

# Promoting Individual, Family, and Community Connectedness to Prevent Suicidal Behavior

This document describes a five-year vision for the Centers for Disease Control and Prevention's (CDC) work to prevent fatal and nonfatal suicidal behavior. The strategic direction we propose is to prevent suicidal behavior by building and strengthening connectedness or social bonds within and among persons, families, and communities.

## *Background*

In the United States and around the world, self-directed violence is a serious public health problem. Such violence includes acts of suicidal behavior (fatal and nonfatal attempts), suicidal ideation (thinking about, considering, or planning for suicide), and nonsuicidal, intentional self-harm (behaviors with the intention not to kill oneself, as in self-mutilation).<sup>1,2,3</sup> Fatal and nonfatal suicidal behavior has a most pronounced morbidity and mortality and is thus the focus of CDC's Division of Violence Prevention's (DVP) strategic direction. In 2005, 32,637 suicides occurred—the 11<sup>th</sup> leading cause of death.<sup>4</sup> Because of suicide's greater effect on adolescents and young adults relative to other causes of death, suicide ranked as the fifth leading cause of years of potential life lost before age 65.<sup>5</sup> In fact, in 2005, suicide was the third leading cause of death for 10- to 24-year-olds, and the second leading cause of death for 25- to 34-year-olds. Moreover, although suicide remains a problem among youth and young adults, overall rates of death due to suicide continue highest among persons aged 65 and older.<sup>6</sup>

Yet the number of suicides reflects only a small portion of the problem. Many more people are hospitalized due to nonfatal suicidal behavior than are fatally injured—and an even greater number are treated for injuries due to suicidal acts in ambulatory settings or are not treated at all.<sup>7</sup> The National Hospital Ambulatory Medical Care Survey estimated that in 2004, 535,000 visits to U.S. hospital emergency departments were for self-inflicted injuries.<sup>8</sup> Other research indicates that over 70 percent of people who engage in suicidal behavior never seek health services.<sup>9</sup> As a result, prevalence figures based on health records substantially underestimate the societal burden.

The comparative descriptions of suicidal ideation and behavior show some important differences among demographic subpopulations. For example, the rate of suicide in males is higher than that in females, but studies of suicidal thoughts and nonfatal suicidal behavior routinely show females with higher rates than males.<sup>10</sup> Suicide rates are exceptionally high among certain population groups, including white males over 75 years of age, American Indians and Alaska Natives, and certain professions (e.g., health professions, police).<sup>1</sup>



Suicide takes an economic toll as well. The total lifetime costs associated with nonfatal injuries and deaths due to suicidal behavior in 2000 were estimated to be \$33 billion, including \$1 billion for medical treatment and \$32 billion for lost productivity.<sup>11</sup> While informative, these costs are known underestimates; they only include injuries treated in the healthcare system. Also excluded from these estimates are loss-of-life costs and emotional trauma experienced by surviving family, friends, and communities affected by fatal or nonfatal suicidal behavior.<sup>12</sup>

In the U.S., given the well-documented associations between suicide and disorders such as depression and schizophrenia, fatal and nonfatal suicidal behavior has historically been addressed as a mental health problem. Consequently, prevention strategies have largely been limited to efforts to identify and treat mental illness. But mental illness is only one of many factors that influence suicide risk; the vast majority of persons who suffer from a mental disorder do not engage in suicidal behavior.<sup>1</sup> Thus, prevention and treatment of mental illness should not govern the prevention of suicidal behavior.

Rather, suicidal behavior is a public health problem. Viewed from this perspective, the realm of potential prevention strategies expands beyond those that address mental health problems and includes the full range of factors that might play a role in suicidal behavior. The National Strategy for Suicide Prevention, spearheaded by the Surgeon General of the United States, has called for a public health-based approach to suicide prevention, which includes application of a broad range of interventions, programs, and policies.<sup>10</sup> By monitoring trends, conducting research on risk and protective factors, developing and testing interventions, and building capacity for widespread implementation, the public health approach guides population-level interventions to reduce overall rates of fatal and nonfatal suicidal behavior. CDC's public health approach is complementary to other federal suicide prevention initiatives that focus primarily on biomedical research, clinical research, and mental health treatment.

