Australian Institute for Suicide Research and Prevention

National Centre of Excellence in Suicide Prevention

WHO Collaborating Centre

for Research and Training in Suicide Prevention

A Submission to

the Australian Parliamentary Inquiry

"Suicide in Australia"

conducted by the Senate Community Affairs

References Committee

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FOREWORD

Suicide is a tremendous human tragedy. The World Health Organization reports that, globally, more people die by suicide than from armed conflicts or traffic accidents. This is also true in Australia as suicides outnumber deaths from motor vehicle accidents.

The Australian Institute for Suicide Research and Prevention (AISRAP) is based at Griffith University, Brisbane, Queensland. Its research aims to better understand the causes of and motivations behind self-harming and suicidal behaviours and the ways in which they can be most effectively prevented. AISRAP's Director and Professor of Psychiatry, Diego De Leo, is an internationally renowned expert in suicide and suicide prevention. Research and academic staff members comprise a multi-disciplinary team from the health and social sciences. Thus, different disciplinary perspectives are brought to bear on the important problem of suicide, and suicidal behaviour more generally.

Through the knowledge gained from its research, AISRAP informs suicide policy at community, state, national and international levels. Furthermore, the Institute manages the Queensland Suicide Register (QSR). This is the only comprehensive suicide database in Australia and the Asia-Pacific region. This unique database includes information from three sources: post-mortem forms, toxicology report, and "Form 1" which includes the psychological autopsy report. It is a unique dataset and is central to AISRAP's research.

In addition, since 2001, AISRAP has provided tertiary education in suicidology: it offers several postgraduate programs, i.e. the Graduate Certificate in Suicide Prevention, the Master of Suicidology, and the Master of Suicidology (Honours). These postgraduate programs were the first of their kind in the world in 2001. Indeed, they remain the only tertiary-based suicide prevention programs in Australia. Offered in both on-line and on-campus modes, these programs target a wide range of professionals and specialists from a wide variety of fields including health, education, welfare, emergency services, youth and community sectors. Doctoral candidature is also offered. Furthermore, since 2000, AISRAP has conducted Suicide Prevention Skills Training workshops for community workers and professionals, including specialist and targeted in-service sessions.

In 2004, AISRAP opened the Life Promotion Clinic. This was the first outpatient facility in Australia which focused on providing specialist treatment to people with recent suicidal behaviour.

A more detailed account of AISRAP can be found in Appendix I, which includes AISRAP's role in suicide prevention and research activities. In addition, Appendix II lists research publications since 1997.

The work of Professor Diego De Leo and AISRAP has been recognised in several important ways. Since 2005, the Institute has been a World Health Organization Collaborating Centre for Research and Training in Suicide Prevention. In 2008, AISRAP became a National Centre of Excellence in Suicide Prevention appointed and funded by the Commonwealth Department of Health and Ageing.

AISRAP's Submission is based on its predominant position in suicide research and prevention in Australia. Our Submission will not only highlight AISRAP's current contributions to knowledge gained from research completed in suicide research and prevention but will also highlight the remaining gaps and unanswered questions.

This Submission was, in large part, written by Darrel Doessel, Urska Arnautovska and Jacinta Hawgood. However, all AISRAP staff made suggestions on content: thus it has been a genuinely collaborative effort.

Dr Kairi Kõlves

Acting Director
Australian Institute for Suicide Research and Prevention

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- Queensland Health
- Queensland Office of State Coroner
- Queensland Police Service
- The Diversity Health Institute
- The Transcultural Mental Health Centre (NSW)
- World Health Organization

We would also like to thank all partners, collaborators and contributors of our past and current research projects.

We apologise in advance to any organisation which has inadvertently been omitted.

INTRODUCTION

The contents of this "Introduction" are of two quite different types. First, there is a section headed "The State of Affairs". This section presents **three general points** about the state of suicide research and prevention in Australia. The three general points (or themes) are illustrated (or implied) throughout the AISRAP Submission. Second, there is a short section with the heading "Perspectives".

The state of affairs

First, "official" data on suicide, compiled and published by the Australia Bureau of Statistics (ABS), have become quite misleading as a "measuring rod" of the size of the societal problem of suicide. The ABS data have significantly **underestimated** the number of suicides (a problem which ABS themselves now openly acknowledge). A serious by-product of this significant underestimation has been **complacency**: there has been a **false implication** that various suicide prevention programs have been successful or efficacious, and further, that the national suicide prevention strategies (the 'youth strategy' of 1995-2000, and the 'whole of lifespan strategy' of 2000-2006) have had significant positive impacts on reducing suicide rates. Our submission covers this issue more comprehensively under Term of Reference (B).

Second, despite the National Mental Health Strategy and the National Drug Strategy (the two other Australian programs concerned with Australians' mental health and well being), the public system of mental health care in Australia is deficient. That system has been well-described by the title of the 2005 Mental Health Council of Australia report, *viz. Not for Service: experiences of injustice and despair in mental health care in Australia.* (The phase, *Not for Service* was taken from a health service provider's notation on the file of a mentally ill client of a public mental health system in one of Australia's largest states.) **It is people exposed to the risk of suicide who become the first victims of this inadequate system**. Our Submission illustrates this long run problem in several places, and makes constructive reform proposals. Terms such as "gaps" in service provision and the common term in the economic literature, *viz.*, "government failure", are employed.

