Research and evidence in suicide prevention

Australian Government
Department of Health and Ageing
Contents

Foreword ................................................. 06

Introduction ........................................... 07

About suicide and suicide prevention ........................................... 10
What is understood by the term suicide ........................................... 10
What we know about why people take their own lives ......................... 10

Suicide risk and protective factors for suicide .................................... 12
Challenges in suicide prevention ........................................... 12
What we know about risk and protective factors for suicide ................. 12
Applying a knowledge of risk factors to suicide prevention .................. 15
Applying a knowledge of protective factors to suicide prevention ......... 15
The importance of health and wellbeing in suicide prevention ......... 16
What we know about the impact of resilience and vulnerability ........ 17
What we know about the impact of mental illness on suicide-related behaviours 18
Mental health interventions to reduce suicidal behaviours ................ 19
What we know about the impact of life events on suicide-related behaviours 19
What we know about suicide warning signs and tipping points ........... 22
Warning signs .................................................................. 22
Tipping points .................................................................. 22

The Living Is For Everyone (LIFE) suicide prevention model .............. 24
Rationale for the model ........................................... 24
The three-pronged approach ........................................... 24
The inclusion of safety nets ........................................... 26
The LIFE (2007) model ........................................... 26
Key features of the LIFE (2007) model ..................................... 27
Eight domains of activity ........................................... 27
Six overlapping areas of care and support .................................... 28

Suicide in Australia ................................................................ 30
Suicide trends and comparisons ........................................... 30
Placing Australian rates in an international context ...................... 33
Indigenous Australians and suicide ........................................... 34
Men and suicide .................................................................. 36
Suicide in rural and remote locations ........................................... 37
Self-harm and suicide ........................................... 38
Suicide and people from culturally and linguistically diverse backgrounds 39
Suicide in refugee communities ........................................... 40

Evidence of what works in suicide prevention ................................ 42
Types of prevention programs ........................................... 42
Training for health professionals ........................................... 42
Gatekeeper training ........................................... 42
Restricting access to means of suicide ........................................... 43
Clinical interventions ........................................... 43
Community capacity-building approaches ........................................... 46
Addressing media coverage of suicide ........................................... 46
Collaborative approaches to suicide prevention ........................................... 47

Evaluation of suicide prevention programs ................................ 50
Challenges in evaluating suicide prevention effectiveness .................. 50
The importance of ongoing evaluation ........................................... 50

Appendix A: Life events and suicide – emerging issues .................. 52

Appendix B: Incidence of death by suicide in regions of Australia ......... 56
Foreword

In 2006, an independent review and consultation with key stakeholders on the LIFE Framework (2000) was commissioned. The Living Is For Everyone (LIFE) Framework (2007) is the result of the review. It provides a national framework for action based on the best available evidence to guide population health approaches and prevention activities. It reflects a vision that suicide prevention activities will reduce suicide attempts and the loss of life through suicide by providing individuals, families and communities with access to support so that no-one in crisis or experiencing personal adversity sees suicide as their only option.

The new LIFE Framework (2007) has been developed in recognition of the widely differing audiences, each with a need for practical yet informed guidance on suicide prevention.

The purpose of the LIFE (2007) materials is to provide information, resource materials and strategies that will support population health approaches and suicide prevention activities across the Australian community and thereby contribute to a reduction in suicide and suicide attempts.

The LIFE Framework (2007) outlines suicide prevention activities, programs and interventions that reflect universal, selective and indicated approaches that aim to build:

- stronger individuals, families and communities;
- individual and group resilience to traumatic events;
- the capability for communities and individuals to identify and respond quickly and appropriately to people in need; and
- a coordinated response for the provision of care and support to individuals at risk of suicide and for smooth transitions to and between care.

The components of the new LIFE (2007) suite of materials are:

- Living Is For Everyone: A Framework for Prevention of Suicide in Australia (2007), which outlines the vision, purpose, principles, action areas, and proposed outcomes for suicide prevention in Australia. It replaces the Living is For Everyone (LIFE) Framework (2000). The revised Living Is For Everyone Framework (2007) is based on the understanding that:
  - suicide prevention activities will first, do no harm;
  - there will be community ownership and responsibility for action to prevent suicide; and
  - service delivery will be client-centred.
- Living Is For Everyone: Research and Evidence in Suicide Prevention (this document), sets the context for suicide prevention activity, summarising current research, evidence and statistics relating to suicide and suicide prevention in Australia.
- Living Is For Everyone: Practical Resources for Suicide Prevention is a set of fact sheets, organised around topic areas, providing practical information about suicide prevention. The broad grouping of the topic areas are:
  - About Suicide and Suicide Prevention;
  - Conducting Suicide Prevention Activities and Programs; and
  - Suicide Prevention Interventions (universal, selective, indicated).
Introduction

Australia was one of the first countries to develop a national strategic approach to suicide prevention. The first focus was on youth suicide; in the 1995–1996 Federal Budget, $13 million was allocated over four years to develop and implement a national plan for youth in distress. In the following year, a further $18 million was allocated to the National Youth Suicide Prevention Strategy, with a total of $31 million allocated between 1995 and 1999.

In 2000, the (then) National Youth Suicide Prevention Strategy was expanded into the Living Is For Everyone: A Framework for Prevention of Suicide and Self-harm in Australia. It provided a strategic framework for national action to prevent suicide and promote mental health and resilience across the Australian population, within the National Suicide Prevention Strategy (NSPS).

The LIFE Framework (2000) consisted of a package of three related documents:

- **Learnings about suicide** (covering the research and evidence relating to suicide and self-harm in Australia);
- **A framework for the prevention of suicide and self-harm in Australia** (outlining goals, principles and action areas); and
- **Building partnerships** (describing many of the suicide prevention activities, projects and programs and government policies across Australia).

In early 2006 an independent review, including consultation with key stakeholders, on the LIFE Framework (2000) was commissioned. The review revealed the need for more practical documents and resources to assist the wider community to become involved in suicide prevention.

The consultations involved the wider Australian community and included academics and researchers, policy makers, government departments, peak bodies, health and other professionals, carers, special interest groups, service providers, local communities, and people bereaved by suicide. The consultations were supplemented by a review of the most recent international and national research.

The new Living Is For Everyone (LIFE) Framework (2007) was developed with extensive consultation over six months from January to June 2007. These consultations confirmed many of the findings of the independent review undertaken in 2006: significantly, whilst the suicide prevention sector held the LIFE Framework (2000) documents in very high regard, most people reported that they rarely referred to them or used them. There were also many individuals, service providers, local community organisations, all of whom were dealing with suicide prevention, who had not seen the LIFE Framework documents.

It became apparent that there was a need for the redeveloped LIFE resources to be made more accessible in terms of content, language, presentation and dissemination. Like the National Youth Suicide Prevention Strategy before it, the LIFE resources were seen as making an important historical and contextual contribution to the developing field of suicide prevention, contributing to the growth and learning of the sector over time.
The review recommended changes to the documents including:

- clarifying the purpose of the LIFE Framework and ensuring that the information and the way it is presented reflects a focus on practical implementation of suicide prevention activities;
- revising materials to ensure they are reflective of a diverse Australia and of new initiatives and developments in suicide prevention. These include those arising from the July 2006 Council of Australian Governments (COAG) Agreement: the National Action Plan on Mental Health. A key element of the National Action Plan is the commitment from the Australian Government to double funding for the National Suicide Prevention Strategy (from $61 million to $123 million) to enable the expansion of suicide prevention programs, particularly those targeting groups at high risk in the community; and
- amending content to provide a more comprehensive coverage of suicide prevention issues and expanding information on areas such as self-harm, resilience and protective factors.

Following these recommendations and based on the previous reviews of the LIFE Framework (2000), the new LIFE (2007) suite of documents was produced with three main components:

- Living Is For Everyone: Research and Evidence in Suicide Prevention (this document) sets out the context for suicide prevention activity, summarising the current theories, research, evidence and statistics relating to suicide and suicide prevention in Australia;
- Living Is For Everyone: A Framework for Prevention of Suicide in Australia outlines the vision, purpose, action areas and evaluation framework for suicide prevention in Australia;
- Living Is For Everyone: Practical Resources for Suicide Prevention contains fact sheets summarising the key issues in suicide prevention, and documents available resources in suicide prevention.

The LIFE (2007) resources aim to contribute to suicide prevention by providing up-to-date research and evidence, clear communication of this information, a logical strategy for action, and practical resources for all Australians.

The LIFE (2007) resources build on and update the LIFE Framework (2000). In the years since the first LIFE Framework was produced, there have been significant improvements in the range and type of research and data that are relevant to suicide prevention. The resources draw on those materials.

The documents have been developed to meet the requirements of a broader community that includes local service providers, families, community members, and work colleagues – people who often see the first signs of a potential suicide.

The style of the documents reflect this intent with academic and scientific styles minimised. The resources focus primarily on suicide prevention and on statistics that offer insight into suicide prevention.

The three companion documents of the LIFE (2007) materials are linked in terms of content and coverage. There is some repetition across the documents as each one is designed for a slightly different target audience as shown in Figure 1.
### FIGURE 1: Using the Living Is For Everyone resources

<table>
<thead>
<tr>
<th>What do you want to know?</th>
<th>Who are you?</th>
<th>Which document matches your needs?</th>
</tr>
</thead>
<tbody>
<tr>
<td>You want to know about the latest understanding of suicide and suicide prevention.</td>
<td>You may be an academic, researcher, policy maker, member of parliament, health or community services professional, service provider or community organisation.</td>
<td><em>Living Is For Everyone: Research and Evidence in Suicide Prevention</em> sets the context for suicide prevention activity, summarising current theories, research, evidence and statistics relating to suicide and suicide prevention in Australia.</td>
</tr>
<tr>
<td>You want to know that your suicide prevention activities are well founded and well informed.</td>
<td></td>
<td><em>Living Is For Everyone: A Framework for Prevention of Suicide in Australia</em> provides a summary of current understandings of suicide and outlines the vision, purpose, principles, Action Areas, planned outcomes and strategies for suicide prevention in Australia.</td>
</tr>
<tr>
<td>You want to know about the overall purpose, structure, principles and priorities for suicide prevention in Australia.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>You want something that explains more about suicide, why people suicide, and tells you what you can do or say to help prevent suicide, or to help people bereaved by suicide.</td>
<td>You may be a community member, professional carer, service provider, employer, friend, family, work colleague or associate of someone you think is suicidal, or of people affected by a suicide – or you yourself may be at risk of suicide.</td>
<td><em>Living Is For Everyone: Practical Resources for Suicide Prevention</em> is a set of plain language fact sheets arranged around topic areas that summarise the key issues in suicide prevention and suggest further sources of information and help.</td>
</tr>
</tbody>
</table>

The Living Is For Everyone website: livingisforeveryone.com.au has up-to-date information on suicide prevention activities in Australia and links to a wide range of resources, guidelines and fact sheets.
What is understood by the term suicide

A death is classified as a ‘suicide’ by a coroner based on evidence that a person died as a result of a deliberate act to cause his or her own death. If there is contrary evidence, a coroner may classify the death as having been caused by someone else, or as accidental. If there is insufficient evidence, the coroner may not be able to reach a decision on the cause of death.

Suicide is almost always a very private act, although the legacy of suicide and its impact on those who are left behind may be very public and powerful. The attitudes of those left behind after a suicide range from confusion, through guilt, to anger and condemnation and they often struggle to understand the person’s motivation (Zalta, 2004).

Other commonly used references associated with suicide include suicide attempts, suicide threats, suicide plan, suicide-related behaviours, ideations and communications, self-harm and self-inflicted unintentional death.

What we know about why people take their own lives

This is a question that has been asked over millennia, in the writings of philosophers, religious leaders, sociologists, physicians and many others. In an attempt to find an answer researchers have gathered information in recent times from people who have considered or attempted suicide, and from families and health professionals connected to people who have suicided. Despite this ongoing inquiry there is no single or definitive answer, and no simple explanations are available about why people choose to take their own life.
The most recent theories about the types of suicide and different motivations to suicide suggest that it may be any one or combination of the examples below:

- a consequence of a mental illness, such as clinical depression or schizophrenia. However, many people with a mental illness are not affected by suicidal thoughts or behaviour, and not everyone who suicides is mentally ill.
- an outcome of reckless behaviour or impaired judgement. Suicide is, for example, often associated with alcohol or other drugs, or it may result from dangerous or life-threatening activities.
- an attempt to end unmanageable pain. It may be psychological pain and despair, stemming from guilt, shame, or loss; or it may be chronic physical pain or debilitating illness.
- an attempt to send a message or gain a particular outcome such as notoriety, vengeance, defiance, or leave a particular legacy or aftermath.
- an altruistic or heroic act, relieving others of a burden, dying to save another, or dying for a cause; and/or
- an expression of the person’s right to choose the manner of their death. In some circumstances, the specific means or place of suicide has particular symbolic significance to the person.

There is a complex interrelationship between risk and protective factors that affects someone’s decision to take their own life. These are considered in the following section.
Suicide risk and protective factors for suicide

Challenges in suicide prevention

Many factors help to shape a person’s self-image, life skills and ability to cope under pressure or when faced by life-changing circumstances. These factors include genetic make-up, previous life and family experiences, current and past physical and mental health, a range of cultural and gender-related factors, and a person’s social support systems. Each individual is born with a unique genetic and biological make-up, into an existing family and social situation, and into a culture, a socio-economic circumstance, and a geographic location. All these factors predispose a person towards certain attitudes, beliefs and behaviours which may also change as circumstances change. The challenge in suicide prevention is to understand which components of these factors (individual, social, contextual) will help to lessen a person’s adverse reaction to difficult events, and to identify which individuals are most likely to be badly affected by adverse life events and which are most likely to be resilient.

What we know about risk and protective factors for suicide

The reasons that people choose to take their own life are very complex. The many factors that influence whether someone is likely to be suicidal are known as:

- **risk factors**, sometimes called vulnerability factors because they increase the likelihood of suicidal behaviours; and
- **protective factors**, which reduce the likelihood of suicide-related behaviours and work to improve a person’s ability to cope with difficult circumstances.

Risk and protective factors are often at opposite ends of the same continuum. For example, social isolation (risk factor) and social connectedness (protective factor) are both extremes of social support.

Risk and protective factors can occur:

- at the **individual or personal level** and include mental and physical health, self-esteem, and ability to deal with difficult circumstances, manage emotions, or cope with stress;
- at the **social level**, which includes relationships and involvement with others such as family, friends, workmates, the wider community and the person’s sense of belonging; and/or
- at the **contextual level** or the broader life environment level which includes the social, political, environmental, cultural and economic factors that contribute to available options and quality of life.

Risk and protective factors may be:

- **modifiable** - things we can change; and
- **non-modifiable** - things we cannot change.

For example, in some areas of Australia there is a high incidence of suicide among isolated older men. Nothing can be done about their age or gender (non-modifiable factors that increase risk), but it is possible to change their geographical location or their social isolation (modifiable factors).

People who attempt to take their own life usually have many risk factors and few protective factors. However, risk and protective factors don’t explain everything about suicide. Most people with multiple risk factors do not attempt to take their own life, and some who do take their life have few risk factors and many protective factors. Particular risk factors are more important for some groups than others. For example, the factors that may put a young man at risk are generally quite different to those that increase the risk for a retired, older man.
Living is for everyone
A further challenge lies in the strong relationship between socio-economic factors and health. At present in Australia, there is a strong link between geographic location (regional, rural and remote), socio-economic disadvantage (low socio-economic status) and ill health. This relationship also exists for suicide, and rates of suicide tend to be much higher in regional, rural and remote locations and in areas of higher socio-economic disadvantage.

Figure 2 outlines some of the known risk and protective factors associated with suicide (Barry & Jenkins 2006; Commonwealth of Australia, 2006; Rickwood, 2005), but risk and protective factors can never tell the whole story. It is critically important to remember how complex suicide is.

A list of risk and protective factors can provide a guide at the community level, and can inform effective local action. However, it tells us little about individuals and it can never provide an individual check list.

<table>
<thead>
<tr>
<th>Risk factors for suicide</th>
<th>Protective factors for suicide</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Individual</strong></td>
<td></td>
</tr>
<tr>
<td>gender (male)</td>
<td>gender (female)</td>
</tr>
<tr>
<td>mental illness or disorder</td>
<td>mental health and wellbeing</td>
</tr>
<tr>
<td>chronic pain or illness</td>
<td>good physical health</td>
</tr>
<tr>
<td>immobility</td>
<td>physical ability to move about freely</td>
</tr>
<tr>
<td>alcohol and other drug problems</td>
<td>no alcohol or other drug problems</td>
</tr>
<tr>
<td>low self-esteem</td>
<td>positive sense of self</td>
</tr>
<tr>
<td>little sense of control over life circumstances</td>
<td>sense of control over life's circumstances</td>
</tr>
<tr>
<td>lack of meaning and purpose in life</td>
<td>sense of meaning and purpose in life</td>
</tr>
<tr>
<td>poor coping skills</td>
<td>good coping skills</td>
</tr>
<tr>
<td>hopelessness</td>
<td>positive outlook and attitude to life</td>
</tr>
<tr>
<td>guilt and shame</td>
<td>absence of guilt and shame</td>
</tr>
<tr>
<td><strong>Social</strong></td>
<td></td>
</tr>
<tr>
<td>abuse and violence</td>
<td>physical and emotional security</td>
</tr>
<tr>
<td>family dispute, conflict and dysfunction</td>
<td>family harmony</td>
</tr>
<tr>
<td>separation and loss</td>
<td>supportive and caring parents/family</td>
</tr>
<tr>
<td>peer rejection</td>
<td>supportive social relationships</td>
</tr>
<tr>
<td>social isolation</td>
<td>sense of social connection</td>
</tr>
<tr>
<td>imprisonment</td>
<td>sense of self-determination</td>
</tr>
<tr>
<td>poor communication skills</td>
<td>good communication skills</td>
</tr>
<tr>
<td>family history of suicide or mental illness</td>
<td>no family history of suicide or mental illness</td>
</tr>
<tr>
<td><strong>Contextual</strong></td>
<td></td>
</tr>
<tr>
<td>neighbourhood violence and crime</td>
<td>safe and secure living environment</td>
</tr>
<tr>
<td>poverty</td>
<td>financial security</td>
</tr>
<tr>
<td>unemployment, economic insecurity</td>
<td>employment</td>
</tr>
<tr>
<td>homelessness</td>
<td>safe and affordable housing</td>
</tr>
<tr>
<td>school failure</td>
<td>positive educational experience</td>
</tr>
<tr>
<td>social or cultural discrimination</td>
<td>fair and tolerant community</td>
</tr>
<tr>
<td>exposure to environmental stressors</td>
<td>little exposure to environmental stressors</td>
</tr>
<tr>
<td>lack of support services</td>
<td>access to support services</td>
</tr>
</tbody>
</table>
Applying a knowledge of risk factors to suicide prevention

Applying an understanding of risk factors to prevent suicide involves identifying:

- existing risk factors (individual, social, contextual) that are present for a particular person or group of people;
- individuals who are most likely to be badly affected by these risk factors, and those who are most likely to be resilient; and
- which of the risk factors can be changed (modifiable) to reduce the level of risk.