## *CDC's Mission and Niche in Violence Prevention*

Within the National Center for Injury Prevention and Control (NCIPC), the Division of Violence Prevention (DVP) coordinates CDC's program to prevent suicidal behavior. The Division's mission is to prevent violence through surveillance, research and development, and capacity building. In pursuing that mission the Division maintains its rigorous science base and complements other approaches to violence prevention, such as those practiced by the criminal justice and mental health systems. DVP's unique mission and niche include:

- **An emphasis on primary prevention of violence perpetration.** DVP emphasizes efforts to prevent violence before it occurs. This requires not only reducing the factors that put people at risk, but also increasing the factors that prevent people from becoming violence perpetrators.
- **A commitment to a rigorous science base.** Monitoring and tracking trends using public health surveillance and other strategies, researching risk and protective factors, rigorously evaluating interventions, and learning how best to implement and disseminate these strategies adds to the knowledge pool of what is known about violence and how to prevent it.

### **CDC's Approach to Violence Prevention**

- An emphasis on primary prevention of violence perpetration
- A commitment to a rigorous science base
- A cross-cutting perspective
- A population approach

- **A cross-cutting perspective.** Public health encompasses many disciplines and perspectives, which results in an approach well-suited for examining and addressing multi-faceted problems such as violence. Various sectors and disciplines, including health, media, business, criminal justice, behavioral science, epidemiology, social science, advocacy, and education all have important roles to play in violence prevention. Different forms of violence relate to one another as well. For example, exposure to violence as a child is associated with suicidal behavior as an adult. Suicide shares risk and protective factors with other forms of violence, and perpetrators of interpersonal violence are more likely to engage in suicidal behavior.<sup>13,14</sup> Moreover, just as different forms of violence are related to each other, violence is also associated with many other health problems, which makes it a multi-faceted public health issue.
- **A population approach.** Part of public health's broad view is an emphasis on population health—not just the health of individual persons. Violence is experienced acutely by individual persons, but its consequences and potential solutions also affect society in general. Public health's long-term goal is lasting change in the factors and conditions that place people at risk. Such changes can occur through social ecology modifications that will reduce rates of violence in populations at the personal, family, community, and societal levels.

## *Rationale for Focusing on Promoting Connectedness*

Over the past three decades, scientific research and conceptual thinking have converged to suggest that suicidal behavior results from a combination of genetic, developmental, environmental, physiological, psychological, social, and cultural factors operating through diverse, complex pathways.<sup>2</sup> In 2001, multiple agencies and sectors collaborated on publication of the National Strategy for Suicide Prevention, designed as a comprehensive and integrated approach to addressing suicide as a public health problem. One of the National Strategy's primary aims is to promote opportunities and settings to enhance connectedness among persons, families, and communities.<sup>10</sup> Connectedness is a common thread that weaves together many of the influences of suicidal behavior and has direct relevance for prevention. Accordingly, CDC has adopted as its theme "Promoting individual, family, and community connectedness to prevent suicidal behavior" to define this area of prevention.

We define *connectedness* as the degree to which a person or group is socially close, interrelated, or shares resources with other persons or groups. This definition encompasses the nature and quality of connections both within and between multiple levels of the social ecology, including

- Connectedness between individuals;
- Connectedness of individuals and their families to community organizations; and
- Connectedness among community organizations and social institutions.

This definition also comprises a wide range of concepts linked in the literature either theoretically or empirically to suicidal behavior, including social support, social participation, social isolation, social integration, social cohesion, and social capital.

Theory and research addressing the association between connectedness and suicidal behavior date back to Durkheim,<sup>15</sup> but later evidence continues to support the association. Numerous pathways have been proposed through which connectedness may contribute to better health and well-being.

**Connectedness between persons.** At the level of individual connectedness, a very clear pathway is that in times of stress, the number and quality of social ties people have can directly influence their access to social support—regardless of whether that support is instrumental or emotional, actual or perceived. Received or perceived social support is hypothesized to decrease the threat-level appraisal of the experienced stress and increase a person’s ability to cope with the stressful event or situation.<sup>16</sup> Close and supportive interpersonal relationships also appear to confer general psychological benefits independent of stress that increase physiologic functioning, such as cardiovascular, endocrine, and immune systems.<sup>17</sup> This results in improved overall health and resistance to stress and disease. Close and supportive interpersonal relationships may also help to discourage maladaptive coping behaviors such as suicidal behaviors or substance use and by virtue of normative social influences encourage adaptive coping behaviors such as professional help-seeking.

