

**The Surgeon General's  
Call To Action  
To Prevent Suicide  
1999**



**Department of Health and Human Services  
U.S. Public Health Service**

Copyright Information:

Material contained in this report is in the public domain and may be used and reprinted without special permission; citation as to source however is appreciated.

Suggested Citation:

U.S. Public Health Service, *The Surgeon General's Call to Action to Prevent Suicide*. Washington, DC: 1999.

## ***A Letter From The Surgeon General*** **U.S. Department of Health and Human Services**

Suicide is a serious public health problem. In 1996, the year for which the most recent statistics are available, suicide was the ninth leading cause of mortality in the United States, responsible for nearly 31,000 deaths. This number is more than 50% higher than the number of homicides in the United States in the same year (around 20,000 homicides in 1996).<sup>1</sup> Many fail to realize that far more Americans die from suicide than from homicide. Each year in the United States, approximately 500,000 people require emergency room treatment as a result of attempted suicide.<sup>2</sup> Suicidal behavior typically occurs in the presence of mental or substance abuse disorders - illnesses that impose their own direct suffering.<sup>3-5</sup> Suicide is an enormous trauma for millions of Americans who experience the loss of someone close to them.<sup>6</sup> The nation must address suicide as a significant public health problem and put into place national strategies to prevent the loss of life and the suffering suicide causes.

In 1996, the World Health Organization (WHO), recognizing the growing problem of suicide worldwide, urged member nations to address suicide. Its document, *Prevention of Suicide: Guidelines for the Formulation and Implementation of National Strategies*<sup>7</sup>, motivated the creation of an innovative public/private partnership to seek a national strategy for the United States. This public/private partnership included agencies in the U.S. Department of Health and Human Services, encompassing the Centers for Disease Control and Prevention (CDC), the Health Resources and Services Administration (HRSA), the Indian Health Service (IHS), the National Institute of Mental Health (NIMH), the Office of the Surgeon General, and the Substance Abuse and Mental Health Services Administration (SAMHSA) and the Suicide Prevention Advocacy Network (SPAN), a public grassroots advocacy organization made up of suicide survivors (persons close to someone who completed suicide), attempters of suicide, community activists, and health and mental health clinicians.

An outgrowth of this collaborative effort was a jointly sponsored national conference on suicide prevention convened in Reno, Nevada, in October 1998. Conference participants included researchers, health and mental health clinicians, policy makers, suicide survivors, and community activists and leaders. They engaged in careful analysis of what is known and unknown about suicide and its potential responsiveness to a public health model emphasizing suicide prevention.

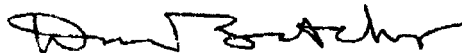
---

This *Surgeon General's Call To Action* introduces a blueprint for addressing suicide – Awareness, Intervention, and Methodology, or **AIM** – an approach derived from the collaborative deliberations of the conference participants. As a framework for suicide prevention, **AIM** includes 15 key recommendations that were refined from consensus and evidence-based findings presented at the Reno conference. Recognizing that mental and substance abuse disorders confer the greatest risk for suicidal behavior, these recommendations suggest an important approach to preventing suicide and injuries from suicidal behavior by addressing the problems of undetected and undertreated mental and substance abuse disorders in conjunction with other public health approaches.

These recommendations and their supporting conceptual framework are essential steps toward a comprehensive **National Strategy for Suicide Prevention**. Other necessary elements will include constructive public health policy, measurable overall objectives, ways to monitor and evaluate progress toward these objectives, and provision of resources for groups and agencies identified to carry out the recommendations. The nation needs to move forward with these crucial recommendations and support continued efforts to improve the scientific bases of suicide prevention.

Many people, from public health leaders and mental and substance abuse disorder health experts to community advocates and suicide survivors, worked together in developing and proposing **AIM** for the American public. **AIM** and its recommendations chart a course for suicide prevention action *now* as well as serve as the foundation for a more comprehensive **National Strategy for Suicide Prevention** in the future. Together, they represent a critical component of a broader initiative to improve the mental health of the nation. I endorse the ongoing work necessary to complete a **National Strategy** because I believe that such a coordinated and evidence-based approach is the best way to use our resources to prevent suicide in America.

But even the most well-considered plan accomplishes nothing if it is not implemented. To translate **AIM** into action, each of us, whether we play a role at the federal, state, or local level, must turn these recommendations into programs best suited for our own communities. We must act now. We cannot change the past, but together we can shape a different future.



