Upstream Youth Suicide Prevention Expert Panel Meeting Summary

In April 2012 a panel of 16 experts, including survivors of suicide loss, practitioners, prevention researchers, and representatives of special populations (i.e. tribal communities) and federal agencies met to evaluate the rationale and feasibility of expanding the current youth suicide prevention paradigm to include a focus on “upstream” approaches and to outline initial action steps that could advance such an expansion. For the purposes of the meeting, upstream prevention was defined as approaches that reduce risk factors or enhance protective processes that influence the likelihood that a young person will become suicidal (i.e., earlier or “upstream” in the pathways that lead to suicide).

The meeting was co-sponsored by the American Association of Suicidology (AAS) and the Society for the Prevention of Teen Suicide (SPTS). Appendix A contains a complete list of meeting participants who have reviewed the summary and approved its contents.

This document provides a brief summary of that meeting and is intended for anyone who has an interest in youth suicide prevention. It is organized into the following four sections, which correspond to the objectives of the meeting:

- Why is upstream suicide prevention important?
- What evidence supports upstream approaches?
- What are the barriers to the use of upstream approaches?
- What are action steps to overcome barriers to upstream suicide prevention?

I. Why is Upstream Suicide Prevention Important?

Rates of Youth Suicide Have Not Declined During Past Decade

Suicide remains a major public health problem and is the third leading cause of death among people ages 15 to 24. Since 2000, rates of suicide among 10- to 24-year-olds in the U.S. have remained flat. Minimal progress has been made in reaching suicide prevention goals outlined in the National Strategy for Suicide Prevention (USHSS, 2001) or in Healthy People 2010 (USHSS, 2010). For example, the Healthy People 2010 goals included overall reduction in suicide deaths by 50% and reduction in medically serious suicide attempts by youth from 2.6% to 1%. Neither goal is close to being met.

We believe this lack of progress should force us to consider adding new strategies to our current national approach to youth suicide prevention. This current approach is focused primarily on those believed to be at more immediate risk of suicide or already manifesting problems that place them at future risk. But for many youth who will die by suicide, there are many missed windows of opportunity for intervention prior to the period of imminent risk and before problems develop. Just as deaths due to heart disease in adulthood can more effectively be reduced by encouraging lifelong habits of diet and exercise, suicide deaths among adolescents and young adults could also be reduced by successful interventions throughout childhood and adolescence. In addition
to lives lost through suicide, continued lack of progress in lowering youth suicide rates threatens ongoing support and funding for suicide prevention programming as well as for research.

Scientific studies of risk and protective processes for suicide and how interventions modify those factors suggest that broadening youth suicide prevention programming to include a direct focus on modifying upstream risk and protective factors in large population groups has the potential to reduce suicide rates.

**Narrow Focus of Current Youth Suicide Prevention Paradigm**

At present, youth suicide prevention programming in the U.S. is focused almost exclusively on youth who are already suicidal and, to a lesser extent, on youth in high-risk groups defined by other symptoms or problems. Nearly all widely used youth suicide prevention programs apply different case identification methods to expand recognition and referral for treatment services of suicidal youth and/or youth with elevated depression symptoms, other mental health problems, or substance abuse problems. Gatekeeper training and screening are the most widely used strategies, and both have been extensively employed by states, tribal groups, and college campuses funded by the Garrett Lee Smith Memorial Act.

Along the continuum of public health interventions, the present paradigm for youth suicide prevention utilizes a narrow range of approaches by focusing on individuals already manifesting suicidal thoughts or behaviors, distress, or disordered behavior, and by focusing primarily on reducing individual-level risk factors. We should continue to seek ways to improve this approach for high-risk youth. But no matter how effective this approach is, this strategy is unlikely to have any effect on those whom we cannot identify as being at high risk or on younger children who have not yet entered the age during which suicide rates rise precipitously.

**Limitations of Prevention Programming Focusing on High-Risk Youth**

Even in the most optimistic case, strategies limited to increasing treatment services for high-risk groups will not produce dramatic reductions in youth suicide rates (Brown, 2001). The potential population reduction in youth suicide from treating a high-risk condition is a function of its prevalence and associated increase in relative risk for suicide. Although the total potential population reduction in suicides possible by reducing all risk from disorders such as substance abuse/dependence is substantial, large reductions in suicide rates are unlikely to result from an exclusive focus on treating high-risk groups for several reasons.

