



BoysTown

Preventing Suicide by Young People: Discussion Paper

October 2015

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Introduction

In 2013, 2,522 people died by suicide in Australia. Twenty-two of these were children aged 5-14 years, 148 were adolescents aged 15-19 years, and a further 200 were young people aged 20-24 years. Although the suicide rate for children and adolescents is lower than that for some older age groups, suicide is the leading cause of death in children and young people.

Suicide has immense effects on the families, friends, and communities of people who die by suicide, causing long lasting grief and guilt. Arguably, these effects are even greater when the person who died by suicide is young. It is estimated that suicide costs the Australian economy more than \$17 billion per year.¹ Researchers and policy makers recognise that suicide is preventable, yet suicide rates have changed little in the past 10 years.

Purpose of this paper

BoysTown is a service provider and advocate for children and young people. Consequently we are committed to increasing the effectiveness of responses to young people at risk of suicide.

BoysTown has a high level of contact with children and young people at risk of suicidal behaviours as our services specialise in responding to the needs of disadvantaged and 'at risk' children and youth. For example, BoysTown currently provides a range of services to young people and families seeking one-off and more intensive support including:

- ➔ Kids Helpline, a national 24/7 telephone and online counselling and support service for five to 25 year olds with special capacity for young people with mental health issues
- ➔ Accommodation responses to homeless families and women and children seeking refuge from Domestic/Family Violence
- ➔ Parenting programs offering case work and child development programs for young parents and their children
- ➔ Parentline, a telephone counselling service for parents and carers in Queensland and the Northern Territory
- ➔ Paid employment to more than 150 young people annually in social enterprises as a transition strategy to the mainstream workforce
- ➔ Training and employment programs that skill and support approximately 11,000 young people each year, allowing them to re-engage with education and/or employment
- ➔ Responses to the needs of the peoples of the remote Indigenous community of Balgo in Western Australia.

In our experience the current discourse about suicide in our community often fails to recognise the lived experience of young people. Implicit assumptions are often made that the pathways to suicide for young people, including associated risk factors, are similar to those for adults. This approach inhibits the development of a systematic and effective response to young people experiencing suicidal behaviours.

Consequently this discussion paper aims to focus a spotlight on the unique experience of young people. It does this by providing a critical analysis of existing policy and evidence based responses relevant to young people. This analysis subsequently identifies the existing gaps in

our knowledge and promising but emerging intervention strategies that could be built on to improve the support young people receive.

In doing so we are seeking to commence a conversation with policy makers, practitioners, researchers, and those with lived experience to improve our mutual understanding about the perspectives young people have about suicide. We wish to use this understanding and collaboration to inform the development of more effective responses to reduce suicidal behaviours both in our own services and across the mental health system.

Definitions

Suicidal behaviour encompasses a range of thoughts and behaviours that may or may not result in injury or death. There are no clear and widely agreed definitions of suicidal behaviour, particularly around the importance of whether the behaviour is undertaken with or without the intent to die.

The United States Centers for Disease Control and Prevention (CDC) defines suicidal behaviours as follows:

- ➔ Suicide – death caused by self-directed injurious behaviour with intent to die as a result of the behaviour.
- ➔ Suicide attempt – a non-fatal, self-directed, potentially injurious behaviour with an intent to die as a result of the behaviour; might not result in injury.
- ➔ Suicidal ideation – thinking about, considering, or planning suicide.²

We note that some researchers suggest that intent to die lies along a continuum, and that the World Health Organisation's (WHO) 2014 report³ on preventing suicide expressly included self-harm without suicidal intent in its definition of a suicide attempt. This inconsistency in terminology is more than just a semantic issue, as effective methods of prevention may differ for different types of behaviour.⁴ Although non-suicidal self-injury (NSSI; e.g., superficial cutting) is a risk factor for suicide, it is different in many ways. NSSI is more prevalent, is engaged in more frequently, uses different methods, causes less severe injury, and is performed for different reasons.⁵ In many cases the function of behaviour such as superficial cutting is to relieve psychological distress and enable the person to live, rather than take their own life.⁶

This paper is about behaviour that aligns with the CDC definitions of suicide, suicide attempt and suicidal ideation.

Prevalence of suicidal behaviour in young people

Deaths by suicide

In 2013, 22 children aged 5-14 years, 72 adolescents aged 15-17 years, and 276 young people aged 18-24 years died as a result of suicide in Australia. As presented in Table 1, suicide accounted for close to one third of deaths among 15-24 year olds.

Table 1. Deaths by suicide in children and young people, 2013: Number, rate and proportion by age group.

	Number	Rate per 100,000	% of total deaths
0-14	22	0.5	1.4
15-19	148	10.1	32.0
20-24	200	12.2	29.6

Statistics in this section are based on the Australian Bureau of Statistics *Catalogue 3303.0 Causes of Death, Australia* publications. Because it is often difficult to determine intent, it is likely that published statistics under-represent actual suicide rates. In particular, authorities may be hesitant to make a finding of suicide in children, both to protect the child’s family and because it is difficult to be sure whether a child understood the finality of their actions.

As shown in Figure 1, suicide rates increase rapidly as children enter adolescence, and then stabilise, before increasing somewhat at around 40 years of age.

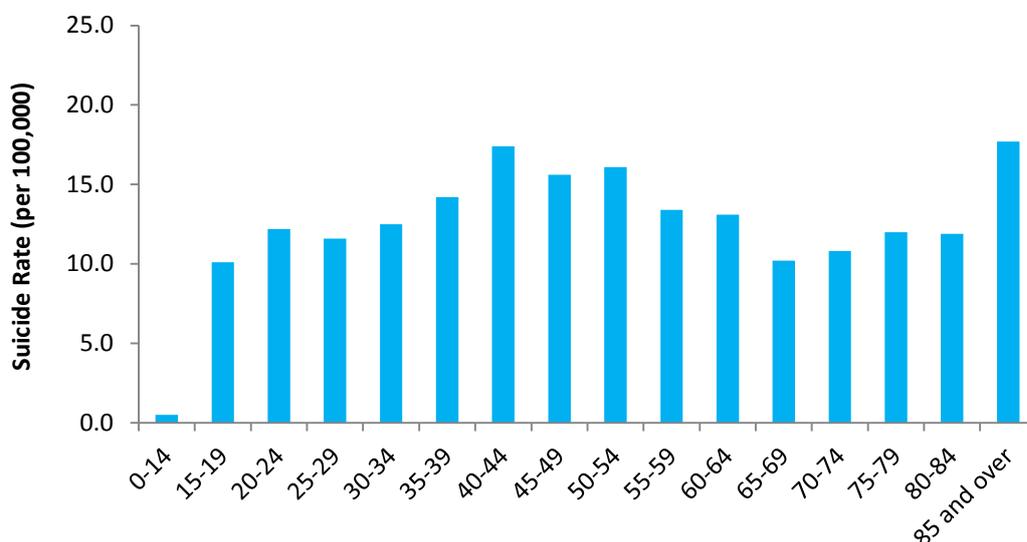


Figure 1. Suicide rate by age, 2013.

Figure 2 presents the change in suicide rates of young people aged 15 to 24 years since 1993.ⁱ The suicide rate for males aged 20 to 24 has decreased significantly and the rate for males aged 15 to 19 years has decreased somewhat; however, the female suicide rate has remained relatively stable. While young males still account for a larger proportion of suicides than young females, the discrepancy is much smaller than in the past.ⁱⁱ It is also important to note that much of this decrease occurred between 1998 and 2004; there has been little further improvement since that time, and some indication that rates may be starting to increase.

ⁱ ABS suicide data is recorded for the year in which the death was registered, which is not always the year in which it occurred. Consequently, while the data shows trends over time, data for single years should not be compared. Suicide data for children under 15 years was not available prior to 2013.

ⁱⁱ In 2007, the ABS introduced new coding guidelines for suicide which allowed them to examine the evidence and code a death as suicide when the coroner had not made a finding on intent. The resulting improvement in data quality may partially explain any recent increases in suicide rates.

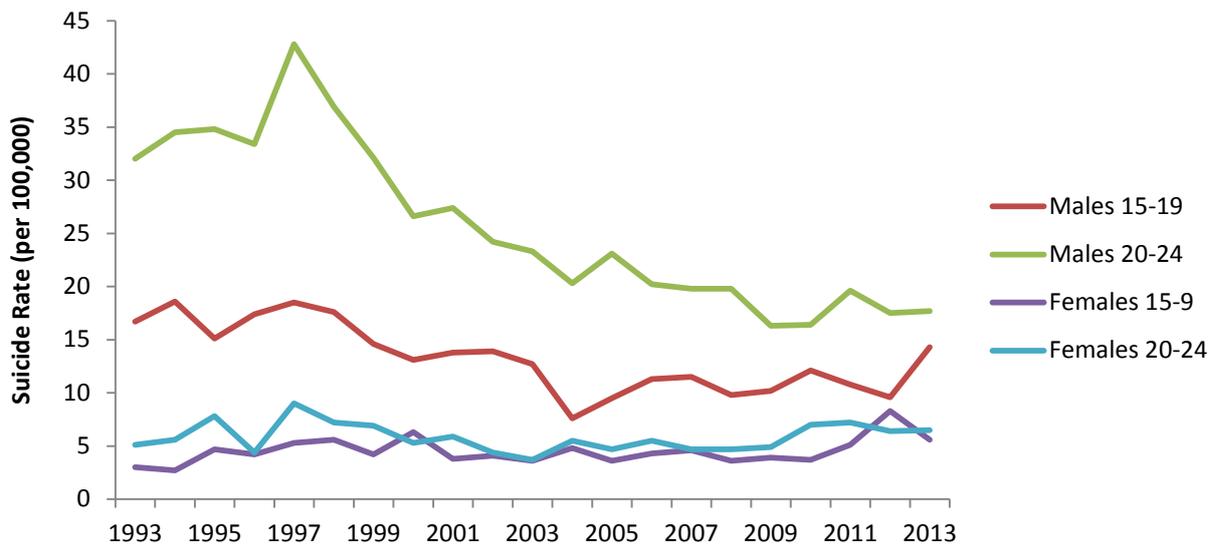


Figure 2. Suicide rate between 1993 and 2013, by age and gender.

Although suicide rates for young people have fallen over the past 20 years, suicide as a proportion of all deaths in people aged 15 to 24 has increased (Figure 3). This is particularly evident for females and for males aged 15 to 19.

