A REVIEW OF EVIDENCE:

IN OUR HANDS – THE NEW ZEALAND YOUTH SUICIDE PREVENTION STRATEGY

Dr Annette Beautrais

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FOREWORD

The task of reducing the high rate of youth suicide in New Zealand is not an easy one. The sheer complexity of what brings a person to want to end their life means that efforts must be made at a range of levels and by a range of organisations and individuals.

We need to be sure that the initiatives we put in place to prevent suicide will really make a difference. We also need to be absolutely sure that our initiatives do not have the opposite effect and place people at more risk of suicide and self harm.

Research, therefore, is crucial to both the planning and delivery of a *New Zealand Youth Suicide Prevention Strategy*. It will guide our knowledge of what are the risk and protective factors, what are the best ways to target these factors, and how effective these interventions will be.

This report, written by Dr Annette Beautrais, provides a comprehensive review of the research evidence behind the goals and objectives of *In Our Hands*, the general population strategy of the *New Zealand Youth Suicide Prevention Strategy*. It draws on both national and international research and examines how comparable *In Our Hands* is with other international approaches to youth suicide prevention.

A background report for *Kia Piki te Ora o te Taitamariki*, the Māori strategy of the *New Zealand Youth Suicide Prevention Strategy*, has been written separately by Keri Te Aho-Lawson and has been published as a companion to this report and the *New Zealand Youth Suicide Prevention Strategy*.

As the volume of research into suicidal behaviour increases I am sure that our knowledge of how to prevent suicide will also be refined, so that all our prevention efforts translate into action which really makes a difference to young New Zealanders.

Karen O Poutasi (Dr)
Director-General of Health

INTRODUCTION

The *New Zealand Youth Suicide Prevention Strategy* has been developed to provide a broad framework for activities directed at reducing and preventing suicidal behaviour among young people in New Zealand. The general population component of the strategy, *In Our Hands,* sets out a series of 25 policy recommendations to address issues of youth suicide. These recommendations may be classified into a number of related themes which are listed below.

- **The provision of family support and early intervention programmes to families in which children are perceived to be at high risk for a range of adverse outcomes, including suicidal behaviour, in adolescence and young adulthood.**
- **Improvements in mental health education and awareness, treatment and management.**
- **Restriction of access to means of suicide.**
- **Macrosocial changes including increased social equity and the management of publicity issues about suicide.**
- **Improved statistical information and research about suicide issues.**

The purpose of this background document is to review and synthesise research evidence which provides support for the goals and objectives outlined in *In Our Hands*, the *New Zealand Youth Suicide Prevention Strategy*. The first part of this background document provides a brief review of research findings about risk factors for suicidal behaviour among young people. This review is based upon both New Zealand and overseas research, and examines a range of risk factors for suicidal behaviour which might be modified in efforts to prevent such behaviour. The second part of this document links the research evidence identifying risk factors for suicidal behaviour to the strategic approaches outlined in the *New Zealand Youth Suicide Prevention Strategy*.

The third part represents an overview of the 'goodness of fit' between the policies proposed in *In Our Hands: the New Zealand Youth Suicide Prevention Strategy* and those suggested in other major reviews of suicide prevention. In addition, it outlines the considerable difficulties which often exist in both proposing and evaluating youth suicide prevention policy.

PART 1

A BRIEF OVERVIEW OF RISK FACTORS FOR SUICIDAL BEHAVIOUR AMONG YOUNG PEOPLE

To provide a context within which the specific objectives outlined in *In Our Hands: the New Zealand Youth Suicide Prevention Strategy* can be evaluated, it is useful to review briefly the risk factors that are known to influence suicidal behaviour in young people. Research findings have consistently indicated that suicide and suicide attempts in young people are complex behaviours with multiple causes, and a wide range of risk factors for suicidal behaviour among young people have been identified. These risk factors are detailed below.

SOCIAL AND DEMOGRAPHIC RISK FACTORS

Studies have consistently suggested that young people at high risk of suicidal behaviour tend to come from socially disadvantaged backgrounds, which are characterised by lower socioeconomic status and poor educational qualifications (Beautrais et al 1996c; Dubow et al 1989; Fergusson and Lynskey 1995a). It is important to acknowledge, however, that not all young people with suicidal behaviour have a background of economic or educational disadvantage.

In New Zealand there is some evidence of differences between Māori and non-Māori in terms of risk of suicidal behaviour. Specifically, young Māori, and particularly, young Māori males appear to be at slightly greater risk of suicide attempt behaviour (Coggan et al 1995; Horwood and Fergusson, in press). While, historically, rates of suicide have been higher in non-Māori than Māori, over the last decade these differences have diminished with recent analysis indicating similar rates of suicide in Māori and non-Māori (New Zealand Health Information Service 1995; Skegg et al 1995). It should be noted, however, that the majority of suicides and suicide attempts will occur in non-Māori since there are a greater number of non-Māori at risk of suicidal behaviour.

FAMILY CHARACTERISTICS AND CHILDHOOD EXPERIENCES

A large number of studies have reported that young people who make serious suicide attempts or who die by suicide come from family backgrounds marked by a series of dysfunctional or adverse circumstances. These characteristics may include: parental psychopathology (for example, affective disorders, substance use disorders, antisocial behaviours, and family history of suicidal behaviour) (Brent et al 1994; Fergusson and Lynskey 1995a; Gould et al 1996; Pfeffer et al 1994; Runeson 1989); parental divorce or separation (Beautrais 1996; Brent, Perper et al 1994); parental disharmony, parental violence and abusive family environments, including childhood physical and sexual abuse (Bayatpour et al 1992; Beautrais 1996; Brent et al 1988; Brent, Perper et al 1994; Fergusson et al 1997; Garnefski et al 1992; Horwood and Fergusson, in press; Joffe et al 1988; Kosky et al 1986; Mullen et al 1993; Reinherz et al 1995; Wozencraft et al 1991); poor parental care, including impaired parent-child relationships, poor family communication styles and extremes of high and low parental expectations and control (Beautrais 1996; Brent, Perper et al 1994; Martin and Waite 1994; Tousignant et al 1993).

There is increasing evidence to suggest that young people with suicidal behaviour tend to come from a multi-problem family background in which several risk factors are commonly present, suggesting that it is the chronicity and density of a range of adverse factors, rather than the severity of any one factor, which are associated with increased family dysfunction and subsequent risk of suicidal behaviour (Beautrais 1996; de Wilde et al 1992; Fergusson and Lynskey 1995a; Garnefski et al 1992; Joffe et al 1988; Spirito et al 1989). However, it is important to recognise that young people with suicidal behaviour do not invariably come from adverse family backgrounds, although this appears to be frequently the case.

PERSONALITY DISORDERS, PERSONALITY TRAITS AND COGNITIVE STYLE

A series of studies has found relatively strong linkages between suicidal behaviour in young people and several personality disorders (notably antisocial, borderline and avoidant disorders) (Apter et al 1988; Brent, Johnson, et al 1993; Brent, Johnson et al 1994; Kashani et al 1989; Marton et al 1989; Marttunen et al 1991, 1994; Myers et al 1991; Pfeffer et al 1988; Rich et al 1986; Runeson and Beskow 1991). Frequently, personality disorders are associated with suicide attempt risk in conjunction with comorbid mental disorder diagnoses (Brent, Johnson et al 1993; Marttunen et al 1994).

In addition, certain personality traits including impulsivity, angry or aggressive behaviour, and social withdrawal have been shown to be associated with suicide attempts in young people (Brent, Johnson et al 1993; Gispert et al 1987; Goldsmith et al 1990; Kashden et al 1993; Khan 1987; Spirito et al 1988), and there is some evidence linking particular cognitive styles (the ways in which an individual perceives, mentally organises and understands life experiences) to suicidal behaviour. Cognitive variables which have been linked with attempted suicide in adolescents include: tendencies to think in a relatively inflexible or rigid fashion; to have poor problem-solving ability; to be present, rather than future oriented; and to have a negative or hopeless outlook (Asarnow et al 1987; Beautrais 1996; Kienhorst et al 1992; Orbach et al 1987; Rotheram-Borus et al 1990).

GENETIC AND BIOLOGIC RISK FACTORS

While genetic and biologic factors in suicidal behaviour have not been studied well in adolescent populations, there are strong indications for adult subjects that these factors are associated with suicidal behaviour. However, it is not yet clear whether what is being transmitted is a genetic predisposition to suicide per se or a genetic vulnerability to the psychiatric disorders with which suicide is associated (Brent et al 1996; Kety 1986; Kety 1990; Roy 1983; Roy et al 1991).

In addition, declining or low stable levels of the serotonin metabolite 5-HIAA have been found in those with suicidal behaviour. Although little is known of the processes by which serotonin and suicidal behaviour might be linked, there is some evidence to suggest that impulsivity and aggressive behaviour may be important intervening variables (Asberg et al 1986; Mann et al 1986).

PSYCHIATRIC RISK FACTORS

Studies of youthful suicidal behaviour consistently report that the majority (approximately 90%) of young people who die by suicide or who make serious suicide attempts have a recognisable psychiatric disorder at the time of their attempt (Andrews and Lewinsohn 1992; Beautrais 1996; Brent et al 1988; Fergusson and Lynskey 1995a; Marttunen et al 1991; Runeson 1989; Shaffer et al 1996). Most commonly these disorders are affective (mood) disorders (including depressive illness and bipolar disorders), substance use disorders (including alcohol, cannabis and other drug abuse or dependency), and antisocial behaviours (including adjustment disorders, conduct disorder and antisocial personality disorder). It is, however, important to note that, whilst most young people making suicide attempts will have significant psychiatric morbidity, it is by no means the case that all young people with mental health problems will exhibit suicidal behaviour.

It should also be noted that relatively few young people with suicidal behaviour will have more severe forms of mental disorder such as schizophrenia. While conditions such as depression, substance use disorders and antisocial behaviours are relatively common amongst young people, the more severe conditions, including schizophrenia, are rare. Nonetheless, amongst the small minority with severe mental disorder, risks of suicide and suicide attempt are likely to be very high (see, for example, Roy 1992).

