SELECT COMMITTEE ON SUBSTANCE ABUSE IN THE COMMUNITY

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Life
Living Is For Everyone
A framework for prevention of suicide and self-harm in Australia

Package:
Building Partnerships
Leamings about suicide
Areas for Action

Life

Living is for everyone

A framework
for prevention of
suicide and self-harm
in Australia

Learnings about suicide

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This publication is part of *Living Is For Everyone (LIFE): a framework for prevention of suicide and self-harm in Australia*. *The* LIFE Framework consists of three companion documents:

- ***LIFE.. Areas for action*** presents major goals, principles, and strategic performance indicators for the Framework, as well as outcomes, strategies and performance indicators across six Action Areas.

- ***LIFE. Leamings about suicide*** sets the context for suicide prevention activity, summarising the rates of suicide and self harming across age groups and over time, and the current knowledge of risk and protective factors for suicide as they operate across different age and population groups.

- ***LIFE.. Building partnerships*** describes the many programs, organisations and governments with an interest in or a potential overlap with suicide prevention activities.

Additional copies can be obtained by contacting the Mental Health and Special Programs Branch, Department of Health and Aged Care, telephone 1800 066 247, facsimile 1800 634 400. The documents are also available, and can be ordered on the Mental Health and Special Programs Branch Website **http://www.mentalhealth.gov.au**

Request for feedback

The LIFE Framework is a working document that will be updated regularly in response to emerging priorities, to the outcomes of research and other projects, to identified best practice and to user feedback.

Feedback on the LIFE Framework is welcomed from individuals and organisations with an interest in the prevention of suicide. In particular, comments are sought on the usefulness of the documents and how they may be strengthened.

Feedback forms are included at the back of each of the three LIFE documents and can also be accessed on the Mental Health and Special Programs Branch Website **http://www.mentalhealth.gov.au.**

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Towards an understanding of suicide

Introduction

Action to prevent the tragedy of suicide and to alleviate the individual and social conditions that place certain people at increased risk must be grounded in the best possible understanding of these risk factors and those that protect against suicide. It is also essential that we have a clear understanding of the scope and magnitude of the problem of suicide, not only the numbers affected by suicide, but also a clear demographic profile of who these people are.

This document outlines what we know about suicide, drawing on the best of Australian research and commentary as well as overseas literature. The first section briefly discusses society's obligation to act to prevent suicide and self-harm. This is followed by a statistical profile of rates and patterns of suicide and self-harming behaviour over time, followed by an outline of the problem of suicide for different age and population groups with a consideration of the quality of the available evidence. Risk and protective factors for suicide are then discussed in a social and emotional context.

The argument for action

Suicide is complex, confronting and tragic for individuals, families, friends and communities. It results most often from an accumulation of risk factors, and it intersects with problems and concerns across society: mental health, drugs and alcohol, family issues, employment, cultural identity, law enforcement and criminal justice, education and poverty.

In some cultures suicide has been seen as an honourable, albeit extreme, response to certain life situations. For instance, pagan Roman and pre-Western feudal Japan did not adhere to the Judeo-Christian belief system which has particularly denounced suicide. In the Western classical tradition a number of well known philosophers and political leaders (for example: Socrates, Cicero, Brutus and Seneca) did suicide when faced with untenable circumstances. Most commonly, however, the choice of suicide was made because the alternative involved public humiliation and execution. Predominantly, however, in both the pagan classical, Christian and Islamic traditions suicide has been viewed as contrary to nature, community and an affront to God. As such, suicide has been renounced by law and religion.

In the 18th century, the English jurist Blackstone established loss of reason (insanity) as a mitigating circumstance for suicide before the law, and the philosopher Hume developed the argument that moral issues such as suicide are dependent on human judgments of value and on the specific circumstances, character and purposes of those who die by suicide

In the early to mid 20th century (which saw the carnage of two world wars, racial and religious genocide) a number of authors such as Bataille and existentialists, including Sartre and Camus, pondered the apparent absurdity of life and reassessed the value of human existence. in the extremes of social turmoil, bloodshed and the

absence of a moral framework for actions, the taboo of suicide on religious grounds seemed to become irrelevant. Rather, it could be seen as justifiable on the grounds of free choice. The 20th century existentialists Camus and Sartre argued for freely choosing life to create meaning and authorship in the face of apparent absurdity (Oyebode 1996).

More recent proponents of the right to suicide have based their arguments on the primacy of the right of the individual to rational, responsible and autonomous action (Fairbairn 1995), a perspective that is often strongly advocated in the media (Herman 1996) and supported by many young people (Baume et al 1998).

There is, nevertheless, a convincing argument for the provision of programs and interventions that aim to prevent suicide; to offer positive alternatives for individuals, high risk groups and across the population; and to extend our understanding of suicide and of how best to undertake such action.

Most people who die by suicide are affected by mental disorders, often combined with an adverse family background (Patton et al 1997) and/or social disadvantage (Fairbairn 1995). Most are ambivalent; some suicides are impulsive and many who attempt suicide are motivated not so much by a desire for death, but to escape present pain (Taylor et al 1999). There is no simple dichotomy between rational choice and insanity. Individual behaviours and their outcomes are determined in a complex interaction between the person, their mental state, their support network, their culture and their society (Cantor et a] 1998, Silburn and Zubrick 1994).

The complexity of the interaction between risk factors, and the capacity for health care and social interaction to influence individuals' choices, suggests that government and society have a responsibility to act. Kuitert (1 995) argues this obligation on the basis of the moral principle of 'beneficence', which implies that whenever possible there is an obligation to prevent harm to others, providing that the means used are effective and are in themselves ethical. For the individual service provider, Kuitert suggests, an ethical response involves taking seriously the person considering suicide and paying attention to the emotional and social experience that underlies the suicidal behaviour. For the community, an ethical response involves providing normal human companionship and support. For government, it means remedying as far as possible the social circumstances (such as child abuse and social disadvantage) associated with suicide risk,

The attitudes of young people reinforce this obligation. Australian young people who have attempted suicide have sought responsive, practical and supportive action from the health and welfare system. They have attributed their self-harming behaviour to complex life circumstances and sometimes to mental health problems. While keen to resolve their own problems, they have also sought protection from their own self-harming behaviours (Keys Young 1997). Society has a responsibility to address these needs as effectively as possible.

How good is the evidence base?

Effective action to prevent suicide is grounded in a clear understanding of how it comes about; yet achieving this understanding presents one of the most challenging and troubling areas for research and, in particular, research that is strongly evidence based. Scientific studies can identify factors that contribute to suicide, and reasons for suicide can be inferred, but no scientific study can explain why a particular person acts to end his or her life. The literature on suicide identifies and discusses many risk factors for suicide and suicidal behaviour, but almost all of the assumptions made about causality are based on 'association' of factors.

Beautrais (1 998) describes the methodological problems in the research on which conclusions about causality are based. While writing about suicidal behaviours specifically in young people, her comments can apply to all age groups: 'The extent of these problems', she concludes, 'is such that it is possible to take research into almost any area of youth suicide and argue that, because of design problems, no clear conclusions can be drawn' (p.7). Her comments are echoed by De Leo and colleagues (1 999), writing about suicide in older people: 'None of the risk factors for manifestations of suicidality proposed by suicidological literature have yet found adequate empirical confirmation, although some do seem to play a very important role' (p.27).

Experts often disagree about the contribution of cultural, community and sociopolitical issues as risk factors for suicidal behaviours. The evidence needs to be considerably strengthened to gain a better understanding of this complexity.

Nevertheless, the research has identified factors that are associated with suicide and suicidal behaviours, and the consistency and convergence of the findings from many studies provide a basis for informed judgments about suicide risk (Beautrais 1998). The evidence strongly suggests that suicidal behaviour is not simply a response to single stress but related to complex and compounding vulnerabilities. Most experts would agree that no one risk factor is likely to be the cause. Our best understanding suggests that suicide is the tragic outcome of a build-up of stresses and risk factors in a person with relatively few protective factors and whose resilience, perhaps, is poor.

Extending the evidence base for understanding and responding to suicide remains a high priority (Goldney **1998).** Initiatives undertaken within the LIFE Framework provide opportunities to contribute in this area through action research and other modes of inquiry, to increase the understanding not only of the risk and protective factors for suicide but also of effective responses to prevent suicide.