Substantial evidence supports the view that connectedness between persons reduces risk of suicidal behavior. General measures of social integration (e.g., number of friends, higher frequency of social contact, low levels of social isolation or loneliness) have been found to be protective against suicidal thoughts and behaviors, as documented in studies of adolescents and young and older adults.<sup>18-23</sup> One case-control study<sup>22</sup> estimated a 27% reduction in elderly suicide if limited social interaction was available for that group. Connectedness between adolescents and their parents or families has been associated with decreased suicidal behaviors in cross-sectional studies of youth in the United States<sup>24,25</sup> and the Caribbean,<sup>26</sup> cross-sectional studies with Mexican American<sup>27</sup> and American Indian/Alaska Native<sup>28</sup> youth, and two youth longitudinal studies.<sup>29,30</sup> Not surprisingly, disrupted social networks (e.g., family discord, problems with friends, ending of a romantic relationship) have the expected opposite effect, significantly increasing the risk of suicidal behaviors and death.<sup>19, 23,31</sup>

**Connectedness of individuals and their families to community organizations.** The value of connectedness of individuals and families to community organizations has been less well studied. It nonetheless has the potential to decrease risk for suicidal behavior. Examples of relevant community organizations include schools, universities, places of employment, community centers, and churches or other religious or spiritual organizations. Connectedness of adolescents to their schools, for example, has been shown to protect against suicidal thoughts and behaviors in both cross-sectional<sup>18, 24</sup> and longitudinal<sup>29</sup> analyses of a nationally representative sample of U.S. adolescents. Although the influence of such positive attachments on suicidal behavior needs to be better studied, many theoretical reasons support the idea that stronger connections to such groups may decrease suicidal behavior. For example, stronger connections can increase a person’s sense of belonging or “mattering” to a group, a sense of personal value or worth, and access to a larger source of support. Thus persons have greater motivation and ability to cope adaptively in the face of adversity. In addition, group members often monitor each others’ behavior, take responsibility for each others’ well-being, and can offer or recommend assistance and support. By increasing a community’s connectedness to—and responsibility for—individual members, that community is also more likely to mobilize collectively to meet its members’ needs. Following a suicide, communities can prevent contagion by mobilizing for a range of activities, including primary prevention of suicidal behavior and organizing resources, especially human resources.

Stronger connectedness to community organizations can also benefit persons and families by providing better access to formal helping resources, either from a prevention or treatment orientation. Common obstacles to such resources may be related to availability (e.g., geographic location, limited service capacity), accessibility (e.g., prohibitive cost, complex eligibility procedures, transportation, social stigma associated with help-seeking), or quality (i.e., actual or perceived helpfulness of services). Connectedness in this sense is especially relevant for prevention of suicidal behavior in high-risk persons and populations.

For example, by removing social or material barriers to help-seeking, those contemplating or planning suicide may be more easily identified and treated and therefore less likely to engage in life-threatening behaviors.

**Connectedness among community organizations and social institutions.** In the broadest sense, connectedness among larger organizations, infrastructures, and agencies can help to prevent suicidal behavior. Although the value of stronger connections among such organizations and institutions needs improved research and understanding, schools, universities, and workplaces that use, for example, formal or informal screening strategies for suicide risk should have strong connections with agencies that can provide prevention or treatment service. Formal relationships between support services and referring organizations will help ensure not only referrals to accessible, high-quality services, but will also ensure that services are actually delivered. Moreover, better connection of helping-resource systems could promote client well-being, as in the case of the frequent disconnect between the primary health care system and the mental health care system. Enhanced connectedness among organizations is also achieved through partnerships and coalitions. These collaborative mechanisms can help to promote unified and consistent visions for prevention and to leverage social and political will.

**Promoting connectedness as a prevention strategy.** Evidence from evaluations of interventions directed toward preventing suicidal behavior shows that connectedness promotion is a promising avenue for prevention. Several programs with a documented decrease in suicidal thoughts or behaviors include connectedness components. A program for American Indian youth<sup>32</sup> engaged natural helpers from the neighborhood to identify and connect with at-risk youth. Connectedness has also been a component of adult suicide prevention programs. An elderly depression screening program in Japan included educational health workshops that promoted connections to others in the community, especially elderly neighbors.<sup>33</sup> The U.S. Air Force Suicide Prevention Program<sup>34</sup> comprised 11 components, including strengthening social support and increasing opportunities for help-seeking. Finally, connectedness was the main component of a postcrisis suicide prevention program for adults who presented in a hospital emergency department for nonfatal, suicidal behaviors.<sup>35</sup> Evidence from these and similar interventions suggest that promotion of connectedness is a viable avenue for the prevention of suicidal behavior.

