Youth suicide in Australia:

a background monograph
2nd Edition

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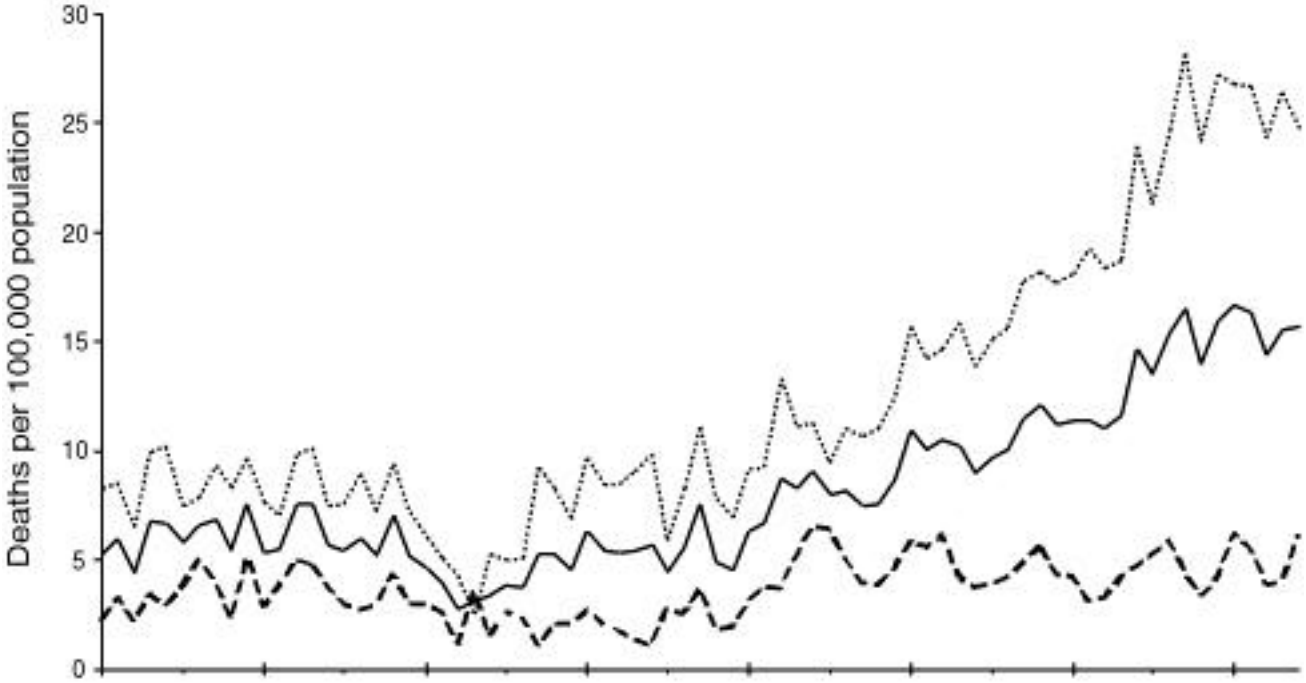
Youth Suicide in Australia

Introduction

Suicide is a tragic event. It has a profound, personal effect on all associated with the person who dies. Families, friends and, indeed, society as a whole are affected. There is a particular poignancy when the suicide is that of a young person at the threshold of adulthood.

In Australia today more than 2,000 deaths per annum are recorded as suicides. While this is a tragedy in itself, particularly disturbing trends have been emerging in the last few decades in the statistics for suicide among young males 15 to 24 years of age, where deaths from suicide increased dramatically from the 1950s to the 1980s. While rates remain unacceptably high, it appears that the increase in rate has stabilized somewhat in the 1990s following a peak in the late 1980s.

Graph 1 Suicide, Australia, 1921 to 1995, 15 to 24 year-olds by gender



Source: Australian Institute for Health and Welfare, National Injury Surveillance Unit, (AIHW NISU) 1997, previously unpublished.

While these data suggest that youth suicide is still a rare event at the local community level, the rate at which the problem has grown overall in Australia in the last few decades gives cause for concern. Young people are society's most valuable asset and thus we have an obligation to care for and protect them while they are developing the skills and knowledge that will equip them to become full and active participants in society. Australians are demonstrating their concern in a growing number of suicide-related initiatives being implemented by academic, media, government and community organisations.

The Commonwealth Government has committed $31 million to the National Youth Suicide Prevention Strategy which aims to reduce the rates of youth suicide in Australia over the period to June 1999.

The National Youth Suicide Prevention Strategy integrates the previous initiative, the Here for Life Youth

Suicide Prevention Initiative, with a new series of approaches designed to improve service delivery and community response to youth suicide. It provides a coordinated national programme consistent with the issues identified in this Monograph. Further detail is provided in a companion to this document entitled 'Youth Suicide in Australia: the national youth suicide prevention strategy'.

Executive summary

Background

This monograph has been compiled from existing published sources in English language journals and books over the last twelve years and from recent Australian data sourced from the Australian Bureau of Statistics. It outlines the serious public health issue of youth suicide in Australia. In the first section of this paper the incidence and prevalence of suicide among young people in Australia is described.

The suicide rate for young males aged 15 to 24 years is of particular concern. The rate of completed suicides for young men doubled between 1970 and 1995. In contrast, the overall Australian rate for the same period has remained much more stable. The suicide rate in Australia for males aged 15 to 24 years is among the highest when compared with other western industrialised countries.

The rate of completed and attempted suicide in Australia is generally recognised as being higher than that recorded due to under-reporting of self-injury as a cause of hospitalisation, and to attributing death as a result of suicide to other causes such as single vehicle motor accidents or drug overdoses.

Causes and risk factors in youth suicide

It is generally recognised that the factors linked to youth suicide are numerous and complex. An analysis of these factors has led researchers to identify a number of population groups which display a greater vulnerability to completed and attempted suicide.

Identified high risk groups include young people with a mental illness. Overseas and recent Australian research has indicated that up to 90 per cent of young people who suicide have evidence of psychiatric illness or serious mental health problems before their death, with depressive illnesses being the most common.

Evidence cited later in this document suggests that traditional indigenous communities experience relatively few suicides. There is now great variability in the rates of suicide among Aboriginal communities. The limited statistics available suggest that the indigenous youth suicide rate overall is about 1.4 times that for non-indigenous young people.

Young males living in rural and remote areas have a significantly higher rate of suicide than those in urban areas, although again, there are major variations among rural communities, with small, remote and inland communities at highest risk. These differences could reflect issues of access to lethal methods of suicide, because firearms are twice as likely to be used in rural areas.

Research and survey data indicate that there are many more suicide attempts than completed suicides and that there is a high incidence of previous attempts among those who suicide. American research in the late 1980s showed that a previous suicide attempt was the most significant risk factor for death by suicide among young males.

Unemployment, family and other interpersonal problems, physical and/or sexual abuse, homelessness and a history of substance abuse have all been implicated as factors associated with a greater risk of suicide. Research has also indicated that other social and cultural factors can influence the youth suicide rate, including such factors as portrayal of suicide in the media, access to methods of suicide, and elements of youth culture.

Approaches to suicide prevention

A number of approaches are being used in Australia and overseas in endeavours to reduce the suicide

deaths occurring among young people in the 1990s. The efficacy of these approaches is difficult to evaluate because of the relatively small numbers in the population who complete suicide and because numerous variables are involved. This Monograph draws attention to the limited amount of evaluation work, both in Australia and overseas, and indicates that it has tended to focus on subjective measures such as attitudinal change and participant satisfaction.

This Monograph points to the need for a variety of approaches to be adopted as part of a coordinated programme to address the complex factors affecting youth suicide rates. It also indicates the need for these approaches to be backed by planning, research and evaluation to increase future knowledge underpinning policy development.

Some particular approaches to reducing youth suicide are discussed in this Monograph including:

- primary prevention activities;
- media strategies;
- restricting access to methods of suicide;
- school based suicide prevention programmes;
- targeted interventions for high risk groups and individuals;
- professional training;
- mental health approaches; and
- intersectoral approaches.

How serious is the problem of suicide among young people in Australia?

Youth deaths due to suicide

In 1995, suicide was the recorded cause of death of 2,366 Australians. By far the greater part of these deaths involved males (1,871 or 79 per cent of the total number of suicides), and of these, 355 (19 per cent) were young men under 25 years of age.

The overall suicide rate for 15 to 24 year old males conceals significant differences in rate within this age group. The suicide rate for males aged 15 to 19 years was 15.0 per 100,000 and for males 20 to 24 years was 34.3 per 100,000. At present, the highest risk age range for suicide for males appears to start at about school leaving age and continues into early middle-age. Suicide rates for men over 75 are also high.

Among females, deaths by suicide are much lower than for males, with 495 female suicide deaths recorded in 1995. Of the female suicide deaths, 84 (17 per cent) were under 25, but for females the rates of suicide appear more evenly spread across the adult age range. The suicide rate for females also differs sharply between the late teens and early 20s. The suicide rate for females within the 15 to 19 age range is 4.7 per 100,000 and that for females 20 to 24 years is 7.8 per 100,000.

Table 1 shows the number and rate of deaths attributed to suicide for males and females for all age groups in 1995.

Table 1 Suicide deaths: numbers, and rates (per 100,000 of population), Australia, 1995

Age Groups	0-9	10-14	15-24	25-34	35-54	55-64	65-74	75+	All ages
Males	0	5	350	474	652	177	117	96	1,871
	0	0.8	25.2	33.4	26.1	23.3	19.3	29.1	20.8
Females	0	0	84	99	193	50	37	32	495
	0	0	6.3	7	7.8	6.7	5.5	5.9	5.5
Total	0	5	434	573	845	227	154	128	2,366
	0	0.4	16	20.2	17	15.1	12	14.7	13.1

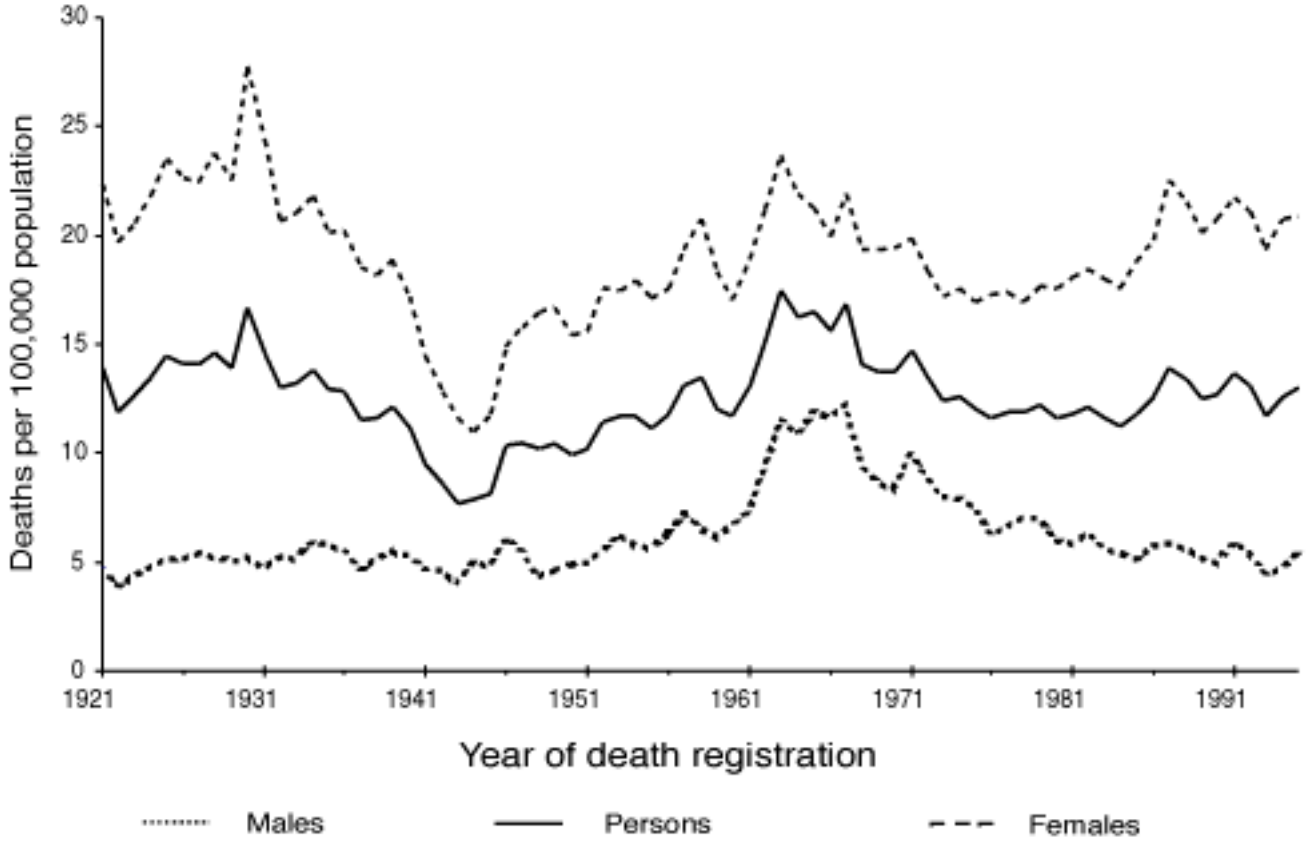
Source: Australian Institute for Health and Welfare, National Injury Surveillance Unit, 1997, previously unpublished.

