



## Preventing Suicidal Behavior

### Public Health Burden

Injury from suicidal behavior is a major public health problem in the United States. In 1999, suicide was the eleventh leading cause of death overall in the U.S.; it was the third leading cause of death among people ages 15 to 24 and second among people ages 25 to 34. Although suicide is a problem among youths and young adults, rates of death due to suicide continue to be highest among people ages 65 and older.

The number of completed suicides reflects only a small portion of the impact of suicidal behavior. Many more people are hospitalized as a result of nonfatal suicide attempts than are fatally injured, and a still greater number are treated in ambulatory settings or are not treated at all for injuries resulting from suicidal acts. Data from the 1999 Youth Risk Behavior Survey indicate that 8.3% of all high school students reported attempting suicide in the 12 months before the survey, which translates into approximately 1.3 million students across the U.S. Prior studies have also shown a high prevalence of nonfatal suicidal behavior among adults. According to data from the National Hospital Ambulatory Medical Care Survey, an estimated 671,000 visits were made to U.S. hospital emergency departments for self-directed violence in 1998. Other research indicates that more than 70% of people who attempt suicide never seek health services afterwards. As a result, prevalence figures based on health records substantially underestimate the societal burden of suicidal behavior.

### The Injury Center's Niche in Preventing Suicidal Behavior

Injuries and deaths resulting from self-directed violent behaviors represent a substantial drain on the economic, social, and health resources of the nation. The Injury Center seeks to lessen these burdens by developing and promoting the widespread adoption of policies and practices that effectively prevent suicide and suicidal behaviors. A center within CDC, the Injury Center is uniquely positioned to address the need for effective, population-based prevention and intervention strategies. Currently, however, public perceptions that suicide is solely a mental health issue and a lack of scientific knowledge about effective population-based strategies hinder efforts to intervene and prevent suicide.

To address these challenges, the Injury Center draws on historical strengths and continues to expand into areas where suicide experts have identified substantial needs that the Injury Center should address. These activities fall into four categories:

- Disseminating information about suicidal behavior and its

prevention by supporting the implementation of proven programs and policies.

- Applying scientific methods to evaluate the effectiveness of current intervention and prevention programs.
- Enhancing the knowledge base about risk and protective factors and the consequences of suicidal behavior in order to develop more effective prevention strategies.
- Continuing to improve methods for data collection in order to describe and track suicidal behaviors.

The Injury Center works with a variety of partners at the local, state, and national levels to disseminate scientific information about suicide prevention. These efforts are directed to the public, policy makers, health departments, community-based organizations, and other entities. By promoting research that addresses the information needs of constituents, the Injury Center contributes substantially to encouraging widespread adoption of effective suicide prevention strategies.

Many communities have implemented a wide range of programs that attempt to reduce injuries and deaths resulting from self-directed violence. Little is known, however, about the effectiveness of these programs. Finding successful strategies, especially those that focus on developing positive skills and social relationships, may also have a broad impact on an array of violent behaviors. Given the Injury Center's ongoing activities in child maltreatment, youth violence, and intimate partner violence prevention, it is in a unique position to support the development and evaluation of programs that address suicide and interpersonal violence prevention within an integrated framework. In addition, while research has identified many important risk and protective factors for suicidal behavior, studies have rarely investigated the interaction between these factors. Developing a better understanding of the dynamics of suicidal behavior is essential for building effective interventions.

Several other federal agencies and national organizations focus significant research efforts on understanding the causes of suicidal behavior and its prevention. The Injury Center collaborates regularly with these groups as evidenced by the recent release of the Surgeon General's *National Strategy to Prevent Suicide*. The Injury Center's contributions to suicide prevention highlight public health interventions and broad-based strategies that complement important mental health research and treatment efforts conducted by key federal partners at the National Institute of Mental Health and the Substance Abuse and Mental Health Services Administration.

### **The Injury Center's Research Priorities in Preventing Suicidal Behavior**

Every research priority in this agenda is important. After considering input from experts in the field, Injury Center staff identified the seven most important priorities, those that warrant the greatest attention and intramural and extramural resources from the Injury Center over the next three to five years. They are designated with asterisks.