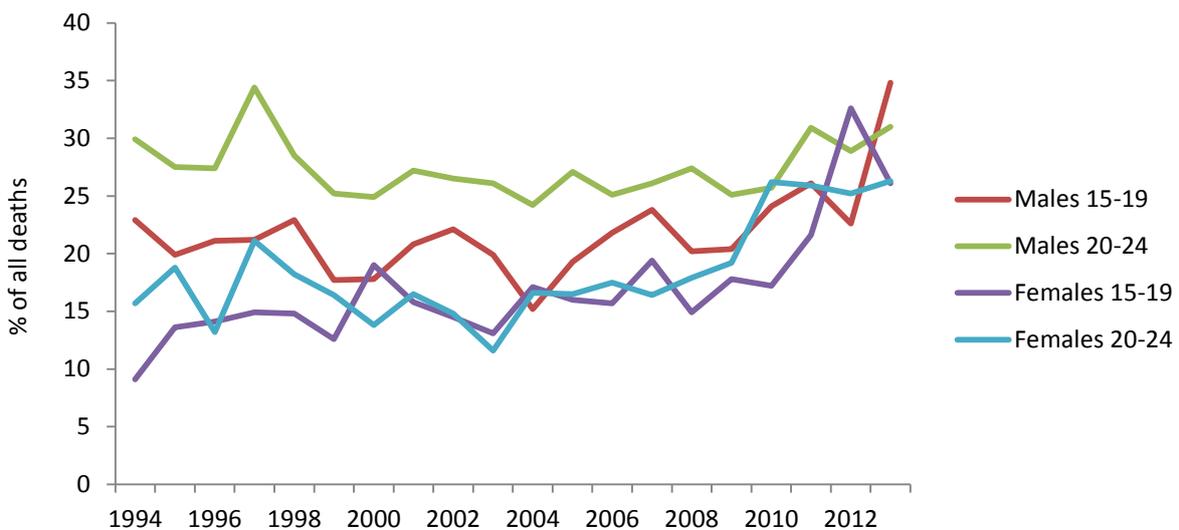


Figure 3. Suicide as a proportion of all deaths by age and gender, 1993 to 2013.

Overall suicide rates mask significant differences between different groups. Of the 370 deaths of children and young people recorded in 2013, 98 (26%) were female and 272 (74%) were male (however, females attempt suicide more often than males). Between 2009 and 2013, the average national suicide rate for non-Indigenous children in Australia aged 5-17 years was 1.7 per 100,000. For Aboriginal and Torres Strait Islander children, it was almost five times higher, at 8.2 per 100,000.⁷ Suicide is also more common in children living in rural and remote areas than children in metropolitan areas.⁸

Suicide attempts and suicidal ideation

It is difficult to accurately estimate the prevalence of suicide attempts and suicidal ideation because there are no national or state systems providing quality data on non-fatal suicidal behaviour. Estimates of attempts are often based on either admissions to hospital, which exclude attempts that do not result in hospital admission, or on self-report surveys, which may be unreliable due to a reluctance to report.

It is estimated that 370,000 Australians think about ending their life every year, 91,000 make a suicide plan, and 65,000 (0.4% of the population) attempt suicide.⁹ It is suggested that for every person who dies from suicide, as many as 30 people attempted suicide,¹⁰ and the ratio of attempts to deaths may be even greater among young people.¹¹

In contrast to death by suicide, suicide attempts are more prevalent among females, particularly young females. Approximately a quarter of all suicide attempts occur in females aged 15 to 24 years, and young women aged 15 to 19 years have the highest rate of suicide attempts.¹²

In the recent Australian Child and Adolescent Survey of Mental Health and Wellbeing, 10.7% of females and 4.5% of males aged 12 to 17 years reported having seriously considered suicide in the previous 12 months. Approximately one third of these, or 2.4% of all respondents, had attempted suicide in the previous 12 months. The relatively lower number of deaths relative to suicide attempts of females in Australia is partially explained by the lethality of the method chosen. Traditional gender roles, responses to emotional distress, and help-seeking behaviour are also likely to be important influences on gender differences in suicide deaths.¹³

Discussion point

Although young men die from suicide at higher rates than young women, young women attempt suicide at significantly higher rates than young men. Does a focus on reducing deaths risk neglecting the needs of females?

Current government policy and strategy

The Australian Government was one of the first in the world to introduce a national suicide prevention strategy in 1995, with the 'Here for Life' National Youth Suicide Prevention Strategy, which focused on suicide by young people. In 1999, the National Suicide Prevention Strategy (NSPS) replaced Here for Life and expanded its focus to all age groups. The strategy aims to reduce both suicide attempts and loss of life through suicide.¹⁴ The NSPS is an all-ages strategy, but a range of specific programs funded within the strategy and across broader mental health initiatives, target children and young people directly.

The NSPS has four components:

1. Living Is For Everyone (LIFE) Framework
 - Strategic plan to prevent suicide and promote mental health and resilience
 - Practical suite of resources and research findings on how to address suicide prevention
2. NSPS Action Framework
 - A workplan to provide national leadership
 - Australian Suicide Prevention Advisory Council which provides confidential advice to government and supports the implementation of the National Suicide Prevention Programme
3. National Suicide Prevention Programme (NSPP)
 - Provides funding for community-based projects and national investment supporting infrastructure and research
 - Incorporates funding across the continuum of activities – universal, selective, and indicated
4. Mechanisms to promote alignment with and enhance state and territory suicide prevention activities.

In response to the 2010 Senate Inquiry into Suicide in Australia the NSPS became a formal agreement signed by all governments in 2011. In addition, each state government has its own suicide prevention strategy or action plan, aligned to the LIFE Framework.

Further government action in response to the Senate Inquiry and the complementary House of Representatives Inquiry into early intervention to prevent youth suicide has included:

- ➔ Provision of additional funding through the 'Taking Action to Tackle Suicide' package
- ➔ Development of a National Aboriginal and Torres Strait Islander Suicide Prevention Strategy
- ➔ Redevelopment/expansion of KidsMatter and MindMatters school-based programs to promote mental health
- ➔ Expansion of the headspace program – additional centres, eheadspace, Outreach to Schools, and establishment of Early Psychosis Youth Services
- ➔ Project Synergy – e-mental health platform being developed by the Young and Well Cooperative Research Centre
- ➔ Additional Family Mental Health Support services
- ➔ Targeted NHMRC funding for research into prevention and early intervention for mental illness in children and young people.¹⁵

Recent mental health reforms are also relevant to suicide prevention. In particular:

- ➔ The National Partnership Agreement on Mental Health aims to improve coordination between state/territory governments and the Australian Government.
- ➔ The National Mental Health Commission was established to work across all sectors involved with mental health and suicide prevention. The Commission also produces the annual National Report Card on Mental Health and Suicide Prevention.

The Roadmap for National Mental Health Reform was released to guide government planning and expenditure on mental health, including suicide prevention, for the period 2012 to 2022. A COAG Working Group, supported by an Expert Reference Group, is overseeing implementation of the Roadmap. The Roadmap includes strategies to target mental health issues in children and young people, including:

- ➔ Enhancement of mental health and social and emotional wellbeing programs in parenting, perinatal care, early childhood, and school communities
- ➔ Better equipping early childhood and education workers to support children and families at risk of mental ill health
- ➔ Building competency of early childhood and education workers to identify and respond to early signs of mental health issues.¹⁶

The public health model for suicide prevention

Like most international efforts to reduce suicide, the National Suicide Prevention Strategy has adopted a public health approach, which aims to prevent problems from occurring by targeting risk factors or social determinants of the problem across the population, not just within high risk groups. This is widely regarded as the approach most likely to produce significant and sustained change.¹⁷ The public health model defines four steps to suicide prevention:

1. Surveillance
 - define the problem through systematic data collection
2. Identification of risk and protective factors
 - What are the causes and what can buffer their impact
3. Development and evaluation of interventions
 - What works and for whom?
4. Implementation
 - Scale up effective policies and practices and evaluate impact.

Suicide risk and protective factors

Numerous reports and articles provide lists of risks, and sometimes protective factors that are linked to suicide, but understanding which factors are most important, how different factors are inter-related, and how they might be targeted with interventions is limited.¹⁸

Understanding of risk factors is useful for identifying particular groups at high risk, but does not enable identification of individuals at risk.¹⁹

Based on the proximity of the factor to the suicidal behaviour, the LIFE Framework¹ distinguishes between:

- ➔ risk factors (e.g., mental health problems)
- ➔ warning signs (e.g., hopelessness)
- ➔ tipping points (e.g., end of a relationship), and
- ➔ imminent risk (e.g., expressed intent to die).

Tipping points are sometimes termed 'precipitating events' or 'triggers'.

Risk factors are often categorised according to the source or nature of the risk factor. For example, the LIFE Framework refers to three types: Individual, Social and Contextual. Many other categorisations exist, for example: Clinical, Family and Interpersonal, and Contextual.

Simply knowing that a person is experiencing one or more risk factors is not a good indicator of whether they are likely to take their own life. People with multiple risk factors do not typically take their own life, while some people who do take their own life appear to have few risk and many protective factors.²⁰ It may be that a risk factor is only linked to suicide in individuals who are vulnerable for other reasons, or that it is only linked to suicide when it leads to other negative outcomes.²¹

For example, the vast majority of people who die by suicide experience some kind of psychiatric disorder (studies suggest as many as 90%²²), particularly depression. However, the vast majority of people diagnosed with a psychiatric disorder do not die by suicide (e.g., the suicide rate for people with major depression is between 2 and 6%). Depression may predict suicidal ideation better than suicide attempts, while severe anxiety and poor impulse control may be better predictors of suicide attempts.²³ Whether social factors such as exclusion by peers are linked to suicide through their influence on depression and anxiety, or whether they have an independent link is unknown.

Some risk factors are relevant to all age groups (e.g., male gender) while others vary with age (e.g., bullying and exclusion by peers are important for adolescents, while physical illness and marital status are relevant for older people). Some risk factors may be modifiable (e.g., hopelessness), while others are not (e.g., gender). Table 2 presents a list of risk and protective factors that are applicable to children and young people.

More importantly, some risk factors may be causal, while others (especially demographic factors such as gender or being of Aboriginal or Torres Strait Islander background) are markers for underlying causal factors. These markers are useful to identify to whom interventions should be targeted, but they do not explain why that group of people die from suicide at a higher rate than others, nor do they tell us what kind of intervention is most likely to be effective for that group.

