Economic Evaluation of the StandBy Response Service

Final Report

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Executive Summary
**Introduction**

Suicide is a major cause of mortality in Australia, with approximately 1,800 deaths across the country each year. For every death through suicide, there are many people who are significantly affected, including immediate and extended family members, close friends, colleagues and communities. This amounts to at least tens of thousands of people who are bereaved by suicide each year.

As well as the potential negative emotional and psychological outcomes for individuals and communities that may stem from suicide and suicide bereavement, there are also large economic costs, due to reduced quality of life, lost productivity and increased health care usage. Research shows that there is also an increased risk of suicidality amongst people bereaved by suicide.

The StandBy Response Service is a community-based, active postvention program that provides support, assistance and a coordinated response for people who have been bereaved through suicide. The StandBy program is managed by United Synergies Ltd, a not-for-profit organisation based on Queensland’s Sunshine Coast. The program has four main target groups/key stakeholders:

- People who are bereaved by suicide;
- Emergency and community responders;
- Communities as a whole; and
- Funding bodies/Government.

Overall, there are nine main objectives of the StandBy program:

1. Improved mental health for people bereaved by suicide;
2. Improved productivity for people bereaved by suicide and emergency/community responders following a suicide incident;
3. Reduced negative health/social outcomes;
4. Prevention of future suicides;
5. Increased awareness and knowledge of issues related to suicide prevention, intervention and postvention, as well as other relevant issues (e.g. grief and loss, crisis management, trauma);
6. Increased capacity within communities to manage and respond appropriately and effectively to suicide;
7. Improved networks, partnerships and knowledge transfer between community members, organisations and agencies;
8. Good value for money in providing the service, through the use of existing services, networks and infrastructure; and
9. Enhanced knowledge and research related to suicide postvention.

A previous longitudinal evaluation of the StandBy Response Service showed that the service provided many benefits for people bereaved by suicide and the communities in which it is established, including reducing the incidence of adverse health outcomes and suicide ideation.

The Science of Knowing and Griffith University were commissioned by United Synergies Ltd and the Department of Health and Ageing to undertake an economic evaluation of the StandBy Response Service, to identify the costs and benefits of operating the program and to determine its overall cost-effectiveness.
Background

A comprehensive review of all relevant and recent published literature and reports was undertaken, revealing a paucity of literature related to the economic evaluation of bereavement interventions, particularly programs specifically designed for people bereaved by suicide.

The literature that is available, and that related to other relevant fields (e.g. mental health interventions), provided a solid understanding of the issues and challenges involved in evaluating a complex program, such as the StandBy Response Service. Furthermore, there is a growing body of literature related to the economic evaluation of preventive health interventions, which have provided guidance as to the most appropriate methodology for the current project.

The review of available literature suggests that there is a gap in knowledge regarding the cost-effectiveness of bereavement interventions and, thus, a need for more research in this area. Indeed, no published literature or reports were found relating to the economic evaluation of bereavement interventions designed specifically for people bereaved by suicide. Therefore, the current project will provide valuable and much-needed data and knowledge regarding the cost-effectiveness and value for money of implementing selective interventions for people who have experienced a loss through suicide, as well as more general information regarding the economic evaluation of health interventions within real-world settings.

Project methodology

The project team developed a framework and methodology to answer the following proposed research questions:

1. What are the costs associated with implementing the StandBy Response Service? (e.g. staff salaries, administration and overhead costs, client costs, staff training and supervision, community training, promotional and information materials);
2. What are the costs associated with the absence of the StandBy Response Service? (e.g. costs related to health service usage, lost productivity, reduced quality of life);
3. What are the economic benefits of implementing the StandBy Response Service? (e.g. improved quality of life, reduced risk of suicidal behaviours, increased productivity, decreased use of health/community services); and
4. What is the overall effect of the StandBy Response Service on the total costs to society?

The scope of the evaluation included the analysis of any and all costs and benefits that could be directly attributed to suicide bereavement and/or the implementation and operation of the StandBy Response Service, as they relate to the two main target groups – people bereaved by suicide and community/emergency workers and organisations.

Data collection and analysis involved measuring costs associated with operating the StandBy Response Service, as well as comparing the costs and benefits of people bereaved by suicide who have and have not had contact with the StandBy Response Service through the use of a standardised questionnaire. Qualitative methods were used to measure the potential benefits and costs of the program for community members (e.g. emergency services personnel, health services, community organisations).

These methods allowed the project team to determine the overall cost-effectiveness of the StandBy Response Service, as well as compare differences across different geographic regions.
Results

Sample sizes and response rates

A total of 905 people participated in the evaluation as part of the control group. Of these, 670 were fully complete and had data available to analyse.

A total of 415 StandBy clients were contacted regarding the evaluation across all nine sites. Of those contacted, a total of 96 surveys were received (23% response rate). Ninety of these were complete and used in the analysis.

The StandBy client group and control group were demographically matched to ensure comparability between the two groups, reducing the control group sample to a total of 360 participants.

Outcome measures

The results from this evaluation show that the StandBy client group experienced lower levels of psychological distress than the control group (although these differences were not statistically significant), particularly within two years of their loss through suicide. StandBy clients were significantly less likely to be experiencing severe psychological distress and significantly more likely to be experiencing no or mild psychological distress, suggesting that the StandBy Response Service may prevent the onset of complicated grief or other mental health problems. In addition, StandBy clients reported significantly lower levels of suicidality, which may reduce the risk of further suicides.

StandBy clients also reported higher quality of life compared with the control group, both in terms of their functioning and capability. These results were generally consistent regardless of when the loss occurred. However, a greater difference between the groups was seen when comparing those participants who had experienced a loss in the past two years, with StandBy clients reporting considerably higher levels of quality of life than the control group.

Qualitative evidence suggests that the StandBy Response Service has substantial benefits for communities and particularly those people directly involved in dealing with suicide events (e.g. police, ambulance workers, mental health professionals, funeral directors). Key stakeholders involved in the program reported that the program improved community linkages and networks, as well as increasing awareness, knowledge and skills related to suicide postvention and prevention. They also reported that the community capacity benefits of the program are transferable to other issues and the coordinated approach reduces duplication of effort and decreases the risk of “re-traumatisation” for bereaved people.

Overall, the findings from this study suggest that people bereaved by suicide experience a considerable negative impact on their health and wellbeing and their scores on all key outcome measures are lower than normal levels for the Australian population. However, the StandBy Response Service appears to reduce the negative impact of suicide bereavement on both physical and mental health, particularly within the first two years after the loss. These results support the provision of postvention care for people bereaved by suicide and, specifically, the StandBy Response Service, showing that the program can significantly lessen the burden of grief for people bereaved by suicide.
Cost and resource data

StandBy clients reported higher levels of productivity than the control group, in terms of both absenteeism and “presenteeism” (attending work, but not performing at full capacity). This was particularly the case for people bereaved by suicide who were not employed, where the level of absenteeism in the control group was especially high. In addition, the control group reported a higher use of health care services, such as visits to medical specialists and hospitals.

On average, the StandBy Response Service costs approximately $2334 per client to operate in metropolitan/regional areas, which includes costs associated with community development and engagement and national coordination of the program.

Cost–effectiveness

All costs were analysed and modeled, which aimed to simulate real-life situations. Using this model, the StandBy Response Service produces a cost saving of approximately $800 per person, per year. This means that, compared with not having an intervention, the StandBy Response Service saves society an average of $800 per person bereaved by suicide. However, this calculation does not include any of the additional benefits of the program, such as improved quality of life, physical and mental health and community capacity, so the actual economic benefits could potentially be more than this.

The StandBy Response Service was generally cost-effective in all geographic regions – metropolitan, regional, rural and remote – and, when factored up to account for increased costs associated with providing services for Indigenous clients, was even cost-effective in remote Indigenous communities (e.g. East and West Kimberley regions). This suggests that the community-based model that attempts to harness and use existing resources and infrastructure has the potential to be both effective and efficient.

Sensitivity analyses that test the accuracy of the evaluation results reveal that there is an 81% probability that the StandBy Response Service is cost-effective.

Discussion and conclusions

The economic evaluation of the StandBy Response Service is the first known research investigating the cost-effectiveness of a postvention service and one of only a few economic evaluations of bereavement interventions generally. As such, this research contributes valuable knowledge to the evidence base regarding the effectiveness and efficiency of support services for people bereaved by suicide, a known high-risk group for suicidality and other mental health problems.

In summary, the results from the economic evaluation of the StandBy Response Service resulted in four key findings, as follows:

1. People bereaved by suicide experience an immense negative impact on their health, quality of life and productivity, including an increased incidence of severe psychological distress and suicidality. In fact, their quality of life is likely to be lower than that experienced by people undergoing treatment for critical types of cancer. This results in a large cost to society through increased use of health care services, reduced productivity and absenteeism/presenteeism, as well as the additional emotional and social costs.

2. Providing postvention support (such as the StandBy Response Service) measurably improves the health and wellbeing of people bereaved by suicide which, in turn, can reduce the economic burden on the health system, employers, communities and society generally.
3. The StandBy Response Service is a cost-effective way to support people bereaved by suicide. Providing the StandBy Response Service actually provides a direct cost saving to society of approximately $800 per person per year (taking into consideration the costs of operating the program). Furthermore, the program has several other important benefits, including improved quality of life, improved physical and mental health, increased community capacity and awareness and, perhaps most importantly, a potential reduction in the number of future suicides.

4. There are approximately 1,800 suicides occurring in Australia each year and at least six people directly affected by each suicide. This amounts to a conservative estimate of approximately 10,800 people directly affected by suicide each year. If all these people were provided with postvention support through the StandBy Response Service, there is a potential cost saving of $8.6M per year (at $800 per person). Projected cost analysis predicts that, over a five year period, this figure has the potential to increase to a total cost saving of $128M for this group of people.
Introduction
**Impact of suicide and suicide bereavement in Australia**

Suicide is a major cause of mortality in Australia, with approximately 1,800 deaths across the country each year – more than the number of deaths due to road traffic accidents or skin cancer [1]. Suicide is the leading cause of death for males aged between 25 and 44 years and the second leading cause of death for males aged between 15 and 24 years [2].

Current estimates suggest that for every death through suicide, there are at least six people who are significantly affected, including immediate and extended family members and close friends [3]. This totals to more than 10,000 Australians who are directly affected by a death through suicide each year. However, recent literature indicates that the actual number of people bereaved by each suicide may in fact be much more than this estimate [3]. Many people experience substantial feelings of grief and loss, such as relatives, friends, colleagues, teachers and acquaintances. There are also many community members who must deal with suicide events when they occur, such as emergency services personnel (e.g. police, paramedics), funeral directors, mental health professionals, health workers and community services personnel.

There are also numerous costs associated with suicide and suicide bereavement, including emotional, social and economic costs to individuals, communities and the nation as a whole. Recent international studies estimate that the economic cost of suicide lies well into the hundreds of thousands of dollars, taking into consideration the direct (e.g. ambulance costs, hospital treatment and post-mortem costs, police attendance, funeral costs), indirect (loss of life years, lost productivity and earnings), and intangible costs (the costs associated with human suffering and grief experienced by family and friends) [4]. A study conducted in Northern Ireland in 2007 estimates that each suicide costs the community over £100,000 (approximately $A153,000 in direct costs and a further £990,000 (approximately $A1.5 million) in costs associated with bereavement (Australian values calculated based on current exchange rate) [5]. Research undertaken in New Zealand estimates that the direct and indirect costs of each suicide total at more than $NZ1.3 million (approximately $980,000), which includes the cost of years of life lost [4]. With approximately 1,800 people dying through suicide each year in Australia, it is reasonable to conclude that in economic costs alone, suicide and suicide bereavement costs the Australian community between $1 billion and $2 billion every year. There are also substantial emotional and social costs that are often difficult to quantify in economic terms.

**Impact of suicide on family and friends**

Although bereavement through suicide has many similarities with other forms of bereavement, there are also some distinct differences that differentiate suicide bereavement from other forms of loss, which can complicate the grief process [6]. People bereaved by suicide may experience a range of intense emotions such as alarm, disbelief, detachment, fear, anger, blame, surprise, rejection, shame and guilt [7]. There may also be the added trauma of witnessing the suicide or finding the body of the deceased.

One of the most concerning features of suicide bereavement is the finding from numerous studies that people who have lost a loved one to suicide are themselves more at risk of experiencing suicidal thoughts and/or attempting suicide [8-10]. This is likely to be due to a variety of factors. People who are bereaved through suicide may have been exposed to or possess similar suicide risk factors as the deceased person (e.g. genetic factors, family environment), thus placing them at a greater risk of suicidality. In addition, experiencing a loss through suicide can precipitate suicidal behaviour, increasing the risk of contagion, imitation or cluster suicides (contagion or imitation suicidal behaviours are those behaviours that occur following exposure to another suicide, either through first-hand experience or through media reports, or...
other forms of media (e.g. television, music, film, video games). A “cluster” describes when a number of suicides occur within a specific geographic area or short period of time).

The high incidence of adverse health outcomes for people bereaved by suicide has considerable costs for the individual, their families and the community. The reduction in quality of life and the possibility for complicated or chronic grief for people bereaved by suicide can negatively impact on their productivity, community involvement and economic output.

Impact of suicide on communities

Communities may also suffer the negative effects of suicide. A death through suicide can cause a feeling of collective grief, particularly in small, close-knit communities, such as those located in rural/remote areas or those communities with strong cultural identities (e.g. Indigenous or ethnic communities) [11]. The lack of capacity to respond appropriately to suicide incidents may also create a sense of disempowerment within a community, with local emergency and community services’ personnel feeling powerless to prevent suicide from occurring and helpless through not knowing how to support the bereaved. Some communities may also experience cluster or contagion suicides, where the occurrence of one suicide leads to more suicides or suicide attempts.

There are various other people and organisations that may be impacted by a death through suicide. For example, health professionals, such as general practitioners, psychologists, psychiatrists and other health professionals, are known to experience considerable feelings of grief, guilt and professional failure following the suicide of a patient [12, 13].

The StandBy Response Service

The StandBy Response Service is a community-based, active postvention program that provides support, assistance and a coordinated response for people who have been bereaved through suicide. The StandBy program is managed by United Synergies Ltd, a not-for-profit organisation based on Queensland’s Sunshine Coast. United Synergies Ltd have been operating the StandBy Response Service on the Sunshine Coast in Queensland since 2002. In 2006, with the assistance of the Australian Government Department of Health and Ageing, a trial project was commenced to replicate the program in three additional communities – Far North Queensland, the Australian Capital Territory and North Brisbane, Queensland. In 2009, further expansion of the program occurred, with the establishment of services in Western Australia and Tasmania. The program is operated by a range of organisations in these locations under contractual arrangements with United Synergies and the Department of Health and Ageing (see Appendix B). United Synergies continue to undertake overall management of the program (i.e. governance, administration, reporting) and provide mentoring and assistance to the other sites. These activities ensure that the service model is upheld.

The service now operates in nine locations across Australia:

- the Sunshine and Cooloola Coasts, QLD;
- Far North Queensland, QLD;
- Brisbane and surrounding areas, QLD;
- Canberra and the A.C.T.;
- the Pilbara region, WA;
- the East and West Kimberley regions, WA;
- Hobart and Southern Tasmania; and
- North/North West Tasmania.
The StandBy Response Service is founded and operates on the principle of community respect, understanding and support for the health and wellbeing of people bereaved by suicide. The service provides an immediate response to people bereaved by suicide via a 24-hour crisis response telephone number. From there, people bereaved by suicide can receive face-to-face outreach service provided by a skilled crisis response team and/or referral to appropriate support services matched to their needs, coordinated by a highly-qualified program coordinator. In addition, the service also supports emergency and community services providers who respond to suicide events and helps to build community capacity and resources to deal with both suicide postvention and prevention. StandBy also has the capacity to assist schools, workplaces and community groups to manage a suicide incident, providing support ranging from information and guidance through to workshops, training and crisis management.

**Current practice – service model**

The StandBy program is underpinned by a comprehensive service model (see Figure 1), which outlines the key steps in establishing and operating the service.

The StandBy process map (see Figure 1) illustrates both the community capacity building activities undertaken by StandBy (left-hand side of the diagram) and the intervention process that takes place when responding to requests from people bereaved by suicide (right-hand side of the diagram). The StandBy Response Service also incorporates ongoing monitoring, follow-up and feedback from all parties (e.g. people bereaved by suicide, emergency responders, community agencies, etc.). This monitoring process ensures that the service undergoes continuous improvement and effectively responds to emerging trends and the changing needs of each community.

**Figure 1: StandBy Response Service process map**
The StandBy Response Service differs from many other existing postvention services in a number of ways. Because the program is community-based, it aims to harness and develop the skills, experiences, resources and knowledge that already exist within a community. This approach aims to be efficient, as well as reducing duplication of effort and wasting of resources. It also aims to create a strong sense of ownership of the program within the community, creating feelings of empowerment and cooperation amongst local people. The program’s collaborative and coordinated approach is unique in the field of suicide postvention, utilising existing services and agencies to provide a range of types of support, which are customised for each client.

Within each community, the program is guided by a Steering/Reference Committee, consisting of a range of representatives from across the local area, including police officers, paramedics, funeral directors, coronial staff, counsellors, health services, cultural representatives and bereaved people. The Steering/Reference Committee works with the StandBy Coordinator and staff to identify current community issues, potential partnerships and identifying service gaps. Through ongoing community liaison and a range of training programs, StandBy works with local people, organisations and government agencies to build capacity and skills and empower communities to work together to respond quickly and appropriately to suicide incidents. Training programs offered by StandBy include a range of suicide prevention, grief and postvention training and education in the areas of health promotion, critical incident response, bereavement, cultural awareness and communication and other areas related to traumatic loss. StandBy also establishes formal partnerships, arrangements and memorandums of understanding with other local services, which enables referrals between StandBy and other agencies.

Information about the services offered by the StandBy Response Service is distributed throughout community networks and referrals are made through these networks. In addition, police and ambulance vehicles are equipped with a specially designed pack that sits on the vehicle’s sun visor. This pack contains brochures, magnets and other information and allows police officers and paramedics to disseminate StandBy’s contact details to bereaved people. Emergency services personnel also provide a notification of suicide events to the StandBy Response Service. People bereaved by suicide are then able to contact the StandBy service in their own time. Alternatively, a community responder may refer individuals or families to the service, upon their request. StandBy only responds to those people who have specifically requested the service, believing that people bereaved by suicide have the right and the capacity to choose when, where, how and if they receive support. As such, StandBy’s postvention services are provided always and only by invitation from the bereaved. StandBy can provide assistance to people bereaved by suicide at any time after the loss, even if the death occurred many years ago. The service is available for people bereaved by a local suicide, as well as those who lost someone to suicide elsewhere.

Through the program’s connections with other organisations and services within the community, the StandBy Response Service provides people bereaved by suicide with a “one-stop-shop” point of contact for all their support needs. In addition to best practice crisis intervention and support [14], StandBy can provide bereaved people with access to a variety of services, including suicide bereavement support groups, information and assistance regarding the coronial process and funeral arrangements, practical assistance (such as clean-up of the scene, temporary accommodation, meals and child care), professional counsellors and psychologists, information, resources and ongoing emotional support. This also aims to prevent bereaved people from having to “retell their story” to every organisation and agency they deal with, which can be both a distressing, frustrating and potentially psychologically harmful experience at an already difficult time.

All of StandBy’s workers are highly experienced and qualified professionals, with specialised training across a variety of fields, including crisis response and management, suicide prevention, intervention and postvention, grief and bereavement, community development, public relations, social work and counselling. Team members come from a variety of cultural and professional backgrounds and both genders and are
selected for particular interventions based on the needs of the bereaved. There is typically a full-time StandBy coordinator and a manager in each community and a small group of casual employees, who act as the crisis intervention team. Interventions are typically conducted in teams of two, which protects the safety of both the bereaved and the StandBy workers.