David Satcher, M.D., Ph.D.  
Assistant Secretary for Health  
and Surgeon General

---

## ***Suicide as a Public Health Problem***

---

On average, 85 Americans die from suicide each day. Although more females attempt suicide than males, males are at least four times more likely to die from suicide.<sup>1,8</sup> Firearms are the most common means of suicide among men and women, accounting for 59% of all suicide deaths.<sup>1</sup>

Over time, suicide rates for the general population have been fairly stable in the United States.<sup>9</sup> Over the last two decades, the suicide rate has declined from 12.1 per 100,000 in 1976 to 10.8 per 100,000 in 1996.<sup>10</sup> However, the rates for various age, gender and ethnic groups have changed substantially. Between 1952 and 1996, the reported rates of suicide among adolescents and young adults nearly tripled.<sup>1,11</sup> From 1980 to 1996, the rate of suicide among persons aged 15-19 years increased by 14% and among persons aged 10-14 years by 100%. Among persons aged 15-19 years, firearms-related suicides accounted for 96% of the increase in the rate of suicide since 1980. For young people 15-24 years old, suicide is currently the third leading cause of death, exceeded only by unintentional injury and homicide.<sup>12</sup> More teenagers and young adults die from suicide than from cancer, heart disease, AIDS, birth defects, stroke, pneumonia and influenza, and chronic lung disease *combined*. During the past decade, there have also been dramatic and disturbing increases in reports of suicide among children. Suicide is currently the fourth leading cause of death among children between the ages of 10 and 14 years.<sup>10</sup>

Suicide remains a serious public health problem at the other end of the age spectrum, too. Suicide rates increase with age and are highest among white American males aged 65 years and older. Older adult suicide victims, when compared to younger suicide victims, are more likely to have lived alone, have been widowed, and to have had a physical illness.<sup>13,14</sup> They are also more likely to have visited a health care professional shortly before their suicide and thus represent a missed opportunity for intervention.<sup>15</sup>

Other population groups in this country have specific suicide prevention needs as well. Many communities of Native Americans and Alaskan Natives long have had elevated suicide rates.<sup>16,17</sup> Between 1980 and 1996, the rate of suicide among African American males aged 15-19 years increased 105% and almost 100% of the increase in this group is attributable to the use of firearms.<sup>18</sup>

It is generally agreed that not all deaths that are suicides are reported as such. For example, deaths classified as homicide or accidents, where individuals may have intentionally put themselves in harm's way are not included in suicide rates.<sup>19-21</sup>

Compounding the tragedy of loss of life, suicide evokes complicated and uncomfortable reactions in most of us. Too often, we blame the victim and stigmatize the surviving family members and friends. These reactions add to the survivors' burden of hurt, intensify their isolation, and shroud suicide in secrecy. Unfortunately, secrecy and silence diminish the accuracy and amount of information available about persons who have completed suicide — information that might help prevent other suicides.

## *Methodology*

---

### **Developing Recommendations for a National Strategy for Suicide Prevention**

Developing and implementing a **National Strategy for Suicide Prevention** should achieve a significant, measurable, and sustained reduction in suicidal behaviors. The action steps presented in this document were prioritized from among a variety of recommendations developed through a public-private collaboration of nongovernmental organizations, federal and state governmental agencies, corporations and foundations, and public health/health/mental health experts.

Before the Reno Conference, experts evaluated research studies, programs, policies, and best interventions to prevent suicide among five U.S. population groups known to be at high risk of suicide. Those identified as being at increased risk were youth, the medically ill, specific population groups, persons with mental and substance abuse disorders, and the elderly. Following review of the evidence by a second expert, the lead expert extracted recommendations for suicide prevention. In extracting recommendations, experts were instructed to consider the robustness of the available data; an intervention's likelihood of reducing suicide; its perceived suitability for implementation in the real world; and estimates of the lead-time to put the recommendation into practice and produce its intended effect. They were also asked to consider the ethical implications and cultural appropriateness of each recommendation.

Those experts' draft recommendations were brought to the Reno conference. A broad cross section of conference participants and a

highly varied expert panel were identified to work with the recommendations and evaluate each one. The panel and the invited conference participants represented diverse areas of expertise and included researchers, suicide survivors, persons who had attempted suicide, public health leaders, community volunteers, clinicians, educators, consumers of mental health services, and corporate/nonprofit advocates. Financial support was made available so that socioeconomic status would not exclude panelists and participants who wanted to contribute from attending the conference. The Regional Health Administrators of the U.S. Public Health Service served as facilitators in working with over 400 participants to refine recommendations during the conference. The expert panel received over 700 written comments from participants during the course of their deliberations.

The expert panel's recommendations were derived from a rigorous review of suicide and suicide prevention research. Existing suicide research is strongest in the identification of risk factors, particularly mental and substance abuse disorders, less developed in categorizing protective factors, and only beginning to analyze the mutual interactions among risk and protective factors. Some treatments for mental and substance abuse disorders have been associated with a reduction in suicidal behaviors.<sup>22-30</sup> Further research is needed to determine whether these benefits will occur if treatments are offered to groups outside the small populations that were studied.

The recommendations the panel developed include past and current initiatives, programs, and interventions. Other recommendations pragmatically extend findings from existing suicide and suicide prevention research into proposed applications. Suicide prevention experts from multiple disciplines endorsed these proposed recommendations as having the greatest potential for effectiveness.