Data sources

Data on suicide and suicidal behaviour are available from several sources and it is important to exercise some caution when using this information in any authoritative way. All statistics are problematic to some extent, with inconsistencies in the way terms are defined and data collected and coded. These difficulties, in particular the degree of subjectivity that may be involved in identifying a death as suicide, should be borne in mind in considering the data and in drawing conclusions. The data sources are identified and their strength and weaknesses discussed in this section.

Deaths

National deaths data for suicide for Australia are compiled and published by the Australian Bureau of Statistics annually, based on information from each State and Territory. In most States and Territories these data are based on coroners' findings.
Several factors pose problems in regard to the available data as outlined below:

- the timeliness of the data is poor, with annual updates released about 1 0 months after the end of a reference year;

- suicides are recorded by ABS by year of registration rather than year of death. Registration of a death depends on the completion of a coroner's inquiry, so that while most deaths are registered during the year in which they occur, some are not registered until later, mainly early in the following year;

- processes and precedents for deciding whether a death is due to suicide seem to vary between States, Territories and local areas. (Cantor et a[1998); and

- the data sets contain limited case information.

Official suicide statistics probably under-represent suicides, particularly with overdose deaths. However, total numbers of undetermined deaths, single-vehicle accidents and accidental overdoses are lower than the numbers of suicides. Several research projects have analysed or added to the available data on suicides (Commonwealth Department of Health and Family Services 1997b).

Work currently well advanced will enable the National Coroners Information System (NCIS), an initiative of the Australian Coroners' Society, to provide more-accurate, timely and comprehensive data on suicides (Steenkamp 2000). When fully developed, the NCIS will be a valuable hazard identification system and research tool. It currently consists of a core data set and enhancements to data collection on suicide may be undertaken at a later date. The NCIS will provide more timely, comprehensive and accurate data in the following ways:

- coroners' offices are notified of all 'non-natural' deaths, including suicides. The NCIS will be aware of these notifications within, at most, a month and will be able to provide this information. Information on case numbers after case completion will be available sooner than ABS data;

- coroners' records are the most comprehensive source of routine information on suicide deaths, but their utility has been limited by the limitations of a (mostly) paper-based system. The **NCIS** is a computerised system that allows for inclusion of more case information; and

- the **NCIS** will provide data based on case numbers by date of death.

The addition of the suicide module will further extend the comprehensiveness of the data. The module is expected to include items on issues such as psychiatric history, suicide attempts and some other risk factors for suicide.

The core data set for the NCIS will consist of:

- case demographics (name, date of birth, usual residential address, sex, occupation);

- incident information (time, location, activity at time of death, circumstances, mechanism of death);

- cause of death (medical); and

- standard text reports (eg, police notification, pathology/post mortem, toxicology, coroner's finding).

The development of the NCIS is supported nationally. Stakeholders include the Commonwealth Department of Health and Aged Care, the National Occupational Health and Safety Commission, the Federal Office of Road Safety, the Australian Bureau of Statistics, the Research Centre for Injury Studies at Flinders University, justice agencies, police departments, consumer affairs agencies and occupational health and safety agencies.

Further information can be found on the 1nternet at **http://wwwvifp.monash.eud.au.**

Suicidal behaviours

Hospitals record the numbers of people presenting to accident and emergency departments, and the numbers discharged from in-patient care after non-fatal deliberate self-harm. However, there are inconsistencies between hospitals in the way data are collected and coded. The figures are compiled and analysed by the Australian Institute of Health and Welfare (Cantor et al 1998).

Several population surveys have asked about self-harm, suicide attempts or suicidal thinking (for example, Patton et al 1997), and surveys of service providers or their clients have investigated how often suicidal people are seen in their practice (for example, McElvey et al 1998). Problems in these

studies include recall bias and the difficulty in defining particular types of suicidal behaviour, making it difficult to compare study outcomes (Beautrais 1998, Cantor et al 1998).

Mental health and mental disorders

The first national population mental health survey of adult Australians was published in 1998 (Australian Bureau of Statistics 1998), and a survey of the mental health status of children and young people has been completed. Other sources of data on children and young people's mental health include the recent Western Australian (Zubrick et al 1995) and Victorian (Patton et al 1997) surveys of young populations and the national consultations with young people on mental health issues (Keys Young 1997).

Other relevant data

Data relevant to suicide risk and outcomes are collected systematically by police, health services, the census, and child and family services. These include data on drug overdoses, accidents, domestic violence, child abuse, family breakdown and minor crimes.

Population data on suicide risk are collected in a standardised way by other agencies (for example, population age, location, country of birth, school leaving age, unemployment rates, certain figures around poverty and social disadvantage, percentage of population living in rural areas, ratings for particular media programs). Some information has been collected on a one-off basis or through research studies (for example, numbers of prison inmates, percentage of population from particular migrant groups, sexuality and gender identity data).

Some of these data are accurate and reliable, but some are influenced by reporting bias (for example, the community's perception of the likely effect of the reporting), or only small-scale one-off data collections are available, and differing terms may make it difficult to compare studies or regions.

Suicide and self-harm: an overview

This section uses statistics to set out the extent of suicide in Australia. While statistics are useful for measuring the incidence and patterns of suicide and self-harm over time and for demonstrating quantitative differences between groups, such data cannot attempt to measure the profound impact and distress that suicide represents: the distress that leads a person to attempt suicide, the devastating impact on family and friends, and the effect on entire communities.

Trends in suicide rates

The overall suicide rate in Australia has been relatively stable since the 1920s, (Australian Bureau of Statistics, 2000) lying mainly in the range of 10-14 per 1 00,000 (see Figure 1). Fluctuations have coincided with the two world wars and the 1930s economic depression. The increase in female suicides during the 1960s is thought to be associated with changes in the availability of barbiturates and other new drugs, and the rate fell again when prescribing patterns were changed by regulation and practitioner education (Oliver and Hetzel 1972).

However, while the overall rate has remained relatively stable and is comparatively favourable in an international context, a different picture emerges when trends for specific age groups are examined. These have varied across age groups and while rates have decreased for older people over recent decades, rates have risen dramatically among younger people. Rates for males aged 1 5 to 24 have more than tripled over the past 40 years (see Figure 2). Since 1973, this rise in rates has been paralleled by a similar rise in rates for men aged 25-35, with the burden in potential years of life lost greatest for this latter age group in 1997. Comparable rates for females, however, have shown no significant changes (De Leo et al 1999), and suicide rates among older adult populations have generally declined across Australia over a similar period, though the decline has been erratic and patterns have varied between States (De Leo et al 1999).

Age, gender and suicide

In 1998, 2,683 suicide deaths were registered, representing an overall suicide rate of 14.3 per 100,000 population (Australian Bureau of Statistics) (see Table 1). This figure represents a slight reduction on the 1997 figures (2,723 deaths, 14.7 per 100,000 population).

Age group	Deaths	Males rate/100 000	deaths	females Rate/100 000
0-9	0	0.0	0	0.0
10-14	6	0.9	1	0.2
15-19	116	17.2	35	5.5
20-24	248	35.8	47	7.0
25-29	314	42.5	56	7.6
30-34	277	39.3	53	7.5
35-39	273	36.6	77	10.3
40-44	206	29.5	58	8.2
45-49	167	25.5	33	5.1
50-54	147	24.8	39	6.8
55-59	88	19.7	30	7.0
60-64	75	20.3	23	6.2
65-69	87	26.1	20	5.7
70-74	49	17.2	21	6.4
75-79	42	20.9	17	6.3
80-84	33	30.0	15	8.3
85+	22	31.8	7	4.4
Total count	**2150**	**23.0**	**533**	**5.7**

Data source.. Australian Bureau o Statistics

Men of all age groups in Australia are far more likely than women to die from suicide (see Figure 3), with the 1998 rates at 23.0 per 100,000 men (2,150 deaths) compared with 5.7 per 1 00,000 women (533 deaths). Rates for men have been consistently higher than for women throughout the time Australian data have been collected.