**Differences in service model at different sites**

The nine StandBy sites differ considerably in geographic size, population density, demographic characteristics and rate/number of suicides. Therefore, although all StandBy sites operate using the same StandBy model (see Figure 1), each site is able (and often encouraged) to adapt and modify their approach to suit local needs and logistical considerations. Examples of this include differences in Steering Committee structure and/or meeting regularity and adapting materials and information for Indigenous and/or non-English speaking clients. Discussions with the coordinators and team members at each StandBy site suggest that the experience, skills and expertise of StandBy team members has some effect on the operation of the program. In particular, it is clear that some StandBy sites (and coordinators) tend to focus primarily on the provision of interventions and support for people bereaved by suicide, while others have a stronger focus on community engagement and development. However, these differences in approach and activities do not appear to substantially impact on the operation of the program or the implementation of the StandBy model.

The StandBy site auspiced by SupportLink Australia in the Australian Capital Territory operates under a slightly different service model. It is understood that due to an existing agreement between SupportLink Australia and the Australian Federal Police (AFP), the StandBy program in this region attends all suicide incidents through notifications from the AFP. This means that there is a risk that people bereaved by suicide have not always requested (or consented to the request of) support from StandBy prior to the attendance of members of the crisis response team. This model also means that clients typically have contact with the StandBy program at the time of, or shortly following, the time of death.

**Possible adverse outcomes of postvention support**

The StandBy program aims to assist people bereaved by suicide to manage and cope with the potential trauma and grief that may occur following a death by suicide. The program also seeks to build the capacity of communities to respond appropriately to suicide events and prevent future suicidal behaviours. The program is based on best practice bereavement research and is evidence-based.

Nonetheless, recent evidence suggests that bereavement interventions have the potential to lead to adverse outcomes and/or cause harm for participants, particularly if the intervention is not requested by the participant or the participant is not experiencing any significant negative impact from their bereavement [15]. This research suggests that bereaved interventions may, in fact, prolong grief reactions or “re-traumatise” people who are otherwise resilient, healthy and functioning. The risk for adverse outcomes is perhaps more serious and significant for interventions specifically for people bereaved by suicide, a group known to have a higher risk of suicide themselves, as well as a greater risk of other adverse health outcomes.

To date, there has not been any evidence that the StandBy Response Service results in negative outcomes for clients.
Impact evaluation of the StandBy Response Service

The StandBy Response Service was evaluated longitudinally from 2007-2009 to measure its effectiveness [16]. The results from this evaluation reported a range of benefits of the program for both people bereaved by suicide and the communities in which it is established. The main findings from the evaluation included:

- a substantial reduction in the incidence of suicide ideation for clients of the StandBy Response Service, when compared with people bereaved by suicide who did not have contact with StandBy;
- a reduction in the incidence of depression, sadness and grief for clients of the StandBy Response Service, both over time and when compared with people bereaved by suicide who did not have contact with StandBy;
- a greater proportion of StandBy clients reported that they received the support they needed at the time of their loss through suicide and currently, when compared with people bereaved by suicide who did not have contact with StandBy;
- StandBy clients reported fewer barriers to seeking and finding support during their bereavement than people bereaved by suicide who did not have contact with StandBy;
- an increase in communities’ capacity to manage and respond appropriately to suicide incidents and assist people bereaved by suicide; and
- a very high level of satisfaction from clients with the services provided by the StandBy Response Service.

Defining the objectives and outcomes of the StandBy Response Service

The StandBy process map (Figure 1) outlines the general processes involved in the establishment and operation of the StandBy model. However, a detailed program logic of the StandBy processes is necessary to ensure the methodology for the current economic evaluation project is thorough and adequately captures all the relevant costs and benefits of the program. Figure 2 shows a program logic for the StandBy model. The diagram shows the inputs, activities, outputs and expected outcomes of the program. The diagram also highlights the four main target groups/stakeholders of the StandBy model:

- People who are bereaved by suicide;
- Emergency and community responders;
- Communities as a whole; and
- Funding bodies/Government.

Overall, there are nine main objectives of the StandBy program (as shown on the right-hand side of Figure 2):

1. Improved mental health for people bereaved by suicide;
2. Improved productivity for people bereaved by suicide and emergency/community responders following a suicide incident;
3. Reduced negative health/social outcomes;
4. Prevention of future suicides;
5. Increased awareness and knowledge of issues related to suicide prevention, intervention and postvention, as well as other relevant issues (e.g. grief and loss, crisis management, trauma);
6. Increased capacity within communities to manage and respond appropriately and effectively to suicide;

7. Improved networks, partnerships and knowledge transfer between community members, organisations and agencies;

8. Good value for money in providing the service, through the use of existing services, networks and infrastructure; and

9. Enhanced knowledge and research related to suicide postvention.

One of the main features of the StandBy model is its flexible and tailored approach to conducting client interventions. Figure 2 shows the range of activities that StandBy undertakes within each target group, which are customised for each client (i.e. people bereaved by suicide, emergency/community responders, the whole community). Interventions provided by the StandBy Response Service (either face-to-face or via telephone) are based on best practice crisis intervention theory and strategies developed by James and Gilliland [14]. However, the additional services provided to each “client” (person bereaved by suicide, emergency services personnel, community) can vary considerably, depending on their individual needs, as well as the availability of different services within each client’s community. Therefore, it can be difficult to define what an intervention from StandBy actually involves in each case.

**Figure 2: StandBy program logic**

<table>
<thead>
<tr>
<th>INPUTS</th>
<th>TARGET GROUPS</th>
<th>ACTIVITIES</th>
<th>OUTPUTS</th>
<th>OUTCOMES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Evidence-based service models and research</td>
<td>People bereaved by suicide</td>
<td>Information/Resources</td>
<td>Number of clients assisted</td>
<td>Improved mental health</td>
</tr>
<tr>
<td>Contracts with auspice agencies</td>
<td></td>
<td>Crisis intervention (telephone support, outreach services, group sessions)</td>
<td>Customised referral plans</td>
<td>Improved productivity</td>
</tr>
<tr>
<td>Staff (Manager, Coordinator, Crisis Team)</td>
<td></td>
<td>Case management/monitoring</td>
<td>Crisis intervention training (DVD, manuals)</td>
<td>Reduced negative health/social consequences</td>
</tr>
<tr>
<td>Office space</td>
<td>Emergency/community responders</td>
<td>Referrals/Linkages</td>
<td>Information/Resources/Brochures/Booklets</td>
<td>Suicide prevention</td>
</tr>
<tr>
<td>Referral Pathways document</td>
<td></td>
<td>Training/Support</td>
<td>Training programs</td>
<td>Increased awareness/knowledge</td>
</tr>
<tr>
<td>Promotion/marketing materials</td>
<td>Whole community</td>
<td>Information/Resources</td>
<td>Visors/Magnets</td>
<td>Improved community capacity</td>
</tr>
<tr>
<td>Steering/Reference Committee</td>
<td></td>
<td>Promotion of StandBy</td>
<td>Revised referral pathways</td>
<td>Improved community partnerships/networks</td>
</tr>
<tr>
<td>Funding</td>
<td></td>
<td>Referrals to/from StandBy</td>
<td>Media coverage</td>
<td>Value for money</td>
</tr>
<tr>
<td>Funding body/Government</td>
<td></td>
<td>Network building</td>
<td>Presentations/Reports</td>
<td>Increased knowledge and research related to suicide postvention</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Information</td>
<td>Reports/Accountability</td>
<td></td>
</tr>
</tbody>
</table>
Background
Literature searches

A comprehensive search of literature related to the evaluation of bereavement interventions, including economic evaluations, was undertaken. In addition, searches were conducted for literature regarding the economic evaluation of relevant, related issues, such as:

- Mental health issues (e.g. depression, anxiety disorders, bipolar disorder);
- Physical health issues; and
- Health promotion and public health activities.

General research and literature about suicide prevention and postvention, grief, loss and bereavement was also reviewed.

Understanding economic evaluations

Resources are finite and there are almost unlimited ways in which to use those same resources. By choosing a particular program, the opportunity to employ the resources used in that program in another way is lost. This concept is called opportunity cost. The aim of economics is to ensure that programs chosen for funding have benefits which outweigh their opportunity costs. In other words, the resources used in that program could not be employed more efficiently in any other way. Economic evaluation is a way of systematically providing information about costs and benefits of alternative options and can assist in setting priorities for health care budgets [17].

The ongoing growth of the health economics field means that methods and techniques for calculating the economic implications of health interventions are constantly evolving and new methods continue to be developed to produce greater accuracy and reliability. However, best practice guidelines are available, which can be used to ensure that new evaluations meet industry standards, results are generalisable and can be reliably compared with other research findings and the evaluation is able to answer the key research questions [17].

In their recent article, Foster et al. [18] outline six main steps in evaluating the costs of preventive interventions, as follows:

1. “Clearly stating the intervention or activity for which the costs are estimated;
2. Establishing the perspective and scope of the study;
3. Identifying the program inputs;
4. Measuring their use;
5. Valuing those inputs; and
6. Conducting sensitivity analyses” (p.263).

These steps are critical to ensuring an economic evaluation provides useful information to decision-makers and that all assumptions and limitations are explicit.

In health care interventions, four types of costs are typically encountered: medical, non-medical, productivity and intangible costs [19]. Measuring these costs (and benefits) is often challenging, particularly when evaluating a program in a real-world setting (as opposed to a research setting) [18]. Australian studies that have measured the costs and benefits of social issues, such as homelessness, drug abuse and mental
illness use a variety of methods/sources to quantify the direct and indirect costs [20-23]. Some of these include:

- Self-report data and diaries from research participants regarding health and non-health outcomes (e.g. quality of life, health service usage, productivity);
- Data from the Medicare Benefits Scheme for the calculation of medical/healthcare costs;
- Centrelink data for the calculation of income support/social support payments;
- Years of Life Lost, Quality-Adjusted Life Years and Disability-Adjusted Life Years as measures of health gains;
- Human capital approach versus willingness-to-pay approach for measuring the value of lost/gained productivity and social participation.

The two most common measures of health gains are the number of life years lost/saved [24] and the Quality Adjusted Life Year (QALY). The first of these, years of life lost, measures the number of life years lost/saved and is typically used where an intervention’s principle aim is to prevent death. It does not take into consideration the quality of life years saved. On the other hand, the QALY takes into consideration the quality of an individual’s life (with or without the intervention) and is typically used in situations where an intervention aims to improve individuals’ quality of life and/or prevent disability or ongoing health problems. The calculation of a QALY takes into consideration a range of factors, including the severity of the health condition of interest, the age at which the condition occurs, the expected duration of the condition (both with and without the intervention) and the remaining life expectancy at the age when the gain occurs. Cost-effectiveness analysis also involves “discounting” future years of life (i.e. reducing the value of future years), to take into consideration the uncertainty of the future and the advantages gained by investing early. Sometimes, analyses that use QALYs are known as cost-utility analysis, which is generally considered a variant of cost-effectiveness analysis.

The outcome of a cost-effectiveness or cost-utility analysis is generally expressed as a price per measure of health gain – e.g. $10,000 per QALY averted. Because of these standard outcomes, cost-effectiveness analyses are extremely useful for comparing different types of interventions and also comparing the costs and health benefits of an intervention with an agreed standard of cost-effectiveness. Current literature suggests that a level of cost-effectiveness equal to or less than $50,000/QALY gained is acceptable and deemed “cost-effective” (in Australian dollars) [25]. It is important to note, however, that cost-effectiveness analysis only addresses the health benefits of a particular intervention – it does not consider benefits that are not health related (e.g. social benefits, etc.) and, as such, it may underestimate the total benefits of an intervention that also improves other aspects of an individual/community’s wellbeing. Furthermore, although cost-effectiveness analysis quantifies the outcomes of an intervention into a standardised measure (e.g. QALY), it does not put a monetary value on these outcomes.

In contrast, cost-benefit analysis converts all costs and benefits of an intervention into a monetary value, including intangible variables (e.g. quality of life, lost/gained productivity and reduced/increased social and cultural participation). This allows for a direct calculation of the ratio between the costs and benefits of a particular intervention, as well as the inclusion of non-health benefits. However, methods for estimating intangible costs and benefits, such as quality of life, lost/gained productivity and reduced/increased social and cultural participation are complex, sometimes subjective and potentially inaccurate [21]. Therefore, it is imperative that all assumptions regarding how estimates of these costs and benefits are calculated are clearly articulated within the analysis and best practice health economics methods are used.
Review of published economic evaluations of related interventions

Currently, there is very limited published literature that attempts to estimate or evaluate the economic impact and outcomes associated with the implementation of bereavement/grief interventions, particularly in relation to suicide bereavement [18, 26, 27]. In fact, even evidence about the effectiveness and efficiency of bereavement interventions, particularly suicide postvention programs, remains scarce [27].

However, health economics is a growing field and there are numerous recent examples of cost-benefit and cost-effectiveness analyses that have been conducted in the fields of mental health, injury and suicide, as well as measuring the costs and benefits associated with other health conditions, treatment interventions and health service usage [4, 20, 23, 25, 28-31]. These studies provide valuable information regarding accurate calculation of both the direct and indirect costs and benefits associated with different health and social issues and how these estimations can be used to evaluate the cost-effectiveness or benefit of particular interventions, particularly when compared to alternate interventions or the absence of an intervention. Numerous studies have shown that some effective treatment or prevention programs for depression and other mental disorders are cost-effective and produce economic benefits for individuals, employers and society [25, 32-35].

In terms of research focussed specifically on bereavement interventions, a study conducted in 2008 is perhaps the most relevant to the current project. The research evaluated the cost-utility of a bereavement intervention for widows (mostly over the age of 55 years) in the Netherlands, comparing its cost-effectiveness with that of “care as usual” (i.e. provision of a written brochure about depression) [27]. The intervention involved a series of home visits by trained volunteers and service coordinators to high-risk widows (approximately 10-12 visits in total) in which the volunteer provided emotional support and a better understanding of the grieving process. All volunteers had been widowed themselves “for some years” [27] (p.131). The evaluation measured participants’ quality of life, as well as costs associated with health care service usage, patient costs (e.g. travel, parking) and lost productivity. The study also calculated the costs of implementing the intervention (i.e. training, organisation, supervision, administration and overheads).

The results of the study showed that, after controlling for confounding variables, there were no significant differences in health-related quality of life over time between the experimental and control groups. However, the analysis showed that participants who received the intervention used less health care services than those in the control group. Thus, costs separate from the cost of the intervention decreased in the experimental group, while increasing in the control group. Overall, economic analyses showed that the intervention cost approximately 7,000 Euro per QALY (net).

The authors report that the standard willingness to pay for a QALY gained by preventive interventions is approximately 20,000 Euros. At this level, the intervention has a 70% probability of being cost-effective when compared with care as usual (within the calculated confidence interval). However, the “intervention was still more expensive overall than the control condition” [27] (p. 138) – and the intervention was not found to be cost-saving (i.e. the health benefits did not outweigh the costs of the intervention).

Another economic evaluation of a bereavement intervention was undertaken by Foster et al.[18], which used an analysis of the Family Bereavement Program [36] to illustrate the key issues and challenges in economic evaluation of preventive interventions. In this study, the researchers focussed primarily on measuring and analysing the costs associated with the intervention, with little discussion regarding the economic value of any benefits stemming from the intervention. Even so, the article provides important information regarding the accurate estimation of the costs involved in establishing and operating a bereavement support program,
with a particular focus on the potential impact on costs of running a program within a research or real-world setting (with this program proving to be less expensive in a real-world setting).

In another recent article, Genevro and Miller [26] developed a framework for evaluating the emotional and economic costs of bereavement and bereavement care in health care settings. The framework (shown in Figure 3) shows the stages of a proposed bereavement intervention and the potential economic costs associated with these stages. The framework provides a starting point from which to develop appropriate and relevant research questions and identifying the potential costs for an economic evaluation.

**Figure 3: Understanding the effects of bereavement on costs: a proposed analytic framework**

Research shows that a key risk factor for suicide is a family history of suicide or the suicide of someone influential within an individual’s life (e.g. relative, friend, celebrity) [37, 38]. A recent report comparing the cost-effectiveness of various preventive interventions showed that there are some interventions aimed at preventing suicide that are cost-effective and even some that are cost-saving [25]. For example, the report shows that a problem-solving intervention for people who have previously attempted suicide is cost-saving and responsible media reporting of suicide issues has been found to be very cost-effective (between $0 and $10,000 per QALY – in Australian dollars). However, to date, there is no available evidence of the cost-effectiveness of providing support for people bereaved by suicide in order to prevent future suicidal behaviours (i.e. postvention as a form of prevention).

The review of available literature suggests that there is a gap in knowledge regarding the cost-effectiveness of bereavement interventions and, thus, a need for more research in this area. Indeed, no published literature or reports were found relating to the economic evaluation of bereavement interventions designed specifically for people bereaved by suicide. Therefore, the current project will provide valuable and much-needed data and knowledge regarding the cost-effectiveness and value for money of implementing selective interventions for people who have experienced a loss through suicide, as well as more general information regarding the economic evaluation of health interventions within real-world settings.
Costs associated with operating services in rural and remote areas

People in outer rural and remote areas of Australia face additional barriers when requiring support following suicide bereavement. For many people, their general practitioner is the sole treating professional for mental health issues. However, access to services is limited primarily due to workforce shortages and poor distribution of resources [39]. Although people in rural and remote areas have lower income on average than those living in metropolitan areas, they also face higher out-of-pocket expenses for visiting general practitioners [40].

For Indigenous populations, significant barriers relating to distance, communication and cultural appropriateness of services have a considerable impact on help-seeking and health care usage for Indigenous people generally. Outreach services for Indigenous populations have been shown to increase accessibility to specialist care and can be a more equitable service delivery model than providing services in a centre, such as a hospital [41].

Previous estimates of mental health care requirements in Central Australia has estimated that the region required approximately double the existing allocation to provide an adequate level of care and one that was equitable with other areas of Australia [42]. The authors suggest that in remote regions, financial adjustments need to be made for the increased costs associated with service delivery in isolated areas and the relatively poor health of the Aboriginal population. For the remote factor, a minimal increase of 1.5 on the costs of providing metropolitan care is recommended, based on predictions from the primary health care sector. For the Indigenous health factor, an additional $50 per capita is recommended to ensure that mainstream specialist mental health care is accessible to Aboriginal residents, with an additional $150 per capita for organisations to provide ‘social and emotional wellbeing’ programmes.

The adjustment used by O’Kane and Tsey [42] has been used in this evaluation to adjust the cost of running a standard StandBy Response Service, to estimate the efficient level of running a remote area service.

Grief and bereavement theory and research

For much of the 20th century, research and interventions related to grief and bereavement have been based on a range of theories developed by health professionals working in the field. For example, the Kubler-Ross model, developed in 1969, argued that there are five distinct stages of grief: denial, anger, bargaining, depression and acceptance [43]. Many of these theories became well-known and often formed the basis of interventions and services for bereaved people.

However, recent research suggests that there is limited evidence for these “grief stages”. Work by Bonanno suggests that there are, in fact, four main trajectories that people follow after a loss or bereavement (see Figure 4):

- Resilience
- Recovery
- Chronic dysfunction
- Delayed grief or trauma [15, 44, 45].
According to this model, up to 80% of people are resilient or will return to full functioning relatively quickly following bereavement, even following extremely difficult and/or traumatising events (e.g. sudden death, sexual abuse) [15, 44, 45]. Approximately 10% will go through a longer grieving process lasting up to a year (and according to some research, two or more years) before returning to full functionality. Another 10% of people will experience ongoing dysfunction, which can be categorised as complicated grief. This type of grief is severe, ongoing and can last indefinitely. The Bonnano model of grief has been used in this report to develop the economic model.