By the end of the conference, the expert panel had advanced 81 recommendations for consideration for inclusion in a **National Strategy for Suicide Prevention**. These recommendations were posted on the SPAN Web site to allow a period of further reflection and public comment. The CDC developed a tool for priority ranking the 81 recommendations. Respondents from all interested sectors prioritized the recommendations using criteria of feasibility, necessity, clarity, and likelihood of being funded. Recommendations with the highest priority scores and broadest support were combined and edited to serve as the essential first steps of an action agenda for suicide prevention.

## ***Results***

---

### **AIM to Prevent Suicide**

This *Surgeon General's Call to Action* introduces an initial blueprint for reducing suicide and the associated toll that mental and substance abuse disorders take in the United States. As both evidence-based and highly prioritized by leading experts, these 15 key recommendations listed below should serve as a framework for immediate action. These recommended first steps are categorized as **Awareness, Intervention, and Methodology**, or **AIM**.

**Awareness:** Appropriately broaden the public's awareness of suicide and its risk factors

**Intervention:** Enhance services and programs, both population-based and clinical care

**Methodology:** Advance the science of suicide prevention.

#### **Awareness: Appropriately broaden the public's awareness of suicide and its risk factors**

- Promote public awareness that suicide is a public health problem and, as such, many suicides are preventable. Use information technology appropriately to make facts about suicide and its risk factors and prevention approaches available to the public and to health care providers.

- Expand awareness of and enhance resources in communities for suicide prevention programs and mental and substance abuse disorder assessment and treatment.

- Develop and implement strategies to reduce the stigma associated with mental illness, substance abuse, and suicidal behavior and with seeking help for such problems.

#### **Intervention: Enhance services and programs, both population-based and clinical care**

- Extend collaboration with and among public and private sectors to complete a **National Strategy for Suicide Prevention**.

- Improve the ability of primary care providers to recognize and treat depression, substance abuse, and other major mental illnesses associated with suicide risk. Increase the referral to specialty care when appropriate.



- Eliminate barriers in public and private insurance programs for provision of quality mental and substance abuse disorder treatments and create incentives to treat patients with coexisting mental and substance abuse disorders.

- Institute training for all health, mental health, substance abuse and human service professionals (including clergy, teachers, correctional workers, and social workers) concerning suicide risk assessment and recognition, treatment, management, and aftercare interventions.

- Develop and implement effective training programs for family members of those at risk and for natural community helpers on how to recognize, respond to, and refer people showing signs of suicide risk and associated mental and substance abuse disorders. Natural community helpers are people such as educators, coaches, hairdressers, and faith leaders, among others.

- Develop and implement safe and effective programs in educational settings for youth that address adolescent distress, provide crisis intervention and incorporate peer support for seeking help.

- Enhance community care resources by increasing the use of schools and workplaces as access and referral points for mental and physical health services and substance abuse treatment programs and provide support for persons who survive the suicide of someone close to them.

- Promote a public/private collaboration with the media to assure that entertainment and news coverage represent balanced and informed portrayals of suicide and its associated risk factors including mental illness and substance abuse disorders and approaches to prevention and treatment.

### **Methodology: Advance the science of suicide prevention**

- Enhance research to understand risk and protective factors related to suicide, their interaction, and their effects on suicide and suicidal behaviors. Additionally, increase research on effective suicide prevention programs, clinical treatments for suicidal individuals, and culture-specific interventions.

- Develop additional scientific strategies for evaluating suicide prevention interventions and ensure that evaluation components are included in all suicide prevention programs.

- Establish mechanisms for federal, regional, and state inter-agency public health collaboration toward improving monitoring systems for suicide and suicidal behaviors and develop and promote standard terminology in these systems.
- Encourage the development and evaluation of new prevention technologies, including firearm safety measures, to reduce easy access to lethal means of suicide.

## ***Discussion***

---

### **Risk and Protective Factors**

Suicide risk and protective factors and their interactions form the empirical base for suicide prevention. Risk factors are associated with a greater potential for suicide and suicidal behavior while protective factors are associated with reduced potential for suicide.<sup>31-33</sup>

Substantial age, gender, ethnic, and cultural variations in suicide rates provide opportunities to understand the different roles of risk and protective factors among these groups. Risk and protective factors encompass genetic, neurobiological, psychological, social, and cultural characteristics of individuals and groups and environmental factors such as easy access to firearms.<sup>34-38</sup> This expanding base of empirical evidence generates promising ideas about what can be changed or modified to prevent suicide.

