Editorial

National Strategies for the Reduction and Prevention of Suicide

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An increasing number of countries are developing national strategies to reduce and prevent suicide. However, while the large volume of information from psychiatric, epidemiological, genetic, and biological research now gives a generally coherent and consistent picture about the risk factors and causal pathways for suicidal behavior, there is relatively little evidence-based information – at either a program level, or at the level of a national strategy – about the types of interventions that successfully reduce or prevent suicidal behavior. Against this background, it is timely to outline, albeit briefly, the small body of evidence about programs and strategies that show effectiveness, or promise of effectiveness, in reducing or preventing suicide.

It is useful to review these programs using the Institute of Medicine's model of universal, selective, and indicated (USI) interventions (Mrazek & Haggerty, 1994). Within this framework, universal programs target the general population, selective programs address high-risk subgroups within the total population, and indicated programs address high-risk individuals.

Research evidence supports a range of programs targeted at the general population. These include those which focus upon restricting access to means of suicide. Reducing access to particular means of suicide has been shown to reduce suicides by that specific method, and sometimes, to reduce total suicide rates. These findings span a range of means including: detoxification of domestic gas; various levels of restriction of access to guns; reduction in the pack size of analgesics, and installing barriers at jumping sites.

Programs which attempt to improve mental health literacy may contribute to suicide prevention by changing public recognition and attitudes toward mental illnesses. This approach is exemplified by a program in Germany which focuses on increasing awareness about depression (Althaus, Schmidtke et al., 2003). To date, evaluation suggests improvements in public attitudes and knowledge about depression.

Certain ways of presenting and portraying suicide in the media appear to provoke suicidal behavior in vulnerable individuals. This evidence has led to the development, in a number of countries, of guidelines for media reporting and coverage of suicide. However, there have been few evaluations of the impact of such guidelines, and, to date, reports have suggested mixed results.

National strategies which seek to improve control of alcohol may reduce suicidal behavior by decreasing both the risk of acute alcohol intoxication and the fraction of the population with alcohol use disorders. The pronounced decline in suicide rates during *perestroika* in the former USSR, for example, has been attributed to the strong antialcohol policy introduced during that period (Wasserman & Varnik, 1998).

Promoting mental health and resiliency may contribute to suicide prevention. These activities include programs to enhance factors which might protect against suicide or mitigate the effects of risk factors. Such approaches can be applied nationally or within communities or workplaces. The National Suicide Prevention Program in Finland, for example, includes public education campaigns to enhance personal resources and coping abilities, to promote good parenting styles, and to prepare people for retirement.

There are a range of organizational and community-level suicide-prevention programs. These programs are exemplified by the United States Air Force's (USAF) suicide prevention program (Knox, Litts et al. 2003), in which a united effort by community agencies within the USAF was followed by a significant reduction in suicides among USAF personnel.

A range of school-based informational and peer-support suicide awareness programs has been developed based upon the premise that young people are more likely to divulge suicidal ideation to peers than adults. However, these programs have been controversial: While some evaluations show improvements in knowledge, attitudes, and help-seeking, others find no gains or unde-

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sirable effects. Further evaluations of these programs are needed.

Based on the assumption that promoting competency in a range of social skills will mitigate risk of suicidal behavior, programs have been designed to instill such skills in young children, in the hope that the acquisition of these skills will enable them to cope with problems throughout childhood and adolescence. There are, for example, positive reports for a program that teaches social coping skills to 6- and 7-year-olds (http://www.partnershipforchildren.org.uk/zippy/evaluation.pdf).

Research findings suggest consistent linkages between family, social, and economic disadvantage and suicide risk. While we lack evidence that clearly demonstrates that achieving social equity in targeted areas (including, for example, poverty, employment, and racism) reduces suicide, it nevertheless seems sensible to advocate macrosocial changes in such areas in order to provide an optimal environment in which more targeted interventions might have the best chance of success.