*Figure 4: Four trajectories of grief and trauma [45]*
Project methodology
**Framework for the economic evaluation**

The first step in any research project or evaluation is clearly defining the purpose of the evaluation and the specific research question(s). A recent report produced by the University of Queensland and Deakin University [25] provides a simple definition of the overall purpose of economic evaluation – “relative to cost, does intervention A provide greater health benefits than intervention B?” (p.1).

In this case, intervention A is the StandBy Response Service. Intervention B may be an alternative suicide bereavement intervention, current practice or the absence of an intervention altogether (i.e. “do nothing”). For the current project, the project team used “no intervention” as the comparison for the evaluation. Although other suicide bereavement services exist in Australia, there is no evidence that any of these have been evaluated for their cost-effectiveness, nor is there data available for comparison. In addition, alternative programs do not necessarily offer the same services as the StandBy Response Service and are typically only available in metropolitan or regional areas.

In order to determine the research questions for the project, the project team have used the evaluation framework described by Genevro and Miller [26] as a guide. Key questions addressed by the evaluation include:

1. What are the costs associated with implementing the StandBy Response Service? (e.g. staff salaries, administration and overhead costs, client costs, staff training and supervision, community training, promotional and information materials);
2. What are the costs associated with the absence of the StandBy Response Service? (e.g. costs related to health service usage, lost productivity, reduced quality of life);
3. What are the economic benefits of implementing the StandBy Response Service? (e.g. improved quality of life, reduced risk of suicidal behaviours, increased productivity, decreased use of health/community services); and
4. What is the overall effect of the StandBy Response Service on the total costs to society?

To answer these questions, the project team developed a methodology for the economic evaluation that was evidence-based and multi-modal, which was based on a review of relevant and available literature and StandBy documents, as well as best practice health economics methods.

**Defining the intervention**

As previously discussed, the StandBy Response Service in each site has three main target groups:

- People bereaved by suicide;
- Community and emergency responders to suicide events; and
- The community as a whole.

Each of these target groups receives a kind of “intervention” to achieve a range of different (although overlapping) outcomes (see Figure 2 for further details about the activities undertaken for each target group). However, as previously discussed, each intervention is tailored to the specific needs of each client (the client may be an individual, family, organisation or whole community) and may vary from client to client.


**Evaluation methodology**

**Establishing the perspective and scope**

The project team evaluated the StandBy Response Service from a societal perspective, as this incorporates all of the health and non-health costs and benefits stemming from the program and allows a full analysis of the impact of the program.

The scope of the evaluation included the analysis of any and all costs and benefits that can be directly attributed to suicide bereavement and/or the implementation and operation of the StandBy Response Service, as they relate to the two main target groups – people bereaved by suicide and community/emergency workers and organisations.

**People bereaved by suicide**

The economic evaluation of the StandBy Response Service focused primarily on measuring and analysing the costs and benefits relating to people bereaved by suicide. This included measuring the costs and benefits incurred through the provision of the StandBy Response Service and comparing these with a control group of people bereaved by suicide who had not had contact with StandBy.

**Community and emergency workers/organisations**

The costs and benefits of the StandBy Response Service relating to the second identified target group (i.e. emergency and community responders to suicide events) has also been addressed in this evaluation through the assessment of community capacity and engagement. Despite a trend towards programs that aim to build community capacity, there is currently inadequate research relating to the economic value of increased community capacity to allow accurate and objective analysis. It is, therefore, difficult to include community capacity as a specific cost and/or benefit of the program, without a standardised and proven method for calculating its value. However, it would have been remiss to completely exclude this potential benefit from the evaluation, as it is one of the key objectives of the StandBy Response Service model.

Therefore, the project team aimed to capture a general measurement of the level of community capacity within each StandBy site through qualitative methods and the use of a validated tool, the Community Capacity Index (version 2) [46]. This tool measures four key aspects of community capacity within a group or committee, namely:

- **Network partnerships** – the relationships between groups and organisations within a community or network. This includes both the comprehensiveness and the quality of the relationships, i.e. are all of the significant groups and organisations involved and what is the nature of their involvement;

- **Knowledge transfer** – the development, exchange and use of information within and between the groups and organisations within a network or community;

- **Problem solving** – the ability of the groups and organisations within the network or community and of the network or community itself to use well recognised methods to identify and solve problems that arise in the development and implementation of an activity or program; and

- **Infrastructure** – refers to the level of investment in a network by the groups and organisations that make up the network. This includes both tangible and non-tangible investments, such as investment in policy and protocol development, social capital, human capital and financial capital.
Each indicator statement is graded according to the four-point scale below:

1. Not at all/very limited;
2. Somewhat;
3. Substantial;
4. Almost entirely/entirely.

Note that to achieve a grade of “almost entirely/entirely”, there must be sufficient evidence to suggest that there is little room for improvement on the indicator.

The Community Capacity Index tool was modified to be more relevant to the StandBy Response Service context and a full copy of the amended version is shown at Appendix D.

Qualitative methods included attendance at Steering/Reference Committee meetings in a number of StandBy sites, as well as interviews with individual members of these committees. These measures have provided substantial evidence of community engagement and capacity and allowed a discussion of the potential economic benefits of improved community capacity provided through the StandBy Response Service.

Some of the potential costs and benefits that were assessed include:

- time saved from referring people bereaved by suicide to StandBy (workers can refer people to StandBy, instead of providing assistance themselves) (benefit);
- increased productivity/efficiency (benefit);
- improved community capacity and coordination (which may also be transferable to other community issues) (benefit);
- time spent promoting StandBy within the community and distributing promotional materials (e.g. magnets/brochures) (cost);
- time spent at Reference Committee meetings and other StandBy events (e.g. training) (cost);
- other identified costs and/or benefits.

**Communities as a whole**

The StandBy Response Service also aims to increase the overall understanding and knowledge about suicide, suicide bereavement and suicide prevention within the community, through awareness-building activities and the provision of general information and resources. However, measuring the potential economic benefits and costs associated with this is outside the scope of this evaluation. The reason for this is because it is very difficult (if not impossible) to control for all possible confounding variables and to accurately assign an economic value to increased community awareness and knowledge of these issues.

**Sample selection**

**Intervention group - StandBy clients**

Clients (current and former) over the age of 18 years from the nine StandBy sites since June 2009 were eligible to participate in the evaluation. Clients included people bereaved by suicide who received any type of service (i.e. telephone support, face-to-face intervention) from at least one of the nine StandBy Response Services.
The cut-off date of June 2009 was set based on when the StandBy services in Western Australia and Tasmania became operational. In addition, it was decided that clients seen prior to this date (more than 18 months prior to the evaluation) may be less likely to accurately recall their experiences with the StandBy Response Service.

Based on feedback from United Synergies and the StandBy services operating in remote areas of Australia and consideration of the ethical and cultural requirements for quality research in Indigenous communities, the catchment areas for the evaluation did not include StandBy clients living in very remote Indigenous communities. The catchment areas were defined using the Australian Bureau of Statistics categories for determining the “level of remoteness”.

Thus, the evaluation included all clients from the Brisbane, Sunshine/Coooloola Coast, A.C.T., Southern Tasmania and North/NW Tasmania services. For the Pilbara, East and West Kimberley and Far North Queensland StandBy services, clients living in the towns of Broome, Karratha, Port Hedland, Kununurra and areas around Cairns were also eligible to be included, as these areas are not classified as “very remote”. However, clients located in Indigenous communities and areas classified as “very remote” by the ABS were not sent a questionnaire package.

Clients included in the evaluation were mailed a letter outlining the purpose of the evaluation and how to participate (see Appendix C), as well as a hard copy of the questionnaire. Clients were able to complete the questionnaire in one of two ways:

- Online via a web-based survey software; or
- Hard-copy paper survey (included with information package).

Participants were also provided with a reply-paid envelope for returning hard copy surveys directly to the researchers, to ensure confidentiality and anonymity from the StandBy service.

To prevent the disclosure of client contact details to the evaluation team, coordinators from each StandBy site were sent all project materials and were asked to distribute these materials to eligible StandBy clients using contact information from their service database. StandBy site coordinators were sent guidelines and instructions on how to determine the remoteness classification for locations within their region, as well as other information.

**Modifications to recruitment process for StandBy clients**

Two of the StandBy sites (Brisbane and A.C.T.) did not follow the above process for recruiting StandBy clients to the evaluation, due to concerns raised by the StandBy managers in each site. The evaluation team worked with these two sites to develop alternative processes for recruitment. The agreed alternative approach involved sending clients a letter (without a copy of the questionnaire), requesting their participation in the evaluation. The letter directed clients to the online questionnaire or to contact the project manager for further information about the evaluation project.

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In addition to adjusting the process by which StandBy clients were contacted, the two sites also requested a number of minor amendments to the questionnaire, as follows:

- **Brisbane site** – change of StandBy contact details from national office to Brisbane office and change of site name;
- **A.C.T. site** – removal of optional prize draw.

It is important to note, however, that all StandBy clients who participated in the evaluation completed the same core questions, which was critical for ensuring the validity and reliability of the results.

The above modifications to the recruitment process had a number of implications for the project, including significant delays in the completion of data collection and a reduction in response rates for these two sites.

**Control group – non-StandBy clients**

A control group of people bereaved by suicide but who had not had contact with the StandBy Response Service (“non-StandBy bereaved”) were also recruited to complete the questionnaire. This group were recruited via both online and newspaper advertisements, which were approved by the Griffith University Research Ethics Committee. Online advertisements were placed on the Google search engine and Facebook and a newspaper advertisement was placed in the Saturday edition of *The Australian* newspaper (5 March 2011). This approach ensured a broad coverage of the population and recruitment of a wide range of demographic groups. In addition, the evaluation was supported by a number of external organisations, including Suicide Prevention Australia (SPA) and the Support After Suicide service (Jesuit Social Services, Victoria), who both provided a link to the questionnaire on their Facebook sites to assist in promoting the study.

Respondents from the control group were asked to complete the questionnaire online. A hard copy paper survey was also available, if required.

**Matching cases and controls**

As controls were self-selected, matching was performed to control confounding and improve precision. Based on expert advice, the primary variables believed to impact on a person’s quality of life and distress after bereavement were identified as the relationship to the person (spouse, child, parent, friend etc) and the time since bereavement [6].

Controls were matched firstly on relationship and then on time since bereavement. Where an exact match was not available for relationship, time since bereavement was used as the primary match.

For this study we selected four controls for each case to maximise the power to detect a difference between groups. This level was chosen as previously published recommendations show the marginal return rapidly diminishes as the number of controls per case increases and it is rarely worth selecting more than three controls per case [47].

**Statistical methods and techniques**

A questionnaire comprising a series of standardised surveys was developed to measure the costs and benefits of the StandBy Response Service for people bereaved by suicide. The questionnaire was approved by the Griffith University Research Ethics Committee and participation in the evaluation by all participants was voluntary.
The questionnaire included relevant questions from the following standardised surveys:

- EuroQol (EQ-5D)\(^2\) – a measure of health and functioning
- ICEpop CAPability (ICECAP) [48] – a measure of quality of life
- Kessler Psychological Distress Scale (K6) [49] – a measure of psychological wellbeing
- Suicidal Behaviors Questionnaire-Revised (SBQ-R) [50] – a measure of suicide ideation and behaviours
- Health Appraisal Survey (HAS)\(^3\) – a measure of health service usage and productivity.

The questionnaire also included a series of demographic questions. In addition, the questionnaire provided participants with the opportunity to receive a summary of the results of the evaluation upon project completion, as well as the opportunity to enter a prize draw for a $100 voucher to the Coles/Myer group of stores. Both of these opportunities were completely optional.

A copy of the full questionnaire is provided at Appendix C.

**Demographic measures**

Demographic measures included age, sex, marital status, education level, number of children, income, postcode, the relationship to the person who suicided and the time since bereavement.

Postcode was used to estimate the proportions of people residing in metropolitan, rural and remote areas. Each postcode was converted to a Rural, Remote and Metropolitan Areas (RRMA) classification and reported according to the zones. Details of the classification system are provided in Appendix D.

Contact with the StandBy Response Service was measured by asking participants whether they had had contact with StandBy and, if so, the type of contact had (i.e. general information, telephone support, face-to-face support, etc.), the duration of contact and which service was contacted (i.e. location).

**Outcome measures**

**Psychological distress**

Psychological distress was measured by the Kessler Psychological Distress Scale version K6. A longer version of the same scale (K10) is a 10-question scale and the K6 comprises six of the K10 questions. The K10 and K6 are screening scales developed for the US National Health Survey [51]. Both the K10 and K6 have been shown to discriminate strongly between community cases and non-cases of clinically diagnosable psychological disorders found in the Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition (DSM-IV) [49]. In the Australian context, the K6 and K10 have been used in the Australian Survey of Mental Health and Well-Being, the K6 being preferred in screening due to its brevity and consistency [52].

Each of the questions in the K6 is coded 0-4 and these are summed to convert the K6 to a 0-24 scale. The optimal cut point for determining serious mental illness on this scale is “13” and above. A score below “5” on the scale is considered to indicate no or very low distress [53].

\(^2\) The EuroQol Group – [www.euroqol.com](http://www.euroqol.com)

Quality of life

The evaluation questionnaire measured quality of life using two instruments.

The EQ-5D™ (or European Quality of Life – Five Dimensions) is a standardised instrument for measuring generic health related quality of life. The domains measured cover mobility, self-care, usual activity, pain/discomfort and anxiety/depression. For each domain, one question is asked with three possible answers. For example, for self-care the options are:

- I have no problems with self-care
- I have some problems washing or dressing myself
- I am unable to wash or dress myself.

With five domains and three options in each, there are 243 possible health states. These health states were converted to a utility measure using an algorithm developed for Australia by Viney et al [54]. Utility is scored up to a maximum of 1 and is scaled so that a score of 0 represents death and 1 represents full health. Negative values of the EQ-5D are possible – these states exist in recognition that some people value some health states as being worse than death.

The ICECAP index of capability is a measure of general quality of life and covers five additional attributes not measured by the EQ-5D. These domains are attachment, security, role, enjoyment and control. The measure is scored by converting each domain score using the published algorithm [48] to obtain a score between 0 (no capability) and 1 (full capability). Death is assumed to be a state where no capability exists. Values obtained during the validation of the tool indicate that attachment is the attribute that has the greatest importance to an individual’s quality of life.

The ICECAP tool was developed with the aim of being used for decisions about the allocation of resources across health and social care, rather than just health. It is, therefore, ideal for measuring the impact of the StandBy Response Service, which is focussed on a larger perspective than health alone. Population values have only been estimated for those aged over 65 years, with a mean value of 0.814 [48].

Measuring costs

Health and work performance were measured using a similar methodology to that developed for the World Health Organization Health and Work Performance Questionnaire (HPQ) [55]. The HPQ is a self-report instrument designed to estimate the workplace costs of health problems in terms of reduced job performance, sickness absence, and work-related accidents/injuries.

Absenteeism

Participants were asked whether they were employed or not. Those employed were asked to give a category of work as listed in Table 1 below. Average earnings for each category of work were estimated using average weekly earnings data from the Australian Bureau of Statistics [56]. Cost of time off work was calculated using self-reported days off work in the last four weeks multiplied by the average earnings of the different categories of work.

Table 1 presents the rates of pay used in the economic analysis for each employment category option.
Presenteeism

Presenteeism is defined as the situation where an employee is present at work but is not performing at their full capacity. This study followed the same methodology as the WORC project\(^4\) in calculating presenteeism. The respondents were asked several memory priming questions around different aspects of job performance (e.g. quality of work, concentration). Following these questions, the respondent is asked to rate the performance of an average person working in a similar job to their own on a scale of performance from 0-10 (worst to best). This is followed by the respondents then ranking their own performance over the last 28 days on the same scale.

The formula used to calculate presenteeism is:

\[
\text{Presenteeism} = \left( \frac{P_{\text{average}} - P_{\text{own}}}{10} \right) \times 100.
\]

The average wage of the individual was adjusted by this factor in order to give a value for productivity lost due to presenteeism.


<table>
<thead>
<tr>
<th>Employment category</th>
<th>Rates of pay used in the analysis</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Yearly</td>
</tr>
<tr>
<td>Executive, senior manager</td>
<td>$108,009.20</td>
</tr>
<tr>
<td>Professional</td>
<td>$79,970.80</td>
</tr>
<tr>
<td>Technical support</td>
<td>$77,682.80</td>
</tr>
<tr>
<td>Sales</td>
<td>$49,134.80</td>
</tr>
<tr>
<td>Clerical and administrative</td>
<td>$62,951.20</td>
</tr>
<tr>
<td>Service occupation</td>
<td>$63,060.40</td>
</tr>
<tr>
<td>Precision production and crafts</td>
<td>$58,468.80</td>
</tr>
<tr>
<td>Operator and labourer</td>
<td>$67,542.80</td>
</tr>
<tr>
<td>Unpaid work</td>
<td>$31,200.00</td>
</tr>
</tbody>
</table>

Table 1: Employment categories and pay rates
**Non-employed participants**

Cost to unemployed participants was measured by using a proxy of time off usual activities. Participants were asked to estimate how many days in the past four weeks they had been unable to perform usual activities such as housework, leisure or caring. Cost of unpaid work time was valued at the current Australian minimum wage of $15.00 per hour. This was considered reasonable as this work is generally unskilled.

**Healthcare costs**

Participants were asked to enter the times they had seen various health practitioners including GPs, specialists, allied health and psychological and psychiatry services over the past four weeks. The January 2011 Medicare Benefits Schedule was used to estimate the cost of these consultations to construct total healthcare costs.

Table 2 presents the Medicare schedule items used in the economic evaluation.

<table>
<thead>
<tr>
<th>Description of health service</th>
<th>Medicare schedule</th>
<th>Fee</th>
</tr>
</thead>
<tbody>
<tr>
<td>General practitioner consultancies (Professional attendance by a general practitioner lasting less than 20 minutes)</td>
<td>GP level B</td>
<td>$34.90</td>
</tr>
<tr>
<td>Urgent after hours attendances</td>
<td>Item 597</td>
<td>$122.45</td>
</tr>
<tr>
<td>Specialist (Minor attendance by a consultant physician)</td>
<td>Item 131</td>
<td>$76.70</td>
</tr>
<tr>
<td>Other health professional (e.g. optometry)</td>
<td>various</td>
<td>$68.35</td>
</tr>
<tr>
<td>Psychiatric attendances (An attendance of more than 45 minutes duration but not more than 75 minutes duration at consulting rooms)</td>
<td>Item 316</td>
<td>$88.50</td>
</tr>
</tbody>
</table>

Hospital costs were drawn from the Australian Hospital Statistics 2009-10 report [57]. The cost of an average admission was $4,471 for an admitted patient and the average length of stay was 6.0 days for those admitted overnight, with same-day separations being 57% of the total admissions. This gives an average length of stay of 3.15 days and an average cost per day used in this report of $1,419.

**Intervention costs**

Intervention costs (i.e. costs associated with the operation of the StandBy Response Service) were estimated from budget information provided by United Synergies and individual sites for the period April 2010-March 2011. Annual operating costs were divided by the clients seen during the same period to derive a cost per client.

Annual operating costs included both costs associated with providing interventions and those associated with community development, engagement and training, as both aspects of the program are seen as integral to providing an effective and efficient service.
**Statistical significance**

Throughout this report, mention will be made of whether a comparison between StandBy clients and the control group is “statistically significant”. Statistical significance is tested using a proportion test and is typically based on a probability of $p<0.05$ at the 95% level of confidence. A $p$ value (probability value) of less than 0.05 indicates that the difference being referred to can be regarded as real and stable and is not the result of chance, random effects or coincidence.

**Economic model structure**

A cost utility analysis was conducted to compare providing the StandBy Response Service to people following suicide bereavement versus no service (control group). A Markov model was constructed in Treeage® using the bereavement states in the aforementioned Bonanno model. The model structure is demonstrated in Figure 5.

The incremental cost-effectiveness ratio (ICER) was determined using the primary outcome measures of improvement in quality of life. The base case model length was set to one year. This was extrapolated to five years in a sensitivity analysis.