The growing significance of suicide as a cause of premature death is further illustrated by published statistics (ABS 1995) showing that while suicide represented 6.0 per cent of all causes of premature deaths in 1983, it had risen to 9.2 per cent in 1995. In 1995, suicide was the fourth leading cause of premature death in Australia, following cancer, heart disease, and accidents (ABS 1995).

Trends in suicide deaths over time

Any analysis of trends in suicide over time needs to take account of overall population changes in Australia during the same period. For this reason, the number of deaths per 100,000 population is used for comparative purposes.

Graph 2 Suicide death rates for males, females, and total population, Australia, 1921 to 1995



Source: Australian Institute for Health and Welfare, National Injury Surveillance Unit, 1997, previously unpublished.

All ages

Graph 2 shows the pattern of overall suicide death rates in Australia since 1921 and shows that the suicide rate for Australians of all ages has been fairly constant since 1921, lying mainly in the range 10.0 to 14.0 deaths per 100,000 population. Particularly high rates were recorded in the Depression, in 1963 (15.7) and 1967 (15.1) and particularly low rates (average 9.6) in the six years following the end of World War II. (Although low rates were also recorded during the war years, caution is needed in using that data because of collection difficulties). It is thought that the higher rates during the 1960s were due to the greater availability of hazardous medications that were later controlled. (Cantor et al 1996).

Overall suicide rates for Australia decreased in the 1970s from the unusually high rates experienced in the 1960s. More recently, however, the picture has changed with the suicide rate exceeding 13.0 per 100,000 for five of the last ten years for which data is available. The highest rate for the last 20 years occurred in 1987, when there were 13.9 deaths per 100,000.

Increasing male rates account for the peak in the late 1980s, with the rate for females peaking in the mid 1960s, and then reverting to rates comparable with those earlier this century.

Patterns of suicide by age group

Baume noted in 1994 that patterns of suicide rates had changed in the 1970s and 1980s, with suicide becoming less common among middle-aged men and women, but more common among younger men, and among older men and women. (Baume 1994).

Figures recently available suggest that since the late 1980s suicide rates have decreased for older men and women while remaining stable for the youngest and increasing for younger middle aged groups. It is not yet clear whether a new configuration is being established. However the increase in young male suicide rates

seen in the western world in the last few decades may resolve into one or more of three possible patterns: it may have been an effect of the particular period; it may reflect an ongoing trend to suicides occurring at a younger age; or it may reflect cohorts, or specific generations, who carry a particular suicide risk with them throughout their lives (Allebeck et al 1996).

Table 2 compares the suicide rates for the various age groups in 1987 and 1995.

Table 2 Suicide deaths by age, (per 100,000 of population), Australia, 1987 and 1995

Year	10-14	15-24	25-34	35-54	55-64	65-74	75+	All
1987	1.0	15.4	17.5	18.1	19.2	18.2	21.3	13.7
1995	0.4	16.0	20.2	17.0	15.0	12.0	14.7	13.1

Source: Data supplied by Australian Institute for Health and Welfare, National Injury Surveillance Unit, 1997, previously unpublished.

Trends in youth suicide

Graph 3 shows that since 1982 the suicide rate for men aged 15 to 24 years has been higher than the average suicide rate for men of all ages.

Graph 3 Suicide death rates (per 100,000 of population), 15 to 24 year-olds and total population, Australia, 1982 to 1995

Source: Australian Institute for Health and Welfare, National Injury Surveillance Unit, 1997, previously unpublished.

As Graph 1 showed, the suicide death rate for 15 to 24 year old males varied between six and ten per 100,000 from 1921 to the early 1940s, dropping below six during World War II. In the early 1960s rates started to increase, peaking at 27.9 per 100,000 in 1988. There is no clear trend emerging for young men in the 1990s. The increase in rates evident in the last few decades has not continued, but neither have rates dropped significantly. They have remained above 24 per 100,000 throughout the decade.

The suicide rate for young women has remained largely between three and six per 100,000 since 1921. However, rates were consistently below three per 100,000 in the period between 1942 and 1960. On a few occasions the rate exceeded six per 100,000 during the 1960s and early 1970s. Suicide rates for young women have on the whole been lower than those for women in other age groups. The exceptions occurred during the Depression, and on four occasions in the last ten years (1987, 1991, 1992 and 1995). Since relatively small numbers of deaths can have a large impact on age-specific female suicide rates, it is difficult to interpret the significance of this as a possible trend.

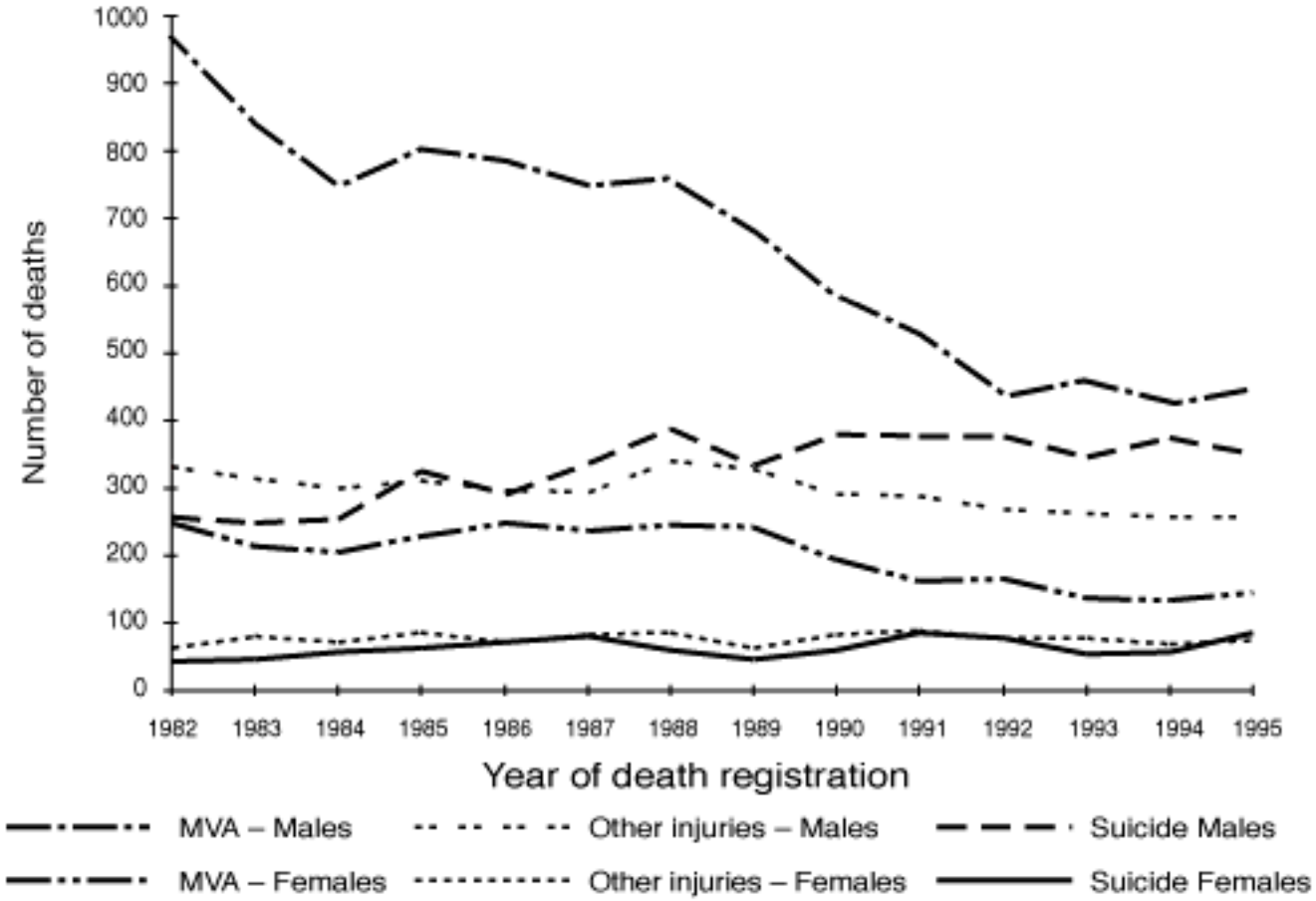
It should be noted here that there are other trends in the data, depending upon the specific aspect of suicide that is being examined. Trends vary among states, between urban and rural areas, among different rural areas, among cultural groups, and among means of suicide. Interpretation of overall trends therefore needs to be undertaken cautiously. In addition, fluctuations in rates need to be sustained for a number of years before it can be established whether a new trend is emerging.

Graph 1 showed suicide rates for young people for the period 1921 to 1995. Graph 2 showed overall male and female suicide rates for the same period. Graph 3 compares the trends for males and females in the 15 to 24 age group to overall suicide rates for the period 1982 to 1995.

Comparison with other causes of death among young people

A total of 1,915 people between the ages of 15 to 24 died in Australia in 1995. The majority of these deaths (71 per cent) resulted from injuries such as motor vehicle accidents or other accidents, violence or suicide. That accident and injury rates can be affected by public health strategies is evident from the effectiveness of endeavours in recent years to promote road safety through improved vehicle and road designs, driver training, and other strategies. Suicide prevention programmes have yet to show the same effectiveness in reducing suicide deaths.

Graph 4 Leading causes of death for 15 to 24 year-olds in Australia, 1982 to 1995



Source: Australian Institute for Health and Welfare, National Injury Surveillance Unit, 1997, previously unpublished.

The declining rate of motor vehicle deaths and increase in youth suicides in the 1980s is evident from Graph 4. In 1982, 973 males in this age group died as a result of motor vehicle accidents (16 per cent of all male deaths due to injuries) compared with 448 (8.6 per cent) in 1995. By contrast, some 258 suicide deaths (4.4 per cent) were recorded in 1982 and 350 (6.7 per cent) in 1995. Graph 4 shows the trends for the three leading causes of death for 15 to 24 year-olds for the period 1982 to 1995.

The third leading cause of death in this age group is 'other injuries', including non-motor vehicle accidents, accidental poisonings and drownings. Graph 4 illustrates that deaths from this cause have remained relatively constant throughout the period.

Attempted suicide and self-harm by young people

Most countries, including Australia, experience difficulties in producing reliable measures of attempted suicide. The reasons involve both definitional and reporting problems regarding the spectrum of suicidal and self-harming behaviours.