There is consistent evidence to suggest that young people with suicidal behaviour frequently have comorbid

mental disorders (ie, the co-occurrence of more than one mental disorder at any one time) (Andrews and Lewinsohn 1992; Beautrais 1996; Beautrais et al 1996b; Brent et al 1988; Brent, Perper et al 1993a; Fergusson and Lynskey 1995b; Lesage et al 1994; Marttunen et al 1991; Reinherz et al 1995; Runeson and Rich 1992; Shaffer and Piacentini 1994). The risk of suicide attempt may increase with the extent of comorbidity (Beautrais 1996; Fergusson and Lynskey 1995b), with those individuals with more than one mental disorder having markedly increased risks of serious suicide attempt.

There is strong research evidence to suggest that those who make suicide attempts or die by suicide frequently have a history of previous suicide attempt and/or contact with psychiatric services (Andrews and Lewinsohn 1992; Beautrais et al, in press; Brent, Perper et al 1993a; Gould et al 1990; Lesage et al 1994; Rich et al 1986; Shaffer et al 1988; Silburn et al 1991).

LIFE EVENTS AND STRESSES

A series of studies has shown that many incidents of suicidal behaviour are preceded by recent, stressful life events, including, in particular, interpersonal conflict or loss, or legal or disciplinary problems (Beautrais 1996; Brent, Perper et al 1993b; Rich et al 1988; Shaffii et al 1988; Pronovost et al 1990; Rotheram-Borus and Trautman 1988). The events which have been shown to precipitate suicide attempts in adolescents are common in many young people and it may be that they act as precipitating factors for suicidal behaviour only when they occur in individuals who are vulnerable to suicidal behaviour because of the presence of other risk factors for suicidal behaviour, including exposure to adverse childhood circumstances and the presence of current psychiatric disorder.

SUMMARY

Research has consistently identified several classes of related factors which distinguish young people with suicidal behaviour from other young people. Those with suicidal behaviour tend to come from socially and educationally disadvantaged backgrounds, and from dysfunctional or unhappy family and childhood backgrounds. Almost all of those with suicidal behaviour will have some recognisable mental health or adjustment disorder prior to the suicide attempt, and, often, these mental health problems will be associated with more general personality difficulties. In addition, there is evidence to suggest that suicidal behaviours tend to run in families, hinting at a possible genetic basis for suicidal behaviour, although the mechanisms by which this contribution influences suicidal behaviour are not yet clear. Finally, immediately prior to the suicidal behaviour, there is often a life stress or crisis which often, although not invariably, centres around the breakdown of an emotional or supportive relationship.

Recent research evidence suggests an accumulative risk model of suicidal behaviour in which the individual's risk of suicidal behaviour rises markedly with the number of risk factors to which he or she is exposed. These findings suggest that serious suicide attempt behaviour is not simply a consequence of current psychiatric disorder, nor of current stressful life events, but, rather represents the culmination of adverse life course sequences which have been marked by accumulations of risk factors from the domains of social disadvantage, childhood adversity, personality difficulties, psychiatric disorder and adverse life events (Beautrais 1996; Marttunen et al 1992). This is not to say that suicidal behaviour may not occur in young people with seemingly unproblematic life histories, but it is the case that most of those young people with serious suicide attempt behaviour will have one or more elements of the profile of social disadvantage, family problems, adjustment problems and stresses described above.

The risk factors for suicidal behaviour are very similar to those which occur in other adolescent and young adult psychosocial disorders including, for example, depressive disorders, substance use disorders, conduct disorder and youth offending behaviours (see, for example, Rutter and Smith 1995), and suggest that the major life pathways and processes which lead to increased risk for suicidal behaviour overlap and correlate quite substantially with those which lead to young adult psychosocial and mental health problems.

PART 2

EVIDENCE TO SUPPORT THE POLICIES OF THE NEW ZEALAND YOUTH SUICIDE PREVENTION STRATEGY

The goal of this review is to link the research evidence identifying risk factors for youthful suicidal behaviour to the strategic approaches to youth suicide prevention outlined within the *National Youth Suicide Prevention Strategy*. While Part 1 sets out the broad aims of the *National Youth Suicide Prevention Strategy* and provides a general overview of youthful suicidal behaviour, this section of the report reviews evidence to support each of the identified policy themes. For each theme the following is provided:

- an account of the theoretical and research evidence which justifies this theme
- a broad account of the types of policies which would be encompassed under this theme
- a review of the empirical evidence supporting these policies
- a review of the issues which may arise in promoting and evaluating these policies as approaches to suicide prevention.

2.1 EVIDENCE TO SUPPORT *THEME 1: FAMILY SUPPORT AND EARLY INTERVENTION PROGRAMMES*

- Research evidence consistently suggests that young people with suicidal behaviour frequently come from socially disadvantaged and dysfunctional family environments.
- There is increasing evidence that exposure to adversity during childhood influences later vulnerability to psychosocial disorders and suicidal behaviour.
- Early intervention with high-risk families may reduce the number of children exposed to dysfunctional and compromised childhood environments with a consequent reduction in the number of young people at risk for adolescent psychopathology and for suicidal behaviour.
- This proposal involves implementation of a long-term strategy whose benefits could not be evaluated for a period of two to three decades.
- To date, no studies of early intervention programmes have shown that they directly impact on rates of suicidal behaviour among young people.
- Early intervention is a promising approach which is theoretically well supported, but, as yet, not proven.

This policy aims to provide a range of interventions to provide enhanced support to high-risk families in an attempt to reduce the number of children exposed to disadvantaged and dysfunctional family environments that may encourage later adjustment difficulties.

The evidence to support this policy comes from a series of studies which have found that young people who make suicide attempts or who die by suicide frequently come from childhood and family backgrounds characterised by multiple adversities including: social and economic disadvantage; family conflict, violence and instability; exposure to childhood physical and sexual abuse; poor parental care and impaired parent-child interaction; parental psychopathology and related difficulties (Bayatpour et al 1992; Beautrais 1996; Beautrais et al 1996c; Brent et al 1988; Brent, Perper et al 1994; Dubow et al 1989; Fergusson and Lynskey 1995a; Fergusson et al 1997; Garnefski et al 1992; Gould et al 1996; Horwood and Fergusson, in press; Joffe et al, 1988; Kosky et al 1986; Martin and Waite 1994; Mullen et al 1993;

Pfeffer et al 1994; Reinherz et al 1995; Runeson 1989; Tousignant et al 1993; Wozencraft et al 1991). Fergusson and Lynskey (1995a) have argued that exposure to childhood adversity is linked to risk of suicidal behaviour by a causal chain model in which: (a) exposure to childhood disadvantage encourages the development of adolescent psychopathology, and (b) the development of adolescent psychopathology leads to increased risks of suicidal behaviour.

The view that early intervention is likely to play a strategic role in suicide prevention is based on the assumption that reducing the number of children exposed to dysfunctional and compromised childhood environments will lead to a decrease in the number of young people at risk for adolescent psychopathology and for suicidal behaviour. The aims of early intervention with high-risk families are not confined to suicide prevention, but span a broad series of goals relating to improving the health, social wellbeing and life opportunities of children in these families.

This strategy has been suggested in several major reviews of youth suicide prevention (Alcohol, Drug Abuse and Mental Health Administration 1989; Commonwealth Department of Health and Family Services 1997a, 1997b; United Nations 1996), with Garland and Zigler (1993) setting out perhaps the most comprehensive recommendation. These authors note:

> Family support programs also address many of the social problems associated with adolescent suicide. In documenting the increase in adolescent suicidal behaviour as early as 1974, Weissman (1974) called for increased primary prevention efforts to include strengthening family and community support networks, improving the stability and continuity of children's relationships, and generally improving the quality of the institutions that serve children and youth. These goals were embodied in the family support movement that has spread throughout the nation since that time.

Garland and Zigler continue by noting:

> These programs seek to empower families by improving their ability to cope with the debilitating stresses facing families today, such as poverty, single parenthood, dual careers, geographical mobility, substance abuse and adolescent pregnancy.

There is a spectrum of early intervention strategies that may be proposed, ranging from those which provide additional support and services to families, using existing service structures and agencies, to those which are designed specifically to provide integrated programmes of long-term family support. There is evidence that, to be effective, family support programmes need to be well designed and applied on a long-term basis. For example, Yoshikawa (1994) notes four features of successful programmes:

- these programmes are targeted at high-risk families
- programmes begin early in life
- services are provided by intensive and extensive methods of home visitation which seek to address a wide range of social, emotional, educational and other difficulties facing high-risk families
- programme duration is of, at least, several years.

A paradigm programme that incorporates all of these features is the Healthy Start programme developed in Hawaii (Hawaii Department of Health 1992) and it is likely that successful early interventions will be founded around the principles used in the Hawaiian programme.

At present, there is no evidence which has evaluated the impacts of these programmes in reducing suicidal behaviours in young people although there is evidence to suggest that well-designed early interventions may reduce risks of child abuse (Olds et al 1986), improve health care delivery (Olds et al 1986), and lead to a reduction of problem behaviours in adolescents (Zigler et al 1992).

The contribution of large-scale early intervention programmes to youth suicide prevention is likely to involve a

long-term investment. For example, even if well-developed and well-evaluated programmes were set in place immediately it would take almost two decades before the benefits of these programmes, in terms of reduction of suicide risk, came on stream. Furthermore, the evaluation of the contribution of these programmes to suicide prevention is likely to involve long-term and expensive field trials in which large numbers of families are enrolled in evaluation studies for a period of at least 20 years. Thus, whilst there are good theoretical grounds for arguing that early intervention with at-risk families is an important component of youth suicide prevention strategies, this approach will involve long-term policy investment that is likely to be expensive to implement and difficult to evaluate. Looked at from this standpoint, the justification for early intervention should be based upon a broader set of goals relating to such issues as child abuse prevention, health care delivery, the reduction of youth offending behaviours and related issues, with youth suicide prevention being seen as one potential benefit of such programmes.