*Figure 5: Markov model using Bonanno’s bereavement states*
Results
**Sample sizes and response rates**

The evaluation questionnaire was available online from 5 March 2011 until 8 April 2011. Due to delays caused by the modification of the recruitment processes for StandBy clients, the completion date was extended until 6 May 2011.

The response to the questionnaire by non-StandBy bereaved (i.e. the control group) was excellent, with a total of 905 surveys started. The vast majority of these people responded to online advertising (i.e. approximately 90%). Of these, 670 were completed and had data available to analyse.

An estimated total of 415 StandBy clients were contacted regarding the evaluation across all nine sites (based on advice from each StandBy site). This represents approximately one-third of the total number of clients seen during the specified time period (June 2009-March 2011). The main reason why clients were not contacted to request participation in the evaluation appeared to be because their address details were not recorded and/or had not been collected by the StandBy site.

Of those contacted, a total of 96 surveys were received (54 online and 42 via hard copy survey after mail-out) – resulting in a response rate of 21%. Five responses were discarded, as these were incomplete, with all basic demographic data missing. One additional survey was omitted from analysis as the respondent resided overseas. This left a total of 90 StandBy client responses with which to conduct the analysis. The table below shows the response rate from each StandBy site, based on the number of clients contacted and the number of questionnaires received following direct mail-out. Note that some completed questionnaires from StandBy clients were received from the Brisbane, A.C.T. and West Kimberley sites in response to general public advertising prior to the direct mail-out. Therefore, these responses are not included in the overall response rate for these sites.

### Table 3: Response rates for the evaluation questionnaire from each StandBy site

<table>
<thead>
<tr>
<th>StandBy site location</th>
<th>Number of clients contacted by site</th>
<th>Number of questionnaires received via direct mail-out</th>
<th>Response rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sunshine/Cooloola Coast, Queensland</td>
<td>90</td>
<td>20</td>
<td>22%</td>
</tr>
<tr>
<td>Brisbane, Queensland</td>
<td>99</td>
<td>14</td>
<td>14%</td>
</tr>
<tr>
<td>Southern Tasmania</td>
<td>70</td>
<td>18</td>
<td>26%</td>
</tr>
<tr>
<td>North/North Western Tasmania</td>
<td>85</td>
<td>15</td>
<td>18%</td>
</tr>
<tr>
<td>Canberra and A.C.T.</td>
<td>50</td>
<td>0</td>
<td>0%</td>
</tr>
<tr>
<td>Pilbara region, Western Australia</td>
<td>15</td>
<td>4</td>
<td>27%</td>
</tr>
<tr>
<td>Far North Queensland</td>
<td>6</td>
<td>3</td>
<td>50%</td>
</tr>
<tr>
<td>East Kimberley region, Western Australia</td>
<td>0</td>
<td>0</td>
<td>N/A</td>
</tr>
<tr>
<td>West Kimberley region, Western Australia</td>
<td>0</td>
<td>0</td>
<td>N/A</td>
</tr>
<tr>
<td>Not stated/missing data/incomplete</td>
<td>N/A</td>
<td>12</td>
<td>N/A</td>
</tr>
<tr>
<td><strong>SUB-TOTAL – ALL STANDBY SITES</strong></td>
<td>415</td>
<td>86</td>
<td><strong>21%</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Questionnaires received via general public advertising</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Brisbane, Queensland</td>
<td>5</td>
</tr>
<tr>
<td>Canberra and A.C.T.</td>
<td>4</td>
</tr>
<tr>
<td>West Kimberley region, Western Australia</td>
<td>1</td>
</tr>
<tr>
<td><strong>TOTAL – ALL STANDBY SITES</strong></td>
<td>96</td>
</tr>
</tbody>
</table>
Impact for people bereaved by suicide

Demographics

As previously mentioned, intervention and control groups were matched according to demographic characteristics. Demographic details for both StandBy clients and the matched control group are shown in the figures below. Each figure shows the percentage of each group within each category. The total number of participants in the StandBy client group was 90 and the total number of participants in the matched control group was 360.

In general, as shown in the following figures, the StandBy client group and the matched control group show similar demographic characteristics. However, there were some minor differences:

- The control group is slightly younger, on average, than the StandBy client group.
- There was a greater proportion of StandBy clients living in regional or rural areas compared with the control group (41% and 27% respectively). The control group participants were more likely to live in metropolitan areas.
- StandBy clients were more likely to have lost a child to suicide than the control group participants (23% and 11% respectively), whereas control group participants were more likely to have lost a close friend.
- A greater proportion of StandBy clients were within twelve months of their most recent loss through suicide (60% of sample), compared with only 37% of the control group. Conversely, 47% of control group participants experienced a loss through suicide more than two years ago, compared with only 24% of StandBy clients.

Figure 6: Gender distribution of samples
Figure 8: Average age of samples

Figure 7: Education level of samples

<table>
<thead>
<tr>
<th>Education Level</th>
<th>StandBy Clients</th>
<th>Control Group</th>
</tr>
</thead>
<tbody>
<tr>
<td>Did not finish junior high school</td>
<td>16%</td>
<td>8%</td>
</tr>
<tr>
<td>Completed junior high school</td>
<td>18%</td>
<td>18%</td>
</tr>
<tr>
<td>Completed high school</td>
<td>9%</td>
<td>11%</td>
</tr>
<tr>
<td>Some tertiary or TAFE education</td>
<td>35%</td>
<td>38%</td>
</tr>
<tr>
<td>Degree graduate</td>
<td>15%</td>
<td>16%</td>
</tr>
<tr>
<td>Postgraduate degree</td>
<td>7%</td>
<td>10%</td>
</tr>
</tbody>
</table>
Figure 9: Marital status of samples

- Married or cohabiting: 41% (StandBy Clients), 41% (Control Group)
- Separated: 7% (StandBy Clients), 6% (Control Group)
- Divorced: 13% (StandBy Clients), 15% (Control Group)
- Widowed: 18% (StandBy Clients), 9% (Control Group)
- Never married: 22% (StandBy Clients), 29% (Control Group)

Figure 10: Annual household income of samples

- Under $50,000: 52% (StandBy Clients), 47% (Control Group)
- $50,000-$100,000: 24% (StandBy Clients), 34% (Control Group)
- $100,000-$150,000: 6% (StandBy Clients), 5% (Control Group)
- Over $150,000: 17% (StandBy Clients), 14% (Control Group)
Figure 11: Geographic location of samples

Table 4: Relationship to person who suicided

<table>
<thead>
<tr>
<th>Relationship to person who suicided</th>
<th>StandBy Clients</th>
<th>Control Group</th>
</tr>
</thead>
<tbody>
<tr>
<td>Partner/spouse</td>
<td>19%</td>
<td>16%</td>
</tr>
<tr>
<td>Parent</td>
<td>14%</td>
<td>14%</td>
</tr>
<tr>
<td>Sibling</td>
<td>9%</td>
<td>9%</td>
</tr>
<tr>
<td>Child</td>
<td>23%</td>
<td>11%</td>
</tr>
<tr>
<td>Other relative</td>
<td>4%</td>
<td>8%</td>
</tr>
<tr>
<td>Close friend</td>
<td>10%</td>
<td>17%</td>
</tr>
<tr>
<td>Colleague</td>
<td>1%</td>
<td>2%</td>
</tr>
<tr>
<td>Other</td>
<td>17%</td>
<td>21%</td>
</tr>
<tr>
<td>Missing</td>
<td>2%</td>
<td>2%</td>
</tr>
</tbody>
</table>

Table 5: Time since bereavement

<table>
<thead>
<tr>
<th>Time since bereavement</th>
<th>StandBy Clients</th>
<th>Control Group</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-6 months</td>
<td>37%</td>
<td>26%</td>
</tr>
<tr>
<td>7-12 months</td>
<td>23%</td>
<td>11%</td>
</tr>
<tr>
<td>13-18 months</td>
<td>11%</td>
<td>9%</td>
</tr>
<tr>
<td>19-24 months</td>
<td>5%</td>
<td>7%</td>
</tr>
<tr>
<td>over two years</td>
<td>24%</td>
<td>47%</td>
</tr>
</tbody>
</table>
Psychological distress

One of the primary aims of the StandBy Response Service is to reduce the psychological distress caused by bereavement through suicide, which was measured using the K6 scale.

Figure 12 compares the average scores on the K6 for StandBy clients and the control group. As well as comparing the groups overall, the two groups have also been split into those who experienced their loss through suicide less than two years ago and those whose loss was more than two years ago. The K6 scale is ranked from 1-24, with higher levels indicated more distress.

Table 6 shows the detailed results for the K6 scale, including the sample numbers, standard deviations and the average difference between the intervention and control groups.
As shown in Figure 12 and Table 6, the overall difference in the K6 scale between StandBy clients and the control group is almost one point. However, when only looking at those respondents still within the “normal” bereavement period (less than two years), the difference is closer to two points (p=0.075). This may indicate that the StandBy service is more effective at reducing distress in the early stages of bereavement in this population. As shown in Figure 12, the psychological distress for those participants who experienced their loss over two years ago (long-term bereaved) is slightly lower for the control group than StandBy clients.

To further examine the impact of the StandBy Response Service on psychological distress in the first two years, the scores were converted into a scale of 1-3, where 1 represents K6 values less than 5 (no or mild distress), 2 represents K6 scores between 5-12 (moderate distress) and 3 represents K6 scores between K6 more than 12 (severe distress).

The proportions of participants who experienced a suicide loss in the past two years who fall into each psychological distress category are shown in Table 7 below.

### Table 6: Detailed results for the K6 psychological distress scale

<table>
<thead>
<tr>
<th>K6 Score</th>
<th>StandBy Clients</th>
<th>Control Group</th>
<th>Mean Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
<td>mean</td>
<td>sd</td>
</tr>
<tr>
<td>Overall</td>
<td>86</td>
<td>8.99</td>
<td>6.62</td>
</tr>
<tr>
<td>Bereavement less than 2 years ago</td>
<td>62</td>
<td>9.11</td>
<td>6.73</td>
</tr>
<tr>
<td>Bereavement more than 2 years ago</td>
<td>21</td>
<td>9.62</td>
<td>6.28</td>
</tr>
</tbody>
</table>

The results in Table 7 indicate that people who receive the intervention from the StandBy Response Service in the first two years following a suicide loss are less likely to suffer severe distress (34%) and are more likely to experience no/mild distress (35%) than those who do not receive the service (47% and 24% respectively). These results could be considered marginally significant (as indicated by the proportion test on the right-hand side of the table – a result of less than 0.05 is generally considered statistically significant).

Previous research into bereavement and coping [15] indicates that only around 20% of people will have difficulty coping following a normal bereavement. These results indicate that bereavement as a result of suicide may have very different consequences on people’s ability to be resilient following a loss, with 47% of the control group and 34% of the intervention group experiencing severe distress in the first two years following suicide bereavement.

### Table 7: Proportion of participants in each psychological distress category in first two years after loss

<table>
<thead>
<tr>
<th>Psychological Distress Category in first two years after loss</th>
<th>StandBy Clients</th>
<th>Control Group</th>
<th>Proportion Test</th>
</tr>
</thead>
<tbody>
<tr>
<td>No/mild distress</td>
<td>35%</td>
<td>24%</td>
<td>p=0.07</td>
</tr>
<tr>
<td>Moderate distress</td>
<td>31%</td>
<td>29%</td>
<td>p=0.82</td>
</tr>
<tr>
<td>Severe distress</td>
<td>34%</td>
<td>47%</td>
<td>p=0.07</td>
</tr>
</tbody>
</table>
The Suicide Behaviours Questionnaire Revised (SBQ–R)

The SBQ-R has four items, each measuring a different dimension of suicidality:

- Item 1 taps into lifetime suicide ideation and/or suicide attempt;
- Item 2 assesses the frequency of suicidal ideation over the past twelve months;
- Item 3 assesses the threat of suicide attempt; and
- Item 4 evaluates self-reported likelihood of suicidal behaviour in the future.

The SBQ-R is scored by summing the four items. The result gives scores ranging from 3 to 18. A score of equal to or greater than seven has a sensitivity of 93% and specificity of 95% of detecting suicide ideation.

Figure 13 compares the average scores on the SBQ-R for StandBy clients and the control group. Similar to the K6 results, the two groups have also been split into those who experienced their loss through suicide less than two years ago and those whose loss was more than two years ago. Table 8 shows the results in more detail.

**Figure 13: SBQ–R suicidality scale results for StandBy clients and control group**
Figure 13 and Table 8 show that the incidence of suicide ideation is significantly lower in the StandBy client group than in the control group. This difference is even greater if the participants are restricted to those who have experienced a loss through suicide within the past two years. If only those participants who experienced a loss more than two years ago are considered, no difference is found between the two groups.

Table 9 shows the proportion of people with suicide ideation scores equal or greater than seven (high risk of suicidality) within the intervention and control groups. As shown in Table 9, a significantly lower proportion of StandBy clients show a high risk of suicidality (48%) than control group participants (64%), suggesting that the StandBy Response Service may reduce the risk of suicide ideation and behaviours amongst people bereaved by suicide. Even so, both groups still show a large proportion of people experiencing suicide ideation, which confirms existing research suggesting that people bereaved by suicide are at a higher risk of suicide themselves.

### Table 9: Proportion of respondents at high risk of suicidality

<table>
<thead>
<tr>
<th>SBQ-R Score</th>
<th>StandBy Clients</th>
<th>Control Group</th>
<th>Proportion test</th>
</tr>
</thead>
<tbody>
<tr>
<td>SBQ-R &gt;=7</td>
<td>43 (48%)</td>
<td>230 (64%)</td>
<td>P=0.005</td>
</tr>
</tbody>
</table>

**Quality of life**

**EQ-5D**

The results for quality of life, as measured by the EQ-5D, are presented in Figure 14 and Table 10. Scores on each domain were transformed into a single utility score, where a utility of 0 represents death and a utility of 1 represents full health. The average score on the EQ-5D for the general Australian population is 0.895 [54].

Overall, there is a small, positive (but non-significant) improvement in quality of life (as measured by the EQ-5D) associated with the StandBy intervention (see Figure 14). Again, the difference between the groups is greater for those whose loss was less than two years ago. This means that the StandBy intervention assists in improving clients’ quality of life somewhat, compared with not having the intervention.
In order to estimate the quality of life of people post-suicide loss, participants were placed into a “complicated grief” grouping if their bereavement was more than two years ago and they had measured more than 12 on the K6 scale (indicating severe psychological distress). Participants were placed into a “resilient” category if they also had bereavement more than two years ago and scored less than 5 on the K6 scale (indicating no or minimal distress).

Table 11 demonstrates the difference in quality of life between those with complicated grief and those with recovery. Table 11 shows that the “resilient” group demonstrates a high quality of life, which is equivalent to normative data for the Australian population. On the other hand, ongoing complicated grief clearly impacts severely on people’s quality of life, with this cohort demonstrating a low quality of life in both the StandBy and control groups (0.536 and 0.553 respectively). These values are far below the average quality of life scores of the Australian population (0.895). To put this data into perspective, the utility of oncology patients undergoing chemotherapy has been calculated using various methods as between 0.64–0.85 and that for

Table 10: Detailed results for the EQ–5D quality of life functioning scale

<table>
<thead>
<tr>
<th>Quality of Life - EQ-5D</th>
<th>StandBy Clients</th>
<th>Control Group</th>
<th>Mean Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>n, mean, sd</td>
<td>n, mean, sd</td>
<td></td>
<td></td>
</tr>
<tr>
<td>All participants</td>
<td>87, 0.711, 0.24</td>
<td>354, 0.69, 0.24</td>
<td>0.021</td>
</tr>
<tr>
<td>Bereavement more than 2 years ago</td>
<td>21, 0.702, 0.20</td>
<td>162, 0.717, 0.24</td>
<td>-0.015</td>
</tr>
<tr>
<td>Bereavement less than 2 years ago</td>
<td>63, 0.700, 0.25</td>
<td>183, 0.67, 0.24</td>
<td>0.030</td>
</tr>
<tr>
<td>Bereavement less than 1 year ago</td>
<td>50, 0.703, 0.27</td>
<td>129, 0.683, 0.24</td>
<td>0.020</td>
</tr>
</tbody>
</table>

Figure 14: EQ–5D quality of life scale results for StandBy clients and control group
survivors of brain tumour at 0.6 [58]. When investigated further, the results show that people who fall into the “complicated grief” category (i.e. those demonstrating severe psychological distress more than two years after their loss) are more likely to have lost their partner/spouse or parent to suicide than other relatives or friends. This data shows that bereavement through suicide has a profound impact on people’s quality of life, perhaps even more than the impact of serious physical health conditions, such as cancer.

**Table 11: EQ-5D scores for participants who experienced a loss through suicide more than two years ago**

<table>
<thead>
<tr>
<th>Grief Status</th>
<th>StandBy Clients</th>
<th>Control Group</th>
<th>Mean Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Complicated grief</td>
<td>7 0.553 0.21</td>
<td>40 0.528 0.24</td>
<td>0.025</td>
</tr>
<tr>
<td>Resilient</td>
<td>5 0.910 0.12</td>
<td>51 0.874 0.20</td>
<td>0.036</td>
</tr>
</tbody>
</table>

**ICECAP**

The second measure of quality of life used in the study was the ICECAP measure of capabilities. Scores on each domain were transformed into a single utility score, where a utility of 0 represents no capability and a utility of 1 represents full capability. As previously mentioned, population values have only been estimated for those aged over 65 years, with a mean value of 0.814 [48]. The results for the StandBy client group and control group for the ICECAP scale are shown in Figure 15 and Table 12.

**Figure 15: ICECAP capability scale results for StandBy clients and control group**
The ICECAP demonstrates similar results to the EQ-5D (see Figure 15 and Table 12), with small positive differences for the StandBy client group. This effect is constant regardless of the time since bereavement. As the measure is relatively new, few studies have been published on the ICECAP, so it is unclear whether a change of this magnitude is clinically relevant. However, it is clear from these results that the StandBy clients consistently report a higher quality of life (both in terms of functioning and capability) than people bereaved by suicide who have not had contact with StandBy.

Also similar to the results found for the EQ-5D, the ICECAP scores reported by people bereaved by suicide are lower than average scores for the general population over the age of 65 years (0.814), again highlighting the significant impact suicide bereavement has on people’s quality of life.

### Indigenous clients

As mentioned previously in this report, StandBy clients living in remote Indigenous communities were not included in the evaluation. However, discussions with StandBy coordinators, managers and Steering/Reference Committee members in the remote StandBy sites revealed that, anecdotally, the program is having a positive impact for remote Indigenous communities. Some findings through discussions with stakeholders included:

- Indigenous communities are very aware of the StandBy Response Service and comfortable interacting with StandBy team members. Many of the remote StandBy sites had Indigenous people as members of their crisis response team and/or Steering/Reference Committee and these individuals were typically very well respected and accepted by Indigenous communities.
- Uptake of the service was particularly high in remote areas, with bereaved families and friends contacting StandBy for support in almost all suicide cases.
- Suicide events and/or contagion/cluster suicides had reduced in most areas and although stakeholders were unsure whether this was related to StandBy, they believed that it had certainly contributed to the reduction.
- Indigenous elders and community members were more aware of the issues related to suicide and were actively involved in promoting the StandBy Response Service, as well and local community activities and events.
- There were many examples of StandBy’s high standing in communities, such as family members mentioning the support they received from StandBy at funerals, word of mouth referrals from community members and clients and communities inviting StandBy back for follow-up.
- Several Steering/Reference Committee members mentioned that there had been fewer clients seeking support at their services since the establishment of StandBy, freeing up resources and increasing productivity.

None of the StandBy sites had received any negative feedback regarding their provision of support to Indigenous communities. A consistent message from StandBy coordinators, managers and stakeholders.
was that the core part of establishing a program such as StandBy in Indigenous areas is building effective and respectful relationships with Indigenous leaders and community members. This is a long-term and ongoing process that can take many years and which requires dedicated, experienced and culturally-aware staff. However, the benefits that stem from these relationships, once built, are critical to ensuring the program has a positive impact for individuals and communities and its sustainability.