**Focus on positive connectedness.** It should be noted that the focus here is the promotion of positive (i.e., health promoting, protective) connectedness. Of course, not all social connections enhance health and well-being; some research suggests that too many dependents in a person's life can lead to role overload, which can increase psychological distress.<sup>36</sup> Additionally—though not yet rigorously or broadly studied—known incidents of connectedness with negative social or normative influences have allegedly contributed to suicidal behavior (e.g., suicide pacts, gang involvement). These are clearly not the types of connectedness that need strengthening. They provide nonetheless clear markers of risk in which positive connectedness interventions might be most needed or most beneficial. Thus, the goal is not simply to increase the number of social ties or connections among persons or groups, but to enhance availability of and access to supportive connections.

Increasing connectedness among persons, families, and communities—including service, funding, and advocacy communities—is likely to have a universal as well as a targeted effect on suicidal behavior. By supporting healthy interpersonal relationships (e.g., family, peer, and marital relationships), and by encouraging communities to care about and care for their members, the population at large is likely to experience more positive health and well-being, resulting in lower risk of suicidal behavior. Further, these connections can remove social barriers to help-seeking by those in need, so persons contemplating or planning suicide would be less likely to engage in life-threatening behaviors. And if the need for social



connectedness is met in a person who has engaged in nonfatal suicidal behaviors, he or she is less likely to repeat the behavior. Following a suicide, positive social connections decrease the likelihood that survivors in the family and community will engage in suicidal behavior.

**Key foci for promoting connectedness and preventing suicidal behavior.** This strategic direction is intended to be broad enough to 1) encompass a wide array of interventions and policies that may help to prevent suicidal behavior, but 2) retain connectedness as an identifiable focus. Connectedness promotion is likely to influence other public health problems as well, particularly those associated with stress and social isolation. In that regard, three additional aspects of connectedness promotion are believed critical to substantive progress:

- **Interrupting the development of suicidal behavior.** Much research and prevention effort has concentrated on the factors most related to suicide. Examples include individual coping after extreme stress or loss, access to quality health-care services, and availability and lethality of suicide means. While prevention strategies designed for those at risk of suicidal behavior can prevent suicide, they are less likely to prevent others from becoming a suicide risk. To decrease the population-level risk of suicidal behavior, we must gain a better understanding of the developmental pathways that lead to suicidal behavior and, among those at high risk, the factors that protect against suicidal behavior. We need to investigate how suicidal behaviors and thoughts develop, how particular risk factors such as social isolation increase the likelihood that persons or groups will at some point exhibit suicidal behavior, and how protective factors such as social connectedness build resilience against suicidal behaviors and thoughts. This understanding is critical for identifying developmentally optimal intervention strategies and settings. Exposure to extreme stress during childhood, for example, is recognized as an important cause of suicidal behavior in adolescence and adulthood. Many potential pathways lead from childhood trauma to suicidal behavior, any one of which can be determined or interrupted by a range of risk and protective factors experienced before, during, or after trauma exposure.<sup>37, 38</sup> These risk and protective factors can arise in one person, in that person's peers, and in family, community, and society. Understanding the complex interplay of these factors and the influence of biological and psychosocial development has the potential to open up new primary prevention strategies and more effective avenues for selective and indicated prevention approaches. The role that connectedness plays in human development and the mitigation of risk for suicidal behavior is of particular interest.
- **Integrating approaches to preventing self-directed and interpersonal violence.** Research continues to accumulate that self-directed and interpersonal violence share a number of risk and protective factors,<sup>14</sup> many of which directly relate to connectedness. These factors span all levels of the social ecology:
  - personal (e.g., social skills),
  - family (e.g., disrupted or violent personal relationships),
  - community (e.g., social cohesion), and
  - societal (e.g., economic climate).

Perhaps not surprisingly, victims of interpersonal violence (e.g., child maltreatment, youth violence, community violence, sexual assault, and intimate partner violence) have a higher risk of suicide than nonvictims.<sup>2</sup> Data also document, however, that previous and current perpetrators of interpersonal violence are at increased risk for suicidal behavior. Thus by focusing on the dynamic interrelationships between self-directed and interpersonal violence, we can develop effective

interventions that can simultaneously affect multiple forms of violence and thereby potentially minimize costs, eliminate redundant infrastructures, and create more comprehensive and effective programs. The promotion of connectedness may therefore prove a particularly effective strategy for the prevention of both suicidal behavior and interpersonal violence.