Relying on existing mental health and other services (e.g., substance abuse treatment) will not meet the needs of many suicidal youth. A majority of children and adolescents with mental, emotional and behavioral disorders, such as depression, do not receive treatment, and the treatment system as it currently exists cannot fully address the need (O’Connell, Boat, Warner eds., 2009). In many communities with the highest rates of youth suicide, reliance on referrals to the mental health system to address the needs of suicidal youth will not suit those communities’ ability to provide accessible, effective services. For example, suicides disproportionately affect Native American and Alaska Native youth, particularly males; however, a recent U.S. Inspector General’s report documented significant gaps in both mental health and substance abuse services in native communities (U.S. Public Health Service, 2011).
Minimal evidence has been reported to date indicating that use of usual mental health treatment services reduces suicide risk in adolescents and young adults. Moreover, common psychiatric treatments may not have as large an impact for youth on reducing risk for suicide as has been found for adults. For example, whereas a recent study reported that the antidepressant fluoxetine reduced depression symptoms in adults and was linked to fewer incidents of suicidal behavior, fluoxetine treatment for adolescents reduced their depression symptoms, but did not have a significant impact on reducing suicidal behavior (Gibbons et al., 2012).

Addressing the treatment needs of high-risk youth is important—and doing so will likely save lives. However, for the reasons noted above, other approaches, including upstream approaches, should be included in the battle against youth suicide.

**Expanding Youth Suicide Prevention Paradigm Can Reduce Suicide Rates**

Expanding suicide prevention programming to include a focus on modifying upstream risk and protective processes in large populations—aimed at reducing the likelihood that youth in those populations will become suicidal—has the potential to reduce significantly rates of suicide for the following reasons:

1. The potential for large population reductions in suicide rates is greater for approaches that target more common, lower-risk conditions compared to approaches that target the less common, highest-risk conditions. This concept is illustrated by Rose’s theorem (1992), which posits that a small effect on a more common, low-to moderate-risk factor in the population can have a bigger population-level impact than a large effect on a higher risk factor that affects fewer people. Applied to suicide prevention, this concept suggests that improving all of our youths’ capacity to master challenges, lessening hopelessness and increasing the capacity of social systems to meet children’s social and emotional needs may set the stage for lower suicide rates later on.

2. Targeting risk and protective factors that influence multiple problem outcomes is likely to be more efficient at reducing suicides than targeting the highest-risk conditions. For example, young school-age children with elevated aggressive-disruptive behaviors are more likely to have a wide array of later problems, including substance abuse problems, delinquency, and school dropout, all of which increase risk for suicidal behaviors.

3. Universal interventions that target large populations such as secondary schools or entire communities have the potential to reduce risk for suicide in large numbers of youth, which is essential in order to have an impact on population rates of suicide.

**II. What Evidence Supports Upstream Approaches?**

There is robust evidence that mental, emotional and behavior disorders, which are risk factors for suicide, can be prevented through a variety of intervention strategies (see National Academy of Science report: O’Connell, Boat, Warner eds., 2009). Because most mental health and behavior problems have their origins during childhood—about one-half of mental health disorders have onset by age 14—childhood and adolescence are key “prevention window” periods for reducing these risk factors for suicide. Effective prevention programs exist across childhood and young adulthood developmental phases: home visitation programs for prenatal and infancy periods,
parenting skills training programs tailored for children and families from infancy through adolescence, and classroom-based curricula during school years.

Other promising intervention strategies change ‘upstream’ risk and protective factors at the level of social systems, such as strengthening positive coping norms and reducing binge drinking across a high school population or engaging entire communities to implement evidence-based programs.

Currently, however, there is minimal direct evidence that upstream approaches reduce suicidal behaviors, with the notable exception of the Good Behavior Game (discussed in detail below). One of the reasons for this minimal evidence is that suicide-related thoughts and behaviors have not typically been measured as an outcome of broader prevention programs.

**Preventive Interventions Reduce Depression**
Depression in youth and adults strongly increases risk for suicidal behavior, and there are a variety of effective and safe tools for preventing depression as well as for treatment. Examples of preventive interventions shown to reduce depression symptoms include programs that target children in families in which one or both parents have depressive disorders (Family Talk; Beardslee et al., 2008); parent and child coping skills training (Compas et al., in press); and group-based programs for at-risk adolescents (Garber et al., 2009). Depression prevention has also been shown as an outcome of other interventions that strengthen families and individuals to accomplish age-appropriate developmental tasks, e.g., interventions to address challenges following divorce (Wolchik et al., 2002).