Figure 3. Suicide deaths: rates per l00,000 by age group and sex, Australia 1998 (year of registration)

Data source: Australian Bureau of Statistics

In 1998:

- less than 6 per cent of suicides were by people aged under 20;
- nearly 24 per cent were by people age 20 to 29;
- more than 25 per cent were by people aged 30 to 39;
- about 17 per cent were by people aged 40 to 49 '
- about 27 per cent were by people aged over 50; and
- about 12 per cent were by people aged over 65.

International comparisons

Australian rates are consistent with suicide rates in other similar English speaking nations (Cantor et al 1998). When compared with 22 other western countries over the years 1990-94:

- rates for Australian males ranked fourth for the age group 1 5-24, eighth for the age group 25-34, and between thirteenth and fifteenth for all age groups above 34 years; and

- rates for Australian females ranked eighth for the age group 15-24, and between fourteenth and seventeenth for all age groups above 24 years.

Thus in the international context, suicide rates for Australian young people are relatively high, but not for older people. The suicide rate for the Australian population is higher than rates in the European nations of origin of our major immigrant groups, but similar to rates in other western nations also recently colonised by Europeans (Canada, the United States, New Zealand) (Cantor et al 1 999).

Suicidal behaviours and thinking

Data for suicidal behaviours show distinctively different patterns from those for suicide. Most notably, women are more likely to be admitted to hospital after deliberate self-harm than men, and young people have substantially higher rates of deliberate self-harm than adults (see Figure 4). For additional information about methods of self-harm refer to Table 3.

Though self-report measures in this area may not be reliable (Cantor et al 1998), surveys in which individuals are asked about their suicidal behaviours suggest that rates of suicidal behaviours among young people increase until the mid-teens (Patton et al 1997, Zubrick et al 1995, 1997). Between 5 and 1 0 per cent of young people from early teens to mid twenties report making a suicide attempt in any one year (Martin 1995, Zubrick et al 1995, 1997). Each of the studies quoted looked at a slightly different age range, but the percentage remained similar.

The rates appear to be much lower in older age groups. A recent study looking at all age groups found that 0.3 per cent of males and 0.4 per cent of females reported making a suicide attempt over the previous 12 months. Even at this rate, however, this means that 43,854 Australians make a suicide attempt each year.
(J Pirkis, personal communication)

International studies suggest that suicide attempts are much more likely to result in death among older adults than in the young, with a ratio of attempted suicide to suicide ranging from 4:1 among older men (over 70) to around 200:1 in young teenage girls (De Leo et al 1999).

Suicidal thinking is more difficult to measure and relies on individuals' reports of their thoughts. One Australian study has found that, depending on the definition and the population studied, between 3 and 20 per cent of young adults reported some degree of suicidal thinking (Goldney et al 1989), although another puts the figure as high as 49 per cent (Martin et al 1997b). Beautrais (1998) identified a range of studies of suicidal thinking, in Australia and overseas, suggesting overall that suicidal thinking occurs in up to 25

per cent of young people, although it is not possible to compare the Australian studies because of differences in measurement tools and samples studied.

Across all age groups, one study has found that 2.7 per cent of males and 4 per cent of females reported thinking of suicide over the previous 12 months, which translates into 391,431 Australians each year thinking about taking their own life (J Pirkis, personal communication).

International studies suggest that the proportion of older people who report recent feelings of dissatisfaction with life, thoughts of death, or self-destructive or frankly suicidal thoughts, ranges between 2.3 per cent and 17 per cent (De Leo et al 1999).

Methods of suicide

In 1998, the most common cause of suicide death was hanging (see Table 2). Among men, the next most common causes were motor vehicle exhaust and guns, followed by drug overdose.

Rates of suicide using guns have decreased in recent years, while rates of suicide by hanging and exhaust gas have increased (Cantor et al 1996). Firearms suicides are more common in rural areas, and it appears that the higher rate of suicide there is partly related to this (Cantor et al 1998). The vast majority of Aboriginal and Torres Strait]slander suicides are by hanging or firearms (Harrison et al 1994, Harrison and Moller 1994, Hunter 1997).

Drug overdose was the second most common cause of suicide death among women, but it has for many years been their most common method, although it still causes more deaths among men than women. Drug overdose also remains the most common method of attempted suicide for both men and women (see Table 3). The peak in women's suicide rates in Australia during the 1960s coincided with changes in prescribing habits and availability of new drugs, while increased controls over prescribing practices since the 1970s were accompanied by a decrease in women's suicide rates.

Table 2. Suicide deaths by method: number and rates, Australia i998 (year of registration)

	Males		Females		Persons	
	Deaths	Rate/100,000	Deaths	Rate/100,000	Deaths	Rate/100,000
Hanging	1035	11.1	182	1.9	1217	6.5
motor vehicle exhaust	477	5.1	81	0.9	558	3.0
Firearm	**218**	2.3	17	0.2	235	1.3
Poison, solids/liquids	178	1.9	158	1.7	336	1.8
Cutting/piercing	38	0.4	10	0.1	48	0.3
Drowning	30	0.3	20	0.2	50	0.3
Jumping	71	0.8	26	0.3	97	0.5
Other/unspecific	103	1.1	39	0.4	142	0.7
Total	**2150**	**23.0**	**533**	**5.7**	**2683**	**14.3**

Data source: Australian Bureau of Statistics

Table **3. Hospitalisations due to self-harm by method: number and rates, Australia 1995-96**

	Males		Females		Persons	
	Hospital discharges	Rate/100,000	Hospital discharges	Rate/100,000	Hospital discharges	Rate/100,000
Poison, solids/liquids	5,491	60.97	9,522	107.41	15,013	83.90
Cutting/piercing	764	8.60	585	6.60	1,349	7.57
Motor vehicle exhaust	189	2.07	48	0.53	237	1.30
Hanging	111	1.26	18	0.21	129	0.74
Firearm	53	0.59	7	0.08	60	0.34
Total	**6,608**		**10,180**		**16,788**	

Data source: Australian Bureau of Statistics

Patterns of suicide and suicide risk

Children and young **people**

Suicide is rare in children (people younger than 15 years). Kosky (1 982), using ABS data, identified 72 suicides in children under 15 in Australia over the 10 years from 1969 to 1978, giving an overall rate of 0.3 per 1 00,000 for the under 15 years population. A later study (Kosky 1987) demonstrated little change in the rates for 10-14 year olds from 1965 to 1985. In both studies, male suicides outnumbered female by about 3 to 1. The 1998 rates continue the same pattern.

In the later teenage years (from age 15) suicide rates begin a steep climb to peak in young adulthood. For a number of years this peak has occurred in the 20-24 year age group, but in 1998 it moved to the 25-29 age group, where the rate for males was 42.5 per 100,000 in 1998.

Suicidal behaviours in young people (usually defined as aged 15-24) has been the subject of intense national focus since the mid 1980s, when it became clear that rates for young males had trebled over the previous 30 years. Since then, rates for young men have shown further, though smaller, increases and public, professional and government concern about the deaths in young people remains high.

Theories abound to explain these high rates although, as noted earlier, many of the assumptions about causality are not proven but based only on associations.
Nevertheless, a thorough review of the literature leads Beautrais (1 998) to conclude that the risk of suicidal behaviour is increased among young people who:

- have previously attempted suicide;
- have a mood disorder or are involved in harmful use of drugs (including alcohol);
- have problems involving violence;
- are from a socially disadvantaged background characterised by low socioeconomic status, limited educational achievement, low income, poverty and associated factors;
- experience parental loss through separation and divorce;
- have experienced physical or sexual abuse;
- have experienced impaired parent-child relationships;
- have parents with a mental disorder such as a mood disorder, harmful drug use (including alcohol) or problems involving violence;
- experience loss through suicide in their family; or
- experience a greater number of life stresses.

On the other hand, good evidence exists for the importance of caring relationships between children and adults, and a strong feeling of 'connectedness' inside and outside the family in protecting young people against suicidal behaviours (Borowsky et al 1999, Resnick et al 1997).

There is strong evidence that mental health problems are major contributors to suicidal behaviours in young people (as they are in people of all ages), with harmful drug use and violent or disruptive behaviours making a smaller but consistent contribution (Beautrais 1998). Late adolescence to early adulthood is the period in which the first episode of a mental illness often occurs (McGorry 1998, Rey 1992).