#### **Priorities**

**A.\* Develop, evaluate, and institutionalize processes for creating and implementing suicide prevention activities.**

Many state and local health departments and other agencies across the U.S. are developing community, regional, or statewide suicide prevention plans and implementing them across their jurisdictions. However, researchers currently know very little about the ways that broader political and social processes affect the creation and implementation of large-scale suicide prevention plans and activities. To foster the widespread adoption of effective programs and policies, researchers must examine how states and communities develop suicide prevention plans; study how agencies establish cooperation and coordination across agencies; identify key infrastructure requirements for plan adoption; recognize barriers to universal implementation; and develop strategies to overcome these barriers to enhance the power of implementation. By supporting research addressing these key issues, the Injury Center can contribute to the larger effort to plan for and establish effective suicide prevention activities at the local, state, and national levels.

**B.\* Evaluate the impact of restricting access to lethal means used in suicidal behavior.**

Research indicates that the means used in suicidal behavior (e.g., jumping from a bridge or using a firearm versus taking pills) has a substantial impact on whether the act results in significant injury or death. When people have easy access to highly lethal means, the likelihood of serious injury and death increases. Early evidence suggests that restricting access to specific means used in suicidal behavior (e.g., installing bridge barriers) can reduce overall rates of suicide-related death and injury. Debates about this strategy continue because the majority of means-restriction policies and interventions have not been tested.

Additionally, there is a substantial gap in scientific knowledge about how suicidal individuals choose among means. Previous research has shown that without ready access to lethal means, some individuals will choose not to engage in a suicidal act or will be more likely to survive their injuries; however, some subset of suicidal individuals will substitute other means. This substitution may shift the death from one cause category to another rather than preventing it. Researchers can better understand the potential impact of means-restriction interventions by learning more about how individuals make choices about the means they use. Furthermore, if researchers demonstrate that means-restriction policies effectively reduce suicide mortality and serious injury, additional investigation will be necessary to learn how to increase the acceptability of these policies so they can be implemented nationwide.

**C.\* Evaluate whether interventions proven to reduce other forms of violence can also prevent suicidal behavior.**

Researchers have documented the success of several different types of intervention strategies designed to reduce behaviors that are either risk factors for suicidal behavior (e.g., child abuse and neglect, alcohol and drug abuse) or outcomes with similar risk factor profiles (e.g., youth interpersonal violence). Especially promising among them are comprehensive parenting programs that provide usable knowledge to parents of young children and adolescents and improve child-rearing skills, and positive health promotion strategies that seek to enhance social competency, conflict management, and coping skills.

Given the overlap between suicide and other behavioral problems, such strategies show strong potential for preventing suicidal behaviors. But few, if any, evaluations of these programs have examined the direct impact on suicidal behaviors. At present, the lack of well-designed suicide prevention and intervention research that

can demonstrate an effective reduction in suicidal behaviors is a major deficiency in the field. Including suicide prevention in interventions for behavioral health threats that overlap with suicide has the potential to bring a wide range of physical and emotional health benefits to the population. In addition, by examining proven prevention programs that target common risk or protective factors for suicidal behavior, researchers can build on existing programs to make more efficient use of limited resources and eliminate potential redundancies.

**D.\* Evaluate the efficacy and effectiveness of interventions to prevent suicidal behavior.**

Arguably, the greatest challenge in the field of suicide prevention is identifying strategies and programs that actually reduce the occurrence of suicide-related death and injury. In their attempts to respond to community concerns about self-directed violence, many public and private organizations have rushed to implement suicide prevention activities. These activities include interventions to increase primary care providers' awareness of suicide as a problem and to promote patient screening for suicidal thoughts and suicide attempts. Other efforts focus on strategies implemented after a crisis or traumatic event has occurred. Although several types of interventions have been developed for use in schools and other specific settings after a suicide, research does not appear to support the claim that such efforts prevent additional suicidal behavior. Furthermore, while adult males ages 25 to 50 make up the majority of suicide deaths, few interventions focus specifically on this group.

In sum, little is known about whether current approaches effectively reduce injuries and deaths resulting from self-directed violence. Because many programs are already in place, they represent a significant opportunity to study prevailing practices and demonstrate their impact on suicidal behavior. As researchers evaluate these activities, they can also improve methods for identifying promising strategies and programs.