Third, the various policy documents associated with the National Suicide Prevention Strategy "look good": however, there is a large chasm between **the ideal** and **the reality** out there in the Australian community. Put bluntly, little attention has been paid to "outcome evaluation" in suicide prevention, and even process evaluation has been extremely limited. Thus it is a false assumption to claim that any reduction in suicide rates is causally related to the strategy, or that there has been any success gained from the strategy. Are we getting closer to preventing suicide? We believe the answer is "yes", but it is a slow and complex journey of enquiry, one which to be successful requires well, and continuously, funded, longitudinal research into suicidal behaviour. Our submission covers this issue more comprehensively under Term of Reference (G).

At a general level, the various issues subsumed under the term "the problem of suicide" are long-standing. Thus, this is a problem that is **not self-correcting**: the solution to "the suicide problem" requires long run, dedicated work by competent people. AISRAP, in one Australian city, employs a small number of professionals in suicide research and prevention. It may be argued by those suffering from suicidal behaviour and/or the loved ones of those bereaved by suicide, that our research efforts are of little value to them (especially in the short term). Apart from the need to educate the general public about the importance of, and need for, suicide research, there is a critical need to fund more research and suicide researchers on a much larger scale in order to more rapidly achieve the goal of "saving lives".

Furthermore, the poor state of evaluation of the National Suicide Prevention Strategy can be partly explained by the serious lack of knowledge of program operators on how to evaluate suicide prevention programs. A further complication is associated with the difficulties in attracting and recruiting academic staff to the field of suicidology. Governments are reluctant to make long term commitments of research funds to suicide research: the ethos of "chasing the next grant" is not conducive to attracting, and keeping, researchers. One mechanism that has been employed at AISRAP has been to "import" suicidologists from various countries with differing cultural traditions. On the one hand, the reluctance of governments to fund suicide research may be associated with decision-makers' complacency towards suicide; on the other hand, stigma surrounding suicide still exists (albeit much less than several decades ago). In

addition, public support is not necessarily easily gained when funds are directed to a small portion of the population.

Perspectives

Bibliographic details of works cited in this Submission will be collected at the end of each section of the Submission. The sections will follow the order of the Terms of Reference given to the Committee by the Australian Senate.

The role of AISRAP and its activities in recent years are described in Appendix I at the end of this Submission. Appendix II lists publications by AISRAP staff since 1997.

This Submission, in large part, concentrates on the contribution in Australia by AISRAP to suicide research and prevention. It does not purport to cover all issues associated with this important social issue. Given AISRAP's numerous publications (refereed books, journal articles and governmental reports), AISRAP can speak with authority on the issues it has researched.

However, it would also be appropriate for AISRAP's Director, Professor Diego De Leo, to present verbal evidence to the Committee on numerous other issues of concern to the Committee. He has a world-wide reputation in suicide research and prevention, and his voice is one of renowned authority on this topic.

SECTIONS OF AISRAP'S SUBMISSION

As pointed out in the Introduction of this Submission, AISRAP will report on suicide research and prevention activities in which it has confidence (as established by peer review).

For ease of reading, the sections of this Submission will follow the Terms of Reference given to the Committee by the Senate of the Australian Parliament. There is no text in this Submission on Term of Reference (D).

A summary statement of AISRAP's activities is given in Appendix I at the end of this Submission. This Appendix, titled "AISRAP's Role in Suicide Research and Prevention", lists activities since 1997. Appendix II ("AISRAP's Record of Publications") lists AISRAP's publications since 1997.

TERM OF REFERENCE (A)
THE PERSONAL, SOCIAL AND FINANCIAL COSTS OF SUICIDE IN AUSTRALIA

PERSONAL COSTS

The personal costs of suicide are manifested by a variety of feelings including grief, loss, sadness, shock, disbelief, anger, guilt and stigma, to mention but a few. Such feelings are experienced not only by those who take their own lives (Shneidman (1996) calls the feelings leading up to a suicide "psychache"), but are also experienced by the "survivors", i.e. the immediate family, relatives and friends of the deceased. Such costs are not simply related to suicides, but also to those who engage in non-fatal suicidal behaviours, such as an attempt of suicide.

AISRAP staff members are often in touch with people who bear these personal costs, but these impacts on survivors have not been a specific subject of study or intervention to date in Australia. This is not to imply that these matters are unimportant. On the contrary, for AISRAP this is an important **gap** that needs to be addressed: hence this explains AISRAP's most recent research application (in 2010) to the Australian Research Council for a study on "bereavement", entitled "*Suicide Bereavement: Survivors in Australia*". AISRAP is aware of this very human dimension to the study of suicide.

Survivors of suicide are not, by any means, small in number, nor are the impacts of suicide trivial or transitory. It has been suggested that, associated with every suicide, there are six survivors who are intimately affected: and even this number, it is argued, is conservative (Wong *et al*., 2007). Based on this conservative estimate there are more than 12,000 **newly-bereaved survivors** in Australia each year. Furthermore there is empirical evidence (from overseas studies) that indicates the negative effects on survivors. The evidence relates to a heightened risk of depression (Brent & Melhem, 2008), post-traumatic stress disorder (Dyregrov *et al*., 2003), anxiety (Cerel *et al*., 1999), and alcoholism (Brent *et al*., 2009). It has also been shown that survivors not only experience common manifestations of bereavement (e.g. confusion, sadness, guilt, anger) but may also be burdened by feelings of responsibility and rejection (Bailey *et al*.,

1999) and shame (Grad & Zavasnik, 1999). In addition, the survivors often have to confront stigma (Feigelman *et al*., 2009) and being isolated from their social networks (Jordan, 2001).