The teenage years are a period of transition in which childhood ideas are discarded and adult attitudes are developed, and most adolescents continue for several years to rely on their parents for expert advice, including advice on personal problems, job and course choices, long-term relationships and financial matters. Life stresses relating to this transition may play a role in contributing to suicide and self-harm in young people and it has been suggested that puberty, developing sexuality, intimacy and gender role determination may become significant sources of anxiety, although again there is only limited evidence for this. While most young people move through this period successfully and in good health (Frederico et al 1999, Wilks and Orth 1991), it may leave some vulnerable, particularly when social inequities may be present which can produce conflict between expectations and reality. In this context, access to training and education, employment and health services are all issues for young people.

Other factors that have been suggested as contributing to suicide or suicidal behaviours in young people include anxieties about gender and same-sex attraction, unemployment, homelessness, delinquency and incarceration in custody, prison or the juvenile justice system. It has yet to be shown, however, that such factors have a direct impact in relation to suicide. The evidence on the effect of inheritance and a range of personality traits also remains weak.

None of these factors, however, explains the increase in suicide rates in young people over recent decades. No studies explain this satisfactorily, although some point to possible social and cultural reasons, and it has been speculated that there is a range of contributing factors.

Eckersley (1 996), for example, points to changes in social values and pessimism about society as contributing to rates of suicide among young people. He describes the dilemma experienced by young people who want a humane and egalitarian society but are faced with economic rationalism and media presentations that highlight competitiveness and self interest. Similarly, surveys of public perceptions have shown significant levels of concern and pessimism about values such as greed and consumerism, a breakdown in community and social life, and pressure on families, parents and marriages (Eckersley 1999a). The Western Australian Child Health Survey (looking at children up to 16 years) found that young people are optimistic about their future, but this optimism declines with age within this young age group (Zubrick et al 1995).

Cultural explanations are supported by the consistently different patterns of suicide and suicide rates that are seen across different countries and different cultures, suggesting that suicide rates across all age groups are determined by persisting cultural differences including traditions, customs, religions and social attitudes (De Leo et al 1999).

A particular set of problems in multicultural Australia relates to young people from culturally and linguistically diverse backgrounds. Parental expectations and values (perhaps drawn from the country of origin) may differ from the young person's and from those in the wider community. This may lead to conflict with parents (National Health and Medical Research Council 1997), although if people from the culture in question have lower suicide rates, the values may be protective (Poole and Goodnow 1990).

For young people in rural areas, there is often a profound mismatch between idealised images of life in the bush, glamorised media images of popular youth culture and the realities of their own lives. This has the potential to create feelings of frustration or resentment, which may be associated with mental health problems or risk-taking and self-harming behaviours. Frequently the local area offers limited opportunities in education, training and employment, or recreation and leisure, with similarly limited health services. Some young people may have to leave their home to get an education or a job, or to exercise their lifestyle choices (Cox 1996, Patience 1992).

From young adulthood to older age

Despite the proportional decrease in suicide rates for older people over recent decades, 80 per cent of people who die by suicide in Australia are over 25, nearly 30 per cent over 50 and 13 per cent over 65. The number of suicides among older age groups can be expected to rise, given that they constitute the fastest-growing segment of the population (De Leo et al 1999).

The high suicide risk for young men continues to 30 and beyond with rates for men remaining high throughout the third decade of life, then failing slowly to reach a relatively stable level through the middle years of life before rising again in older age.

Rates for women move within a narrower range and in 1998 were highest in the 3539 year age group, at 10.3 per 1 00,000. Rates for young women are considerably lower, but they also peak over these years (see Table 1). This high risk coincides not only with many of the important life transitions that affect younger people, such as finishing education, starting employment, leaving the family home, building life partnerships and young families, but also with other risks. Young adult males are at increased risk of imprisonment, harmful drug use and behavioural or personality disorders associated with disruptive or violent behaviours (Commonwealth Department of Health and Aged Care 1999), while young adult women are at increased risk of mental health problems, including depression and anxiety disorders.

Over the past few decades, suicide rates among the middle-aged and elderly have decreased markedly. There are many possible reasons for this, including changes in medical prescribing habits, better access to health and income support, more ready acceptance of mental disorders (particularly depression) among older age groups combined with better psychiatric services, and migration from countries with lower suicide rates (Goldney and Harrison 1998). Protective factors shown to be important for older people include economic security, concern for children, and religion (De Leo et al 1999).

Despite the overall decrease in suicide among the elderly, suicide rates reach a second peak in older men over 85 years, with rates at 31.8 per 1 00,000. It may be at this time, that older men, for the first time in their lives, find themselves physically and economically dependent on others and affected by mental and physical ill health.

Mental disorders are much more strongly linked to suicide in older people than in young people and overseas experience suggests that older people at risk of suicide may have difficulty in recognising their need or seeking out appropriate help (Scott 1996) and are under-represented in general mental health services (Mcintosh et al 1994). A Canadian study found psychological autopsy reports to show a gross undertreatment of mental illnesses in older people who die by suicide, with the strong suggestion that early identification and treatment of mental disorder could prevent many suicides in old age (Duckworth and McBride 1996). In Australia, however, a recent survey looking at the most common mental disorders (anxiety, affective and substance use disorders) found that all are less common among the elderly than in younger people (Andrews et al 1999). Other treatable factors identified as contributing to suicide in old age include pain, grief, loneliness, alcoholism and carer stress. Few suicides in older people occur in the context of terminal illness or can be regarded as 'rational' (Draper 1995).

While suicidal behaviour and thinking are strong risk factors for suicide at all ages, older people who die by suicide are less likely than younger people to have a history of suicidal behaviour and thinking. The act of suicide in older people is less impulsive, methods tend to be violent, and there is less opportunity for rescue. Suicidal thinking, when it does occur, indicates a high risk for suicide. These facts suggest that preventive strategies different from the ones used to target young people are needed (De Leo et al 1999).

Rural communities

Over the past few decades suicide rates for males in rural and remote areas have increased. Suicide rates for young men (aged 15-24) are consistently higher in small rural town's than in metropolitan and regional areas (Dudley et al 1998) (see Table 4), although the numbers involved are relatively few because of the small populations involved. There are no reliable national statistics comparing suicidal behaviours in rural and urban Australia. A study of suicide over the 10 years from 1985 to 1994, found that the higher rate of suicide among males in rural areas was accounted for largely by suicide among immigrants to Australia, and indicated that there was no significant difference between rural and metropolitan suicide rates for Australian born males (Morrell et al 1999b).

It has been suggested that there is considerable variability in suicide rates between different rural communities and regions, but the inadequacy of sample sizes and unreliability of the data make such comparisons highly problematic (Cantor et al 1998).

Table 4. **Suicide deaths in rural and urban areas (per l00,00 of population), Australia 1990-92**

Location Type		All Males		Males 15-24	Females 15-24	
	Number	Rate/100,000	Number	Rate/100,00000	Number	Rate 100,000
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

Data source: Commonwealth Department of Health and Family Services, 1997b

Aboriginal and Torres Strait Islander peoples

It has only been in recent years that suicide has emerged as an issue among Aboriginal communities (Tatz 1999) and while the collection of information on suicide by Aboriginal and Torres Strait Islander peoples has been unreliable (Harrison and Moller 1994), it appears that suicide rates have increased alarmingly over the past two or three decades. This is supported by a South Australian study which found that suicide rates among Aboriginal peoples increased tenfold between 1981 and 1988 (Clayer and Czechowicz 1991). Concerns about suicide among Aboriginal and Torres Strait Islanders are further confirmed by more recent estimates which suggest that the overall suicide rate in Aboriginal and Torres Strait Islander

communities may be 40 per cent higher than in the general population (Harrison and Moller 1994).

Most Aboriginal people who die by suicide are under 29 (Baume et al 1998) and, in particular, suicide rates for young Aboriginal males have increased significantly over the past 30 years (Cantor et al 1998). The high suicide rates for males are consistent with their higher rates of injury and death from unnatural causes (Hunter 1997). Deaths and self-harming incidents in Aboriginal and Torres Strait Islander communities include a small number of children under 1 5 years (Tatz 1999). While many communities are experiencing high and increasing rates of suicide (Cantor et al 1998), suicide deaths are not distributed evenly across communities with rates much higher in some areas and age groups. Risk also tends to be concentrated in particular places at particular times (Tatz 1999).