Clear progress has been made in the scientific understanding of suicide, mental and substance abuse disorders, and in developing interventions to treat these disorders. For example, increased understanding of brain systems regulated by chemicals called neurotransmitters holds promise for understanding the biological underpinnings of depression, anxiety disorders, impulsiveness, aggression, and violent behaviors.<sup>39</sup> Much remains to be learned, however, about the common risk factors for mental disorders and substance abuse, suicide and other forms of intentional violence including homicide, domestic violence, and child abuse. Expanding the base of scientific evidence will help in the development of more effective interventions for these harmful behaviors.

Advances in neurobiology and the behavioral sciences and their application in developing effective treatments for mental and substance abuse disorders have generated much hope. Wider public understanding of the science of the brain and behavior can reduce the stigma asso-

ciated with seeking help for mental and substance abuse disorders and consequently may contribute to reducing the risk for suicidal behavior.

### ***Risk Factors***

Understanding risk factors can help dispel the myths that suicide is a random act or results from stress alone. Some persons are particularly vulnerable to suicide and suicidal self-injury because they have more than one mental disorder present<sup>40</sup>, such as depression with alcohol abuse<sup>41</sup>. They may also be very impulsive and/or aggressive<sup>42</sup>, and use highly lethal methods to attempt suicide. As noted above, the importance of certain risk factors and their combination vary by age, gender, and ethnicity.

The impact of some risk factors can be reduced by interventions (such as providing effective treatments for depressive illness).<sup>31,43</sup> Those risk factors that cannot be changed (such as a previous suicide attempt) can alert others to the heightened risk of suicide during periods of the recurrence of a mental or substance abuse disorder, or following a significant stressful life event.<sup>31,44</sup>

Risk factors include:

- Previous suicide attempt
- Mental disorders — particularly mood disorders such as depression and bipolar disorder
- Co-occurring mental and alcohol and substance abuse disorders
- Family history of suicide
- Hopelessness
- Impulsive and/or aggressive tendencies
- Barriers to accessing mental health treatment
- Relational, social, work, or financial loss
- Physical illness
- Easy access to lethal methods, especially guns
- Unwillingness to seek help because of stigma attached to mental and substance abuse disorders and/or suicidal thoughts
- Influence of significant people—family members, celebrities, peers who have died by suicide—both through direct personal contact or inappropriate media representations
- Cultural and religious beliefs—for instance, the belief that suicide is a noble resolution of a personal dilemma
- Local epidemics of suicide that have a contagious influence
- Isolation, a feeling of being cut off from other people

Some lists of warning signs for suicide have been created in an effort to identify and increase the referral of persons at risk. However, the warning signs given are not necessarily risk factors for suicide and may include common behaviors among distressed persons, behaviors that are not specific for suicide. If such lists are applied broadly, for instance in the general classroom setting, they may be counterproductive. In effect, indiscriminate suicide awareness efforts and overly inclusive screening lists may promote suicide as a possible solution to ordinary distress or suggest that suicidal thoughts and behaviors are normal responses to stress.<sup>45</sup> Efforts must be made to avoid normalizing, glorifying, or dramatizing suicidal behavior, reporting how-to methods, or describing suicide as an understandable solution to a traumatic or stressful life event. Inappropriate approaches could potentially increase the risk for suicidal behavior in vulnerable individuals, particularly youth.<sup>46,47</sup>

### ***Protective Factors***

Protective factors can include an individual's genetic or neurobiological makeup, attitudinal and behavioral characteristics, and environmental attributes.<sup>31</sup> Measures that enhance resilience or protective factors are as essential as risk reduction in preventing suicide. Positive resistance to suicide is not permanent, so programs that support and maintain protection against suicide should be ongoing.

Protective factors include:

- Effective and appropriate clinical care for mental, physical, and substance abuse disorders
- Easy access to a variety of clinical interventions and support for help seeking
- Restricted access to highly lethal methods of suicide
- Family and community support
- Support from ongoing medical and mental health care relationships
- Learned skills in problem solving, conflict resolution, and nonviolent handling of disputes
- Cultural and religious beliefs that discourage suicide and support self-preservation instincts

The risk factors that lead to suicide (especially mental and substance abuse disorders) and the protective factors that safeguard against it form the conceptual framework for the prevention recommendations developed and presented in this document and in the evolving **National Strategy for Suicide Prevention**.

## **Identifying and Addressing Risk**

Unfortunately, it is difficult to identify particular individuals at greatest risk for suicidal behaviors or completed suicide. Measures to screen the general population for suicide risk lack the precision needed to identify in advance only those people who eventually would die by suicide. Because suicide screening in the general population currently is not feasible, it is especially important for suicide prevention programs to include broader approaches that benefit the whole population as well as efforts focused on smaller, high-risk subgroups that can be identified. Within those subgroups, a different approach to screening — screening programs for specific disorders, like depression, that are associated with suicide — can be used to identify and direct people to highly effective treatments that may lower their risk of suicide.