- **Addressing vulnerable populations.** For a number of groups defined by age, sex, race/ethnicity, and geographic location, health disparities related to suicidal behavior are a particular concern. The data show that certain subpopulations within the United States face extreme and disproportionately high rates of suicidal behavior. These populations include American Indian and Alaskan Natives, rural populations, older adults (especially white males), and active or retired military personnel.<sup>2</sup> Connectedness may, however, play a key role in remedying these disparities. For example, among American Indian populations, elevated suicide rates have been linked to disruptions in interpersonal connectedness and connectedness with the larger society—disruptions which in theory have been associated with colonization, acculturation, and disconnection from history and culture.<sup>1</sup> As such, some interventions for these communities have been specifically designed to strengthen their connectedness with one another by drawing upon their common history and traditions. In gay, lesbian, and bisexual youth—another group traditionally considered at higher risk for suicidal behavior—family connectedness and support from other adults are documented protective factors against suicidal behavior.<sup>40</sup> By increasing connectedness and support for this group, suicide risk is then likely to decline. Issues of connectedness, however defined for any given group, may be particularly important for vulnerable populations, in that each faces unique but profound life stresses that may contribute to suicidal behavior. Consequently, between vulnerable populations and the population at large, the promotion of connectedness may enhance efforts to reduce disparities in rates of suicidal behavior.

### Key Foci for Promoting Connectedness and Preventing Suicidal Behavior

- Interrupting the development of fatal and nonfatal suicidal behavior
- Integrating approaches to preventing profound life stresses that may contribute to suicidal behavior and interpersonal violence
- Addressing vulnerable populations

## Strategy

DVP's strategy is to prevent fatal and nonfatal suicidal behavior by working to promote and enhance connectedness within and among individual persons, families, and communities. In these efforts DVP will give particular attention to interrupting the development of suicidal behavior, integrating approaches to preventing suicidal behavior for those faced with interpersonal violence, and addressing vulnerable populations. This strategy is organized around four general areas of public health research and practice: 1) measuring impact, 2) creating and evaluating new approaches to prevention, 3) applying and adapting what we know, and 4) building community capacity for implementing preventive strategies.

## MEASURING IMPACT

- **Expand the National Violent Death Reporting System (NVDRS) to all 50 states.** The NVDRS is the only surveillance system that collects data about the circumstances surrounding suicide deaths. This represents an extremely important source of information for designing suicide prevention efforts, leveraging social and political will for the prevention of suicidal behavior, and monitoring the success of prevention initiatives at the state and local level. More specifically, NVDRS will allow states to monitor the association—both in comparison with other states and over time—between suicide, its circumstances, and programs and policies designed to increase connectedness. NVDRS is currently operating in 17 states. Many of these states have used the data to improve their planning and implementation of targeted suicide prevention efforts. The expansion of this system to all 50 states would make these critical data more widely available and, by allowing more state to state comparisons, increase the data’s utility.
- **Develop a surveillance system and necessary infrastructure for monitoring nonfatal suicidal behavior among adults.** While systems exist to monitor mortality associated with suicidal behavior in all ages and nonfatal suicidal behavior among adolescents (e.g., the Youth Risk Behavior Surveillance System), we currently lack routinely available data to monitor nonfatal suicidal behavior among adults. These data would enhance our ability to monitor and prevent the nonfatal suicidal behaviors that are often precursors to fatal suicides. In addition, as with NVDRS data, these data will enable states to monitor the association between nonfatal suicidal behavior and programs and policies designed to increase connectedness. This type of system might be accomplished by leveraging existing surveillance systems to include nonfatal suicidal behavior. As a first step, CDC is working with stakeholders to develop standard definitions and classifications of suicidal behavior, and of self-directed violence generally.
- **Improve connectedness operation, measurement, and monitoring.** Connectedness promotion will be enhanced by clear operation and specification, as well as development of valid and reliable measurements. Once connectedness and component dimensions are effectively operational, it will be important to include the corresponding measurements in surveillance systems that will enable us to monitor our progress in promoting connectedness and preventing suicidal behavior.

DVP’s strategy is organized around four general areas of public health research and practice:

- Measuring impact
- Creating and evaluating new approaches to prevention
- Applying and adapting what we know works
- Building community capacity

## CREATING AND EVALUATING NEW APPROACHES TO PREVENTION

- **Identify and evaluate interventions, programs, and policies that prevent suicidal behavior through the promotion of connectedness.** A number of potentially effective interventions prevent suicidal behavior by enhancing connectedness. Programs that promote connectedness by attempting to increase social support, social capital, participation, and integration have not been



well evaluated for suicidal behavior, but have shown results for other violence and health outcomes. Evaluation research is needed to determine whether such approaches are effective at preventing suicidal behavior, paying special attention to whether these approaches are effective in different settings and with different populations. Additional research areas should include moderators of intervention effects, such as differences in effects by population or by methods used. This evaluation research also should include efforts to document the economic efficiency of these approaches to prevention.