The most recent research suggests that an understanding of risk factors in suicide is best used to identify populations or specific groups that might be at risk, rather than attempting to identify individuals at risk. The main reason is that the majority of people who can be categorised as at risk do not and will not ever choose to take their own life. It is extremely difficult to determine from risk factors alone which individuals within an at risk group are more or less likely to become suicidal.

Most researchers recommend that suicide prevention initiatives should focus on constellations of risk and protective factors. Activities may include:

- reducing exposure to social and contextual risk through structural changes that target specific at risk groups such as remote Indigenous communities, socially or geographically isolated older men or people with a mental illness. For example, developing social support networks, improved employment prospects or access to affordable housing.
- increasing individual protective factors through activities that help to build self-esteem, psychological strength and personal competence. For example, teaching young people social and emotional skills, fostering positive peer relationships and relationships with teachers and other adults, and encouraging help-seeking behaviours.
- providing easier access to appropriate care and support that is in the right place, at the right time, using the right approach. One example is non-judgemental assistance provided by peers to people bereaved by suicide in places where they feel most comfortable.
- reducing risk and increasing protection for people who are in current crisis. This might include those who have attempted to take their own life, or who have been recently discharged from mental health care.

Applying a knowledge of protective factors to suicide prevention

Suicide research has historically concentrated overwhelmingly on understanding risk factors (those that increase vulnerability or exposure to suicidal thinking) (Agerbo et al. 2007; Duberstein et al. 2004; Gutierrez et al. 2001; Jackson & Nuttall, 2001; Prinstein et al. 2000; Qin et al. 2002a; Runeson & Asberg, 2003; Smith et al. 2008; Tarrier et al. 2004; Verona et al. 2005; Yoder & Hoyt, 2005). Only relatively recently have protective factors become a focus in suicide prevention, to better understand what builds resilience and the ability to cope with adverse life events (Beautrais, 2006; Beautrais et al. 2005, 2007; Brent & Mann, 2006; Bridge, 2006; Knox et al. 2003; Mann et al. 2005; Page et al. 2006a; Qin et al. 2002b; Robinson et al. 2006; Rehkopf & Buka, 2006; WHO, 2002).

After many years of concentrating on human illnesses and weaknesses, the scientific study of human behaviour now includes an emphasis on understanding what makes people strong – the factors that make life worth living and the factors that build individual health and wellbeing (Smith, 2006).

Human behaviour is shaped both by factors within the person and by the person’s environment. Each person’s ‘life space’ includes their physical and social environment, their past experiences, and their hopes, dreams and fears (Lewin, 1952). Life’s different roles demand different attitudes and different behaviours – as a parent, a worker, a student, a mentor, a colleague or a friend. Everyone faces new challenges and often encounters stress as they juggle the many different roles and the associated expectations, responsibilities and events (Livingstone, 2005). However the same life event can have a very different impact on different people, depending on the context and the person’s capacity to adjust to changing life circumstances, including adverse events.

There have been, and will continue to be, many theories about what makes each person who he or she is, and what gives an individual the resilience to cope with and bounce back from adverse life events. It has been suggested that there are four different ways in which individuals respond to potentially traumatic events: resilience accompanied by mild disruption (about 60% of people), initial shock followed by recovery over time (about 20% of people), delayed intense emotional reaction (about 10% of people), and chronic disruption and ongoing mental disorder (about 10% of people) (Bonanno, 2004).
The key social support systems that assist in building individual resilience and capacity to respond positively to adverse life events are:

- support of family and friends;
- positive and supportive relationships;
- social connectedness (neighbourhood, local community, peer groups);
- community understanding and support during times of adversity;
- safe and secure support environments (non-threatening, empathetic);
- sensitive professional carers, general practitioners, mental health workers, hospital emergency service personnel;
- a quick response capability within the community in times of adversity; and
- coordinated and integrated service delivery and support from local service providers.

External factors and experiences such as family life and social interactions also influence a person’s reaction to difficult circumstances. Accumulated experiences from the past (cultural, social, family), and anticipation of the future (expectations, hopes, dreams and fears) all impact on the individual’s ability to manage the range of events that can occur throughout life. Figure 4 summarises the four main groups of factors that work together to build individual resilience and the capacity to manage situations that may cause anxiety or emotional instability.

FIGURE 3: Factors that contribute to individual health and wellbeing.

<table>
<thead>
<tr>
<th>Individual health and wellbeing</th>
<th>Individual health and wellbeing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sense of self includes:</td>
<td>Sense of self; social skills; sense of purpose; emotional stability; problem solving skills; and physical health.</td>
</tr>
<tr>
<td>self-esteem; secure identity;</td>
<td></td>
</tr>
<tr>
<td>ability to cope; and mental</td>
<td></td>
</tr>
<tr>
<td>health and wellbeing.</td>
<td></td>
</tr>
<tr>
<td>Social skills include:</td>
<td></td>
</tr>
<tr>
<td>life skills; communication;</td>
<td></td>
</tr>
<tr>
<td>flexibility; and caring.</td>
<td></td>
</tr>
<tr>
<td>Sense of purpose includes:</td>
<td></td>
</tr>
<tr>
<td>motivation; purpose in life;</td>
<td></td>
</tr>
<tr>
<td>spirituality; beliefs; and</td>
<td></td>
</tr>
<tr>
<td>meaning.</td>
<td></td>
</tr>
<tr>
<td>Emotional stability includes:</td>
<td></td>
</tr>
<tr>
<td>emotional skills; humour; and</td>
<td></td>
</tr>
<tr>
<td>empathy.</td>
<td></td>
</tr>
<tr>
<td>Problem solving skills includes:</td>
<td></td>
</tr>
<tr>
<td>planning; problem solving; help-</td>
<td></td>
</tr>
<tr>
<td>seeking; and critical and</td>
<td></td>
</tr>
<tr>
<td>creative thinking.</td>
<td></td>
</tr>
<tr>
<td>Physical health includes:</td>
<td></td>
</tr>
<tr>
<td>health; physical energy; and</td>
<td></td>
</tr>
<tr>
<td>physical capacity.</td>
<td></td>
</tr>
</tbody>
</table>

(Adapted from Beautrais, 1998; Kumpfer, 1999; Maslow, 1943; Rudd, 2000)
What we know about the impact of resilience and vulnerability

Everyone experiences stress and difficult circumstances during their life. Most people can handle these tough times and may even be able to make something good from a difficult situation.

Individual resilience is a person’s capacity or competence to adapt and respond positively to stressful situations (Glant & Johnson, 1999). It is the ability to bounce back, recover from, or adjust to misfortune or change (Burns, 1994). It is the ability to learn and grow through the positive and the negative experiences of life, turning potentially traumatic experiences into constructive ones. Being resilient involves engaging with friends and family for support, and using coping strategies and problem-solving skills effectively to work through difficulties.

On the other hand, people who have a tendency to become discouraged or defeated when faced with challenging life events may be considered to be more vulnerable. Vulnerability is the characteristic that predisposes a person to respond in a negative way to difficult or traumatic life events (Kaplan, 1999). Many factors contribute to vulnerability, and often they are the same factors that contribute to resilience. For instance, a family environment that is supportive and caring will enhance resilience, while lack of family support or exposure to abuse or trauma may make a person more vulnerable and less able to cope with potentially traumatic incidents.

Resilience and vulnerability are often viewed as being at opposite ends of a continuum, reflecting a person’s ability to respond either positively or negatively when exposed to risk or a potentially traumatic situation (Kaplan, 1999).

As each individual develops, their expectations of life are shaped by their experiences and particularly by their family life and their social interactions with others. The response to life events is strongly influenced by accumulated experiences (cultural, social, and family) from the past, in the present, and in anticipating the future (expectations, hopes, dreams and fears). The accumulation of life experiences helps to create a particular view of what life has to offer, for example a hopeful or a despairing future.

During their life, people move between situational hope and despair, influenced largely by the events that happen and have happened around them. Where someone’s life has involved many negative experiences, they may develop a view of the world that leads them to expect the worst outcome from a traumatic or life-changing event.

The interaction between an individual’s resilience and their expectations of life can act to increase the likelihood of thoughts and behaviours about taking one’s own life (see Figure 5).

**FIGURE 5:** The potential to suicide: where individual vulnerability meets situational despair.

*Typical responses:* anger, sadness, shame, anxiety, guilt, loneliness, fear, hurt, embarrassment, disappointment, humiliation, insufficient resources to cope, suspiciousness, feeling unwanted, helpless, hopelessness, no other choice.
What we know about the impact of mental illness on suicide-related behaviours

Mental illness has been shown to have a strong relationship with suicide-related behaviours (Taylor et al. 2005). Mental illness describes a group of illnesses where people may show irrational behaviour, disturbed mood, poor judgement, abnormal perceptions or thoughts, disturbed emotions and ability to relate to others, and inability to cope with life events (APA, 2000; WHO, 2005). The severity of mental illnesses may range from being brief or episodic to being persistent and disabling. Mental illnesses including anxiety and mood disorders should be diagnosed by a qualified mental health professional. Estimates of the percentage of people whose suicide is related to mental illness vary considerably from study to study, ranging from 30% to 90% of all suicides (Bertolote et al. 2004). However, only a small percentage of people diagnosed with these conditions ever attempt suicide and a diagnosis of mental illness cannot be relied on as a reliable predictor of suicide-related behaviours.

While mental illness is linked to suicide, this does not mean that everyone who takes their own life is mentally ill or is emotionally or intellectually distorted when they make that decision. For some, suicide may be an impulsive and irrational act, but for others, it may be a carefully considered decision (Lester, 2006a), particularly where the person believes that his or her death will benefit others. To imply that all those who suicide have a mental illness can itself be a barrier to seeking help since mental illness still carries a significant stigma (Corrigan, 2007). Classifying people who have suicidal thoughts or feelings as mentally ill may isolate them and discourage them from seeking appropriate help, treatment and support (Alsott et al. 2007).

More importantly, mental illness (as broadly defined) may simply be an outcome of other events that are occurring or have occurred in a person’s life. There is a growing body of recent research which suggests that there is a strong link between mental illness, genetic factors and life events (Caspi et al. 2003; Rutter et al. 2006). It suggests that the high incidence of mental ill-health (in particular, depression) can be the result of the accumulation of stressful life events involving threat, loss, humiliation or personal defeat.

Suicide attempts and life events are strongly linked. A negative life event can trigger suicide-related behaviours in some people. In one study, suicide attempters reported four times as many negative life events as the general population, and depressed patients reported high levels of negative life events before the onset of their depression (Paykel et al. 1975). Although many people who suicide or self-harm do so in response to critical events, most also have predisposing social or mental health risk factors.

There is also a complex, circular relationship between mental illness, other risk factors and suicide-related behaviours; having a mental illness may itself give rise to events that exacerbate suicidal thoughts. For example, a person in a manic state may make reckless decisions that cause unbearable stress and result in suicidal thoughts. In some cases, mental illness is associated with suicide-related behaviours and/or suicide.

- The strongest links are with clinical depression, bipolar disorder, schizophrenia, alcohol or other drug abuse, borderline personality disorder, and behavioural disorders (eg conduct, oppositional) in children and adolescents (Bertolote et al. 2004).
- Suicide is a more common cause of death among people with schizophrenia and mood disorders than it is in the general population. The risk for suicide-related behaviours is more marked if the person has more than one mental illness.
- Psychiatric inpatients and people receiving treatment for a mental disorder have been shown to have a significantly higher risk of suicide compared to the general population. They are at particular risk of suicide immediately following discharge from psychiatric in-patient care or emergency departments, especially if the person has previously been suicidal or was an involuntary admission, and where they live alone or are exposed to work stresses. To assist these people post-discharge and reduce the risk, it is important to provide effective safety nets within communities. This includes treatment of the circumstances that led to the admission, management of work and other stresses, and improved follow-up and ongoing assessment of suicide risk (Kan et al. 2007; Pirkola et al. 2007).
- People diagnosed with depression may in the early phases of recovery be at increased risk of acting upon their suicidal ideas due to a delayed response to treatment. It is therefore important to educate individuals, family and carers about this and how to minimise the risk until the patient’s mood recovers and the suicidal ideas abate.
Mental health interventions to reduce suicidal behaviours

Effective treatment of a mental disorder (eg depression, schizophrenia) through medication, counselling or other methods reduces suicide rates within these groups. One study estimated that if the three disorders most associated with suicide-related behaviours (ie depression, alcohol/drug/substance abuse disorders and schizophrenia) were treated in 50% of all people with these conditions, suicides would be reduced by approximately 20% (Bertolote et al. 2004). Treatments include medication, counselling, therapy and social support, or a combination of these. If the illness is particularly severe or the person is unsafe, it includes admission to hospital.

Antidepressant medications, such as those that influence serotonin levels in the brain, have also been shown to reduce suicidal thoughts and behaviours in some studies (Hall et al. 2003). However, there was debate in recent research about the use of antidepressants, with some researchers proposing that for groups such as children and adolescents, antidepressants have limited effectiveness and may actually increase suicidal thinking. This has been disputed by recent Australian and New Zealand research which shows that the benefits of these drugs outweigh the risk (Bridge et al. 2007; Goldney, 2005, 2006a, 2006b; Hall & Lucke, 2006; Rubio et al. 2007; Tihonen et al. 2006).

The effective treatment of mental illness is not the only preventative measure needed to reduce suicide-related behaviours (Bertolote et al. 2004). There is also evidence that providing a sense of caring, better social connectedness and creating a secure, safe and empathetic environment for those who have a mental illness can reduce the risk of suicide. In providing this, it is important to provide the right treatment and assistance including having a trained team of health professionals who understand the person’s condition and circumstances, and who will assist in providing the care and support in an integrated way. This approach is reflected in recent government initiatives that target the provision of multidisciplinary care to people who present to a General Practitioner with mental health issues.

What we know about the impact of life events on suicide-related behaviours

Everyone at some time experiences adverse life events and difficult circumstances. Stress, sadness and anxiety are all normal human responses during such times. Most people can cope with changing and challenging circumstances and continue to function in their personal, professional and social lives. However the same life event can have a very different impact on different people, depending on the context and the person’s capacities.

There is a growing body of evidence suggesting that one or more adverse life events often precede suicide attempts. A research review found that many case-control studies have shown that people who take their own lives are likely to have experienced more recent adverse life events than people who do not (Kolves et al. 2006). Additionally, as early as 1975, it was found that people who attempted suicide reported four times as many adverse life events as the general population. These findings indicate a strong and immediate relationship between suicide attempts and life events (Paykel et al. 1975).

However it is not possible to accurately assess the relative impact of immediate life events and other risk factors such as family experiences, personality traits and mental illness on a person’s decision to take their life (Beautrais et al. 1997). This is because people respond differently to different events and it is how the individual responds, rather than events themselves, that often determines the outcomes and consequences. For example, there is some evidence that traumatic life events (unemployment, relationship conflict, physical illness, economic hardship, loss or grief) may have a greater impact on people who have a severe mental illness, such as schizophrenia, than those who do not (Cooper et al. 2002).

Australian research on the relationship of life events to suicide-related behaviours is not conclusive (see Appendix A). What is clear is that suicide and suicide-related behaviours can be linked to combinations of life events and personal and social circumstances.