Although dealing with the families and friends of people who take their own lives is not a central part of AISRAP's work, it is an important part of undertaking psychological autopsies (the psychological autopsy, a very important activity for AISRAP, will be discussed in a later part of this Submission). In this vein, AISRAP has contact with those who are subject to bereavement from suicide. There is some evidence that interviewees for psychological autopsies obtain therapeutic benefit from their participation (Henry & Greenfield, 2009). Thus, as part of its collection processes for the Queensland Suicide Register, AISRAP has, indirectly, assisted our interviewees to find meaning, purpose and support in this difficult time of their lives.

The personal costs of suicide are captured in a recent book by De Leo (2010), i.e. *Turning Points; an extraordinary Journey into the Suicidal Mind*. Told in the form of letters (and one tape recording), twelve life stories disclose the complex nature of suicidal behaviour and the underling suffering of people who survived their suicide attempts. Often, these people have been the "survivors" of a completed or attempted suicide, of a significant other, such as a parent. The examples confirm the power of "learning" suicide as a problem-solving strategy as emphasized by Joyner (2005). The visions of a suicided mother (or any other key person), although sometimes dysfunctionally repressed, can never be deleted from a person's memory and therefore can beset and haunt the "survivor" for decades. The stories, followed by the accompanying comments from Professor De Leo, also reveal the costs of suicidal behaviour carried by those in the close *milieu* of a suicidal person. The effects on a "survivor" can have particularly crucial and long-lasting negative consequences if the experience happens in early childhood or adolescence.

It is also relevant to observe that AISRAP is about to commence an ARC-Linkage project entitled "Trends and Predictors of Suicide in Australian Children". Child suicide is a relatively neglected area in suicidology, and there are no prior Australian studies. An important component of this project is to employ **a more sophisticated psychological autopsy process.** In addition to AISRAP's standard psychological autopsy process, parents and teachers will be interviewed to

provide comprehensive contextual information for each case. As a by-product of our innovative use of the psychological autopsy process in this study, the interviewees of this particularly difficult dimension of suicide will gain some therapeutic benefit. Furthermore, another component of the study will be concentrating on the effects of the child's suicide on the parent survivors. In particular, using standard instruments, (the Grief Experience Questionnaire, and the Beck Depression Inventory), the objective is to analyse the grieving process (or bereavement) for the parent survivors. An important characteristic of this part of the study is the use of standard instruments, the absence of which has plagued prior psychological autopsy studies (Pouliot & De Leo, 2006).

It is, of course, highly likely that the Senate Committee will receive many personal accounts of this human dimension of suicide, via the witness of family members who have suffered the traumas of suicide. AISRAP cannot contribute to such heart-rending accounts of this effect of suicide. However, it is relevant to observe that this issue, raised in the Terms of Reference for the Senate's 'Inquiry into Suicide in Australia', lies at the heart of a major AISRAP initiative: **the Life Promotion Clinic**.

It needs to be stated clearly that AISRAP, although not providing assistance to bereaved family and friends of those who have taken their own lives, does provide assistance and help to another group of people, i.e. those who have **attempted suicide**. Some years ago (2004), AISRAP established, and has been continuously running since then, the Life Promotion Clinic. This is the first outpatient clinic in Australia to provide specialised treatment for people with a history of suicidal behaviour. The primary goal of the Clinic is to reduce morbidity and mortality associated with suicidal behaviours. Referrals are accepted from Queensland public mental health services, e.g. Community Mental Health Services, public hospitals etc.

The Life Promotion Clinic, in the period 2004-2007, was funded by donations from members of the Community Action for the Prevention of Suicide, and other private donors. (The Clinic has no dedicated recurrent funding from the Queensland or the Australian Government: accommodation is provided by Griffith University.) Community donations are needed for the Clinic to address adequately the increasing demand for practical suicide prevention services.

Gaps in the health system

In a sense, the Life Promotion Clinic shows up a "gap" in Australia's system of health funding and the provision of health services. In large part the hospital Medicare system provides "cure" for acute illness: anything over the "35-day limit" has to "go away" as it is no longer regarded as "acute". Similarly, the provision of primary care (under fee-for-service Medicare) is largely concerned with acute, or episodic, illnesses. The Australian Government has had to address chronic medical conditions in a special fashion. People with a history of suicide attempts can be described as having chronic "psychache", to use Shneidman's term (Shneidman, 1996). "Psychache" is Shneidman's general term for the condition of mental, psychological or emotional **pain** brought on by various factors, such as mental disorders etc: it is that which people contemplating suicide will "go away" with suicide. The provision of services under the Medicare system does not fit such people well. How do we comprehend such gaps?

There is an extensive literature in economics concerned with "market failure" (Bator, 1958); much of government regulation and the provision of public goods can be explained by market failure, i.e. the private sector not producing goods and services that people desire, e.g. national defense, law and order etc. An example of market failure in the health sector is the case of inoculations for an infectious disease. People (and firms) make decisions about this product on the basis of their own interests, and take no account of the benefits that accrue to other people, i.e. the social benefits. The market fails in the sense that too few inoculations are produced and consumed. However, there is another phenomenon, less discussed, entitled "government failure" (Wolf, 1979; Le Grand, 1991; Tullock *et al.*, 2002). Charitable behaviour by private agencies (religious hospitals etc.) in the health sector has often been described as a manifestation of market failure (Arrow, 1963). Yet we have here, a non-government, non-Medicare organization, the Life Promotion Clinic, providing services that are not produced under the Medicare system. This can be described as a "government failure", or a "Medicare failure".