The historical, social and economic issues associated with an Aboriginal or Torres Strait Islander background have been implicated as major factors in suicide in these communities. The disruption of communities over many generations combined, ironically, with the removal since the 1970s of the harshly restrictive imposed order in many settlements, has often left a structural vacuum. The resultant frustration, alienation and anger, hopelessness, grief and lack of purpose has been linked to heavy drinking, widespread use of drugs and the alarming upsurge in suicide rates (Tatz 1999). Interestingly, traditional culture offers some protection from suicide in some communities. A study of single parents in Adelaide, for example, suggests that Aboriginal communities have the capacity to protect their members from suicide attempts when compared with other single parents (Swan and Raphael 1995).

Other contributing factors may include the ongoing experience of dispossession, separation of children from their parents (Cox 1996), social disadvantage, modernisation and lack of services (Reser 1991, Swan and Raphael 1995). Mental health services may not be culturally sensitive to Aboriginal and Torres Strait Islander concepts of holistic physical, emotional, spiritual and mental health and the importance of connections to family, community and land (Iker 1996). The overrepresentation of Aboriginal people in prisons at a young age identified by the Royal Commission into Aboriginal Deaths in Custody (1 99 1) does not appear to have improved (Human Rights and Equal Opportunity Commission 1996). Hunter (1991, 1992, 1993, 1997) noted a fatal combination of separation from family and spiritual beliefs, alcohol use, mental health problems, and imprisonment.

Immigrants

Australia has a rich cultural and linguistic diversity. Preliminary figures released by the Australian Bureau of Statistics show that approximately 14% of the population were born in countries where English is not the first language. This proportion has been relatively constant over the past decade, and is reflected in suicide rates: data for 1992 indicate that about 25 per cent of ail. suicides in Australia were by people born in another country, with 60 per cent of these suicides by people from a country with a first language other than English (Kyrios 1994).

Overall suicide rates for immigrants are similar to those among the Australian-born population, but there is variation among immigrant groups (Hassan 1995), with gender and with age. The available data suggest the following:

- the social and cultural experiences in the country of birth are an important influence on subsequent suicide rates in the host country (Burvill 1998). Rates are generally higher among people born in countries that have higher suicide rates (notably, English-speaking countries, countries from western, northern and eastern Europe, and the former USSR and Baltic states), and lower in immigrant groups from countries with lower suicide rates (including southern Europe, the Middle East and Asia) (Cantor et al 1998, McDonald and Steel 1997, Morrell et al 1999b);

- within this pattern, suicide rates among immigrant groups in Australia are generally higher than in the country of birth (Hassan 1995);

- overall, males born in a country other than Australia have a lower suicide rate than Australian-born males, while the rate is higher for females born overseas than for Australian-born females (Morrell et al 1999b); and

- suicide rates for immigrants, males and females, aged over 65 are significantly higher than for the overall population, including both immigrants from countries with lower and higher suicide rates. This increase with age is thought to reflect sociocultural factors that immigrants bring with them (McDonald and Steel 1997).

Some New South Wales data suggest that immigrants from Vietnam have higher rates of suicide than the general population (Kyrios 1994).

There are no data on suicide in the Australian-born children of people born in another country. Nor are data available on suicidal behaviours in immigrant communities, although immigrants from countries speaking a language other than English are generally at lower risk of being hospitalised after a suicide attempt, and their rate of hospitalisation for mental disorders is also markedly lower than that of the overall community (McDonald and Steel 1997). A project in New South Wales. however, found (based only on a small sample) that a disproportionately high number of young women born in a non-English speaking country, particularly young Moslem and Hindu women, presented at the emergency department with self-harming behaviour (Fry 1999).

What influences suicide - risk and protective factors

Though there is debate over the relative importance of different risk and protective factors in suicidal behaviour, some review studies suggest a range of factors that are associated with increased suicide risk for an individual. The most important of these is a history of mental illness (notably depression), particularly where more than one mental illness is present, or a mental illness is combined with harmful drug use (Beautrais 1998, De Leo et al 1999).

One of the strongest indicators of likely suicide is a previous suicide attempt or deliberate self-harm (Beautrais 1998, Brent et al 1993a, 1993b, Goldney 1998, Martin 1995). A Western Australian study showed that for young people who had attempted suicide, the risk of dying by suicide was around 30 times that of the general population in the same age bracket (Silburn et al 1990). A family history of suicide or suicidal behaviour is associated with significant personal grief as well as increased suicide risk (Beautrais 1998). Other important factors that contribute (often in a cumulative fashion) to suicide risk include:

socioeconomic disadvantage, including low educational achievement and unemployment (Beautrais 1998, De Leo et al 1999, Taylor et al 1998);

- legal problems, imprisonment or behaviour that brings the person into conflict with the law or society (Royal Commission into Aboriginal Deaths in Custody 1991);
- child abuse (Beautrais 1998);
- ease of access to guns (Resnick et al 1997) or other means; and
- losses, including loss of employment or physical health, marital breakdown, death and other interpersonal loss (De Leo et al 1999).

These factors are discussed further in the sections that follow.

While there has been comparatively little research into the factors that may protect individuals against suicide (Beautrais 1998, De Leo et al 1999), a range of protective factors can be extrapolated from the evidence on risk. It is important also to consider evidence from the study of other potentially relevant areas and associations between protective factors and proxy measures for suicide (for example, suicidal behaviours and depression).

Protective factors for individuals appear to include:

- connectedness to family and school (Resnick et al 1997);
- responsibility for children, family communication patterns (Smith et al 1988);
- the presence of a significant other,,an adult for a young person, a spouse or partner (Hassan 1995, Smith et al 1988)

personal resilience and problem-solving skills (Frederico et al 1999);

- good physical and mental health (De Leo et al 1999);
- economic security in older age (De Leo et al 1999);
- strong spiritual or religious faith (De Leo et al 1999), or a sense of meaning and
- purpose to life;
- community and social integration **(De** Leo et al **1999);**
- early identification and appropriate treatment of psychiatric illness (Goldney **1998);**
- belief that suicide is wrong; and
- lack of access to guns in the house (Resnick et al 1997).
- Studies in Australia and overseas have identified the following broad social and economic factors that appear to influence the rates of suicide across the community:

- economic depression, sudden economic change, unemployment and the percentage of the population that is economically dependent (Hassan 1995, Hassan and Tan 1989, Morrell et al 1993);
- the availability of particularly lethal methods of suicide (Cantor et al **1996);**
- the cultural background and religion of the country (Cantor et al **1998,** Hassan **1995);**
- modernisation and changes to family organisation (Hassan 1995);
- war (Hassan 1995);
- media presentations of suicide (Hassan 1995, Martin 1998);
- social and moral beliefs about suicide (Eckersley 1997);
- rates of marital breakdown (Eckersley 1997); and
- changes to the culture of society that influence the rates of psychosocial disorders in young people (Eckersley 1997).

Stress and crisis

Stress and crisis are part of everyday life. In reducing suicide, the challenge is to understand why for some people, in certain situations, these experiences can give rise to suicidal thoughts or behaviour.

Evidence suggests that the key lies not only in acknowledging events that may precipitate a suicidal episode, but more importantly in understanding the relationship between current stress and the

underlying vulnerabilities and resourcefulness that a person brings to a crisis. In particular, it is important to be able to recognise when someone may be on a path to suicidal behaviour and to intervene in ways that give the person the resources to address their pain and difficulties in other ways.

Events or factors that may precipitate suicide or suicidal behaviour include relationship breakdown, a trauma in the family, financial problems, military service, marital separation or divorce, legal problems, imprisonment, interpersonal problems and disputes, sexual difficulties, moving house, school or job, or personal illness. While a build-up of stressful circumstances or events, or a particularly acute crisis, may increase risk, the likelihood of suicidal behaviour is significantly raised if vulnerabilities such as a history of abuse, a mental disorder or a previous suicide attempt are present (Beautrais 1998).

Mental health factors

Most people with a mental health problem or disorder go on to live a normal life. Even those with more disabling conditions can often adapt to the situation. (Mental disorders, or, mental illness, includes anxiety, depression, the psychoses and a range of other disorders affecting cognition, mood, functioning or personality). Regarding suicide, there is compelling evidence that having a mental disorder places a person, whatever their age, at considerably higher risk of suicide than the general population, and examples are provided below.