For example, Aboriginal and Torres Strait Islander people experience many of the other risk factors for suicide at higher rates than the rest of the population. They are more likely to experience socio-economic disadvantage, to have limited education, to misuse alcohol and drugs, to be involved in the child protection system, and to be exposed to suicide. We have little understanding of whether the higher rate of suicide amongst Indigenous Australians is attributable (in whole or in part) to these risk factors, or whether it is due to completely different factors that are unique to that population (e.g., cultural, political and historical issues).

Despite years of research, we are still unable to predict either who will develop suicidal thoughts, or who will act on those thoughts.²⁴ Knowledge of risk and protective factors is a starting point for understanding suicide and how to prevent it, but comprehensive theoretical models are needed to explain causal processes and interaction between different risk factors.

Discussion point

How do we work with Aboriginal and Torres Strait Islander peoples to deepen our understanding of pathways to suicide in their communities?

Table 2. Risk and protective factors for suicide in children and young people.

Risk factors	Protective factors
Gender (male for death by suicide and female for attempted suicide)	Gender (female for death by suicide)
Aboriginal or Torres Strait Islander	Mental health
Rural or remote residence	Supportive and caring parents
Low socio-economic status	Social-emotional wellbeing
Sexual identity	Connectedness to family
Poor physical health	Supportive peer relationships
Limited educational achievement	Positive educational experiences
Unemployment	Positive sense of self
Homelessness	Sense of control over own life
Contact with juvenile justice	Coping skills
Psychiatric disorder (depression, anxiety, ADHD, bipolar, anorexia nervosa, personality disorder)	Problem-solving skills
Learning difficulties	Ability to seek help
Family psychiatric or suicide history	Access to services
Family issues – lack of family support, parent-child conflict, poor attachment	Stable housing
Child abuse (sexual, physical, neglect)	
Parental death	
Low self-esteem, negative self-concept	
Hopelessness	
Impulsivity	
Poor problem-solving	
Aggression/violent behaviour	
Drug and alcohol misuse	
Sleep disturbance	
Difficulty with peer relationships, lack of friends, bullying	
Non-suicidal self-injury	
Suicidal ideation	
Previous suicide attempt	
Discharge from a psychiatric hospital	
Exposure to suicide	
Access to lethal means	

Theories and models of suicide

Contemporary understanding explains suicide as the result of an interplay between predispositional vulnerability and negative life events. Predisposing factors may be:

- ➔ biological (e.g., chemical imbalances in the brain)
- ➔ personality (e.g., impulsiveness)
- ➔ cognitive (e.g., poor problem solving).

Negative life events include both early and recent adversity (e.g., abuse or neglect as a child, romantic relationship breakdown).²⁵

One explanation for the lack of understanding about how to prevent suicide is the lack of comprehensive theoretical models, in particular, a lack of models that address the interplay

between different risk factors within the individual and between the individual and their environment.²⁶

A detailed review of theoretical models is beyond the scope of this paper, but one recent theory attracting significant interest, the Interpersonal Theory of Suicide²⁷, is outlined briefly in the next section. The Interpersonal Theory of Suicide is supported by a growing body of research, and is one of the few theories that provide a way to distinguish between suicidal ideation and suicide attempts. The theory is particularly useful for progressing understanding of treatment and prevention of suicide because it provides three concrete variables that can be targeted in assessment of risk, and planning of interventions.²⁸

The Interpersonal Theory of Suicide

The Interpersonal Theory of Suicide states that, in order to die by suicide, an individual must experience high levels of three factors:

- ➔ A sense of thwarted belongingness
- ➔ A perception of being a burden to others
- ➔ The acquired capability for suicide.

According to the theory, people who take their own life feel they do not belong anywhere; they lack social connections and reciprocally-caring relationships, hence feel lonely and isolated. This may reflect an actual lack of friends and family, but may also be due more to distorted and dysfunctional thoughts (characteristic of mental illness) that skew people's perception.

In addition, individuals who take their own life are theorised to believe they are so flawed as to be a liability rather than an asset to the world, and to feel a strong sense of self-hatred. Consequently, they perceive themselves to be a burden on others, who would be better off without them. Again, these beliefs are rarely true, and often reflect the distorted thinking characteristic of mental illness.

Finally, in order to actually take their own life, an individual must develop a high tolerance for pain and a reduced fear of death in order to overcome the natural instinct for self-preservation.

Risk factors are accounted for in the theory through their influence on belongingness, burdensomeness, and acquired capability. For example, difficulties with peers and/or bullying can lead to feelings of social isolation and a lowered sense of belongingness. Unemployment and poor educational outcomes can lead people to feel that they are a burden on others. Repeated exposure to painful and fear-provoking events, for example through non-suicidal self-harm or abuse as a child, can heighten pain tolerance and help to overcome fear of death.

Discussion point

To what extent are current suicide prevention and intervention strategies in Australia linked to a theoretical model? Does this matter?

The importance of understanding pathways to suicide for young people

The nature of interventions that are effective for children and adolescents is likely to be very different to those that are effective for adults.²⁹ Suicide prevention strategies need to be tailored to the developmental stage of the individual as pathways to suicide may have different characteristics across the lifespan. For example, impulsivity is a known risk factor for suicide, and adolescents are typically more impulsive than adults. Hence, impulsivity may be an important target for intervention with adolescents, but not older adults.³⁰ Even within the adolescent period, a 13 year old is very different to an 18 year old in their social and cognitive maturity.

Moreover, adolescents' lives take place in different contexts to adults, with parents, peers and school being particularly influential for children and young people. In particular, cyberbullying is an issue for children and adolescents that receives considerable media attention, but more research is needed to investigate links between cyberbullying and suicide.³¹

In addition to noting that children and adolescents are different to adults, it is important not to assume that there is a one size fits all approach to suicide prevention with children and adolescents. Research suggests at least two subtypes of suicidal adolescents: those who are impulsive and demonstrate externalising behaviour problems (e.g., alcohol misuse, aggression), and those who are not impulsive and exhibit internalising behaviour problems (e.g., depression, anxiety).³²

It is also likely that male and female children and adolescents follow different pathways to suicide, and research indicates that females benefit more from existing interventions than males.³³ Males are also less likely to seek support. Prevention and treatment strategies need to be designed with the needs and characteristics of these different groups in mind.

Discussion point

In what ways are pathways to suicide for children, adolescents and young adults different to those experienced by adults? In what ways do pathways differ depending on the characteristics of the young person and their environment?

Suicide prevention and treatment approaches

Suicide prevention strategies need to encompass two approaches to reducing the number of deaths from suicide: preventing the development of suicidal behaviour in people who have not yet experienced this issue, and better identifying and treating individuals with existing suicidal behaviour.³⁴ The Australian LIFE Framework for suicide prevention outlines eight domains of activity necessary for this undertaking (Table 3).³⁵

Because suicide is a result of complex interactions between multiple individual, social and contextual risk and protective factors, no single intervention is sufficient to prevent or treat suicidal behaviour. An effective strategy must include a combination of activities designed to address a range of factors across the spectrum from universal prevention to continuing care. In addition, it is important to be aware that local factors such as population characteristics, culture and socioeconomic context may influence whether a given intervention is effective.³⁶

A Canadian review of the evidence published in June 2015 revealed the ‘limited quantity and quality of evidence available to inform decisions about youth suicide prevention policies and programs’.³⁷ Others have referred to the evidence about effective interventions for suicidal adolescents as ‘extremely limited’³⁸ and ‘inadequate’.³⁹ Nevertheless, a body of research suggests a range of activities that appear to be effective for a range of age groups, and some that are promising for children and adolescents.

The following section summarises the evidence about effective and promising interventions across the eight domains of the LIFE Framework, with a focus on interventions that are relevant to children and young people.

Table 3. LIFE Framework continuum of suicide prevention activities

Prevention	<i>Universal interventions, which engage the whole of a population</i>
	<i>Selective interventions, which work with groups potentially at risk</i>
Early intervention	<i>Indicated interventions, which target individuals at high risk</i>
	<i>Symptom identification, which entails being alert to signs of high risk, and providing support at these times.</i>
	<i>Early treatment, which involves finding and accessing early care and support.</i>
Treatment	<i>Standard treatment which provides integrated, professional care to manage and treat individuals with suicidal behaviours.</i>
	<i>Longer-term treatment and support to consolidate recovery.</i>
Continuing care	<i>Ongoing care and support to help people move back into life.</i>

Prevention and early intervention

Universal prevention programs constitute the largest proportion of youth suicide prevention activities in Australia, and are argued to provide the best value for money in suicide prevention for young people. It is estimated that universal programs are sufficient for the needs of 80% of young people, with approximately 15% needing selective interventions, and around 5% needing indicated individual treatment.⁴⁰

Previous reviews of the literature⁴¹ identify four suicide prevention and early intervention activities that are supported by enough evidence to be considered effective:

1. Restriction of access to means
2. Restriction of media reporting

3. Training of medical practitioners
4. School-based interventions.

Restriction of access to means

Restriction of access to means includes activities such as firearms control, erection of barriers at jumping points, and reducing pack sizes of drugs commonly used in suicide. Research shows that these activities are effective, and do not simply result in people turning to alternative methods. Internationally, restricting access to means is considered a key strategy for adolescents because of the impulsive nature of adolescent behaviour.⁴²

However, the most common cause of death by suicide for young Australians is hanging, which accounted for 78% of child and adolescent suicide deaths between 2009 and 2013.⁴³ The means for hanging are varied and may involve easily accessible household items, meaning that the potential impact from restriction of access to means in Australia may be limited.

Effective restriction of media reporting

An Australian review of the evidence found that some styles of media reporting are directly linked to increases in suicide by encouraging copycat behaviour.⁴⁴ Media guidelines (e.g., Australia's MindFrame resources) that caution against sensationalising or glamorising suicide, or reporting details of the circumstances of a suicide, effectively change media behaviour and consequently reduce suicidal behaviour.

The review noted that existing evidence is most relevant to traditional print and television media, with little research to date regarding the effect of content about suicide on the internet, the medium that is potentially most accessed by children and young people. Australia has introduced laws against posting material intended to promote suicide on the internet. Whether the laws deter Australian sites is unknown, but in any event, Australia has no jurisdiction over international content; hence, international consensus would be required to achieve a meaningful impact. Other potential interventions include voluntary guidelines, filtering software, and development of alternative sites that encourage help-seeking, but there is currently no evidence to show whether these methods are effective.

Discussion point

How can we manage the potential for negative influences online?