- **Identify and evaluate interventions, programs, and policies that use enhanced connectedness to interrupt the development of suicidal behavior.** Further descriptive and etiologic research is needed to understand the types of suicidal behavior and the developmental pathways that precede such behavior. In the meantime, by enhancing connectedness, research can and should proceed on initiatives such as interventions, programs, and policies designed to interrupt the developmental pathways leading to suicidal behavior. These initiatives might include, for example, programs that instill children with adaptive social skills that enhance social interaction and cooperation. Programs like these have yielded promising results and support a practice-based research framework.<sup>2 41, 42</sup> Moreover, programs that attempt to strengthen bonds between children and their families and schools may also help to interrupt developmental pathways leading to suicidal behavior. This evaluation research should include strategies at all levels of the social ecology and should document the economic efficiency of these prevention approaches.
- **Evaluate the importance of effective interpersonal violence prevention strategies on suicidal behavior to develop more comprehensive and efficient prevention strategies.** Suicidal behavior and interpersonal violence share many risk and protective factors. Connectedness is important to the prevention of both suicidal behavior and interpersonal violence. Therefore, interventions, programs, or policies effective in preventing interpersonal violence may also be effective in preventing suicidal behavior. Interventions, programs, and policies that seek to promote positive youth development through enhanced connectedness may, for example, influence both suicidal behavior and interpersonal violence. Consequently, evaluation of interventions to prevent interpersonal violence should include suicidal behavior outcomes as a way of assessing the potential effect of such programs on suicidal behavior.

## APPLYING AND ADAPTING WHAT WE KNOW WORKS

- **Accelerate adoption and adaptation of evidence-based strategies for preventing suicidal behavior.** Effective and promising strategies for preventing suicidal behavior are emerging (e.g., Air Force Prevention model, Reconnecting Youth, multi-component school-based programs). These programs, to varying degrees, all have components that address connectedness. These approaches, however, have not been widely or effectively translated, transferred, or disseminated. Research is needed to build knowledge on the most effective methods, structures, and processes to implement these and other evidence-based interventions, programs, and policies to prevent suicidal behavior. By examining how evidence-based violence prevention information and strategies are best disseminated, implemented, and sustained for widespread use by communities and policy makers, this research intends to bridge the gap between prevention research (knowledge) and everyday practice (action).

## BUILDING COMMUNITY CAPACITY

- **Build community receptivity, capacity, and competence to implement evidence-based approaches to the prevention of suicidal behavior.** The concept of a public health approach to the prevention of suicidal behavior remains relatively new. Evidence-informed framing, communication, and dissemination strategies are needed that help communities and their leaders understand the magnitude of suicidal behavior and the long-term benefits of investment in primary prevention. Building community receptivity and capacity facilitates the implementation of evidence-based prevention strategies. Building community competence focuses on mobilizing efforts within the community to sustain and evaluate the use of evidence-based approaches to the prevention of suicidal behavior. These efforts maximize the opportunity for community participation by clarifying barriers to cooperation and outlining key actions to foster a multidisciplinary, collaborative approach to suicidal behavior prevention. The capacity to implement evidence-supported interventions within communities would necessarily include the capacity to increase receptivity and involvement among key stakeholders within the community (i.e., to increase the connectedness among key organizations and institutions within a community).
- **Develop prevention and strategy guidance products for communities.** The development of tools and processes that assist communities in applying knowledge about the prevention of suicidal behavior is critical for facilitating knowledge transfer. Tools may include, for example, strategy guidance products that help community planners and practitioners select the appropriate type and mix of social connectedness promotion strategies for the suicidal behavior problem in their community. Processes can include, for example, defined action steps leading to implementation and application of knowledge. Such processes would also include tools to help communities monitor the programs they implement to ensure the expected and intended effect is achieved.
- **Establish partnerships that facilitate dissemination and successful implementation of evidence-based prevention strategies to prevent suicidal behavior in communities.** Partnerships at the national, state, and community level will facilitate adoption of evidence-based strategies to prevent suicidal behavior across the broad array of communities and populations in the United States. The continual nurturing and development of partnerships is important because this will increase awareness among key stakeholders and will develop a common view of the prevention of suicidal behavior. Additionally, through these partnerships CDC can leverage resources and relationships more effectively to collaborate with diverse fields (e.g., health, mental health, law, education) and the respective networks of our federal, state, local, and nongovernmental partners. These partnership efforts can help to promote connectedness among key organizations working in this field and direct and redirect limited resources toward evidence-based prevention strategies and programs.