Figure 6 on the following page, provides a summary of how factors may interact to impact on suicide and suicide-related behaviours.
FIGURE 6: Personal factors and life events that have been linked to suicide

<table>
<thead>
<tr>
<th>Domains</th>
<th>Strong evidence of a link to suicide and suicide-related behaviours</th>
<th>Some evidence of a link to suicide and suicide-related behaviours</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Age</strong></td>
<td>25-44 age group</td>
<td>Developmental stages&lt;br&gt;Older age</td>
</tr>
<tr>
<td><strong>Personal characteristics</strong></td>
<td>Genetic factors&lt;br&gt;Gender (male)&lt;br&gt;Vulnerability</td>
<td>Personality&lt;br&gt;Gender identity (gay, bisexual)</td>
</tr>
<tr>
<td><strong>Culture</strong></td>
<td>Indigenous&lt;br&gt;Loss of cultural identity</td>
<td>Second generation immigrants&lt;br&gt;Asylum seekers</td>
</tr>
<tr>
<td><strong>Family life</strong></td>
<td>Ongoing family discord&lt;br&gt;Child custody disputes&lt;br&gt;Financial disputes</td>
<td>Family history of mental illness&lt;br&gt;Family history of suicide&lt;br&gt;Domestic violence&lt;br&gt;Separation/divorce&lt;br&gt;Children under care/protection&lt;br&gt;Adoptee</td>
</tr>
<tr>
<td><strong>Health and wellbeing</strong></td>
<td>Mental illness</td>
<td>Physical illness or disability&lt;br&gt;Sudden deterioration in quality of life</td>
</tr>
<tr>
<td><strong>Location/housing</strong></td>
<td>Rural or remote location&lt;br&gt;Forced dislocation</td>
<td>Imprisonment&lt;br&gt;Homelessness</td>
</tr>
<tr>
<td><strong>Financial wellbeing</strong></td>
<td>Financial difficulties</td>
<td>Low socio-economic status&lt;br&gt;Bankruptcy</td>
</tr>
<tr>
<td><strong>Education</strong></td>
<td>Performance anxiety</td>
<td>Bullying at school&lt;br&gt;Lack of connectedness to school&lt;br&gt;Unexpected or perceived academic failure</td>
</tr>
<tr>
<td><strong>Risk behaviours</strong></td>
<td>Previous suicide attempts&lt;br&gt;Self-harm&lt;br&gt;Substance abuse</td>
<td>Gambling&lt;br&gt;Reckless behaviour&lt;br&gt;Criminal/legal issues</td>
</tr>
<tr>
<td><strong>Social networks</strong></td>
<td>Loss of social status/purpose&lt;br&gt;Lack/loss of social support</td>
<td>Social isolation&lt;br&gt;Peer group pressure&lt;br&gt;Cyber bullying&lt;br&gt;Rites of passage&lt;br&gt;Suicide pacts</td>
</tr>
<tr>
<td><strong>Employment</strong></td>
<td>Professions/trades at risk&lt;br&gt;Unemployment</td>
<td>Dismissal/retenchment&lt;br&gt;Violence/assault in workplace&lt;br&gt;Work stress&lt;br&gt;Workplace bullying&lt;br&gt;Retirement</td>
</tr>
<tr>
<td><strong>Traumatic incidents</strong></td>
<td>Public humiliation&lt;br&gt;Abuse</td>
<td>Discrimination/Vilification&lt;br&gt;Surviving major incidents&lt;br&gt;Sudden death or accident of loved one&lt;br&gt;Suicide bereavement</td>
</tr>
<tr>
<td><strong>Other</strong></td>
<td>Seasonal patterns</td>
<td>Economic recession&lt;br&gt;Disasters/catastrophes&lt;br&gt;Inappropriate media reporting</td>
</tr>
</tbody>
</table>
The research suggests that mental illness and life events interact with each other, although there is some debate about the extent and type of this interaction. Figure 7 brings together the evidence from mental health research, individual resilience and the effects of life experiences, to identify the zone in which people are at highest risk of taking their own lives.

It makes clear that vulnerable individuals who have an accumulation of adverse life events (situational despair) and are experiencing mental illness are particularly vulnerable to taking their own life.

FIGURE 7: The link between individual vulnerability, situational despair, mental illness and potential to take one's own life.
What we know about suicide warning signs and tipping points

The warning signs and tipping points can be likened to potential signposts that give early warning of the potential for suicide-related behaviours.

Warning signs
A suicide warning sign is the earliest indication that someone might be at a heightened risk of immediate suicide. A warning sign indicates that a person is having serious thoughts about taking their own life and may even be making plans to take this action. Suicide warning signs may be a cry for help, and they can provide a chance for family, friends, associates and professionals to intervene and potentially prevent the suicide from happening. The following behaviours may be considered as warning signs and are more common among people who are considering taking their own life:

- threatening to hurt or kill themselves
- looking for ways to kill themselves, or talking about their suicide plan
- talking or writing about death, dying or suicide (especially when this is out of character or unusual for the person)
- expressing feelings of hopelessness
- expressions of rage, anger or revenge
- engaging in reckless or risky behaviours
- expressing feelings of being trapped, or that there’s no way out
- increased use of alcohol or other drugs
- withdrawing from friends, family or the community
- abnormal anxiety or agitation
- abnormal sleep patterns – not sleeping or sleeping all the time
- dramatic changes in mood, such as sudden feelings of happiness after a long period of sadness or depression
- giving away possessions or saying goodbye to family and/or friends; and/or
- saying they have no reason for living or have no purpose in life.

It should be noted that most people show some of these signs at some time, especially when they are tired, stressed or upset without being suicidal.

Tipping points
Suicide-related behaviours result from complex interactions between a wide range of factors: some individual; some related to family or socio-economic or cultural background; some related to social, community and lifestyle issues; and others linked to mental illness. The most frequently cited model for understanding why people take their own lives is the threshold or trigger model (IASP, 2007). It suggests that the potential for suicide-related behaviours exists at a certain threshold level in many people. The threshold in each person is determined by factors such as genetic predisposition, biochemical factors in a person’s physiology, personality traits, their emotional state (feelings of hopelessness), and the presence of ongoing support systems (social, economic, cultural).

The point at which a person’s risk of taking their own life increases due to the occurrence of precipitating event(s), such as a negative life event or an increase in symptoms of a mental disorder may be called a tipping point. Tipping points vary for every individual, but there are some indicators of times at which people may be under particular stress. Sometimes referred also to as triggers or precipitating events, they include mental disorders or physical illnesses, alcohol and/or other substance abuse, feelings of interpersonal loss or rejection, or the experience of potentially traumatic life events (unexpected changes in life circumstances). Tipping points can be thought of as the final straw that may lead someone who has been considering suicide to take action.

Examples of events and circumstances that may act as a tipping point include:

- an argument with a loved one or significant person
- the breakdown of a relationship
- the suicide of a family member, friend or public role model
- a media report about suicide
- the onset or recurrence of a mental or physical illness
- unexpected changes in life circumstances; and
- experiencing a traumatic life event, such as abuse, bullying or violence.

For the purposes of suicide prevention, precipitating events and triggers to suicide can be categorised into four different types of precipitating events, based on the increasing likelihood of suicide-related behaviours, although they do not necessarily occur sequentially (see Figure 8).
FIGURE 8: Examples of typical triggers or precipitating events to suicide.

<table>
<thead>
<tr>
<th>Risk factors</th>
<th>Warning signs</th>
<th>Tipping point</th>
<th>Imminent risk</th>
</tr>
</thead>
<tbody>
<tr>
<td>• mental health problems</td>
<td>• hopelessness</td>
<td>• relationship ending</td>
<td>• expressed intent to die</td>
</tr>
<tr>
<td>• gender – male</td>
<td>• feeling trapped – like there’s no way out</td>
<td>• loss of status or respect</td>
<td>• has plan in mind</td>
</tr>
<tr>
<td>• family discord, violence or abuse</td>
<td>• increasing alcohol or drug use</td>
<td>• debilitating physical illness or accident</td>
<td>• has access to lethal means</td>
</tr>
<tr>
<td>• family history of suicide</td>
<td>• withdrawing from friends, family or society</td>
<td>• death or suicide of relative or friend</td>
<td>• impulsive, aggressive or anti-social behaviour</td>
</tr>
<tr>
<td>• alcohol or other substance abuse</td>
<td>• no reason for living, no sense of purpose in life</td>
<td>• suicide of someone famous or member of peer group</td>
<td></td>
</tr>
<tr>
<td>• social or geographical isolation</td>
<td>• uncharacteristic or impaired judgement or behaviour</td>
<td>• argument at home</td>
<td></td>
</tr>
<tr>
<td>• financial stress</td>
<td></td>
<td>• being abused or bullied</td>
<td></td>
</tr>
<tr>
<td>• bereavement</td>
<td></td>
<td>• media report on suicide or suicide methods</td>
<td></td>
</tr>
<tr>
<td>• prior suicide attempt</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
The research and evidence requires a suicide prevention model that supports implementation of activities and services across the community that address the needs of the broader population, of specific groups identified as being at risk, and of people who may be at high risk of suicide (defined as universal, selective and indicated interventions). The model is informed by:

- risk and protective behaviours
- resilience and vulnerability
- the impact of the interaction of personal factors and life events, including mental health; and
- warning signs and tipping points.

Rationale for the model

Traditionally, approaches to care in the health sector were based on the concepts of primary, secondary and tertiary prevention. Primary prevention aims to prevent the onset of a particular disorder; secondary prevention aims to identify and treat persons who have no symptoms but have developed risk factors or preclinical disease; and tertiary prevention aims to minimise the effects of an established disorder, prevent complications and minimise the amount of disability (Commission on Chronic Illness, 1957).

In the 1980s, with increasing awareness of the complexity of the factors (risk, protective, contextual, personal) that influence any illness, the traditional model was replaced by the universal, selective and indicated prevention model, introduced by Gordon (1983). It focussed on different groups of clients rather than on the treatment mechanisms. Universal measures can be applied to everybody, a whole population or a whole community; selective preventative measures can be applied to a sub-group at known increased risk; and indicated measures target individuals who are at high risk. This approach is now the basis of suicide prevention in the United States (Gordon, 1983).

Mrazek and Haggerty (1994) adapted Gordon’s model to include the whole spectrum of interventions (prevention, treatment, maintenance, recovery). This Mrazek and Haggerty spectrum was further adapted (Figure 9) to provide the basis for the Australian National Mental Health Strategy (Raphael, 2000) and the 2000 version of the Australian National Suicide Prevention Strategy (Commonwealth of Australia, 2005).

This spectrum (Figure 9) is primarily a clinical model that makes assumptions about progress towards long-term care and the need for treatment. It also uses terms that are not appropriate for people experiencing normal human reactions (anxiety, sadness, anger, frustration, episodic depression) in response to adverse life events. Terms such as ‘treatment’, ‘care’ and ‘recovery’ can be seen to imply that these human emotions are an illness rather than normal human reactions to stressful circumstances.
As a result, recent research and consultations have indicated the need for a new model that is more directly applicable to suicide prevention and more accurately reflects the range of human responses to stressful events. Modifications required include:

- moving from a mental health focus to a focus on individual health and wellbeing; from clinically-oriented interventions towards a person-centred approach that is specific to suicide prevention;
- moving the focus from defining the pathways to suicide, with information on predisposing or influential factors (Associate Minister of Health, 2006; Bonner & Rich, 1987; Jackson & Nuttall, 2001; Rudd, 2000) to defining the alternative pathways to improved health and wellbeing;
- removing medical and technical language and using plain language;
- responding to the need for community-based safety net functions between interventions, based on evidence from systems theory, from safe handover and patient safety initiatives in the medical profession, and from suicide research;
- promoting the importance of evaluation of all suicide prevention activities in order to build the evidence base of what works and does not work in suicide prevention;
- respecting and building on the collective knowledge and experience of routine human responses to adverse life events; and
- including lessons learnt from the suicide prevention literature.

FIGURE 9: Spectrum of mental health interventions.
The inclusion of safety nets

The Mrazek and Haggerty (1994) spectrum of mental health interventions is a complex network of loosely connected interventions involving many players (the community, family, friends, clinicians) and several different types of interventions (universal, selected, indicated). It is well documented that failures in complex systems tend to occur primarily at the points of handover of responsibilities – in this case, between the component parts of the spectrum (Checkland, 1988; Davidow & Malone, 1992; De Rose, 1994; Hedberg et al. 1994; Van Schager, 1987; Waring & Glendon, 1998; Wiener, 1965). In complex health systems, failures at these handover points are increasingly being recognised, and the importance of providing safe clinical handover and patient safety is increasingly emphasised in the health sector (Australian Council for Safety and Quality in Health Care, 2004, 2005; National Patient Safety Agency, 2004a).

In 2004, the Australian Council for Safety and the Quality of Health Care (p.18) declared that:

‘Health care itself is complex with many steps involved in most types of care. The statistical probability of error increases as the number of steps in a process grows… most health care services are now organised around networks or areas of service provision.’

Clinical handover refers to:

‘the transfer of information from one health care provider to another when a patient has a change of location of care, and/or the care of a patient shifts from one provider to another’ (Victoria Quality Council, 2003).

There is a move in Australia and overseas to pay more attention to the transitions between health services, with greater emphasis on responsibility and duty of care for the patient. The British National Safety Agency is pursuing a policy of ensuring ‘continuity of care’, which it defines as ‘the transfer of professional responsibility and accountability for some or all aspects for a patient or group of patients, to another person or professional group on a temporary or permanent basis’ (National Patient Safety Agency, 2004b, p.7).

The suicide literature also provides strong evidence that major system failures occur in the transition zones between clinical responsibilities (Kan et al. 2007). Current evidence suggests that:

• patients are 200 more times more likely to suicide after clinical psychiatric admission (Goldacre et al. 1993);
• the risk of suicide is greater after leaving psychiatric inpatient care than before a person begins this type of treatment. The risk is elevated in the first day

(Hoyer et al. 2004), week (Appleby et al. 1999; Quin & Nordenstof, 2005), month (Goldacre et al. 1993), and year (Geddes et al. 1997) after leaving treatment;
• for men, the rate of suicide in the first 28 days after discharge has been found to be 213 times greater than would be expected in the general population (Beaueois et al. 2004);
• at 12 months post discharge, suicide rates were 27 times higher among men and 40 times higher in women, compared to the general male and female population respectively (Geddes et al. 1997).

This evidence suggests the need to modify the Mrazek and Haggerty (1994) spectrum of mental health interventions, to respond to the need for support and care in the gaps in between the model’s segments. Community-based safety nets are needed to bridge these gaps which focus on providing the support needed by people who are feeling suicidal and are in transition between stages of professional care and support.

This is also mirrored, in part, in the recent proposal from the Mental Health Council of Australia (MHCA) for ‘a massive investment in a range of community-based recovery support services [after discharge from clinical care]’ (Mental Health Council of Australia, 2006, p.2). The MHCA report sees the essential role that needs to be played by a full range of community services that fill the gaps between conventional clinical treatments.

The LIFE (2007) model

The LIFE (2007) model is therefore based on the premise that:

• the responsibility for suicide prevention rests with individuals, health professional groups and services across the community, and that interventions should be provided in a coordinated and integrated way according to the needs of the individual and community; and
• safety nets should be provided to support people moving between treatment options, and back into the community through:
  – community-based services to support and foster recovery after discharge from clinical care;
  – effective client hand-over practices between services and back into the community; and
  – cooperation and communication between health professionals, community support services, families, workplaces, and community groups.

*Intervention - To take action or provide a service so as to produce an outcome or modify a situation. Any action taken to improve health or change the course of, or treat a disease or dysfunctional behaviour.
Key features of the LIFE (2007) model

In light of the research and consultations undertaken as part of the review of the LIFE Framework (2007), the Mrazek and Haggerty (1994) model was further adapted with the following specific features:

- the individual’s health, wellbeing and responses to life events are at the centre of the model, recognising that people respond and cope differently, and vary in their vulnerability and resilience. They respond differently to adverse events and do not always follow a logical or linear path, from risk, to warning sign, to tipping points and to the need for specialised care. Individuals can move from apparent good health directly into adverse reactions and a need for immediate specialised care with no apparent warning.
- the new model uses more everyday language, to make it accessible to a wider audience; and
- it includes community-based safety nets to support people as they move from one treatment setting to another, or are discharged back into the community.

This reflects the strong evidence – both from health systems generally, and in relation to suicide in particular – that people are most exposed to risk at these handover points between interventions. This is when things are most likely to go wrong and when support is most critical.

Eight domains of activity

To reduce the loss of life through suicide, activities will occur across eight overlapping domains of care and support (see Figure 10). The eight domains of the suicide prevention model are:

1. **Universal interventions** aim to engage the whole of a population or populations to reduce access to means of suicide, reduce inappropriate media coverage of suicide, and to create stronger and more supportive families, schools and communities.

2. **Selective interventions** entail working with groups and communities who are identified as at risk to build resilience, strength, capacity and an environment that promotes self-help and support. This might include, for instance, working with families of those who have taken their own life to respond to their grief and loss, and to their elevated risk of suicide; or working with children who are survivors of abuse to build strength and resilience.

3. **Indicated interventions** target people who are showing signs of suicide risk or present symptoms of an illness known to heighten the risk of suicide (eg severe depression). These people can be helped to manage their current situation by solving some of the problems that have caused the illness. Alternatively, referral can be given to doctors or psychologists. Family and community members can be educated to recognise warning signs and take appropriate action to support people at risk.

4. **Symptom identification** which entails knowing, and being alert to, signs of high or imminent risk, adverse circumstances and potential tipping points; and providing support and care when vulnerability and exposure to risk are high.

5. **Finding and accessing early care and support when treatment and specialised care is needed.** This is the first point of professional contact that provides targeted and integrated support and care, and monitors interventions to ensure the client’s access to further information and care as needed.

6. **Standard treatment** when specialised care is needed: integrated, professional care to manage suicidal behaviours, comprehensively treat and manage any underlying conditions, and to improve wellbeing and assist recovery.

7. **Longer-term treatment and support to assist in preparing for a positive future.** This entails continuing integrated care to consolidate recovery and reduce the risk of adverse health effects. In particular, this may be a time to directly focus on distal or background risks for suicide to remove them or to reduce their impact in the future. Alongside this, efforts can be made to improve protective factors for the individual, their immediate family and their local community.