**Interventions for Children Under Stress That Reduce Multiple Problems Over Time**
Other effective prevention programs target children at elevated risk due to family disruptions, which can set off a cascade of effects leading to increased problems during adolescence and adulthood. The New Beginnings Program (Wolchik et al., 2002) and Family Bereavement Program (Sandler et al., 2003), which target children who have experienced parent marital disruption and death of a parent, respectively, are two illustrative examples. With components aimed at strengthening parent functioning, parenting competence, and child coping skills specific to their life contexts, both programs have been shown to reduce the severity and onset of a range of internalizing and externalizing problems, with positive effects lasting over a decade. Notably, positive risk-reducing effects have increased over time in both programs, suggesting that strengthening family functioning and child coping can initiate cascading positive effects influencing mental health, behavior, and quality of life.

**Prevention at the Level of Social Systems**
Prevention programs that target all members of a social system or population are particularly promising as a means to effective upstream suicide prevention. An illustrative example is the Communities that Care (CTC) model, designed to build community capacity to change youth outcomes. The CTC operating system provides tools and skills for communities to assess resources and needs, build local coalitions, and implement evidence-based programs, and has been found effective through rigorous evaluations in decreasing substance use and violence exposure at a community level (Hawkins et al., 2008).
In addition, there is evidence that trained adolescent peer opinion leaders can enhance positive school-wide norms for coping with emotional distress and life stressors that may be triggers for suicidal behaviors (Sources of Strength; Wyman et al., 2010). Given the magnified influence of peers and social norms on an array of health behaviors during adolescence, and on suicidal behaviors specifically (Gould et al. 2005), interventions involving adolescents to change social norms and school environment can reach large numbers and potentially have population-level impact. Bullying behavior can be reduced in secondary schools by high-quality implementation of effective programs (Olweus, 2005) as can drinking behaviors and norms (Botvin et al., 1995), thereby reducing system-wide behaviors that increase risk for suicide in individuals.

**Evidence that Early Prevention Reduces Suicidal Behavior: The Good Behavior Game**

The Good Behavior Game (GBG), when implemented in first and second grade urban classrooms, reduced by one-half rates of suicidal ideation and attempts occurring by age 19–21 (Wilcox et al., 2008). This seminal finding shows the potential for upstream approaches that reduce early risk factors shared by multiple problem outcomes. By training teachers to promote positive classroom behavior through peer group reinforcement, the GBG reduced aggressive-disruptive behavior problems through elementary school and had broadening effects in adolescence by reducing substance use/abuse, conduct problems, and high-risk sex behaviors through ages 19–21 (Kellam et al., 2008).

**Mechanisms for Reducing Suicide Rates Through Upstream Prevention**

To advance a conceptual framework for upstream youth suicide prevention, five mechanisms were proposed for how prevention programs may reduce the likelihood that youth will enter a trajectory of suicidal behavior (Wyman et al., in preparation). These mechanisms illustrate upstream prevention occurring on a continuum. For younger age groups, upstream prevention can enhance developmental trajectories well before the emergence of many risk factors for suicide. For older groups of youth, upstream prevention includes strengthening secondary school environments to reduce the number of vulnerable students who become suicidal. The five mechanisms are as follows:

1. Reducing the incidence or severity of risk factors for suicidal behavior, which include mental health, behavioral and substance use problems, as well as adverse life experiences. Universal programs for large population groups that prevent early life risk factors (e.g., aggressive behavior problems) leading to multiple problem outcomes in adolescence may have the greatest impact in reducing suicide rates.

2. Promoting more competent settings in which children develop, such as more competent classrooms and parent-child relationships, thereby reducing the acceleration of problems. Interventions that simultaneously reduce early individual-level risk factors and create more healthy settings may have additive impact on reducing suicide rates.

3. Reducing triggering events and conditions for suicide, such as lowering rates of school-wide bullying or binge drinking. School-and community-based programs, as well as changes in laws and policies, have shown impact on reducing triggering conditions for suicide.
4. Enhancing intergenerational protective processes, such as positive youth-adult connectedness, and strengthening parenting especially in families facing adversity such as parental bereavement, divorce, or parental depression.

5. Promoting transmission of protective norms and practices through natural youth social networks, such as positive coping with normative stress events (e.g., breakups) and help-seeking norms (e.g., reducing stigma for seeking help for depression).

Other strategies, such as decreasing children’s access to lethal means (e.g., firearms), may also be cost-effective in reducing suicide deaths. However, restricting access to lethal means is not strictly speaking an upstream approach that will prevent the likelihood that youth will become suicidal.