2.2 EVIDENCE TO SUPPORT *THEME 2: IMPROVEMENTS IN MENTAL HEALTH EDUCATION AND AWARENESS, TREATMENT AND MANAGEMENT*

- Research evidence strongly suggests that the majority of young people who make serious suicide attempts or who die by suicide have at least one mental disorder at the time of their attempt, while a significant proportion have more than one disorder.
- Most commonly, these disorders are affective (depressive) disorders, substance use disorders (including alcohol, cannabis and other drug abuse or dependency) and antisocial behaviours (including conduct disorder and antisocial personality disorder).
- Improved mental health education, services and care for young people with mental disorders may reduce the population of young people with these disorders with which suicidal behaviour is associated.
- There is strong agreement of the need to provide professionals who have contact with young people with education and training programmes to enable them to better identify, refer, treat and manage young people at risk of a range of mental health disorders and of suicidal behaviour.
- While generally strong support exists for education programmes about youth suicide prevention for teachers, allied school professionals, and parents, the provision of school-based suicide prevention programmes specifically for students is contentious. There are suggestions that these programmes may have deleterious effects among young people by normalising the concept of suicide.
- Given these reservations, most reviews recommend incorporating general mental health issues into school curricula, rather than teaching suicide-specific programmes to students.
- Young people who have made suicide attempts, those recently discharged from a psychiatric hospital and young people with psychotic disorders are at high-risk of suicide. These groups may be relatively easily identified and targeted with suicide prevention initiatives developed especially for the needs of the particular at-risk groups.
- There are very few well-evaluated models of mental health education training programmes for professionals, positive mental health programmes for young people, mental health service delivery programmes for young people, crisis services for suicidal young people, or postvention procedures, which indicate that they either reduce the incidence of suicidal behaviour among young people or result in improved referral of at-risk young people to mental health services.
- Although their efficacy has not been proven, there is strong theoretical justification for the development of improved mental health education and awareness, treatment and management programmes, as significant suicide prevention initiatives.

Research evidence consistently suggests that the strongest predictors of suicidal behaviour are psychiatric disorders and particularly, affective disorders and substance use disorders (Allebeck and Allgulander 1990; Andrews and Lewinsohn 1992; Beautrais 1996; Beautrais et al 1996b 1996c; Brent, Perper et al 1993a; Fergusson and Lynskey 1995b; Garrison et al 1991; Lesage et al 1994; Marttunen et al 1991; Rich et al 1986; Runeson 1989; Shaffer and Piacentini 1994; Shafii et al 1988; Silburn et al 1991; Smith and Crawford 1986; Trautman et al 1991; Velez and Cohen 1988).

A clear corollary of these findings is that effective policies in the areas of youth suicide prevention need to focus strongly upon the prevention, treatment and management of psychiatric disorder in young people. A range of strategies which may be proposed in this area are discussed below.

2.2.1 PROMOTION OF POSITIVE MENTAL HEALTH AMONG YOUNG PEOPLE

This policy aims to support a range of programmes which promote positive mental health in young people. Positive mental health programmes are typically operated as part of the school curriculum and aim to foster good mental health skills among students, together with the development of behavioural and psychological skills to make them more resilient to the development of psychopathology. Such programmes are likely to include components designed to:

- increase awareness of mental health issues among students
- destigmatise mental illness
- encourage students to recognise mental health problems and adjustment difficulties in themselves and their peers and to facilitate the processes by which they may seek appropriate help for themselves and their peers
- teach self-awareness, coping skills, social skills and problem-solving skills.

The view that positive mental health programmes for students are a useful strategy for suicide prevention is based on the belief that such programmes broadly reduce vulnerability to a range of mental health problems, including depression, substance use and suicidal behaviour.

Whilst there is considerable theoretical justification for teaching such programmes in schools, there appears to be little evaluative evidence of the extent to which they reduce the incidence of a range of psychosocial disorders amongst young people, increase help-seeking behaviours or improve coping skills. However, a review of 143 school-based life skills training programmes suggested that these programmes were successful in deterring substance use in young people (Tobler 1992), and Price and colleagues (1989) in reviewing over 300 prevention programmes of various types concluded that a sound basis of empirical knowledge was an important prerequisite for the development of successful programmes.

There is generally strong advocacy for incorporating positive mental health programmes into school curricula as a strategy for suicide prevention, with the US Secretary of Health and Human Services Task Force on Youth Suicide, for example, recommending that:

> Suicide prevention activities should be integrated into broader health promotion programmes and health care delivery services directed at preventing other self-destructive behaviours, such as alcohol and substance abuse, teen pregnancy and interspousal violence. (Alcohol, Drug Abuse and Mental Health Administration 1989).

To this, Garland and Zigler (1993) added:

> It does seem logical that programmes aimed at improving general physical and mental health will have a wider scope of success than those addressing specific behaviours which are multi-determined.

While positive mental health programmes receive strong support, programmes for students which specifically address issues of youth suicide are more contentious. Although school-based suicide awareness programmes are

not advocated as part of the *New Zealand Youth Suicide Prevention Strategy*, consideration has been given to the role of these programmes in suicide prevention in view of the frequency with which such programmes are advocated as a means of reducing suicide.

School-based suicide awareness programmes have proliferated in North American schools during the last decade. Recent appraisals of these programmes in the United States (Garland et al 1989; Overholser et al 1989; Shaffer et al 1987; Spirito et al 1988) suggest that, currently, the utility and efficacy of such programmes is contentious, with some professionals promoting the use of school-based programmes, while others oppose their use (Garland et al 1989; Hazell and King 1996; Kalafat and Elias 1994; Shaffer et al 1988). On balance, there would appear to be growing consensus among suicide prevention professionals that these programmes may not be as effective as was originally hoped, and may, in fact, carry the risk of potentially harmful effects (Alcohol, Drug Abuse and Mental Health Administration 1989; Diekstra et al 1995; Garland and Zigler 1993; Muehrer 1995; Shaffer et al 1988).

Reservations about the inclusion of suicide specific information in mental health programmes for school students have arisen for several reasons. Firstly, there has been no systematic attempt to evaluate the contribution of these programmes to suicide prevention or reduction. There is, therefore, currently, little evidence to suggest that providing information about youth suicide issues to students in the form of school-based programmes in fact reduces risks of suicidal behaviours in young people. Of greater concern are suggestions that suicide prevention programmes directed at students may encourage, rather than prevent, suicidal behaviours in young people (Garland et al 1989; Garland and Shaffer 1990). This may happen because classroom discussions may introduce the option of suicide as a common response to adolescent stress. The concept of suicide may thus become normalised in the youthful population, and suicide may be more widely perceived as a socially acceptable response for young people under stress.

These concerns have been expressed in reviews of the role of school-based programmes in preventing youth suicide by several authors (Alcohol, Drug Abuse and Mental Health Administration 1989; Diekstra et al 1995; Garland and Zigler 1993; Muehrer 1995; Shaffer et al 1988). For example, Muehrer (1995) has made the following observation:

> Given the lack of evidence that school suicide awareness programmes achieve their stated goal of reducing suicides and suicide attempts, as well as recent evaluations that have shown unintended negative effects, the premature dissemination of unproven programmes is unwarranted. Sustained, comprehensive, theory-driven preventive interventions are needed to target risk and protective factors which have been verified through rigorous epidemiologic research (Muehrer and Koretz 1992). These interventions first must be carefully pilot-tested and include long-term outcome evaluations to determine whether suicidal behaviours have, in fact, been reduced.

In addition, the extensive review of youth suicide conducted by the US Secretary's Task Force on Youth Suicide commented as follows:

> No-one has been able to demonstrate that school programmes directed to students or school personnel are effective in reducing suicide. In fact, school suicide prevention programmes have generated controversy in some communities. Some parents fear that open discussion will introduce the idea of suicide to teenagers who were not suicidal. In the long run, we must work towards the rigorous evaluation of in-school suicide prevention programmes on a large enough scale to provide statistically significant results of their effectiveness. (Alcohol, Drug Abuse, and Mental Health Administration 1989).

The concerns expressed above clearly suggest the need for caution. There is currently little evidence to suggest that these programmes are, in fact, effective in achieving their objectives and there are concerns that increasing awareness about suicide issues amongst students may increase, rather than reduce, these behaviours. Given the considerations outlined above, it would seem wisest, at present, to adopt a

conservative approach to instituting suicide awareness programmes for students in schools, unless strong evidence becomes available to suggest that the benefits of such programmes outweigh any risks. It appears that demands for suicide prevention efforts in schools would be better addressed by placing suicide prevention programmes within the context of positive mental health programmes that address adolescent difficulties in general, rather than youth suicide in particular.

2.2.2 PROFESSIONAL MENTAL HEALTH EDUCATION AND COMMUNITY MENTAL HEALTH AWARENESS PROGRAMMES

This policy aims to provide a range of programmes designed to increase awareness of mental health and youth suicide issues amongst professionals who have contact with young people (including teachers, school counsellors and allied school personnel, youth workers, social workers, police, prison and probation staff, health care workers, general practitioners, and associated health professionals). This strategy is based on the assumption that improved education about mental health issues will enable those in contact with young people to better identify, treat and manage young people at risk of suicidal behaviour. More generally, the value of professional education programmes may be that they are useful in creating environments that are sensitive to the issue of youth suicide and provide support for at-risk young people.

Typically, these education and training programmes aim to:

- increase awareness of youth suicide issues
- improve ability to identify young people at high risk for a range of psychosocial disorders, including depression and substance use disorders, and assess their potential for suicidal behaviour
- provide guidelines for the better recognition, treatment and management of mental disorders in young people
- provide information about available mental health resources, and how liaison with these resources may be best established and maintained to facilitate referrals and management of those at risk.

Mental health education programmes for community professionals have been developed extensively in the United States where they are often referred to as ‘school gatekeeper’ or ‘community gatekeeper programmes’ (see, for example, Centers for Disease Control 1992). The implementation of these programmes may be conducted in a number of ways including the preparation of books and publications, staff training seminars, community meetings, training videotapes, and the distribution of lists of ‘warning signs’ of behaviours considered to be typical of young people at risk of suicidal behaviour, with some programmes combining a number of these elements into a training package.

In a recent report which examined the nature, value and potential contribution of community gatekeeper programmes to youth suicide prevention initiatives in Australia, Frederico and Davis (1996) recommend four strategies for improving gatekeeper training:

- the inclusion of relevant materials into national industry training programmes for relevant workers
- the development of best practice principles and resource guidelines to enable relevant workers to assess which training is most appropriate for them
- the inclusion of appropriate material in university curricula for relevant professionals
- the evaluation of any training on the impact of delivery of services to young people.