8. **Ongoing care and support involving health professionals, workplaces, community organisations, friends and family to support people to adapt, cope, and to build strength and resilience within an environment of self-help.** This may be the opportunity to increase broader community education about the issues and awareness of the strategies that may be needed to prevent recurrences.
Six overlapping areas of care and support

The LIFE (2007) suicide prevention model identifies six overlapping areas of care and support required for people who may be feeling suicidal (pathways to care). They are:

- assisting people to help themselves and creating an environment that supports self-help (promoting self-help);
- recognising early warning signs and providing early intervention to assist people to resolve issues and/or access appropriate help (responding to help-seeking behaviours);
- increasing understanding of suicide and suicide prevention and of the capacity for individuals and local communities to recognise and respond to early warning signs and to take appropriate steps to make people safe (promoting local understanding and support);
- building the capacity for meeting the needs of individuals who might be feeling suicidal (targeted support and care);
- providing access to specialist care and integrated local support for those who are feeling chronically suicidal or are exposed to greater risk of suicide (specialised care); and
- maintaining an environment where individuals, families and communities can build resilience and improve their general health and wellbeing during times of adversity (individual, family and community growth and development).

The effective implementation of the model assumes the development and maintenance of close local working partnerships between community-based recovery support (family, friends and associates as well as community-based service providers and health centres) and health sector professionals (local doctors, emergency staff, health professionals, primary health practitioners and hospital personnel).

LIFE (2007) continuum of suicide prevention activities

Figure 10 provides a summary of the range of types of suicide prevention activities and interventions that are essential for a whole of community response to reducing the rate of suicide, the risk of suicide, suicide attempts, and of suicidal behaviours in individuals. For each activity/intervention the following is defined: the target group; the proposed outcomes; and who might be involved in the activity/intervention.
**FIGURE 10: LIFE Framework continuum of suicide prevention activities.**

<table>
<thead>
<tr>
<th>Target groups</th>
<th>Outcomes</th>
<th>Who is involved?</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Universal intervention</strong>&lt;br&gt;Activities that apply to everyone (whole populations)</td>
<td>Reducing access to means of suicide, altering media coverage of suicide, providing community education about suicide prevention and creating stronger and more supportive families, schools and communities.</td>
<td>Involving: individuals, families, consumer and carer organisations, multicultural organisations, local councils, sporting and recreational clubs, workplaces, media, educational organisations, providers of education and information on mental health and suicide prevention, service clubs and pubs.</td>
</tr>
<tr>
<td><strong>Selective intervention</strong>&lt;br&gt;For communities and groups potentially at risk</td>
<td>Building resilience, strength and capacity and an environment that promotes self-help and help-seeking and provides support.</td>
<td>Involving: individuals, families, consumer and carer organisations, multicultural organisations, local councils, sporting and recreational clubs, workplaces, media, educational organisations, Divisions of GP, service clubs and pubs.</td>
</tr>
<tr>
<td><strong>Indicated intervention</strong>&lt;br&gt;For individuals at high risk</td>
<td>Building strength, resilience, local understanding, capacity and support; being alert to early signs of risk; and taking action to reduce problems and symptoms.</td>
<td>Involving: individuals, families, consumer and carer organisations, multicultural organisations, GPs, police, gerontologists, rehabilitation providers, emergency workers, specialist physicians, sporting and recreational clubs, workplaces, educational organisations, service clubs and pubs.</td>
</tr>
<tr>
<td><strong>Symptom identification</strong>&lt;br&gt;When vulnerability and exposure to risk are high</td>
<td>Being alert to signs of high risk, adverse health effects, and potential tipping points; and providing support and care.</td>
<td>Involving: GPs, help lines, police, gerontologists, rehabilitation providers, emergency workers, specialist physicians, teachers, pharmacists, workplaces family and friends and other gatekeepers.</td>
</tr>
<tr>
<td><strong>Early treatment</strong>&lt;br&gt;Finding and accessing early care and support</td>
<td>Providing first point of professional contact; targeted and integrated support and care; and monitoring and ensuring access to further information and care.</td>
<td>Involving: GPs, psychologists, allied mental health professionals, Aboriginal Health Workers, emergency departments, police, gerontologists, emergency workers, specialist physicians, community health services, help lines, crisis teams, school counsellors.</td>
</tr>
<tr>
<td><strong>Standard treatment</strong>&lt;br&gt;When specialised care is needed</td>
<td>Providing integrated professional care to manage suicidal behaviours and improve wellbeing as a step in recovery.</td>
<td>Involving: psychiatrists, psychologists, GPs, allied mental health professionals, Aboriginal Health Workers.</td>
</tr>
<tr>
<td><strong>Longer-term treatment and support</strong>&lt;br&gt;Preparing for a positive future</td>
<td>Providing ongoing integrated care to consolidate recovery and reduce the risk of adverse health effects.</td>
<td>Involving: psychiatrists, psychologists, GPs, allied mental health professionals, families, workplaces, local community organisations and clubs, rehabilitation services, Aboriginal Health Workers, help lines.</td>
</tr>
<tr>
<td><strong>Ongoing care and support</strong>&lt;br&gt;Getting back into life</td>
<td>Building strength, resilience, and adaptation and coping skills, and an environment that supports self-help and help-seeking.</td>
<td>Involving: GPs, allied mental health professionals, Aboriginal Health Workers, community service providers, families, local community organisations, workplaces and clubs.</td>
</tr>
</tbody>
</table>

**Safety Nets** for people moving between treatment options, and back into the community. These include:
- community-based services to support and foster recovery after discharge from clinical care
- effective client hand-over practices between services and back into the community; and
- effective cooperation and communication between health professionals, community support services, schools, families, workplaces and community groups.
Suicide in Australia

The Australian Bureau of Statistics is responsible for gathering data from each of the state jurisdictions and compiling the annual publication *Causes of Death*. The number of suicides in any given year is always underestimated to some extent (ABS, 2007). There are some issues around quality of data due to inconsistent coronial practices, however there are ongoing efforts to make the statistics as accurate as possible.

**Suicide trends and comparisons**

Suicide in Australia accounts for 2.5% of all male deaths and 0.7% of all female deaths (ABS, 2007). Figure 11 provides a comparison of rates of suicide as a cause of death for males and females, with other high incidence causes. As is common in most countries internationally, the suicide rate for men in Australia is significantly higher than that for women.

Suicide rates are usually expressed in terms of deaths per 100,000 people. Figure 12 shows the 2005 suicide rates (per 100,000) for all Australian States and Territories.

NOTE: In jurisdictions with smaller populations, one or two suicides can have a significant impact on the total rate (Measey et al. 2006).
### FIGURE 11: Selected causes of death in Australia, 2005.

<table>
<thead>
<tr>
<th>Causes</th>
<th>Males</th>
<th>Females</th>
<th>Males</th>
<th>Females</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heart disease</td>
<td>15,682</td>
<td>15,515</td>
<td>23.3</td>
<td>24.4</td>
</tr>
<tr>
<td>Cancer of the airways</td>
<td>4,694</td>
<td>2,705</td>
<td>7.0</td>
<td>4.3</td>
</tr>
<tr>
<td>Breast cancer</td>
<td>17</td>
<td>2,719</td>
<td>&lt;0.1</td>
<td>4.3</td>
</tr>
<tr>
<td>Suicide</td>
<td>1,657</td>
<td>444</td>
<td>2.5</td>
<td>0.7</td>
</tr>
<tr>
<td>Diabetes</td>
<td>1,775</td>
<td>1,754</td>
<td>2.6</td>
<td>2.8</td>
</tr>
<tr>
<td>Car, bike accidents</td>
<td>1,224</td>
<td>414</td>
<td>1.8</td>
<td>0.7</td>
</tr>
<tr>
<td>Influenza, pneumonia</td>
<td>1,331</td>
<td>1,703</td>
<td>2.0</td>
<td>2.7</td>
</tr>
<tr>
<td>Murder, assault</td>
<td>130</td>
<td>69</td>
<td>0.2</td>
<td>0.1</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>67,241</td>
<td>63,473</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(Source: ABS, 2007)

### FIGURE 12: Age-standardised suicide rates by Australian State and Territory, 2005.

<table>
<thead>
<tr>
<th>State</th>
<th>Males</th>
<th>Females</th>
<th>Rates (per 100,000)</th>
</tr>
</thead>
<tbody>
<tr>
<td>New South Wales</td>
<td>438</td>
<td>111</td>
<td>8.0</td>
</tr>
<tr>
<td>Victoria</td>
<td>393</td>
<td>112</td>
<td>9.9</td>
</tr>
<tr>
<td>Queensland</td>
<td>360</td>
<td>99</td>
<td>11.6</td>
</tr>
<tr>
<td>South Australia</td>
<td>182</td>
<td>49</td>
<td>14.8</td>
</tr>
<tr>
<td>Western Australia</td>
<td>169</td>
<td>34</td>
<td>10.0</td>
</tr>
<tr>
<td>Tasmania</td>
<td>62</td>
<td>22</td>
<td>15.6</td>
</tr>
<tr>
<td>Northern Territory</td>
<td>37</td>
<td>8</td>
<td>22.5</td>
</tr>
<tr>
<td>Australian Capital Territory</td>
<td>26</td>
<td>9</td>
<td>10.6</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>1,657</td>
<td>444</td>
<td>10.3</td>
</tr>
</tbody>
</table>

(Source: ABS, 2007)
Figure 13 shows the geographic distribution of deaths through suicide by average annual rate (per 100,000) for statistical subdivisions over the period 2001-2004.

FIGURE 13: Age-standardised suicide rate per 100,000 population across Australia by ABS statistical subdivisions (2001 – 2004).

(Source: Page et al. 2006b)
Placing Australian rates in an international context

The suicide rate in Australia is higher than some countries and lower than others. Making comparisons between countries is difficult due to the different ways of collecting data about deaths. Figure 14 shows the suicide rates for a selection of countries whose system for providing data to the World Health Organisation (WHO) is similar to Australia’s. It is problematic to make meaningful comparisons between the reported suicide rate of one country and another without fully understanding the differences in data collection methods.

Rate per 100,000

FIGURE 14: Suicide rates (per 100,000) for selected countries (latest year available).

<table>
<thead>
<tr>
<th>Country</th>
<th>Year</th>
<th>Suicide rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Greece</td>
<td>2004</td>
<td>3.2</td>
</tr>
<tr>
<td>Brazil</td>
<td>2002</td>
<td>4.3</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>2004</td>
<td>7.0</td>
</tr>
<tr>
<td>Italy</td>
<td>2002</td>
<td>7.1</td>
</tr>
<tr>
<td>Spain</td>
<td>2004</td>
<td>8.2</td>
</tr>
<tr>
<td>Argentina</td>
<td>2003</td>
<td>8.7</td>
</tr>
<tr>
<td>Netherlands</td>
<td>2004</td>
<td>9.3</td>
</tr>
<tr>
<td>Ireland</td>
<td>2005</td>
<td>9.7</td>
</tr>
<tr>
<td>Singapore</td>
<td>2003</td>
<td>10.1</td>
</tr>
<tr>
<td>Australia</td>
<td>2005</td>
<td>10.3</td>
</tr>
<tr>
<td>Chile</td>
<td>2003</td>
<td>10.4</td>
</tr>
<tr>
<td>USA</td>
<td>2002</td>
<td>11.0</td>
</tr>
<tr>
<td>Norway</td>
<td>2004</td>
<td>11.5</td>
</tr>
<tr>
<td>Canada</td>
<td>2002</td>
<td>11.6</td>
</tr>
<tr>
<td>New Zealand</td>
<td>2004</td>
<td>11.7</td>
</tr>
<tr>
<td>Germany</td>
<td>2004</td>
<td>13.0</td>
</tr>
<tr>
<td>Sweden</td>
<td>2002</td>
<td>13.2</td>
</tr>
<tr>
<td>Cuba</td>
<td>2004</td>
<td>13.5</td>
</tr>
<tr>
<td>Denmark</td>
<td>2001</td>
<td>13.6</td>
</tr>
<tr>
<td>Poland</td>
<td>2004</td>
<td>15.9</td>
</tr>
<tr>
<td>Austria</td>
<td>2005</td>
<td>16.9</td>
</tr>
<tr>
<td>Switzerland</td>
<td>2004</td>
<td>17.4</td>
</tr>
<tr>
<td>France</td>
<td>2004</td>
<td>18.0</td>
</tr>
<tr>
<td>Finland</td>
<td>2004</td>
<td>20.3</td>
</tr>
<tr>
<td>Republic of Korea</td>
<td>2004</td>
<td>23.8</td>
</tr>
<tr>
<td>Japan</td>
<td>2003</td>
<td>24.0</td>
</tr>
<tr>
<td>Hungary</td>
<td>2003</td>
<td>27.7</td>
</tr>
<tr>
<td>Russian Federation</td>
<td>2004</td>
<td>34.3</td>
</tr>
</tbody>
</table>

### Indigenous Australians and suicide

Suicide among Australia’s Indigenous population is significantly higher than the general Australian population. Estimates suggest that, in some years, the suicide rate for Indigenous people in specific communities is as much as 40% higher than that for the Australian population as a whole. Over the past 30 years Indigenous suicide has increased dramatically, with young Indigenous males (aged 17-23) being the most at risk (Cantor et al. 1998; Fremantle, 2005; Harrison & Moller, 1994; Hunter et al. 2001).

The high suicide rate among some groups of Indigenous Australians (particularly in young males) is often attributed to a number of factors that combine to magnify the risk for suicidal behaviours and self-harm. These include:

- Indigenous people are often exposed to a number of known environmental risk factors for suicide, including poverty, low socio-economic status, lack of education, poor employment prospects, reduced access to services, living in rural or remote communities, domestic violence or abuse, and alcohol and other drug abuse (Procter, 2005).
- many Indigenous people have been affected by the suicide of another family or community member that may increase the likelihood of suicide contagion or clusters.
- trauma and grief are ever present within many Indigenous communities as a result of the continuing loss and traumatisation from past dislocation and mistreatment, as well as current grief from the deaths of family and community members and friends.
- the number of Indigenous inmates in Australia’s prison system is disproportionate to the total population.
- loss of cultural identity and social isolation is known to cause a person to lose their sense of purpose and meaning in life. Suicide among Indigenous people is likely to be a response to the broader social context of disintegration of their culture and communities (Swan & Raphael, 1995).
- lack of access to culturally appropriate services to assist people who may be at risk of suicide or who have been affected by suicide (Procter, 2005); and
- relatively poor health amongst Indigenous Australians compared with the wider Australian community also poses a risk factor for suicide, particularly for older people.

As is the case amongst non-Indigenous Australians, Indigenous people who choose to take their own life are more likely to be experiencing a range of risk factors and the rate of suicide-related behaviours differs between Indigenous communities throughout Australia (Tatz, 1999).

Effective suicide prevention strategies in Indigenous communities need to:

- reflect how Indigenous people view health, mental health and suicidal behaviours. Indigenous people have a holistic understanding of health and wellbeing that not only affects the individual, but the community as a whole. Wellbeing includes all aspects of health, including mental, physical, social, cultural and spiritual health.
- reflect a focus on wellbeing and mental health promotion, rather than focussing on mental illness and suicide.
- encourage ownership and involvement from local communities; and
- show respect for cultural beliefs and attitudes surrounding suicide and mental health, and employ culturally appropriate techniques and methods (Vicary & Westerman, 2004).

### Implications for suicide prevention activities and interventions

Effective suicide prevention strategies in Indigenous communities are likely to involve:

- drawing on the expertise of Indigenous people and culturally competent staff in developing services that are culturally appropriate. This includes involving Indigenous people in the consultation, negotiation and decision making process, to establish community ownership of suicide prevention activities and other initiatives.
- recognising and harnessing the broad range of skills and expertise of Indigenous people to improve health and wellbeing and reduce suicidal behaviours.
- understanding that trauma and loss, both past and present, are significant factors contributing to reduced physical and mental health among Indigenous Australians and that the effects on families and communities are passed on from one generation to the next.
- providing coordinated services to combat the range of social issues affecting Australia’s Indigenous population; and
- providing regular screening and culturally appropriate treatment for mental illnesses, such as depression, using a combination of traditional and modern treatment methods.
Effective suicide prevention strategies in Indigenous communities are likely to involve expertise of Indigenous people and culturally competent staff in developing services that are culturally appropriate.
Men and suicide

Suicide is four times more common in men than women, and in 2005, 1,657 men took their own lives (ABS, 2007). This means that five men take their own lives in Australia every day. Many men make the decision to take their own life very quickly, showing few warning signs so it is essential to respond quickly and effectively to any warning signs. Statistics tell us that the men who are the most at risk are:

- young or in their middle years (20 to 44 years old);
- older men (over 75);
- men living in rural or remote areas;
- men undergoing traumatic life events. Potentially traumatic life events that may increase men’s likelihood of suicide include relationship breakdown, separation from children, unemployment, financial stress and social isolation. For some, these events can lead to feelings of shame and guilt, which can further increase risk;
- men in prison or custody; and
- men from Indigenous communities.

But men of all ages and backgrounds can be at risk.

Suicide accounts for more than one quarter of all deaths among men between the ages of 20 and 44 years in Australia (ABS, 2007). Life events such as depression, unemployment, financial difficulties, relationship problems, work stress, and alcohol and drug abuse play a significant role in determining the risk of suicide in this age group (Cantor & Slater, 1995).

Various reasons for the relatively high rate of suicide in men in Australia have been suggested. They include:

- higher likelihood in men to choose methods of suicide that result in instant death;
- tendency not to recognise or respond to their own negative emotions or distress, which may result in more chronic and severe emotional responses to adverse life events (Goldney et al., 2002);
- not seeking help for emotional difficulties or communicating their feelings of despair or hopelessness to others (Howerton et al., 2007);
- a feeling that help-seeking displays weakness or failure and prefer to solve problems on their own, without being a burden on others (Emslie et al., 2006); and/or
- lack of awareness of available support services in their area or a feeling that these services do not adequately cater for their needs and would not help in their situation.