Government's failure, first described by the public choice school in economics, refers to the cases where government actions do not provide the goods or services that people want. In the public choice formulation this arises from politicians and bureaucrats pursuing their own interests, notwithstanding their rhetoric about acting in "the public interest". Generally,

governments can produce goods or services, and raise taxation revenue to subsidise some goods and services, and engage in regulation to ensure the quality of the goods and services produced. Governments can "make mistakes" in one or more of these three activities. These three methods can be seen at work in the Australian health system. State governments own and operate public hospitals that produce hospital-based services, which are then provided to Australian citizens and permanent residents at zero prices. Both Australian Government taxes, and the taxation revenues of the states and territories, are used to produce these hospital-based services. Also, subsidies are used to decrease the prices (often to zero, under Medicare's bulk billing arrangements) of privately-provided medical services produced by GPs and medical specialists. And regulation can be used, *inter alia*, to ensure qualifications of medical personnel. But such arrangements may have "gaps": dental services may be excluded from insurance coverage, and hence oral health will be (relatively) neglected. Thus there is a government failure in that the coverage of **all relevant health conditions** is incomplete. In other words the funding and provision of health services, or the health system's architecture, is flawed because of the government's inadequate design of the system.

The design flaw in Australia's health system that is central to assisting people who have attempted to take their own lives, is that they "fall between the cracks" of a system that makes some sharp distinctions between "acute" medical conditions and "chronic" medical conditions. (This design flaw has been in Medicare since its inception in February 1984, as well as in its predecessor, the 1975 Medibank system. The architects of Medibank/Medicare, Richard Scotton and John Deeble (1968), were concerned with "the big picture", not small groups that "fall between the cracks".) See also Scotton and Macdonald (1993). In large part, the hospital-based Medicare system and the subsidised fee-for-service system are designed to address acute medical conditions. Chronic conditions requiring institutional care, in large part, are handled by Australia's system of nursing homes.

Belated recognition of how the individualistic (and isolated) environment of fee-for-service general practice was not conducive to cooperative activities, which could improve integration with other elements in the health system, lead to the formation of the nation-wide system of Divisions of General Practice, announced in the 1992-93 Australian Government budget. This

development, following on from the Register of General Practice, was a major innovation in Australia's medical landscape.

Structures such as the GP Divisions, with the emphasis on the health of the community, have had an effect of "breaking-up" the fixed fee-for-service structure, to some extent. The reference here is to the advent of "blended payments" being incorporated into the Medicare system. "Blended payments" are in addition to fee-for-service payments to GPs: they are made when GPs achieve specified targets for child immunization, screening for early detection of disease etc.

However chronic medical conditions are not confined to those which require institutional care, i.e. nursing homes. Typical examples of chronic medical condition include asthma, cancer, cardiovascular disease, diabetes mellitus, musculoskeletal conditions, strokes etc. These conditions do not lend themselves to a one-off, uncoordinated approach to therapy or management.

One development was the adoption of the **National Chronic Disease Strategy** by the Australian Health Ministers' Conference in 2005 (National Health Priority Action Council, 2006). This was a nationally-agreed plan to encourage a coordinated approach to the increasingly important effects of chronic diseases on Australians' health. The strategy identified a number of national Health Priority Areas: arthritis and musculoskeletal conditions; asthma; cancer control; cardiovascular health; injury prevention and control etc. (Mental health was not included.) But more important was the institutional response of the Department of Health and Ageing by introducing new "Chronic Disease Management" Items into the *Medicare Benefits Schedule Book*. There are now six Items that financially renumerate GPs to manage chronic (or terminal) medical conditions by preparing, coordinating, reviewing or contributing to Chronic Disease Management Plans. In addition, eligible patients are entitled to claim for allied health services as well as Practice Nurse monitoring and support.

Another example of how the existing structure of the health system does not serve well a particular group of the population is that of people with intellectual disability. The general health needs of this small sub-set (about one per cent of the population) has not been well-served by the

prevailing general structure of the health system. However, recently two new Items (Item 718 and Item 719) were introduced into the Medicare Payment System for GPs to undertake the Comprehensive Health Assessment Program (CHAP) for people with intellectual disability. This is a clear example of how the health system can be changed to address a "gap", or a "government failure" in the design of the health system.

These are but several examples of how the health sector has been changed by governmental policy to address specific health issues. In addition it is useful to consider the supply of health services in rural areas. Rural populations, generally, experience low availability of health care and there are approximately 66 current Australian Government specific rural health programs, largely because mainstream programs do not address well the needs of rural and remote communities (Quoted in McGrail & Humphreys, 2009).

It is important to recognize that there are "gaps" in the existing structure of Australian's health system when it comes to the issue of suicide. However, the implication of the argument here is that the health system "evolves" and some "gaps" are addressed. The Life Promotion Clinic has been created to fill a "gap". It should not be thought that this is the only "gap", or government failure. Another "gap", relevant to people who have attempted suicide, is highlighted in the discussion of Term of Reference (G) below.

It is very relevant to ask the following question: why should a research institute (AISRAP at Griffith University), operate an organisation such as the Life Promotion Clinic? Is it a university's role to fix an imperfect health system?

The short answer to this question is "no". The functions of the university are to teach, and to do research. **But some relevant research for AISRAP cannot be done because there is a gap in the structure of health services in Australia**. The Life Promotion Clinic is a manifestation of a university filling a **gap** in the health system. And AISRAP fills this **gap** because of our objective to undertake **evidence-based research**. Another example of an important **gap** in suicide-relevant services is discussed in Term of Reference (G), as pointed out above.

It is useful to ask how these changes (or reforms) to the health system "come about". The decision to create Divisions of General Practice in the early 1990s can be interpreted as the result of the pressure-group activities (over many years) of the Royal Australian College of General Practitioners, the peak body concerned with professional issues and standards for the practice of medicine at the primary care level in Australia.