In general these programmes have not been well evaluated and conclusive evidence of programme efficacy is lacking (Centers for Disease Control 1992; Frederico and Davis 1996). Evaluations have tended to be in terms of changes in the knowledge, attitudes and skills of participants rather than by changes in rates of suicide, suicide attempt behaviours or referral patterns. Evaluations in these latter terms are clearly needed (Centers for Disease

Control 1992). However, at least two assessments of mental health education and suicide prevention programmes for teachers have been conducted, and these indicated that the programmes appeared to be effective. Efficacy was assessed in terms of increased knowledge and improved referral practices among participants (Reisman and Scharfman 1991; Shaffer et al 1988). Although it did not specifically address youth suicide, a further example of a professional education programme is provided by the Gotland study (Rihmer et al 1995), which educated general practitioners to better recognise and treat depression. Following this programme, the authors reported that the number of suicides with depressive disorders, and the total number of suicides, decreased. However, it should be noted that this effect was limited to female suicides; the male suicide rate remained unchanged. Further, the depression-training programme did not have a long-term effect, suggesting that such educational programmes may need to be repeated approximately every two years to achieve a long-term impact (Rutz et al 1992; Rutz et al 1995).

Despite a lack of demonstrated efficacy, support for these programmes is included in most major reviews of suicide prevention (Centers for Disease Control 1992; Frederico and Davis 1996) with the United Nations (1996) guidelines for suicide prevention, for example, recommending that national approaches:

> Develop or maintain a comprehensive training programme for identified gate-keepers – eg. police, educators, clergy, primary health care providers, mental health care providers and others.

Training programmes for professionals may be extended to the general public, with mental health awareness programmes designed to provide information about mental health issues, including suicide prevention. The aim of this approach is to encourage a social climate in which mental health issues are better understood, mental illness is destigmatised, the value and efficacy of appropriate treatment for mental illnesses is more readily accepted by both the public and by those with such illnesses, and the development of skills which enhance resilience against adversity are promoted.

The United States National Institute of Mental Health (NIMH) Depression, Awareness, Recognition and Treatment programme provides an example of a public education campaign to focus attention on the problem of depression (Regier et al 1988), but there appear to be no evaluations of this or similar programmes which have tried to determine if such programmes decrease the incidence of suicide, increase referrals or result in the better treatment and management of depression. Despite a lack of evidence for their effectiveness, community mental health awareness programmes receive strong support as suicide prevention strategies (see, for example, United Nations 1996).

2.2.3 MENTAL HEALTH SERVICES APPROPRIATE FOR YOUNG PEOPLE

The aim of this strategy is to promote the development of mental health services which are appropriate for, and responsive to, the needs of young people. This approach implies the provision of adequate specialised mental health services for young people.

This strategy is underwritten by the assumption that mental health services designed for adults (or for younger children) may be seen by young people as inappropriate for their needs, and that providing services designed specifically for young people will increase attendance and compliance. To be effective, youth health services need to be seen as being approachable, attractive and non-stigmatising, to remove financial barriers to attendance and treatment, and to encourage attendance by those with substance abuse, antisocial and offending behaviours.

Service characteristics that may encourage attendance by young people are likely to be those developed along the lines of ‘drop-in centres’ or ‘one-stop health shops’ which are culturally appropriate and relevant to young people and offer some of the following features: consultations for both physical and mental problems; an ambience attractive to young people; situations in places which are convenient for young people to ‘drop in’; opening hours in the evenings and weekends; the use of young staff in reception areas to greet and befriend patients; consultations without referrals; and prompt acceptance of referrals from youth workers, probation

officers, schools and others.

There are, however, no systematic evaluations of model health delivery programmes for young people which show that services structured to be attractive to young people increase attendance and compliance, and decrease rates of suicidal behaviour.

2.2.4 CRISIS SERVICES AND MENTAL HEALTH SERVICES FOR SUICIDAL YOUNG PEOPLE

This policy aims to provide a range of services aimed at improving the care, treatment and management of young people with mental health problems and suicidal behaviour. It includes provision for improved care for inpatients and outpatients, improved hospital and community services, and improved treatment for those with both chronic and acute illnesses, by both specialist psychiatric services and by general practitioners.

The rationale for this approach is that improved treatment and management strategies applied to the population of young people with suicidal behaviour may reduce risks of suicidal behaviour. The view that this may be one the most effective approaches to achieve reductions in youth suicidal behaviour is widely supported by expert opinion (see, for example, reviews by Diekstra et al 1995; Moscicki 1995; Shaffer et al 1988; Shaffer and Piacentini 1994).

However, there is currently little research evidence about the type and nature of adolescent and young adult psychiatric services that may lead to reductions in suicide attempt risk. This observation, in turn, suggests the importance of establishing randomised field trials to determine the extent to which risks of suicidal behaviour among young people in contact with psychiatric services are sensitive to variations in the nature, quality and quantity of psychiatric care. Further exploration of the types of psychiatric care which best minimise suicide attempt risk in young people with psychiatric disorders appears to be a high priority in youth suicide prevention research.

A series of strategies likely to be effective includes:

1 Increasing the number of health care professionals trained and working in the specialised area of child, adolescent and young adult psychiatry and mental health.

2 Removing financial barriers to mental health care for young people, and for family members with mental health problems.

3 The establishment of the care, treatment and management of suicidal patients as a core curriculum component in psychiatric and general practitioner training programmes.

4 Encouraging integration between services providing care to young people with mental health problems.

5 Efforts to better identify and treat depressive illness among young people, including the development and promulgation of clinical practice guidelines for general practitioners for the recognition, treatment and management of depression in young people (see, for example, National Advisory Committee on Health and Disability 1996; National Health and Medical Research Council 1997a, 1997b).

6 Establishing clear protocols for assessment, treatment and follow-up of those who present at emergency departments following suicide attempts. This is clearly a priority for health service research and development. Ideally this approach implies that each young person presenting after a suicide attempt would be seen for psychiatric assessment, an appropriate and individualised management plan would be devised, family members would be involved, those who dropped out of follow-up care would be pursued, and such systems would be subject to ongoing audit and review.

7 Developing best practice models of care for young people identified as being at particularly high risk of suicidal behaviour, including:

- those recently discharged from inpatient care, since psychiatric patients have been shown to be at increased risk of suicide in the period immediately following discharge from inpatient care (Goldacre et al 1993)
- those with a history of previous suicide attempt, since research studies have consistently shown that those with a previous suicide attempt history are at increased risk of suicide (Ojehagen et al 1992; Nielsen et al 1990; Hawton and Fagg 1988)
- young people with psychotic disorders, since research evidence suggests that 10 percent of those diagnosed with schizophrenia die by suicide (Roy 1992).

Interventions targeted at these high-risk groups may provide a window of opportunity for suicide prevention.

8 Further evaluation of the characteristics of telephone crisis services which might enhance their effective use by young people. The provision of these services is recommended in many suicide prevention programmes (Centers for Disease Control 1992; Diekstra 1989). However, despite the expectation that they should, theoretically, provide a source of advice and referral for young people in crisis, these services have been poorly evaluated for young people. While there is a need to determine their effectiveness for suicidal young people, Shaffer and Bacon (1989) are generally pessimistic about the potential for telephone crisis services to decrease suicide rates.

Although, to date, there have been no systematic evaluations of outpatient treatment interventions with young people who have attempted suicide (Shaffer and Piacentini 1994), some studies of outpatient interventions are currently in progress, and there appears to be general consensus that controlled studies of a range of interventions with young people with mental disorders and those who have attempted suicide, who are known to be at high risk of suicidal behaviour, are a valuable approach to suicide prevention (Alcohol, Drug Abuse, and Mental Health Administration 1989; Commonwealth Department of Health and Family Services 1997a; Garland and Zigler 1993; Moscicki 1995; Shaffer and Piacentini, 1994; United Nations 1996).

2.2.5 THE DEVELOPMENT OF POSTVENTION GUIDELINES AND BEREAVEMENT AND SUPPORT SERVICES FOLLOWING A SUICIDE

The aim of this policy is to provide support for the development of various procedures which may be implemented, following a suicide, for families, schools, workplaces, and communities, and which are designed to limit the potentially contagious impact of the suicide death, particularly for young people.

The rationale for this policy is derived from research evidence which suggests that family members, associates and friends of young suicide victims may be at increased risk of suicidal behaviour. To address this risk, a series of postvention guidelines has been developed. The recommendations to contain and manage suicide clusters, developed and promulgated by the Centers for Disease Control (1994), are perhaps the best example of postvention guidelines, and these are now widely used. In addition, postvention procedures have been extended to include counselling, bereavement and support services for families, friends and colleagues of suicide or attempted suicide victims. Suicide prevention guidelines now include recommendations for the provision of such services (United Nations 1996).

While a variety of postvention efforts have been developed, few have been adequately evaluated (Centres for Disease Control 1992; Shaffer et al 1988). Nevertheless, the need for a crisis plan to curtail potential suicide clusters is widely accepted (Centers for Disease Control 1992), and theoretically, there would appear to be strong justification for a range of postvention services.

2.3 EVIDENCE TO SUPPORT *THEME 3: RESTRICTION OF ACCESS TO MEANS OF SUICIDE*

- There are consistent suggestions that restriction of access to means is a potentially useful but currently underutilised approach to suicide prevention.
- There is no clear evidence from studies which have evaluated the effects of restriction of access to means of suicide of their effect on suicide rates.
- Potentially useful limitations to means of suicide include: restriction of access to firearms; limitations upon the quantities of medications which may be purchased or dispensed at one time, modifications of car exhaust systems.
- The value of restricting access to various means of suicide may vary across cultures and countries, depending upon the availability of particular methods.
- As methods of suicide may change over time, intervention strategies may need to be reviewed.

The aim of this policy is to provide support for efforts to restrict or reduce access to means of suicide (such as firearms, drugs of high lethality, or high places), in an attempt to reduce suicidal behaviour. Means restriction has received strong support as a potentially important strategy for suicide prevention among young people (see, for example, Centers for Disease Control 1992; Garland and Zigler 1993; Shaffer et al 1988), although it has been cited as an approach which is currently underutilised (Potter et al 1995).