Often, the suicide prevention efforts in place are directed primarily at improving clinical care for the individual already struggling with suicidal ideas or the individual requiring medical attention for a suicide attempt. Suicide prevention also demands approaches that reduce the likelihood of suicide before vulnerable individuals reach the point of danger. Applying the public health approach to the problem of suicide in the United States will maximize the benefits of efforts and resources for suicide prevention.

## **The Public Health Approach**

Suicide is a public health problem that requires an evidence-based approach to prevention. In concert with the clinical medical approach, which explores the history and health conditions that could lead to suicide in a single individual, the public health approach focuses on identifying and understanding patterns of suicide and suicidal behavior throughout a group or population. The public health approach defines the problem, identifies risk factors and causes of the problem, develops interventions evaluated for effectiveness, and implements such interventions widely in a variety of communities.<sup>48,49</sup>

Although this description suggests a linear progression from the first step to the last, in reality the steps occur simultaneously and depend on each other. For example, systems for gathering information to define the exact nature of the suicide problem may also be useful in evaluating programs. Similarly, information gained from program evaluation and implementation may lead to new and promising interventions. Public health has traditionally used this model to respond to epidemics of infectious disease. During the past few decades, the

model has also been used to address other problems that are likewise complicated and challenging to prevent, such as chronic disease and injury.

## **The Public Health Approach Applied to Suicide Prevention**

### ***Defining the Problem***

The first step includes collecting information about incidents of suicide and suicidal behavior. It goes beyond simple counting. Information is gathered on characteristics of the persons involved, the circumstances of the incidents, events that may have precipitated the act, the adequacy of support and health services received, and the severity and cost of the injuries. This step covers the who, what, when, where, how, and how many of the identified problem.

### ***Identifying Causes and Protective Factors***

The second step focuses on why. It addresses risk factors such as depression, alcohol and other drug use, bereavement, or job loss. This step may be used to define groups of people at higher risk for suicide. Many questions remain, however, about the interactive matrix of risk and protective factors in suicide and suicidal behavior and, more importantly, how this interaction can be modified.

### ***Developing and Testing Interventions***

The next step involves developing approaches to address the causes and risk factors that have been identified. Testing the effectiveness of each approach is a critical part of this step to ensure that strategies are safe, ethical, and feasible. Pilot testing, which may reveal differences among particular age, gender, ethnic and cultural groups, can help determine for whom a suicide prevention strategy is best fitted.

### ***Implementing Interventions***

The final step is to implement interventions that have demonstrated effectiveness in preventing suicide and suicidal behavior. Implementation requires data collection as a means to continue evaluating effectiveness of an intervention. This is essential because an intervention that has been found effective in a clinical trial or academic study may have different outcomes in other settings. Ongoing evalua-

tion builds the evidence base for refining and extending effective suicide prevention programs. Determination of an intervention's cost-effectiveness is another important component of this step. This ensures that limited resources can be used to achieve the greatest benefit.

As interventions for preventing suicide are developed and implemented, communities must consider several key factors. Interventions have a much greater likelihood of success if they involve a variety of services and providers. This requires community leaders to build effective coalitions across traditionally separate sectors, such as the health care delivery system, the mental health system, faith communities, schools, social services, civic groups, and the public health system. Interventions must be adapted to support and reflect the experience of survivors and specific community values, cultures, and standards. They must also be designed to benefit from multi-ethnic and culturally diverse participation from all segments of the community.

As it evolves, America's **National Strategy for Suicide Prevention** must recognize and affirm the value, dignity, and importance of each person. Everyone concerned with suicide prevention shares the responsibility to help change and eliminate the societal conditions and attitudes that often contribute to suicide. Individuals, communities, organizations, and leaders at all levels should collaborate in promoting suicide prevention. Final development of a **National Strategy for Suicide Prevention** and the success of these essential action steps ultimately rest with individuals and communities and institutions and policy makers across the United States.

## **Implementing AIM as an Action Agenda in Communities**

As states and local communities apply the public health approach to AIM recommendations, they must consider both population-based and clinical care initiatives. Their first step is to define and to describe the problem of suicide and its associated risk factors locally and measure their magnitude. Next, causes of the conditions found must be identified. Then, community interventions must be designed to address the identified needs through attention to the causes revealed. Evaluating project effectiveness provides guidance for refining the intervention and expanding benefits to other settings. The following hypothetical descriptions of community suicide prevention activities have been created to illustrate applied public health and clinical management prevention models.

## ***Youth***

Recognizing the state's increasing rates of substance abuse and suicide among youth, the state public health director in consultation with the Regional Health Administrator brought together concerned representatives to form a state youth suicide, substance abuse and depression prevention coalition. The coalition members reflected many sectors in the community including suicide survivors, educators, social service agencies, the faith community, businesses, the state cooperative extension programs (4-H), school psychologists, child psychiatrists, the PTA, substance abuse treatment counselors, public officials, and the juvenile justice system. The coalition also established a youth advisory board.