Implications for suicide prevention activities and interventions

Recent studies propose that effective suicide prevention programs for men should promote physical and mental health, drawing on men’s skills and strengths, rather than on perceived failings or shortcomings (Schaub & Williams, 2007). Men respond well to services that encourage problem-solving and enhance their ability to gain control over their emotions and circumstances (Emslie et al., 2006). It is also valuable to introduce suicide prevention programs that target the family and friends of suicidal men who do not seek help themselves (Mishara et al., 2005).

It is important that professional carers, such as general practitioners, actively ask men about their mental and emotional state, as men rarely initiate conversations about these topics (Brownhill et al., 2002, 2003).
Suicide rates in rural and remote communities have risen substantially over the past few decades, especially among men. Actual rates, while high, can vary more widely from year to year compared to regional and metropolitan areas. This is because one or two suicides in a small population can have a significant impact on the rate.

Figure 15 shows the different rates of suicide for the five categories of remoteness of areas (i.e., major cities, inner regional, outer regional, remote and very remote) with the highest rates recorded in very remote areas (20.1 per 100,000 population) (Page et al. 2006b).

There are many possible reasons for these regional differences in suicide rates (Aisbett et al. 2007; Henley et al. 2007). They include:

- **Social isolation.** Many people in rural and remote Australia are socially isolated, with less face-to-face contact with family, friends and other support networks. This can lead to loneliness and depression and can contribute to suicidal behaviour.
- **Less help-seeking.** Many rural people are resilient and resourceful, and have a strong sense of self-sufficiency in regional and rural areas. This can discourage them from seeking help in difficult times from family, friends or their community.
- **Reduced access to support services.** Often rural and remote communities do not have access to a range of community support services, such as mental health services. Services that cater for people in metropolitan areas may not be appropriate for people living in rural and remote areas. Many people living in rural Australia do not have access to the internet and some do not have telephones. This makes accessing traditional methods of support and care difficult or, in some cases, impossible.
- **Combinations of suicide risk factors.** For many people in rural and remote Australia, risk factors may combine to increase the risk of suicidal behaviour.
- **Within the many Indigenous communities in rural and remote Australia a wide range of social, psychological and environmental factors exist that put people in these communities at risk of suicide including social and economic marginalisation.**

**FIGURE 15:** Suicide rates for different regions based on remoteness 1997–2001.

<table>
<thead>
<tr>
<th>ASGC Remoteness Classification</th>
<th>Deaths</th>
</tr>
</thead>
<tbody>
<tr>
<td>Major Cities: 1</td>
<td>7,612</td>
</tr>
<tr>
<td>Inner Regional: 2</td>
<td>2,717</td>
</tr>
<tr>
<td>Inner Regional: 3</td>
<td>1,491</td>
</tr>
<tr>
<td>Remote: 4</td>
<td>283</td>
</tr>
<tr>
<td>Very Remote: 5</td>
<td>215</td>
</tr>
</tbody>
</table>

*Avoidable Mortality: Suicide & Self-inflicted Injuries (ASR) per 100,000 population*

(Source: Page et al. 2006b)
Implications for suicide prevention activities and interventions

Suicide prevention efforts should focus on increasing the availability of support services in these regions and enhancing social connectedness and participation in the community as well as providing gatekeeper training to ensure support and care for men at risk.

Self-harm and suicide

Self-harm refers to the attempt to inflict physical harm to one's self and is often done in secret and without anyone else knowing. The terms ‘deliberate self-injury’ or ‘non-suicidal self-injury’ are also often used to describe injuries a person inflicts on himself or herself without necessarily the intent to suicide (Silverman et al. 2007). Cutting, burning and ingesting toxic substances are the most common methods of deliberate self-harm but other methods include taking overdoses of medications, punching oneself, throwing one’s body against something, pulling out hairs, scratching, picking or tearing at one’s skin causing sores or scarring, and inhaling or sniffing harmful substances.

Self-harm causes distress for patients, families, friends, and carers. It also places considerable burden on the Australian economy, as people who self-injure often frequently access public emergency and psychiatric health services (Steenkamp & Harrison, 2000).

Self-harm varies with the individual. Some people deliberately self-harm regularly, while others may do it only once or twice and then stop. They may injure themselves in response to a specific problem and stop once the problem is resolved. Others may self-harm over a much longer period, whenever they feel pressured or distressed, and use it as a way of coping, particularly where they have not learned or cannot use more positive ways of coping.

Groups who are prone to self-harm include:

- people with borderline personality disorder, but also occurs in a variety of other psychiatric disorders; and
- people with a psychosis may deliberately inflict serious injury on themselves, and this may result in death, though the person did not intend to suicide.

The most common form of deliberate self-injury, however, is compulsive, impulsive, and repeated. It is more likely to occur when the person is distressed or in difficulty. The person may or may not have suicidal thoughts or behaviour.

People who deliberately harm themselves typically report feeling hopeless, anxious and rejected, having low self-esteem and finding it difficult to cope with the events in their lives. They often find it difficult to explain their feelings to others. They say that they do it to release tension or pressure, to reduce emotional pain, to punish themselves due to feelings of guilt and shame, to avoid letting others know how they are feeling, or to give themselves a sense of control over their lives. Deliberate self-harm may also be a symptom of an underlying mental illness requiring treatment by a health professional.

There is a complex link between self-harm and suicide (De Leo et al. 2004; Favazza, 1998);

- Despite having no apparent intention to die, up to 41% of people who self-harm report suicidal thoughts at the time of self-injuring and between 55% to 85% of people who self-harm have a history of at least one suicide attempt (Stanley et al. 2001);
- Non-suicidal self-injury is a strong risk factor for suicide (Ryan et al. 1996). Those people who engage in repetitive self-harm (more than two episodes) are more likely to suicide than those with only one episode (Zahl & Hawton, 2004), and between a quarter and a half of people who die by suicide have previously carried out a non-fatal act of self-injury (Hawton & James, 2005); and
- People who engage in self-harm and those who attempt suicide both score significantly higher on measures of depression and suicidal thoughts than the general population. However, the latter group have a more negative attitude towards life and report more traumatic experiences (Muehlenkamp & Gutierrez, 2004).
Living Is For Everyone: Research and Evidence in Suicide Prevention
livingisforeveryone.com.au

While suicide occurs in most cultures, the phenomenon of suicide and suicidal thinking among people who move from one culture to another varies from country to country, and suicide rates among immigrants to Western countries appear, overall, to be higher than that found in the country of birth. This is so in Australia, but the relative contributions of pre- and post-immigration factors to suicide rates and mental illness are unclear (Burvill, 1998).

There is great diversity in the rate of suicide for immigrants to Australia, which in some cases is accounted for by the fact that in the early stages of settlement, the rate for particular groups generally mirrors the suicide rate of the country of origin; and the rate of suicide may also reflect the different reasons that people migrate and the impacts of migration on them.

For some, immigration is a very positive experience, including family reunion and better educational and employment opportunities. However, for others, immigration can be traumatic or fail to meet their expectations. It is important to particularly consider suicide prevention in relation to people from culturally and linguistically diverse (CALD) backgrounds for a number of reasons:

- the process of adapting to a new culture can in itself be a stressful experience particularly where there are wide differences in cultural beliefs, language, values and customs;
- for some who are elderly, socially isolated, suffer health problems or are unemployed, being separated from their culture and land of birth may be a traumatic experience that places them at risk of suicide;
- a significant number of people from CALD backgrounds do not seek help for their mental health problem, or are reluctant to do so. Often, they miss out on suicide support services because information is not available in community languages, or there is no culturally appropriate service available. They may also find it difficult to use mainstream services because of language and cultural barriers, may be confused about how services operate, or simply unaware of the range of services and supports that are available; and
- refugees may have experienced war and trauma, fled their home country, and lost their family, friends and the entire social fabric of their lives. Their experiences may put them at high risk for post traumatic stress disorder or depression.

**Implications for suicide prevention activities and interventions**

Deliberate self-harm should always be taken seriously:

- one of the major predictors of suicide is a previous episode of deliberate self-harm, including previous suicide attempts.
- some research suggests people who self-harm are at increased risk of suicide, but other evidence indicates that they do not have any intention of dying and that harming themselves is their way of coping with life. However even if there is no suicidal intent accompanying the deliberate self-harm, the risk of accidental death is very real.
- people who repeatedly injure themselves may come to feel that they cannot stop, and this may lead to feelings of hopelessness and possibly suicidal thoughts.
- people who self-injure and those who attempt suicide have similar feelings of hopelessness, often believing that things will never improve or that they have lost all control over life. Additionally if the self-injury fails to relieve tension or control negative thoughts and feelings, the person may injure themselves more severely, or may start to believe they can no longer control their pain and may consider suicide.
- adequate care and support for people who self-injure or attempt to take their own lives is essential to prevent repeated, and possibly fatal, behaviour (Brown et al. 2005). Increasing community recognition and response to warning signs of suicide may also be effective in reducing suicide in people who self-injure or attempt suicide (Samuelsson & Asberg, 2002).

**Suicide and people from culturally and linguistically diverse backgrounds**

While suicide occurs in most cultures, the phenomenon of suicide and suicidal thinking among people who move from one culture to another varies from country to country, and suicide rates among immigrants to Western countries appear, overall, to be higher than that found in the country of birth. This is so in Australia, but the relative contributions of pre- and post-immigration factors to suicide rates and mental illness are unclear (Burvill, 1998).

There is great diversity in the rate of suicide for immigrants to Australia, which in some cases is accounted for by the fact that in the early stages of settlement, the rate for particular groups generally mirrors the suicide rate of the country of origin; and the rate of suicide may also reflect the different reasons that people migrate and the impacts of migration on them.

For some, immigration is a very positive experience, including family reunion and better educational and employment opportunities. However, for others, immigration can be traumatic or fail to meet their expectations. It is important to particularly consider suicide prevention in relation to people from culturally and linguistically diverse (CALD) backgrounds for a number of reasons:

- the process of adapting to a new culture can in itself be a stressful experience particularly where there are wide differences in cultural beliefs, language, values and customs;
- for some who are elderly, socially isolated, suffer health problems or are unemployed, being separated from their culture and land of birth may be a traumatic experience that places them at risk of suicide;
- a significant number of people from CALD backgrounds do not seek help for their mental health problem, or are reluctant to do so. Often, they miss out on suicide support services because information is not available in community languages, or there is no culturally appropriate service available. They may also find it difficult to use mainstream services because of language and cultural barriers, may be confused about how services operate, or simply unaware of the range of services and supports that are available; and
- refugees may have experienced war and trauma, fled their home country, and lost their family, friends and the entire social fabric of their lives. Their experiences may put them at high risk for post traumatic stress disorder or depression.
Suicide in refugee communities

While the research does not provide consistent rates for mental illness affecting immigrants who are refugees, the overall rate of mental illness is widely believed to be significantly higher than in the general Australian population (Hunt et al. 2003). Studies from the United States estimate the incidence of mental illness among refugee children to be 40-50% (Sack et al. 1999). Closer scrutiny of this research reveals post traumatic stress disorder (PTSD), depression and anxiety disorders are diagnosed most frequently (Hodes & Tolmac, 2005), although a range of other mental illness and social and behavioural problems are also widely reported (Hodes, 2005). PTSD has attracted the most research attention and now constitutes a separate field of investigation in its own right. Past trauma may take the form of events experienced or witnessed, where lives have been threatened or people have been killed. Also significant is the loss of family, friends, relatives, personal belongings and possessions, livelihood, country, and/or social status.

The risk factors most commonly found to increase the likelihood of suicide among refugees and immigrants include exposure to violence and trauma, lack of family support, living with a mentally ill family member, family stress, being alone or unaccompanied, prolonged incarceration (more than 6 months) in immigration detention centres (Steel et al. 2008), poor coping skills and resettlement stress. Poverty, discrimination and acculturation stress are all thought to be linked to low self-esteem, depression and suicide attempts (Aubert et al. 2004). People who endure stresses around housing, physical illness, the quality of relationship with a partner, and finances are also associated with elevated risk of mental illness and suicide-related behaviours.

Implications for suicide prevention activities and interventions

Positive experiences in the new country contribute favourably to mental health and wellbeing. Studies of immigrants and refugees suggest that social support and cultural integration are protective factors for suicide among immigrants (Bengi-Arslan et al. 2002). Migration can be a very stress-inducing phenomenon, but experiences differ both pre- and post-migration (Bhugra, 2004) and mental illness is a significant risk factor for suicide among refugees. Suicide prevention activities need to specifically address this issue.

Effective suicide prevention activities in refugee communities need to include culturally appropriate mental health interventions, particularly for people who have experienced pre-migration torture and trauma, refugee camp internment, periods of containment in immigration detention and post-migration stresses (Fenta et al. 2004).
Positive experiences in a new country contribute favourably to mental health and wellbeing.
Evidence of what works in suicide prevention

The high incidence of suicide worldwide has prompted a wide range of suicide prevention initiatives, including comprehensive national suicide prevention programs in Australia, New Zealand, the United Kingdom, USA and many other countries. Appendix C summarises the main objectives of suicide prevention strategies in a number of countries.

Types of prevention programs

Suicide prevention programs can take many forms. A popular framework involves three types of preventative interventions: universal, selective and indicated (Gordon, 1983; Mrazek & Haggerty, 1994; Silverman & Maris, 1995). Universal prevention refers to activities targeting the general population (eg health promotion and education); selective interventions are aimed at specific at-risk populations (eg psychiatric patients); while indicated strategies address specific high-risk individuals showing early signs of suicidality. This model formed the basis of the Living Is For Everyone (LIFE) Framework when it was introduced in 2000 (Commonwealth of Australia, 2000) and has been further developed in LIFE (2007).

Across these three broad categories, five major types of interventions have been regularly undertaken and researched: suicide awareness and education programs for the general public, primary care physicians and gatekeepers; screening of at-risk individuals; treatment for individuals who attempt suicide (including pharmacotherapy, psychotherapy, follow-up care); restricting access to means of suicide; and media guidelines for responsible reporting of suicide (Mann et al., 2005). Following the United Nations Guidelines for National Suicide Prevention Strategies (United Nations, 1996), a number of governments have adopted comprehensive approaches across these domains, as well as interventions for people bereaved by suicide (see Appendix C).

Evidence about the effectiveness of suicide prevention activities is quite limited, both in Australia and elsewhere. However, evidence from other countries suggests that physician education in the recognition and treatment of depression, gatekeeper training, and restricting access to lethal means of suicide are promising approaches that may have an impact on suicide rates (Beautrais et al. 2007; Lester, 1997; Mann et al. 2005). Caution is required in relation to such evidence, as study design, the location and sample characteristics can have a significant effect on outcomes (Mann et al. 2005).

Training for health professionals

A postgraduate educational program on the diagnosis and treatment of depression offered to all general practitioners on the island of Gotland in Sweden in the early 1980s was linked to a significant decline in suicide rates on the island and other related outcomes (including an increase in prescription of antidepressants) (Rutz et al. 1989, 1992). However, the impact of primary care physician education on suicide rates on Gotland was time-limited and mostly with females (Rutz et al. 1992).

There are no published data on the impact of similar programs on suicide rates in other countries. Several education programs for general practitioners and other health care professionals in Australia have produced positive outcomes in terms of increased knowledge and skills regarding detection of at-risk patients, but there is no evidence regarding long-term changes in clinical practice or reduction of actual suicide rates (Naismith et al. 2001; Pfaff et al. 2001).

Gatekeeper training

One of the most effective gatekeeper training programs was a suicide prevention program initiated within the US Air Force in 1996 (Knox et al. 2003). The program aimed at reducing suicide risk factors and enhancing protective factors, including changing policies and social norms, reducing the stigma of help-seeking for mental illness and improving awareness of mental health issues.
Clinical interventions

Counselling and related therapies

Other approaches to suicide prevention also appear promising, although there is a lack of strong scientific evidence to prove their effectiveness in preventing someone from taking their own life (Beautrais et al. 2007). Initiatives include clinical interventions for people with a history of suicide attempts (eg improving adherence to treatment and better patient follow-up), and counselling and psychotherapy for mental illness. Therapies such as dialectical behavioural therapy (see below), problem-solving therapy, and provision of an emergency card alerting others to an individual’s history of suicide-related behaviours have been shown to reduce repeated suicide attempts and self-harm (Hawton et al. 1998; Hepp et al. 2004; Links et al. 2003).

Dialectical behaviour therapy (DBT) was developed as therapy for women with borderline personality disorder engaging in repeated deliberate self-harm, including suicide attempts (Linehan, 1993). DBT uses cognitive and behavioural techniques to enhance interpersonal communication, develop skills to cope with emotional distress, regulate emotions and improve self-help. DBT has been scientifically evaluated and proven to be an effective treatment for this group of women (Linehan et al. 2007).

Medication

Medication for major mood and psychotic disorders, such as depression, bipolar disorder and schizophrenia, may reduce the risk of suicide within these groups (Beaugois et al. 2004; Glick et al. 2004; Müller-Oerlinghausen et al. 2006). However, despite numerous studies, the role of antidepressants in reducing the risk of suicide remains unclear (De Leo, 2004; Mann et al. 2005).
Evidence... suggests that physician education in the recognition and treatment of depression, gatekeeper training and restricting access to lethal means of suicide... may have an impact on suicide rates.
Community capacity-building approaches

A wide range of general population and community-based suicide prevention programs may also lead to positive outcomes, although there is limited scientific evidence of their impact on suicide rates (Beautrais et al. 2007). Examples are:

- crisis centres and counselling
- public awareness, education and mental health literacy programs
- screening for depression and suicide risk in educational and primary care settings
- school-based competency and skill enhancement programs; and
- support for suicide survivors and communities bereaved by suicide.