Young people may harm themselves by a number of methods including self-laceration, self-battering, taking overdoses, or deliberate recklessness. In most cases they do not perceive death as likely, plan episodes at length, or inform others. Patton et al (publication pending) reported that while 5.1 per cent of secondary school students surveyed in Victoria reported having deliberately harmed themselves, only 6 per cent of those episodes had been undertaken with a serious intent to end life. The Western Australian Child Health Survey found similar rates of self-harm with 7.5 per cent of young people 12 to 16 years reporting that they had tried to harm themselves in the previous six months (Zubrick et al, 1995).

Distinguishing 'true' suicide attempts from deliberate self-harm can be difficult. Young people do not always have a clear perception of the potential lethality of a particular method, so deliberate self-harm

without suicidal intent may result in death, while attempts to die may result in minimal injury. Patton's research suggests that self-harm is more common than attempted suicide and is itself a serious youth health problem.

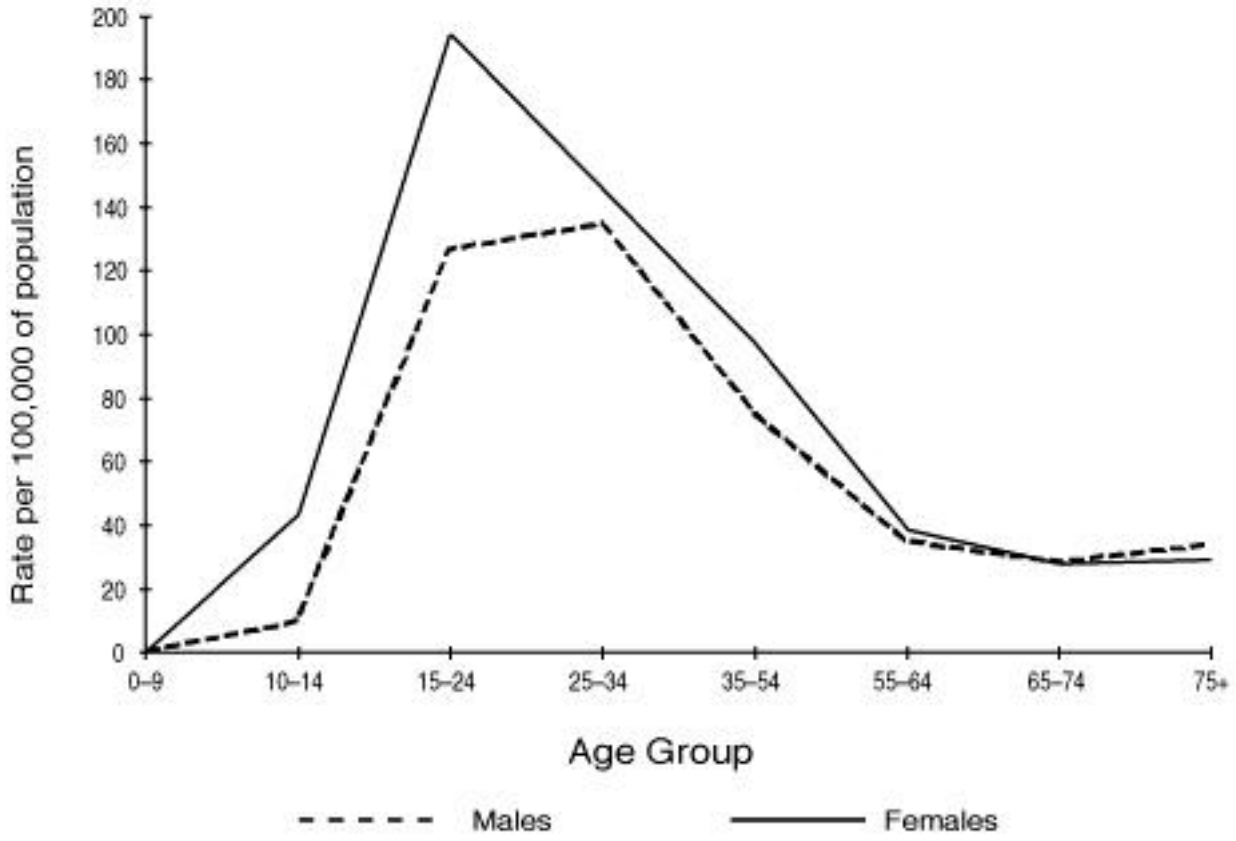
In addition, recent studies have suggested a spectrum of non-fatal suicidal, self-harming and risk taking behaviours which can be seen as indicators of increased risk for a suicide attempt. Such behaviours include suicidal ideation, threats, plans and deliberate self-harm. A combination of planning for suicide with previous self-harm was found by Pearce and Martin (1994) to be highly correlated with the likelihood of a suicide attempt.

Surveys of teenagers have been conducted regarding the extent of suicidal ideation. The Health of Young People in Victoria - Adolescent Health Survey (Hibbert et al 1992) found that 5.4 per cent of year 11 boys and 15 per cent of year 11 girls reported having had thoughts of suicide in the week before the survey. The Western Australian Child Health Survey found that amongst 12 to 14 year olds, 11.5 per cent reported having sometimes or often considered suicide during the previous six months, while amongst 15 to 16 year olds 23.5 per cent had considered suicide. A study of Swiss students suggested that transient thoughts of suicide were common, but that sustained suicidal ideation was correlated with increased risk for a suicide attempt (Buddeberg 1996).

With regard to reporting issues, Patton found that only 14 per cent of self-harmers had discussed their intention with others before the event, and only 36 per cent had ever discussed it with anyone at the time of the survey. This view is supported by Martin (1995) from a South Australian study. The Western Australian Child Health Survey indicated that often parents and teachers were not aware of a student's mental health problems, suicidal ideation, or self-harming behaviour. It appears that most adolescent self-harm and suicidal ideation is kept private even from friends and family.

It is difficult to assess the extent of medical trauma, disability or morbidity caused by suicide attempts and self-harm amongst Australian young people. Davis and Kosky (1991) found evidence of substantial under reporting of hospitalisation for self-harm and that many people presenting with self-inflicted injuries were not admitted to hospital and therefore not included in official self-injury data. Available data for hospital admissions for deliberate self-injury in Australia in 1992 and 1993 are given in Graph 5. These figures show a higher overall incidence of females receiving hospital-based care for self-inflicted injury. They also show clearly that the rates of self-harm for both males and females peak in the 15 to 24 age group.

Graph 5 Hospital separation rates due to self-injury by age group, Australia, 1992 and 1993



Source: Australian Institute for Health and Welfare, National Injury Surveillance Unit, 1997, previously unpublished.

Studies here and in certain other industrialised countries have found that rates for attempted suicide have increased in the last decade or so and that these rises have occurred mainly among young people (Kosky 1987, Alvin 1993).

The statistics above suggest that entry into the spectrum of suicidal behaviour and ideation is relatively common, but that medically serious suicide attempts and deaths are still relatively rare. This supports the findings of some overseas studies that suicidality is a process with a variable outcome, which most often does not lead to injury or death, and which can be influenced if those young people entering upon the process are able to find a more positive solution (Wetzler 1996, Runeson 1996).

The importance of early identification of young people who are developing suicide risk behaviours is emphasised by research both in Australia and overseas which shows a high incidence of previous attempts among those who have completed suicide. Writing about prevention strategies in the United States context, Shaffer et al. (1988) reported that the most significant risk factor for death by suicide in teenage males was a previous suicide attempt. Kalafat and Elias (1995), reviewing the literature in the United States, noted that among young people who have been hospitalised for suicide attempts, the rate of later completed suicide for males is about one in 12 and for females one in 300.

Understanding and acting upon the indicators correlated with serious suicide attempts such as sustained suicidal ideation, previous deliberate self-harm and plans for suicide, is therefore crucial in identifying and assisting young people at the highest risk of suicide. It is also important to deal with the significant morbidity and mortality caused by self-harming and suicidal behaviours in young people. Most importantly, interventions can also provide support and assistance to many young people who are seriously distressed and are struggling to manage on their own.

Gender differences

Having reliable measures of attempted suicide is crucial to any resolution of the question of the likely

significance of suicide as a possible female health issue. Published mortality data, media reports and research from New South Wales (eg Dudley et al. 1992) highlight the high death rates due to suicide among males. However, the statistics for self-harm and suicidal ideation, including data provided by Sayer et al (1996) for New South Wales, suggest that adolescent males and females attempt suicide at comparable rates. It is likely that the difference in death rates reflects the lethality of the method used. Further discussion of this issue is contained in the section on methods of suicide.

Urban-rural differences in youth suicide

Comprehensive statistics showing the differences between suicide deaths in urban and rural areas have only been available since 1986. These data indicate that males living in rural areas have a consistently higher rate of suicide than their urban counterparts. The rate of suicide among young males in rural areas increased by 50 per cent between 1986 and 1992, peaking at 37.7 per 100,000 in 1992. In 1995 the rural male youth suicide rate was still higher, with death rates of 33.9 per 100,000 compared with 23.6 per 100,000 for young males in urban areas. It is too early to say whether the apparent slight drop in rural male suicides is a trend or a part of the normal annual variation (Australian Bureau of Statistics data, 1997, unpublished).

More detailed data suggests that there is significant variation among rural districts, with remote settlements of less than 4,000 people being worst affected. Table 3 demonstrates that in the period 1990 to 1992, both young men and young women were more likely to complete suicide if they were living in a rural or remote community that was not a major population centre. There is further discussion of rural suicide in the section on methods.

The total number of completed suicides for young women in rural areas in any one year has varied between four and 14 per annum nationally for the ten years for which data are available. These figures are too small for meaningful comparisons of rates and trends to be attempted for single years. On average for the entire period the rate is slightly lower than the urban female youth suicide rate.

Table 3 Suicide deaths in rural and urban areas (per 100,000 of population), Australia, 1990 to 1992

	All Males		**Males 15-24**		**Females 15-24**	
Location	No.	Rate	No.	Rate	No.	Rate
Capital city	3,207	20.8	656	25.3	157	6.1
Other major urban	519	23.8	111	31.3	16	4.6
Rural major	639	23.0	125	29.9	17	4.1
Rural other	798	24.2	186	42.3	25	6.3
Remote major	67	22.2	11	23.4	2	4.4
Remote other	162	30.2	41	49.7	6	8.3
All areas	5,392	22.0	1,130	28.7	223	5.8

Source: Australian Institute for Health and Welfare, National Injury Surveillance Unit, 1997, previously unpublished.

An analysis of urban and rural differences in deaths through suicide needs to take account of the numbers as well as the rates of deaths because populations are much larger in urban areas. As Table 3 shows, in the period 1990 to 1992, capital cities and major urban areas accounted for 69 per cent of suicide deaths in the 15 to 24 years age group. In 1995, urban areas, as defined by the Australian Bureau of Statistics, accounted for 80 per cent of suicide deaths in this age group (Australian Bureau of Statistics, 1997, unpublished data).

Methods used for suicide

Table 4 shows suicide deaths for young men and women in 1995 according to methods used. For young

men, hanging, firearms and self-poisoning by motor vehicle exhaust were the most common methods of death by suicide, together accounting for over 75 per cent of the deaths. For young women, the most common methods of death by suicide in the 15 to 24 age group in 1995 were hanging, self-poisoning by solid or liquid substances, and self-poisoning by motor vehicle exhaust gas.