After collecting detailed information on the dimensions of youth substance abuse, depression and suicide in the state and identifying how few school systems had screening, referral, and crisis plans, the coalition formed a multidisciplinary study committee to develop a model suicide prevention plan. A broad array of public and professional organizations in the state studied and endorsed the model plan. A corporate partner from the business community provided a grant to distribute the model plan along with a curriculum guide for natural helpers to identify high-risk youth. As school districts adapted the plan and implemented it locally, followup surveys were conducted to determine patterns of use, satisfaction with the model plan and guide, and impact on substance abuse, depression and suicidal behaviors in communities statewide. Based on evidence collected from the evaluations, the model plan was revised to include more guidance on working with the media to de-sensationalize coverage of suicide, and promote abstinence from substance use as well as encourage youth to seek treatment for both substance abuse and depression.

## ***The Elderly***

The public health approach has revealed that suicide rates are highest among the elderly and that most elderly suicide victims are seen by their primary care provider within a few weeks of their suicide and are experiencing a first episode of mild to moderate depression. Recognizing that clinical depression is a highly treatable illness, but treatment has not yet been adequately provided in primary care settings, a state with a large elderly population brought together a group of health professionals and community advocates. Together they devised and supported a pilot program to follow depression screening in the primary care setting with the addition of an on-site nurse or social



worker specializing in depression services. These on-site specialists ensured that those elderly patients who screened positive for depression received depression treatment and follow up from the physician and assessed patient progress so that ongoing treatments could be adjusted to increase their effectiveness. Outcomes for patients in the pilot project were compared to those patients receiving usual treatment in comparable primary care settings. This evaluation provided information to fine tune the program and extend its benefits to other primary care settings in the state.

## **Advancing a National Suicide Prevention Strategy**

The 15 recommendations (AIM) presented in this *Surgeon General's Call to Action* propose a nationwide, collaborative effort to reduce suicidal behaviors, and to prevent premature death due to suicide across the life span. The conceptual framework for AIM incorporates analysis of suicide risk and protective factors and emphasizes the benefits of effectively treating mental and substance abuse disorders. A comprehensive **National Strategy for Suicide Prevention** should include these elements along with supportive government policy, measurable objectives for the **Strategy**, means of monitoring and evaluating progress, and provision of authority and resources to carry out the **Strategy's** recommendations.

To realize success in preventing suicide and suicidal behaviors, collaboration must be fostered on this public health priority across a broad spectrum of agencies, institutions, groups, and representative individuals throughout the country. As additional elements of a comprehensive **Strategy** evolve, the public and prospective implementation partners must also sustain awareness that improved detection and treatment of mental and substance abuse disorders represent a primary approach to suicide prevention. These partners must ensure the availability of evidence-based guidance for communities to develop and refine effective suicide prevention approaches. Likewise, as communities implement approaches to recognize and reduce risk factors to prevent suicide, they must be aware of the dangers of inadvertently glamorizing suicide, and remain vigilant to avoid doing so. Ongoing review of research, policy, and program advances in suicide prevention may expand the number of effective initiatives and interventions for incorporation into the **Strategy**. Work should continue that outlines measurable objectives for an overall **Strategy**, provides mechanisms for tracking these objectives, and develops means of communicating significant progress in preventing suicide and suicidal self-injury.

## *Conclusion*

---

Americans in communities nationwide can make a significant difference in preventing suicide and suicidal behaviors. The recommendations presented in **AIM** provide a blueprint and call for action now. Programs and activities that are carried out and evaluated today will generate additional recommendations for effective suicide prevention initiatives in the future. Working together locally, in states, and at the federal level to complete and implement a **National Strategy for Suicide Prevention** is an important step in responding to the major public health problem of suicide in the United States.