III. What are the Barriers to Use of Upstream Approaches?

The limitations of case identification and referral approaches to suicide prevention and the rationale for expanding suicide prevention approaches to target upstream factors have been noted previously (e.g., King, 1998) including in the Institute of Medicine’s Reducing Suicide: A National Imperative (Goldsmith et al., 2002). However, progress has been slow in expanding the youth suicide prevention paradigm, likely due to a number of scientific, policy/funding and advocacy barriers.

Scientific Barriers
Despite the strong evidence that many risk and protective factors for youth suicide can be modified through preventive interventions, evidence that prevention programs reduce suicidal behavior and suicide mortality is limited. Direct suicide prevention evidence is needed to strengthen the commitment and support of federal and state funders, advocates and practitioners.

Currently, few large-scale studies of prevention programs targeting substance use/abuse, violence and other key target problems systematically assess suicidal behavior in follow-ups of participants in randomized trials. Contributing factors include the perception that assessing suicidal behavior will escalate unmanageable safety, logistical, and liability issues. Use of various ad hoc or less-than-optimal measures of suicidal behavior also limits comparisons across intervention trials.

Testing whether any specific intervention, evaluated through any single study, reduces suicide mortality will be extremely difficult to achieve. Up to one million person-years of study may be required to detect a reduction in youth suicide deaths due to an intervention. Strategies are available to address these methodological challenges to identifying intervention approaches that can reduce suicidal behavior and, potentially, suicide rates.

Policy and Advocacy Barriers
Some influential groups adhere to the view that suicide is primarily or exclusively a problem of mental illness, and the solution to preventing suicide requires treatments for mental illness. Although this perspective may contribute to perceptions that effective treatments for mental illnesses exist, gaining the support of influential policy groups for developing and implementing a broad range of effective suicide prevention strategies is critical to reducing suicide rates.
Working directly to help suicidal individuals has been a strong motivator for suicide prevention advocates and survivors. Expanding perceptions of suicide prevention to include intervening with young children or with populations of primarily non-suicidal individuals may be challenging and must be accomplished without diminishing commitment and enthusiasm.

The present economic challenges have strained suicide prevention resources and activities in many states and communities. Expanding suicide prevention activities to include upstream approaches raises the possibility of creating competition among groups of practitioners and within communities for scarce resources.

**Implementation and Cultural Barriers**

Few upstream prevention approaches have been developed in partnership with American Indian or Alaska Native communities, which have among the highest youth suicide rates. Differences in worldview, health and community-defined evidence, and evidence-based practices are among the barriers that require bridging in order for effective, accessible programs to be available. Among those suicide prevention programs that have been developed through partnerships with Native American communities and show promise (e.g., LaFromboise & Howard-Pitney, 1995), few have been taken to scale. A lack of culturally appropriate or culturally tailored prevention programs remains a limitation for other groups including Hispanics/Latinos. Important gaps remain in the knowledge of how to inform cultural tailoring and adaptation of programs while maintaining fidelity to their core principles.

In most parts of the U.S., rural communities have the highest rates of youth suicide and often the fewest resources for prevention or treatment. Effective strategies in more populated areas may not translate effectively into rural communities.

Schools are the settings in which many evidence-based prevention programs are implemented and which can impact large enough numbers of children to reduce suicide rates. The potential for schools to become partners in suicide prevention may be limited by their numerous competing demands, priorities, and fiscal challenges.

Implementing prevention programs with the fidelity required for communities to meet their prevention goals and for programs to have their intended effects on reducing suicides is a major challenge and will require new, creative solutions.

**IV. What are Action Steps to Overcome Barriers to Upstream Suicide Prevention?**

Three primary action steps to address barriers to upstream suicide prevention were identified as part of the expert meeting.

**(A) Expand and Disseminate the Evidence Base on Effective Upstream Approaches**

1. Develop resources to assist prevention scientists and other community researchers to incorporate measures of suicidal behavior and risk into their research. Among the needed resources are: protocols for responding and accessing help for suicidal individuals, and
lists of measures recommended by experts and policy makers. In tandem, create encouragements for prevention scientists to include measures of suicidal behavior in future follow-up evaluations of programs.

2. Garner support from federal, state and other funders for research that combines findings from the large number of prevention studies conducted over recent decades. This research can draw on new methods that allow studies of different prevention programs to be combined in order to identify common mechanisms and effects. Prevention studies that have included measures of suicidal behavior provide potentially valuable data to identify effective suicide prevention mechanisms.

3. As suicide prevention programs are rolled out in states and communities, use high-quality evaluation designs by creating partnerships and developing incentives. Examples include “roll-out” randomized designs used to evaluate suicide prevention training (Brown et al., 2007; Wyman et al., 2008). Prevention and health promotion programs supported by SAMSHA (e.g., The Good Behavior Game grant program) provide additional opportunities for evaluation.