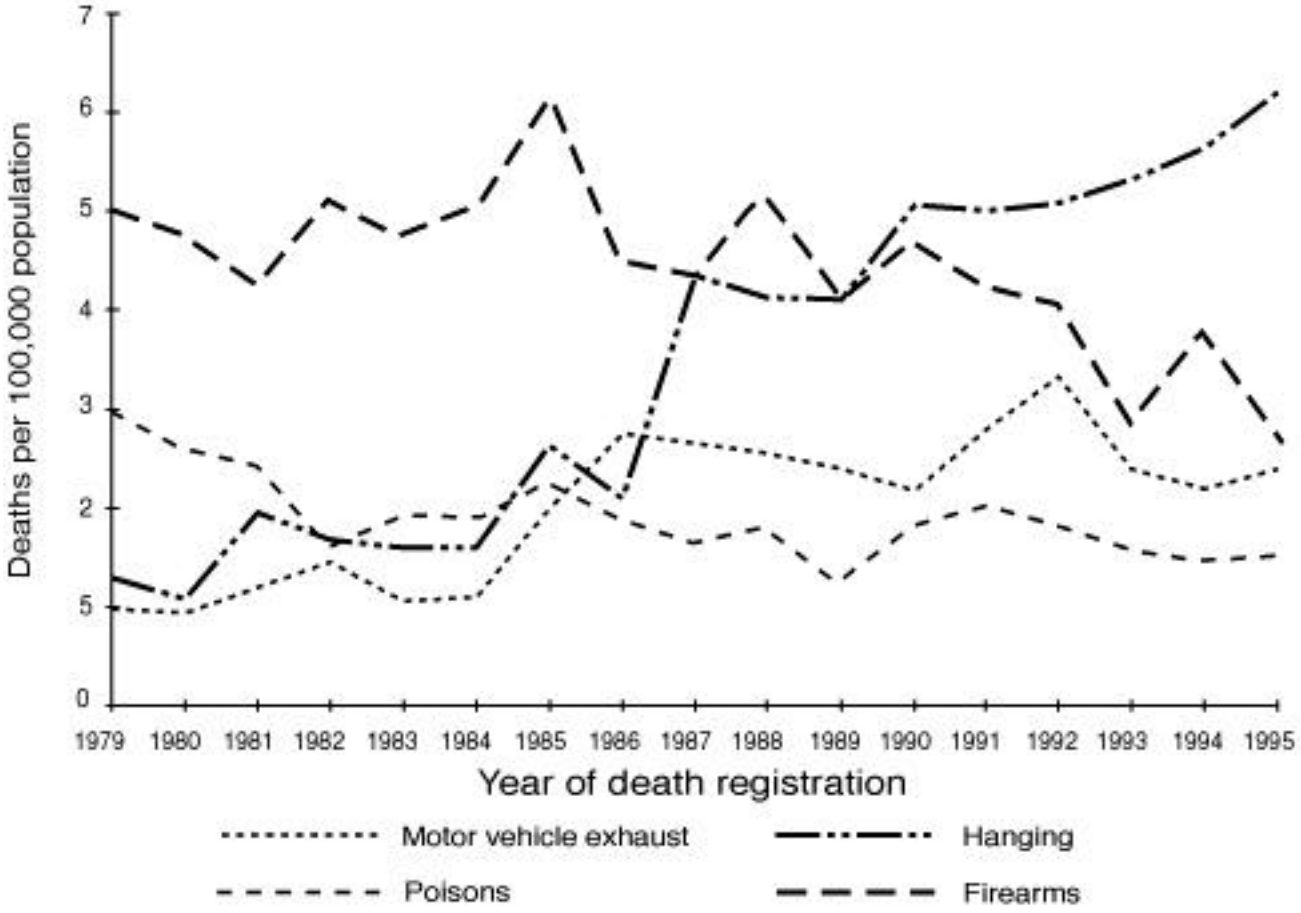
Table 4 Rates of suicide death by method (per 100,000 of population) among 15 to 24 year-olds, Australia, 1995

Method	Males	Females	Total
Hanging	10.4	1.8	6.2
Firearms	4.7	0.5	2.7
Motor vehicle exhaust	3.9	0.8	2.4
Poisons(solid/liquid)	1.8	1.2	1.5
Jumping from heights	1.2	0.7	1.0
Cutting/piercing	0.4	0.0	0.2
Other	2.8	1.3	2.1
Total	25.2	6.3	16.0

Source: Australian Institute for Health and Welfare, National Injury Surveillance Unit, 1997, previously unpublished.

Graph 6 shows the changes in death rates for methods of suicide over the period since 1979, and shows in particular a dramatic increase in hanging as a method of youth suicide. Cantor et al (1996) showed that hanging constituted 10 per cent of all suicide deaths for this age group in 1974 and 39 per cent in 1995. The increase in young male suicides over the last few decades reflects rises in hanging and in poisoning by motor vehicle exhaust gas. The rate of suicide death by use of firearms has decreased significantly over the same period.

Graph 6 Rates of suicide death by method, 15 to 24 year-olds, Australia, 1979 to 1995



Source: Australian Institute for Health and Welfare, National Injury Surveillance Unit, 1997, previously unpublished.

Young female rates of suicide death by hanging and poisoning by motor vehicle exhaust gas have also increased since 1974, but this was offset by a decrease in death from ingesting solid and liquid poisons. Given the high rate of hospitalisation for self-poisoning reflected in Table 5, it is likely that improvements in medical treatment for self-poisoning, and the reduced toxicity of available drugs have contributed to the drop in death rates for this method. Hassan and Tan (1989) found that more than 99 per cent of cases admitted to intensive care in a large regional hospital as a result of overdosage of various drugs survived.

Juxtaposition of Table 4 and Table 5 indicates that some methods of suicide result in more episodes of hospitalisation, whereas more lethal methods result more often in death. Comparison of the two tables also shows that the higher death rates evident among males reflect the more lethal methods of suicide chosen by young men, although many young men also use less lethal means.

Table 5 Hospital separation rates by method, for self-inflicted injury (per 100,000 of population) among 15 to 24 year-olds, Australia, 1992 to 1993

Method	Males	Females	Total
Poisons (solid/liquid)	88.9	174.9	131.0
Cutting/piercing	19.7	12.4	16.1
Motor vehicle exhaust	3.8	0.8	2.3
Hanging	3.2	0.7	2.0
Firearms	1.9	*	1.1
Other	9.3	5.8	7.6

* Indicates too few incidents to reliably calculate rates.

Source: Australian Institute for Health and Welfare, National Injury Surveillance Unit, 1997, previously unpublished.

Firearms suicides peaked with 165 deaths in 1985, at that time constituting 42 per cent of all youth suicide deaths. Firearms have since declined in importance as a method of youth suicide, with only 75 deaths from this means in 1995, constituting 17 per cent of suicide deaths for this age group (Cantor et al 1996).

A report commissioned by the Commonwealth Department of Health and Family Services in 1996 focussed on the relationship between access to methods of suicide, and the death rate from suicide. The report found that both availability and cultural acceptability of lethal means of suicide influenced mortality rates. Restricting the availability of a particular method of suicide tends to reduce suicide by that means, and often reduces overall suicide rates. Changes to the cultural acceptability of a particular method of suicide, such as hanging, may also influence overall suicide rates (Cantor et al 1996).

Table 6 illustrates recent patterns of death from various methods of suicide in urban and rural areas and shows that firearms are still the most frequent method of youth suicide in rural areas, although their use has declined significantly among urban youth suicides. Firearms are often part of the ongoing life experiences of many young people in country areas, and are more readily available in rural households (Dudley et al, 1992). Methods used in recorded suicide deaths also differ markedly between Aboriginal and non-Aboriginal Australians (Harrison et al 1994) with hanging accounting for almost 66 per cent of suicide deaths among Aboriginal people and the balance mainly involving the use of firearms (27 per cent).

Table 6 Method of suicide deaths among Australians aged 15 to 24 years in rural and urban settings, 1986 to 1995

	1986 to 1990		1991 to 95	
Method	**Urban %**	**Rural %**	**Urban %**	**Rural %**
Firearms and explosives	24.6	50.1	16.8	42.8
Hanging	27.7	25.7	36.2	30.1
Poisoning & gases	19.4	11.4	18.6	11.8
Other poisonings	12.5	6.4	11.4	7.1
Jumping from high place	5.9	1.7	5.8	2.0
Other	9.9	4.6	11.1	6.2

Source: Australian Bureau of Statistics, © 1997, previously unpublished.

Suicide clustering and contagion

The likely significance of 'copy cat' suicides, or suicide clustering, has been the subject of much media attention and professional debate. A point of consensus is that clustering relates mainly to suicidal behaviour among young people, there being no focus in available research on this behaviour among adults who suicide. Currently, there is no reliable data available on the incidence of 'copy cat' suicide attempts among young people in Australia. Hazell (1993) reports that suicide clustering in the United States has been estimated as responsible for a maximum of 5 per cent of suicide deaths among teenagers and observes that "in these terms ... clustering only makes a small contribution to the total suicide rate".

In-depth studies of suicide clustering are limited but there is some anecdotal evidence to suggest that the death of a friend or role model may have the converse effect for at least some young people; ie the reality of the event can decrease the interest of others in self-harming as a mechanism for problem solving. Other studies (eg Martin 1992) suggest that where a young person became suicidal following the death of a colleague the individual concerned already evidenced underlying vulnerabilities and that the suicide death of another served as an immediate or precipitating factor rather than a fundamental or potentialising factor.

Another issue raised has been the impact of media portrayals of suicide on suicide rates. Hassan (1995) and Martin (Martin et al 1993, Martin 1996b) have provided evidence that media presentations of youth suicide in newspapers or in musical and cultural products have led to measurable increases in suicidal behaviours

for people exposed. Similar international studies have been conducted by Phillips et al (1986, 1992) and Gould (1990). Cantor et al (1996) noted that presentation of particular means of suicide in the media can lead to an increase in suicides by that particular method.

Elements of media reports which appear to be linked to higher risks of suicide contagion include focussing on the hopelessness of a particular young person's situation, detailing the method of suicide, and failing to indicate that accessible and non-stigmatising help is available.

The cost of suicide

Suicide involves the premature loss of life and, like other causes of early mortality, its cost to the community is usually measured in terms of the number of years of potential life lost. For the 15 to 24 age group, the estimate for years of potential life lost due to suicide is more than 230,000 for the period 1983 to 1992. The years of potential life lost from youth suicide have consistently increased as a proportion of the potential years of life lost from all causes of youth death from 12 per cent in 1983 to 23 per cent in 1992. By contrast, the proportion of potential years of life lost as a result of deaths of young Australians due to motor vehicle accidents has declined from 46 per cent in 1983 to 31 per cent in 1992.

The economic costs of attempted and completed suicides are difficult to calculate. Raphael and Martinek (1994) have provided estimates for the health costs involved and earnings lost due to all suicides in Australia for the financial year 1989-90. The outcome is a cost estimate of $460 million for suicide deaths and a similar amount for suicide attempts during that period. It should be noted, however, that these estimates only present part of the picture, as substantial community costs are also involved through the impacts on family and peers, the need for community service and welfare responses and policy and coronial work.

The report by Raphael and Martinek includes estimates for deaths in 1989-90 for the age group 10 to 19 years of age and calculates the health costs and earnings lost for this group as $38 million. It should be noted that the incidence of death by suicide is low among 10 to 14 year-olds. It could therefore be inferred that this estimated cost of deaths by suicide relates primarily to those 15 to 19 years of age and that an estimated cost for suicide deaths among 15 to 24 year-olds in a single year would be at least double this amount (ie $76 million).

Limitations of data available

The percentage of the Australian population which is within particular age ranges will vary from year to year. Small numbers within particular categories can also cause difficulties with some comparisons. Standard statistical techniques can be applied to make data more comparable across groups and across chronological series. Where appropriate, such procedures have been applied by the Australian Institute for Health and Welfare to crude suicide rates used within this document.

Reference has been made throughout this report to deficiencies in available data and to the difficulties inherent in attempting to interpret data involving relatively low levels of occurrence.

Further issues need to be canvassed here. Firstly, there appears to be general agreement that published suicide rates underestimate the true rates of completed suicides. The causes of under-reporting are multifaceted and complex, lying in the spheres both of cultural, social and political values and of difficulties in data collection and interpretation. Coronial reports are the primary source of data for suicide deaths and these involve interpretations made after the event, on the basis of the evidence available at the time. Cantor et al (1996) estimated that the undetermined death category may contribute to under reporting of suicide by approximately 10 per cent. Reference has already been made to the difficulties with data regarding suicide attempts. Most researchers believe that published data should be regarded as only indicative of the likely extent of the problem of youth suicide and that little credence should be given to small variations in rates or absolute numbers.