The evidence to support this policy is derived from a number of studies which have shown that access to a particular means of suicide is associated with an increased likelihood that the method will be chosen as the means of making a suicide attempt.

However, there exists no clear evidence for the efficacy of means restriction as a useful strategy in suicide prevention from evaluation studies which have monitored the introduction of restrictions and their impact on suicide rates. Rather, evidence is provided by research studies which have compared rates of suicide by specific methods when these methods were differentially available historically, culturally or geographically.

Findings in this area are conflicting, with some studies suggesting that restricting access to a particular means of suicide results in a reduction in the use of that method and in the overall rate of suicide (Clarke and Lester 1989; Kellerman et al 1992; Lester 1990; Marzuk et al 1992; Moens et al 1988), while other studies suggest that restriction of access to one method of suicide results in the substitution of that method by another method, without, therefore, a consequent decrease in the total suicide rate (Rich et al 1990).

In New Zealand the most common method of suicide among young people is hanging, which accounted for 43.4% of suicides among 10- to 24-year-olds in New Zealand in 1993 (New Zealand Health Information Service 1995). Other frequently used methods are carbon monoxide poisoning (28.7% of all suicides in this age group in 1993), drug overdose (12.4%) and gunshot (10.9%). In contrast to suicide, the most common method for non-fatal suicide attempts in New Zealand is drug overdose which accounts for three-quarters of all hospital admissions for serious suicide attempts for young people (Beautrais 1996; Coggan et al 1995). These findings suggest that, in New Zealand, restricting access to means of suicide may make a relatively small contribution to reducing overall suicide rates. It is not feasible to apply restrictions to all methods of suicide. For example, it is impossible to restrict access to the most commonly used method of suicide, hanging. However, since three-quarters of non-fatal serious suicide attempts are by drug overdose, it may be possible to reduce overall suicide attempt rates by imposing restrictions on the prescription and purchasing of a range of toxic drugs.

Major areas in which means restriction could be applied in New Zealand with some expectation that they might reduce suicide rates include the following.

- **Restriction of access to firearms.** Actions which might be effective include legislative moves to restrict access to firearms, and to require safe storage of firearms. It is often suggested that suicide rates among young males might be reduced by restricting access to firearms. Support for this intervention is derived largely from United States studies which have shown strong linkages between access to firearms and risk of suicide. In New Zealand, however, a recent study found no significant association between access to firearms and risk of suicide (Beautrais et al 1996a). This difference is explained largely by the facts that, compared to the United States, fewer people have access to firearms in New Zealand, and firearms are used relatively infrequently for suicide. Nevertheless, it appears prudent, in the light of the American experience, to attempt to maintain access to firearms (and particularly to handguns) in New Zealand to the current relatively low level.
- **Restriction of access to toxic and lethal drugs**. Potentially effective actions include: promoting the use of clinically safer hypnotic and antidepressant drugs; limiting the amount of potentially lethal drugs prescribed at any one time; restricting the ready availability of paracetamol and other toxic drugs available without prescription, and limiting the amount which may be purchased at any one time; and adding methionine to paracetamol to reduce its toxicity when taken in excess. To the extent that drug overdose is the most common method of female suicide, and the most frequently used method of suicide attempt requiring hospital admission and treatment, actions which restrict access to drugs of high toxicity and lethality have the potential to reduce both suicide morbidity and mortality.
- **Decreasing the lethality of carbon monoxide emissions from vehicle exhausts.** This may be achieved by design modification and/or the use of catalytic converters. Given that carbon monoxide poisoning is the second most common method of suicide in New Zealand, accounting for approximately one third of all youth suicides annually, actions to reduce the lethality of carbon monoxide emissions or modifications to the design of exhaust pipes to make it more difficult to fit hoses may offer the potential to reduce suicide rates. However, this approach requires further work, design and development to examine if it might be feasible to apply such modifications in a practical and comprehensive manner.
- **Restricting access to known suicide spots.** It may be effective to place physical barriers at known suicide spots or 'lover's leaps' including bridges and cliffs. However, given that jumping from heights accounts for a negligibly small number of all suicides (including youth suicides) in New Zealand (approximately 3% annually), the potential for restrictive action of this type to make a significant impact on suicide rates is limited.
- **Ensuring safety in seclusion areas.** This may be achieved by promoting the use of surveillance cameras, safe seclusion rooms, and suicide resistant rooms in police cells, prison cells, units for juvenile offenders and psychiatric wards. Young people in psychiatric, police or prison care are at high risk of suicidal behaviour, and although relatively few suicides occur in these situations, it seems theoretically justified to argue that those most at risk should be protected by being placed in environments in which the opportunity for physical harm is minimised.

Whilst a theoretical case can be made for restrictive actions of the type suggested above, there are a range of difficulties which may arise in promoting means restriction as a suicide prevention strategy. These include the impossibility of conducting randomised controlled trials in an effort to determine the effectiveness of means restrictions, and opposition to some actions since they would impose restrictions on all members of the population to gain benefits for the relatively small number of individuals vulnerable to suicidal behaviour. Despite these difficulties, there are theoretical grounds for arguing that means restriction should be a component of a comprehensive suicide prevention strategy. It appears prudent to limit access to frequently used and highly lethal methods of suicide since such impositions may potentially minimise deaths from these means.

2.4 EVIDENCE TO SUPPORT *THEME 4: MACROSOCIAL CHANGES, INCLUDING SOCIAL EQUITY, AND PUBLICTY ISSUES ABOUT SUICIDE*

2.4.1 DEVELOPMENT OF POLICIES TO REDUCE SOCIAL INEQUITIES

- Research evidence suggests that young people with suicidal behaviour are frequently characterised by social, educational and economic disadvantage.
- Improvements in social equity areas (for example, enhancing educational and employment opportunities, reducing poverty), may make positive contributions to suicide prevention by reducing risks of childhood and adolescent adjustment difficulties and mental disorder which are associated with suicidal behaviour in young people.
- While there is no research evidence to demonstrate that changes in social equity, by themselves, will reduce youth suicide, such changes may provide a social context in which the potential benefits of other, more targeted approaches to suicide prevention might succeed.

The aim of this policy is to provide support for the development of policies to address social inequities, in order to provide a more favourable social environment in which other, more targeted approaches to suicide prevention may have the best chance to succeed. This strategy is underwritten by the belief that improvements in social areas, including the provision of more equitable opportunities for education and employment, will make positive contributions to suicide prevention by reducing risks of childhood and adolescent adjustment difficulties and mental disorder which are associated with suicidal behaviour in young people. This view has been suggested in a number of reviews, and is expressed by, for example, Coggan and colleagues (1995) who suggest, in their recommendations for the prevention of intentional injuries (including suicide):

> Any comprehensive policy approach to reducing self-directed and interpersonal violence in New Zealand, must also take into account the macrosocial issues, such as poverty, racism, sexism, lack of educational opportunities, and unemployment.

The evidence to support this policy comes from a series of studies which have demonstrated consistent evidence of linkages between social, family and economic disadvantage and risk of suicidal behaviour in young people (Beautrais et al 1996c; Dubow et al 1989; Fergusson and Lynskey 1995a).

It should be noted, however, that no research evidence is presently available which clearly demonstrates that the achievement of social equity in targeted areas of, for example, poverty, sexism, unemployment and racism, would, in and of itself, lead to a subsequent reduction in the incidence of suicidal behaviour among young people. In fact, several lines of evidence suggest that the implementation of social equity may not achieve the desired reduction in youthful suicidal behaviour.

Firstly, historical data does not support the view that improvements in social conditions lead to corresponding reductions in the incidence of psychiatric morbidity. In particular, a recent comprehensive review of time trends in the incidence of a range of childhood and adolescent psychosocial disorders, including suicidal behaviour, concluded that rates of these disorders in young people have increased during the last 50 years, despite improvements in physical health, educational and employment opportunities, and material and economic advantage (Rutter and Smith 1995).

Secondly, as noted by Fergusson and colleagues (1997), the belief that redressing issues of social inequity will lead to a reduction in suicidal behaviours assumes a mechanism, which has never been explicated, by which macrosocial advantages conferred at a broad population level are able to impact on individual risk of suicidal behaviour.

Despite these limitations it seems sensible to advocate for general macrosocial changes aimed at reducing discriminations and enhancing economic, educational and employment opportunities, on the grounds that, as Fergusson and colleagues (1997) argue, these changes would provide an optimal social context in which the potential benefits of other, more targeted approaches to suicide prevention might have the best opportunity for success.

While no models exist of the application of macrosocial programmes which have resulted in a demonstrable reduction in suicidal behaviours, it may be useful to take unemployment as an example of an area in which successful social changes may provide the basis for more specific suicide prevention programmes to be successful.

It is frequently speculated that increased rates of unemployment are related to rising rates of suicidal behaviour among young people. Although associations between unemployment and suicidal behaviour have consistently been documented, for both aggregate (population) data (see, for example, Morrell et al 1993; Krupinski et al 1994), and at an individual level (Arensman et al 1995; Heikkinen et al 1995), the role of unemployment as a causative factor for suicidal behaviour has remained unclear. A recent case control analysis of individuals who made serious suicide attempts suggested that much of the apparent association between unemployment and suicidal behaviour was non-causal and reflected common or correlated factors which contributed to risks of both unemployment and suicidal behaviour. The apparent association between unemployment and suicidal behaviour arises because unemployment is symptomatic of high-risk individuals who are characterised by a combination of psychosocial, family and educational adversity, and/or psychiatric morbidity, which are antecedent to both unemployment and suicidal behaviour (Beautrais et al 1998). Given these results, it would seem that unemployment has an inconsequential role in the causation of suicidal behaviour in young people, and it is, therefore, unlikely that the provision of full employment for young people, *per se*, will significantly reduce suicide rates. Nevertheless, it may be useful to advocate a policy of providing better employment opportunities for young people since such opportunities may contribute to good mental health and reduced suicidal behaviour among young people.