In addition to general population strategies, research evidence supports prevention approaches that focus on high-risk groups within the general population.

A strong evidence base suggests that most of those who die by suicide have mental disorders at the time of their death, which are, however, often unrecognized or undertreated. These findings imply, first, the need to develop educational programs designed to enhance the ability of various professional groups (for example, general practitioners) to better identify, treat, and manage the illnesses, particularly depression, with which suicidal behavior is associated. Second, these findings suggest that various programs that seek to improve access to mental health care – and enhance treatment and the management of mental illnesses – will reduce suicide risk in those with such illnesses.

There is now substantial evidence that most suicide attempts are precipitated by stressful life events. To address this issue, crisis centers and telephone hotlines have been developed to provide support in times of crisis. However, evaluations of crisis hotlines have yielded inconsistent findings regarding their efficacy in reducing suicidal behavior, and further research is needed.

Several approaches target high-risk school students. Skill-enhancing and competency-promoting programs are based on the premise that enhancing self-esteem, coping, and problem-solving skills may protect vulnerable young people against a range of adverse outcomes including suicidal behavior, depression, and substance abuse. Positive findings have been reported for such programs targeted to high-risk high school students. Another approach within schools relies upon screening programs to identify at-risk youth who are then referred to mental health professionals for evaluation, treatment, and management.

In addition to programs targeted at the general population and at high-risk groups, research evidence supports a range of prevention approaches that focus on high-risk individuals. These approaches include pharmacological and behavioral therapies.

A number of psychopharmacological treatments for specific mental illnesses have been shown to reduce suicidality in patients with these illnesses. These treatments include: long-term maintenance therapy with lithium for patients with recurrent bipolar disorder and major depressive disorder, and the use of the antipsychotics clozapine (and perhaps olanzapine) in patients with schizophrenia. Electroconvulsive therapy (ECT) is effective with selected patients in reducing acute suicidality.

Controlled trials of antidepressant therapy versus placebo have shown significant reductions in suicidal ideation. Further, mounting evidence from population-based studies suggests that the recent widespread introduction and use of selective serotonin reuptake inhibitors antidepressants (SSRIs) is associated with decreased suicide rates.

A range of behavioral therapies and approaches has shown effectiveness, or promise of effectiveness, in reducing suicidal behavior. These approaches include cognitive behavioral therapy, interpersonal psychotherapy, dialectical behavioral therapy, provision of an emergency "ready access" card to patients who have attempted suicide, maintaining postcard or letter contact after a suicide attempt, and being referred for active follow-up after a suicide attempt.

While the approaches outlined above show promise for suicide prevention, rigorous and compelling evaluations of the efficacy, effectiveness, and cost-effectiveness of suicide prevention programs are still lacking. In part, the failure to evaluate these arises from the difficulties inherent in suicide prevention programs. Suicide prevention has generally been conducted in a multisectoral, multiple-program approach in which it is difficult to separate out the individual contributions of specific programs. The effectiveness of some approaches may depend on their institutional contexts. Suicide is a rare outcome suggesting that there is a need to develop outcome measures other than suicide (e.g., measures of treatment seeking and compliance). Finally, most national suicide prevention plans have been developed too recently for their impact to have been assessed.

Notwithstanding these difficulties, evaluations of program effectiveness need to be based on rigorous scientific analyses, rather than on (often ideologically driven) assumptions about program content or intent. Currently, most evaluations tend to be process evaluations which describe what was done, rather than impact evaluations which assess the effect of the program on suicidal behav-

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ior. Evaluations that include both process and outcome measures would provide most information about program effectiveness.

These observations suggest that one of the foremost tasks for suicide prevention in the 21st century is to develop a body of scientific knowledge about program effectiveness. This task includes better development of current promising lines of suicide prevention, the development of innovative programs at population levels – and for both high-risk groups and high-risk individuals – and greater investment in evaluating the efficacy and effectiveness of both national strategies and their component programs.

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