The second issue concerns claims that rises in youth suicide in the last decade may result from changing data classification practices rather than a real growth in the actual incidence of suicide. This contention is based on recent reductions in the reported numbers of accidental and undetermined causes of deaths. While the

number of deaths from motor vehicle accidents have markedly declined, the data continue to show high numbers of motor vehicle accidents involving young people. This has led some researchers to suggest that the decline in numbers of motor vehicle accident deaths is due to a reduction in the severity of injuries received in accidents rather than to an increasing readiness of authorities to classify deaths involving motor vehicles as suicides. The issue is a contentious one and needs more investigation. The category of 'undetermined cause' shows much smaller reductions in overall numbers and by itself would not offer a convincing explanation of the dramatic increase in rates of suicide among young people that occurred in the 1980s (Cantor and Dunne 1990).

How do suicide rates among young people in Australia compare with those in other countries?

World Health Organisation statistics for selected countries

The youth suicide rate in Australia is high in relation to some other western industrialised countries with whom we would normally compare ourselves. Tables 7 and 8 compare the changes in suicide rates for young Australians in the period from 1981 to 1993 with changes in rates of suicide for a selected group of countries seen as comparable, and which have consistently provided the data to the World Health Organisation (WHO). Table 9 gives the most recent reported youth suicide death rates for all the countries which are included in the WHO's Statistics Annual for 1994.

Table 7 shows that the Australian male youth suicide rate for 1993 was fifth highest compared to the most recent available figures for a selected group of industrialised countries. The most recent male youth suicide rate for most of these countries appears to be stabilising or dropping compared to the rates in the 1980s. However, figures for later in the decade would be required to confirm whether or not this is a trend. The exceptions were New Zealand, Norway and Italy where the latest available male youth suicide rates showed a slight increase.

Table 7 Changing rates (per 100,000 of population) for death by suicide, males 15 to 24 years-old, selected industrial countries, 1981 to 1993

Country	1981-1982	1984-1985	1987-1988	1991-1993
New Zealand	17.5	19.6	35.7	39.9
Norway	20.2	21.9	26.6	28.2
Switzerland	38.2	34.1	26.3	25.0
Canada	na	25.2	26.9	24.7
Australia	**19.3**	**24.0**	**27.8**	**24.6**
United States of America	19.8	20.5	21.9	21.9
France	15.7	17.0	14.7	14.0
Denmark	17.1	17.0	16.5	13.4
Germany	21.2	19.4	15.8	13.0
United Kingdom	7.0	8.2	12.3	12.2
Japan	14.7	14.1	10.4	10.1
Netherlands	5.3	10.6	9.2	9.1
Spain	5.0	5.3	8.4	7.1
Italy	5.3	na	5.1	5.7

Note: The rates for each column refer to either of the two or three years specified, according to available data. The last column reflects the latest data available.
Source: WHO, World Health Statistics Annual, (1983, 1985, 1987, 1989 to 1994).

The WHO statistics show that, as in Australia, most western democracies record much lower rates of suicide deaths amongst young women. For this group of industrialised countries, those countries with the higher male rates of youth suicide also tend to have higher female rates. There is no clear pattern for female youth suicide emerging yet in these nations for the 1990s, with most countries experiencing a decrease compared to 1980s figures, but some, such as Canada, France and the Netherlands showing a slight increase.

Due to the variability of youth suicide rates, particular care needs to be taken in drawing conclusions from comparative rates for young women. The Australian suicide rate for young women has varied between 4.1

per 100,000 and 6.3 per 100,000 in 1993, 1994 and 1995. Movement within this range would significantly change Australia's position on Table 8.

Table 8 Changing rates (per 100,000 of population) for death by suicide, females 15 to 24 years-old, selected industrialised countries, 1981 to 1993

Country	1981-1982	1984-1985	1987-1988	1991-1993
New Zealand	3.8	5.1	8.7	6.2
Canada	na	4.0	5.0	6.0
Norway	3.3	7.6	6.5	5.2
Switzerland	10.2	7.9	7.1	4.8
Japan	6.3	6.3	6.5	4.4
France	na	4.7	4.2	4.3
Australia	**4.4**	**4.9**	**6.0**	**4.1**
United States of America	4.6	4.4	4.2	3.9
Netherlands	3.8	3.1	3.6	3.8
Germany	6.4	5.2	4.7	3.4
Spain	1.2	1.3	2.1	2.7
Denmark	5.0	8.1	8.3	2.3
United Kingdom	2.1	1.8	2.7	2.3
Italy	1.7	na	1.6	1.6

Note: The rates in each column refer to either of the two years specified, according to available data. The last column reflects the latest data available.
Source: WHO, World Health Statistics Annual, (1983, 1985, 1987, 1989 to 1994).

An examination of the trends over time suggests that the rate of youth suicide has declined significantly and consistently in some countries, such as Japan, Germany and Switzerland, for both males and females. By contrast, Australia along with some other similar countries showed an increase in youth suicide during the 1980s, with the trend for the 1990s not yet known.

Table 9 Suicide death rates (per 100,000 of population) among 15 to 24 year-olds, various countries, latest available data, 1991 to 1993

Country	Year	Males	Females
Armenia	1992	64.3	2.1
Lithuania	1993	44.9	6.7
Russian Federation	1993	41.7	7.9
New Zealand	1992	39.9	6.2
Kazakhstan	1993	38.7	12.2
Slovenia	1993	37.0	8.4
Latvia	1993	35.0	9.3
Finland	1993	33.0	3.2
Estonia	1993	29.7	10.6
Norway	1992	28.2	5.2
Switzerland	1993	25.0	4.8
Canada	1992	24.7	6.0
Australia	**1993**	**24.6**	**4.1**
Belarus	1993	24.2	5.2
United States of America	1991	21.9	3.8

Ireland	1992	21.5	2.0
Austria	1993	21.1	6.5
Hungary	1993	19.1	5.5
China (Rural)	1992	17.4	36.7
Ukraine	1992	17.2	5.3
Sweden	1991	16.9	5.0
Poland	1993	16.6	2.5
Bulgaria	1993	15.4	5.6
Czech Republic	1992	14.8	2.8
France	1992	14.0	4.3
Denmark	1993	13.4	2.3
Mauritius	1993	13.3	17.1
Germany	1992	13.0	3.3
Uzbekistan	1992	12.4	5.2
Israel	1992	11.7	2.5
Singapore	1992	10.2	6.0
Japan	1993	10.1	4.4
Hong Kong	1992	9.7	6.6
Puerto Rico	1992	9.7	1.6
Netherlands	1992	9.1	3.8
Columbia	1991	8.3	3.0
Spain	1991	7.1	2.2
Argentina	1991	6.5	2.3
Italy	1991	5.7	1.6
Mexico	1992	5.7	1.3
China (Urban)	1992	5.6	10.6
Portugal	1993	4.3	2.0
Tajikistan	1993	3.9	4.9
Albania	1992	3.4	2.4
Greece	1992	2.7	0.6

Source: WHO, World Health Statistics Annual, 1994, Australian Bureau of Statistics, 1994.

As cultural values and practices in collecting and interpreting data relating to death through self-harm differ from country to country, these international comparisons need to be treated with caution. The data serve to illustrate, however, that death by suicide is a recognised problem in many western industrialised countries. While a high rate of suicide deaths among the young has emerged during the last few decades as a growing problem in a number of countries with economies and cultures similar to Australia, a substantial decline was evident for rates in certain other industrialised countries.

Table 9 shows the most recent suicide rates for young people for all 44 countries which provided data for the 1994 edition of the WHO Statistics Annual. This table demonstrates significant variations from the pattern shown by industrialised countries in the previous two tables. For example, the ratio between male and female youth suicide deaths varies significantly in some countries, with China, Mauritius and Tajikistan experiencing more female than male suicide deaths for this age group.

The Australian male youth suicide rate for 1993 ranks 13th highest compared to the latest figures available for these countries, and the young women's rate is 25th. If the 1995 Australian figures were used for comparison, Australia would rank 11th for young men and 10th for young women.

Rates of self-harm and attempted suicide are difficult to compare internationally because of the definitional and reporting problems outlined in the earlier section on this topic. Some studies indicate that the rates of self-harm found in Australian surveys of adolescents are lower than those found in the United States and higher than some found in European studies (Patton et al publication pending, Zubrick et al 1995).

What are the causes and risk factors for suicide among young people?

Multiplicity of factors linked to youth suicide

It is apparent that suicide is now a major cause of death among young men and women in Australia today, second only to motor vehicle accidents as the single greatest cause of death. While numbers of deaths are highest in urban areas, the problem has particular significance in rural areas, where a greater proportion of young males is involved in fatal self-harm. The current high numbers of suicide deaths among young males and of suicide attempts by both young males and females are recent phenomena that Australia is experiencing in common with a number of other industrialised countries.

What is also becoming apparent is that many possible causes have been linked to suicidal behaviour. As recently as a decade ago, it was still common to seek to find explanations in the immediate circumstances of the person who died. A dispute at school or home, the ending of a teenage romance, and minor trouble with the law were frequently cited as causes in individual cases. With the growing numbers of such deaths in recent decades, more attention has been focused on suicide causation and prevention.

This work has involved examining the histories of both those who die and those who attempt to do so, and it is showing that while the immediate interpersonal context is critical as the precipitating cause, there are also underlying vulnerabilities which predispose certain individuals to resort to self-harming when confronted with personal crisis. These are now being designated 'risk factors' and recent work (eg Kosky and Goldney 1994) emphasises the need in prevention work to address both the immediate causes and the underlying risk factors.

A New Zealand study comparing young people who attempted suicide with a group who had not suggested that risk factors could be conceptualised into three categories of related issues. These categories, childhood adversity, social disadvantage and psychiatric morbidity, were shown to each independently contribute to the risk of a serious suicide attempt (Beautrais, 1996b).

Risk factors identified statistically reflect the relative risk of sub-populations. They do not in themselves predict that any particular young person within a 'high risk group' will attempt or complete suicide.

Mental health problems

A critical question in addressing youth suicide is the extent to which mental health problems and illnesses are involved in youth suicide. The difficulty of collecting data from the range of public, private and non-government health services in Australia means it is not clear how many young people who complete suicide have been diagnosed with mental illness prior to their death. Psychological autopsy studies, using available medical records, coroners' files, and interviews with family and friends have been used to estimate the extent of treated and untreated mental illness amongst young people who die from suicide.

Distinctions between mental health problems, behavioural or psychological disorders, and diagnosable levels of psychiatric illness are not always clearly drawn in the literature.

Nevertheless, a combination of overseas and Australian research seems to suggest that psychiatric illness is implicated in many completed youth suicides. Kosky and Goldney (1994) working in Adelaide reported that 'recent studies have demonstrated convincingly that at least 90 per cent of those (young people) who commit have evidence of psychiatric illnesses before their death, and that depressive illnesses in particular are implicated....' Beautrais et al (1996) in New Zealand, found that young men and women with one mental illness are more than ten times more likely to attempt suicide, and those with two diagnoses (comorbidity) are about 50 times more likely to attempt.

Depression and other affective disorders (mood disorders) in particular are identified as a risk factor. Cantor (1994) working in Queensland, found that more than half of the young people who die by suicide are clinically depressed, and Schaffer et al (1988) in the United States also found that depression is present in 50 per cent of adolescent female and 21 per cent of adolescent male suicides. Beautrais et al (1996) estimated that eliminating affective disorders could reduce the incidence of serious suicide attempts by up to 80 per cent.