**E.\* Clarify the influence of contextual forces on rates of suicidal behavior.**

Previous research indicates that a variety of non-mental health factors can significantly affect rates of suicidal behavior and completed suicides. These are societal- and community-level factors such as the structure of social relationships (e.g., the percentage of people in the community who are involved in religious activities); changes in the economy; community norms, values, and attitudes; and the availability of resources for people who are struggling with day-to-day difficulties. The evidence also suggests that these influences can vary in their presence and impact across demographic groups. Researchers do not clearly understand the mechanisms through which these broad, community-level factors affect rates of suicidal behavior, which hinders their ability to design effective prevention strategies. Researchers, practitioners, and public health agencies need this information to design and test more population-based approaches that will effectively reduce suicide-related injuries and deaths in particular communities.

**F.\* Clarify the impact of individual-level risk and protective factors on suicidal behavior.**

While individual mental health problems can contribute substantially to suicidal behavior, mental disorder alone does not cause it. Numerous additional factors may increase the risk of suicidal behavior in some individuals. These include stressful life events such as the death of a relative or losing a job; ongoing difficulties such as

child maltreatment, bullying, intimate partner violence, physical illness or disability; and social isolation characterized by living alone and having few or no social supports. But researchers still lack insight into how these problems affect suicide risk. Under some conditions, difficult life events appear to motivate individuals to develop more effective coping skills, thereby enhancing protection against suicidal behaviors. Current research perspectives, however, generally fail to acknowledge these challenges as possible opportunities for suicide prevention. As a result, very little is known about how to recognize and bolster potentially protective effects.

In addition to life stresses and social isolation, other individual-level problems such as substance use or abuse and a tendency toward impulsive behavior significantly increase the risk of suicidal behavior. As with life events and interpersonal difficulties, though, it is not clear how and under what conditions substance use or abuse and impulsiveness may increase the likelihood of suicidal behavior. More research is needed to understand the individual-level dynamics of suicidal behavior, in particular, how ongoing stresses, difficult events, interpersonal and familial relationships (including parenting practices), as well as impulsiveness and substance use or abuse, affect the likelihood of suicide across the life span. The Injury Center would contribute substantially to the development of effective interventions by bringing a more dynamic and socially informed understanding of suicidal behavior into risk and protection research.

**G.\* Develop better methods for collecting data about fatal suicides, nonfatal suicidal acts, and related behaviors.**

Having accurate, timely, and accessible information about suicidal behaviors is crucial, both for tracking the problem of suicide and for evaluating the effectiveness of interventions. Information should include data about suicidal behaviors that result in death, hospitalization, or outpatient medical treatment, as well as those where no medical care is sought. Currently, national data about self-directed violence are limited almost exclusively to fatalities; however, estimates indicate that for each suicide fatality, approximately 20 people may be seen in hospital emergency departments for attempted suicide. The Injury Center is working to enhance the quality of suicide injury data collected from hospital emergency departments, but very little is known about injuries due to suicidal behaviors that are treated in other settings or not treated at all.

Additionally, there is general consensus that official fatality data underestimate the number of suicide deaths and that there may be differential undercounting among groups, such as women, with relatively low suicide rates. To create and implement enhanced surveillance strategies, researchers must refine and validate current definitions of suicide, attempted suicide, and related behaviors; develop better methods for implementing high-quality, timely data collection systems (including data systems outside of the health and medical community); and evaluate the utility, quality, and efficiency of the data and collection procedures.

**H. Develop and evaluate methods to disseminate information about effective suicide prevention strategies and interventions.**

As effective suicide prevention strategies and interventions are recognized, it will become increasingly important to identify successful methods and mechanisms for disseminating and encouraging the adoption of those evidence-based interventions. Research is needed to identify key audiences for programs, uncover the best formats and channels for providing information to ensure that it is useful, and assess the level and kinds of training and technical assistance required for

successful implementation. At present, little is known about the role and impact of specific models for distributing information about and support for interventions to prevent suicidal behavior and intentional, self-inflicted injuries. By supporting this line of research, the Injury Center will fulfill its role in promoting the widespread adoption of successful suicide prevention programs.

#### **I. Examine how effective interventions can be modified for diverse and culturally distinct populations.**

Accumulated research evidence indicates that rates of suicidal behaviors and suicide risk profiles can vary widely among distinct social and cultural groups. For example, among American Indians, some subgroups have severely elevated levels of suicide mortality; African American females have especially low rates of suicide mortality, but they may have high rates of nonfatal suicidal behavior. It is not clear whether gay, lesbian, bisexual, and transgendered youths have elevated levels of nonfatal suicidal behavior because findings from different studies have been contradictory. These rate disparities suggest that there is wide variation in suicide risk across social and cultural groups. In addition, risk and protective factors may affect suicidal behavior differently in specific populations.