On the other hand, the addition to the *Medical Benefits Schedule* of the two Items (Item 718 and Item 719) for people subject to intellectual disability can be explained by the traditional **research** activity of a university. Professor Nick Lennox, (Director of the Queensland Centre for Intellectual and Developmental Disability at The University of Queensland), *inter alia*, advocated for this reform as a result of an empirical evaluation of the Comprehensive Health Assessment Program in a randomized trial setting (Lennox *et al.*, 2007).

Thus, it would be useful if the Senate Committee would highlight these gaps in Australia's health services (relevant to suicide), and advocate that the state and territory governments address them.

SOCIAL COSTS

For the purpose of this Submission, AISRAP will take the term "social costs" of suicide to encompass the issue of measuring the size of this societal *problem* or *issue*. The Committee will be aware that the national government, and the governments of the states/territories regard suicide as a major social problem: this underlies the development (and revision) of (initially) a youth suicide program, and subsequently the adoption of the National Suicide Prevention Strategy (NSPS). Submissions by governments to the Committee are likely to elaborate this governmental response. AISRAP staff contribute to these developments by membership of committees, and undertaking some work associated with the NSPS. Of course, the NSPS is a community response to reduce the costs of this major social problem.

But, our focus here will be to provide the Committee with data that puts suicide in perspective. A question that may lurk at the back of people's minds is as follows: "how large is this social problem?" To ask this question involves other questions, such as "how do we **measure** this

problem?" "What do time-series statistics show us?" "Is 'the problem' becoming larger or smaller?" "Are our current interventions working?" Answers to such questions require an appropriate **measuring rod** (to use a much-quoted expression by the English economist A.C. Pigou, 1932).

The most-used method of measuring suicide is to **count** the number of deaths associated with this particular "cause of death". The previous sentence implies that all deaths have an associated "cause": in fact all deaths are coded by reference to a World Health Organization classification system entitled the *International Classification of Diseases and Causes of Death*, which is often referred to simply as "the ICD". This classification has been revised many times over the years, and the current version is the tenth "edition" or "revision", and is commonly described as "the ICD". Data on suicide are coded from an ICD chapter entitled "External Causes of Death".

The Australian Bureau of Statistics (ABS) is responsible for publishing Australia's mortality data. Some of its recent publications are *Deaths, Australia 2008, Causes of Death, Australia 2007*, etc. In addition the ABS has published specific studies such as *Suicides, Australia, 2005*.

It is not AISRAP's role here to describe the procedures by which Australian suicide data are compiled and published. (A brief account will be given in our discussion of Term of reference B.) AISRAP has long been critical of the accuracy of ABS data on suicide, for example De Leo, *et al.* (2006) and De Leo (2007). Essentially, the quality of Australia's official suicide data has been affected by various practices in data collection: those practices have resulted in underestimation of suicide, particularly since 2002 (De Leo *et al.*, 2006). The ABS has been aware of this problem for some time and has issued a "Caution" in the "Explanatory Notes" that accompany the annual publication of suicide data. The ABS "Caution" reads as follows:

The level of recorded deaths to suicide, and observed changes over time, are likely to have been affected by [coronial] delays in finalizing a cause.

AISRAP's Director, Professor Diego De Leo, has been not simply critical of ABS procedures, but has been constructively pointing out the necessary administrative reforms to improve the

quality of ABS data. The **empirical** basis of his critique of the quality of ABS data lies in the **alternative** data set on suicide in Queensland, the Queensland Suicide Register (QSR), compiled and published by AISRAP since 1990. In addition, a recent Australian Institute of Health and Welfare (AIHW) study undertook a 're-count' of ABS suicide data for a single year (2004) and determined that the **underestimation** of suicide for that year was **16 percent** (Harrison *et al.* 2009). Thus there are now two **empirically based** critiques of the accuracy of ABS suicide data. See also Walker *et al.* (2008) and Elnour and Harrison (2009).

Following the various criticisms of its procedures, the ABS established a Suicide Coding Review Group (Professor De Leo being a member of this Group) in 2006 to advise on coding and collection problems. In March 2009, the ABS announced changes to its processes of coding and publishing suicide deaths (ABS, 2009) which are outlined in *Technical Note 1: ABS Coding of Suicide Deaths.* A very important **procedural change** was that **revisions** of suicide data would now be undertaken. It should be observed that data revision by the ABS is commonplace in demography (particularly after the five-yearly Census of Population and Housing), and all economic data sets (of national accounting concepts e.g. Gross Domestic Product, GDP), government expenditure and taxation revenue, values of imports and exports etc. That ABS *Cause of Death* data will now be subject to revision involves this data set being subject to the **same** process that is common practice elsewhere in the ABS.