While affective disorders are the mental illness most strongly associated with youth suicide, other mental illnesses have also been identified as risk factors. Tehan and Murray (1996) reported a suicide rate of up to 10 per cent in people with schizophrenia, and noted that this can be associated with disruption of employment and relationships consequent upon the illness.

Beautrais et al (1996) found that substance use disorders, antisocial personality disorders, anxiety disorders and non-affective psychoses such as schizophrenia increase the odds of medically serious suicide attempts, as do eating disorders in young women. Frederico and Davis (1996) reviewing the literature noted that the most prevalent psychiatric disorders amongst completed youth suicides appear to be affective disorders, conduct disorders, antisocial personality disorders, and substance use disorders with comorbidity frequent.

These lists of disorders demonstrate the likelihood that some young people at highest risk of self-harm will need to be assisted while subject to the provisions of the criminal justice system. An American study also found that adolescents reporting drug or alcohol abuse plus either depression or conduct problems were more likely to have made a suicide attempt than those with depression and conduct disorders but no associated drug or alcohol problem (Wagner et al, 1996). These studies indicate that the population with mental illness or psyological disorder who are at risk of suicide may be difficult to identify and engage through traditional treatment strategies.

Mental health consumer groups in Australia have commented that efforts in prevention, early identification and treatment of adolescent depression or other mental illnesses are crucial to youth suicide prevention. They also note that suicidality is complex and should not be identified as a necessary or likely outcome of mental illness, pointing out that most people with diagnosed mental illness recover and live full and useful lives with proper support and treatment. Consumer groups have supported the view expressed by Tehan and Murray, that suicide amongst young people with mental illness may often be associated with the stigma and loss of opportunity arising from being identified as psychiatrically ill.

Other studies use a broader definition of mental health or psychological problems. Silburn and Zubrick (1994) asserted that in Western Australia, 'very few (young people who commit suicide) are free of psychological symptoms'. The Western Australian Child Health Survey (Zubrick et al, 1995) indicated that 77 per cent of adolescents reporting deliberate self-harm have a mental health problem as determined from their self-assessment.

Many writers draw attention also to evidence of a high level of mental health problems among young people in general. Kosky and Goldney (1994) observed that 'surveys, without exception, have demonstrated emotional morbidity among 10 to 20 per cent of young people'. The Victorian Adolescent Health Survey (Hibbert et al, 1992) found that 4.3 per cent of year 11 boys and 6.4 per cent of year 11 girls had mild depression. The Western Australian Child Health Survey (Zubrick et al, 1995) found that one in six children under 16 years of age in Western Australia have a significant mental health problem, and that rates of mental health problems were higher for boys and increased with age.

Hunter (1993) emphasised the extent of mental health problems among young people of Aboriginal and Torres Strait Islander backgrounds and sounds a caution about viewing these problems from a purely medical model. He asserted that the contextual framework of a 'landscape of unrelenting social stress and its behavioural accompaniments' must also be considered when examining mental health problems among indigenous young people.

There is widespread concern in available reports about the limited mental health services available to assist young people 15 to 24 years of age, particularly those of Aboriginal and Torres Strait Islander backgrounds. Many writers contend that with appropriate help the mental health problems associated with suicide can be prevented or ameliorated, and that young people affected can develop resilience and confidence for coping

with life's challenges.

Unemployment and social disadvantage

The issues of unemployment and poor long-term job prospects are frequently cited in media reports on youth suicide, particularly in relation to suicides in rural areas.

Morrell et al (1993) have shown that broad movements in the general male rates for death by suicide correspond with periods of economic downturn, with high male rates occurring in 1912, 1930, 1962 to 1967 and again in 1987. Graph 7, supplied by Morrell, demonstrates that as the rate of youth unemployment has increased relative to overall unemployment rates, the male youth suicide rate has also increased relative to overall male suicide rates.

In a further study, Morrell et al (1994) investigated the impact of unemployment on young people in the late 1980s, concluding that 'unemployment was a significant cause of psychological disturbance in young people who were initially employed, not suffering physical ill-health and psychologically normal...'.

Graph 7 Male suicide deaths and unemployment rate ratios, 20 to 24 year-olds, Australia, 1966 to 1994

Source: Morell, unpublished, 1996.

A New Zealand study has found that young people between the ages of 13 and 24 who had made medically serious suicide attempts were more likely to have suffered social disadvantage than other young people. In particular they were more likely to have no formal educational qualifications, to be unemployed, to have an annual income of less than $10,000 and to have moved within the previous six months, suggesting that

homelessness is a factor. Young people who had attempted suicide were also more often found to come from disadvantaged family backgrounds, with their parents more likely to have been alcoholics, to have been imprisoned, or to have been in poor economic circumstances. (Beautrais et al 1996b).

Hassan (1995), exploring suicides in Australia across all age ranges, found that those in blue-collar occupations which are characterised by low job autonomy, greater external supervision, less on-the-job training, poorer promotional possibilities, lower wage levels and greater sensitivity to market forces tend to have higher suicide rates. Hassan related suicide rates among the young to a range of factors including greater rates of unemployment, dependency and poverty.

Hassan also found that the suicide rate for Australians born overseas is significantly higher than that of Australians born in Australia. However, he noted significant diversity in suicide rates among migrant groups depending upon factors such as the extent of language and cultural differences, downward occupational mobility, family cohesion, social isolation and religious background.

Incarceration, chronic physical illness and homelessness have also been associated in the literature with increased rates of suicide. (Kosky and Goldney 1995, Sibthorpe et al 1995).

Aboriginal and Torres Strait Islander young peoples

The Royal Commission into Aboriginal Deaths in Custody in 1991 drew public attention to the unacceptably high levels of Aboriginal deaths in detention. Some 99 deaths were investigated, 30 of which involved death through hanging, the Commission finding that those most at risk were the young, those affected by alcohol and those confined alone.

The limited evidence available suggests that youth suicide rates vary greatly between indigenous communities. Advocates for indigenous groups have also commented that generalisations about suicide and self-harm in Aboriginal communities can be destructive. Some studies have suggested that the publicity associated with the Royal Commission may have led to an increase in awareness of hanging as a means of suicide (Cantor et al 1996).

Difficulties arise in identifying the overall incidence of suicide amongst Aboriginal and Torres Strait Islander peoples because of widespread under-reporting, particularly in remote areas. The Australian Institute of Health and Welfare (1994) reported that available data suggest that suicide and homicide account for 5 per cent of Aboriginal male deaths and 3 per cent of Aboriginal female deaths compared with less than 2 per cent in the total Australian population. Based on a sample of 67 identified cases, the Institute found that the indigenous youth suicide rate was 1.4 times that of non-indigenous young people. Of these 67 suicides, 44 were by hanging.

The Report 'Suicide In Queensland 1990-92' (Queensland Health 1992) found that the rate for suicide deaths for young people 15 to 29 years of age from Aboriginal and Torres Strait Islander backgrounds was 39.4 per 100,000 compared with a rate of 20.9 for non-indigenous young people in the same age group. For males in this age group the discrepancy was even higher being double the rate of non-indigenous suicides. These rates are calculated on 24 recorded suicides.

Dobson et al (1994) noted that historically the incidence of suicide was 'probably' very low among Aboriginal communities living in traditional ways'. Writing in 1991 Thomson claimed that the incidence of suicide among Aboriginal people increased markedly in the 1980s 'accompany(ing) a decline in the traditional values, an unfortunate side effect of ... modernisation'. Reser (1991) noted that traditional Aboriginal cultures included ritual self-harm and emotionally expressive behaviours and valued particular patterns of relatedness. Interaction between these traditional values and historical factors such as marginalisation, institutionalisation, relocation and dispossession, had led to the entrenchment of particular styles of being drunk and attempting suicide as modes of communicating anger and emotional distress within some indigenous groups.

In their work on suicide among Aboriginal and Torres Strait Islander peoples, Raphael and Martinek (1994) and Radford et al (1990) both draw attention to the pervasive and complex impacts of socioeconomic problems on indigenous people. Radford et al (1990) also emphasised the high morbidity of Aboriginal

people and the isolation they experience in urban communities.

Brady (1993) reported that urban and remote Aboriginal people can experience significantly different levels and forms of stress. Cawte (1991) pointed to the need for accessible and culturally appropriate therapy services for more traditional rural groupings. Hunter (1993) noted that while urban Aboriginal people theoretically have better access to health care services, racist attitudes among service providers have been identified as a barrier to health care for Aboriginal people in general. Hunter also researched self-harming among younger Aboriginal people (under 35 years of age) and reported a high level of anxiety and depression in those who had attempted, or had indicated some preoccupation with attempting, suicide. He highlights 'the social contexts, the place of social stressors, and as well issues of identity particularly for Aboriginal males'.

There are many indications of a serious problem in suicide and other forms of self-harming behaviour among the young people of many Aboriginal and Torres Strait Islander communities. The full extent of the problem cannot be delineated until more data become available concerning the health of this population in general. However, the evidence given above suggests the need to acknowledge the importance of variations in history, culture and current circumstance among indigenous communities in considering responses to this data.

Alcohol and other drugs

Alcohol and other drugs are frequently associated with suicidal behaviour. The increased risk associated with combining drug and alcohol abuse with mental health problems has already been noted, as has the association between attempted suicide and parental alcholism.

Hayward et al (1992) found that alcohol is immediately involved in 20 to 50 per cent of suicide cases in the Australian context and suggest that this involvement can be viewed in two ways: 'Firstly, alcohol, through its disinhibiting and depressant effects, can contribute to the decision to suicide, which is often impulsive ... Secondly, alcohol can be used for so-called 'Dutch courage', to facilitate the fatal action ... or to anaesthetise against the discomfort of a slower form of death'. Similarly, the ingesting of drugs has also been implicated as a precipitating factor in suicidal actions.

The question of whether alcohol and drug dependencies should be regarded as underlying causes of self-harm is a matter for conjecture. Available data show that many people with long-term drug and alcohol problems attempt suicide, the estimates of the extent of the association depending partially on the source of the information used; eg suicide deaths among substance abusers based on coroners' findings (Silburn et al 1990) were estimatedas 31 per cent of total suicide deaths among 15 to 24 year-olds, while an estimate of over 50 per cent was made by researchers (Rich et al 1988) using 'psychological autopsies' (ie structured interviewing of associates of the suicide victim). A related issue is whether more deaths due to drug overdoses should be classified as suicides.

This analytical difficulty lies not only in ascertaining the incidence of substance abuse among those who attempt suicide but also in determining the likely significance of the problem in the decision-making processes that led to the suicide attempt. There appear to be two schools of thought, one claiming that problems directly associated with alcohol and drug abuse or dependencies can cause individuals to suicide, others contending that the use of such substances is symptomatic of underlying psychosocial problems which need to be addressed successfully in order to reduce both the substance abuse and the propensity to self-harm. Present patterns of usage for both alcohol and medications in Australian society are frequently alluded to in the literature (eg Pols et al 1994), with several researchers suggesting that there is a need to focus on social and cultural values in Australian society in suicide and other preventive work.

Particular prescribed and over the counter medications have also been associated with deaths from suicide.

Adverse childhood experiences

Martin (1996) showed a clear association between a history of sexual abuse and increased likelihood of attempted suicide and repeated attempts, with 75 percent of young people who self-report sexual abuse in a

schools based survey also self-reporting suicidal behaviour.

Beautrais (1996b) found that young people in New Zealand who made medically serious suicide attempts had elevated odds of: parental separation; poor parental relationships; parental violent behaviour, alcholism or imprisonment; being 'in care' during childhood; and sexual and physical abuse.

Kosky and Goldney (1994) found that, while depression or other mental health problems are almost always evident in suicidal youth, other factors also need to be considered, the major one being interpersonal and family discord. They contend that 'Unless both these areas are addressed simultaneously, it is unlikely that inroads can be made into the youth suicide rates in Australia'.