## References

- <sup>1</sup> Goldsmith SK, Pellmar TC, Kleinman AM, Bunney WE, Eds. Reducing suicide: a national imperative. Washington, DC: National Academy Press; 2002.
- <sup>2</sup> World Health Organization. Prevention of suicide: Guidelines for the formulation and implementation of national strategies. New York: United Nations; 1996.
- <sup>3</sup> Krug EG, Dahlberg LL, Mercy JA, Zwi A, Lozano R. Eds. World report on violence and health. Geneva: World Health Organization; 2002.

- 4 Miniño AM, Heron M, Smith BL, Kochanek KD. Deaths: final data for 2004. Health E-Stats. [accessed 2006 December 4] Available from: <http://www.cdc.gov/nchs/products/pubs/pubd/hestats/finaldeaths04/finaldeaths04.htm>.
- 5 National Center for Injury Prevention and Control. Web-based Injury Statistics Query and Reporting System (WISQARS). [accessed 2006 May 14] Available from: <http://www.cdc.gov/ncipc/wisqars>.
- 6 Stevens JA, Hasbrouck L, Durant TM, Dellinger AM, Batabyal PK, Crosby AE, et al. Surveillance for injuries and violence among older adults. *MMWR*, 48, 27–50; 1999.
- 7 Rosenberg ML, Gelles RJ, Holinger PC, Zahn M A, Stark E, Conn JM, et al. Violence: Homicide, assault and suicide. In: Amler RW and Dull HB, Eds. *Closing the gap: the burden of unnecessary illness*. New York: Oxford University Press; 1987.
- 8 McCaig LF, Nawar EN. National Hospital Ambulatory Medical Care Survey: 2004 emergency department summary. *Advance data from vital and health statistics; no 372*. Hyattsville, MD: National Center for Health Statistics; 2006.
- 9 Diekstra RFW. Epidemiology of attempted suicide in the EEC. In: Wilmott J & Mendlewicz J, Eds. *New trends in suicide prevention*. New York: Karger; 1982.
- 10 US Public Health Service. *National strategy for suicide prevention: Goals and objectives for action*. Washington, DC: US Department of Health and Human Services; 2001.
- 11 Corso PS, Mercy JA, Simon TR, Finkelstein EA, Miller TR. Medical costs and productivity losses due to interpersonal and self-directed violence in the United States. *Am J Prev Med* 2007;32:474–82.
- 12 Crosby AE & Sacks JJ. Exposure to suicide: Incidence and association with suicidal ideation and behavior. *Suicide Life Threat Behav* 2002;32:321–28;.
- 13 Santa Mina EE, Gallop RM. Childhood sexual and physical abuse and adult self-harm and suicidal behavior: A literature review. *Can J Psychiatry* 1998;43:793–800.
- 14 Lubell KM & Vetter JB. Suicide and youth violence prevention: The promise of an integrated approach. *Aggression and violent behavior* 2006;11:167–75.
- 15 Durkheim E. *Suicide: A study in sociology*. Glencoe Press: New York; 1951.
- 16 Cohen S. Social relationships and health. *Am Psychol* 2004;59:676–84.
- 17 Uchino BN, Cacioppo JT, Kiecolt-Glaser JK. The relationship between social support and physiological processes: a review with emphasis on underlying mechanisms and implications for health. *Psychol Bull* 1996;119:488–531.
- 18 Bearman PS and Moody J. Suicide and friendships among American adolescents. *Am J Public Health* 2004 94:89–95.
- 19 Donald, M, Dower J, Correa-Velez I, Jones, M. Risk and protective factors for medically serious suicide attempts: a comparison of hospital-based with population-based samples of young adults. *Aust N Z J Psychiatry* 2006;40:87–96.
- 20 Tulvey CL, Conwell Y, Jones MP, Phillips C, Simonsick E, Pearson JL, et al. Risk factors for late-life suicide: a prospective, community-based study. *Am J Geriatr Psychiatry* 2002;10:398–406.
- 21 Duberstein PR, Conwell Y, Conner KR, Eberly S, Evinger JS, Caine ED. Poor social integration and suicide: fact or artifact? A case-control study. *Psychol Med* 2004;34:1331–337.
- 22 Beautrais, A. L.. A case control study of suicide and attempted suicide in older adults. *Suicide Life Threat Behav* 2002;32:1–9.
- 23 Rubenowitz E, Waern M, Wilhelmsson K, Allebeck P. Life events and psychosocial factors in elderly suicides – a case-control study. *Psychol Med* 2001;31:1193–1202.
- 24 Resnick MD, Bearman PS, Blum RW, Bauman KE, Harris KM, Jones J, et al. Protecting adolescents from harm: findings from the National Longitudinal Study on Adolescent Health. *JAMA* 1997;278:823–32.
- 25 Rubenstein JL, Heeren T, Housman D, Rubin C, Stechler G. Suicidal behavior in “normal” adolescents: risk and protective factors. *Am J Orthopsychiatry* 1989;1:59–71.
- 26 Blum, RW, Halcon L, Beuhring T, Pate E, Campbell-Forrester S, Venema A. Adolescent health in the Caribbean: risk and protective factors. *Am J Public Health* 2003 93:456–60.
- 27 Guiao IZ, Esparza D. Suicidality correlates in Mexican American teens. *Issues Ment Health Nurs* 1995;16:461–79.

