



Guest Editorial

Suicide prevention strategies 2006

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In the mid 1980s suicide rates increased substantially in male youth aged 15-24 in many Western countries including Australia, New Zealand, the United States, Canada and the United Kingdom. This trend focused attention on suicide as a major social issue for youth. More recently there has been emerging interest in the issue of suicide amongst older people with growing recognition that the ageing of the population in the coming decades may mean increased numbers and rates of suicide among older people. There has also been recent acknowledgement that, in many Western countries, males in the middle years (25-50) constitute a significant fraction of all national suicide deaths.

These changes have led to increased public awareness of suicide and demand for policies to prevent and reduce suicide. As a consequence, national strategies have recently been developed, or are currently being developed, in a number of countries. Finland, Norway and Sri Lanka were amongst the first countries to develop national suicide prevention plans in the 1990s. The United States, England, Ireland, Australia, Japan and Sweden now have national strategies for suicide prevention, and plans are currently being developed in New Zealand, Germany, Hong Kong, China, Slovenia and Estonia.

Policy changes, such as those which prompt the development of national suicide prevention

strategies, tend to occur when there is public attention and concern, and political interest, about the issue, and, perhaps most importantly, a community sense that 'something must be done' to tackle the problem.

Demands for the development of national plans and strategies in any field tend to be influenced by a range of factors including the personal experiences of political leaders and policy makers, political ideology, advocacy and special interest groups, lobbyists, and media attention to the problem. Because of these demands policy development tends to proceed even if only limited research evidence is available to guide that development.

These general difficulties of strategy and programmatic development are exacerbated, for the specific issue of suicide prevention, by the highly emotive nature of the issue, limited public knowledge and understanding about suicide, media tendency to 'frame' suicide stories as 'bad' rather than 'good' news, and a reluctance on the part of suicide researchers and mental health professionals to debate matters or promote knowledge about suicide because of concerns that public health messages about suicide may have undesirable consequences.

The development of national plans has been too recent for the early national suicide prevention strategies to have been evaluated in ways which might provide leadership and guidelines about

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the optimal ways to develop and implement such plans. Thus, the development of national suicide prevention strategies has proceeded during the last decade, largely, independently in each country, in the absence of clear international leadership and guidelines, without comparison amongst countries, and without clear evidence about the effectiveness of suicide prevention strategies.

While there is comparatively little evidence-based information at either a program or intervention level, or at a national strategy level, about programs that are successful in reducing or preventing suicidal behaviour, there is now a large volume of information from mental health, epidemiological, genetic, biological and psychosocial research which gives a generally coherent and consistent picture about the risk factors for suicidal behaviour. This body of evidence provides a framework within which we can identify likely points for preventive interventions from knowledge about risk and protective factors for suicidal behaviour. In addition, we can review current knowledge about suicide prevention strategies to identify those that show effectiveness, or promise of effectiveness, and merit inclusion in suicide prevention plans at national, local and community levels. It should be noted, however, that despite our vastly increased knowledge about the causes of suicidal behaviour we know relatively little about what is most effective in preventing suicide.

Evidence about the risk and protective factors associated with suicidal behaviour and the causal pathways that lead to this behaviour may be summarised and synthesised as follows: The background causes of suicide span a number of domains of variables which range from individual level factors (e.g. genes, personality, sexual orientation) to macrosocial factors (e.g. unemployment rates), and which include exposure to trauma, family factors, life stresses, social supports, socio-economic factors, cultural factors and macrosocial factors. A major route by which these background factors contribute to suicidal behaviours is by influencing individual susceptibility to mental health problems and, notably, such conditions as mood disorders, substance abuse, anxiety disorders and antisocial and offending behaviours. This assumption is

justified on the grounds that there is consistent evidence to suggest that, firstly, the majority of those dying by suicide or making suicide attempts have a recognisable mental health problem. Secondly, mental health problems (including in particular, mood disorders, substance abuse, schizophrenia and antisocial behaviours) account for well over 50% of suicides and suicide attempts. At the same time, a range of background factors can also make direct contributions to suicidal behaviours. Thus, for example, exposure to unemployment may increase risks of depression but, at the same time, may also be an acute life stress that provokes the onset of suicidal behaviour. In addition to factors that make a direct or indirect causative contribution to suicide, contextual factors may contribute to this process. Two important contextual factors that may influence rates of suicide within a population are the availability of methods of suicide, and media climates.