Cost and resource use data

**Productivity, absenteeism and presenteeism**

Table 13 demonstrates the number of days off work, productivity loss and usual activities experienced by the evaluation participants in the past 28 days.

**Table 13: Four weekly self-reported rates of absenteeism, presenteeism and time off usual activities**

<table>
<thead>
<tr>
<th></th>
<th>StandBy Clients</th>
<th>Control Group</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>mean</td>
<td>sd</td>
</tr>
<tr>
<td><strong>Employed</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Missed work day past four weeks</td>
<td>1.4</td>
<td>3.74</td>
</tr>
<tr>
<td>Missed part work day</td>
<td>0.36</td>
<td>0.6</td>
</tr>
<tr>
<td>Self rated productivity (0-10) scale</td>
<td>7.53</td>
<td>1.76</td>
</tr>
<tr>
<td>Self rated usual performance of others</td>
<td>8.11</td>
<td>1.47</td>
</tr>
<tr>
<td><strong>Not employed</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Missed days off usual activities</td>
<td>5.65</td>
<td>7.64</td>
</tr>
</tbody>
</table>

*Note: all values given as mean (standard deviation) except where stated.*

As Table 13 shows, rates of absenteeism, presenteeism and days off usual activities were all higher for the control group than StandBy clients, indicating that the StandBy Response Service reduces the impact of suicide bereavement on clients’ productivity. However, participants of both groups had high rates of absenteeism, with an average number of days off work in the past month of 1.4 days for the StandBy client group and over 2 days for the control group. Those not employed may be even more affected by suicide bereavement than those employed, with participants reporting they were unable to perform their usual activities for around six of the previous 28 days.

**Health care usage**

Rates of health care usage for medical services were reported for the last four weeks. Time in hospital was estimated on the previous year. Time spent in hospital was capped at a maximum of six weeks per year, in order to reduce the effect of outliers (i.e. those people who spent a very large proportion of the past year in hospital). Estimates shown in Table 14 are based on 63 Standby clients and 275 control group participants with complete data for those items.
Note: all values given as mean (standard deviation). All variables shown as number of visits in the past four weeks, with the exception of days in hospital, which is shown as number of days in the past 12 months.

Similar to the results for productivity, StandBy clients typically had fewer visits to health care professionals in the previous four weeks than the control group. The exception to this was the number of visits to GPs, where StandBy clients and control group participants averaged approximately one GP visit in the four week period. This result may, in part, be due to the fact that the StandBy service often recommends that clients visit their GP for a general check-up and precautionary measure. It is also important to note that, although visits to the GP have an economic cost, they may also be a positive indicator, signalling help-seeking activity. There is also the possibility that a visit to the GP may prevent further health service usage through early intervention and/or treatment.

There was a considerable difference in the number of days spent in hospital, with StandBy clients reporting an average of 0.88 days spent in hospital in the previous twelve months, while control group participants reported an average of more than two days per year.

Costs of operating the StandBy Response Service

The average cost per client for metropolitan/regional StandBy sites is $2,334. (Please note – budget information for the A.C.T. site was not included in this calculation, as analyses had already begun by the time figures from this site were received.)

The costs of operating the program were calculated using data from each StandBy site from the previous twelve month period (April 2010–March 2011). The total allocated budget for each site was used for the analysis (not necessarily the funds spent) during the specified twelve month period. Budget information was provided by United Synergies for all sites, with the exception of the Brisbane and A.C.T., where these sites provided their own budget information. The total costs were divided by the number of clients supported within the same time period to determine the cost per client. Where exact client numbers were not available, numbers were estimated based on data available from the previous reporting period. Data for the period April 2010–March 2011 was used, as it was the most up-to-date information available.

The range of costs per client between StandBy sites is extremely variable, with a low of $695 per client to over $11,000 per client. As mentioned in the methodology section, these operating costs include costs associated with providing interventions, those associated with community development, engagement and training, as well as national coordination, mentoring, training and support of StandBy sites, with the exception of Brisbane and A.C.T. The costs attributed to national coordination, mentoring, training and support for these two sites is included in United Synergies’ budget for the Sunshine/Coolum Coast site. This slightly inflated the cost/client for the Sunshine/Coolum Coast site and slightly decreased the cost/client for the Brisbane and A.C.T. sites.
The two sites with the highest cost per client (Far North Queensland and Pilbara region) have both experienced substantial change in the past twelve months (e.g. change in auspice agency and/or program coordinator), which is likely to have impacted on their efficiency. The StandBy service in the Pilbara may also have higher costs due to the very large distances between towns within the region and the increased costs associated with operating in a mining region. Nonetheless, the cost per client appears to be lower in high population density, metropolitan areas (Brisbane, A.C.T.).

**Overall costs**

Means (or averages) of each cost item were calculated from the estimates of use multiplied by the relevant cost per item. As the true population mean may not be the same as the sample mean, 95% confidence intervals around each mean are provided in parentheses. The 95% confidence interval gives the range where the true mean will lie 95% of the time. Where data was drawn from four weekly costs (e.g. time off work), amounts were multiplied by 13 to give an estimate of yearly costs. Due to the small numbers of people hospitalised and the uncertain estimates due to this, hospital costs were excluded from the economic analysis.

Yearly costs per person and the difference between the costs for the StandBy client group and the control group are provided in Table 15 below. As Table 15 shows, the overall difference in costs between the StandBy and control groups is -$881.39 per person per year. That is, taking into consideration the costs associated with operating the program, as well as the costs incurred through lost productivity and health service usage, the StandBy Response Service saves approximately $880 per person, per year.

**Table 15: Yearly costs for StandBy clients and control group**

<table>
<thead>
<tr>
<th>Cost Item</th>
<th>StandBy Clients</th>
<th>Control Group</th>
<th>Difference (StandBy - Control)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>mean</td>
<td>95% CI</td>
<td>mean</td>
</tr>
<tr>
<td></td>
<td>Low</td>
<td>High</td>
<td>Low</td>
</tr>
<tr>
<td>Cost of StandBy Response Service</td>
<td>$2,333.77</td>
<td>$1,385 - $3,283</td>
<td>$0</td>
</tr>
<tr>
<td>Time off work</td>
<td>$1,399.45</td>
<td>$406.12 - $2,392.91</td>
<td>$2,465.19</td>
</tr>
<tr>
<td>Presenteeism</td>
<td>$2,819.31</td>
<td>-$82.81 - $5,721.30</td>
<td>$3,999.97</td>
</tr>
<tr>
<td>Time off usual activities</td>
<td>$4,737.07</td>
<td>$2,620.54 - $6,853.60</td>
<td>$5,310.11</td>
</tr>
<tr>
<td>All Medical services</td>
<td>$2,239.64</td>
<td>$1,578.20 - $2,901.08</td>
<td>$2,635.36</td>
</tr>
<tr>
<td>Total Costs</td>
<td>$13,529.24</td>
<td></td>
<td>$14,410.63</td>
</tr>
</tbody>
</table>
Impact for emergency and community responders

In addition to providing support for people bereaved by suicide, the StandBy Response also aims to increase the capacity of emergency services personnel and community organisations (e.g. workplaces, schools, church groups, health services) to respond appropriately and effectively to suicide events. As previously described, the impact of the StandBy Response Service for people who respond to suicide events was investigated using primarily qualitative methods.

Throughout the duration of the project, the evaluation team attended six Steering/Reference Committee meetings (each with between five and ten members in attendance) and conducted individual interviews with a further 13 committee members separately. Therefore, in total, more than 50 community and emergency responders and leaders were involved in the evaluation. In addition, in-depth discussions were conducted with StandBy coordinators and managers in StandBy sites. In total, nine people completed the Community Capacity Index.

Due to the low number of responses to the Community Capacity Index (CCI), it is difficult to analyse the results from this tool quantitatively. However, the results from the CCI can be used qualitatively, in conjunction with the findings from the discussions and interviews with Steering/Reference Committee members. In general, committee members reported that involvement with the StandBy Response Service Steering/Reference Committees produced a “substantial” level of network partnerships (i.e. linkages between community members, community ownership) and problem solving, in addition to “somewhat” effective knowledge transfer, information sharing and investment of time, finances and human/social capital.

The results from the Community Capacity Index were confirmed through qualitative feedback from Steering/Reference Committee members. The main benefits of the StandBy Response Service mentioned by committee members included:

- Improved linkages, partnerships, networks and coordination of services – particularly in regional, rural and remote areas;
- Increased community awareness and knowledge of issues related to suicide prevention and postvention;
- Good integration, cooperation and communication with existing organisations and individuals within communities;
- Anecdotal evidence of a reduction in suicides and/or contagion/cluster suicides;
- Systematic, coordinated and proactive approach of StandBy – coordinated care for people bereaved by suicide (“people don’t have to re-tell their story several times to different agencies”);
- Flexibility and responsiveness of the service (available 24/7, tailored for individual clients, capacity for outreach, timeliness);
- Targeted, focused service (time, availability, capacity and resources to focus on the issue);
- Independence of the service from other community/government agencies – increased trust and respect from community members and increased confidentiality for bereaved people;
- Efficient use of available resources (time, money) and a decrease in duplication of effort;
- The presence of StandBy gave confidence and relief to emergency/community responders, knowing that there was someone to provide support to bereaved people and that they could continue performing their own duties;
- Sustainability of the program through involvement of multiple sectors and the establishment of formal arrangements with community organisations/agencies – this was seen to counteract the impact of staff turnover/transience, particularly in rural/remote areas;
- Improved understanding of the local situation in relation to suicide numbers/rates, etc.;
- Training and events;
- Transferability to other community issues (e.g. knowledge, skills, networks).

Some committee members noted the need for long-term, ongoing funding for the program, in order to ensure its sustainability over time. In addition, in some rural and remote communities, it was noted that, due to the limited number of qualified personnel within the area, there was a risk of burn-out for StandBy staff. In some cases, members of the crisis response team are seconded from other community organisations, which can stretch resources within those organisations. However, all committee members emphasised the demonstrable benefits of the StandBy program, which far outweighed any investment of resources.

Several committee members noted that many aspects of community capacity take many years to build and that, due to the recent establishment of the StandBy Response Service, further development of community capacity was expected to continue in the future.

**Cost–effectiveness**

The key question asked in this economic evaluation is: what are the additional benefits to be gained from the StandBy Response Service and at how much greater cost? In order to answer such a question, incremental cost-effectiveness ratios (ICERs) are used. The ICER is calculated using the following formula:

\[ \text{ICER} = \frac{\text{Difference in costs between intervention and no intervention}}{\text{Difference in health effects between intervention and no intervention}} \]

To fully evaluate the effectiveness of the StandBy Response Service and to be able to extrapolate the results to a longer time period, a model was constructed in Treeage Pro 2011®. This model simulates the path or trajectory of a bereaved person following a loss through suicide.

The model base case was set to one year and results are shown in Table 16.

As previously mentioned, the calculation of costs takes into consideration the costs of operating the StandBy Response Service, as well costs incurred by clients, such as productivity losses and health care usage costs. The Quality Adjusted Life Year (QALY) score is calculated using the results from the EQ-5D quality of life scale. As shown in Table 16, the findings from this evaluation suggest that the implementation of the StandBy Response Service is, in fact, cost-saving. That is, it costs less to society to have the program than it does to not have the program (including the costs of running the service). Estimates from the base case indicate that the StandBy Response Service is cost saving to around $800 per person over a one year period.

In addition, the StandBy Response Service shows an improvement of 0.02 QALYs per person.
Figure 16 demonstrates the relative costs and effectiveness of the StandBy Response Service compared to the control group. As shown in the diagram, the control group (no intervention) is dominated by the intervention group (StandBy Response Service). This means that the StandBy Response Service both costs less and is more effective than the alternative (i.e. no intervention).

**Table 16: Cost–effectiveness of the StandBy Response Service**

<table>
<thead>
<tr>
<th>Cost-effectiveness of the StandBy Response Service</th>
<th>StandBy Clients</th>
<th>Control Group</th>
<th>Increment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Costs</td>
<td>$13,255.00</td>
<td>$14,058.00</td>
<td>-$803.00</td>
</tr>
<tr>
<td>QALYs</td>
<td>0.79</td>
<td>0.77</td>
<td>0.02</td>
</tr>
<tr>
<td>ICER</td>
<td></td>
<td></td>
<td>Cost Saving</td>
</tr>
</tbody>
</table>

**Figure 16: Cost–effectiveness analysis – StandBy versus control group**

![Cost-Effectiveness Analysis Diagram]
Results for rural/remote areas and Indigenous communities

To calculate the economic efficiency of the StandBy Response Services operating in remote locations, the cost of the average StandBy Service of $2,334 per person was factored up by 1.5 and an additional $200 per person added for Indigenous care. This takes into consideration the increased costs associated with providing services in rural/remote communities.

This gives an estimated cost of running an equivalent service in remote areas of $3,701 (95% confidence interval: $2,277 to $5,124). The range given demonstrates that the East and West Kimberley services, which operate at an average cost of $3,603 per client, are likely to be cost-efficient, whereas the Pilbara service, at a cost of $11,294 per client, is not likely to be efficient at this stage. In addition to factors related to increased distances, lack of resources, etc, the additional costs of operating a postvention service in remote Indigenous communities include a much higher suicide rate in Indigenous communities and the need for extensive consultation and engagement with Indigenous communities. As mentioned earlier in this report, the increased costs for operating the Pilbara service are also likely due to substantial changes in the service in this region, the inflated costs in mining regions and the extremely large distances within the region.

Sensitivity analysis

In order to assess the likelihood or probability of the model being cost-saving, a second order probabilistic sensitivity (Monte Carlo) analysis was conducted. This analysis samples random values from the distributions around each of the variables, thus more accurately representing what may happen to a cohort of people experiencing a suicide bereavement in real life. The resultant values are then plotted on a cost-effectiveness plane.

A cost-effectiveness plane is divided into four quadrants (as shown in Figure 17). Points in the SE quadrant show that the intervention is more effective and less costly than the alternative and, hence, the intervention dominates the alternative. Interventions falling in this quadrant are always considered cost-effective. Points in the NW quadrant represent outcomes where the intervention is both more costly and less effective than the alternative and hence the intervention is “dominated” and is never cost-effective. The NE quadrant, with positive costs and positive effects, and the SW quadrant, with negative costs and negative effects, involve trade-offs. These two quadrants represent the situation where the intervention may be cost-effective compared with the alternative, depending upon whether the ICER is above or below the value of willingness to pay (WTP) for an additional health unit. The willingness to pay represents the maximum amount that a person or funder is prepared to pay for each additional unit of improved health.

Figure 18 represents the cost-effectiveness pairs estimated from the probabilistic sensitivity analysis of the StandBy Response Service, plotted on the cost-effectiveness plane.
**Figure 17: Cost–effectiveness plane**

![Cost–effectiveness plane](image1)

**Figure 18: Monte Carlo sensitivity analysis – StandBy intervention versus control**

![Monte Carlo sensitivity analysis](image2)
As shown in Figure 18, a little over 52% of all points lie in the superior SE quadrant. Only around six percent of points lie in the inferior NW quadrant. The remainder of the points lie in the other two quadrants, where a decision must be made on whether the cost is worth the benefit gained. If we assume a willingness to pay of $50,000 for an additional quality adjusted life year (QALY), which is the typical value used in Australian studies [25], a further 29% of points lie below the acceptable willingness to pay threshold. Overall, 81% of all points are cost-effective, indicating a high probability that the StandBy Response Service intervention is cost-effective.

Further analyses of the Standby Response Service are presented in Table 17. A number of parameters were altered to assess the sensitivity of the results to various changes in costs and outcomes. For example, if the upper range of costs is used instead of the average costs, what impact does this have on the overall cost-effectiveness of the program? Table 17 shows that, in a likely worst case scenario with the cost of the StandBy Response Service set to the upper limit of $3,283, the ICER is no longer cost saving. However, the program still shows a very acceptable ICER of under $7,000 per quality adjusted life year (QALY), which is well within industry standards of around $50,000 per QALY [25].

Table 17 also shows that, over a five-year period, the StandBy Response Service has the potential to save almost $12,000 per person and have an even greater positive impact on people’s quality of life (0.07 QALYs).

**Table 17: Sensitivity analyses of the cost–effectiveness of the StandBy Response Service**

<table>
<thead>
<tr>
<th>Cost-effectiveness of the StandBy Response Service</th>
<th>Incremental Costs/ Savings</th>
<th>Incremental Effect</th>
<th>ICER</th>
</tr>
</thead>
<tbody>
<tr>
<td>Base Case (one year analysis)</td>
<td>-$803.00</td>
<td>0.02</td>
<td>Cost Saving</td>
</tr>
<tr>
<td>Sensitivity Analyses</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5 year extrapolation analysis</td>
<td>-$11,886.00</td>
<td>0.07</td>
<td>Cost Saving</td>
</tr>
<tr>
<td>Upper CI of cost of service</td>
<td>$145.88</td>
<td>0.02</td>
<td>$6,662.00</td>
</tr>
<tr>
<td>Monte Carlo simulation</td>
<td>-$667.70</td>
<td>0.02</td>
<td>Cost Saving</td>
</tr>
</tbody>
</table>
Discussion and conclusions
Discussion of findings

Impact of suicide bereavement

The results of this evaluation show that people who have experienced the loss of a loved one through suicide experience substantial distress and loss of quality of life. In fact, people bereaved by suicide are showing lower quality of life than people who are undergoing chemotherapy or who have recovered from a brain tumour. Furthermore, the rate of suicidality (i.e. suicidal thoughts, previous suicide attempts and risk of future suicide) is very high for this group, confirming previous evidence that people bereaved through suicide are at a greater risk of suicide themselves [6, 8, 9, 59-61]. The impact of suicide bereavement is greatest within the first two years following the loss. People bereaved by suicide also show a high risk of experiencing severe psychological distress, with almost half of this study’s control group reporting these levels of distress. This level of mental distress is likely to be an indicator of complicated grief and research shows that this condition is both severe and ongoing, often lasting many years, or even decades [44, 45].

In addition to the emotional impact of suicide bereavement, the evaluation findings suggest that people bereaved by suicide have considerably reduced productivity, as evidenced by a high level of absenteeism (i.e. missing days of work/usual activities) and presenteeism (i.e. reduced productivity despite attendance at work/usual activities). This group also show a high level of use of health services, including general practitioners, specialists and hospitals.

The economic, social and emotional cost of these adverse outcomes to society is immense. Calculations in this analysis show that, on average, people bereaved by suicide incur a cost to society of more than $14,000 per person, per year. This figure does not take into consideration the social and emotional costs, which are difficult to value in economic terms. With around 10,800 people significantly impacted by a suicide death each year in Australia, suicide bereavement is estimated to incur a cost to the community of approximately $155M each year. These costs will fall on many sectors of society, including individuals, employers, the health care system and governments. The impact of suicide bereavement may be potentially greater for rural and remote communities, where the total workforce is smaller and the capacity to respond appropriately may be diminished due to reduced capacity and/or collective grief. This warrants the need for effective, efficient postvention services that can reduce the burden of grief for people bereaved by suicide and support them to return to healthy, productive lives [6].

The effect of postvention

This evaluation aimed to measure the impact of a particular postvention service – the StandBy Response Service. The StandBy Response Service is an evidence-based, active postvention model that aims to reduce the impact of suicide bereavement. In particular, the program aims to reduce the occurrence of mental health problems, as well as the risk of future suicides – postvention as prevention. In addition, the program aims to increase community capacity to respond to suicide events and assist emergency and community responders to help people who have lost a loved one to suicide.