2.4.2 PUBLICITY AND MEDIA ISSUES

- There is consistent scientific evidence from a variety of sources to indicate that publicity about suicide issues may provoke imitative behaviour in vulnerable individuals.
- Publicity about suicide may contribute to suicide contagion and the development of suicide clusters among young people.
- Guidelines for the more cautious reporting of suicide by news media have been developed.
- A negotiated, co-operative approach between suicide researchers, prevention agencies and journalists is most likely to be successful in achieving more careful reporting of suicide issues.
- The cautions which apply to reporting non-fictional suicide issues also apply to the fictional or dramatic portrayal of suicide in television, plays or movies.

The aim of this policy is to provide support for the careful, prudent and muted reporting of suicide issues in the media. There is consistent evidence that vulnerable individuals may imitate suicidal behaviour after fictional, documentary or news reports of suicidal behaviour (Davidson 1989; Hazell 1993; Phillips and Carstensen 1986; Schmidtke and Hafner 1988; Seiden 1969; Velting and Gould 1997). Additionally, frequent publicity about suicide may increase risk of suicide by 'normalising' the concept of suicide in the population, so that the taboo which has previously surrounded suicide may be lessened, and suicide may be more widely perceived as a socially acceptable option for people under stress.

Guidelines for the more cautious reporting of suicide in the media have been developed by various groups. These guidelines are perhaps best exemplified by the recommendations from a United States national workshop on suicide contagion and the reporting of suicide (Centres for Disease Control 1994), which include the following features.

- Media personnel need to be made aware that scientific evidence exists for concerns that news coverage of suicide issues may contribute to suicidal behaviour.
- Co-operative and negotiated accommodations with media representatives are a more productive way of influencing reporting of suicide issues than refusal to discuss suicide issues with the media or attempts to prevent all news coverage.
- The likelihood of suicidal contagion is minimised by the use of concise, factual reports.
- The following actions may increase the likelihood of suicidal behaviour and are to be avoided:
  - simplistic explanations for suicidal behaviour
  - repetitive, ongoing, extensive, prominent or sensational news coverage
  - reporting methods of suicide in sufficient detail that they may be copied
  - reporting that suicide was undertaken as a way of coping with personal problems, since this may suggest to vulnerable people that suicide is a particular strategy for coping with difficulties
  - glorifying suicide or those who die by suicide, and focusing on the suicide victim's positive characteristics.

While there is evidence that the fictional portrayal of suicide in, for example, movies, television dramas or books, also has the capacity to produce imitative suicidal behaviour, the opportunities to influence the use of the fictional representation of suicide appear more limited. Nevertheless, all major reviews of suicide prevention strategies include the more cautious broadcasting of both fictional and non-fictional stories about suicide as a major area for intervention to reduce suicidal behaviour (see, for example, Commonwealth Department of Health and Family Services 1997b; United Nations 1996).

Clearly, to be effective, macrosocial programmes, including improved social equity and reduced publicity about suicide, would need to be applied to large populations for a long duration. It is unlikely that it will be possible to estimate their contribution to a reduction in suicide rates in other than historical terms, since they would be in place at the same time as a range of other, more specific, interventions. However, the lack of opportunity for evaluation should not discourage the implementation of policies which appear theoretically justified and which remain desirable social goals.

2.5 EVIDENCE TO SUPPORT *THEME 5: IMPROVED STATISTICAL INFORMATION AND RESEARCH ABOUT SUICIDE ISSUES*

- There is well-acknowledged need for accurate, timely, systematic data collection for suicide and attempted suicide.
- There are extensive research priorities for youth suicide issues. These include, in particular, further exploration of risk factors for suicidal behaviour for both Māori and non-Māori youth, research into suicide clusters and contagion, research into the effects of contextual factors on suicidal behaviour, research into the development and evaluation of prevention programmes, and the development of integrative reviews of evidence.
- The need for all intervention and prevention programmes to be systematically and appropriately evaluated is consistently emphasised as a research priority.
- There may be need for informed comment at a national level about research priorities, evaluation of preventive approaches and best practice guidelines.

2.5.1 INFORMATION

The aim of this policy is to provide support for resources to ensure that suicide mortality and morbidity data are presented in an accurate, timely and useful manner for suicide researchers, policy makers and other data users. This approach includes support for efforts to:

- adopt a standard taxonomy for suicidal behaviour
- establish an integrated data collection system which better identifies at-risk groups, and risk factors for suicide
- promote effective liaison between researchers, policy makers and programme developers so that policy and programme development are based firmly on research evidence.

There has been extensive discussion of the extent to which official suicide statistics reflect actual suicide rates, and suicide may be under-reported in official statistics (see, for example, O'Carroll 1989). Differences between actual and reported suicides may arise for social or religious reasons, from differential ascertainment by coroners, and from the fact that some deaths, such as drug overdoses or single vehicle motor accidents, may be open to different interpretations.

A related issue concerns the basis on which classification of ethnicity is made in suicide statistics. Currently, classifications are made on the basis of reports from a variety of sources including funeral directors and coroners' reports. This provides a somewhat uncertain basis upon which to make classification decisions, and errors in classification may be incorporated into ethnic specific rates of suicide and suicide attempt. There is clearly a need to revise the classification of ethnicity used to obtain numerator data in ethnic-specific rates of suicidal behaviour so numerator data are consistent with the definitions used in denominator data.

Another issue relates to the timeliness of morbidity and mortality statistics. The lag between suicide deaths or attempts and their publication as official statistics is typically of the order of two to three years, in New Zealand and overseas (Potter et al 1995), and results in frequent calls for a more timely production of these statistics. Attempts to meet these demands should ensure that accuracy is not forsaken in the interests of timeliness, and that skilled data analyses are used, since the prompt publication of suicide data is likely to invite comparisons with the previous year's data. Rare event data, such as suicide, may show marked variability in the number of deaths from year to year, and may need to be observed over a longer time series, of at least several years, before it can be concluded that new trends are emerging.

The present extraction of suicide data from coroners' records provides neither the quality of data nor the most efficient access to information required by researchers, policy makers and other users. There is a need for a more comprehensive national information system (perhaps best based upon computer extraction of data from coroners' records), a national system of computer storage of the relevant data, and an appreciation of the need for researchers and other users to have access to these data. A modern national coronial data collection system for suicide would allow comparisons with international data, and would permit local and regional evaluations of prevention and intervention programmes.

Data identification, collection and storage systems for suicide attempt events are much less systematic, arising in part from well acknowledged difficulties in defining attempted suicide (Meehan et al 1992). The most complete suicide attempt data is probably that derived from hospital discharge data using the ICD injury related E-codes (Health Care Financing Administration 1991). In addition, some emergency departments regularly audit and review data for patients attending their department (Buchanan 1991; Hall and Curry 1994), providing useful local data.

2.5.2 RESEARCH

The policy aims to promote the need for continued and further research into a range of issues related to suicidal behaviour and suicide prevention, and to the collection, co-ordination and dissemination of research findings to those working in clinical, professional, community and volunteer settings with young people. This policy implies the support of government funding agencies. Some key areas which merit further research include the following.

- **Further research into risk factors and suicidal behaviour in young people**. While there is now an extensive research base which has examined risk factors for youthful suicidal behaviour, there is a need to refine current knowledge about risk factors by examining in further detail various genetic, neurobiologic, psychiatric, behavioural and social characteristics of suicidal young people and their families.

  Although a strong epidemiological research base for youthful suicidal behaviour in New Zealand is currently provided by the Canterbury Suicide Project, the Christchurch Health and Development Study and the Dunedin Multidisciplinary Study, these studies are all based in the South Island and the extent to which their findings reflect the characteristics of the largest population base, Auckland, has not been determined. The possibility of regional differences in suicidal behaviour, including urban/rural differences, and cultural/ethnic differences, which are unable to be explored in existing epidemiological studies, requires further research.

- **Research into suicide clusters and suicide contagion.** Although a large national study of suicide clusters is currently in progress in the United States, more research about suicide clusters, the mechanisms of suicide contagion, media influences on suicidal behaviour, and the effects of the suicide of a young person on family members, siblings and friends, is needed. However, opportunities for research into suicide contagion in New Zealand may be limited because of small population size.

- **Research into the effects of contextual factors on suicidal behaviour.** Within New Zealand, research is needed on the effects of restrictions of access to particular methods of suicide, the impact of legislative changes including, for example, changes to the Mental Health Compulsory Assessment and Treatment Act 1992, and the impact of social and government policies including, for example, deinstitutionalisation, economic reforms and health services' reorganisation.

- **Research into design and evaluation of intervention programmes.** There is consistent agreement that a priority for youth suicide prevention lies in designing and evaluating a variety of intervention programmes to prevent suicide and suicide attempt behaviour. In particular, further research is required in the following areas: evaluation of school-based positive mental health programmes and school-based suicide awareness programmes; identification of aspects of service delivery which will enhance attendance and compliance with treatment regimes among young people; evaluation of treatment studies for young people at especially high risk of suicide, including those with schizophrenia, those who have made a previous suicide attempt, and those recently discharged from psychiatric inpatient units. In addition, research is needed to develop and evaluate early intervention and family support programmes, and to assess the value of treating psychopathology in family members of suicidal young people.

- **Integrative reviews of evidence**. There are also urgent needs for research reviews, syntheses and meta-analyses which can provide the foundations for developing and evaluating various suicide prevention programmes and policies.

While the proposed *New Zealand Youth Suicide Prevention Strategy* provides a conceptual framework within which a range of youth suicide prevention activities may be organised and promoted, there may be a role for an expert committee of individuals to provide a source of well-informed advice about research priorities, research dissemination, and to evaluate prevention initiatives. Such committees have been convened for this purpose in a number of countries including the United States, Australia and England.

PART 3

'GOODNESS OF FIT' OF *IN OUR HANDS: THE NEW ZEALAND YOUTH SUICIDE PREVENTION STRATEGY* WITH OTHER SUICIDE PREVENTION RECOMMENDATIONS

While Part 1 of this background document sets out the aims of the *New Zealand Youth Suicide Prevention Strategy* and provides a brief overview of risk factors for youthful suicidal behaviour and Part 2 links these risk factors with the prevention policies of *In Our Hands: the New Zealand Youth Suicide Prevention Strategy*, this part of the document examines the extent to which the policies presented in *In Our Hands: the National Youth Suicide Prevention Strategy* are consistent with those suggested in other major suicide prevention reports.