Training of medical practitioners

Training of medical practitioners refers to a specific form of gatekeeper training (training adults who interact with youth in everyday life to identify warning signs and respond appropriately). A number of studies have shown that training medical practitioners can increase their knowledge and skills to detect and treat depression and suicidal behaviour. There is also some international evidence of an effect on clinical practice, and on adult suicide rates in the short-term.⁴⁵

Canadian data show that about 50% of young people who die by suicide saw a medical practitioner in the six months prior to their death.⁴⁶ Assuming this figure is similar in Australia, and given that up to 90% of young people who take their own life are experiencing mental health problems, general practitioners may be well-placed to identify and treat at risk children and adolescents if they are trained to do so. However, current screening tools have limited ability to detect suicide risk in adolescents⁴⁷ and evidence on long term change,

change in the Australian context, and change involving children and adolescents is lacking. Rigorous evaluation of Australian programs involving children and young people is needed.

Discussion point

How do we facilitate increased evaluation of outcomes across current and future suicide prevention and intervention programs for young people?

School-based interventions

The term 'school-based interventions' is sometimes used as if it refers to a particular type of promising intervention, but it may more accurately be seen as describing a context for a range of promising interventions. School-based strategies include screening programs to detect young people at risk, mental health and suicide education for students, gatekeeper training, psychological skills training for students, and whole school approaches to develop a positive and supportive school culture.

Screening programs appear to identify at risk students and increase use of mental health services, however, they are subject to a number of criticisms. In particular, they often result in many false positives, and because suicidal risk waxes and wanes screening needs to be done regularly to avoid false negatives.⁴⁸ Whether the benefits of screening programs outweigh their cost and the burden on schools and health professionals is a matter for investigation.⁴⁹

Education programs for students typically aim to reduce stigma and encourage help-seeking by increasing knowledge and changing attitudes to mental illness and mental health problems. Education programs appear to increase knowledge, but evidence regarding changes in attitudes and increases in help-seeking is mixed.⁵⁰

Gatekeeper training works with school staff and/or students to build confidence and skills to identify at risk students and take appropriate action. Evidence that gatekeeper training leads to increases in knowledge and confidence immediately following a program is strong. More work is needed to examine other outcomes including changes in attitudes and behaviour, and increases in referrals and access to services, as well as whether short-term changes are maintained over time as the existing research shows mixed results.⁵¹ Assigning additional responsibility to teachers, many of whom already feel over-burdened, is also an issue to be considered.⁵²

School counsellors or guidance officers constitute a readily available support for young people in schools, but existing procedures may inadvertently create barriers to access. For example, young people contacting Kids Helpline report that they don't want their peers to know they are seeing the school counsellor, and that procedures that require the student to provide a note to the teacher and leave in the middle of class inhibit use of the school-based counsellor.

Programs that focus on skills training (e.g., coping strategies) appear to reduce risk factors such as depression, stress, hopelessness, and anger, and enhance protective factors such as personal control and problem-solving skills. Whether this translates to reduced suicidal behaviour is unknown.⁵³

Whole-school programs that promote psychological wellbeing by creating a positive and supportive school culture may increase help-seeking, but there is no clear evidence of an effect on suicidal behaviour.⁵⁴ Activities such as anti-bullying programs and physical health programs are also sometimes included in descriptions of suicide prevention activities.⁵⁵ However, in light of the broad nature of these programs, and the lack of evidence linking them with changes in suicidal behaviour, some have questioned whether they should even be considered part of a suicide prevention strategy.⁵⁶

Comprehensive school-based programs combine a range of the above approaches. For example, the MindMatters program in Australian secondary schools aims to (a) build a positive school community, (b) teach students skills for resilience, (c) engage parents and families, and (d) enable the school to identify and support students experiencing mental health difficulties to access appropriate support. Although MindMatters has been running for many years, no outcomes evaluation has been published to date. Nevertheless, it seems likely that comprehensive school-based programs may be more effective than interventions with a single focus.

Issues to consider in school-based programs

- ➔ Schools have traditionally been reluctant to implement programs that directly discuss suicide due to concerns about causing psychological distress and/or increasing suicidality, however, recent research indicates that these fears are unfounded.⁵⁷
- ➔ Experts recommend implementation of a 'tailored, evidence-based suicide prevention policy' in every school to support the use of a range of appropriate interventions, and clearly identify suicide prevention as a priority.⁵⁸
- ➔ Competencies build up incrementally so knowledge and skills need to continue being taught; one-off programs are unlikely to have sustained effects.⁵⁹
- ➔ In addition to the broad range of intervention types falling under this term, there are a number of possible reasons why the evidence in support of school-based programs is mixed, for example:
 - Understanding of what constitutes best practice is lacking. Even within one intervention type, there are many different programs on offer, and they may not be equal in effectiveness. For example, gatekeeper training may use either a surveillance model (focus on gatekeepers identifying at risk students and making appropriate referrals) or a communication model (focus on improving communication between students and staff to increase help-seeking).⁶⁰
 - Effectiveness may depend on contextual factors such as individual student characteristics, family characteristics, school culture, local community factors, geographical location, and more.

Discussion point

Do we know which of the above early interventions is likely to be most effective to prevent suicide in young people? Or is it the case that only a comprehensive approach employing all these strategies is likely to be effective?

Clinical interventions

Psychological interventions

Psychological interventions, particularly cognitive behaviour therapy (CBT) and interpersonal psychotherapy (IPT), have been shown to improve mental health risk factors such as depression.⁶¹ Some practice assumes that if underlying disorders such as depression are treated, suicidal thoughts and behaviours will also decrease, but this is not necessarily the case. The literature suggests that treatment should directly address suicidal thoughts and behaviours, for example, by teaching coping skills and self-regulation techniques directly applicable to suicide.⁶² Some practitioners suggest that suicidal young people experiencing significant emotional distress are unlikely to have the capacity to engage in CBT, and that narrative therapy is a more useful option.

A significant challenge associated with psychological interventions is that they are relatively expensive to provide. The 10 sessions of therapy currently funded under the Australian Government's Better Access scheme is considered inadequate for anyone with more than mild depression or anxiety. This has significant implications as incomplete treatment for psychiatric disorders may result in deterioration.⁶³ Young people contacting Kids Helpline also highlight waiting lists for face to face services as a problem, and counsellors suggest that this may exacerbate feelings that no one cares and nothing can be done. Consequently, it has been suggested that evaluating the efficacy of providing therapies online should be a matter of priority.⁶⁴

Cost is not the only challenge in terms of providing an optimal treatment program. Although adolescents generally find psychological treatments acceptable, many dropout before completing treatment. In addition, effectiveness depends on the competence of the therapist and their experience working with young people.⁶⁵ Young people contacting Kids Helpline tell counsellors that they find some professionals too clinical, or that they focus too much on physical safety, without giving the young person a chance to just talk first.

Medication

Best practice guidelines for treatment of moderate to severe depression in adolescents recommend antidepressant medication (SSRIs) in addition to psychological interventions. There has been concern in the past that antidepressant medication may increase suicidal thoughts in adolescents, but recent research has led to general agreement that the benefits of medication outweigh any risks. Nevertheless, adolescents should be monitored closely for the first few weeks after commencing antidepressant medication.⁶⁶

Some research indicates that a combination of medication and psychological therapy is more effective than either treatment alone, but findings are mixed.

Inpatient care

Inpatient care may sometimes be necessary to keep an individual safe in the short term, but is typically only recommended when other less restrictive options are not feasible or have been tried without success.

It is well known that the risk of suicide is greater after leaving psychiatric inpatient care than before being admitted.⁶⁷ Suicide rates following discharge from inpatient psychiatric treatment are estimated to be as high as 200 times the rate in the general population, with

especially high risk during the first month.⁶⁸ Proactive, multidisciplinary care following discharge can successfully reduce these deaths.⁶⁹

Consistent with other research,⁷⁰ young people contacting Kids Helpline who have been hospitalised in relation to suicidal concerns describe the experience as extremely negative and find being confined in a group of young people experiencing complex mental health issues to be overwhelming. One young person suggested to her counsellor that the only thing she learnt while hospitalised was new ways to harm herself. Another noted that hospitalisation may have kept her physically safe for the short time she was actually there, but had no benefits beyond that.

Discussion point

How can we make hospitalisation a less negative experience for young people? Are there alternatives to hospitalisation that would be more effective? Why are people at greater risk after hospitalisation than before?

Coordination and continuity of care

The issue of at risk individuals ‘falling through the gaps’ is raised frequently in the literature. Coordination between services such as alcohol and drug, mental health, hospitals, and private providers is required to identify individuals needing support and provide a holistic service that addresses the multiple factors that may be contributing to suicidality.

The transition from child to adult mental health services is a critical point for older adolescents and a time of increased risk of disrupted care and disengagement from services. Extending the cut-off for child services to 25 years has been suggested as a way to enable a more gradual transition between services.⁷¹ While continuity of care is important for all, it needs to be a particular focus for those moving between different parts of the service system.

Discussion point

How do we ensure better continuity of care as adolescents transition to adult services?

Emergency and crisis support

Research indicates that crisis lines attract callers facing significant crises at the time of the call, and that they successfully reduce emotional distress.⁷² Crisis lines also provide referrals to other services and can contact emergency services if necessary. Previous research on Kids Helpline showed that it significantly reduced suicidality and improved the mental state of callers who exhibited clear suicidal ideation or intent,⁸ and that it significantly reduced psychological distress in callers contacting for a range of other reasons.⁹ This evidence is supported by research on adult helplines, which has also demonstrated measurable improvements in distress and suicidal thoughts.¹⁰

Kids Helpline counsellors report concerns that the resulting intervention when they enact a duty of care is unpredictable, and that transport to an emergency department or psychiatric hospital may not be the best response. A specialist suicide emergency response service that

could assess the situation and provide counselling support in situ, only transporting to hospital if necessary, has been suggested as an alternative to police or ambulance.

Discussion point

What are the advantages and disadvantages of a specialist suicide emergency response service? Is this feasible?

Continuing care

Interventions that appear promising include continuation of psychological therapy and/or medication,⁷³ simple strategies such as follow-up post cards, phone calls or text messages, and peer support.⁷⁴ While individual services may be useful, it is accepted that best practice following a suicide attempt requires integrated care, and coordination of services provided by hospitals, GPs, and other mental health services. Follow-up care can both prevent future suicide attempts and support people to rebuild their lives. However, understanding of the best way to provide integrated follow-up care is limited.⁷⁵

The National Suicide Prevention Lifeline in the USA has trialled a follow-up phone support service for people after a suicide attempt. The service calls the client at agreed times, with a focus on continuing safety planning and connecting people to ongoing support.⁷⁶ In Australia, Kids Helpline could potentially be involved in providing a similar service.