- <sup>28</sup> Borowsky I, Resnick MD, Ireland M, Blum RW. Suicide attempts among American Indian and Alaska Native youth: risk and protective factors. *Arch Pediatr Adolesc Med* 1999 153:573–80.
- <sup>29</sup> Borowsky IW, Ireland M, Resnick MD. Adolescent suicide attempts: risks and protectors. *Pediatrics* 2001;107:485–93.
- <sup>30</sup> McKeown, R. E., Garrison, C. Z., Cuffe, S. P., Waller, J. L., Jackson, K. L., Addy, C. L. (1998). Incidence and predictors of suicidal behaviors in a longitudinal sample of young adolescents. *Journal of the American Academy of Child and Adolescent Psychiatry*, 37, 612–619.
- <sup>31</sup> Centers for Disease Control and Prevention. Homicides and suicides—National Violent Death Reporting System. United States, 2003–2004. *MMWR* 2006;55:721–24.
- <sup>32</sup> May PA, Serna P, Hurt L, DeBruyn L M. Outcome evaluation of a public health approach to suicide prevention in an American Indian Tribal Nation. *Am J Public Health* 2005;95:1238–44.
- <sup>33</sup> Oyama H, Koida J, Sakashita T, and Kudo K. Community-based prevention for suicide in elderly by depression screening and follow-up. *Community Ment Health J* 2004;40:249–63.
- <sup>34</sup> Knox KL, Litts DA, Talcott GW, Feig JC, Caine ED. Risk of suicide and related adverse outcomes after exposure to a suicide prevention programme in the US Air Force: cohort study. *Br Med J* 2003;327:1376–380.
- <sup>35</sup> Motto JA and Bostrom AG. A randomized controlled trial of postcrisis suicide prevention. *Psychiatr Serv* 2001;52:828–33.
- <sup>36</sup> Berbrier M and Schulte A. Binding and nonbinding integration: the relational costs and rewards of social ties on mental health. *Res Community Ment Health* 2000;11:3–27.
- <sup>37</sup> Cicchetti D, Toth SL, Rogosch FA. The development of psychological wellness in maltreated children. In: Cicchetti D, Rappaport J, Sandler I, Weissberg RP, Eds. *The promotion of wellness in children and adolescents*. Washington, DC: Child Welfare League of America; 2000. p. 395–426.
- <sup>38</sup> Fergusson DM, Woodward LJ, Horwood LJ. Risk factors and life processes associated with the onset of suicidal behaviour during adolescence and early adulthood. *Psychol Med* 2000;30:23–39.
- <sup>39</sup> Brave Heart MYH and DeBruyn LM. The American Indian holocaust: healing historical unresolved grief. *Am Indian Alsk Native Ment Health Res* 1998;8(2):60–82.
- <sup>40</sup> Eisenberg ME and Resnick MD. Suicidality among gay, lesbian and bisexual youth: the role of protective factors. *J Adolesc Health* 2006;39:662–68.
- <sup>41</sup> Knox KL. Interventions to prevent suicidal behavior. In: Doll LS, Bonzo SE, Mercy JA, Sleet DA, Eds. *Handbook of injury and violence prevention*. New York: Springer; 2006. p. 277–94.
- <sup>42</sup> Kalafat J. Issues in the evaluation of youth suicide initiatives. In Joiner T and Rudd MD, Eds. *Suicide science: expanding the boundaries*. Boston: Kluwer; 2000. p. 241–94.

### For more information:

Centers for Disease Control and Prevention  
National Center for Injury Prevention and Control  
4770 Buford Hwy, NE  
MS F-64  
Atlanta, GA 30341-3717  
**Phone:** 1-800-CDC-INFO (232-4636)  
**TTY:** 1-888-232-6348  
**Fax:** 770-488-4760  
**E-mail:** [cdcinfo@cdc.gov](mailto:cdcinfo@cdc.gov)  
**Web:** [www.cdc.gov/injury](http://www.cdc.gov/injury)