Intervention strategies must be robust enough to account for social and cultural differences because such variations may affect the impact of prevention activities. Strategies that are effective with one group either may not be effective with others or may need to be tailored in particular ways to maintain their effectiveness and ensure that they are culturally acceptable. Presently, however, a substantial gap exists in the knowledge about how to translate interventions across groups or contexts while ensuring that modifications do not compromise the intervention's essential components. Studies must examine how social and cultural factors such as stigma, beliefs about suicide and suicide acceptability, and social and cultural history might alter how a community views an intervention. Understanding how to modify strategies proven effective in other settings will improve substantially the likelihood that interventions will be acceptable to diverse communities.

#### **J. Create and evaluate new communication campaigns for suicide prevention.**

Experts believe that greater public understanding of suicide would enhance prevention efforts. It is important to raise awareness about key risk factors for suicide, emphasize the fact that suicidal behavior is preventable, and reduce the stigma associated with seeking help for suicidal feelings. To accomplish these tasks, researchers and practitioners need to know more about how to construct general and targeted public education campaigns to maximize their beneficial effects; that is, identify the messages that work as well as the audiences for which those messages are effective. Campaigns should also be evaluated to determine whether they have a substantial impact on audiences' understanding of and beliefs about suicidal behavior. Evaluation findings will be useful in refining communication messages to enhance their impact.

#### **K. Evaluate the influence of news and entertainment media on suicidal behavior.**

Research supports the potential for "contagion" effects of factual news stories about suicidal behavior, particularly among youths and young adults, but the effect of fictional portrayals on vulnerable individuals is unclear. Specifically, research is needed to understand how both fictional and nonfictional media accounts influence

individuals to engage in suicidal behavior, as well as how to construct messages and portrayals that discourage suicidal behavior.

**L. Clarify the relationship between suicidal thoughts and feelings and suicidal behavior.**

Thoughts of suicide, whether or not expressed to others, often precede suicidal acts. Researchers typically conceptualize the range of suicidality as a continuum extending from ideas and thoughts about suicide that are not acted upon to nonfatal suicidal acts to completed suicide. The process through which individuals move from thought to action, however, remains unclear. Few who experience suicidal ideas and thoughts engage in self-injurious behavior, and even fewer die from these behaviors. Evidence suggests that some subgroups of individuals grapple repeatedly with suicidal ideation and may make numerous nonfatal attempts. While identifying individuals struggling with suicidal ideation presents an important opportunity for intervention, better knowledge about how ideation moves into action—both for the first time and over the course of repeated acts—will help researchers develop intervention strategies that can counter the process more effectively.

**M. Quantify the social and economic costs of suicidal behavior.**

Fatal and nonfatal suicidal behaviors result in significant medical, economic, and social costs, including lost wages and trauma for family members and friends. Little research, however, has focused on quantifying the total costs of suicidal behavior in the U.S., in either monetary or nonmonetary terms. The definition of nonmonetary costs such as pain, suffering, and reduced quality of life needs further exploration and refinement. Such information would be useful for educating the public about the need for prevention as well as for assessing the cost-effectiveness of prevention programs.

**N. Examine how characteristics of specific institutional settings affect risk for suicidal behavior and evaluate the effectiveness of interventions designed to reduce risk in these settings.**

Relatively little is known about how the physical and social characteristics of specific institutional settings such as schools and jails can heighten or lessen the risk of suicidal behavior. More research is needed to understand how suicidal individuals may or may not be recognized within specific social and institutional settings. Researchers also need to examine the organizational or institutional factors that facilitate effective interventions when suicidal individuals are identified. Such factors include physical features of the environment that allow staff to monitor students or clients effectively and students' or clients' abilities to access means for engaging in suicidal behavior.

**O. Determine the long-term consequences of nonfatal suicidal behavior.**

There is substantial evidence that individuals who die from suicide often have a history of previous suicide attempts. Yet little research exists about the long-term outcomes of nonfatal suicidal behavior. Studies are needed to follow suicidal individuals to determine whether suicidal thoughts and behaviors are likely to abate over time, and if so, to identify the factors that increase the likelihood of diminution.



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