Many phone-based crisis counselling services worldwide have been operational for decades and data shows that both individuals in crisis and third parties concerned about somebody else’s wellbeing, frequently use these services (Mishara & Daigle, 2001). Positive results are reported in anecdotal evidence, as well as studies examining clients and counsellors satisfaction with the services provided, repeat use of services and referral outcomes (King et al. 2003; Mishara & Daigle, 2001).

However, studies assessing the services’ impact upon actual suicide rates have yielded inconclusive results. Some studies show that suicide hotlines may help to reduce suicide rates among particular groups (e.g., young white females) (Lester, 1997; Miller et al. 1984).

As an example, a community-based phone support program for the elderly established in Italy produced promising results (De Leo et al. 1995). Ten years after the introduction of the service, suicide rates amongst people over 65 years of age were significantly lower than the general population (De Leo et al. 2002). Similar studies are underway in Australia.

Addressing media coverage of suicide

There is strong evidence linking media reports of suicide to increased suicide rates both overseas and in Australia (Pirkis & Blood, 2001; Pirkis et al. 2006). Consequently, many countries have developed guidelines for responsible coverage of suicide, including a resource for media professionals in Australia (Commonwealth of Australia, 2006b). There have been promising results from some overseas studies demonstrating a link between media guidelines and a reduction in suicide rates (Ezerddorfer & Sonneck, 1998).

More recently, research on the impact of media guidelines in Australia has found convincing evidence that these guidelines have had an impact on the quality of reporting of suicides as well as on reducing suicide-related behaviours (Niederkrotenhaler & Sonneck, 2007).

Further information about the research and evidence relating to media reporting and portrayal of suicide can be found at www.mindframe-media.info.
Collaborative approaches to suicide prevention

It has been recognised by governments across Australia that structures and systems with hierarchical control and linear systems of accountability are not adequate for addressing complex social issues such as suicide prevention (Barrett, 2003; Shergold, 2005).

The traditional delivery of programs from multiple departments and diverse agencies, described as the ‘shower head effect,’ can result in duplication of effort, confusion of responsibility and accountability, and the potential for systemic waste of scarce resources.

In the United Kingdom as early as 1975, the Central Policy Review Staff (in the Office of Cabinet) published a report entitled ‘A Joint Framework for Social Policies’ (Klein & Plowden, 2005, p.107), which flagged the need:

1. to improve coordination between services, as they affect individuals;
2. to provide better analysis of complex problems cutting across service boundaries; and
3. to develop a collective view among ministers on priorities between different programs, problems and groups.

Internationally, the ‘shower head’ is increasingly giving way to ‘pooled resourcing’, devolved decision-making, connection and cooperation between central, line and operational agencies and community engagement (Shergold, 2005).

Australian governments have commenced and continue to launch initiatives for joined-up government including through a range of Council of Australian Government (COAG) agreements (Commonwealth of Australia, 2004a).

The need for greater coordination and collaboration in the delivery of suicide prevention programs can be seen in the range and type of current government policies and strategies that overlap with the suicide prevention initiative (Figure 16). The two major policy areas that overlap with suicide prevention are the National Mental Health Plan 2003-2008 and the National Drug Strategy 2004-2009. However, there are many other strategies which target specific special interest groups that also link closely with the suicide prevention initiative (for example the Social and Emotional Wellbeing Framework: A National Strategic Framework for Aboriginal and/or Torres Strait Islander Peoples Mental Health and Emotional Wellbeing) (Commonwealth of Australia, 2004b).

Australian governments have already set the framework for possible coordination and collaboration. Suicide prevention, in particular, is an area that lends itself to whole-of-government and across government approaches. The decision to take one’s own life has multiple causes and suicide prevention is complex, with the knowledge and resources to deal with suicide and suicide prevention located across many sectors. There are a number of agencies operating under shared goals of reducing suicide, and there are many government agencies (health, human services, communities, families, community development) and non-government service providers involved in service delivery, particularly with high risk populations and individuals. There are many overlapping government policies and strategies that have an impact on suicide prevention (as shown in Figure 16).

To improve cooperation and collaboration for the prevention of suicide in Australia, action is needed at three levels:

- **Structural level**, including tools for effective collaborative governance and project management in suicide prevention. Given the range of government and non-government agencies in suicide prevention, the introduction of joint planning and implementation could be expected to deliver both a better policy framework and a more seamless service delivery. There are a range of publicly available guidelines for structural changes that can significantly improve the delivery of joined-up services and improve cooperation, collaboration and the better integration of suicide prevention policy and service delivery (Commonwealth of Australia, 2004a).
- **Systems level**, including sharing of information, budgeting and reporting; and
- **Cultural level**, including the attitudes and beliefs that underlie a group’s functions and behaviour. If the Living Is For Everyone initiative is to be successful, it will need to harness the emerging cultural changes within government and service providers towards collaborative service delivery at the local level.
Ten principles have been broadly promoted across government to be applied to achieve coordinated service provision (Barrett, 2003; Blacher & Adams, 2007; Commonwealth of Australia, 2004a; Department of Prime Minister and Cabinet, 2007; Parker, 2007). They are:

1. A long-term commitment to resources: Preferably five years or more, but a minimum of three years;
2. A client focus: The client’s experience of services and support is central to policy development and service delivery;
3. A focus on outcomes: A balance of short-term and long-term results and clear overall outcome, with timely reporting;
4. Shared knowledge: An open, common set of resources and knowledge;
5. Facilitation: Central agencies facilitating and enabling, rather than controlling and directing;
6. Activities that augment, complement and supplement: Policy makers collaborating with service deliverer and the community sector to augment, complement and supplement existing programs and services to deliver the policy objectives;
7. Local capacity and ownership: Engaging local leaders across sectors (business, community, government);
8. Partnership and reciprocity: Recognising that complex social issues require genuine cross-sectoral partnerships – within and beyond government – and a shared responsibility for outcomes;
9. Devolution and flexibility: Policy frameworks are broad and flexible enough to enable devolution of service planning and delivery to the local or regional level;
10. Provision of incentives: Incentives such as funding and recognition of autonomy can all be used to stimulate change.
FIGURE 16: Linking suicide prevention to other related government policies and strategies.
Evaluation of suicide prevention programs

Systematic evaluation of all suicide prevention projects, activities and programs is essential for the continued development of best practice. It will ensure that interventions are based on a solid foundation of evidence, that resources and effort are allocated appropriately, and that the required outcomes and impacts can be achieved.

Challenges in evaluating suicide prevention program effectiveness

Despite the large number of suicide prevention initiatives internationally and in Australia, few have been properly evaluated for their effectiveness and impact (Beautrais et al. 2007; Goldsmith et al. 2002; Mann et al. 2005; Stuart et al. 2003). There are several reasons for this, including short program duration, the diversity of risk populations being targeted by programs, and methodological difficulties (eg small sample sizes, lack of control groups and using retrospective evaluations (De Leo, 2002, 2004).

Despite the immeasurable human tragedy of each suicide and the distress of those left in its wake, from a statistical point of view, death by suicide is a relatively rare event, with approximately 1 suicide death per 10,000 people in the Australian population per year (ABS, 2007). This causes a serious dilemma regarding the choice of the most appropriate measures to be used when evaluating suicide prevention programs. Given that 0.01% of the Australian population dies by suicide each year, studies evaluating the effectiveness of suicide prevention programs require very large sample sizes to produce accurate and meaningful results if the only measure of success used is suicide rate reduction. To prove that an intervention results in a 15% reduction in the national suicide rate, a study sample of almost 13 million people would be required (Gunnell & Frankel, 1994).

The measures used to evaluate suicide prevention programs therefore should also include, in addition to reductions on suicide rates, the prevalence of suicide attempts; suicide-related behaviours; thinking or communication; changes in predisposing vulnerabilities (eg mental illness, hopelessness); and protective factors (eg coping skills, help-seeking behaviour, compliance with treatment for mental illness, social connectedness and mental health literacy) (Beautrais et al. 2007; Headey et al. 2006; Mann et al. 2005; Maris et al. 2000). In addition, current evidence shows that there are significant differences between people who attempt suicide and those who die by suicide, suggesting that studies involving people who attempt suicide may not be applicable to those who suicide.

There is also limited evidence to support the notion of a pathway to suicide from suicidal thinking to completion, or on the effectiveness of factors that may protect against suicide-related behaviours (De Leo, 2002, 2004; Silverman & Maris, 1995). Moreover, suicide rates are influenced by a multitude of variables, many of which cannot be controlled. In fact, bigger reductions in the incidence of suicide have been observed in some cases following naturally occurring socio-economic changes (eg major economic fluctuations, wars, changes in political situation) rather than through purposefully implemented national suicide prevention strategies (De Leo, 2002, 2004; De Leo & Evans, 2004; Goldsmith et al. 2002).

The importance of ongoing evaluation

Despite a large amount of research and literature in the area, suicide prevention remains an inexact process based on limited scientific evidence (De Leo, 2002).
Although there is evidence suggesting that some suicide prevention approaches may reduce suicide rates (e.g., restricting means, primary care physician education and gatekeeper training), there is an urgent need for continued development of well-planned, evidence-based programs and research evaluating their effectiveness in Australia (Beautrais et al. 2007; De Leo, 2002; Gunnell & Frankel, 1994; Headley et al. 2006; Mann et al. 2005; Pirkis et al. 2006).

All suicide prevention initiatives should be guided by current evidence and include an evaluation component based on meaningful and measurable outcomes. This will allow the critical components of effective suicide prevention programs to be identified and refined, and to guide future suicide prevention efforts.

Suicide prevention programs should also monitor any negative or harmful effects that may occur, always ensuring that an intervention follows the guiding principle of “first, do no harm” (Beautrais et al. 2007).

Suicide prevention initiatives should be multimodal and complementary, targeting a wide range of high-risk groups. The diverse approach to suicide prevention is essential because there is no single, readily identifiable, high-risk population that constitutes a sizeable proportion of overall suicides and yet is small enough to target easily and have an effect (Gunnel & Frankel, 1994).

Many national suicide prevention programs focus on universal, population-wide interventions (e.g., public awareness education, mental health literacy programs), somewhat neglecting the selective and indicated approaches and sometimes overlooking certain high-risk groups (Beautrais et al. 2007). There is a need to strike a balance between population-based approaches, and interventions with high-risk groups that focus on identifying and managing suicide-related behaviours and mental illness.

Materials to guide and assist the evaluation of suicide prevention programs have been developed under the National Mental Health Strategy (Commonwealth of Australia, 2001) and to support implementation of the LIFE Framework (Mitchell & Lewis, 2003).
Appendix A: Life events and suicide – emerging issues

Literature on the impact of life events on mental illness or their impact on suicide and suicidal thinking has only recently emerged. There is very little validated or rigorously reviewed research on the link between life events and suicide. The material in this appendix should be treated as indicative only – until more definitive and validated research has been undertaken and published.

Recent Australian research on life events

Recent research undertaken in Australia involving feedback from over three hundred people bereaved by suicide identified some of the critical life events influencing suicide. The results are shown in Figure A1. Depression or emotional problems were identified as present in 68% of cases; family conflict in 45%; mental illness in 36%; substance abuse in 34%; financial problems in 30%; physical health problems in 21%; and family history of suicide in 13% (from a list of possible factors provided in the survey) (Commonwealth of Australia, 2006).

As Figure A1 shows, in the opinion of people bereaved by suicide in this national sample, there are significant differences between men and women in terms of which life events seem to have been most influential in ending their own life. Based on this study, men who have suicided were more likely than women to have been involved in substance abuse (alcohol or illicit drugs) or had financial problems. On the other hand, women who ended their life were more likely to have had mental health issues (other than depression) or to have experienced depression or emotional problems.

These results appear to support the results of studies that have been undertaken by the Coroner’s Office in the Central Coast of New South Wales (data collected and analysed every year since 1995 combining police, medical and post-mortem data with information provided by surviving family and friends).

Figure A2 and Figure A3 show the most common life events associated with those in the Central Coast of NSW who chose to end their own lives at some time over the past ten years (this analysis is based on data from 279 suicide cases recorded in the Coronial Database in NSW Central Coast). Figure A3 shows how the life events vary for this sample by gender – females were more likely than males to be bereaved; have had a previous suicide attempt; a history of sexual abuse; or recent treatment for depression. Males in this sample were more likely to have had relationship, physical or financial problems; a criminal record or criminal issues in the past twelve months; alcohol/drug/substance abuse or mental illness other than depression.

However, there is no data available showing whether the pattern of life events shown in Figure A2 and Figure A3 is the same for people on the NSW Central Coast who did not take their own lives. Where national data is available for the general population, it is indicated with a grey circle (see Figure A3).
Appendix A:
Life events and suicide-emerging issues (continued)

FIGURE A1: Life events that have impacted on a selection of recent suicides in Australia.

<table>
<thead>
<tr>
<th>Personal characteristics of the deceased</th>
<th>% of male deceased</th>
<th>% of female deceased</th>
<th>% of all deceased</th>
</tr>
</thead>
<tbody>
<tr>
<td>Depression or emotional problems</td>
<td>66</td>
<td>77</td>
<td>68</td>
</tr>
<tr>
<td>Family or relationship conflict</td>
<td>46</td>
<td>40</td>
<td>45</td>
</tr>
<tr>
<td>Mental health issues</td>
<td>32</td>
<td>58</td>
<td>36</td>
</tr>
<tr>
<td>Alcohol/drug/substance abuse</td>
<td>38</td>
<td>7</td>
<td>34</td>
</tr>
<tr>
<td>Financial problems</td>
<td>32</td>
<td>16</td>
<td>30</td>
</tr>
<tr>
<td>Physical health issues</td>
<td>20</td>
<td>28</td>
<td>21</td>
</tr>
<tr>
<td>Family history of suicide</td>
<td>13</td>
<td>9</td>
<td>13</td>
</tr>
</tbody>
</table>

More frequent for males
More frequent for females

(Source: Commonwealth of Australia, 2006a)
Appendix A:  
Life events and suicide-emerging issues  
(continued)

**FIGURE A2:** Life events preceding suicides in the NSW Central Coast Region (1999-2005).

<table>
<thead>
<tr>
<th>Life events</th>
<th>% of all deceased</th>
</tr>
</thead>
<tbody>
<tr>
<td>Recent treatment for depression</td>
<td>40</td>
</tr>
<tr>
<td>Relationship problems</td>
<td>37</td>
</tr>
<tr>
<td>Previous suicide attempts</td>
<td>31</td>
</tr>
<tr>
<td>Seen by mental health worker in past 12 months</td>
<td>25</td>
</tr>
<tr>
<td>History of unresolved alcohol abuse</td>
<td>20</td>
</tr>
<tr>
<td>Major physical problems</td>
<td>18</td>
</tr>
<tr>
<td>Financial problems</td>
<td>17</td>
</tr>
<tr>
<td>History of unresolved cannabis abuse</td>
<td>15</td>
</tr>
<tr>
<td>Criminal record or problem within past 12 months</td>
<td>13</td>
</tr>
<tr>
<td>Mental health problems excluding depression</td>
<td>12</td>
</tr>
<tr>
<td>Post-mortem – marijuana</td>
<td>11</td>
</tr>
<tr>
<td>Bereavement</td>
<td>8</td>
</tr>
<tr>
<td>History of unresolved narcotic abuse</td>
<td>7</td>
</tr>
<tr>
<td>Current AVO at time of death</td>
<td>6</td>
</tr>
<tr>
<td>Family law problems</td>
<td>6</td>
</tr>
<tr>
<td>History of unresolved amphetamine abuse</td>
<td>6</td>
</tr>
<tr>
<td>Associated with another suicide</td>
<td>5</td>
</tr>
<tr>
<td>History of sexual abuse</td>
<td>4</td>
</tr>
<tr>
<td>Gambling problem</td>
<td>1</td>
</tr>
</tbody>
</table>

(Source: Central Coast NSW Coroner’s Database, 1999-2005)
Appendix A:
Life events and suicide-emerging issues
(continued)

FIGURE A3: Life events preceding suicides in the NSW Central Coast Region by gender (1999-2005).

More likely in male suicides
- Financial problems
- Criminal record or problem within past 12 months
- Relationship problems
- Post-mortem – marijuana
- History of unresolved alcohol abuse
- Major physical problems
- Mental health problems excluding depression
- History of unresolved cannabis abuse
- History of unresolved amphetamine abuse
- History of unresolved narcotic abuse
- Gambling problem
- Current AVO at time of death
- Family law problems
- Associated with another suicide
- Seen by mental health in past 12 months
- Bereavement
- Recent treatment for depression
- History of sexual abuse
- Previous suicide attempt

More likely in female suicides
- % of female deceased
- % of male deceased
- Approximate incidence of each life event in the general population in Australia.

Percentage of suicides associated with each life event
(Source: Central Coast NSW Coroner’s Database, 1999-2005)
Appendix B: Incidence of death by suicide in regions of Australia

There is wide variability in the incidence of death by suicide throughout Australia. The following charts compare the rates (per 100,000 people) with the number deaths by suicide for Australian statistical divisions between 2001 and 2004.

Figure B1 plots the suicide numbers (x-axis) and the suicide rates (y-axis) highlighting three patterns of suicide-related behaviours across Australia. This makes it possible to identify statistical divisions where suicide prevention activities could be focussed.

The three groupings of statistical divisions are as follows:

1. Areas with low absolute numbers of suicides and self-inflicted injuries but high rates (per 100,000), eg Bathurst-Melville, Mackay City Part A, Mandurah, Rockhampton and Litchfield Shire (shown at the top left of Figure B1);

2. Areas with high numbers of suicides and self-inflicted injuries but low rates (per 100,000), eg Brisbane and Newcastle (shown at the bottom right of Figure B1);

3. Areas with comparatively high numbers and high rates of suicide and self-inflicted injuries, eg North Metropolitan Perth, South East Metropolitan Perth, South Metropolitan Perth, East Metropolitan Perth, Northern Adelaide, Western Adelaide, Cairns City Part A and Greater Hobart.