Discussion point

What are the best ways to provide continuing care following a suicide attempt? Do existing telephone counselling services have a role to play?

Multi-faceted, multi-level community-wide approaches

The Nuremberg Alliance Against Depression

The Nuremberg Alliance Against Depression (NAD) was a multifaceted suicide prevention program in Nuremberg, a German city of 500,000 people. Rigorous evaluation of the program demonstrated a 24% reduction in suicides over two years.

The NAD model comprised four components:

1. Training and practice support for primary care physicians in detecting and treating depression
2. Public awareness campaigns to inform the general public about depression, including anti-stigma campaigns
3. Gatekeeper training on depression and suicidality for community members such as priests, social workers, teachers, the media, and others
4. Support for individuals who had attempted suicide, help lines, and self-help activities for patients and families.⁷⁷

The model has since been implemented as the European Alliance Against Depression (EAAD), an EU-funded network of partners from 17 countries, which are adapting it to local conditions while preserving the key components. Evaluation of the EAAD is ongoing.

Black Dog/CRESP proposal for a systems approach in Australia

The Black Dog Institute and the NHMRC Centre of Research Excellence in Suicide Prevention are calling on Australian governments to fund implementation of a systems approach based on the NAD model in 12 high-risk communities. The stated goal is to reduce suicide deaths and attempts by 20% in 1-2 years.

Core features of the approach

1. Multisectorial involvement by all government, non-government, health, business, education, research and community agencies and organisations – working together in an integrated fashion
2. Within a localised area with community ownership encouraged
3. Implementing evidence-based strategies simultaneously
4. Demonstrating sustainability and long-term commitment.

It is an all-ages approach, but services/agencies may have a targeted approach to address specific needs or at-risk groups.

Nine key strategies in the approach

1. Appropriate and continuing care after leaving an emergency department, and for those at high risk in the community:
 - a. 24/7 call out emergency teams
 - b. Crisis-call lines and chat services
 - c. Assertive outreach
 - d. E-health services through the internet.
2. High quality treatment, including CBT and DBT for those with mental health problems (including online treatment)
3. Training of GPs to detect depression and deal with suicide risk
4. Suicide prevention training for frontline staff every 3 years (e.g. police, ambulance)
5. Gatekeeper training for persons who come in contact with at risk individuals (teachers, youth workers, friends, family, clergy, counsellors). Training in appropriate work places and particular communities, and for people who work with those with a disability, the unemployed, people in financial crisis, people dealing with trauma, etc.
6. School-based peer support and mental health literacy programs.
7. Community suicide prevention awareness programs.
8. Responsible reporting on suicide by the media.
9. Reducing access to lethal means of suicide.

The approach also calls for strategies to be tailored to each community, depending on the local context. Not every community would implement every strategy.

GP training, means restriction and gatekeeper training are noted as the most promising interventions. Community awareness is identified as being supported by the least evidence, and does not represent an effective stand-alone response.

Governance

Local multi-agency suicide prevention teams would be established with responsibility for leadership, planning, etc. They could be based around Primary Health Networks, Local Health

Districts, hospitals, local councils. The structure would vary, depending on community resources and capacity.

The approach also notes the importance of involving those with lived experience to assist with implementation and advocacy.

Discussion point

In relation to the range of prevention and intervention strategies identified where should Government and the community sector best invest its resources to reduce the rate of youth suicide?

Seeking help and accessing services

Sources of information for young people

The internet is the most common source of mental health and suicide information for young people. Responses to the Child and Adolescent Survey of Mental Health and Wellbeing showed that 14.5% of all adolescents had accessed information about mental health online. Of those with a major depressive disorder, around 40% had accessed information about mental health, 13% had accessed information about services in the community, and almost 30% had used an online assessment tool to find out if they needed help. In comparison, just under 15% had sought any kind of information in a book, magazine or on television. Other research indicates that as many as 39% of young people use the internet to seek help regarding mental health problems.⁷⁸

The ReachOut.com youth mental health website received 1.85 million unique visitors and recorded 4.24 million page views in 2013/14.⁷⁹ One in five respondents to their annual survey reported suicide/self-harm as the main topic for which they were seeking information or support.⁸⁰

Social media is often linked to suicide in a negative way, for example through the incidence of cyberbullying, but it also provides an unprecedented opportunity to disseminate educational messages to young people. beyondblue reports that its daily Facebook posts are seen by 100,000 people, while 20,737 people follow its Twitter conversation. beyondblue also uses YouTube to disseminate video content such as personal stories of people with lived experience. ReachOut.com has 57,062 social media followers and uses its Facebook page to post text, image and video content, and link users to other resources.

Use of mental health services by young people

According to the Child and Adolescent Survey of Mental Health and Wellbeing, 44% of respondents with a mental disorder had not used any services in the previous 12 months. This included a significant proportion of young people assessed as having moderate to severe and/or multiple disorders. Use of services was higher among adolescents than children under 12 years.

There are numerous reasons for this, including barriers to help-seeking such as stigma and fear, parents not recognising the young person's need, and difficulty accessing an appropriate service.

Barriers to help-seeking

Young people encounter multiple barriers to seeking help, particularly stigma and an “apparently widespread belief in our culture that help-seeking indicates weakness and is a cause for embarrassment and shame”.⁸¹ Commonly reported barriers to help-seeking include:

- ➔ Stigma – worrying what others, including professionals, will think; embarrassment; shame
- ➔ Not trusting that confidentiality will be maintained
- ➔ Not knowing whether they need help – mental health literacy, not being sure what’s ‘normal’, thinking the problem will resolve on its own
- ➔ Self-reliance – wanting to handle it alone
- ➔ Fear of being diagnosed with a mental illness and/or of being hospitalised
- ➔ Practical considerations such as transport and cost
- ➔ Not trusting the provider of help to respond appropriately – that they will not understand, ignore the problem or make a ‘big deal’ out of it
- ➔ Not wanting to worry family
- ➔ Not knowing who to ask or where to go for help
- ➔ Negative past experience with help-seeking
- ➔ Fear of the act of help-seeking.⁸²

In addition, emotional distress and/or poor mental health can be barriers to seeking help in themselves. Suicidal young people are especially susceptible to help-negation - as emotional distress increases, help seeking decreases. Moreover, feelings of hopelessness, a key risk factor for suicide, are not conducive to seeking help. It has been suggested that young people are generally unlikely to seek help, especially from professionals, and that those who do seek help are those at lower risk.⁸³

When young people do seek help, they are more likely to speak to a friend or family member, rather than a professional. While seeking help of any kind may be positive, family and friends are untrained and often poorly equipped to provide helpful, effective responses.⁸⁴ In contrast, professional psychological help is known to be effective. Consequently, it is important that programs encourage *appropriate* help-seeking, and that family and friends are informed to support the young person to access professional help, and not rely on informal supports alone.

Evidence from callers to Kids Helpline also indicates that inaccurate and outdated understanding of treatment for mental illness contributes to fear of seeking help for some young people. For example, counsellors are asked questions such as, “Will I be sent to an insane asylum?” Mental health education needs to provide information about contemporary services for mental ill health, as well as mental health itself.

Parents as young people’s first source of support

Families are clearly well-placed to recognise mental health problems and/or suicidality in children and young people, however, distinguishing between typical teenage ups and downs and suicide risk is challenging and parents may need education to recognise risk and know how to respond.⁸⁵ In the Child and Adolescent Survey of Mental Health and Wellbeing, more than 20% of parents of a child with a mental disorder did not identify that their child needed some type of help. More than 70% of those who identified a need reported that the need wasn’t met. Many of these parents reported being unable to get an appointment or unable to afford a service, but close to 30% simply preferred to handle the problem themselves or thought it would get better on its own.

Research suggests that adults are also not aware of the multiple barriers to help-seeking that young people face. An Australian study reported that parents lacked insight into why young people may not seek help, were confident that their children would talk to them about their problems, and appeared to assume that only children from dysfunctional families would not confide in a parent. Service providers in the same study focused on lack of knowledge and dislike of services as barriers for young people, rather than the issues associated with stigma and trust identified by young people themselves.⁸⁶

Young people contacting Kids Helpline about suicide often express a fear of seeking help from adults in their lives, including parents. Some report not wanting to burden their parents, while others describe a fear of “getting in trouble” – not being believed, or being told that they are over-reacting. One young person told her counsellor that she would have to actually kill herself in order to “show them all” that she wasn’t just attention seeking.

Feedback from Kids Helpline counsellors indicates that educating young people, particularly young males, to identify mental health problems is an important first step in reducing barriers to help-seeking. Young people themselves are not sure whether they need help. Some contact Kids Helpline in confusion – “my problems aren’t that big so why am I feeling this way?” When they do decide to seek help, many, particularly males, find it difficult to articulate how they are feeling, using terms such as being “all over the place” rather than directly expressing feelings of depression or anxiety. This difficulty in accurately and clearly describing what they are going through is likely to contribute to the difficulties parents have understanding the severity of the issue.

Reducing stigma

As highlighted in the previous section, reducing the stigma associated with mental health problems and help-seeking is critical. It is important to note that stigma may be an issue within health services, as well as in the general community. In particular, suicide attempts by females may be seen as attention seeking or manipulative, and not taken seriously.⁸⁷ This may be an especially important focus with female children, because it can be difficult to be sure whether a child clearly understood the potential consequences of their action.

Young people contacting Kids Helpline report experiencing stigmatising attitudes from services designed to provide support, including emergency services (e.g., police, ambulance) and emergency departments at hospitals. For example, they report feeling judged, not being believed, treated as attention seeking, and hospital staff seeming annoyed at them. This is consistent with research on stigma and mental illness, in which people with mental illness report frequently encountering negative and dismissive attitudes from health professionals.⁸⁸

Campaigns to reduce public stigma associated with mental illness and suicide can be divided into three groups:

1. Education, which challenges stereotypes and myths by providing factual information
2. Contact with members of the stigmatised group, with the aim of challenging stereotypes, and
3. Protest strategies, which highlight the injustice of prejudice and discrimination, and chastise offenders.