Precipitating factors

Incidents in the immediate social context are often closely associated with a suicide attempt or death but further examination of the individual's personal history will frequently reveal pre-existing and long-term psychosocial problems stemming from familial conflict and personal abuse. Hassan (1995) points to the importance for young people of the breakdown of a romantic attachment as a precipitating factor for suicide.

Interaction of cultural and individual factors

A further theme appearing in much of the literature is the influence of the societal and cultural framework on coping skills and resilience at the individual level. Reporting on the youth suicide problem in New Zealand, Taylor (1990) offers this perspective: 'The reality is that many young people do have trouble in making the psychosocial adjustment of adolescence. Understandably, the very high rates of youth unemployment, the fear of joblessness, and the prevailing materialistic, worldly values that equate individual success with wealth, good looks and power make many young people feel quite worthless and cast out by society. Fatalistic attitudes are found more and more among young people ... Broken relationships, unhappy family backgrounds, confusion of cultural identity, or other influences can destabilise many young people, then their anxieties can become overwhelming'.

Alvin (1993), speaking of youth suicide in France, made a similar observation. Several studies of self-harming among Aboriginal and Torres Strait Islander peoples (eg Hunter 1993) come to essentially the same conclusion; ie that society is placing increasingly heavy demands on the resilience and coping skills of young people, and in such environments, underlying vulnerabilities can become powerful determinants of the outcomes in individual cases.

Frederico and Davis (1996) following a literature review outline a series of protective factors for individual young people which can act to mitigate levels of risk. Factors listed include: beliefs such as being able to see value and meaning in life, self-esteem and belief in survival and coping, fear of suicide and moral objections to suicide; skills such as stress management, communication and problem solving skills; and supports such as family responsibilities, community support networks, and a sense of belonging.

Discussion

In the 1990s the emerging view is that suicide attempts and deaths cannot be explained in terms of a single or immediate 'cause'. Reviewing the Australian experience, Davis (1992) says 'Each of the factors identified as background and/or precipitating factors may be of relevance in an individual case of suicide. The impact of such factors will vary according to the social context of the individual as well as the personality, intelligence and constitution of the individual'.

Preventive work needs to target the totality of the individual's problems through a focus on both the immediate stressor(s) and the longer-term vulnerabilities. The dominant profile of most, but not all, young people who attempt suicide is one of multiple disadvantage including such factors as adverse childhood experiences, social disadvantage, and mental illness, leading to self-harming behaviour, drug and alcohol problems, and conflict with social norms (Beautrais et al 1996b).

Study of the suicidal process indicates that youth suicide can be the end point for a few young people of a

process which in many other young people is diverted to more positive outcomes. Runeson's (1996) work in Scandinavia indicates that young people who suicide, in contrast to those who self-harm, have generally made previous attempts and signalled their intent to die, creating opportunities for others to intervene.

Evidence has been presented to support the view that considerable overlap exists between completed suicide, attempted suicide, other self-harming behaviours and unintentional injuries. However, young males who use particular methods are more likely to die through suicide, self-harm and accidental injury than other groups who attempt. The designation of self-harm or death as suicidal is often a question of judgement with regard to intent, which has been shown to be difficult with regards to both attempts and completed suicides. Drug overdoses and traffic accidents involving single vehicles are examples of events in which classification between accident and suicide may be difficult.

Much research effort is currently being expended in trying to develop statistical instruments and other indicators of young people at risk of suicide. The work is fraught with difficulties, if only because of the diversity of factors involved and the fact that fantasising about self-destruction is common behaviour, particularly among young people struggling to become independent, coping members of society. The challenging question in such research is to find ways to delineate those for whom suicidal fantasies have the potential to become more serious preoccupations.

Modern suicide research has led to the identification of some of the complexities and interrelationships between causes and risk factors for youth suicide. In doing so, it has shown clearly that finding solutions for the problem will not be easy.

Can suicide among young people be prevented?

Approaches to reducing youth suicide

A literature search shows that many different approaches have been, or are being, used at the community and government levels in endeavours to reduce current high rates of youth suicide in Australia and certain other countries. The efficacy of particular approaches, however, is difficult to ascertain as rigorous evaluation is often lacking. This is not surprising given both the relatively recent recognition of youth suicide as a public health problem, and the methodological challenges inherent in measuring the performance of strategies whose collective aim is to prevent the occurrence of an event of low prevalence and one for which there are few, if any, reliable indicators.

Public health framework for prevention programmes

The United Nation's Prevention of Suicide: Guidelines for the Formulation and Implementation of National Strategies (1996) recommends the adoption of national strategies for suicide prevention supported by a range of different activities and recognising the contributions of all members of the community. In particular, the United Nations recommends that suicide prevention programmes be supported by Government policy, be based around a culturally appropriate conceptual framework, have general aims and goals, have measurable objectives, be monitored and evaluated, and identify the agencies to implement the objectives.

Possible goals of suicide prevention programmes suggested by the United Nations included prevention of premature death due to suicide, reducing the incidence and prevalence of suicidal behaviour, reducing the morbidity caused by suicidal behaviour, and enhancing resilience, resourcefulness, respect and interconnectedness for individuals, families, and communities.

Many authors including Cantor (1995) have recommended that the approach to youth suicide prevention be structured around the public health continuum of primary, secondary and tertiary prevention.

Primary interventions, including social and cultural interventions, are targeted at populations rather than individuals and aim to enhance resilience and to prevent suicidal ideation or mental health problems from arising. Cantor argues that to be cost-effective, interventions aimed at whole populations need to be very safe, and to influence a range of mental or social health problems.

Secondary interventions aim to identify and intervene with individuals early in the process of becoming suicidal or during suicidal crisis to prevent further development of risk or morbidity for that individual and to build individual resources. Some secondary interventions which address the risk factors for youth suicide, such as mental health or substance use problems, may not be principally identified as suicide prevention programmes.

Silverman and Felner (in Silverman and Maris, 1995) suggested some intermediate steps between universal primary and individualised secondary prevention, based around the concept of targeting high risk populations or screening for individuals with predisposing factors for suicide, and aiming specific and intensive prevention strategies at these groups. A number of existing suicide prevention programmes are aimed at improving screening and early identification of those at high risk of developing suicidal behaviours.

Tertiary interventions are aimed at those already affected by suicidality themselves or in friends and family, and aim to reduce the distress, morbidity and mortality associated with the suicidal process.

Use of a public health framework to coordinate a range of approaches is supported by a number of other authors. Silburn and Zubrick (1994) recounted the success of a public health framework in reducing adolescent suicide in Western Australia. Silverman and Felner (in Silverman and Maris, 1995) supported a similar model, noting the need to focus on injury prevention strategies relevant to the whole population,

such as restriction of access to methods of suicide. Hassan (1995) similarly argued for a range of suicide prevention strategies, emphasising the importance of social as well as health and welfare interventions, and the need to influence media reporting of suicides. The Centers for Disease Control (1992) recommended a range of strategies addressing the issues of individual predisposition, social milieu and proximal risk factors, and including case finding and treatment, media guidance and taboo enhancement, crisis intervention, peer support, and restricting access to methods of suicide.

A range of suicide prevention programmes can be developed within the primary, secondary and tertiary prevention categories proposed by Cantor. In addition some widely used strategies, such as suicide prevention programmes in schools or community organisations, may include elements falling into all three categories of primary prevention, early intervention and follow up support. The United Nations (1996) suggests that to be maximally effective these approaches need to be supported at government level by an overall policy framework, be based around a multi-sectoral approach, and be informed by data collection, evaluation, and research activities which will inform and improve programme design in the longer-term.

Possible elements of a public health approach

This document sets out some of the possible options for activities to be conducted by government, the community or particular organisations within an overall approach to suicide prevention. Where there is significant debate regarding the value of a particular activity, the nature of the debate is indicated in the discussion. The particular elements to be discussed are:

- primary prevention strategies;
- media strategies;
- restricting access to means of suicide;
- school based suicide prevention programmes;
- targeted interventions for high risk groups and individuals;
- professional training;
- a mental health approach; and
- an intersectoral approach.

Primary prevention

Primary prevention responses aimed at the whole community or at population groups are recommended by the United Nations (1996) and by a number of other writers (eg Taylor 1990). The Western Australian Child Health Survey (Zubrick et al, 1995) suggested a range of primary prevention activities aimed at strengthening family functioning, developing mentally healthy school environments and developing healthy local communities which enhance caring and connectedness and counter harmful social and cultural influences. Parenting, stress management, and life skills programmes, or any other programmes which strengthen personal resilience and build protective factors are primary prevention strategies against youth suicide although they are often not principally identified as such. The causal factors identified earlier suggest that programmes aiming to reduce mental health problems, youth unemployment, child abuse, drug and alcohol problems, discrimination against indigenous people, and male access to firearms would also influence youth suicide rates. Recent research suggests that properly coordinated and targeted primary prevention strategies are efficacious and cost-effective in reducing mental health problems in young people (Raphael 1993, Shaffer 1989, NHMRC 1996).

Media Strategies

The risk that media depictions of suicide can encourage suicide contagion has been discussed earlier in this document. There are also positive strategies that the media can adopt. Most authors, such as the Centers for Disease Control (1992) and the United Nations (1996) support the development of responsible codes of conduct for media reporting and programming as a strategy for reducing youth suicide, and recommend that the media avoid focussing on the hopelessness of a young person's situation, glamorising suicide, or mentioning in detail the method of suicide. Media reports can also include comments or quotes from people who have been suicidal and have successfully sought help and treatment, and comments or quotes by health, welfare or youth workers about the availability of help and that depression is treatable. Studies into the role of telephone crisis lines suggest that community announcements and referrals to the support available

through these agencies can play an important role in ameliorating suicide risk following a celebrity suicide (Jobeset al, 1996).

The Australian Youth Policy Action Coalition has pointed to the important role that the media can play in promoting positive self-images for young people, and influencing youth culture. Bob Gordon (Herman, 1996) has pointed to the necessity for the media to participate in advocating for suicide prevention programmes or activities. The media can also support primary prevention programmes and spread information about available supports (Smith and Martin 1996).

Reducing access to means of suicide

Cantor et al (1996) in a background report to the Commonwealth Department of Health and Family Services explores the issues and options for reducing access to the methods of suicide discussed earlier in this document. Cantor argued that changing either the availability or the cultural acceptability of a particular means may impact on the overall suicide rate. Others have argued that the young person considering suicide will simply use another method but Cantor cited historical examples showing that means substitution is not inevitable. Runeson et al (1996) found that some young people will go on to repeat an attempt using other means, but that for many young people suicidality is a temporary response to an impossible situation and not a permanent state.

The evidence suggests that restricting access to means of suicide has the capacity to reduce the morbidity and mortality associated with suicide, as well as the distress of parents and friends. Injury deaths including accidents and homicides have been shown to be the major cause of death for young people, and strategies to reduce access to methods of suicide such as guns, medications or car exhaust emissions can also impact on these other causes of mortality and morbidity for young people.

School based suicide prevention programmes

School based programmes have included a range of strategies including primary prevention programmes aimed at developing protective factors against suicide, secondary intervention programmes aimed at identifying and referring those at high risk, and tertiary intervention and support programmes following suicide and suicide attempts. An additional approach which has received support in some areas of the United States is suicide awareness training for secondary students.

In Australia, primary prevention activities in schools have been supported within the literature, including the development of life skills, communication skills and help seeking skills in the school curriculum, and development of a more supportive school community.

The concept of a health promoting school incorporating curriculum, environment and school community linkages has been supported, and is consistent with a United States recommendation for an ecological approach to school environments. These programmes recognise the linkages found between mental health, school attainment, competency, and self-harm (Zubrick et al 1995, 1997, NHMRC 1996, 1996b, Kalafat 1995).

Secondary prevention programmes in schools have also been widely supported in Australia, and extensively implemented in Western Australia with encouraging results. Silburn and Zubrick (1994) supported the provision of training for school personnel and for parents in early identification and referral of young people at risk. Martin (1995) reported the preliminary results of a screening programme aimed at identifying young people at risk and referring them for assistance. Kalafat and Elias (1995) in the United States supported the development of school systems which encourage help seeking by students and concerned peers by creating effective and available responses, and Eggert et al (1995) found that screening and referral to a case manager or a schools based personal growth programme was associated with a decrease in suicidal behaviours in high risk young people.