A previous longitudinal impact evaluation of the program showed that the StandBy Response Service is effective in reducing the risk of adverse health outcomes, both immediately and over time, including improving quality of life, decreasing psychological distress and reducing the incidence of suicide ideation [16]. The results from the current economic evaluation confirm these findings, with StandBy clients experiencing higher levels of quality of life, both in terms of functioning and capability, and a statistically significant reduction in suicidality. These results suggest that the StandBy Response Service is likely to
reduce the risk of contagion and/or cluster suicides. The program also significantly reduces the risk of people experiencing severe psychological distress and significantly increases the likelihood that people will experience no or mild psychological distress. This will also likely decrease the incidence of complicated grief and other mental health conditions within this group.

In addition to these benefits, the results show that people bereaved by suicide who have had contact with the StandBy Response Service experienced higher productivity, including fewer days off work or usual activities and increased functioning during their activities. They also reported less usage of health care services, such as visits to doctors, specialists and hospitals.

These positive effects were generally consistent, regardless of when the loss occurred. However, the StandBy Response Service is particularly effective for people who experienced a loss through suicide in the past two years, which is generally considered the “normal” grieving period [44, 62]. Additionally, there is no evidence from this evaluation that the StandBy Response Service has any negative or adverse outcomes or causes any harm to clients, suggesting that their “invitation only” approach is effective in targeting those people most in need of support.

Qualitative evidence suggests that the StandBy Response Service has substantial benefits for communities and particularly those people directly involved in dealing with suicide events (e.g. police, ambulance workers, mental health professionals, funeral directors). Key stakeholders involved in the program reported that the program improved community linkages and networks, as well as increasing awareness, knowledge and skills related to suicide postvention and prevention. They also reported that the community capacity benefits of the program are transferable to other issues and the coordinated approach reduces duplication of effort and decreases the risk of “re-traumatisation” for bereaved people.

Overall, the StandBy Response Service has measurable, significant and positive benefits for both people bereaved by suicide and the communities in which it is established. These results support the provision of postvention care for people bereaved by suicide and, specifically, the StandBy Response Service, showing that the program can significantly lessen the burden of grief for people bereaved by suicide.

**Cost-effectiveness of the StandBy Response Service**

The main objective of this evaluation was to measure the cost-effectiveness of the StandBy Response Service – in other words, what is StandBy’s “bang for the buck”? Economic evaluation of health interventions is a relatively new field of study, but it is critical to ensuring decision-makers have the information to use available resources effectively and efficiently. Every day, decision-makers must make choices about which projects and programs to fund. Economic evaluations of health interventions provide decision-makers with the necessary information to accurately compare the costs and benefits of different projects and programs.

On average, the StandBy Response Service costs approximately $2300 per client to operate. This figure includes both the costs directly associated with providing interventions, as well as the costs associated with community development and engagement and national coordination of the program. The community development and engagement and national coordination costs were included in the cost/client calculations, as they are seen as integral to the effectiveness of the program – without StandBy’s community development and engagement activities, the program may be far less effective in providing bereavement support.

The more positive outcomes achieved for people bereaved by suicide through the StandBy Response Service – improved quality of life, physical and mental health and productivity – have large economic benefits. Figure 19 shows a comparison between the costs incurred by StandBy clients and those by the matched control group. Overall, the program has the potential to reduce the cost incurred to society through reduced productivity and increased health service usage by approximately $800 per person, per year. This
figure includes the costs associated with operating the program. Sensitivity analyses show that there is an 81% probability that the program is cost-effective. This shows that the program is cost-saving, reducing the overall cost to society that is incurred through the negative effects of suicide bereavement.

Due to the high variability in the data related to hospital visits, these costs were omitted from the analysis and are not included in the cost savings shown above. The emotional and social benefits of the program, such as improved quality of life, reduced suicidality, improved physical and mental health and increased community capacity and knowledge, are also not included in the cost calculation. As such, the overall cost saving provided by the StandBy Response Service is likely to be considerably more than $800 per person per year, if these additional benefits are taken into account. This is a substantial saving to the Australian community.

The StandBy Response Service was generally cost-effective in all geographic regions – metropolitan, regional, rural and remote – and, when factored up to account for increased costs associated with providing services for Indigenous clients, was even cost-effective in remote Indigenous communities (e.g. East and West Kimberley regions). This suggests that the community-based model that attempts to harness and use existing resources and infrastructure has the potential to be both effective and efficient. One reason for this may be because the coordinated approach reduces inappropriate or excessive service usage, through the provision of a “one-stop-shop”, which ensures people bereaved by suicide only receive those services they actually need.

**Projected benefits for the Australian society**

Approximately 1,800 suicides occur in Australia each year and existing research suggests that at least six people are significantly and directly affected by each one of these deaths [1-3, 63]. This totals to a conservative estimate of approximately 10,800 people who are directly impacted by the death of a loved one through suicide each year. As previously mentioned, the impact of suicide bereavement is estimated to cost...
society more than $150M per year. These costs do not just fall on individuals – reduced productivity, absenteeism and health care usage impacts employers, our health care services, communities and governments. However, the results of this evaluation show that the provision of effective postvention support, such as that offered by the StandBy Response Service, has the potential to save the Australian community approximately $800 per bereaved person, which totals to more than $8.5M each year.

Over time, the savings from the 10,800 suicide bereaved individuals each year would be expected to increase, with potential projected savings of more than $155M over five years. These figures support the ongoing provision of postvention services, such as the StandBy Response Service, for people bereaved by suicide, to reduce the impact of suicide bereavement in our community and assist in preventing the occurrence of further suicides.

**Limitations**

There are several limitations to the results of this evaluation, which are discussed below.

Both the StandBy client group and the control group were self-selected samples, which has the potential to bias the sample and results. However, it is probable that people experiencing greater difficulties are more likely to participate, as they are more likely to identify with the research and be seeking support and/or further information. As such, a greater proportion of the samples may be experiencing lower levels of physical and emotional health, relative to the overall population of people bereaved by suicide. However, this potential bias may actually underestimate the benefits of StandBy, as people with long-term complicated grief and/or severe psychological distress may be less likely to show improvement than those who are more “resilient”. This potential bias may be warranted, as the StandBy Response Service generally targets those people at a greater risk of ongoing distress and/or complicated grief, as improvements in these groups are likely to have greater, clinically significant outcomes.

The evaluation used a cross-sectional design, collecting data at a single point in time and without randomising people to either the “intervention” (i.e. StandBy) or control (i.e. no intervention) groups. It is extremely difficult and potentially unethical to use a randomised control trial design in research related to suicide postvention, as restricting access to care has the potential to result in serious adverse outcomes, including the potential for suicidality. It is also difficult to collect pre-test data (i.e. prior to the suicide event), as this requires longitudinal data collection over extended periods and very large sample sizes (to account for the fact that not everyone in the sample will experience a loss). However, there is the possibility that confounding variables may have influenced the results. For example, people in the control group sample may have received support from another postvention or bereavement support service (other than the StandBy Response Service), which may have impacted on their results. However, this would be expected to improve the results of the control group, and the results of this evaluation show that the StandBy client group have consistently higher results than the control group across a range of measures.

Another potential limitation of the evaluation findings is that, although all StandBy clients were intended to be invited to participate in the evaluation, only approximately one-third of all clients were contacted. This was because some StandBy sites did not have contact details for many of their clients. The lack of data appears to have occurred for a range of reasons, such as the provision of telephone interventions (when contact details may not have been collected) or group interventions (where multiple people were present, but contact details were only collected for perhaps one or two people). In addition, response rates from some StandBy sites were quite low, particularly those sites that used the modified method of recruitment (see page 38). However, the overall response rate from those StandBy clients that were contacted (21%) is within industry standards and initial discussions with StandBy suggest that the StandBy client sample matches the overall StandBy client population on key demographic variables.
The two samples in this study (StandBy clients and the control group) have been matched demographically to ensure the comparability of their results. However, there were some minor differences between the groups, which may have had an impact on the results. For instance, the average age of the control group is younger than the StandBy client group, which may explain some of the differences between the two groups. There was also a smaller proportion of people in the control group who had experienced the loss of a child to suicide and a greater proportion who had lost a close friend, compared with the StandBy client group. However, if this issue were remedied, there would likely be greater benefits from the StandBy intervention, as it is expected that the loss of a child would be more traumatic and distressing than the loss of a close friend. Nonetheless, considering the poor results shown by the control group in this study, it could be that the impact of the suicide of a close friend is substantially greater than currently thought. For example, the suicide of a friend during adolescence or early adulthood (a time when peers are an extremely important part of one's psychological development [64]), may have a profound negative impact on an individual's health and wellbeing. It is certainly interesting that people bereaved through the loss of a close friend through suicide have participated in this research and have actively identified themselves as a “suicide survivor”. This is an area worthy of further research and investigation. The demographics differences between the two groups may have been due, in part, to the primary method of recruitment for the control group (i.e. online advertising through facebook). Although approximately half the Australian population uses facebook, users tend to be younger on average than the general population5.

Another difference between the two samples is that the control group were more likely to have experienced their most recent suicide loss more than two years ago. Although there is no formal consensus regarding the typical duration of bereavement, it is generally agreed that most people will have returned to “normal” functioning within a two year period [15, 26, 44, 45, 65]. This demographic difference between the two samples suggests that people bereaved by suicide may be more likely to experience complicated or chronic grief, particularly in the absence of postvention support.

The evaluation relies on self-reported data – that is, people’s perceptions of their own quality of life and health and their memory of time off work, productivity and health service usage. Self-report data is known to have potential biases and can be unreliable [15]. However, the validity and reliability of the measures and tools used in this evaluation have attempted to minimise the risk of bias from self-reporting.

Another potential limitation of the evaluation results is the number of clients seen by each StandBy service during the reported period (April 2010-March 2011). Where accurate client numbers were not available, these numbers were estimated using the best available data from the previous financial year. However, the estimate of client numbers was quite conservative and it is highly likely that this figure was an underestimate of actual client numbers. This underestimation, in turn, would reduce the cost-effectiveness of that site and actual cost-effectiveness is likely to be better than reported.

Finally, although all StandBy sites operate using the StandBy model, there are some important differences in some areas, which may have impacted on their efficiency and/or effectiveness. For example, the StandBy program in the A.C.T. attends all suicide events in the region following automatic notification from police (rather than being invited by the bereaved) and may have less emphasis on community development activities. Evidence from this evaluation shows that the cost per client in this region is quite low ($762 per client), suggesting that this approach may increase the efficiency of the program. However, as very few responses were received from clients of the A.C.T. service, it is not possible to accurately determine the effectiveness of the service from the current data.
Challenges and learnings

A number of challenges were encountered during the evaluation project, as well as several important learnings for future research.

The timeframe for the project was extremely tight, with no buffer time for potential delays and/or difficulties. Difficulties with recruiting StandBy clients in two sites delayed the completion of data collection and, consequently, the commencement of data analysis. These delays also substantially reduced the time available for data analysis and reporting.

In addition, the evaluation required consultation with and cooperation from nine different organisations that auspice the StandBy program in each site, as well as a number of other key stakeholders (e.g. Steering/Reference Committee members, Expert Advisory Committee). Although all sites were eager to be involved in the evaluation, many of the sites had differing views regarding the evaluation methodology and processes. The short timeframe did not allow adequate time at the beginning of and throughout the project for in-depth and ongoing consultation with the sites and other key stakeholders, to explain and discuss the evaluation’s purpose and methodology. Despite these issues, the project has been completed within the short timeframe, with good response rates generally and reliable and valid data.

Although an acceptable response rate was received from StandBy clients, a greater number of responses from this group would have provided more power to the statistical analyses and increased the reliability of the results. One of the main issues affecting the number of questionnaires received appeared to be the absence of accurate contact details for all clients at StandBy sites. This issue should be taken into consideration for any future research projects.

During the evaluation, some concerns were raised by StandBy coordinators and managers about the data collection methods used (i.e. consent to contact StandBy clients regarding the evaluation, using self-completion questionnaires, cultural appropriateness of tools and materials). These issues were addressed on a case-by-case basis during the project. Also, as previously mentioned in this report, the evaluation methodology was approved by the Griffith University Ethical Review Board, which only approves projects that follow strict ethical guidelines regarding participant safety and consent. In addition, previous experience conducting qualitative and quantitative research with people who have experienced a loss through suicide suggests that this group are often keen to have their experiences heard and are often willing to participate in research studies to improve the evidence base [6, 16].

It was also recognised that the scope and timeframe of the evaluation did not allow for the culturally appropriate evaluation of the benefits for StandBy clients living in remote Indigenous communities. It is commonly recognised that research in remote Indigenous communities should follow published guidelines and procedures to ensure that research is conducted ethically, culturally appropriately and that research outcomes provide demonstrable benefits to the Indigenous communities involved [66-68]. Although this approach was not feasible within this study, qualitative feedback was collected regarding the benefits of the StandBy Response Service for Indigenous clients living in remote Australia.

Future research questions

There is the potential to build on the results of this research in the future, to further enhance our understanding of the benefits and costs associated with bereavement interventions, and particularly those targeting people bereaved by suicide. Some suggested research questions that could be addressed in the future include:
- Longitudinal research investigating the long-term outcomes for people bereaved by suicide, including the impact of suicide from different types of relationships (e.g. family, friends, colleagues, associates). This research would assist in better understanding the full impact of suicide bereavement in the community and identifying how many people are exposed to suicide within society. This could also include the development of a predictive model to assist in identifying who may be more negatively affected by a suicide loss. This could assist the StandBy program in providing more targeted support for people who will receive the most benefit and understanding the relationship between postvention support and the prevention of complicated grief.

- Evaluation of the effectiveness and efficiency of the StandBy Response Service for different client groups – e.g. emergency services personnel, workplaces, schools, community groups, etc. It would be beneficial to have a better understanding of all the potential benefits of the program for these groups (not just increased efficiency and community capacity), such as an improved understanding of grief and trauma and increased resilience and/or protective factors.

- Further investigation of the impact of different service models on the effectiveness and efficiency of postvention care for people bereaved by suicide. The StandBy Response Service has been shown to be a cost-effective method for providing support and assistance to people bereaved by suicide. However, there may be other service models that further improve the effectiveness and efficiency of the program, which may have greater economic benefits for society.

- There is a need for culturally appropriate in-depth research into the efficacy and cost-effectiveness of the StandBy Response Service (as well as other health and social services) in Indigenous communities. This research should employ existing published guidelines for ethical research involving Indigenous groups and involve extensive engagement and consultation with local Indigenous people.

- There is also a gap in cost-effectiveness research related to other minority groups that may be at a high risk for suicide or mental health problems and/or experiencing suicide bereavement – for example, culturally and linguistically diverse (CALD) groups and gay, lesbian, bisexual and transgender (GLBT) people.

- An interesting area of further study would be to investigate the uptake of the StandBy Response Service – i.e. how and why people request support from StandBy. Evidence from this evaluation suggests that uptake is higher in rural and remote areas, perhaps due to smaller population numbers and greater community engagement in these areas. Investigating the reasons why people requested support and how they heard about the StandBy program could assist in increasing uptake of the service in all regions and reduce the number of bereaved people who may “fall through the cracks”.
Conclusions

The economic evaluation of the StandBy Response Service is the first known research investigating the cost-effectiveness of a postvention service and one of only a few economic evaluations of bereavement interventions generally. In addition, the evaluation involved approximately 1,000 people bereaved by suicide from across Australia. As such, this research contributes valuable knowledge to the evidence base regarding the effectiveness and efficiency of support services for people bereaved by suicide, a known high-risk group.

In summary, the results from the economic evaluation of the StandBy Response Service resulted in four key findings, as follows:

1. People bereaved by suicide experience an immense negative impact on their health, quality of life and productivity, including an increased incidence of severe psychological distress and suicidality. In fact, their quality of life is likely to be lower than that experienced by people undergoing treatment for critical types of cancer. This results in a large cost to society through increased use of health care services, reduced productivity and absenteeism/presenteeism, as well as the additional emotional and social costs.

2. Providing postvention support (such as the StandBy Response Service) measurably improves the health and wellbeing of people bereaved by suicide which, in turn, can reduce the economic burden on the health system, employers, communities and society generally.

3. The StandBy Response Service is a cost-effective way to support people bereaved by suicide. Providing the StandBy Response Service actually provides a direct cost saving to society of approximately $800 per person per year (taking into consideration the costs of operating the program). Furthermore, the program has several other important benefits, including improved quality of life, improved physical and mental health, increased community capacity and awareness and, perhaps most importantly, a potential reduction in the number of future suicides.

4. There are approximately 1,800 suicides occurring in Australia each year and at least six people directly affected by each suicide. This amounts to a conservative estimate of approximately 10,800 people directly affected by suicide each year. If all these people were provided with postvention support through the StandBy Response Service, there is a potential cost saving of $8.6M per year (at $800 per person). Projected cost analysis predicts that, over a five year period, this figure has the potential to increase to a total cost saving of $128M for this group of people.
Appendix A

Evaluation team
Evaluation Team

Victoria Visser acted as the Project Manager for the evaluation project. Victoria is the Director of The Science of Knowing, specialising in health research and evaluation. She has extensive experience working in the fields of suicide prevention, postvention and mental health and recently presented at the IASP Conference in November 2010. She was also involved in the longitudinal evaluation of the StandBy Response Service, completed in 2009.

Victoria holds a Bachelor of Arts (Psychology) and a Bachelor of Science (Biomedical Sciences) and has completed postgraduate studies in nutrition and health promotion.

Professor Paul Scuffham is the Inaugural Professor of Health Economics at Griffith University, Queensland, and is Director of the new Centre for Applied Health Economics. Paul has extensive experience in economic evaluation of medical interventions, including medical devices, pharmaceuticals, and health services.

Over the last few years, Paul has authored over 100 peer-reviewed journal articles, economics discussion papers and commissioned reports.

Dr Tracy Comans is a Research Fellow in the Centre for Applied Health Economics, Griffith University, School of Medicine. Her work includes the evaluation of drug submissions for the Pharmaceutical Benefits Scheme, economic evaluation of health care programs and systematic reviews and development of clinical guidelines. Her fields of expertise include economic evaluation of health care programs and service models of rehabilitation.

Tracy has a Ph.D. in the fields of health economics and community rehabilitation and a clinical background as a physiotherapist, with special interests in aged care and rehabilitation. She continues to provide clinical supervision and advice to physiotherapy services in the Metro South community aged care and rehabilitation teams.

Expert Advisory Committee

An Expert Advisory Committee was established, comprising recognised specialists in relevant fields to provide advice and guidance related to specific issues/fields that arose during the course of the economic evaluation. The members of the Expert Advisory Committee were:

- Travis Shorey, QLD Health – specialist in Indigenous health and wellbeing;
- Professor Graham Martin, University of Queensland – specialist in suicide and self-harm prevention and adolescent psychiatry;
- Associate Professor Judith Murray, University of Queensland – specialist in grief and loss;
- Maria Cassaniti, Transcultural Mental Health Centre – specialist in mental health and wellbeing for people from CALD backgrounds.

Committee members were contacted on an ad hoc basis throughout the project, where and when specific advice or guidance was required.
StandBy partner organisations

- Sunshine and Cooloola Coasts, QLD – United Synergies Ltd
- Far North Queensland, QLD – Lifeline Community Care Far North Queensland
- Brisbane and surrounding areas, QLD – Lifeline Community Care Queensland
- Canberra and the A.C.T. – SupportLink Australia Ltd
- Pilbara region, WA – Pilbara Health Network
- East and West Kimberley regions, WA – Kinway Broome and Kinway Kununurra
- Hobart and Southern Tasmania – Lifeline Tasmania
- North/North West Tasmania – CLS
Appendix C

Copy of hard copy questionnaire and covering letter for people bereaved by suicide
ECONOMIC EVALUATION OF THE STANDBY RESPONSE SERVICE

The StandBy Response Service provides a 24-hour coordinated community crisis response to families, friends and associates who have been bereaved through suicide. The program currently operates in nine regions across Australia.