In preparing this document a number of major reviews of suicide prevention were consulted. These included the following:

- the United Nations (1996) guidelines for the formulation and implementation of national strategies for the prevention of suicide
- the report of the United States Secretary's Task Force on Youth Suicide (Alcohol, Drug Abuse, and Mental Health Administration 1989). This extensive report summarises a national plan for a range of research activities, educational efforts and health services aimed at efforts to reduce youth suicide in the United States
- the United States Centers for Disease Control (1992) resource guide of youth suicide prevention programmes, which describes the rationale, and evaluates the effectiveness, of a series of youth suicide prevention initiatives in the United States
- a Special Article in the *Journal of the American Academy of Child and Adolescent Psychiatry* by Shaffer and colleagues (1988), which critically reviews risk factor evidence for suicide in teenagers and discusses prevention initiatives which might be applied
- the documents, *Youth Suicide in Australia: A background monograph* (Commonwealth Department of Health and Family Services 1997a) and *Youth Suicide in Australia: the National Youth Suicide Prevention Strategy* (Commonwealth Department of Health and Family Services 1997b), which together outline the research evidence for the development of national approaches to youth suicide prevention in Australia
- Garland and Zigler's (1993) review in the *American Psychologist* of current research evidence for the development of adolescent suicide prevention strategies and the social policy implications of these findings
- the National Health Service (Williams and Morgan 1994) review of current knowledge in the areas of suicide risk, assessment and management, prepared as a background document to the 'Health of the Nation' targets for suicide reduction
- an article by Gunnell and Frankel (1994) in the *British Medical Journal* which examines evidence for the efficacy of various suicide prevention approaches and comments on the likelihood that the national targets for suicide reduction will be achievable
- a review by Diekstra (1989) which discusses national and international strategies for the prevention of suicidal behaviour.

The table on the next page indicates the frequency with which these major reviews list suicide prevention

strategies which are consistent with the major goals of the *New Zealand Youth Suicide Prevention Strategy*. This provides a measure of the general goodness-of-fit of the policies advocated in the New Zealand national strategy against existing international expert opinion. In general, the New Zealand policy directions are well founded with each broad proposal being well supported by at least four, and in most cases the majority, of the major literature reviews.

Table 1: Policies included in *In Our Hands: the New Zealand Youth Suicide Prevention Strategy* which are also suggested by major reviews of suicide prevention

Policy	Number of reviews supporting policy	Percentage of reviews supporting policy
Family support and early intervention	4	44
Mental health education, treatment and management	9	100
Restriction of access to means	7	78
Macrosocial changes	6	66
Information and research	9	100

PROSPECTS FOR PREVENTION

The discussion above outlines strategies by which efforts may be made to reduce suicide attempt risks, with these interventions broadly mapping onto the range of risk factors which research evidence has consistently identified as being associated with suicidal behaviour. However, it would be misleading to imply that implementation of all of these programmes would achieve an instant reduction in the incidence of youthful suicide attempts and there are two reasons why this may be so. The first is that the aetiology of suicide attempt behaviour among young people, like many other psychosocial problems, appears to be strongly multicausal and to involve many risk factors including genetic, individual, family, social and environmental factors which accumulate, and in combination dramatically increase the likelihood of suicidal behaviour. The implication of the strong multicausal nature of suicide attempt risk is that it is very unlikely that prevention efforts which concentrate on specific risk factors in isolation from other risk factors will make large contributions to reducing suicide attempt risk, and that what is likely to succeed is a multi-faceted and intersectoral approach which combines a variety of interventions all aimed at reducing suicide attempt risk. The effects of such efforts are, however, likely to require the timespan of decades to evaluate, with the contribution of specific programmes unable to be disentangled from the effects of other programmes which had operated concurrently.

The second point is that, given the strong linkages between individual psychopathology and suicide attempt risk, it is very unlikely that reductions in suicide attempt behaviour will occur unless there are corresponding changes in rates of psychiatric disorders within adolescent and young adult populations. This is clearly a very demanding agenda to meet because while research into psychiatric epidemiology has recently made rapid advances, the field is still a long way from reaching a clear specification of the types of interventions, structures and policies which may reduce adolescent risk. Current evidence suggests that, in nearly all developed countries risks of mental health problems and psychosocial disorders, including suicide and suicide attempts, have been increasing (Rutter and Smith 1995). At the same time, analysis of historical data trends shows very clearly that rates of psychosocial disorders, including suicide, have varied dramatically at various historical stages. While currently rates are at high levels, it is clear that under a set of optimal conditions it might be possible to reverse these trends and reduce rates of psychosocial disorders, including suicidal behaviours, in the population.

It must be appreciated that none of the strategic approaches described above has been validated as an effective means of managing or reducing youth suicide. The suggestions made centre around the formulation of a 'best practice model' extrapolated from the existing themes in the literature.

The principal difficulty of developing a comprehensive and co-ordinated youth suicide prevention strategy is that suicide is a rare event. This means that large numbers of individuals may need to be exposed to an intervention to prevent a relatively small number of suicides. However, considerable justification for many of the strategies suggested (and particularly for those relating to youth mental health, and to family support and early intervention) could be obtained by taking a somewhat broader preventive approach which focuses upon youth mental health in general, rather than suicide in particular. It is likely that the gains for a number of the strategies would be somewhat greater in the area of improving youth mental health than in the specific area of youth suicide prevention. These remarks reinforce the conclusions drawn by several commentators and reviewers that the most effective approach to addressing suicide is to move away from models of suicide prevention and towards an approach which embraces youth mental health in a wider context (see, for example, Garland and Zigler 1993, Moscicki 1995).

There is almost universal acknowledgement of the need to address the problem posed by youth suicide. Given these demands, the need for urgent action and the current state of knowledge, the optimal approaches appear to be well contained within the policies outlined in *In Our Hands: the New Zealand Youth Suicide Prevention Strategy*. These policies are well founded on the available research evidence, are theoretically justified, and are consistent with expert opinion contained within major reviews of youthful suicidal behaviour, and with international approaches to suicide prevention.

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BRIEF ANNOTATED BIBLIOGRAPHY OF PUBLICATIONS AND DOCUMENTS TO SUPPORT *THE NEW ZEALAND YOUTH SUICIDE PREVENTION STRATEGY*

1. EPIDEMIOLOGIC AND RISK FACTORS FOR SUICIDAL BEHAVIOUR IN YOUNG PEOPLE

1.1. International reviews

Diekstra RFW, Kienhorst CWM, de Wilde EJ. 1995. Suicide and suicidal behaviour among adolescents. In: *Psychosocial Disorders in Young People: Time trends and their causes.* M Rutter, DJ Smith (eds). Chichester: John Wiley & Sons.

This article provides a comprehensive review of adolescent suicidal behaviour. It discusses the prevalence of suicidal behaviours, including suicidal ideation, suicide attempts and completed suicide among adolescents, using data from a range of international sources, and examines time trends in rates of suicidal behaviour in European and North American countries, confirming that an increase in suicide occurred in young men from the post-war period of the 1950s to the early or mid-1980s. The article discusses risk factors and causal pathways leading to suicidal behaviour in adolescents, and reviews research evidence for a range of interventive strategies, pointing out that research on the efficacy of treatment for depressive disorders is a priority. The role of a range of factors as explanations for the recent trends in suicidal behaviour is examined. These factors include the rising rates of depression, antisocial behaviour and substance abuse, the influence of suicidal models provided by the media, and changes in social conditions.

Moscicki EK. 1995. Suicide in childhood and adolescence. In: FC Verhulst, HM Koot (eds). *The Epidemiology of Child and Adolescent Psychopathology.* Oxford: Oxford University Press.

This article presents a concise review of suicide in childhood and adolescence. The incidence, prevalence and sociodemographic correlates of suicidal behaviour are discussed. Risk factors for suicidal behaviour derived from United States studies are reviewed, and the implications of these findings for suicide prevention are discussed briefly. The review takes the opportunity to comment on some commonly held misperceptions about suicidal behaviour, pointing out, specifically, that:

- there is no evidence that physical illness is a risk factor for suicide
- no credible scientific evidence exists, at present, to suggest that sexual orientation is a risk factor for suicide
- there is no evidence that stress, in and of itself, provokes suicidal behaviour.

The review concludes by commenting about the complexity of suicidal behaviour and stresses that the best chances for successful suicide prevention appear to lie in well-designed programmes focusing on mental health and substance abuse problems among adolescents.

Shaffer D, Piacentini J. 1994. Suicide and attempted suicide. In: M Rutter, E Taylor, L Hersow (eds). *Child and Adolescent Psychiatry*. Oxford: Blackwell.

This article reviews, firstly, the epidemiology of completed suicide in children and adolescents, and describes what is known about those who die by suicide. A second section reviews the characteristics, treatment and history of children and adolescents who make non-fatal suicide attempts. Strategies to prevent suicidal behaviour are reviewed, and a model of suicidal behaviour in young people is presented. This model assumes that suicidal behaviour does not occur randomly, but, rather, is most likely to occur in those who have a depressive disorder and certain personality characteristics. In individuals who are predisposed in this way, a suicide attempt will usually follow some stressful event.

1.2 New Zealand reviews

Barwick H. 1992. *Youth Suicide Prevention Project: Workshop report and literature review.* Wellington: Department of Health.

This report was prepared for the Department of Health as part of the Youth Suicide Prevention Project begun in 1992. It includes a presentation and discussion of New Zealand statistics for suicide among young people aged 15 to 24 years, and reviews the international literature on risk factors for youth suicide using papers published up to, approximately, 1990. While, as the review notes, at that time there had been very little published work from New Zealand about youth suicide, since this time extensive work has been undertaken, and published, from both the Canterbury Suicide Project and the Christchurch Health and Development Study. This report discusses interventions to prevent suicide and provides a synthesis of the recommendations from this workshop for youth suicide prevention.

Beautrais AL. 1996. *Serious Suicide Attempts in Young People: A case control study.* PhD Thesis. University of Otago.