'Psychological autopsy' studies after suicide have found that a significant proportion of people who die by suicide had a mental disorder or mental illness. Estimates range from 28 per cent (Eisele et al 1987) to 98 per cent (Goldney 1991).

A study of suicide in Victoria found that more than 33 per cent of young people who died and 40 per cent of those who attempted suicide had a previous psychiatric diagnosis (Tiller et al 1997).

A study of suicides recorded over three years among New South Wales mental health clients found that the risk of suicide was 1 0 times greater than that of the general population (Chipps et al 1995).

A study of suicide in Queensland found that at least 30 per cent of those who died had had psychiatric treatment (Baume et al 1998).

About 90 per cent of older people who attempt suicide or die by suicide in Australia have a mental disorder, usually depression, which has often been inadequately treated (Draper 1995).

it has been estimated that one in 10 people with schizophrenia die from suicide (Tehan and Murray 1996).

Psychiatric care provides a marker of this risk, and being an in-patient of or recently discharged from a mental health service is associated with increased risk for suicide (Beautrais 1998).

International studies suggest that up to 41 per cent of people who die by suicide have been discharged from psychiatric in-patient care within the preceding 12 months, and up to 9 per cent are in-

patients at the time of their death or die on the day of discharge from hospital (Pirkis and Burgess 1998).

Around the time of discharge from in-patient care, mental health clients in New South Wales had a suicide risk about 100 times greater than that of the general population (Chipps et al 1995).

In Queensland in the period 1990-1995, almost twice as many suicides occurred in hospital in-patients compared with those in custody (Baume et al 1998).

Depression is the most common mental illness associated with suicide (Beautrais 1998). Suicide rates are higher for people who are not receiving treatment, or whose current treatment is not effective (Chipps et al 1995), while there is strong evidence that appropriate pharmacological treatment can dramatically reduce the risk of suicide in people with depression and schizophrenia, and for adults with bipolar disorder (Goldney 1998).

People with a mental disorder and their families believe that discrimination is also a contributing factor to suicide risk, as it contributes to isolation, loneliness, unemployment and homelessness (Tehan and Murray 1996). Discrimination, fear of the mental health system and a belief that suicide and depression are normal parts of adolescence may cause delays in seeking help (Keys Young 1997) and therefore reduce the prospects for effective early intervention (National Health and Medical Research Council 1997).

Some evidence also suggests age-related patterns in the relationship of particular mental illnesses to suicide. For example, Conwell and colleagues (1 996) found that harmful drug use and psychotic disorders were more prominently associated with suicides among young and middle-aged adults, reflecting the general prevalence of these disorders in the population. However, the relationship between depression and suicide becomes increasingly strong with age, although depression becomes less common among older people. A similar pattern has been observed for suicidal behaviours (De Leo et a] 1999).

Thus, while any person with a mental disorder is potentially more vulnerable to suicide, there is a particular need for vigilance with depressed older men . It has been suggested that most older people who die by suicide have a mood disorder that normally could be expected to respond well to treatment; and further, that the elimination of mood disorders could reduce the incidence of serious suicide attempts by up to 80 per cent, particularly among older adults (60 and over), where the associations between mood disorder and suicide attempts is stronger (Beautrais et al 1996, quoted in De Leo et al 1999).

Case control studies show that suicide and suicidal behaviours are clearly linked with harmful drug use (including alcohol) and behaviours that bring young people into conflict with society (Beautrais 1998). Alcohol abuse has been identified as a major risk factor for suicidal behaviour in adults, particularly when it occurs in association with other risk factors (De Leo et al 1999).

Suicidal **thinking**

As discussed earlier, suicidal thinking is common, particularly among young people, but in the absence of other risk factors for suicide, the evidence suggests that it is not a risk factor. For a small group, however, suicidal thinking is persistent, uncontrollable, and associated with significant mental health problems, and in this group of people it may indicate a serious risk of suicide or suicide attempt (Buddeberg et al 1996).

An Australian study of more than 1,000 people (median age 19.6) suggested that suicidal thinking in young people is related to ionger-term issues of depression and self-esteem (Goldney et al 1989). Furthermore, a recent study found the population attributable risk of depression for suicidal thinking to be almost 50 per cent, that is, depression accounts for almost 50 per cent of suicidal thinking across the community (Goldney et al 2000).

A recent population survey of over 1 0,000 people of all ages found that about 12 per cent of those who reported having thought about suicide during the past 12 months had gone on to attempt it (J Pirkis, personal communication).

Problems with the taw

People in custody experience loss of outside relationships and physical and emotional breakdown (Eyland et al 1997, Hayes 1995).

A recent overview of suicide in Australian prisons since 1980 has shown that suicide accounted for almost half of ail deaths. Hanging was the method in more than 90 per cent of cases. For most years since 1980, the rate of suicide in Australian prisons has been more than 10 times that of the general population (Daiton 1999).

The suicide rate in custodial settings in Queensland during 1990-1995 was more than 12 times the male suicide rate for the State, with two thirds of these deaths Caucasians and one third (12 deaths) Aboriginal or Torres Strait Islander suicides (Baume et al 1998). Deaths in police custody have dropped since the Royal Commission into Aboriginal Deaths in Custody, but deaths in correctional and juvenile justice services have continued to rise (Human Rights and Equal Opportunity Commission 1996).

It has been estimated that the rate of attempted suicide in correctional centres is up to 20 times greater than in the general population (Finlay-Jones 1993).

A study in Victoria found high rates of contact with the police among young males who died by suicide, with only slightly lower rates among those attempting suicide. For example, among those who died by suicide, 43 per cent of males aged 15-19, and 27 per cent of males aged 20-24 had had contact with the police for theft, burglary and property crimes (Tiller et al 1997). Studies have shown a link between experiences of bullying, harassment or abuse and suicidal behaviour in jails (Dear et al 1998).

Sexual orientation

Several recent studies have shown that gay, lesbian and bisexual people, particularly adolescents and young adults, are at substantially increased risk of suicidal behaviours and suicidal thinking. For gay, lesbian and bisexual young people (up to age 27), studies in the United States have found risk of suicide attempt ranging from 3.5 to nearly 14 times that experienced by heterosexual young people (Bagley and Tremblay 1997, Garofalo et al 1998, Remafedi et al 1998). A United States study of middle-aged male twins where one twin self-identified as homosexual and the other as heterosexual, found that the homosexual twins were 6.5 times more likely to have attempted suicide (Herrell et al 1999).

A recent Australian study found that gay-identified young men (aged 18-24) were 3.7 times more likely to attempt suicide. Most of these attempts occurred after the person had self-identified as gay, but before having a same-sex experience and before publicly identifying themselves as gay (Nichoias and Howard 1998).

A large New Zealand study of young people up to age 21 (Fergusson et al 1999) found that the gay, lesbian and bisexual young people in the study were substantially more likely to have a range of mental disorders. In particular, suicidal thinking was 5.4 times more likely than in heterosexual young people and suicide attempt 6.2 times more likely. The evidence of increased risk was strongest for males, but the results suggest that the risk is probably similar for males and females.

No study, however, has yet demonstrated an increased rate of suicide death among these groups, possibly due to difficulty in identifying sexual orientation after death by suicide (Beautrais 1998). Nevertheless, the extent to which suicide attempts in gay, lesbian and bisexual people result in actual deaths remains to. be determined (Remafedi 1999).

Loss and grief

Losses inherent to mid and older adult life have been identified as one of the most serious risk factors for suicidal behaviour in adults. Losses may include declining physical health, financial difficulties, reduced career opportunities, death and marital breakdowns. Other losses associated with late-life suicide, suicidal behaviour or suicidal thinking include retirement, loss of autonomy (for example, the possibility of living in a nursing home), and physical disability (De Leo et al 1999).

The frequency and timing of losses are important, the essential factor being the inability to resolve grief before experiencing another loss. Multiple losses become more frequent with increasing age and may lead to isolation. Unresolved (but rarely acute) grief, usually over the death of a spouse, has been identified in 13 to 44 per cent of attempted suicides (De Leo et al 1999).