Tertiary interventions, such as the development of school crisis plans, support for young people returning to school following hospitalisation, and postvention work following suicide have also been widely supported in the literature in Australia, and implemented in many schools (Silburn and Zubrick 1994, Martin 1992).

There seems to be little controversy within the suicide prevention field regarding the value of the above listed interventions as part of an overall prevention programme in schools, with preliminary evaluation work on all three types of programmes indicating some potential gains.

There is greater controversy regarding the provision of suicide awareness or general suicide education to secondary students. One Australian report (King and Kay 1994) found that suicide awareness training had been effective in changing attitudes and improving knowledge about suicide, and in helping students to select appropriate resource persons they could use for themselves and for their friends. It also showed evidence of ongoing usage of information provided including increased referrals to local services by peers. King (in Hazell and King 1995) pointed to the importance of peers as confidants for young people contemplating suicide and their need to be prepared for this role.

Kalafat and Elias (1995) in the United States, noted that one third of male and one half of female adolescents report having had personal contact with someone who has attempted suicide, and argued that the education of peers is necessary to the creation of a more accepting and supportive school environment for those at risk.

A recent Australian study indicates that many Australian young people have also been exposed to suicide, and raises concerns regarding their attitudes to help seeking (Keys Young 1996,1997). However, the study also found some ambivalence among young people regarding suicide awareness programmes, with the potential for such programmes to lead to negativity and hopelessness amongst students, and to further incorporation of suicidal behaviour into the cultural self-image of teenagers.

Hazell (in Hazell and King 1995) summarised problems raised in the literature regarding school suicide awareness programmes. Major concerns surrounded the accuracy of the information contained in some school suicide awareness programmes, the potential for encouraging imitation, and the potential to raise guilt if adolescents were unable to assist their peer. Hazell also noted that the widespread introduction of suicide awareness programs in schools in some parts of the United States had coincided with an increase in youth suicide rates in those states compared to others. Hazell also reported significant research questioning the safety of such programmes for those most vulnerable to suicide.

The research suggests that general suicide awareness programmes directed to students in schools do lead to increased knowledge about suicide and mental health referral sources (Centers for Disease Control, 1992). However, given the concerns about safety, caution is required if they are to be implemented, and it may need to be considered whether the goals of school suicide awareness programmes could be better achieved through other methods.

The majority of young people who complete suicide are no longer attending school and are in the 20 to 24 year age group, meaning that schools programmes of any sort are only one of a range of programmes required.

Targeted interventions for high risk groups and individuals

Targeted interventions for high risk groups and individuals include a range of specialised services for individuals in certain high risk groups such as those with substance abuse, mental health problems, a history of self-harming and/or attempted suicide.

Prominent among these are crisis telephone services which offer 24-hour-a-day anonymous contact with counselling personnel. Service reports show that these services are extensively used by young people in times of personal crisis. Shaffer et al. (1988) report difficulty in the United States in assessing the effectiveness of telephone counselling services and drew attention to the potential 'fragility' of systems which depend on operators with variable skills and training. That report also noted a lack of standardisation in procedures used. However, it does stress the potential these services offer for assisting those with mental health problems and for males who are often reluctant as a population subgroup to seek professional help at times of personal difficulty.

A recent study in the aftermath of the Kurt Cobain suicide showed increased utilisation of crisis centres concurrent with a decrease in the suicide rate, suggesting the capacity for crisis centres to reduce suicide contagion (Jobes et al, 1996). Another United States study showed a correlation between the numbers of

suicide prevention centres in any state and a decrease in overall suicide rates. (Lester 1993) Recently, in Australia, there has been a trend towards greater standardisation of training, supervision and service delivery procedures in crisis telephone services in relation to suicide.

A further approach targets young people who have already attempted suicide, as studies show that the estimated risk for a repeated attempt is as high as 33 per cent (Silburn and Zubrick 1994). Hamilton et al (1994) at the WA Institute for Child Health undertook a two-year study of the effectiveness of providing extended counselling and support services for patients hospitalised following attempted suicide. The efficacy of the interventions were gauged by comparing the number of subsequent suicide deaths among this group with those recorded for patients from another hospital who were not given similar assistance. The study demonstrates the value of continued community care for patients who deliberately self-harm and supports the appointment of increased social work resources in emergency departments of larger hospitals.

Hunter (1993) sees effective interventions for Aboriginal and Torres Strait Islander young people as vital and involving attention to a longitudinal pattern of needs entailing many social and health problems. He stresses the need for long-term planning, with clearly defined goals and effective intersectoral collaboration. Further, he articulates the need for Aboriginal involvement at all levels in order that interventions will be socially and culturally informed and represent meaningful applications of empowerment for indigenous people.

Training of caregivers and professional workers

Caregivers and people in professional roles in health, education and emergency services have expressed their need for more training to enhance their skills and competence for working with people at risk of suicide. Foundational skills include the ability to recognise when a young person may be at risk of suicide, to make an intervention which clarifies the nature and seriousness of that risk and then facilitate a referral to further help. For some workers, more extensive professional development training is required to provide ongoing counselling support beyond the initial crisis.

The report 'Gatekeeper training and youth suicide prevention' (Frederico and Davis, 1996) recommended four major strategies for improving suicide prevention training in Australia. These were: the inclusion of relevant materials into national industry training agendas for relevant workers; the development of best practice principles and resource guides to enable workers to assess which training available is most suitable for them; the development of university curriculum for relevant professionals; and the evaluation of any training offered for its impact on the delivery of services to young people. The Centres for Disease Control (1992) supported enhanced training for professionals, while noting the limited research evidence of changes in practice or outcome.

Some research is now being conducted in Australia to evaluate the nature and extent of changes in attitudes, knowledge and skills as a result of participation in a caregiver training programme on suicide.

Mental health approach

An emerging view (see Shaffer et al. 1988, Kosky and Goldney 1994, Davis 1992), stresses the significance of approaches which target young people who exhibit specific vulnerabilities. This includes both the development of non-medical approaches to young people's mental health, and providing appropriate clinical services for those young people diagnosed with psychiatric illness.

In a study supported by the Commonwealth Department of Health and Family Services (Keys Young 1996, 1997) young people surveyed raised significant concerns regarding the responses of youth, health and welfare services when they attempted suicide, overdosed, or sought help with mental health problems. Earlier discussion raising the possibility of multiple disadvantage amongst young people most at risk of suicide or self-harm also indicates the importance of providing mental health support to suicidal young people in ways which are accessible, appropriate and attractive to those who may be in conflict with the criminal justice system, have issues with substance use or sexuality, or be otherwise alienated from helping services.

Kosky and Goldney (1994) proposed that a more general approach to youth mental health problems might

be appropriate in view of the growing evidence of mental health problems among young people in general and in particular among those who attempt suicide. They noted the current paucity of data concerning effective suicide interventions and suggested that the most effective approach to suicide prevention might be the provision of specialised mental health services to address the underlying vulnerabilities that affect the development of many young people and which, in individual cases, may predispose some young people to resort to self-harming at times of personal crisis. Tehan and Murray (1996) noted the importance of adolescent depression being recognised and taken seriously in prevention of further suicide attempts, and noted that parents, as opposed to the young people interviewed by Keys Young, sometimes identified under-medication as an issue.

Other writers (eg Taylor 1990) conclude that more attention needs to be given to the whole area of youth mental health, including initiatives for successful mental health promotion and treatment within a broadly based model of holistic health care.

Intersectoral approach

A number of writers point to the importance of an intersectoral approach to youth suicide prevention. Taylor (1990) and Kosky and Goldney (1994) supported complementary initiatives which are intersectoral and actively involve family members and communities as well as a broad range of health and welfare professionals. The Keys Young (1996) research, and the Western Australian Child Health Survey (Zubrick et al 1995) pointed to the importance of young people being able to access appropriate assistance through the services they use, such as their school, youth worker, or general practitioner. Sayer et al (1996) and Tehan and Murray (1996) similarly pointed to the importance of accident and emergency staff and general practitioners in linking young people to appropriate mental health assistance.

It may also be important to broaden the web of intersectoral activity beyond the health and welfare occupations. Earlier strategies mentioned in this document have suggested roles for professionals such media personnel, police and justice workers, educators, town planners, legislators, and policy makers involved with labour market issues, in broader primary prevention strategies, in secondary interventions, and in limiting access to means of suicide.

An intersectoral approach is particularly emphasised in writings concerning suicidal behaviour among Aboriginal and Torres Strait Islander young people. Raphael and Martinek (1994) for example pointed to higher levels of adversity and economic disadvantage as well as 'constellations of loss, cultural deprivation and related factors'. They called for 'in-depth research carried out by Aboriginal people to determine effective strategies for prevention'.

Several writers (eg Ruzicka and Choi 1993, Raphael and Martinek 1994) are of the view that a reduction in suicides can only come from a fuller recognition of the need to promote a better quality of life for young people. They also emphasise the value of an intersectoral approach which could combine 'the social domains, the health and health care domains with the personal worlds of vulnerable persons to prevent the deaths and suffering caused by suicide'.

Summary

The phenomenon of attempted and completed suicides among young people is a serious public health concern in Australia today. While the data show that the deaths are largely occurring among young males, the limited data available suggest little difference between males and females in the numbers of suicide attempts and that both young males and young females are now attempting suicide at rates much greater than those for young people of earlier generations. Evidence also suggests the existence of a spectrum of suicidal and self-harming behaviors associated with increased risk of suicide attempt or completed suicide.

Certain groups of young people are over represented amongst those who complete suicide. These include those who already have made one or more attempt, those with a mental illness, those from Aboriginal or Torres Strait Islander backgrounds and non-indigenous males from rural or remote areas.

Further, there is a multitude of factors which are implicated singly or in concert with one another, in suicidal behaviours among young people. These risk factors include social disadvantage such as unemployment and homelessness, and adverse childhood experiences such as physical and sexual abuse and dysfunctional family histories.

Given the complexity of the problem it is hardly surprising that many strategies have been suggested for responding to youth suicide, including both broad initiatives focusing on communities in general, along with other, more focused, initiatives targeting specific needs groups and/or recognised risk factors. Evidence given in this document suggests the need for approaches to be developed which are appropriate and attractive to those groups of young people most at risk.

This Monograph has illustrated the diversity of approaches possible in selecting and implementing effective interventions and has suggested the use of a public health framework for developing and evaluating effective services for people at high risk while also addressing broader community issues.

Since suicidal behaviours and mental health problems are relatively common, while death from suicide is relatively rare, research and evaluation difficulties need to be taken into account in programme design. Programmes need to be based on existing research and evaluation findings while taking into account their limitations, and to seek to add to the existing knowledge by seeking feedback from young people, their caregivers and the community, and by incorporating more formal evaluation into programme design whenever possible.

At the government level the issue of youth suicide has many affinities with the issues which arose in relation to the National Mental Health Strategy. These include demonstrated needs for improved community awareness, data and research, health promotion and prevention, early and accessible interventions, workforce education and training, linkages between sectors and between service providers and community and family networks, together with particular provisions for specific needs groups.

The Commonwealth has responded to the issue of youth suicide through the commitment of $31 million to an integrated range of programmes over the period to June 1999. A description of the approaches that have been adopted by the Commonwealth is given in the document 'Youth Suicide in Australia: the national youth suicide prevention strategy.'

Youth suicide is a serious problem in Australia today. It involves not only a tragic loss of young lives but also great sadness and soul searching among both the immediate family of the deceased and in the community at large. Suicidal behaviours among young people need attention from all levels of government. Careful planning, consultation and ongoing research are needed to reduce the high incidence of suicide among young people in Australia in the 1990s.