Some of the differences shown in Figure B1 can be attributed to variations in the population and geographic area covered by each statistical division. Many of the areas identified in Figure B1 are in rural/remote Australia or have a high Indigenous population, both of which are known risk factors for suicide. Others are in major Australian cities, particularly Perth, Adelaide, Cairns and Hobart, due to the comparatively larger number of suicides occurring in these areas.

Figure B2 has zoomed in on the data from Figure B1, focusing on the regions in Australia that have relatively high rates and relatively high numbers of suicide (excluding the two outlying locations - Bathurst/Melville and Brisbane City, from Figure B1). The areas shown as triangles are those that require considerable attention and support for preventing suicide over the coming years. The wide variability geographically is most likely a result of several factors - social, cultural, economic and environmental, rather than psychological factors.
There is urgent need for continued development of well planned, evidence-based programs and research evaluating their effectiveness in Australia.
Appendix B:
Incidence of death by suicide in regions of Australia (continued)

FIGURE B1: Comparing deaths by suicide or self-inflicted injuries (number and rates) in Australia (2001-2004).

Average no. = 46.9
Average rate = 11.8

- Comparatively higher numbers and higher rates
- High numbers but low comparative rates
- Low numbers but high comparative rates

(Source: Page et al. 2006b)
FIGURE B2: Comparing deaths by suicide or self-inflicted injuries (number and rates) across Australian Statistical Divisions (2001-2004) – zooming in on Figure B1 (excludes Bathurst-Melville and Brisbane City).

Average no. = 46.9

Average rate = 11.8

(Source: Page et al. 2006b)
## Appendix C: Examples of international suicide prevention strategies

<table>
<thead>
<tr>
<th>Objectives</th>
<th>New Zealand</th>
<th>England</th>
<th>Scotland</th>
</tr>
</thead>
<tbody>
<tr>
<td>Universal (activities that apply to everyone)</td>
<td>• Promoting mental health and wellbeing, and prevent mental health problems.</td>
<td>• Promoting mental wellbeing in the wider population.</td>
<td>• Ensuring greater public awareness of positive mental health and wellbeing, suicidal behaviour, potential problems and risks amongst all age groups and encouraging people to seek help early.</td>
</tr>
<tr>
<td>Selective (activities that apply to communities and groups at risk)</td>
<td>• Improving the care of people who are experiencing mental disorders associated with suicidal behaviours.</td>
<td>• Reducing risk in key high risk groups.</td>
<td>• Providing earlier intervention and support to prevent problems and reduce the risks that might lead to suicidal behaviour.</td>
</tr>
<tr>
<td>Indicated (activities that apply to times of heightened risk)</td>
<td>• Improving the care of people who make non-fatal suicide attempts.</td>
<td>• Providing support and services to people at risk and people in crisis, to provide an immediate crisis response and to help reduce the severity of any immediate problem.</td>
<td>• Providing effective support to those who are affected by suicidal behaviour or a completed suicide.</td>
</tr>
<tr>
<td></td>
<td>• Supporting families/whanau (extended family), friends and others affected by a suicide or suicide attempt.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Appendix C: Examples of international suicide prevention strategies (continued)

<table>
<thead>
<tr>
<th>Objectives</th>
<th>New Zealand</th>
<th>England</th>
<th>Scotland</th>
</tr>
</thead>
<tbody>
<tr>
<td>Research and evidence</td>
<td>• Expanding the evidence about rates, causes and effective interventions.</td>
<td>• Promoting research on suicide and suicide prevention.</td>
<td>• Improving the quality, collection, availability and dissemination of information on issues relating to suicide and suicidal behaviour and on effective interventions to ensure the better design and implementation of responses and services and use of resources.</td>
</tr>
<tr>
<td>(improving our understanding of the key issues in suicide prevention)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Media</td>
<td>• Promoting the safe reporting and portrayal of suicidal behaviour by the media.</td>
<td>• Improving reporting of suicidal behaviour in the media.</td>
<td>• Ensuring that any depiction or reporting by any section of the media of a completed suicide or suicidal behaviour is undertaken sensitively and appropriately and with due respect for confidentiality.</td>
</tr>
<tr>
<td>Access to means</td>
<td>• Reducing access to the means of suicide.</td>
<td>• Reducing the availability and lethality of suicide methods.</td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td></td>
<td></td>
<td>• Improving monitoring of progress towards Saving Lives: Our Healthier Nation target to reduce suicides.</td>
</tr>
<tr>
<td>Objectives</td>
<td>Northern Ireland</td>
<td>Ireland</td>
<td></td>
</tr>
<tr>
<td>----------------------</td>
<td>----------------------------------------------------------------------------------</td>
<td>--------------------------------------------------------------------------</td>
<td></td>
</tr>
<tr>
<td>Universal (activities that apply to everyone).</td>
<td>• Raising awareness of mental health and well being issues.</td>
<td>• Promoting positive mental health and well being and bring about positive attitude change towards mental health, problem solving and coping in the general population.</td>
<td></td>
</tr>
<tr>
<td>Selective (activities that apply to communities and groups at risk).</td>
<td>• Ensuring early recognition of mental ill-health, and to provide appropriate follow-up action by support services.</td>
<td>• Reducing the risk of suicidal behaviour among high risk groups and vulnerable people.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Providing appropriate training for people dealing with suicide and mental health issues.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Developing coordinated, effective, accessible and timely response mechanisms for those seeking help.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Enhancing the support role currently carried out by the voluntary/community sectors, bereaved families and individuals who have made previous suicide attempts.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Indicated (activities that apply to times of heightened risk).</td>
<td>• Minimising the distress felt among families, friends and in a community following a death by suicide and ensure that individuals are not isolated or left vulnerable so that the risk of any related suicidal behaviour is reduced.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Research and evidence (improving our understanding of the key issues in suicide prevention).</td>
<td>• Providing support for research evaluation of relevant suicide and self-harm issues.</td>
<td>• Improving access to information relating to suicidal behaviour and on where and how to get help, and to encourage suicide research and improve access to research findings.</td>
<td></td>
</tr>
<tr>
<td>Media</td>
<td>• Supporting the media in the development and implementation of guidelines for a suitable response to suicide-related matters.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Access to means</td>
<td>• Restricting access, where possible, to the means of carrying out suicide.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Appendix C: Examples of international suicide prevention strategies (continued)

<table>
<thead>
<tr>
<th>Objectives</th>
<th>USA</th>
<th>Canada</th>
</tr>
</thead>
</table>
| **Universal** (activities that apply to everyone). | • Promoting awareness that suicide is a public health problem that is preventable.  
• Developing broad-based support for suicide prevention.  
• Developing and implement strategies to reduce the stigma associated with being a consumer of mental health, substance abuse and suicide prevention programs. | • Promoting awareness in every part of Canada that suicide is our problem and is preventable.  
• Developing broad-based support for suicide prevention and intervention.  
• Developing and implement a strategy to reduce stigma, to be associated with all suicide prevention, intervention and bereavement activities.  
• Increasing the number of primary prevention activities. |
| **Selective** (activities that apply to communities and groups at risk). | • Implementing training for recognition of at-risk behaviour and delivery of effective treatment.  
• Developing and promote effective clinical and professional practices.  
• Increasing access to and community linkages with mental health and substance abuse services.  
• Developing and implement community-based suicide prevention programs. | • Increasing training for recognition of risk factors, warning signs and at-risk behaviours and for provision of effective intervention, targeting key gatekeepers, volunteers and professionals.  
• Developing and promote effective clinical and professional practice (effective strategies, standards of care) to support clients, families and communities.  
• Improving access and integration with strong linkages between the continuum-of-care components/services/families.  
• Developing, implementing and sustaining community-based suicide prevention programs, respecting diversity and culture at local, regional, and provincial/territorial levels.  
• Prioritising intervention and service delivery for high-risk groups while respecting local regional, and provincial/territorial uniqueness. |
| **Indicated** (activities that apply to times of heightened risk). | • Promoting and support research on suicide and suicide prevention.  
• Improving and expand surveillance systems. | • Increasing crisis intervention and support.  
• Increasing services and support to those bereaved by suicide. |
| **Research and evidence** (improving our understanding of the key issues in suicide prevention). | • Improving reporting and portrayals of suicidal behaviour, mental illness and substance abuse in the entertainment and news media. | • Promoting and develop suicide-related research.  
• Improving and expand surveillance systems.  
• Promoting and support the development of effective evaluation tools.  
• Increasing opportunities for reporting. |
| **Media** | • Promoting efforts to reduce access to lethal means and methods of self-harm. | • Increasing media knowledge regarding suicide. |
| **Access to means** | • Promoting efforts to reduce access to lethal means and methods of self-harm. | • Reducing the availability and lethality of suicide methods. |
| **Other** | | • Increasing funding and support for all activities connected with the CASP Blueprint for a Canadian National Suicide Prevention Strategy. |
### Appendix D: Review of suicide risk factors

#### Levels of evidence

- **A. Strong evidence** (i.e., conclusive results of studies; high-quality evidence-base, including extensive research reviews and meta-analyses, data from case-control psychological autopsy studies, controlled family studies, follow-up studies, clinical studies, twin studies, adoption studies, molecular genetics studies etc. where applicable and/or reliable epidemiological data) linking the risk factor to suicide.
- **B. Good evidence** (i.e., reasonably conclusive results of studies; moderate evidence-base) linking the risk factor to suicide.
- **C. Some evidence linking the risk factor to suicide, however more research is needed in the area.**
- **D. Good evidence linking the risk factor to suicidal ideation and/or non-fatal suicidal behaviour, however more research is needed to ascertain the link to fatal suicidal behaviour.**

#### Risk factor category

<table>
<thead>
<tr>
<th>Risk factor category</th>
<th>Risk factor</th>
<th>Evidence level</th>
<th>Resources (selected)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Demographic factors</td>
<td>Gender: male</td>
<td>A</td>
<td>ABS (2007)*</td>
</tr>
<tr>
<td></td>
<td>Age: middle-age and elderly</td>
<td>A</td>
<td>De Leo et al. (2006)*</td>
</tr>
<tr>
<td></td>
<td>Race and ethnicity: ATSI</td>
<td>A</td>
<td>ABS (2005)*</td>
</tr>
<tr>
<td></td>
<td>Geographical location: rural and remote</td>
<td>A</td>
<td>Caldwell et al. (2004)*</td>
</tr>
</tbody>
</table>

* Studies conducted in Australia

---

Selected Australian data (for details, see listed resources)

Age: highest age-specific suicide rate in 2005

1. Males: 30-34 age group (27.5 per 100,000)
2. Females: 35-39 age group (6.9 per 100,000)

Race/ethnicity: over the period of 1999-2003 suicide was the leading external cause of death for Indigenous males

Geographical location: over the period of 1997-2000 higher suicide rates were reported in men (especially young men) in rural and remote populations (40.4 and 51.7 per 100,000, respectively) compared with metropolitan populations (31.8 per 100,000).
### Appendix D: Review of suicide risk factors (continued)

<table>
<thead>
<tr>
<th>Risk factor category</th>
<th>Risk factor</th>
<th>Evidence level</th>
<th>Resources (selected)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Psychopathology and psychiatric hospitalisation</td>
<td>Mood disorders (incl. major depression and bipolar disorder)</td>
<td>A</td>
<td>Arsenault-Lapierre et al. (2004)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Bertolote et al. (2004)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Bostwick &amp; Pankratz (2000)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Covanagh et al. (2003)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>De Leo &amp; Spathonis (2003)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Ernst et al. (2004)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Fleischmann et al. (2005)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Harris &amp; Barraclough (1997)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Hawton et al. (2005)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Krysinska et al. (2006)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Lester (2000)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Lester (2006b)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Snowdon &amp; Baume (2002)*</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Tanney (2003)</td>
</tr>
<tr>
<td></td>
<td>Schizophrenia (and other psychotic disorders)</td>
<td>A</td>
<td>Chatterton et al. (1999)*</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Hoyer et al. (2004)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Owens et al. (2002)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Qin &amp; Nordentoft (2005)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Shah &amp; Ganesvaran (1999)*</td>
</tr>
<tr>
<td></td>
<td>Substance-related disorders</td>
<td>A</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Other psychiatric disorders: personality disorders (esp. borderline and antisocial personality disorder), organic mental disorders, anxiety/somatoform disorders (including post traumatic stress disorder), adjustment disorder</td>
<td>A</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Psychiatric comorbidity (ie a diagnosis of more than one mental disorder)</td>
<td>A</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Psychiatric hospitalisation and recent discharge</td>
<td>A</td>
<td></td>
</tr>
</tbody>
</table>

* Studies conducted in Australia

Comment: A diagnosis of a mental disorder is among the strongest risk factors for both non-fatal and fatal suicidal behaviour, and psychiatric comorbidity (ie a diagnosis of more than one mental disorder) increases the risk even further. The overwhelming majority of people who die by suicide have a diagnosis of a psychiatric disorder, especially affective disorders, substance-related disorders, and schizophrenia. Psychopathology, particularly affective disorders, substance abuse, anxiety disorders, and personality disorders, is also a serious risk factor for suicide attempts. It has to be noted, however, that only a relatively small proportion of individuals with a psychiatric diagnosis engage in suicidal behaviour, and psychopathology alone is not a sufficient predictor of suicide: other risk and protective factors play a very important role. These include quality and availability of mental health services, effectiveness of treatment, compliance with medication, and availability and quality of social support. Also, being hospitalised in a psychiatric institution tends to increase the risk of suicide, and risk is significantly increased within the first weeks after discharge from a psychiatric hospital, and it remains elevated for up to six months after discharge.
### Appendix D: Review of suicide risk factors (continued)

<table>
<thead>
<tr>
<th>Risk factor category</th>
<th>Risk factor</th>
<th>Evidence level</th>
<th>Resources (selected)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Previous non-fatal suicidal behaviour and suicidal ideation</td>
<td>History of suicide attempts</td>
<td>A</td>
<td>Cheng et al. (2000)</td>
</tr>
<tr>
<td></td>
<td>Suicidal ideation</td>
<td>A</td>
<td>Cooper et al. (2005)</td>
</tr>
<tr>
<td></td>
<td>Aborted suicide attempts</td>
<td>D</td>
<td>Hawton &amp; Harris (2006)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Owens et al. (2002)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Stanley et al. (2001)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Thacore &amp; Varna (2000)*</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Family history of psychopathology and suicidal behaviour</td>
<td>Genetic factors</td>
<td>A</td>
<td>Baldessarini &amp; Hennen (2004)</td>
</tr>
<tr>
<td></td>
<td>Family history of suicide and psychopathology</td>
<td>A</td>
<td>Brent &amp; Mann (2005)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Brent et al. (2002)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Roy (2006)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Roy et al. (2000)</td>
</tr>
</tbody>
</table>

* Studies conducted in Australia
## Appendix D: Review of suicide risk factors (continued)

<table>
<thead>
<tr>
<th>Risk factor category</th>
<th>Risk factor</th>
<th>Evidence level</th>
<th>Resources (selected)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Physical status</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Comment: Reviews of studies indicate that a diagnosis of a somatic illness, especially cancer, coronary heart disease, chronic pulmonary disease, neurological diseases (including epilepsy and multiple sclerosis), and HIV/AIDS is a risk factor for suicide. Also, chronic physical pain is a risk factor for suicidal ideation and behaviour.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Hawgood et al. (2004)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Harwood et al. (2006a)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Harwood et al. (2006b)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Snowdon &amp; Baume (2002)*</td>
<td></td>
</tr>
<tr>
<td>Chronic physical pain</td>
<td>A</td>
<td>Fehlhan (1999)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Tang &amp; Crane (2006)</td>
<td></td>
</tr>
<tr>
<td><strong>Life events and coping potential</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Comment: People who engage in non-fatal and fatal suicidal behaviour experience more stressors and negative life events than people in the general population, especially in the month prior to suicide. Relationship problems, family discord, mental and physical health problems, bereavement, imprisonment, childhood and/or adult trauma are among the most frequently reported negative life events preceding suicidal behaviour. Depending on the individual case, other types of events, including positive life changes, might also negatively affect the individual’s ability to cope. It has to be noted; however, that although life stresses can be important triggering risk factors for suicidal ideation and behaviour, only a minority of individuals faced with life adversities becomes suicidal, and the subjective experience of the event determines the person’s reaction. Other factors, including psychopathology, ability to cope with stress and to solve problems, availability and quality of social support, and willingness to ask for help, mediate the impact of life events.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Negative life events (eg relationship problems, family discord, mental and physical health problems, loss of significant other, bereavement, imprisonment, bullying, childhood and adult trauma)</td>
<td>A</td>
<td>Fortune et al. (2007)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Houston et al. (2001)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Isometsa (2005)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Thacore &amp; Varma (2000)*</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Yufit (2005)</td>
<td></td>
</tr>
<tr>
<td>Low coping potential</td>
<td>A</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Marital status and sexual orientation</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Comment: Marital status is associated with the level of suicide risk. Studies show that persons who are divorced, widowed or separated have the highest rates of suicide, and married people have lower suicide rates than individuals who were never married. Homosexual orientation seems to be a risk factor for nonfatal suicidal behaviour and ideation, especially among homosexual adolescents and young adults. However, based upon results of (scarce) studies conducted to date, completed suicide rates do not appear to be increased among the gay and lesbian populations.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Marital status: divorced, widowed, separated, single</td>
<td>A</td>
<td>Cantor &amp; Slater (1995)*</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Kposowa (2000)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Lorant et al. (2005)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Stack (2002b)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>McDaniel et al. (2001)</td>
<td></td>
</tr>
</tbody>
</table>