Physical illness

Physical illness has been singled out in several studies as a stressor in suicide, attempted suicide and suicidal thinking at all ages but particularly among older people. It appears, however, that the increase in risk occurs largely where physical illness is accompanied by mental disorder, harmful drug use (including alcohol), or both. Physical disorder may also carry more weight as a risk factor with increasing age and, when it affects lifestyle, requires multiple medication, or is accompanied by pain (De Leo et al 1999). Effective palliative care is an important factor in maintaining and improving the quality and dignity of life for people of any age with incurable disease (Commonwealth Department of Health and Family Services 1998).

Family background

Young people with suicidal behaviours are less likely to be living with their biological parents and are more likely to be from separated, divorced or single parent families, or from families with interpersonal conflicts (Beautrais 1998). They are likely to report poorer relationships with their parents (Martin 1996).

For young people and adults, suicide and self-destructive behaviour is associated with a history of childhood physical and sexual abuse, and with a family history of violence or assault, imprisonment, and harmful use of alcohol or other drugs

(Beautrais 1998). Mental health problems suffered by family members can contribute to suicide risk (Kosky 1992, Silburn et al 1991).

An Australian study has estimated that the suicide rate among children of Vietnam veterans could be up to three times as high as the rate in corresponding age cohorts in the general population. These children therefore comprise a significant at-risk group (Australian Institute of Health and Welfare 1999).

Relationships, social networks and connectedness

It is of particular relevance to understand what enables some young people who are exposed to a range of risk factors to avoid symptoms of mental health problems or suicide risk, and to adapt and flourish (Garmezy 1993, Calvert 1997). In the Christchurch birth cohort study, teenagers who had experienced high exposure to family adversity during childhood yet remained resilient were characterised by significantly higher IQ levels, lower novelty seeking and lower affiliations with delinquent peers. These factors acted cumulatively to influence the probability of resilience to externalising problems (Fergusson and Lynskey 1996).

Community 'connectedness' has been linked to the development of health and wellbeing, and has been the focus of considerable interest over recent years, given the social dislocation and alienation experienced by some in our communities, including many who are at high risk of suicide. Borowsky et al (1 999), for example, found that for American Indian/Alaskan young people, male and female, discussing problems with friends or family, emotional health and connectedness to family were protective against suicide attempts.

Longitudinal studies have emphasised the centrality of caring relationships between young people and adults, within and outside the family, for the development of resilience (Resnick et al 1993, Resnick et al 1997, Bium and Rinehart 1997, Joiner and Rudd, 1996). A study of more than 12,000 secondary school students in the United States showed that a strong connection to family and school, and perceived caring and connectedness to others, protected teenagers against a range of health risk behaviours, including suicidal thinking and behaviours and harmful drug use. The protective factors identified in this large study included family support, and parents who are involved in activities with their children and adolescents, are present in the home, and have high expectations for educational success. Similarly, feelings of connection to school and lack of prejudice by other students have been shown to decrease the risk of emotional distress, suicidal thinking and drug and alcohol use (Blum and Rinehart 1997). On the other hand, studies have shown a link between experiences of bullying, harassment or abuse and suicidal behaviour among young people (Keys Young 1997, Resnick et al 1997).

More broadly, it has been convincingly demonstrated that social support and good social relations make an important contribution to health (Wilkinson and Marmot 1998). Family connectedness or responsibilities also appear to provide some protection against suicide for adults and older people. Marriage may be protective, particularly for men, and is associated with lower levels of suicide and mental health problems (Hassan 1995) and with lower levels of suicide attempt and suicidal thinking (J Pirkis, personal communication). On the other hand, suicide often closely follows the breakdown of family or personal relationships or marriage, particularly for men (Baume et al 1998).

Several studies have associated living alone with an increased risk of suicide in older people, but a high proportion of older people live alone and this in itself does not result in social isolation. Social integration rather than place of residence appears to be more significant. However, the extent and nature of psychosocial factors and life events in older people with suicidal behaviour and thinking have not been systematically explored. (De Leo et al 1999)

Mental disorders and harmful drug use may lead to relationship difficulties and are most common among **people** living alone (Australian Bureau of Statistics **1998).**

Socio-economic status and employment

Epidemiological studies consistently show a link between suicide and social disadvantage (Beautrais 1998, Cantor et al 1998), including low socioeconomic status, limited educational achievement and homelessness (Beautrais 1998).

Several Australian studies have demonstrated a link between employment status and suicide risk, particularly for males (Hassan 1.995). A recent Queensland study, for example, found that 60 per cent of people who died by suicide were unemployed or not in the workforce (Baume et al 1998). A New South Wales study looking at suicide rates from 1985-1994 found that socioeconomic status was related to rates among young people (1 5-24 years) and males of all ages (Taylor et al 1998). It has been suggested that socioeconomic disadvantage may account in part for higher rates of suicide in rural and remote areas (Dudley et al 1998, National Rural Health Alliance 1998). Morrell and colleagues (1 993) pointed to the correlation between periods of relatively high unemployment in Australia since 1907 and peaks in suicide rates for males, and Hassan and Tan (1989) found a link between suicide rates and the percentage of the population that is economically dependent,

Another study, however, found no association between the increase in suicide among young people and the rise in unemployment through the 1980s (Krupinski et al 1994), and a recent case control study found no statistically significant link between suicide and unemployment in young men aged 17-25 years (Morrell et al 1999a).

Where a link is demonstrated, it is still unclear whether unemployment is a cause of suicide and mental disorders, or whether suicide and unemployment both arise from similar causal factors (Goldney et al 1995). A New Zealand study looking specifically at the association between unemployment and risk of medically serious suicide attempt concluded that the association between unemployment and suicidal behaviour largely reflects the common factors that contribute to both (Beautrais et al 1998).

A link has also been demonstrated between unemployment or part-time employment and higher rates of mental disorders, particularly harmful drug use, anxiety disorders and depression (Australian Bureau of Statistics 1998). Furthermore, Morrell and colleagues (1 994) found unemployment to be a significant cause of psychological disturbance in young people (1 5-24 years) across Australia. They also found that re-employment reversed this effect.

Societal and cultural factors

It has been suggested, based on the changing patterns of suicide over time and across cultures, that a number of broad cultural and social factors influence suicide rates. These include:

- the effect of religious attitudes: for example, the Islamic and Catholic religions strongly disapprove of suicide, and suicide rates in countries adhering to orthodox teachings tend to be low (Burvill 1998);

- aspects of modern youth culture that portray suicide positively; and

- moral attitudes towards suicide (De Leo et al 1999).

Similarly, as discussed earlier, Eckersley (1 996, 1999a, b) considers that a range of social factors has contributed to rising suicide rates among young people, including: changes in social values; increasing inequality, disadvantage and unemployment; creating a perception of lack of opportunities in mainstream society; and increased individualism and higher expectations, without an adequate cultural framework of values, hope, meaning and belonging. While such links are difficult to prove, they articulate concerns expressed frequently in the public consultations undertaken in the development of the LIFE Framework.

The concepts of social capital and community capacity have received increasing attention over recent years. There is no evidence directly linking these concepts with suicide rates, but community capacity describes the contextual factors that support well-being in communities over and above the characteristics of individuals, for example, the existence of, and connectedness to, groups and organisations in local communities (Macintyre et al 1993). As discussed earlier, the importance of connectedness has been demonstrated in protecting young people against suicidal behaviours. Skinner (1 997) defines community capacity as 'the ability of community organizations and groups to build their structures, systems, people and skills so that they are better able to define and achieve their objectives and engage in consultation and planning, manage community projects and take part in partnerships and community enterprises... [it reflects] the principles of empowerment and equality'. Community capacity is reflected in social environments at home, work and play, as well as public and private support services, sociocultural aspects, the physical environment (for example, availability of parks), and neighbourhood reputation (for example, safety).