The StandBy Response Service is currently being evaluated for its cost-effectiveness. StandBy has commissioned independent researchers, The Science of Knowing and Griffith University, to gather information about the costs and benefits of operating the program. This is the first known economic evaluation of a suicide bereavement support service and the study will produce important information about the provision of support and assistance for people who have experienced a loss through suicide.

You are being contacted because you have been identified as having had contact with the StandBy Response Service in the past.

We are asking all previous clients of the StandBy Response Service to complete a short questionnaire about your health, your use of health services and your experiences. The data gathered through the survey will allow us to measure some of the possible effects of receiving support through StandBy.

Participation in this study is voluntary. The survey should only take between 15-20 minutes to complete. Your answers to the survey questions are completely confidential and will only be seen by the independent researchers undertaking the research. More information is provided on the first page of the questionnaire.

If you would like to participate in this study, you can complete the questionnaire in one of two ways:

1. Complete the questionnaire online by visiting www.thescienceofknowing.com.au/study and click on the link to the questionnaire; OR

2. Complete the paper copy of the questionnaire enclosed with this letter and return your completed questionnaire in the reply-paid envelope provided (no stamp required).

If you have any questions about this research study, please feel free to contact the project manager, Victoria Visser on (07) 5444 6669 or via email at info@thescienceofknowing.com.au.

Thank you for your support of this important study.

Yours sincerely,

Victoria Visser
Director, The Science of Knowing Pty Ltd
CONTACT DETAILS FOR THE STANDBY RESPONSE SERVICE

StandBy responds to families, friends and associates who have been bereaved through suicide. StandBy is available to people bereaved by a recent or a past suicide. If you need any support or assistance, feel free to contact the StandBy Response Service in your region.

All StandBy Response Services are available 24-hours, 7 days a week. StandBy currently operates in nine regions across Australia:

- Sunshine & Cooloola Coasts, QLD - Ph: 0407 766 961
- Brisbane, QLD - Ph: 0438 150 180
- Far North QLD - Ph: 0459 299 147
- Canberra & A.C.T. - Ph: 0423 063 839
- Southern Tasmania - Ph: 0400 183 490
- North/NW Tasmania - Ph: 0439 556 660
- Pilbara Region, W.A. - Ph: 0438 611 999
- Broome & West Kimberley, W.A. - Ph: 0458 889 937
- Kununurra & East Kimberley, W.A. - Ph: 0488 910 012
Financial Effects of Suicide Bereavement Study

Please complete and return this survey no later than close of business, Friday, 8th April 2011

Alternatively, complete this survey online at:

www.thescienceofknowing.com.au/study

Researchers

Principal Researcher: Professor Paul Scuffham (Griffith University)
Associate Researchers: Victoria Visser (The Science of Knowing) and Tracy Comans (Griffith University)
Welcome to the Financial Effects of Suicide Bereavement Survey.
Please take the time to read this information before you begin the survey questions.

This survey, which takes between 15 and 20 minutes to complete, is part of a research study called the “Economic Evaluation of the StandBy Response Service”, which aims to estimate the economic costs and benefits of a support service for people bereaved by suicide.

Your answers to the survey questions are completely confidential and will only be seen by the independent researchers undertaking the research. It is mandated by law that we (the research team) are not allowed to disclose your name or answers to any person not directly connected with the research, including the staff or representatives of the StandBy Response Service.

All participants can receive feedback about the research study, if desired. All participants who complete the survey are also eligible to enter the draw for a $100 Coles/Myer gift card. The draw will take place in April 2011 and one participant will be randomly selected to receive the prize.

There is a chance that completing this survey may cause you some distress or upset. If you experience any distress caused by completing this survey, please contact the national Lifeline helpline on 131 114 or the national StandBy Response Service office on 0407 766 961.

Participation in this study is voluntary. Refusal to complete this questionnaire will involve no discrimination, penalty or loss of benefits to which you are otherwise entitled or affect your present or future health care.

If you have read the above information and consent to answering the questionnaire, please complete and submit the survey. If you would like to receive feedback about the research study, please fill in your name and email address at the end of the survey and you will receive feedback by email. If you would like to enter the prize draw, please provide your details at the end of the survey. The winner will be notified by mail.

Please complete this questionnaire only if you are 18 years or older.

This study has been cleared by one of the human ethics committees of Griffith University in accordance with the National Statement on Ethical Conduct in Human Research (2007). You are, of course, free to discuss your participation in this study with the project manager, Victoria Visser (contactable on (07) 5444 6669 or via email at info@thescienceofknowing.com.au). If you would like to speak to an officer of the University not involved in this study, you may contact the Manager of Research Ethics on (07) 3735 5585.
Did you know you can complete this survey online?


### YOUR QUALITY OF LIFE

The following section asks some simple questions about your health and your quality of life in general. By choosing one answer in each group below, please indicate which statements best describe your health and your quality of life today.

<table>
<thead>
<tr>
<th>1</th>
<th>Mobility</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>I have no problems in walking about</td>
</tr>
<tr>
<td>2</td>
<td>I have some problems in walking about</td>
</tr>
<tr>
<td>3</td>
<td>I am confined to bed</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>2</th>
<th>Self-care</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>I have no problems with self-care</td>
</tr>
<tr>
<td>2</td>
<td>I have some problems washing or dressing myself</td>
</tr>
<tr>
<td>3</td>
<td>I am unable to wash or dress myself</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>3</th>
<th>Usual Activities</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>I have no problems with performing my usual activities (e.g. work, study, housework, family or leisure activities)</td>
</tr>
<tr>
<td>2</td>
<td>I have some problems with performing my usual activities</td>
</tr>
<tr>
<td>3</td>
<td>I am unable to perform my usual activities</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>4</th>
<th>Pain/Discomfort</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>I have no pain or discomfort</td>
</tr>
<tr>
<td>2</td>
<td>I have moderate pain or discomfort</td>
</tr>
<tr>
<td>3</td>
<td>I have extreme pain or discomfort</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>5</th>
<th>Anxiety/Depression</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>I am not anxious or depressed</td>
</tr>
<tr>
<td>2</td>
<td>I am moderately anxious or depressed</td>
</tr>
<tr>
<td>3</td>
<td>I am extremely anxious or depressed</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>6</th>
<th>Attachment</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>I can have all of the love and friendship that I want</td>
</tr>
<tr>
<td>2</td>
<td>I can have a lot of the love and friendship that I want</td>
</tr>
<tr>
<td>3</td>
<td>I can have a little of the love and friendship that I want</td>
</tr>
<tr>
<td>4</td>
<td>I cannot have any of the love and friendship that I want</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>7</th>
<th>Security</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>I can think about the future without any concern</td>
</tr>
<tr>
<td>2</td>
<td>I can think about the future with only a little concern</td>
</tr>
<tr>
<td>3</td>
<td>I can only think about the future with some concern</td>
</tr>
<tr>
<td>4</td>
<td>I can only think about the future with a lot of concern</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>8</th>
<th>Role</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>I am able to do all of the things that make me feel valued</td>
</tr>
<tr>
<td>2</td>
<td>I am able to do many of the things that make me feel valued</td>
</tr>
<tr>
<td>3</td>
<td>I am able to do a few of the things that make me feel valued</td>
</tr>
<tr>
<td>4</td>
<td>I am unable to do any of the things that make me feel valued</td>
</tr>
</tbody>
</table>
### YOUR QUALITY OF LIFE (continued)

**Enjoyment**
- □ 1. I can have all of the enjoyment and pleasure that I want
- □ 2. I can have a lot of the enjoyment and pleasure that I want
- □ 3. I can have a little of the enjoyment and pleasure that I want
- □ 4. I cannot have any of the enjoyment and pleasure that I want

**Control**
- □ 1. I am able to be completely independent
- □ 2. I am able to be independent in many things
- □ 3. I am able to be independent in a few things
- □ 4. I am unable to be at all independent

### YOUR HEALTH AND USE OF HEALTH SERVICES

The following section asks some questions about your health and use of health services. Please choose the answer for each question that best describes your opinion or circumstances.

**During the past 4 weeks (28 days), how much of the time did you feel...**

<table>
<thead>
<tr>
<th>Feeling</th>
<th>All of the time</th>
<th>Most of the time</th>
<th>Some of the time</th>
<th>A little of the time</th>
<th>None of the time</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) so sad nothing could cheer you up?</td>
<td>□ 1</td>
<td>□ 2</td>
<td>□ 3</td>
<td>□ 4</td>
<td>□ 5</td>
</tr>
<tr>
<td>b) nervous?</td>
<td>□ 1</td>
<td>□ 2</td>
<td>□ 3</td>
<td>□ 4</td>
<td>□ 5</td>
</tr>
<tr>
<td>c) restless or fidgety?</td>
<td>□ 1</td>
<td>□ 2</td>
<td>□ 3</td>
<td>□ 4</td>
<td>□ 5</td>
</tr>
<tr>
<td>d) hopeless?</td>
<td>□ 1</td>
<td>□ 2</td>
<td>□ 3</td>
<td>□ 4</td>
<td>□ 5</td>
</tr>
<tr>
<td>e) that everything was an effort?</td>
<td>□ 1</td>
<td>□ 2</td>
<td>□ 3</td>
<td>□ 4</td>
<td>□ 5</td>
</tr>
<tr>
<td>f) worthless?</td>
<td>□ 1</td>
<td>□ 2</td>
<td>□ 3</td>
<td>□ 4</td>
<td>□ 5</td>
</tr>
</tbody>
</table>

**Have you ever thought about or attempted to kill yourself?**
- □ 1. Never
- □ 2. It was just a brief passing thought
- □ 3. I have had a plan at least once to kill myself but did not try to do it
- □ 4. I have had a plan at least once to kill myself and really wanted to die
- □ 5. I have attempted to kill myself, but did not want to die
- □ 6. I have attempted to kill myself, and really hoped to die

**How often have you thought about killing yourself in the past year?**
- □ 1. Never
- □ 2. Rarely (1 time)
- □ 3. Sometimes (2 times)
- □ 4. Often (3-4 times)
- □ 5. Very often (5 or more times)

**Have you ever told someone that you were going to suicide, or that you might do it?**
- □ 1. No
- □ 2. Yes, at one time, but did not really want to die
- □ 3. Yes, at one time, and really wanted to die
- □ 4. Yes, more than once, but did not want to do it
- □ 5. Yes, more than once, and really wanted to do it
### Your Health and Use of Health Services (continued)

<table>
<thead>
<tr>
<th>Question</th>
<th>Options</th>
</tr>
</thead>
<tbody>
<tr>
<td>15</td>
<td>How likely is it that you will attempt suicide someday?</td>
</tr>
<tr>
<td></td>
<td>□ 1. Never</td>
</tr>
<tr>
<td></td>
<td>□ 2. No chance at all</td>
</tr>
<tr>
<td></td>
<td>□ 3. Rather unlikely</td>
</tr>
<tr>
<td></td>
<td>□ 4. Unlikely</td>
</tr>
<tr>
<td></td>
<td>□ 5. Likely</td>
</tr>
<tr>
<td></td>
<td>□ 6. Rather likely</td>
</tr>
<tr>
<td></td>
<td>□ 7. Very likely</td>
</tr>
</tbody>
</table>

If you are experiencing any distress caused by completing this survey, or experience thoughts of harming yourself, please contact the national Lifeline helpline on 131 114 or the national StandBy Response Service on 0407 766 961.

<table>
<thead>
<tr>
<th>Question</th>
<th>Options</th>
</tr>
</thead>
<tbody>
<tr>
<td>16</td>
<td>In the past 12 months, did you have a work related accident, injury or poisoning that required medical attention?</td>
</tr>
<tr>
<td></td>
<td>□ 1. Yes</td>
</tr>
<tr>
<td></td>
<td>□ 2. No</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Question</th>
<th>Options</th>
</tr>
</thead>
<tbody>
<tr>
<td>17</td>
<td>How many days of work did you miss in the past 12 months because of a work related accident, injury or poisoning? (If less than 1 day, enter 0)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Question</th>
<th>Options</th>
</tr>
</thead>
<tbody>
<tr>
<td>18</td>
<td>How many times did you see each of the following types of professionals in the past 4 weeks? Include only visits regarding your own health, not visits when you took someone else to be examined. Example: If you visited a dentist 2 times in the past 4 weeks and an optometrist once, your answer to Q18c would be 3.</td>
</tr>
<tr>
<td>a)</td>
<td>A doctor, hospital or clinic for a routine physical check-up or gynaecological exam (not counting pregnancy related care)?</td>
</tr>
<tr>
<td>b)</td>
<td>(Women only) A doctor, hospital or clinic for pregnancy related care</td>
</tr>
<tr>
<td>c)</td>
<td>A dentist or optometrist for a routine check-up or exam?</td>
</tr>
<tr>
<td>d)</td>
<td>A doctor, emergency room or clinic for urgent care treatment (for example, because of new symptoms, an accident or something else unexpected)?</td>
</tr>
<tr>
<td>e)</td>
<td>A doctor, hospital, clinic, orthodontist or ophthalmologist for scheduled treatment or surgery?</td>
</tr>
<tr>
<td>f)</td>
<td>A psychiatrist, psychologist or other mental health professional?</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Question</th>
<th>Options</th>
</tr>
</thead>
<tbody>
<tr>
<td>19</td>
<td>How many nights did you stay in hospital during the past 12 months (not including nights associated with childbirth)?</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Question</th>
<th>Options</th>
</tr>
</thead>
<tbody>
<tr>
<td>20</td>
<td>Have you ever had contact with the StandBy Suicide Bereavement Response Service?</td>
</tr>
<tr>
<td></td>
<td>□ 1. Yes</td>
</tr>
<tr>
<td></td>
<td>□ 2. No</td>
</tr>
</tbody>
</table>
## Your Health and Use of Health Services (continued)

### 21. If you have had contact with StandBy, what type of contact did you have?
(Choose as many as apply)

- [ ] General information
- [ ] Telephone support
- [ ] Outreach intervention (e.g. home/community visit)
- [ ] Referral to other services (e.g. counselling, bereavement support group, accommodation services)

### 22. If you have had contact with StandBy, approximately how long were you in contact with the members of the StandBy team in total?

- [ ] Less than 1 hour in total
- [ ] Between 1 and 2 hours in total
- [ ] Between 2 and 3 hours in total
- [ ] Between 3 and 4 hours in total
- [ ] Between 4 and 5 hours in total
- [ ] More than 5 hours in total

### 23. Which StandBy Response Service have you had contact with?
(Choose as many as apply)

- [ ] Sunshine/Cooloola Coast, Queensland – United Synergies
- [ ] Far North Queensland – Lifeline Far North Queensland
- [ ] North Brisbane, Queensland – Lifeline Brisbane
- [ ] Canberra and A.C.T. – SupportLink Australia
- [ ] Southern Tasmania – Lifeline Hobart
- [ ] North/North Western Tasmania – CLS Inc
- [ ] Pilbara region, Western Australia – Pilbara Health Network
- [ ] East Kimberley region, Western Australia – Anglicare Kununurra
- [ ] West Kimberley region, Western Australia – Anglicare Broome

## Your Work and Usual Activities

The following section asks some questions about your work and other usual activities. Please choose the answer to each question that best describes your opinion or circumstances.

### 24. Please select which employment category you belong to (select one only):

- [ ] Full-time employee
- [ ] Part-time employee  → Please go to Question 25
- [ ] Casual employee
- [ ] Unemployed
- [ ] Retired
- [ ] Homemaker  → Please go to Question 32
- [ ] Student
- [ ] Beneficiary (e.g. disability support)
YOUR WORK AND USUAL ACTIVITIES (continued)

PLEASE ONLY COMPLETE QUESTIONS 25-31 IF YOU ARE CURRENTLY EMPLOYED.
OTHERWISE, PLEASE GO TO QUESTION 32.

25 Please choose the category that best describes your main job or your previous category if you are no longer working. If none of the categories fits you exactly, please respond with the closest category.
(Select only one)

- Executive, administrator or senior manager (e.g. CEO, sales VP, plant manager)
- Professional (e.g. engineer, accountant, systems analyst, doctor, nurse, teacher)
- Technical support (e.g. lab technician, legal assistant, computer programmer)
- Sales (e.g. sales representative, stockbroker, retail sales)
- Clerical and administrative support (e.g. secretary, billing clerk, office supervisor)
- Service occupation (e.g. security officer, food service worker, janitor)
- Precision production and crafts worker (e.g. mechanic, carpenter, machinist)
- Operator and labourer (e.g. assembly line worker, truck driver, construction worker)

26 How many hours does your employer expect you to work in a typical 7-day week?
(If it varies, estimate the average. If more than 97, enter 97.)

27 Now please think of your experiences at work over the past 4 weeks (28 days). In the spaces provided below, enter the number of days you spent in each of the following situations.

<table>
<thead>
<tr>
<th>In the past 28 days, how many days did you…</th>
<th>Number of times</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) miss an entire work day because of problems with your physical or mental health? (Please include only days missed for your own health, not someone else’s health)</td>
<td>_____</td>
</tr>
<tr>
<td>b) miss an entire work day for any other reason (including vacation)?</td>
<td>_____</td>
</tr>
<tr>
<td>c) miss part of a work day because of problems with your physical or mental health? (Please include only days missed for your own health, not someone else’s health)</td>
<td>_____</td>
</tr>
<tr>
<td>d) miss part of a work day for any other reason (including vacation)?</td>
<td>_____</td>
</tr>
</tbody>
</table>

28 About how many hours altogether did you work in the past 4 weeks (28 days)? (See examples below)

Examples for calculating hours worked in the past 4 weeks
- 40 hours per week for 4 weeks = 160 hours
- 35 hours per week for 4 weeks = 140 hours
- 40 hours per week for 4 weeks with 2 8-hour days missed = 144 hours
- 40 hours per week for 4 weeks with 3 4-hour partial days missed = 148 hours
- 35 hours per week for 4 weeks with 2 8-hour days missed and 3 4-hour partial days missed = 112 hours
YOUR WORK AND USUAL ACTIVITIES (continued)

29 The next questions are about the time you spent during your hours at work in the past 4 weeks (28 days).

Select the one response for each question that comes closest to your experience.

<table>
<thead>
<tr>
<th>Question</th>
<th>All of the time</th>
<th>Most of the time</th>
<th>Some of the time</th>
<th>A little of the time</th>
<th>None of the time</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) How often was your performance higher than most workers on your job?</td>
<td>☐ 1</td>
<td>☐ 2</td>
<td>☐ 3</td>
<td>☐ 4</td>
<td>☐ 5</td>
</tr>
<tr>
<td>b) How often was your performance lower than most workers on your job?</td>
<td>☐ 1</td>
<td>☐ 2</td>
<td>☐ 3</td>
<td>☐ 4</td>
<td>☐ 5</td>
</tr>
<tr>
<td>c) How often did you do no work at times when you were supposed to be working?</td>
<td>☐ 1</td>
<td>☐ 2</td>
<td>☐ 3</td>
<td>☐ 4</td>
<td>☐ 5</td>
</tr>
<tr>
<td>d) How often did you find yourself not working as carefully as you should?</td>
<td>☐ 1</td>
<td>☐ 2</td>
<td>☐ 3</td>
<td>☐ 4</td>
<td>☐ 5</td>
</tr>
<tr>
<td>e) How often was the quality of your work lower than it should have been?</td>
<td>☐ 1</td>
<td>☐ 2</td>
<td>☐ 3</td>
<td>☐ 4</td>
<td>☐ 5</td>
</tr>
<tr>
<td>f) How often did you not concentrate enough on your work?</td>
<td>☐ 1</td>
<td>☐ 2</td>
<td>☐ 3</td>
<td>☐ 4</td>
<td>☐ 5</td>
</tr>
<tr>
<td>g) How often did health problems limit the kind or amount of work you could do?</td>
<td>☐ 1</td>
<td>☐ 2</td>
<td>☐ 3</td>
<td>☐ 4</td>
<td>☐ 5</td>
</tr>
</tbody>
</table>

30 On a scale of 0 to 10, where 0 is the worst job performance anyone could have at your job and 10 is the performance of a top worker, how would you rate the usual performance of most workers in a job similar to yours?