## *References Cited*

---

1. Peters KD, Kochanek KD, Murphy SL. Deaths: final data for 1996. In: CDC. National vital statistics reports, vol. 47, no. 9. Hyattsville, Maryland: National Center for Health Statistics, 1998.
2. McCraig LF, Strussman BJ. National Hospital Ambulatory Care Survey: 1996. In: CDC. Emergency department summary. Advance Data from Vital and Health Statistics, no. 293. Hyattsville, Maryland: National Center for Health Statistics, 1997.
3. Conwell Y, Brent D. Suicide and aging I: patterns of psychiatric diagnosis. *Int Psychogeriatr* 1995;7:149-64.
4. Harris EC, Barraclough BB. Suicide as an outcome for mental disorders. *Br J Psychiatry* 1997; 170:205-28.
5. Murray CJL, Lopez, AD. The global burden of disease, vol. I. Boston: Harvard School of Public Health, 1996.
6. Ness DE, Pfeffer CR. Sequelae of bereavement resulting from suicide. *Am J Psychiatry* 1990; 147: 279-85.
7. World Health Organization. Prevention of suicide: guidelines for the formulation and implementation of national strategies. Geneva: World Health Organization, 1996.
8. Móścicki EK, O'Carroll P, Regier DA, Rae DS, Roy A, Locke BZ. Suicide attempts in the Epidemiologic Catchment Area Study. *Yale J Biol Med* 1988;61:259-68.
9. Kachur S, Potter L, James S, Powell K. Suicide in the United States, 1980-1992. Violence Surveillance Summary Series, no. 1. Atlanta: CDC, National Center for Injury Prevention and Control, 1995.
10. CDC. National mortality statistics. Available at: <http://www.cdc.gov/ncipc/osp/usmort.htm>.
11. CDC. Suicide among children, adolescents, and young adults—United States, 1980-1992. *MMWR Morb Mortal Wkly Rep* 1995; 44(15):289-91.
12. CDC. Ten leading causes of death for the United States. Available at: <http://www.cdc.gov/ncipc/osp/leadcaus/10lc96.htm>.
13. Carney SS, Rich CL, Burke PA, Fowler RC. Suicide over 60: the San Diego study. *J Am Geriatr Soc* 1994;42:174-80.
14. Dorpat TL, Anderson WF, Ripley HS. The relationship of physical illness to suicide. In: Resnik HP, editor. *Suicide behaviors: diagnosis and management*. Boston: Little, Brown, 1968:209-19.
15. Pearson JL, Conwell Y, Lyness JM. Late-life suicide and depression in the primary care setting. In: Schneider LS, editor. *Developments in geriatric psychiatry. New directions for mental health services* (no. 76). San Francisco: Jossey-Bass:1997:13-38.
16. Wallace LJD, Calhoun AD, Powell KE, O'Neil J, James SP. Homicide and suicide among Native Americans, 1979-1992. Violence Surveillance Summary Series, no. 2. Atlanta: CDC, National Center for Injury Prevention and Control, 1996.

17. Indian Health Service. Trends in Indian Health 1997. Available at <http://www.ihs.gov/PublicInfo/Publications/trends97/trends97.asp>.
18. CDC. Suicide among black youths, United States, 1980-1995. *MMWR Morb Mortal Wkly Rep* 1998;47(10):193-6.
19. Clark DC, Horton-Deutsch SL. Assessment in absentia: the value of psychological autopsy method for studying antecedents of suicide and predicting future suicides. In: Maris RW, Berman AL, Maltzberger JT, Yufit RI, editors. *Assessment and prediction of suicide*. New York: Guilford, 1992:144-181.
20. Gibbs J.T. Conceptual, methodological, and sociocultural issues in black youth suicide: Implications for assessment and early intervention. *Suicide Life Threat Behav* 1988;18(1):73-89.
21. O'Carroll PW. Validity and reliability of suicide mortality data. *Suicide Life Threat Beh* 1989;19:1-16.
22. Jamison, K, Baldessarini RJ, editors. Effects of medical interventions on suicidal behavior. *J Clin Psychiatry* 1999;60(suppl 2):4-6,117-22.
23. Brent DA, Kolko DJ, Birhamer B, et al. Predictors of treatment efficacy in a clinical trial of three psychosocial treatments for adolescent depression. *J Am Acad Child Adolesc Psychiatry* 1998;37:906-14.
24. Cornelius JR, Salloum IM, Cornelius MD, et al. Fluoxetine trial in suicidal depressed alcoholics. *Psychopharmacol Bull* 1993;29:195-9.
25. Evans K, Tyrer P, Catalan J, et al. Manual-assisted cognitive behaviour therapy (MACT): a randomized controlled trial of brief intervention with bibliotherapy in the treatment of deliberate self-harm. *Psychol Med* 1999;29:19-25.
26. Hawton K, Arensman E, Townsend E, et al. Deliberate self harm: systematic review of efficacy of psychosocial and pharmacological treatments in preventing repetition. *Br Med J* 1998;317:441-7.
27. Linehan MM, Heard HL, Armstrong HE. Naturalistic follow-up of a behavioral treatment for chronically parasuicidal borderline patients. *Arch Gen Psychiatry* 1993;50:971-4.
28. Meltzer HY, Okayli G. Reduction in suicidality during clozapine treatment of neuroleptic-resistant schizophrenia: impact on risk-benefit assessment. *Am J Psychiatry* 1995;152:183-90.
29. Rhimer Z, Rutz W, Pihlgren H. Depression and suicide on Gotland: an intensive study of all suicides before and after a depression-training programme for general practitioners. *J Affective Disord* 1995;35:147-52.
30. Verkes RJ, Van der Mast RC, Hengevold VW, et al. Reduction by paroxetine of suicidal behavior in patients with repeated suicide attempts but not major depression. *Am J Psychiatry* 1998;155:543-7.
31. Blumenthal SJ. Suicide: a guide to risk factors, assessment, and treatment of suicidal patients. *Med Clin North Am* 1988;72:937-71.
32. Jenkins R. Principles of prevention. In: Paykel ES, Jenkins R, editors. *Prevention in psychiatry*. London: Gaskell, 1994:11-24.