While all national suicide prevention programs broadly recognise these similar aetiological factors in suicidal behaviour, countries tend to develop individual strategies depending on models of suicidal behaviour, political, policy and public influences and the profile of suicide in the particular country. Thus, for example, in China, there is a focus on control of, and access to, toxic substances, specifically, pesticides and rodenticides, since 60% of suicides in China are by pesticide poisoning. In the United States, where 60% of suicides are by firearms, the national strategy has a strong focus on guns possession control. In Finland, the national suicide prevention strategy was based on the findings of a national psychological autopsy study of suicide deaths which showed that the clear majority of those who died by suicide had mental health problems. The national strategy reflects the findings from that study and highlights the treatment of mental disorders as a major approach to suicide prevention.

Despite the fact that the unique profile of suicide in each country tends to shape the national suicide prevention strategy, all countries have access to the same body of evidence about the risk factors for suicidal behaviour and to current knowledge about suicide prevention strategies that show effectiveness or promise of

effectiveness. Based on our current understanding, there are a series of interventions and policies which are most likely to reduce suicide and all countries include these approaches as elements of their national plans for suicide prevention. These promising areas for suicide prevention are outlined here.

Informational and educational programs for professional groups

A series of educational, collaborative care, and nurse case management programs which focus on enhancing the ability of primary care groups to better identify, treat and manage depression and suicidal behaviour have been shown to reduce suicide rates. These programs are based on the premise that mental illness tends to be under-recognised and under-treated by primary care physicians. Some of these programs have shown increased detection of mental illness, increased treatment of depression, increased prescription rates for antidepressants, and, often, decreased suicide rates. There is a need for further, large scale evaluations of these types of programs using a range of outcome measures. Thus far, these types of physician education and collaborative care programs are amongst the most effective interventions for reducing suicide rates.

Restricting access to lethal methods of suicide

Restricting access to lethal methods of suicide is an often under-valued approach to suicide prevention. However, research from a number of countries suggests that reducing access to particular means of suicide reduces suicides by that method, and sometimes, decreases total suicide rates. These findings span a range of means including: the detoxification of domestic gas and of carbon monoxide emissions from vehicle exhausts; various levels of legislative restriction on ownership of, and access to, firearms; restrictions on the pack size of analgesics; installation of barriers at sites for jumping and at subways to prevent people leaping in front of trains; the use of clinically safer drugs and the restriction of access to highly toxic drugs and pesticides which are lethal in overdose. While restricting access to potentially lethal means of suicide does not address an individual's distress or mental health problems, it may prevent some fraction of suicide attempts

that are made impulsively and in situations of extreme anger and distress, and allow time for help to be sought or given.

Community gatekeeper programs

A range of programs which focus on enhancing the skills of community, organisational and institutional gatekeepers (including, for example, clergy, caregivers for the elderly and those who work at all levels of responsibility in schools, prisons, juvenile detention centres, workplaces and the armed forces) can increase public awareness about suicide, encourage help seeking, and improve identification and referral of those at risk for suicide. The United States Air Force suicide prevention program is an example of this type of approach. In the Air Force an integrated and co-ordinated program focused on a series of approaches to suicide prevention. These approaches included encouraging early mental health intervention, promoting help seeking, destigmatising mental health problems, increasing protective factors such as social connectedness and social support and improving coping skills. The program included not only a focus on suicidal behaviour but also on domestic violence and substance abuse which were regarded as indicators of stress and distress. A similar program in the Norwegian Army has also reported reduced suicide rates. While a wide range of similar programs have been developed and implemented in a variety of institutional and other settings, relatively few of these programs have been evaluated. There is a need for careful evaluation to assess the effectiveness of these programs and to identify their effective components.

Screening programs

Programs which either screen directly for suicide risk, or for depression or substance abuse with which suicidal behaviour is associated, have been developed and applied in a range of institutional settings including schools, prisons and juvenile detention centres and have been applied both to youth in general, and to at-risk youth such as those who receive child welfare services. These programs have been shown to be reliable and valid in identifying at-risk individuals, and some programs have doubled the number of identified at-risk individuals. There is no evidence that screening for suicide

risk increases the risk of suicidal thinking or behaviour. Programs which focussed on screening for depression in adults found increased rates of detection of depression. Some studies have reported improved treatment of depression, especially when these programs have been instituted in small geographic areas. However, there appear to be no evaluations of the effectiveness of such programs in primary care which screen for *suicide* risk, as opposed to screening for depression.