Both education and contact strategies appear successful at reducing stigma. Within contact strategies, face to face contact appears more effective than video, but video has the potential to reach a broader audience. Contact is most effective when done by peers with lived

experience who are working towards recovery, but concerns have been raised about risks for the adolescents with mental illness who are telling their stories. Fortunately, evidence suggests that education may be at least as effective as contact for adolescents. Protest strategies do not appear to be effective for changing attitudes, but may be useful for changing media content (e.g., TV, advertising).⁸⁹

Access to services

Even when they decide to seek help, children and adolescents may be faced with a number of barriers to actually accessing services, for example, they may be unaware of the services available, fearful of costs, and reliant on parents to organise and take them to appointments. The main barriers to access reported by both parent and adolescent respondents to the Australian Child and Adolescent Survey of Mental Health and Wellbeing were not being able to afford help, and not being sure where to get help. Concerningly, 9.8% of adolescents reported that they asked for help at school but didn't get it.

Feedback from Kids Helpline counsellors suggests that young people may need education about the nature of treatment for mental health problems, and additional support and encouragement when engaged in treatment. Many express frustration that treatment is too hard, takes too long, and doesn't work. We are unable to say whether young people don't understand that recovery can be a long, difficult process, or whether they are aware, but struggle with the reality of treatment and want a "quick fix". In either case, the result may be early disengagement from treatment, a disinclination to try again, and increased feelings of being somehow different or 'broken', for being unable to get better.

Consequently, enabling young people to access services is not enough. The ability of a service or treatment approach to keep the young person engaged for as long as necessary is as important as its ability to treat the problem. Parents, or other personal support persons, also need to understand the likely time frame for treatment so that they are able to support and encourage the young person to continue.

Discussion point

School-based interventions appear to be the focus of most attention in regards to reducing stigma and encouraging help-seeking by young people. Are we neglecting the importance of the family environment, particularly the role of parents?

The transition from adolescence to adulthood

The transition from adolescence to adulthood is an important time period for suicide prevention efforts. For all young people, this can be a period of stress due to the significant life changes that accompany moving from high school to further study or employment, or for some young people, to unemployment.

Although most tertiary educational institutions provide counselling services, the onus is on the young person to proactively seek support. In comparison to primary and high school, teaching staff may work with hundreds of students, are unlikely to be aware of the circumstances of any individual, and are less likely to see supporting students' mental health and wellbeing as part of their role.

Young adults who are working may receive support in the workplace if it is considered a high risk context (e.g., OzHelp and Mates in Construction target the construction industry). Those who are unemployed, particularly school-age adolescents who are not in school, may be among those most at risk for suicide,⁹⁰ but least likely to receive universal services provided through schools or workplaces. Employment services may provide job seekers with some counselling, but this is typically limited to support that is directly linked to gaining employment. Young people living in rural and remote areas may experience even greater disadvantage, with both higher rates of unemployment and less access to services than those in cities.

Discussion point

How can we identify and provide support to the most marginalised young people, such as those who are not engaged in either education or work, particularly those in rural and remote areas?

Help-seeking and tele-web services

Use of tele-web services by young people

In 2014, 368,461 attempts were made to contact Kids Helpline: 81% by phone, 13% by web chat, and 5% by email. Counsellors responded to 209,004 contacts from children and young people aged 5-25 years, of which 67% were seeking information or referral and 33% were seeking counselling. Of these contacts, 8,310 were about suicide, an average of 160 contacts each week.ⁱⁱⁱ Most other contacts with Kids Helpline related to risk factors for suicide such as mental health concerns, emotional wellbeing, problems with family, problems with peers, romantic relationships, and child abuse.

Almost 80% of contacts about suicide were from a young person experiencing suicidal thoughts. Approximately 6% were from young people expressing an immediate intention to take their own life, and 2% were from a young person engaged in a suicide attempt at the time of the contact. Around 13% of contacts were from young people who were concerned about another person.

Contacts about suicide resulted in almost 700 duty of care responses, in which a counsellor contacted emergency services to protect the young person from imminent risk of significant harm.

Responses to the Child and Adolescent Survey of Mental Health and Wellbeing showed that 3.6% of 13-17 year olds had used telephone counselling in the previous 12 months, and 2.1% had used online counselling. Of those with a major depressive disorder based on self-report, 13.6% had used telephone counselling and 7.4% had used online counselling.

Consistent with the literature on help-seeking and gender, around 80% of contacts with Kids Helpline are with females. Within each gender, 10% of contacts with males related to suicide and 13% of contacts with females related to suicide in 2014.

ⁱⁱⁱ Note that contacts do not necessarily represent distinct individuals as the same individual may contact multiple times. As many young people choose to remain anonymous, it is difficult to accurately report the number of distinct individuals using the service.

Tele-web services as a facilitator of help-seeking

Tele-web services may provide a soft entry opportunity for young people and a pathway to more intensive face-to-face care. In particular, the internet represents a powerful medium for promoting help-seeking by increasing mental health literacy, reducing stigma, and enabling children and adolescents to access support independently. Research indicates that young people who seek help online are those who are less likely to seek help offline, and that intention to seek help online increases as emotional distress increases. Hence, online services may be able to play an important role for young people affected by help-negation.⁹¹

Telephone and online services such as Kids Helpline offer a range of benefits, particularly in relation to overcoming barriers to help-seeking and facilitating access to support.

- ➔ Services are free, and available 24/7 for anyone with access to a phone or internet connection
- ➔ Accessible to high risk groups such as those in rural and remote areas, where it may be more difficult to access face-to-face services.
- ➔ Kids Helpline and other data show that anonymity and the ability to make contact without the need to disclose feelings to family is important for many young people.
- ➔ Kids Helpline counsellors are experienced and qualified to provide ongoing therapeutic intervention, even if young people wish to remain anonymous. When appropriate, they also support young people to find and connect with other services, as well as family and friends.
- ➔ Telephone and online services play a gatekeeper role, identifying and responding to at risk children and young people, preventing emerging difficulties escalating into more serious problems, and ensuring that those with more serious problems receive appropriate support.

Web chat may be an effective way to engage and support young people who may not otherwise seek support at all, and is an important modality for young people who lack privacy at home and are concerned about being overheard on the phone. It is important to note, however, that users of Kids Helpline web counselling are often resistant to attempts to encourage them to use either the Kids Helpline telephone service or a face-to-face service. We are unable to say whether this is related to anxiety in users of the web service, a lack of interest in receiving additional support, or some other reason. In any event, this highlights the potential role of online interventions for young people who are unable or unwilling to access more traditional services.

Discussion point

How can we increase and enhance the use of tele-web counselling services by young people?

Other opportunities for intervention

The role of helplines

Mental health and suicide prevention strategies typically make little, if any, reference to the role of helplines, although recent reports have called for increased access to telephone counselling services and crisis lines.⁹² The potential role for telephone services in youth suicide prevention may be under-recognised.

For example, Kids Helpline provides support for children and young people at all stages of the prevention and treatment spectrum, including ongoing counselling support for those experiencing suicide risk factors, and crisis support for those with an immediate intention to take their own life. The 24/7 service offered by Kids Helpline also enables collaboration to occur with other service providers in the provision of a wraparound care model of service.

Kids Helpline counsellors advise that practitioners in other services have little knowledge of Kids Helpline, especially that counsellors are qualified professionals (not volunteers), and that they are able to provide ongoing counselling and work in collaboration with other services. Although mental health services often include Kids Helpline in safety plans for suicidal young people, there appears to be significant scope to further integrate services such as Kids Helpline into a system response to preventing and responding to suicidal thoughts and behaviour.

Discussion point

Is there a need for telephone and online counselling services such as Kids Helpline to be better integrated into the suicide prevention service system? What would this look like?

The use of new technology

Numerous services that make use of the internet and/or mobile phone apps have emerged in the past few years. These include:

- ➔ Websites providing general information about mental health and suicide, encouraging help-seeking, and providing details of offline support services
- ➔ Crisis support and/or counselling using online chat or email
- ➔ Online support groups or forums
- ➔ Delivery of self-help psychological therapy (e.g., CBT) online
- ➔ Online psychoeducation (education about a mental health condition and its treatment, for people experiencing the condition)
- ➔ Internet and/or mobile phone apps that support general wellbeing and mental health
- ➔ Training apps for professionals.

Online structured self-help interventions are promoted as an important area for future research on programs for adolescents because they are easily accessible, may reduce barriers to help-seeking, can be widely disseminated, and are potentially cost-effective in comparison to face-to-face services. Consequently, numerous pilot studies of new and innovative online and app-based interventions are underway in Australia (e.g., see websites of Black Dog Institute, Young and Well CRC, beyondblue). The most common outcomes targeted are depression, anxiety, and general wellbeing/mental health. Whether online interventions need to be accompanied by personal support (that is, therapist-guided care programs) is an issue needing further investigation, and may depend on the problem being addressed.⁹³ More detailed information about app-based interventions is provided in the next section on mobile health interventions.

Psychological therapy and psychoeducation delivered online appear to effectively reduce symptoms of suicide risk factors such as depression and anxiety. Further research is needed to investigate effects on suicidal thoughts and behaviour, but it is suggested that interventions

will be most effective if they specifically target suicidal content.⁹⁴ More research also needs to investigate the long-term effectiveness of online delivery.

Finally, it is important to note that the internet is simply a medium for delivery of an intervention. Whether online programs are effective will depend on the nature and quality of the given interventions.

The emergence of mobile health interventions

Building on the growing empirical evidence supporting the use of web-based platforms to deliver mental health interventions, mobile-based interventions are now emerging as a new, more accessible means of support. Mobile health (mHealth) utilises the wireless internet capabilities of smartphones to deliver portable interventions at all times of the day or night. Despite its infancy, there is increasing recognition among medical and health professions that mobile phones provide a 'powerful platform' for offering just-in-time adaptive, innovative and highly accessible interventions.⁹⁵

The use of portable mobile devices such as smartphones and tablets is growing rapidly, particularly among young people. In the first quarter of 2012, 89% of young Australians (aged 18-24 years) owned a smartphone, and 83% had downloaded an app in the previous six months.⁹⁶ Over 1.4 million apps were available on the market in 2012 and this number is certain to have increased since then. Research by the Australian Communication and Media Authority suggests young people are more likely than the rest of the population to download apps.