4. Develop culturally responsive and effective prevention programs in partnership with American Indian and Alaska Native groups. One approach is that of ‘cross-walking’ prevention strategies with knowledge and wisdom found throughout traditional teachings and practices. In addition, develop resources and knowledge to inform culturally responsive implementation of existing prevention programs and support communities to contribute to defining the measures of evidence.

5. Develop relevant, effective prevention programs in partnership with Latino-Hispanic, other race/ethnic groups, LGBTQ groups, families of military personnel and other organizations representing high-need populations.

6. As upstream suicide prevention strategies are rolled out, incorporate research and evaluation on effective implementation strategies in order to learn how to maximize fidelity and impact.

(B) Build Partnerships to Advance Upstream Approaches

1. Bring together survivors, practitioners and researchers in suicide prevention to develop common language and common ground necessary to advocate for upstream prevention and identify priorities. Survivors of suicide have served an essential role in advancing suicide prevention, and their support is needed to expand the youth suicide prevention paradigm.

2. Summaries of the rationale and need for upstream suicide prevention written in non-technical language are needed, as well as forums for communicating this information.

3. Create new partnerships between members of the suicide prevention field (researchers, practitioners, and survivors) and other prevention scientists to stimulate innovative new questions about suicide prevention mechanisms and strategies.
(C) Integrate Upstream Suicide Prevention with Education and Other Health Promotion Goals

1. Build new partnerships between educators, policymakers and researchers in diverse health promotion fields (e.g., substance use, criminal justice, child welfare) and the suicide prevention field to integrate common prevention goals. For example, because risk and protective factors for suicide prevention share much in common with factors that are important to educators (e.g., behaviorally competent students) and other health promotion fields, numerous opportunities exist for collaboration and integration.
References


Appendix A: Expert Meeting Participants

Listed below are those who attended the April 18, 2012, *Expanding the Youth Suicide Prevention Paradigm: Establishing and Promoting the Importance of Upstream Suicide Prevention Approaches* meeting. Participants represented diverse stakeholder groups that comprise the suicide prevention field: survivors, practitioners, prevention researchers, representatives of special populations (i.e. tribal communities) and federal agencies. The meeting was co-sponsored by the American Association of Suicidology (AAS) and the Society for the Prevention of Teen Suicide (SPTS).

<table>
<thead>
<tr>
<th>Name</th>
<th>Affiliation (at time of meeting)</th>
</tr>
</thead>
<tbody>
<tr>
<td>William R. Beardslee</td>
<td>Harvard Medical School</td>
</tr>
<tr>
<td>Lidia S. Bernik</td>
<td>National Suicide Prevention Lifeline</td>
</tr>
<tr>
<td>C. Hendricks Brown</td>
<td>University of Miami</td>
</tr>
<tr>
<td>Richard F. Catalano **</td>
<td>University of Washington</td>
</tr>
<tr>
<td>Cheryl DiCara</td>
<td>Maine Youth Suicide Prevention Program</td>
</tr>
<tr>
<td>Scott Fritz*</td>
<td>Society for the Prevention of Teen Suicide</td>
</tr>
<tr>
<td>Cheryl A. King</td>
<td>University of Michigan</td>
</tr>
<tr>
<td>Dorian A. Lamis</td>
<td>University of South Carolina</td>
</tr>
<tr>
<td>Effie Malley*</td>
<td>American Association of Suicidology</td>
</tr>
<tr>
<td>Richard McKeon</td>
<td>Substance Abuse and Mental Health Services Administration</td>
</tr>
<tr>
<td>Jane Pearson</td>
<td>National Institute of Mental Health</td>
</tr>
<tr>
<td>Philip Rodgers*</td>
<td>American Foundation for Suicide Prevention</td>
</tr>
<tr>
<td>Irwin Sandler</td>
<td>Arizona State University</td>
</tr>
<tr>
<td>Michelle Scott</td>
<td>Monmouth University</td>
</tr>
<tr>
<td>Maureen Underwood*</td>
<td>Society for the Prevention of Teen Suicide</td>
</tr>
<tr>
<td>Peter A. Wyman*</td>
<td>University of Rochester School of Medicine and Dentistry</td>
</tr>
<tr>
<td>Cortney Yarholar</td>
<td>Suicide Prevention Resource Center</td>
</tr>
</tbody>
</table>

** Participated in the meeting by telephone and Internet

* Member of the organizing committee