Public awareness education and mental health literacy

Improving public knowledge, or literacy, about mental health and suicidal behaviour is an important public health goal in its own right, and may contribute to suicide prevention by changing public recognition and attitudes towards mental illnesses. For example, programs which aim to increase public awareness and understanding of depression may lead to better recognition, treatment seeking and support for those with depression. Studies from the United Kingdom, Canada, Germany, Australia and New Zealand have found modest impacts on attitudes to mental illness (especially depression) for these campaigns, but it is more difficult to show reductions in suicide or suicide attempt rates. Further, it appears that while it is relatively easy to change attitudes with awareness programs it is more difficult to translate attitudinal changes into behavioural changes which are reflected in increased treatment seeking or use of antidepressants. There is some evidence from Canada, which has a long history of trialling and evaluating destigmatisation programs, that broad, generic population-based programs are largely ineffective and a more effective approach is to target more modest programs to clearly defined specific sub-groups.

Treatment and support for mental illness and suicide attempts

The majority of those who die by suicide in Australia and New Zealand, as in most Western countries, have at least one mental disorder when they die, and most of these disorders are untreated. In particular, most depression is untreated or under-treated, even after suicide attempts. The presence of a mental disorder increases the risk of suicide ten-fold. There is

also a great deal of evidence that suggests that having made a suicide attempt increases the risk for further suicidal behaviour, and for suicide. For these reasons, treating mental illness and providing long-term management and support for those who have made suicide attempts, are important approaches to suicide prevention.

Treatment approaches include psychopharmacological treatments, psychological (behavioural) interventions, and psychosocial interventions. A limited number of treatments for specific mental illnesses have been shown to reduce suicidal behaviour. These include long term maintenance therapy with lithium for people with bipolar disorder or major depressive disorder, the use of antipsychotics (clozapine, and perhaps olanzapine) for patients with schizophrenia, and the use of ECT (electroconvulsive therapy) for selected patients who are acutely suicidal. Recent controversial findings that show increased risk of adverse events in clinical trials of some antidepressants, and which have led to warnings about possible suicidal behaviour in adolescents, suggest the need for more research to explore how effective these antidepressants are in reducing suicidal behaviour in people with depression. In considering this issue there is a need to weigh concerns about possible adverse events with the fact that most depressed youth who die by suicide are not receiving treatment. More generally there is a need for better designed evaluations of antidepressants, including randomised controlled trials (RCTs). The failure of RCTs, thus far, to show significant reductions in suicidal behaviour for antidepressant therapy may reflect the methodological difficulties of research in this area including the low base rate of the outcome of interest (suicide), failure to systematically record suicidal outcomes, and exclusion of high risk patients with histories of suicidal ideation and suicide attempt. However, there is growing evidence from population based studies which suggests the recent widespread use of the newer, clinically safer antidepressants (selective serotonin re-uptake inhibitors: SSRIs) may have contributed to a decrease in suicide rates in several countries. In addition, patient studies show decreased rates of suicide attempts for depressed patients treated with antidepressants, and for adolescents who were

treated with antidepressants for six months rather than for up to two months.

A series of behavioural therapies and approaches has been shown to reduce suicidal behaviour, hopelessness and depressive symptoms, and to increase compliance with treatment, when compared with treatment as usual. These therapies include cognitive behavioural therapy (CBT), interpersonal behavioural therapy (IPT), dialectical behavioural therapy (DBT) and some forms of problem-solving therapy. Psychosocial interventions that reduce suicidal behaviour include psychoanalytically informed partial hospitalisation and programs which involve intensive care plus outreach. There is evidence that these psychological and psychosocial therapies can reduce suicidal behaviour either alone or in combination with medication. Further research is needed to explore what combinations of psychopharmacological, psychological and psychosocial interventions are most effective in reducing suicidal behaviour.

Follow up care after suicide attempts

A history of suicide attempt is a strong risk factor for further suicidal behaviour including suicide. Further, there is increasing evidence that many mental illnesses, including depression, as well as suicidal behaviour, may be recurrent and chronic. Compliance with medication and treatment regimes for chronic conditions is often poor. For these reasons, strategies which try to improve acute and long-term care for people who make suicide attempts have the potential to decrease rates of suicidal behaviour. Reduced rates of repeat suicide attempts have been found for a program which mails a series of postcards to individuals who have presented to hospital with suicide attempts, and for a program which employs an intervention counsellor to co-ordinate long term care for suicide attempters. A Norwegian program which focuses on integrating support and care to individuals after discharge following a suicide attempt also found decreased rates of further suicide attempts.