Suicide-related mHealth

Young people's high level of engagement with smartphones and apps, along with the platform's widespread accessibility, positions it well for youth-suicide interventions. Contrary to some concerns that an intervention focusing on suicide ideation may increase the likelihood of further suicidal thoughts and even attempts, studies of similarly focused web-based interventions show no evidence to support this.⁹⁷

In addition to grounding such an intervention in a proven therapeutic approach, literature suggests that features that encourage adherence are also important, especially for youth-based interventions where adherence is known to be more problematic. While many different factors can impact adherence, studies on web-based interventions have shown that those which restrict access through password protection and are prescribed and supported by practitioners achieve higher rates of adherence and better treatment outcomes than interventions without these features.⁹⁸ Additionally, customisation, peer support, informative content, feedback, motivational messaging, the ability to share data with healthcare providers and design features which limit the user burden are also suggested as important and attractive features for improving adherence.⁹⁹

Our review revealed a number of high quality features likely to educate, support and encourage adherence among people at risk of suicide. While it also highlighted the scarcity of existing Australian-based youth-specific apps in this field, Orygen's 'SEMA' app and literature suggesting the imminent release of a new app specifically targeting Indigenous young people, and another school-based staff-supported web intervention targeting secondary school students is promising.

Even with these interventions, there appears opportunity to develop a mobile-based suicide-specific intervention which targets all young Australians, including those not engaged in the

education system. To our knowledge, there is no youth-specific, suicide-related app that delivers the following combination of features:

- ➔ A continuum of support through integrated self-help and real-time individualised professional counselling with technical approaches that allow users to electronically share personal information from the app with counsellors to assist counsellors in providing support
- ➔ An integrated suite of customisable online and offline resources, including a customised safety plan and support network direct-dial contact list (linked to the user's phone contacts), relaxation tools, positive reinforcement reminders and self-care exercises
- ➔ Interactive checklists that assess risk level and allow users to become aware of, better understand and monitor their individual levels and receive prompts to engage in self-help and professional support strategies wherever and whenever needed
- ➔ Customisable settings that allow users to schedule reminders (e.g., mindful minutes), appointments and/or positive SMS messages from counsellors that aim to enhance their wellbeing, resilience and strengthen protective factors.
- ➔ In-app access to existing web counselling or a quick chat feature as well as auto-connect links to phone and email counselling
- ➔ In-app access to peer-to-peer support tools such as youth-developed case-studies, artwork and motivational messages
- ➔ Ability to set privacy settings to securely lock app content
- ➔ Referral via Facebook and Google allowing young people using these platforms to register distress either for themselves or a friend and be linked directly to a resource area offering one-click access to the app.

Such an app would provide young people with a world-class targeted suicide intervention that is highly interactive, customisable, accessible 24/7 and designed to encourage adherence.

Further detail of BoysTown's review of app-based interventions for suicide is provided in Appendix A.

Discussion point

To what extent, and for what types of problems, are structured self-help resources (e.g., apps) effective? Do they need to be provided in conjunction with therapist guidance?

Concluding remarks

Developing a culture in which young people seek help when difficulties first arise, rather than waiting until they have reached a crisis point and their distress has become overwhelming, appears key to preventing suicide. Identifying young people at risk of suicide is exceptionally difficult; many demonstrate no risk factors and are adept at concealing their feelings. Hence, gatekeeper training may identify some young people at risk of taking their own life, but is likely to miss many more.

The most high quality service in the world cannot help a person that is not using the service. At the same time, convincing young people to seek help and then not providing them with a quality and timely service can do more harm than good. Young people need access to a choice

of services that are tailored to their developmental stage, gender, cultural background, and other preferences. Services must be engaging for young people in order to avoid early drop out from treatment.

School-based interventions present an excellent opportunity for intervention with young people. However, many of the most marginalised and potentially at risk adolescents and young adults are not attending school and are not in employment. Other avenues to outreach to this group need to be developed.

Educating and working with families may be crucial for a range of reasons:

- ➔ when difficulties in the environment, for example family conflict, underlie the young person's suicidality
- ➔ parents should be a young person's first point of support – young people should be able to trust that their parents will listen, try to understand, and help them to access whatever support they need, but it seems this is not the case for all
- ➔ young people need ongoing support for the duration of treatment.

Multi-faceted, community wide approaches, which feature a range of evidence-informed activities, appear likely to be most effective in reducing deaths by suicide at the population level. It is important that these all-ages strategies clearly recognise that children, adolescents and young adults are distinct groups, who need a range of effective interventions that target their particular needs in ways that are age appropriate and engaging.

Key questions

The following section summarises the discussion points raised throughout this paper. We realise that there are many other relevant issues that may not have been covered in the paper, and welcome input from others with experience in this area. As will be outlined in the next section BoysTown welcomes feedback in regard to this discussion paper and in particular a dialogue in regard to the identification of priority actions required to reduce youth suicide at this time.

Policy and service responses

- ➔ Although young men die from suicide at higher rates than young women, young women attempt suicide rates at significantly higher rates than young men. Does a focus on reducing deaths risk neglecting the needs of females?
- ➔ To what extent are current suicide prevention strategies in Australia linked to a theoretical model? Is this important?
- ➔ How can we manage the potential for negative influences online?
- ➔ What are the advantages and disadvantages of a specialist suicide emergency response service? Is this feasible?
- ➔ How can we make hospitalisation a less negative experience for young people? Are there alternatives to hospitalisation that would be more effective?
- ➔ How do we ensure better continuity of care as adolescents transition to adult services?
- ➔ What are the best ways to provide continuing care following a suicide attempt? Do existing telephone counselling services have a role to play?
- ➔ How can we identify and provide support to the most marginalised young people, such as those who are not engaged in either education or work?

- ➔ School-based interventions appear to be the focus of most attention in regards to reducing stigma and encouraging help-seeking by young people. Are we neglecting the importance of the family environment, particularly the role of parents?
- ➔ How can we increase and enhance the use of tele-web counselling services by young people?
- ➔ Is there a need for telephone and online counselling services such as Kids Helpline to be better integrated into the suicide prevention service system? What would this look like?

Research

- ➔ In what ways are pathways to suicide for children, adolescents and young adults different to those experienced by adults? In what ways do pathways differ depending on characteristics of the young person and their environment?
- ➔ Do we know which early interventions are likely to be most effective to prevent suicide in young people? Or is it the case that only a comprehensive approach employing multiple strategies is likely to be effective?
- ➔ Why are people at greater risk of suicide after hospitalisation than before?
- ➔ To what extent, and for what types of problems, are structured self-help resources (e.g., apps) effective? Do they need to be provided in conjunction with therapist guidance?

Next steps

It is planned that this discussion paper will be used to guide future consultations regarding the nature of youth suicide and how best to act to reduce its occurrence.

The discussion paper will be distributed to people, particularly young people, with lived experience, policy makers, practitioners, researchers and the general community inviting feedback on the key questions raised by this review.

In the meantime, work will be undertaken across BoysTown services, including Kids Helpline, to further develop our responses to the many vulnerable young people contacting us for support in relation to suicidal behaviours.

The outcome of these discussions will be documented in a Position Paper. This document will contain a priority list of strategies to reduce youth suicide. BoysTown wishes to work with its partners in government, the corporate sector, research and service delivery to enact these priority strategies.

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Appendix A. BoysTown Review of Existing App Interventions

The review process

A search of suicide-related mobile app interventions available in Australia was conducted in September 2015. The Google app search function was used to yield apps available through both GooglePlay and iTunes. Search terms 'suicide', 'suicide prevention' and 'suicide intervention' were used.

A total of 195 apps were found, including some duplicates and many apps clearly unrelated to suicidal behaviour. The first 40 unique apps were perused to develop an understanding of what is readily available. Twenty-five of these were downloaded on a smartphone and reviewed more systematically using a refined version of the the Mobile Application Rating Score (MARS) assessment tool.¹ The MARS tool assesses apps in terms of engagement (e.g. interactivity, customisation), functionality, visual aesthetics, information quantity and quality (e.g. language appropriateness, theoretical basis) and proven efficacy.

Findings

App Focus Areas

Four different areas of focus emerged among the apps, including: (1) apps targeting people at risk of suicide; (2) apps targeting people wanting to support those at risk; (3) a combination of areas 1 and 2; and (4) apps specifically targeting people who had lost someone close to suicide. Category three was most common.

Youth-specific Targeting

Based on evidence suggesting that youth suicide interventions need to specifically target this age group, the age appropriateness of each app was assessed. Our review found four currently accessible apps targeted specifically to young people, of which one had content only appropriate for people living in Ohio (United States), one only targeted people worried about someone else, and another focused more broadly on worry and anxiety. A further thirteen apps were considered appropriate for young people but did not appear to be targeted specifically to this age group. Others were clearly targeting unrelated groups, such as blue collar working men, military service men and women, or health professionals.

Local Relevance and Support

Seven of the apps were identifiably Australian, which meant any telephone counselling referral links contained within these apps were relevant and functional for Australian users. While international apps still offered other beneficial content and tools for Australian users, their inability to facilitate a link to local one-on-one professional support is a key limitation for young Australians.

Among both Australian and international apps, we were unable to find any existing apps that offered young people fully integrated wraparound care. This is despite studies on web-based tools showing this approach can enhance an intervention's success.

Proven Efficacy

Beyond star ratings and user reviews, our scan of existing apps found scarce information regarding the quality or efficacy of the apps currently available. Two of the apps restricted access to test participants, implying that some sort of trial of these apps was underway. One

of these apps ('SEMA') is a youth-specific app developed by the Australian mental health organisation Orygen Youth Health. The other ('Safety Net') is an American app which describes its target audience as people thinking about suicide. A search for these and other relevant studies in various databases (ProQuest, MEDLINE, PsycINFO, Web of Science) was unable to reveal any results on the tested efficacy of these or any other suicide-specific apps.

Our database search also identified another Australian app ('i-Bobbly') currently undergoing a randomised trial but not yet available through Google. The literature states that the app uses an approach based on Acceptance and Commitment Therapy (ACT) to specifically deliver treatment to young Indigenous Australians at risk of suicide. The Blackdog Institute and the Young and Well CRC are among others in a large and diverse team involved in the ongoing development and trial of i-Bobbly.

Details of a randomised control trial on a web-based cognitive-behavioural therapy suicide intervention program called Reframe-IT were also found.² The Australian program, which claimed to be the first of its kind, is designed to support suicidal high school students who seek help from school wellbeing officers. Distinct from other web-based programs and any known app-based interventions, Reframe-IT is intended to be delivered and supported by school wellbeing staff. Although the information we found talked only of the program being trialled in a web-based format, reference was made to the program's ability to be extended to a mobile-based format.