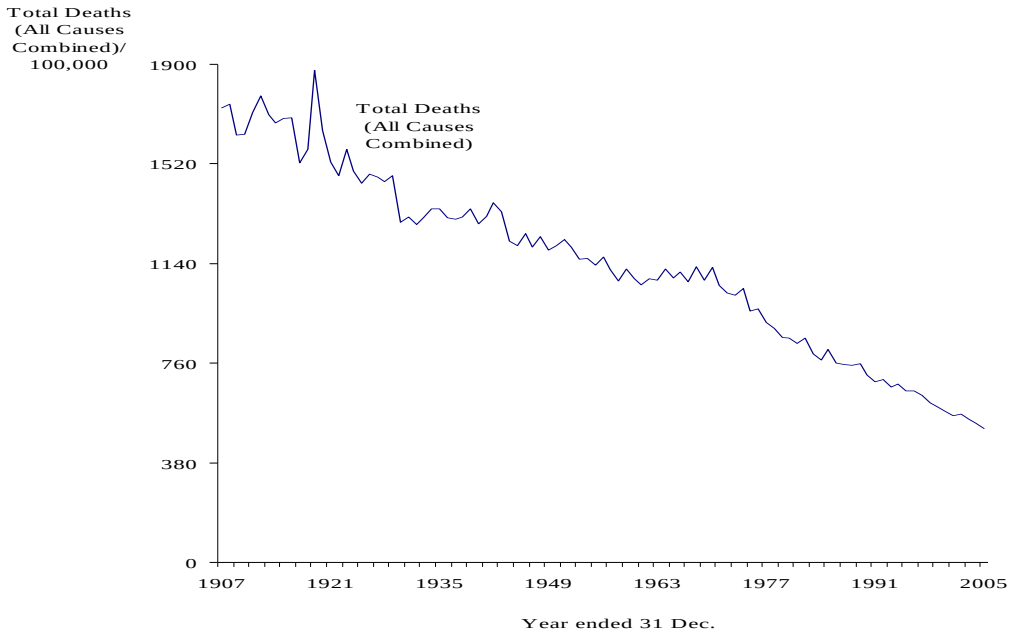
The committee should be aware that this underestimation is not trivial: research recently completed at AISRAP (William *et al.,* 2010) shows clearly that the underestimation of suicide in Queensland by the ABS involved **statistically significant differences** in comparison with an alternative data set, the Queensland Suicide Register, which was briefly mentioned above. This Submission will make constant reference to this **unique** data set as it provides data that enables important suicide research to be undertaken. Much research, carried out by AISRAP, uses this data set: the QSR can provide answers to questions on which the ABS data is silent!

The Committee should also be aware that the underestimation of suicide by the ABS is **policy-relevant**. As pointed out briefly above, that is a nation-wide, all-of-government National Suicide Prevention Strategy being implemented in Australia. The **evaluation** of that program is

problematic given the inaccuracy of published ABS data. We continue our discussion of "social costs" by considering a conventional **measure** of deaths.

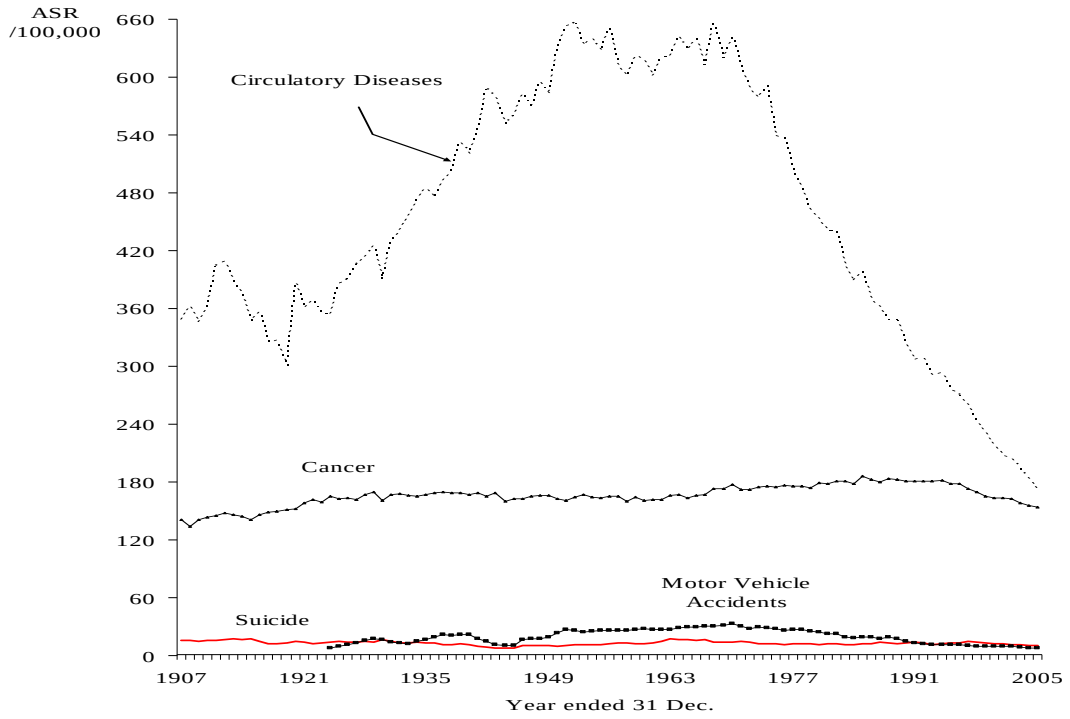
Employing count data

A conventional way of measuring deaths, as mentioned briefly above is to employ count data, i.e. the number of recorded deaths. This process can be followed for individual causes of death, or all causes of death combined. For any time-series analysis, age-standardised rates (per 100,000 people) are typically calculated. Figure 1 shows the *All Causes Mortality Rate* for Australia from 1907 to 2005. The graph shows a secular decline from approx. 1900 deaths per 100,000 to approx 500 deaths per 100,000. This substantive decrease is not unique to Australia (Cutler *et al.*, 2006; Easterlin, 2004; Fries, 1980).



