These numbers represent only a fraction of individuals experiencing suicidal ideation. According to self-report survey data, 1.3 million adults attempted suicide, 2.7 million made plans for suicide, and 9.7 million adults seriously considered suicide in 2015.<sup>7</sup>

These events exact a large emotional and human cost on families, friends, workplaces, and communities. Based on conservative estimates, death by suicide totals \$50.8 billion in lifetime medical and work-loss costs,<sup>8</sup> and nonfatal self-harm injuries treated in U.S. emergency departments accounted for more than \$11.9 billion in lifetime medical and work-

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loss costs.<sup>9</sup> Although informative, these estimates are considerable underestimates of the true cost of suicidality. Many additional costs, such as psychological care, costs to family members, and the broader impacts on children, schools, and communities are not included in these cost estimations. Despite these limitations, these estimates demonstrate the significant public health burden of suicidality, and make a strong case for increased investments in comprehensive prevention programs that include evidence-based, primary prevention strategies.

What suicidologists have recommended for quite some time, but has yet to be systematically achieved, is a truly comprehensive approach to suicide prevention—one that occurs across the social ecology (i.e., at the individual, family/relationship, school/community, and societal levels) in schools, workplaces, and healthcare settings, and includes both “downstream” prevention efforts (i.e., secondary and tertiary prevention efforts that focus on treatment and interventions for at-risk individuals or groups to decrease the likelihood of future suicide attempts) and “upstream” prevention efforts (i.e., primary prevention efforts that focus on preventing suicidal ideation, behavior, and risk before they occur). Suicide prevention strategies are being implemented in many settings, communities, and states, but these strategies often involve only one level of the social ecology—typically the individual or family/relational level. These models tend to focus on downstream prevention, and occur in isolation from other relevant suicide prevention strategies.

Downstream prevention activities at the individual level include safety planning, screening for suicide, mental health treatment, and reducing access to lethal means (e.g., medications, firearms) for people considered at high risk of suicide. At the relationship level, schools and communities rely frequently on “gatekeeper” training to identify and refer those at risk to services. At the community level, organizations and communities have developed crisis response plans and crisis services. Some have also conducted “postvention” (i.e., responses after a suicide has occurred) to prevent contagion, which can occur when exposure to a suicide influences others to kill themselves or attempt suicide. More recently, strides have been made to improve service provision in health-care settings through initiatives such as Zero Suicide in Health and Behavioral Health Care, which focus on integrating suicide awareness, screening, and continuity of care throughout health systems. Together, these programs are beneficial, and have had some success at reducing suicide attempts, but these approaches may not purposively address the antecedents of suicidality rooted in childhood experiences. Moreover, the focus on downstream prevention limits the ability to stem the flow of people requiring secondary and tertiary prevention, and alone are unlikely to reduce suicide rates in a significant and sustainable way.

Fewer efforts have focused on primary prevention, which may include a range of options from policies that focus on strengthening economic supports and coverage of mental health conditions in health insurance policies, to social norms that reduce stigma and individual skills that promote connectedness and healthy relationships.<sup>10</sup> For example, the Good Behavior Game and other school-based programs are used across elementary grade levels to help youth build life skills for managing emotions, conflict, and stress, and have demonstrated longitudinal reductions in suicidality among first- and second-grade students.<sup>11</sup> Within tribal communities, upstream prevention, such as the American Indian

Life Skills Program, has focused on promoting youths' connection to their culture and traditions to foster resilience and enhance the value and purpose of life.<sup>12</sup> Unfortunately, these programs comprise a small portion of the overall suicide prevention landscape, and only occasionally connect childhood trauma and its prevention to suicide prevention. Furthermore, primary prevention strategies are rarely part of a comprehensive strategy that includes downstream suicide intervention and treatment.

In recent years, the field of suicide prevention has developed models and strategic planning tools, like the Centers for Disease Control and Prevention's Preventing Suicide: A Technical Package of Policy, Programs, and Practices, to help communities better understand and implement comprehensive prevention strategies at various levels of the social ecology, as well as strategies that can prevent suicide early in childhood before risk develops, later once someone is at risk, and after someone has attempted suicide, in order to prevent future attempts.<sup>10</sup> The merits of one comprehensive approach were highlighted by the U.S. Air Force Suicide Prevention Program, composed of 11 components addressing the whole Air Force community and inclusive of both upstream and downstream strategies.<sup>13</sup> This program was associated with a 33% reduction in suicides and other forms of violence (i.e., homicides and family violence) that increase risk for suicide.<sup>13</sup> These findings support the need to further develop, implement, and scale up comprehensive strategies across communities. However, part of the challenge remains to identify additional upstream evidence-based prevention strategies that communities can implement in tandem with their downstream approaches.