* Studies conducted in Australia
Appendix D: Review of suicide risk factors (continued)

<table>
<thead>
<tr>
<th>Risk factor category</th>
<th>Risk factor</th>
<th>Evidence level</th>
<th>Resources (selected)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Socio-economic and cultural factors</td>
<td>Low socio-economic status</td>
<td>A</td>
<td>Judd et al. (2006a)*</td>
</tr>
<tr>
<td>Comment: Sociological studies consistently find a correlation between high suicide rates and low socio-economic status, although there are few high-status occupations at increased risk of suicide, for example dentists, physicians, and veterinarians. In addition, being unemployed elevates the risk of suicide, but the nature of the relationship between unemployment and suicide is not clear. Other socio-cultural factors, including religion and migration, also seem to impact levels of suicide risk. Lower suicide rates were reported in countries with religious sanctions against suicide, mostly countries which are predominantly Muslim or Roman Catholic. In regards to migration, rates of suicide among diverse migrant groups tend to reflect suicide rates of countries of origin with a convergence trend toward the rates of the host country observed in some studies. A migrant status could increase the risk of suicide in vulnerable individuals (for example people forced to leave their country and/or individuals with pre-existing psychopathology) due to a language barrier, stress of acculturation, and social isolation.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Unemployment</td>
<td>A</td>
<td></td>
<td>Stack (2000a)</td>
</tr>
<tr>
<td>Religion: lack of sanctions against suicide</td>
<td>C</td>
<td></td>
<td>Kelleher et al. (1998)</td>
</tr>
<tr>
<td>Migration: high suicide rates in country of origin, acculturation stress, social isolation, language barriers</td>
<td>C</td>
<td></td>
<td>Burvill et al. (1982)*</td>
</tr>
<tr>
<td>Neurobiology</td>
<td>Hypo-activity of serotonergic system</td>
<td>A</td>
<td>Joiner et al. (2005)</td>
</tr>
<tr>
<td>Comment: Studies looking at the neurobiology of suicidal behavior show decreased levels of the cerebrospinal fluid 5-hydroxyindoleacetic acid (metabolite of serotonin) and neuroanatomical abnormalities in the ventromedial prefrontal cortex of people who attempt or die by suicide. Also, low levels of cholesterol, abnormalities in dopaminergic and noradrenergic neurotransmitter systems, and hyperactivity of other brain systems (such as the hypothalamic-pituitary-adrenal axis) might be involved in suicidal behavior, although the mechanism of the association remains unclear.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other neurobiological factors:</td>
<td>Other neurobiological factors:</td>
<td></td>
<td>Mann (2003)</td>
</tr>
<tr>
<td>abnormailties in dopaminergic and noradrenergic systems, abnormalities in the ventro-medial prefrontal cortex, hyper-activity of hypothalamic-pituitary-adrenal axis</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* Studies conducted in Australia
### Psychological factors

**Comment:** Psychological factors might exacerbate the impact of other suicide risk factors, including psychopathology, negative life events, and social factors, and thus increase the risk of suicide in vulnerable individuals. For example, hopelessness (ie negative expectations regarding one’s future and oneself) is one of the strongest, stronger even than depression itself, predictors of suicidal ideation and behaviour. Also, poor problem-solving, ‘all-or-nothing’ (‘black-and-white’) thinking, aggression and impulsivity, lack of reasons for living, perfectionism, and psychological suffering and pain (ie ‘psychache’) are among psychological risk factors for suicide.

**Risk factor**
- **Hopelessness**
- **Other psychological and cognitive factors:**
  - High aggression and impulsivity,
  - Lack of reasons for living,
  - Cognitive rigidity,
  - Low ability to solve problems,
  - Perfectionism,
  - Psychological suffering and pain

**Evidence level**
- A

**Resources (selected)**
- Beck et al. (1985)
- Bock et al. (1990)
- Joiner et al. (2005)
- Shneidman (1993)
- Williams et al. (2005)

### Social networks

**Comment:** Lack of social support, isolation, and loneliness have been related to many aspects of psychopathology, ineffective coping with stress and life crises, and suicidality. People at risk of suicide are frequently described as alienated from their families and having insufficient social support, and other resources necessary to cope with life stressors. Such isolation may result from adverse life circumstances and/or inability to maintain good interpersonal networks. In addition, isolated and lonely people are at higher risk of death when they engage in suicidal behaviors: their chances of being found and rescued by others are severely reduced or nonexistent.

**Risk factor**
- **Social isolation**
- **Lack of social support**

**Evidence level**
- A

**Resources (selected)**
- De Leo et al. (1998)
- Judd et al. (2006a)*
- Judd et al. (2006b)*
- Yufit & Bongar (1992)

### Environmental factors

**Comment:** The choice of a method of suicide depends upon several factors, including the intent and motivation behind the behaviour, the individual’s familiarity with the method, cultural factors (eg gender socialisation, symbolic/cultural meaning of the method) and the availability of the method. Also, results of many studies indicate that inappropriate media reporting of suicide may lead to the occurrence of imitative suicides (ie the ‘Werther effect’). The amount of publicity given to the suicide story, the placement and content of the story, the social status of the deceased, and the sociocultural context seem to influence the magnitude of the Werther effect, and the young, the elderly, individuals in crisis and/or with a history of suicidal ideation seem to be particularly vulnerable to the imitative suicidal behaviour.

**Risk factor**
- **Easy access to and availability of lethal means of suicide**
- **Inappropriate media reporting of suicide**

**Evidence level**
- A

**Resources (selected)**
- De Leo et al. (2002)*
- De Leo et al. (2003)*
- De Moore & Robertson (1999)*
- Maris et al. (2000)
- Wilkinson & Gunnell (2000)*
- Hassan (1995)*
- Hawton & Williams (2006)
- Pirkis & Blood (2001)
- Pirkis et al. (2002)*
- Pirkis et al. (2006)*

---

* Studies conducted in Australia
Glossary of terms

**Aboriginal and/or Torres Strait Islander**: A person who is of Aboriginal or Torres Strait Islander descent; and identifies as an Australian Aboriginal or Torres Strait Islander person; and is accepted as such by the community in which s/he lives or has lived.

**Adverse life event**: An incident within one’s life that has the potential to cause emotional upset, disruption, or negative health outcomes.

**Bereavement**: The period after a loss (usually through death) during which grief is experienced and mourning occurs (Raphael, 1984).

**Best practice**: The use of methods (often evidence-based) that achieve improvements and/or optimal outcomes.

**Capacity building**:  
Individual - Enhancing and/or developing personal aptitude, strength, coping and/or independence.  
Community - The ability of a community’s organisations, groups and individuals (collectively) to build their structures, systems, people and skills, so they are better able to define, implement, manage and achieve their shared objectives.

**Client-centred**: Client-centred therapy or the person-centred approach is a movement associated with humanistic psychology that emphasises “the capacity of each individual to arrive at a personal understanding of his or her destiny, using feelings and intuition rather than being guided by doctrine and reason. Rather than focusing on the origins of client problems in childhood events (psychodynamic) or the achievement of new patterns of behaviour in the future (behavioural)... concentrate on the ‘here and now’ experiences of the client” (McLeod 2003, p. 157).

**Clinical paradigm**: This paradigm focuses on repairing damage within a disease or medical model of human functioning.

**Cognitive**: Mental processes and conscious intellectual activities such as planning, reasoning, problem solving, thinking, remembering, reasoning, learning new words or imagining.

**Common factors**: Features of therapy that are common to success, despite the differing theoretical position of each therapist and the specific techniques used.

**Community ownership**: A community takes responsibility for an issue, such as suicide, and agrees to work together to develop effective and sustainable solutions.

**Connectedness**: Enquiry into protective factors for suicide has focused on the capacities within people (resilience factors) and on external protective factors (Seifer et al. 1992), including a person’s sense of belonging and connectedness with others. There is evidence that connections with family, school or a significant adult can reduce risk of suicide for young people. Feelings of connectedness to a partner or parent or responsibility for care of children appear to be protective factors, and connectedness within a community has been linked to health and wellbeing.

**Contagion or imitation**: Suicidal thinking and/or behaviour resulting from exposure to suicide.

**Continuing care**: Engagement with longer-term treatment, support and care where needed.

**Deliberate self-harm**: Any behaviours causing destruction or alteration of body tissues, with or without the intent to die.

**Distal factors**: see risk factors.

**Effectiveness**: Whether there is the capacity to bring about an effect or outcome.
Efficacy: The capacity of a service to deliver a desired result or outcome.

Efficiency: The production of an agreed output related to the consumption of resources (time, cost, labour).

Gatekeeper: An informal community leader or a specifically designated person, such as a primary-care provider, who coordinates patient care and provides referrals to specialists, hospitals, laboratories, and other medical services.

Help-seeking: The process of an individual asking for help or support in order to cope with adverse life events or other difficult circumstances.

Holding environment: Refers to a therapeutic setting that permits the client to experience safety, and thus enhances therapeutic work.

Imminent risk: The point at which suicide is extremely likely in the near future; intervention may be necessary.

Indicated intervention: Working with individuals who are showing early signs of risk for health problems, with the aim of preventing a condition from arising.

Indigenous Australians: A person who is of Aboriginal or Torres Strait Islander descent; and identifies as an Australian Aboriginal or Torres Strait Islander person; and is accepted as such by the community in which s/he lives or has lived.

Integrated response: Interventions that respond to a range of issues using a multi-faceted approach.

Intervention: In suicide prevention it refers to any action taken to improve a person’s health and wellbeing or to change the course of or treat dysfunctional behaviour (Moore, 2004).

Jurisdiction: Commonwealth, State or Territory.

Loss: Loss is produced by an incident which is perceived to be negative by those involved and results in long-term change.

Medium: The mode, means or carrier (person or resource) through which information or support is provided.

Mental disorder: A recognised, medically diagnosable illness or disorder that results in significant impairment of an individual’s thinking and emotional abilities and may require intervention.

Mental health promotion: Action to maximise mental health and wellbeing among populations and individuals.

Multi-faceted: Having many aspects or facets.

Multi-disciplinary approach: Approaches that involve professionals, agencies, organisations, and persons providing coordinated client service that draws on expertise from a range of disciplines.

Paradigm: A set of rules and regulations (written or unwritten) that does two things: 1) it establishes or defines boundaries; and 2) it tells you how to behave inside the boundaries in order to be successful. It is a shared set of assumptions about how we perceive the world — a set of tacit assumptions and beliefs within which research goes on.

Pathways to care: A model that encompasses the coordination/provision of health promotion, prevention, early intervention, symptom identification, treatment and long-term care.

Peer education: The use of identified and trained peers to provide information aimed at increasing awareness or influencing behaviour change.
Glossary of terms (continued)

**Population-based interventions:** Interventions targeting populations rather than individuals. They include activities targeting the whole population as well as activities targeting population subgroups such as rural or Aboriginal peoples and Torres Strait Islander peoples.

**Post Traumatic Stress Disorder (PTSD):** A psychological disorder affecting individuals who have experienced or witnessed profoundly traumatic events, such as torture, murder, rape, or wartime combat, characterised by recurrent flashbacks of the traumatic event, nightmares, irritability, anxiety, fatigue, forgetfulness, and social withdrawal (Edgerton, 1994).

**Postvention:** Interventions to support and assist the bereaved after a suicide has occurred.

**Predisposing factors:** Non-modifiable factors that may increase a person’s susceptibility to suicide-related behaviours, such as genetic and neurobiological factors, gender, personality, culture, socio-economic background and level of isolation.

**Prevention:** Preventing conditions of ill health from arising.

**Primary care:** The care system that forms the first point of contact for those in the community seeking assistance. It includes community-based care from generalist services such as general practitioners, Aboriginal medical services, school counsellors and community-based health and welfare services.

**Protective factors:** Capacities, qualities, environmental and personal resources that drive individuals towards growth, stability, and health.

**Proximal factors:** see risk factors.

**Receptivity of client:** The capacity and willingness of the person to receive and absorb information and support.

**Recovery:** Recovery is the process of a gradual restoration of a satisfying, hopeful and meaningful way of life.

**Refugee:** A person who, through a well-founded fear of being persecuted (for reasons of race, religion, nationality or membership of a social or political group), is displaced from their country of origin and is unable or unwilling to return. Sometimes referred to as a ‘displaced person’ or ‘forced migrant’.

**Resilience:** Capacities within a person that promote positive outcomes, such as mental health and wellbeing, and provide protection from factors that might otherwise place that person at risk of suicide. Resilience is often described as the ability to bounce back from adversity. Factors that contribute to resilience include personal coping skills and strategies for dealing with adversity, such as problem-solving, cognitive and emotional skills, communication skills and help-seeking behaviours.

**Risk factors:** Factors such as biological, psychological, social and cultural agents that are associated with suicide/ suicide ideation and increase their probability. Risk factors can be defined as either distal factors, such as genetic or neurochemical factors, or proximal factors, such as life events or the availability of lethal means - factors which can trigger a suicide or suicidal behaviour.

**Selective intervention:** Activities that target population or community groups at higher risk for a particular problem, rather than the whole population or particular individuals. This might include working with the families of those bereaved through suicide or, for instance children who have been traumatised or abused over time.

**Self-injury:** Deliberate damage of body tissue, often in response to psychosocial distress, without the intent to die. Sometimes called self-inflicted injuries or self-harm.

**Statistical division:** A Statistical Division (SD) is an Australian Standard Geographical Classification (ASGC) defined area which represents a large, general purpose, regional type geographic area. SDs represent relatively homogeneous regions characterised by identifiable social and economic links between the inhabitants and between the economic units within the region, under the unifying influence of one or more major towns or cities. They consist of one or more Statistical Subdivisions (SSDs) and cover, in aggregate, the whole of Australia without gaps or overlaps. They do not cross State or Territory boundaries and are the largest statistical building blocks of States and Territories.

**Suicide:** The act of purposely ending one’s life.

**Suicidal behaviour:** This includes the spectrum of activities related to suicide and self-harm including suicidal thinking, self-harming behaviours not aimed at causing death, and suicide attempts. Some writers also include deliberate recklessness and risk-taking behaviours as suicidal behaviours.
Glossary of terms (continued)

**Suicidal ideation**: Thoughts about attempting or completing suicide.

**Suicide prevention**: Actions or initiatives to reduce the risk of suicide among populations or specific target groups.

**Suicidology**: Scientific study of suicide.

**Support**: To assist with the burden or the weight of an issue, problem or adversity. Support can take many forms, including information provision, services and face-to-face counselling.

**Sustainability**: The ability of a program to function over the long-term through adequate funding and the appropriate use of resources.

**Timeliness of service**: Provision of information, service or support at the most appropriate or opportune moment for it to be received, understood and meaningfully applied.

**Tipping point**: The point at which a person’s risk of suicide increases due to the occurrence of some precipitating event, such as a negative life event or an increase in symptoms of a mental disorder.

**Universal intervention**: Interventions that target the whole of a population or populations. In suicide prevention, these include activities to reduce access to means of suicide, to reduce media coverage of suicide, or to create stronger and more supportive families, schools and communities.

**Warning signs**: Behaviours that indicate a possible increased risk of suicide, such as giving away possessions, talking about suicide or the withdrawal from family, friends and normal activities.
References


References (continued)


References (continued)


De Leo D (2004). Suicide prevention is far more than a psychiatric business. World Psychiatry 3, 155-156.


De Leo D, Spathonis K (2003). Do psychopharmacological and psychosocial treatments reduce suicide risk in schizophrenia and schizophrenia spectrum disorders? Archives of Suicide Research 7, 354-373.


References (continued)


References (continued)


References (continued)


Isomettas E (2005). Suicide in bipolar I disorder in Finland: Psychological autopsy findings from the National Suicide Prevention Project in Finland. Archives of Suicide Research 9, 251-260.


References (continued)


References (continued)


References (continued)


References (continued)


Tatz, C 1999, Aboriginal suicide is different - Aboriginal youth suicide in New South Wales, the Australian Capital Territory and New Zealand: Towards a model of explanation and alleviation. A report to the Criminology Research Council on CRC Project 25/96-7.


References (continued)


The Living Is For Everyone suite of documents have been prepared for the Department of Health and Ageing by a consortium of organisations supported by a wide network of specialist consultants, advisers and community consultations.

The lead consultants were Corporate Diagnostics Pty Ltd, United Synergies Ltd, Professor Graham Martin and Dr Judith Murray (University of Queensland) and Greengage Research and Communications. Additional editing and review were provided by NOVA Public Policy Pty Ltd.

The main sub-consultants were Professor John Mendoza, Associate Professor Nicholas Procter, Sunrise Solutions, GKY Internet, Auseinet, the Australian Institute for Suicide Research and Prevention (AISRAP, Griffith University), Oxygen Kiosk, DDSN Interactive and the Four Design Group.

Specialist advisers who commented on and assisted with various drafts during the project included Professor Beverley Raphael, Professor Diego De Leo, Professor Ian Webster, Trevor Hazell, Professor Don Zoellner, Professor Edward White, Professor Ernest Hunter, Dr Karolina Krysinska, Lorraine Wheeler, Dr Angela Kirisner, Susan Beaton, Dr Michael Dudley, Dr Don Spencer and John Arms (NSW Central Coast Coroner).

The diversity reference group to the project were Jill Fisher (Chair), Mick Adams, Melba Townsend, Travis Shorey, Nooria Mehraby, Julian Krieg, Gerald Wyatt, Hilary Knack and Samantha Harrison.

The following three Australian Government advisory committees contributed to the development of the Living Is For Everyone Resources:

The National Advisory Council on Suicide Prevention;
The Community and Expert Advisory Forum; and
The Indigenous Strategies Working Group.

There were many hundreds of people who attended the community consultations.