Notes:
(a) These rates have been standardised to the age distribution of the 1991 Australian population.
(b) ASR: Age-standardised rate per (100,000).
Source: Calculated from AIHW (2007)

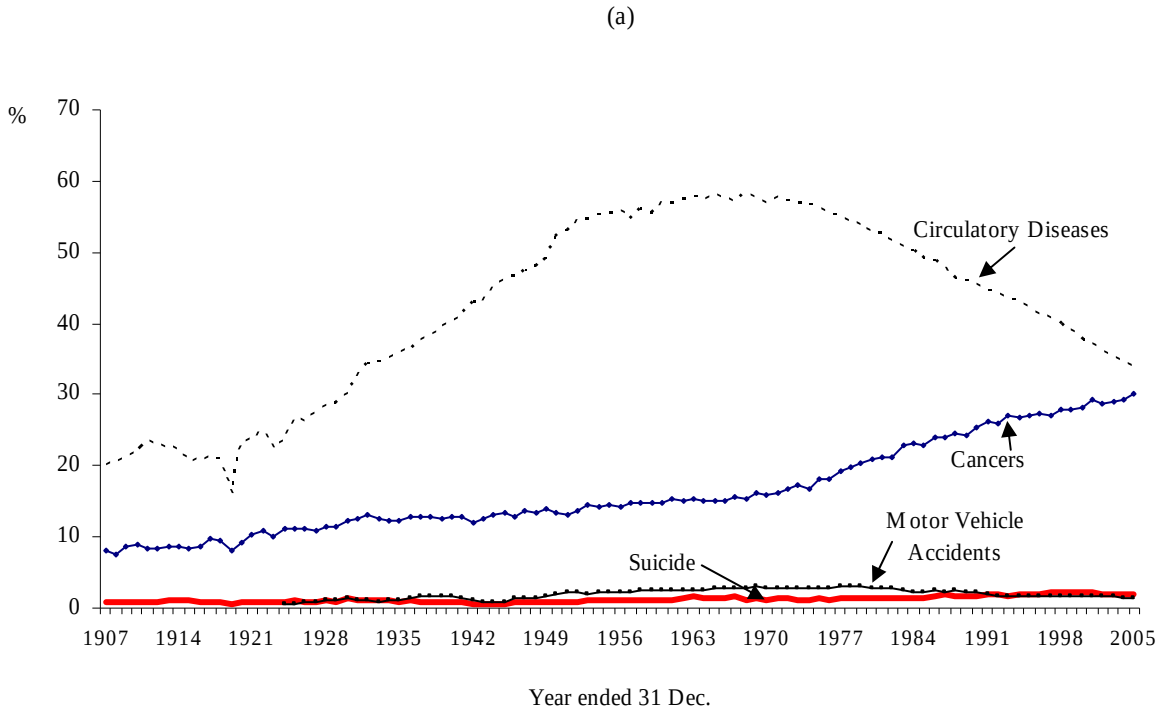
FIGURE 1. Age-standardised mortality rate for total mortality (all causes combined), Australia, persons, 1907–2005.



Source: Calculated from AIHW (2007)

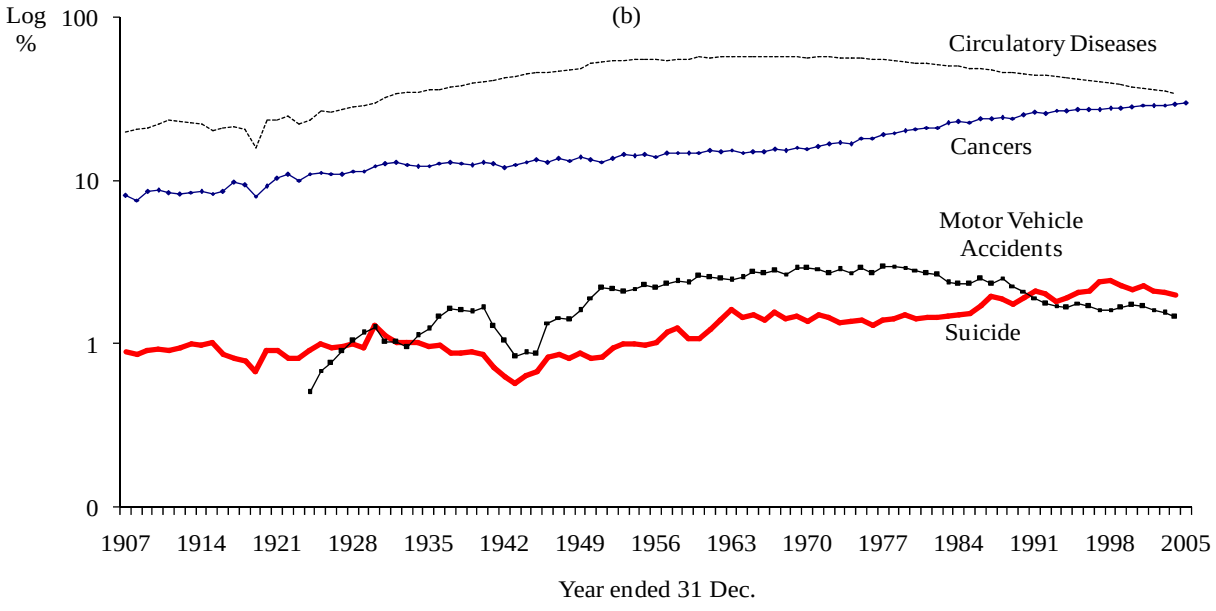
FIGURE 2. Age-standardised mortality rate for suicide, motor vehicle accidents, circulatory diseases and cancers, Australia, persons, 1907–2005.