<table>
<thead>
<tr>
<th>Score</th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
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<td>☐</td>
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<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td></td>
</tr>
</tbody>
</table>

31 Using the same 0 to 10 scale, how would you rate your overall performance on the days you worked during the past 4 weeks?

<table>
<thead>
<tr>
<th>Score</th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
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<th>10</th>
</tr>
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<td>☐</td>
<td>☐</td>
<td></td>
</tr>
</tbody>
</table>
YOUR WORK AND USUAL ACTIVITIES (continued)

PLEASE ONLY COMPLETE QUESTIONS 32-35 IF YOU ARE NOT CURRENTLY EMPLOYED. OTHERWISE, PLEASE GO TO QUESTION 36, ABOUT YOU.

32 Now please think of your experiences over the past 4 weeks (28 days). In the spaces provided below, enter the number of days you spent in each of the following situations.

<table>
<thead>
<tr>
<th>In the past 28 days, how many days did you...</th>
<th>Number of times</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) miss an entire day of your usual activities (e.g. study, housework, looking after children, other normal activities) because of problems with your physical or mental health? (Please include only days missed for your own health, not someone else’s health)</td>
<td>____</td>
</tr>
<tr>
<td>b) miss an entire day of your usual activities for any other reason (including vacation)?</td>
<td>____</td>
</tr>
<tr>
<td>c) miss part of a day of your usual activities because of problems with your physical or mental health? (Please include only days missed for your own health, not someone else’s health)</td>
<td>____</td>
</tr>
<tr>
<td>d) miss part of a day of your usual activities for any other reason (including vacation)?</td>
<td>____</td>
</tr>
</tbody>
</table>

33 The next questions are about the time you spent during your hours doing usual activities (e.g. study, housework, looking after children, other normal activities) in the past 4 weeks (28 days).

Select the one response for each question that comes closest to your experience.

<table>
<thead>
<tr>
<th>Select the one response for each question that comes closest to your experience.</th>
<th>All of the time</th>
<th>Most of the time</th>
<th>Some of the time</th>
<th>A little of the time</th>
<th>None of the time</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) How often was your performance higher than usual?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>b) How often was your performance lower than usual?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>c) How often did you do nothing at times when you were supposed to be doing your normal activities?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>d) How often did you find yourself not doing your usual activities as carefully as you should?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>e) How often was the quality of your work in usual activities lower than it should have been?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>f) How often did you not concentrate enough on your usual activities?</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>g) How often did health problems limit the kind or amount of work you could do on your usual activities?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

34 On a scale of 0 to 10, where 0 is the worst performance anyone could have at your usual activities and 10 is the best performance anyone could have at your usual activities, how would you rate the usual performance of most people in usual activities similar to yours?

<table>
<thead>
<tr>
<th></th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
</tr>
</thead>
<tbody>
<tr>
<td>On a scale of 0 to 10, where 0 is the worst performance anyone could have at your usual activities and 10 is the best performance anyone could have at your usual activities, how would you rate the usual performance of most people in usual activities similar to yours?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

35 Using the same 0 to 10 scale, how would you rate your overall performance on the days you worked on your usual activities during the past 4 weeks?

<table>
<thead>
<tr>
<th></th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
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<th>10</th>
</tr>
</thead>
<tbody>
<tr>
<td>Using the same 0 to 10 scale, how would you rate your overall performance on the days you worked on your usual activities during the past 4 weeks?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
The following section asks some questions about you and your circumstances. Please select the answer to each question that best represents your situation.

### 36 How old are you? Enter your age in years in the box below.

____________________________________________________________________________________

### 37 Are you male or female?

- [ ] Male
- [ ] Female

### 38 What is your current marital status?

- [ ] Married or cohabiting (de facto)
- [ ] Separated
- [ ] Divorced
- [ ] Widowed
- [ ] Never married

### 39 How many children do you have?

- [ ] None
- [ ] One
- [ ] Two
- [ ] Three
- [ ] Four or more

### 40 What is the highest level of education that you have completed?

- [ ] Did not finish year 10
- [ ] Finished year 10
- [ ] Finished year 12
- [ ] Some tertiary education (University or TAFE)
- [ ] Degree graduate
- [ ] Postgraduate degree

### 41 What is your postcode?

________________________________________________________________________________

### 42 What is the annual income of your household before taxes?

- [ ] Negative or zero income
- [ ] $1-$9,999
- [ ] $10,000-$19,999
- [ ] $20,000-$29,999
- [ ] $30,000-$39,999
- [ ] $40,000-$49,999
- [ ] $50,000-$59,999
- [ ] $60,000-$69,999
- [ ] $70,000-$79,999
- [ ] $80,000-$89,999
- [ ] $90,000-$99,999
- [ ] $100,000-$124,999
- [ ] $125,000-$149,999
- [ ] $150,000-$199,999
- [ ] $200,000 or more
- [ ] Don’t know

### 43 When was your most recent loss through suicide?

- Month: __________________________________________________________________________
- Year: ____________________________________________________________________________

### 44 What was your relationship with the person who died by suicide? The person was your:

- [ ] Partner/spouse
- [ ] Parent (father/mother)
- [ ] Sibling (brother/sister)
- [ ] Child (son/daughter)
- [ ] Close friend
- [ ] Colleague
- [ ] Other relative
- [ ] Other (please specify) ____________________
Thank you for completing this important survey. We appreciate your interest and participation in the study, and we thank you for your time and patience. Your response will be used to better understand the financial effects of suicide bereavement.

Returning your completed survey

Please mail your completed survey by Friday, 8th April 2011 directly to the researchers undertaking this survey at the following reply-paid address:

The Science of Knowing Pty Ltd
Reply Paid 272
Buddina QLD 4575

Alternatively, you can fax your completed survey to (07) 5444 6669.

Feedback about the research study

All participants can receive feedback about the research study, if desired. If you would like to receive feedback about the study, please enter your details below and you will receive feedback by email at the end of the study.

Name: ___________________________________________________________________________

Email address: ___________________________________________________________________________

Prize draw

All participants can also enter to be in the draw to win a $100 Coles/Myer gift card, which can be used at a range of leading retailers. If you would like to enter this draw, please enter your details below. Your details will only be used for the purposes of informing the winner of the result of the draw. They will not be provided to any third party.

Name: ___________________________________________________________________________

Address: ___________________________________________________________________________

City/Suburb: ___________________________________________________________________________

State: ___________________________________________________________________________

Postcode: ___________________________________________________________________________
Appendix D

Copy of amended version of the Community Capacity Index
The Community Capacity Index (CCI)\(^1\) has been designed to help identify the extent of existing capacity available within a network of organisations and groups at the local level. For the purposes of the CCI, community capacity is defined as a collection of characteristics and resources which, when combined, improve the ability of a community to recognise, evaluate and address key problems.

For the economic evaluation of the StandBy Response Service project, the CCI will be used as a tool for gathering evidence about the current level of community capacity within the Reference and/or Steering Committees in each region where StandBy is established. The information gathered will be used to discuss the potential economic benefits and costs of implementing the StandBy Response Service and building a community's capacity to respond to suicide events.

The CCI addresses four key domains of community capacity:

- **Network partnerships** – the relationships between groups and organisations within a community or network. This includes both the comprehensiveness and the quality of the relationships, i.e. are all of the significant groups and organisations involved and what is the nature of their involvement;
- **Knowledge transfer** – the development, exchange and use of information within and between the groups and organisations within a network or community;
- **Problem solving** – the ability of the groups and organisations within the network or community and of the network or community itself to use well recognised methods to identify and solve problems that arise in the development and implementation of an activity or program; and
- **Infrastructure** – refers to the level of investment in a network by the groups and organisations that make up the network. This includes both tangible and non-tangible investments, such as investment in policy and protocol development, social capital, human capital and financial capital.

Each domain is assessed separately on the following pages through a series of indicators. For the first three domains (i.e. network partnerships, knowledge transfer and problem solving), the indicators progress through increasing levels of capacity down each page – first level, second level and third level (see pages 2-4). The final domain, infrastructure, assesses different types of infrastructure down the page (see page 5).

Each indicator statement should be graded according to the four-point scale provided:

- Not at all/very limited;
- Somewhat;
- Substantial;
- Almost entirely/entirely.

Note that to achieve a grade of “almost entirely/entirely”, there must be sufficient evidence to suggest that there is little room for improvement on the indicator.

Please provide any comments, examples or notes at the end of the final page (page 5).

### First Level Capacity

1. There is a reservoir of potential leaders within the community who are available and interested in the community. 
   - Not at all/very limited: ☐  Somewhat: ☐  Substantial: ☐  Almost entirely/entirely: ☐
2. Members of the committee can identify the outcomes the committee desires to achieve. 
   - Not at all/very limited: ☐  Somewhat: ☐  Substantial: ☐  Almost entirely/entirely: ☐
3. Members of the committee can identify the **resources** needed to achieve the desired outcomes and implement StandBy. 
   - Not at all/very limited: ☐  Somewhat: ☐  Substantial: ☐  Almost entirely/entirely: ☐
4. Members of the committee can identify the individuals, groups or organisations **within** the committee with resources necessary to achieve the desired outcomes/implement StandBy. 
   - Not at all/very limited: ☐  Somewhat: ☐  Substantial: ☐  Almost entirely/entirely: ☐
5. Members of the committee can identify the other individuals or groups **outside** the committee with resources necessary to achieve the desired outcomes/implement StandBy. 
   - Not at all/very limited: ☐  Somewhat: ☐  Substantial: ☐  Almost entirely/entirely: ☐

**Aggregate of first level**
The committee has capacity to **identify** the organisations and groups with **resources** to implement/sustain the StandBy Response Service.

### Second Level Capacity

6. There are community members who are already taking on a visible leadership role in community activities. 
   - Not at all/very limited: ☐  Somewhat: ☐  Substantial: ☐  Almost entirely/entirely: ☐
7. Members of the committee can state the benefits for themselves of their own involvement in the committee. 
   - Not at all/very limited: ☐  Somewhat: ☐  Substantial: ☐  Almost entirely/entirely: ☐
8. Members of the committee can describe the benefits **other** members will gain from involvement in the committee. 
   - Not at all/very limited: ☐  Somewhat: ☐  Substantial: ☐  Almost entirely/entirely: ☐
9. Members of the committee have formalised arrangements **within their** group/organisation to implement/sustain StandBy. 
   - Not at all/very limited: ☐  Somewhat: ☐  Substantial: ☐  Almost entirely/entirely: ☐
10. There is tangible evidence the resources have been allocated to StandBy by committee members. 
    - Not at all/very limited: ☐  Somewhat: ☐  Substantial: ☐  Almost entirely/entirely: ☐

**Aggregate of second level**
The committee has capacity to **deliver** the StandBy Response Service.

### Third Level Capacity

11. Existing community leaders have experience, knowledge and skills in capacity building efforts. 
    - Not at all/very limited: ☐  Somewhat: ☐  Substantial: ☐  Almost entirely/entirely: ☐
12. There is tangible evidence of investment in StandBy by groups and organisations **beyond** the original sponsoring group. 
    - Not at all/very limited: ☐  Somewhat: ☐  Substantial: ☐  Almost entirely/entirely: ☐
13. There is tangible evidence that StandBy is now ‘owned’ by the participants of the committee. 
    - Not at all/very limited: ☐  Somewhat: ☐  Substantial: ☐  Almost entirely/entirely: ☐
14. There is tangible evidence that StandBy is being maintained by the committee using its own resources. 
    - Not at all/very limited: ☐  Somewhat: ☐  Substantial: ☐  Almost entirely/entirely: ☐

**Aggregate of third level**
There is a sustainable network established to **maintain** and resource the StandBy Response Service.
## KNOWLEDGE TRANSFER

<table>
<thead>
<tr>
<th>First Level Capacity</th>
<th>Not at all/very limited</th>
<th>Somewhat</th>
<th>Substantial</th>
<th>Almost entirely/entirely</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Members of the committee have identified what resources will be transferred to others <strong>within</strong> the committee.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Members of the committee have identified what resources from <strong>outside</strong> the committee will be transferred to them.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Members of the committee have reviewed and changed the StandBy Response Service so that it meets local needs (i.e. target group needs).</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Members of the committee have reviewed and modified the StandBy Response Service so that it meets the needs of the committee.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Aggregate of first level

The committee has capacity to **develop** a program that meets **local needs**.

<table>
<thead>
<tr>
<th>Second Level Capacity</th>
<th>Not at all/very limited</th>
<th>Somewhat</th>
<th>Substantial</th>
<th>Almost entirely/entirely</th>
</tr>
</thead>
<tbody>
<tr>
<td>5. Members of the committee have implemented some knowledge transfer activities.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Members of the committee have reviewed and changed the StandBy Response Service so that it is evidence based/reflects current good practice.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. Members of the committee have made structural arrangements to support knowledge transfer.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Aggregate of second level

The committee has capacity to **transfer** knowledge in order to achieve the desired outcomes/implement the StandBy Response Service within the committee.

<table>
<thead>
<tr>
<th>Third Level Capacity</th>
<th>Not at all/very limited</th>
<th>Somewhat</th>
<th>Substantial</th>
<th>Almost entirely/entirely</th>
</tr>
</thead>
<tbody>
<tr>
<td>8. Members of the committee have in place mechanisms to obtain feedback about progress towards achieving the desired outcomes/implementing the StandBy Response Service.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. Members of the committee have incorporated StandBy into the mainstream activities of each organisation and group in the committee.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Aggregate of third level

The committee has capacity to **integrate** the StandBy Response Service into the mainstream practices of the committee partners.
# PROBLEM SOLVING

<table>
<thead>
<tr>
<th>First Level Capacity</th>
<th>Not at all/very limited</th>
<th>Somewhat</th>
<th>Substantial</th>
<th>Almost entirely/entirely</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Members of the committee have identified the key players within the committee to problem solve difficulties encountered in achieving the desired outcomes.</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>2. Members of the committee have identified the key players outside the committee to problem solve difficulties encountered in achieving the desired outcomes.</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>3. There is evidence that members of the committee recognise the strengths of key players within the committee.</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>4. Members of the committee can gain agreement to work together to solve problems.</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
</tbody>
</table>

**Aggregate of first level**
There is capacity within the committee to work together to solve problems.

<table>
<thead>
<tr>
<th>Second Level Capacity</th>
<th>Not at all/very limited</th>
<th>Somewhat</th>
<th>Substantial</th>
<th>Almost entirely/entirely</th>
</tr>
</thead>
<tbody>
<tr>
<td>5. Members of the committee can gain agreement to work with others outside the committee to solve problems.</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>6. There is evidence that members of the committee recognise the strengths of those both within and outside the committee.</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>7. Members of the committee have adopted a well-recognised problem solving process.</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>8. Members of the committee have moved from identifying problems to implementing activities designed to overcome problems within the committee.</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
</tbody>
</table>

**Aggregate of second level**
There is the capacity to identify and overcome problems encountered in achieving the desired outcomes.

<table>
<thead>
<tr>
<th>Third Level Capacity</th>
<th>Not at all/very limited</th>
<th>Somewhat</th>
<th>Substantial</th>
<th>Almost entirely/entirely</th>
</tr>
</thead>
<tbody>
<tr>
<td>9. There have been demonstrations of problem solving across the committee partners.</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>10. There is evidence of flexibility in problem solving across the network.</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
</tbody>
</table>

**Aggregate of third level**
There is capacity to sustain flexible problem solving.
### Infrastructure

<table>
<thead>
<tr>
<th>Policy Investments</th>
<th>Not at all/very limited</th>
<th>Somewhat</th>
<th>Substantial</th>
<th>Almost entirely/entirely</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Members of the committee invest their own resources so that adequate StandBy related policies and plans are developed for the whole committee.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Members of the committee are able to identify the benefits from their investment in StandBy related policy development.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Aggregate of policy investment**

The committee has capacity to develop StandBy related policy capital.

<table>
<thead>
<tr>
<th>Financial investments</th>
<th>Not at all/very limited</th>
<th>Somewhat</th>
<th>Substantial</th>
<th>Almost entirely/entirely</th>
</tr>
</thead>
<tbody>
<tr>
<td>3. Members of the committee invest resources so that the committee can determine the costs and benefits of participation in the committee.</td>
<td></td>
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</tr>
<tr>
<td>4. Members of the committee invest financial resources in the committee to maintain a partnership approach to StandBy implementation.</td>
<td></td>
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</tr>
</tbody>
</table>

**Aggregate of financial investment**

The committee has capacity to develop financial capital.

<table>
<thead>
<tr>
<th>Human / Intellectual investments</th>
<th>Not at all/very limited</th>
<th>Somewhat</th>
<th>Substantial</th>
<th>Almost entirely/entirely</th>
</tr>
</thead>
<tbody>
<tr>
<td>5. Members of the committee invest in helping emerging leaders develop necessary experience and skills.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Members of the committee invest in education and training of committee members to facilitate the achievement of committee objectives.</td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>7. Members of the committee can identify returns on investment in education and training.</td>
<td></td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

**Aggregate of human/intellectual investment**

The committee has capacity to develop human/intellectual capital.

<table>
<thead>
<tr>
<th>Social investments</th>
<th>Not at all/very limited</th>
<th>Somewhat</th>
<th>Substantial</th>
<th>Almost entirely/entirely</th>
</tr>
</thead>
<tbody>
<tr>
<td>8. Members of the committee invest in developing and maintaining social relations between the members of the committee.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. There is evidence of responsiveness to the concerns of other partners in the committee.</td>
<td></td>
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</tbody>
</table>

**Aggregate of social investment**

The committee has capacity to develop social capital.

**Comments, examples and notes:**

_______________________________________________________________________________________________

_______________________________________________________________________________________________

_______________________________________________________________________________________________

_______________________________________________________________________________________________

_______________________________________________________________________________________________

_______________________________________________________________________________________________
Appendix E

The Rural, Remote and Metropolitan Areas (RRMA) classification
The Rural, Remote and Metropolitan Areas (RRMA) classification divides Australia’s states and territories into metropolitan, regional, rural and remote zones.

**Metropolitan areas**

**RRMA 1 - Capital cities**
e.g. Melbourne Vic; Sydney NSW; Brisbane Qld; Adelaide SA; Perth WA; Hobart Tas; Canberra ACT; Darwin NT

**RRMA 2 - Other metropolitan centre / urban population > 100 000**
e.g. Geelong Vic; Queanbeyan NSW; Newcastle NSW; Townsville Qld; Gold Coast Qld.

**Rural zone**

**RRMA 3 - Large rural centre / urban centre population 25 000 - 99 999**
e.g. Shepparton Vic; Lismore NSW; Mackay Qld; Launceston Tas; Whyalla SA.

**RRMA 4 - Small rural centre / urban centre population 10 000 - 24 999**
e.g. Armidale NSW; Albany WA; Caloundra Qld; Devonport Tas; Mount Gambier SA; Mildura Vic.

**RRMA 5 - Other rural area / urban centre population < 10 000**
e.g. Swan Hill Vic; Batemans Bay NSW; Ayr Qld; St Helens Tas; Busselton WA; Port Vincent SA.

**Remote zone**

**RRMA 6 - Remote centre / urban centre population > 5000**
e.g. Mt Isa Qld; Alice Springs NT; Kalgoorlie WA.

**RRMA 7 - Other remote centre / urban centre population < 5000**
e.g. Kununurra WA; Birdsville Qld; Carrieton SA; Strahan Tas; Katherine NT; Murrayville Vic.

This information is provided as a guide only.

References


68. Australian Institute of Aboriginal and Torres Strait Islander Studies, Guidelines for Ethical Research in Indigenous Studies, Australian Institute of Aboriginal and Torres Strait Islander Studies, Editor.
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Phone: +61 7 5442 4277
Email: LWherrett@unitedsynergies.com.au

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