This thesis uses data from the Canterbury Suicide Project to examine risk factors for serious suicide attempts among young people aged from 13 to 24 years, using case control methodology as the principal analytic process. The document includes a review of prevalence and risk factors of suicidal behaviour among young people, and discusses the contribution to serious suicide attempt behaviour of a range of risk factors including: psychosocial factors, family characteristics and childhood experiences, personality disorders, personality traits and cognitive styles, psychiatric disorders, and life events and stresses. The findings of this analysis suggest a life course model of serious suicide attempt behaviour, in which the aetiology of suicide attempts is multicausal and reflects an accumulation of adverse factors and experiences which combine during an individual's life course to influence risk of suicidal behaviour.

Coggan CA, Fanslow JL, Norton RN. 1995. *Intentional Injury in New Zealand.* Wellington: Public Health Commission.

This report was commissioned by the Public Health Commission and addresses violence, or intentional injury, as an issue of public health importance. Suicide and attempted suicide are defined as, and included within the category of, intentional injury. Data relating to the incidence of suicide and attempted suicide in New Zealand are presented, including analyses by age group, gender and ethnicity. The article reviews risk factors for suicidal behaviour, using papers published from the late 1980s to 1994. Discussions of the personal, social and economic impacts of suicide are included. Suicide prevention is discussed within the context of recent publications on this topic, and a series of recommendations are made for actions which the Public Health Commission might take in efforts to reduce suicidal behaviour.

2. RISK FACTORS FOR PSYCHOSOCIAL DISORDERS IN YOUNG PEOPLE

Rutter M, Smith DJ (eds). 1995. *Psychosocial Disorders in Young People: Time trends and their causes.* Chichester: John Wiley & Sons

This book undertakes an extensive review of time trends in psychosocial disorders in young people, examining whether such disorders have become more or less common during the 50 years since the end of the Second World War. The book attempts to provide causal explanations for any changes which might be found, and suggests priorities for future research. Within the book, a chapter is devoted to discussing these issues for each of a range of psychosocial disorders including youth crime and conduct

disorders, substance use (including alcohol and drug use), depressive disorders, eating disorders and suicidal behaviours. Further chapters discuss changing family patterns in Western Europe and their impact on adolescent development, living conditions in the twentieth century, the media and problem behaviours in young people, and evidence for the emergence of a 'youth culture' with values, morals and interests different from those of adult society. Major conclusions are that the rise in psychosocial disorders which has occurred in the last 50 years has been confined to young people, with these changes occurring while significant improvements occurred in economic growth, physical health, employment and educational opportunities for young people. At the same time, there have clearly been changes in areas such as family structure, urbanisation, the influence of the media, and religious and moral beliefs and attitudes. The authors call for extensive further research, internationally, to address the issues raised in this book.

3. SUICIDE PREVENTION: INTERNATIONAL ARTICLES, DOCUMENTS AND GUIDELINES

United Nations. 1996. *Prevention of suicide: Guidelines for the formulation and implementation of national strategies.* New York: United Nations.

This report summarises proceedings from an interregional expert meeting convened by the United Nations to develop guidelines for the formulation and implementation of national strategies for the prevention of suicidal behaviour and for postvention initiatives to support those who have made suicide attempts, and the families and associates of suicide victims. The document discusses approaches to the development of a national strategy, lists relevant policy areas which need to be addressed in a comprehensive strategy, and provides guidelines for publishing, disseminating, implementing and evaluating proposals contained within a national strategy. An account of the national suicide prevention plan for Finland is included as an example of the development of a national prevention strategy.

Alcohol, Drug Abuse and Mental Health Administration. 1989. *Report of the Secretary's Task Force on Youth Suicide.* Washington, DC: US Government Printing Office.

Increasing public concern in the mid-1980s about rising suicide rates in the United States led to the establishment of the Secretary's Task Force on Youth Suicide to address the demand for action on this issue. The extensive report of the Secretary's Task Force on Youth Suicide summarises a national plan for a range of research activities, educational efforts and health services aimed at efforts to reduce youth suicide in the United States. The report is presented as four volumes which together summarise the findings of the national task force, present the commissioned background papers on a wide range of issues and risk factors potentially related to youthful suicidal behaviour, discuss in detail each of the many recommendations for action to prevent suicide, and present a range of strategies for intervention and prevention of suicide.

Centers for Disease Control. 1992. *Youth Suicide Prevention Programs: A resource guide.* Atlanta: Centers for Disease Control.

This publication from the United States Centers for Disease Control is a resource guide of youth suicide prevention programmes. It describes the rationale and evaluates the effectiveness of a series of youth suicide prevention initiatives in the United States. These initiatives are categorised into eight broad classes of related prevention programmes: school gatekeeper training; community gatekeeper training; school-based general suicide education programmes for students; screening programmes for youth at high risk of suicide; peer support programmes; crisis centres and hotlines; means restrictions; and interventions following a suicide. Descriptions of demonstration programmes of each of the eight classes of intervention are included. The guide notes that many of these programmes are evolving, and that few have been adequately evaluated. This resource guide has been influential in providing the basis for much discussion about youth suicide prevention.

Shaffer D, Garland A, Gould M, Fisher P, Trautman P. 1988. Preventing teenage suicide: a critical review. *Journal of the American Academy of Child and Adolescent Psychiatry* 27: 675-87.

This Special Article in the *Journal of the American Academy of Child and Adolescent Psychiatry* critically reviews risk factor evidence for suicide in teenagers an discusses prevention initiatives which might be applied. Most suicides among children and adolescents occur in those with recognisable mental or personality disorders. Further research to increase knowledge about these characteristics may aid in refining prediction criteria which may be applied to the population of those young people with depressive and substance use disorders. A range of suicide interventions is described, including school-based educational and screening programmes, crisis centres and hotline services, effective treatment of those who have made suicide attempts, minimising opportunities for imitative behaviour, and restricting access to commonly used means of suicide. Evidence for the efficacy of these interventions is presented but it is noted that few programmes have been well evaluated and there is little evidence for the efficacy of any prevention approaches.

Commonwealth Department of Health and Family Services. 1997. *Youth Suicide in Australia: A background monograph.* 2nd edition. Canberra: Australian Government Publishing Service.

Commonwealth Department of Health and Family Services. 1997. *Youth Suicide in Australia: The national youth suicide prevention strategy.* Canberra: Australian Government Publishing Service.

These two documents outline the research evidence for the development of national approaches to youth suicide prevention in Australia. The first document provides epidemiologic data and comment on the extent of the problem of youth suicide in Australia, reviews risk factors for suicidal behaviour, with particular attention to risk factors relevant to the Australian context including urban/rural and cultural differences in suicide risk. The second publication discusses the elements of the national youth suicide prevention policy.

Garland AF, Zigler E. 1993. Adolescent suicide prevention: current research and social policy implications. *American Psychologist* 48: 169-82

This article in the *American Psychologist* reviews current research evidence for the development of adolescent suicide prevention strategies and the social policy implications of these findings. The authors comment that many intervention efforts have not been well based on research evidence, and discuss the increasingly popular school-based suicide prevention programmes for students. The article reviews current knowledge about risk factors for suicidal behaviour and suggests how this information might more usefully be applied to the development of intervention programmes to reduce suicide. The authors discuss, and provide support for, the following interventions: integrated primary prevention efforts (including family support and early intervention programmes for at-risk families); suicide prevention training for professionals involved with young people; restriction of access to firearms; efforts to minimise media treatment of youth suicide; efforts to identify, treat and manage at-risk youth; crisis intervention; treatment for those young people who have attempted suicide.

Department of Health. 1994. *The Prevention of Suicide.* London: HMSO.

This document is a collection of papers and articles presented at a conference organised around the theme of preventing suicide, and against a background of the English 'Health of the Nation' targets for suicide reduction. The articles review current knowledge in the areas of suicide risk, assessment and management, and the implications of these findings for the development of policies for suicide prevention.

National Health Service. 1994. *Suicide Prevention: Mental health services.* London: HMSO.

This document was prepared as a background to the current English 'Health of the Nation' targets for suicide reduction, and as a manual of guidance for the purchasers and providers of mental health care. It attempts to bring together professional developments in the fields of suicide prevention, particularly in view of the English Government's 'Health of the Nation' targets for suicide reduction. The review summarises knowledge about suicide, risk assessment and management for those individuals who present to mental health services, and comments on the current state of knowledge on clinical practice in a range of relevant areas.

Gunnell D, Frankel S. 1994. Prevention of suicide: aspirations and evidence. *British Medical Journal* 308: 1227-33.

This article in the *British Medical Journal* was published in response to the English Government's 'Health of the Nation' targets for suicide reduction, and examines evidence for the efficacy of various suicide prevention approaches, commenting on the likelihood that the national targets for suicide reduction will be achievable. Although the authors identify a series of interventions which deserve to be developed, and which are able to be evaluated, they generally present a pessimistic view of the potential for achieving significant reductions in suicide rates, based on current knowledge of risk factors and on current policy.

Diekstra RFW. 1989. Towards a comprehensive strategy for the prevention of suicidal behaviour. *Acta Psychiatrica Scandinavica Suppl* 354: 1-24

This review discusses national and international strategies for the prevention of suicidal behaviour, with particular emphasis on the need for integrated data collection and further research, the improvement of mental health services for those at risk of suicide, the provision of information to relevant professionals and community organisations, and the development of services for those identified as being at particularly high risk of suicide.

The following two publications were obtained too late for inclusion in this document. They are reviewed here because they are directly relevant to development of the *New Zealand Youth Suicide Prevention Strategy.*

The National Council for Suicide Prevention. 1996. *Support in Suicidal Crises.* Stockholm: The National Council for Suicide Prevention.

This document presents an account of the nature of the problem of suicidal behaviour in Sweden, and the proposals of the National Council for Suicide Prevention for preventive strategies. The programme gives epidemiologic information of the extent of the problem in Sweden, and discusses strategies for suicide prevention including those appropriate for groups at especially high risk of suicide, including young people.

Norwegian Board of Health. 1995. *The National Plan for Suicide Prevention 1994-1998.* Oslo: Norwegian Board of Health.

This national plan for suicide prevention in Norway emphasises the need for an interdisciplinary approach which integrates mental services initiatives with those from other relevant sectors. The document includes suicide incidence data for Norway, and comments, in particular, on the need for research, increased training and education for professionals and relevant community members in contact with suicidal people, and improved treatment for suicidal individuals. The importance of evaluating the National Plan, as a whole, and individual projects contained within the Plan, are emphasised.

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