Restricting access to alcohol

National strategies which seek to improve control of alcohol may have the added benefit of reducing suicidal behaviour by decreasing the risk of acute alcohol intoxication (which is associated with impulsive suicide attempts), and

by reducing the fraction of the population with alcohol use disorders, which are precursors of suicide attempts. In both Iceland and the former USSR, suicide rates decreased following the introduction of strong national anti-alcohol policies.

Media coverage of suicide

A substantial body of evidence suggests that certain ways of presenting and portraying suicide in the media appear to precipitate suicidal behaviour in vulnerable individuals, particularly if the media coverage is repetitive, details methods or highlights the suicide death of a celebrity or well known person. This evidence has led to most national suicide prevention plans developing media guidelines which advocate that suicide be reported in a muted and cautious manner. However, while the content of these guidelines is similar across countries there are differences in the ways in which various countries have developed and implemented media guidelines. There is a need for research to explore whether these differences in development and implementation make media guidelines more likely to be accepted and followed by media professionals. There have also been few evaluations of the impact of such guidelines. However, the introduction of media guidelines in Switzerland is reported to have resulted in fewer sensationalised stories about suicide, and the introduction of media guidelines in Vienna resulted in an 80% decrease in the number of suicides by a method that had been highlighted by the media, and a reduction in the total suicide rate as well.

School-based suicide awareness and peer support programs

Based on the premise that teenagers are more likely to tell their friends than their parents that they are suicidal, an extensive range of school-based suicide awareness programs was developed in the 1990s. However, these programs have been controversial with evaluations suggesting that they tended not to be evidence-based, not to include current knowledge about suicide, and not to assess their safety and effectiveness in preventing suicidal behaviour. While a recent review of school-based programs found increased knowledge about suicide, improved attitudes about

depression and suicide, and lower suicide attempt rates in the intervention compared to the control group in the three months after intervention, the evaluation failed to find increased rates of help-seeking or suicidal ideation in students exposed to the programs.

To overcome some of the problems posed by awareness programs in schools, a series of skill enhancing, competency promoting programs have been introduced as alternatives. These programs are based on the premise that enhancing self-esteem, and coping and problem solving skills, may protect vulnerable young people against adverse outcomes including suicidal behaviour. Evaluations of these programs tend to find that improving these types of skills enhances the factors that are thought to protect against suicide. However, evaluations of these programs have not included assessments of the extent to which they are associated with reduced suicidal behaviours among students.

Crisis centres and crisis counselling

Based on the premise that most people contemplating suicide are ambivalent, crisis centres and telephone help lines offer crisis counselling to callers, and encourage them to seek assessment and treatment from mental health services. Despite their popularity, few such centres and help lines have been evaluated. A recent evaluation of telephone help lines in the United States found that some callers are helped, but not all help lines offered high quality assistance. Increasingly, similar crisis services are being provided via the Internet. There is a need to evaluate the services that crisis centres, including help lines and Internet based services, offer, and to develop guidelines for ensuring that the services delivered in these ways are safe and effective.

Conclusion

In conclusion, it is clear that suicide is a complex behaviour with multiple causes, which therefore requires a multicompartamental approach to suicide prevention in which multiple prevention programs are developed in a number of different areas which contribute to suicide risk, with,

perhaps, small gains in each of these areas aggregating to make a substantial overall impact on suicide rates. However, the potential to include multiple prevention approaches should be tempered by research evidence about the *relative* contribution of specific risk factors to suicidal behaviour. The available evidence thus far suggests that the most promising interventions are physician and gatekeeper education, and restriction of access to lethal means of suicide (Mann, Apter, Bertolote, Beautrais et al., 2005). This evidence also suggests a clear agenda for research, which includes evaluating interventions and prevention programs, developing model and demonstration projects, identifying meaningful outcome measures, and refining and identifying the effective elements of what appear to be effective programs.

Finally, while many national policies for suicide prevention are undertaken as public health campaigns with an explicit focus on universal, population-wide interventions, our current knowledge about suicide causation and prevention suggests that perhaps the most effective approach to reducing suicide may be highly targeted interventions that focus on those who have made suicide attempts who have a long term elevated risk of further suicidal behaviour, and a range of poor psychosocial and mental health outcomes which are likely to precipitate further suicide attempts. Educating physicians to offer optimal long term care and support for these patients, developing networks of integrated hospital and community care for them, and improving combinations of pharmacotherapy, psychotherapy and psychosocial support may more effectively reduce suicide rates than more generic, broadly based interventions.

Reference

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