Media presentations **of** suicide

There is evidence that media presentations of suicide can increase rates of suicide (Baume et al 1997, Etzerdorfer et al 1992, Hassan 1995, Martin 1998). Increased suicide rates have been reported after media reporting of celebrity suicides (for example, Phillips et al 1992, Wasserman 1984), suicide stories generally (Hassan 1995, Phillips et al 1989), fictional television portrayal of suicidal behaviour (Hafner and Schmidtke 1989, Schmidtke and Hafner 1988), and television documentaries designed to inform and advise about suicide (Gould and Shaffer 1986).

in particular, young people who are marginalised or in youth subcultures may not react positively to well-meaning educational materials (Keys Young 1997). Experience with other programs reinforces this concern. Programs to reduce drug use, for example, while successful among lower-risk groups, may reinforce drug taking by those most alienated from authority (Elliott and Shanahan 1998). The same issues apply to other at-risk groups, including people who are homeless (World Health Organization 1993) and people from diverse cultural backgrounds, who include Aboriginal and Torres Strait Islander peoples (Aboriginal and Torres Strait Islander Commission 1998).

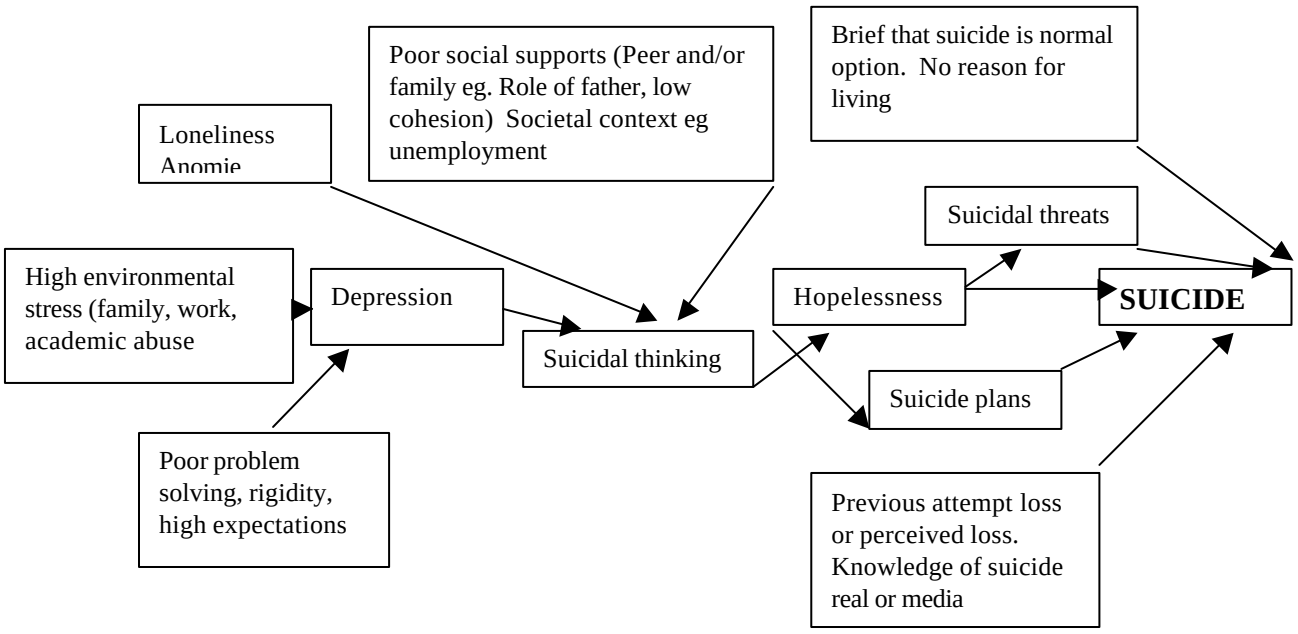
Availabitity of means **of** suicide

Evidence from Australia and overseas suggests that availability of a particular means of suicide (firearms, prescription drugs, motor vehicle exhaust) increases the likelihood of that means being used (Beautrais 1998, Cantor et a[1996). Beautrais (1 998) documents studies suggesting that access to guns plays a significant role in youth suicide in the United States, and the small amount of Australian evidence available suggests that access to a firearm will increase the likelihood that it will be used in a suicide attempt. Reductions in the suicide rate have resulted, among Australian women, from reduced access to barbiturates and, in the United Kingdom, after the detoxification of domestic gas (Cantor et al 1996).

Models of suicide causation

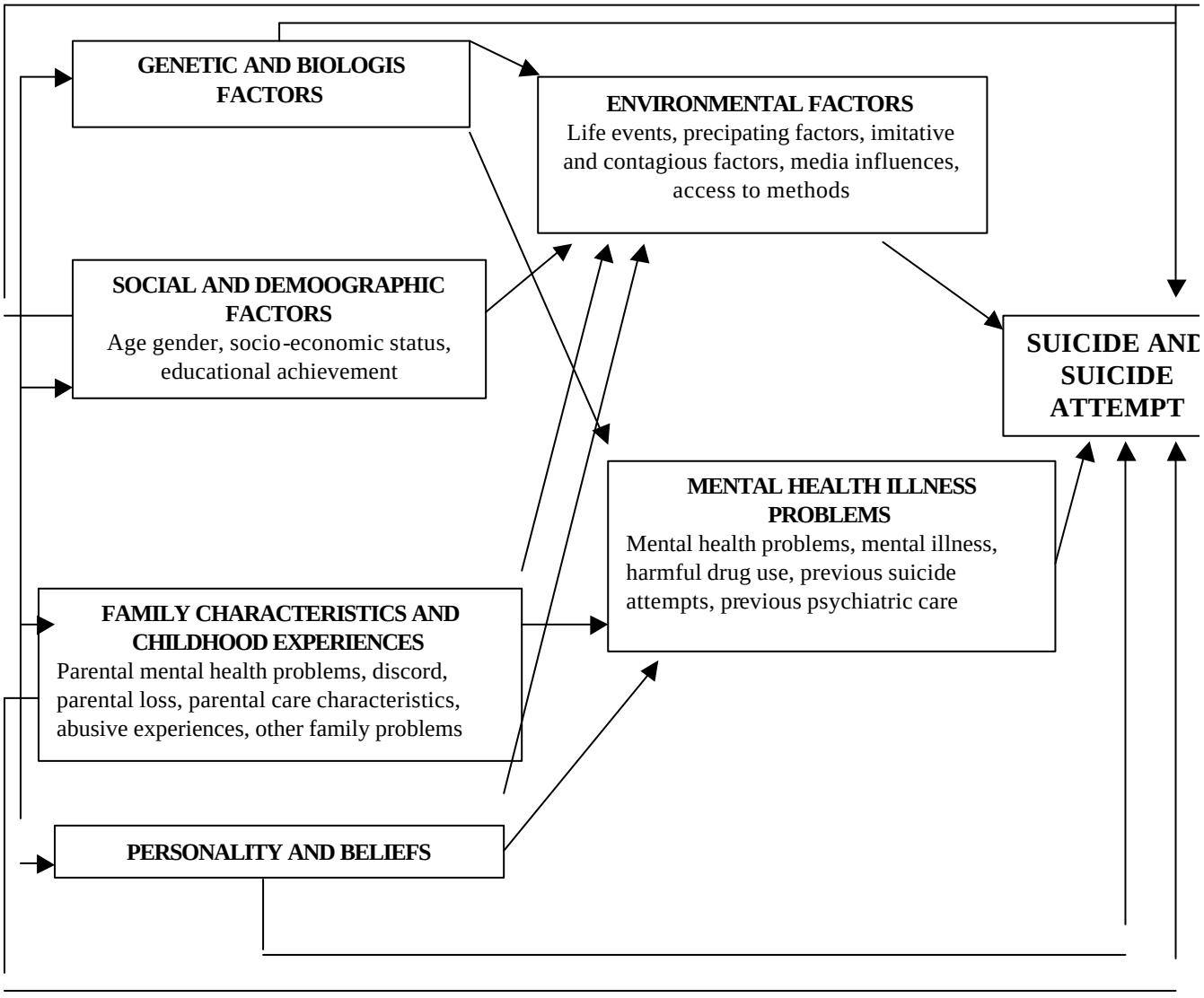
A number of researchers have developed models to describe the pathways to suicide and the complex interplay of factors involved. Figure 5 suggests a linear causal pathway, while Figure 6 suggests more complex interplay of risk factors. Figure 7 presents four overlapping domains that may influence an individual suicide.

Figure 5. **Pathways to suicide**



Source: Adapted from Bonner and Rich 1987

Figure 6. Risk factors for suicide and suicide attempts



Source: adapted with permission from Beautrais (1998)

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