33. Silverman MM, Felner RD. Suicide prevention programs: issues of design, implementation, feasibility, and developmental appropriateness. *Suicide Life Threat Behav* 1995; 25: 92-103.
34. Blumenthal SJ, Kupfer DJ, editors. *Suicide over the life cycle*. Washington, DC: American Psychiatric Press, 1990.
35. Gibbs JT. African-American suicide: a cultural paradox. *Suicide Life Threat Behav* 1997; 27: 68-79.
36. Mann JJ. The neurobiology of suicide. *Nat Med* 1988;4:25-30.
37. Móścicki EK. Epidemiology of suicide. In: Jacobs DG, editor. *Harvard Medical School guide to suicide assessment and intervention*. San Francisco: Jossey-Bass, 1999:40-51.
38. Roberts RE, Chen YR, Roberts CR. Ethnocultural differences in prevalence of adolescent suicidal behaviors. *Suicide Life Threat Behav* 1997;27(2):208-17.
39. Stoff DM, Mann JJ, editors. *The neurobiology of suicide*. *Ann NY Acad Sci* 1997; 836:1- 363.
40. Henriksson M, Marttunen M, Heikkinen M, et al. Mental disorders and comorbidity in suicide. *Am J Psychiatry* 1993;150:935.
41. Cornelius JR, Salloum IM, Mezzich J, et al. Disproportionate suicidality in patients with comorbid major depression and alcoholism. *Am J Psychiatry* 1995;152: 358-64.
42. Brent DA, Johnson BA, Perper J, et al. Personality disorder, personality traits, impulsive violence, and completed suicide in adolescents. *J Am Acad Child Adolesc Psychiatry* 1994;33(8):1080-6.
43. Isacson G, Holmgren P, Druid H, Bergman U. The utilization of antidepressants: a key issue in the prevention of suicide: an analysis of 5281 suicides in Sweden during the period 1992-1994. *Acta Psychiatrica Scandinavia* 1997;96:94-100.
44. Oquendo MA, Malone KM, Ellis SP, Sackeim HA, Mann JJ. Inadequacy of antidepressant treatment for patients with major depression who are at risk for suicidal behavior. *Am J Psychiatry* 1999;156:190-4.
45. Vieland V, Whittle B, Garland A, et al. The impact of curriculum-based suicide prevention programs for teenagers: an eighteen-month follow-up. *J Am Acad Child Adolesc Psychiatry* 1991;30:811-5.
46. O'Carroll PW, Potter LB. Suicide contagion and the reporting of suicide: Recommendations from a national workshop. *MMWR* 1994;43(No. RR-6): 9-18.
47. Gould M. Suicide clusters and media exposure. In: Blumenthal SJ, Kupfer DJ, editors. *Suicide over the life cycle*. Washington, DC: American Psychiatric Press, 1990:517-32.
48. Potter LB, Rosenberg ML, Hammond WR. Suicide in youth: a public health framework. *J Am Acad Child Adolesc Psychiatry* 1998;37:484-87.
49. Satcher D. Bringing the public health approach to the problem of suicide. *Suicide Life Threat Behav* 1998;28:325-7.

## ***Acknowledgements***

---

Technical assistance and scientific consultation in the preparation of this document was provided by the CDC, NIMH, Office of the Surgeon General and SAMHSA. Support for its publication has been provided by the CDC, National Center for Injury Prevention and Control. Support for the National Conference on Suicide Prevention in Reno, Nevada, 1998, was provided in part by the Centers for Disease Control and Prevention (National Center for Injury Prevention and Control), the Health Resources and Services Administration, the National Institute of Mental Health, and the Substance Abuse and Mental Health Services Administration (Center for Mental Health Services).

Written by Lucy Davidson, MD, EdS; Lloyd Potter, PhD, MPH; and Virginia Ross, PhD.

In collaboration with Virginia Trotter Betts, MSN, JD, RN, FAAN; Alex Crosby, MD, MPH; CDR Robert DeMartino, MD; Rodney Hammond, PhD; Kay Jamison, PhD; Jane Pearson, PhD; RADM Darrel Regier, MD, Elsie Weyrauch, RN; and Gerald Weyrauch, MBA.

Office of the Surgeon General scientific review and editing of this document was provided by: RADM Susan J. Blumenthal, MD, MPA.

Members of the Conference Expert Panel: Morton M. Silverman, MD (Chairperson); Alex Crosby, MD, MPH; Laurie Flynn; Dequincy A. Lezine; Jim Moore; Jane Pearson, PhD; Leslie Scallet, JD; David Shaffer, MD; Scot Simpson; Susan Soule, MA; Karl F. Weyrauch, MD, MPH.



Department of Health and Human Services  
U.S. Public Health Service