A compelling area that provides unfulfilled promise for expanding and strengthening upstream suicide prevention is the prevention of early adversity in childhood.<sup>10,14</sup> Much of the foundational research in this area has focused on ACEs, defined as exposure to childhood abuse (sexual, physical, and emotional), neglect (physical and emotional), and household challenges (e.g., parental incarceration, household mental illness, household substance use, parental divorce/separation, intimate partner violence) during the first 18 years of life.<sup>2</sup> ACEs do not represent the full scope of adversity that children may be exposed to, but they are a reliable proxy for what was going on in a child's home, and the science connecting ACEs to lifelong mental and physical health disorders, health risk behaviors, and consequentially, suicide risk is robust.<sup>2-4,15-17</sup>

The prevalence of ACEs is high,<sup>2,3</sup> and exposure to ACEs, particularly in the absence of protective factors, has been linked to underdeveloped executive functioning and a distorted physiologic stress response<sup>16</sup>; unhealthy coping; physical, mental, and behavioral health disorders<sup>2-4</sup>; and reduced life expectancy.<sup>15</sup> ACEs have been associated with markers of diminished life opportunity (e.g., reduced education, employment, and income),<sup>17</sup> which are also associated with suicide.<sup>18</sup> Importantly, the relationship among ACEs and adult depression, suicidality, and substance abuse has been well established.<sup>2,4</sup> Though other risks later in life (e.g., peer victimization, sexual violence, job and relationship problems) may contribute to suicidal ideation and behavior, early adversity can set the trajectory for exposure to these future risks independently, which can accumulate and compound suicide risk over time. Given the strong empirical evidence linking ACEs with suicide risk across

the lifespan, the need to adopt comprehensive, suicide prevention strategies that prevent exposure to ACEs and address ACEs in suicide treatment and intervention are needed.

Exposure to ACEs, including child abuse and neglect, can be prevented by promoting strategies and approaches that assure that all children and families have access to safe, stable, nurturing relationships and environments.<sup>19</sup> The Centers for Disease Control and Prevention has outlined a comprehensive approach to child abuse and neglect prevention, *Preventing Child Abuse and Neglect: A Technical Package for Policy, Norm, and Programmatic Activities*,<sup>20</sup> that targets all levels of the social ecology and encourages cross-sector partnerships to adopt evidence-based strategies for prevention that include efforts to strengthen economic support for families, change social norms to support parents, provide quality care/education early in life, enhance parenting skills, and intervene to lessen harm and prevent future risk. Collectively, these strategies create a safe and supportive context for children, parents, and communities, thereby reducing exposure to ACEs and mitigating the negative sequelae of early adversity, including suicide. The aforementioned strategies are based on the best available evidence for preventing child maltreatment.<sup>20</sup> ACEs and suicide share many risk and protective factors, as well as strategies for prevention<sup>10,20</sup>; however, researchers have yet to fully explore the combined impact that these prevention strategies can have on suicide and ACE prevalence.

Both fields, child maltreatment and suicide prevention, acknowledge the importance of relationships and connectedness; however, focusing on the conditions in which children live, learn, and play (and thereby form healthy connections) within suicide prevention has, in large part, remained absent. Broadening public and professional understanding of the associations between childhood experiences and suicide can strengthen the scope and coordination of comprehensive prevention strategies. Unified prevention efforts that target the antecedents of both suicide and ACEs, at all levels of the social ecology, across all stages of life, and that combine the aforementioned child maltreatment–prevention strategies with evidence-based, suicide prevention strategies may address the shared, root causes of violent exposures while providing appropriate treatment and intervention for those at risk. Such a truly comprehensive approach to suicide prevention could result in significant impacts on the health and well-being of all people, resulting in significant reductions in suicidality.

A coordinated effort that incorporates upstream prevention of ACEs to more typical downstream suicide prevention efforts can bring together a wider range of stakeholders to address multiple aspects of the problem and achieve significant reductions in suicide, which the field of suicide prevention has been unable to achieve alone. Individuals, families, communities, organizations, and governments all have a responsibility and unique role to play in preventing ACEs and subsequently suicide.<sup>10,20</sup> For example, healthcare providers are well positioned for identifying patients at risk. Providers may take a dual-generation approach to ACE screening and can connect patients and their families to appropriate services to reduce harm and treat trauma. Government and businesses, on the other hand, can bring critical leadership and insight to policies that strengthen economic security. Likewise, public health researchers can evaluate the cross-cutting impact that child maltreatment prevention strategies have on suicide. State and local public health and behavioral/mental health departments can provide leadership for identifying needs and assets related to

comprehensive suicide prevention approaches, and coordination across state and local systems and partners. Enhanced coordination can more effectively ensure that upstream prevention efforts are maximized in order to minimize costly downstream individual, family, workplace, and societal consequences. These efforts assure that all children are given the opportunity and support to thrive and realize their full health and life potential.

In closing, ACEs are a well-documented and understood risk factor for suicidality,<sup>13</sup> but in practice, the field of suicide prevention has yet to focus in earnest on this connection. Given the increasing rates of suicide, the growing empirical evidence linking ACEs and suicide risk, and the mounting discourse for comprehensive suicide prevention, the importance of partnering across disciplines to adopt strategies that impact early in the life course and that continue across the lifespan has never been clearer. Together, enhanced coordination to prevent exposure to ACEs, and subsequently reduce suicidal ideation, behavior, and death, is possible.

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