App Quality

The vast majority of apps reviewed in our search contained at least one or more features considered likely to be of benefit to a young person at risk of suicide. The most common of these included:

- ➔ active links to online and phone-based referral sources
- ➔ content designed to normalise certain thoughts and feelings
- ➔ information about key warning signs
- ➔ advice on how to help a friend.

The variety of features, design quality, functionality and comprehensiveness of the content varied greatly among the apps, ranging from some which simply offered referral links to others which offered all of the above features plus many more.

Overall, 'R U Suicidal' developed in Australia by PsychApps International Pty Ltd, 'Suicide Safety Plan' developed by MoodTools and 'Stay Alive' developed by UK's Grassroots Suicide Prevention organisation stood out for their high overall quality. The app 'Wingman Toolkit' developed for serving members of the American Airforce was also found to have clear strengths in terms of content, features and design. ReachOut's 'Worry Time' was considered the most modern, professional and engaging design. Its focus was related to worry and anxiety more broadly however, not suicide specifically.

Features of High-Quality Suicide Apps

Specific detail on the strengths available through existing suicide apps is described below.

- ➔ **Information** - Only some apps provided comprehensive information beyond the basics of suicidal thoughts and warning signs. 'Stay Alive' was one of few apps to provide very

comprehensive information for both those at risk and those seeking to support others. 'Stay Alive' and 'Suicide? Help!' also included 'myths' about suicide. The Australian app 'I'll Stand By You' also included detailed information on caring for others and self-care as well as links to external websites (e.g. Mayo Clinic, Active Minds) providing information and evidence on the benefits of specific self-care strategies. One app ('Suicide Disease and Symptoms') provided information on questions to ask yourself, questions a GP is likely to ask you and questions to ask your GP.

While most apps used text to educate the user, three used video. The Australian 'R U Suicidal?' app includes a series of videos of a psychologist talking the user through their feelings, triggers, thoughts, support networks and a safety plan. Each video presented exercises for the user to complete in an interactive screen within the app, prompting them to pause the video as they complete each exercise. Personal information entered as part of these exercises was able to be saved and viewed later within the app. The sister app to this ('Is S/O Suicidal?') also developed by PsychApps International, but targeted to supporters of those at risk, used a similar video approach. 'Operation Reach Out' was the third to rely on video, using a series of short (approx. 10 second) recordings to educate, motivate and suggest coping strategies.

Several apps (e.g., 'I'll Stand By You', 'Albany County Hope', 'A Friend Asks') included information on the terms and conditions of app use and/or a disclaimer regarding the limitations of the app in relation to suicide prevention. In some cases, users were asked to tick a checkbox to confirm they understood.

- ➔ **Ability to create, save and update a customisable safety plan** - Several apps step users through developing their own safety plan, including the ability to enter personalised information on warning signs, coping strategies (mainly in the form of activities and/or places), personal supports and professional supports. While most apps allowed users to enter and store details of their personal supports in name format only, the app 'Suicide Safety Plan' included a feature which sourced the contact details of nominated personal supports from the user's phone contacts and used this to provide a direct-dial feature within the app. This app also included a YouTube link to a video aimed at normalising suicidal thoughts and the development of a safety plan.
- ➔ **Skills training resources** - Many apps included some form of skills training resources designed to enhance users' wellbeing, resilience and strengthen protective factors. In most cases this included relaxation tools, motivational messages and/or self-care exercises (e.g., mindful minutes). Several apps provided the ability to save appealing messages or images to a 'Favourites' list and/or share motivational messages via email/SMS. 'Stay Alive' included one of the most comprehensive suites of tools and resources, including grounding techniques for dealing with anxiety or pain, breathing exercises, and a number of tips for self-care and self-help (for both the immediate and longer term). It also included customisable resources such as an interactive checklist on reasons for living and the ability to upload and save personal photos within the app so users can later draw on them for strength.

'Wingman Toolkit' also provided a comprehensive and broad scope of resources, including five relaxation audios focused on topics such as easing pain, de-stressing and sleeping. The app also provided the ability to schedule positive reinforcement SMS reminders and

free access to a 7-Day Resilience Challenge. 'I'll Stand By You' also provided access to free skills courses for people supporting loved ones.

- ➔ **Interactive assessments** - Five apps included one or more interactive risk assessments about suicide-specific risk, resilience, mood, anxiety and/or depression. A couple of these (e.g., 'Wingman Toolkit') provided an interpretation of results and automatic storage of test results, helping users to become aware of, better understand and monitor their individual levels. One app ('OzHelp') provided a comparison of the user's assessment results against an average score. Two apps ('TrustTalk247' and 'Wingman Toolkit') also included automated pop-up messages encouraging help-seeking whenever a user entered a high risk response.
- ➔ **Direct access to one-on-one professional support** - All apps provided some form of in-app access to professional, real-time support. In the vast majority of cases this was in the form of links to web and/or phone based referrals to one or more unrelated national helplines. Some apps (e.g., 'Albany County HOPE' and 'Step Up and Speak Out') also included more targeted referrals for specific groups (e.g., veterans, LGBTI young people, people hard of hearing). In addition to generic web and phone based referrals, several apps offered the ability to access a counsellor associated with the organisation behind the app. 'The Hope Line' included an option for users to engage in a live online chat with a Hope Coach and/or to request a response from an email mentor within 48-72 hours of the user logging the request. Similarly 'TrustTalk247' offered in-app access to SMS a counsellor and 'OzHelp' provided access for users to request a home visit. 'R U Suicidal?' allowed users to request randomly scheduled (possibly generic) push-notification SMS messages from counsellors aimed at encouraging and giving hope to users.
- ➔ **Ability to share personal information input into the app** - 'Wingman Toolkit' was the only app providing an option for users to electronically share user-generated data contained in the app with professionals to assist them in providing a continuum of support. An in-app feature allowed users to upload and share risk assessment results via Google drive or email.
- ➔ **Password protection on the app** - 'WorryTime' was the only app offering users the ability to protect the privacy of any customised information saved to their downloaded copy of the app. This was done via an opt-in PIN-lock access feature.
- ➔ **Social networking and peer-to-peer support** - Three apps provide an option for users to become part of a larger online community via social networks such as Facebook and Twitter ('The HopeLine', 'Wingman Toolkit' and 'A Friend Asks'). 'Wingman Toolkit' also used video to deliver peer-to-peer support messages through 'share my story' style interviews with other service men and women who had similar experiences.

Table 1 provides the names and basic characteristics of the 25 apps reviewed.

Table 1. Summary of apps reviewed

#	App	Developer	Australian	Content for people at-risk	Youth-specific	Version	Cost
1	Suicide? Help!	Faff Digital		✓		1.1.0	Free
2	Suicide Safety Plan	MoodTools		✓		1.3	Free
3	Operation Reach Out	The Guidance Group Inc		✓		1.0.1.1	Free
4	Stay Alive	Grassroots Suicide Prevention		✓		1.1	Free
5	Suicide Lifeguard	University of Missouri-St. Louis		✓		1.4	Free
6	HELP Prevent Suicide	STAPLEGUN		✓		2.0	Free
7	R U Suicidal?	PsychApps International Pty Ltd	✓	✓		1.0	Free
8	Is S/O Suicidal?	PsychApps International Pty Ltd	✓			1.0	Free
9	Wingman Toolkit	Hangar 30 Inc		✓		2.1.4	Free
10	Doctr	Doctr		✓		1.0	Free
11	Albany County HOPE	The Mac Works Inc.		✓		6.0	Free
12	Battle Buddy	TRADOC Mobile		✓		1.1.3	Free
13	TrustTalk24 7	PureAppy		✓		1.4	Free
14	A Friend Asks	Bluechip Athletic Solutions		✓	✓	1.0	Free
15	Suicide Disease & Symptoms	Pachara Kongsookdee		✓		1.0	Free
16	WeCare, CASCOM	TRADOC Mobile		✓		1.4.8	Free
17	Step Up and Speak Out	Kent State University		✓	✓	0.0.2	Free
18	ISBY - I'll Stand By You	Khoi Le	✓	✓		1.0.0	Free
19	ReachOut WorryTime	ReachOut.com Australia	✓	✓	✓	1.0	Free
20	WHO Info	World Health Organization -				1.0	Free

		Geneve Design					
21	The Hopeline	Dawsom McAllister Network		✓	✓	6.0	Free
22	Operation Life	Australian Government, Dept of Veteran Affairs	✓	✓		1.0.41	Free
23	Suicide or Survive (SOS)	SOS (Suicide or Survive) charity organisation		✓		1.1	Free
24	OzHelp	AppAzure Pty ltd	✓	✓		3.1	Free
25	SEMA	Orygen Youth Health	✓	✓	✓	1.0	Free

Appendix A References

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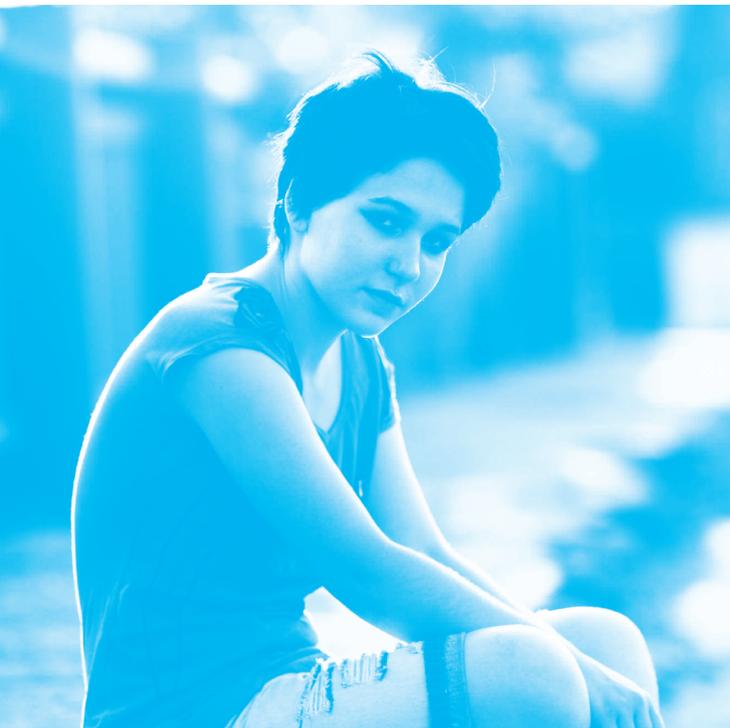
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