Figure 2 presents mortality rates for four separate causes of death, *viz.* Circulatory diseases, cancers, motor vehicle accidents and suicide. Circulatory Diseases represents, on average, 41.95 percent of all deaths over the 99-year period, and is by far the largest cause of death. The second most numerous cause is Cancer, which averaged 16.37 percent of all deaths over the period. Suicide and motor Vehicle Accidents are, by comparison, "smallish", representing, on average, 1.25 percent and 1.95 percent of all deaths respectively. Note that the unit of measurement on the Y-axis is different in Figures 1 and 2. Our concern here is with **quantitative description**. Figure 2 conceals some large temporal variations in the relative numerical importance of these four Causes of Death. Figures 3 and 4 presents the relative importance of these four different causes of death (in absolute numbers), and Figure 4 shows the same results when the data are transformed into logs (to base 10). The log data in Figure 4 enable the reader to see more clearly the "smallish" data on Suicide and Motor Vehicle Accidents. The log transform has a similar effect to a magnifying glass.



Source: Calculated from AIHW (2007)

FIGURE 3. Shares of four causes of death to all deaths, measured by counts, Australia, 1907–2005.



NB: The Y-axis of this Figure has a logarithmic scale.

Source: Calculated from AIHW (2007)

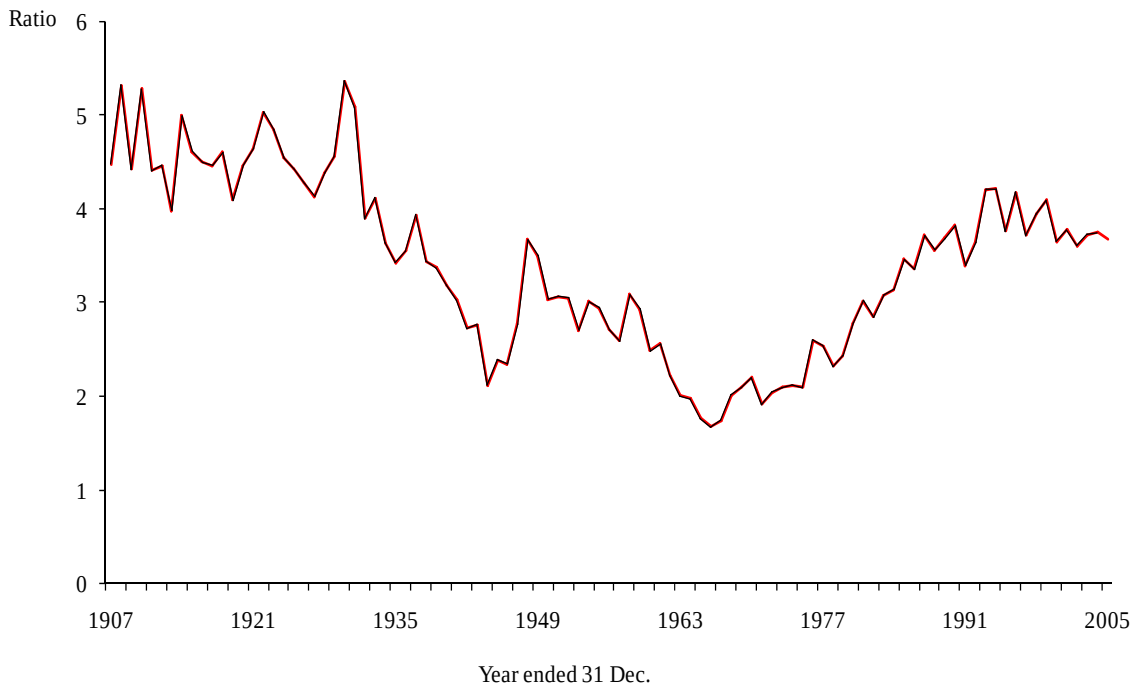
FIGURE 4. Shares (in logarithms) of four causes of death to all deaths, measured by counts, Australia, 1907–2005.

There has been a very large decrease in the relative importance of Circulatory Diseases, and a relative rise in Cancer. However our interest lies in Suicide and Motor Vehicle Accidents, which appear to be ‘close’ in Figure 3. However the log-scaled Figure 4 clarifies the relative trends and reveals important differences in the temporal patterns.

The data for Motor Vehicle Accident mortality for the 84 years since 1924 generally exhibit a rising trend. The maximum is in 1978, after which the relative importance has been falling. In contrast, there are some cyclical patterns for suicide. The pattern is relatively high in the 1920s and 1930s, low during the period of World War II, and reaches a (local) maximum in 1963, but then exhibits a rising trend to a high in 1998 (2.47 percent of all deaths).

Note that from the mid-1930s to 1990, the relative importance of Motor Vehicle Accidents exceeds that of Suicide (by a substantial margin during the 1950s to the early 1980s). But since 1991, deaths from Motor Vehicle Accidents (Figure 2) are fewer than from Suicide for all years to 2005.

All data employed above have been for “Persons”. However the difference between the male and female experience of Suicide is quite marked. Figure 5 depicts the Australian gender-ratio through time. In the period 1907 to 2005, the average for that ratio is 3.43 (i.e. there are 3.43 male suicides, on average, for one female suicide). But Figure 5 indicates considerable variation through time around that average. The maximum of 5.36 occurred in 1930 and the minimum (1.68) in 1966.



Source: Calculated from AIHW (2007)

FIGURE 5. Rate ratio of male to female suicide rate (per 100,000), age-standardised, Australia, 1907–2005.

What can we conclude from this brief review? First, the Australian suicide rate has exhibited a quite different trend from the All Cause Mortality rate: the latter has been characterised as subject to a long run secular decrease, whereas the former can be described as cyclical around a constant long run trend. Second, some conclude that suicide is a relatively unimportant cause of death as the suicide share of total mortality is quite small.

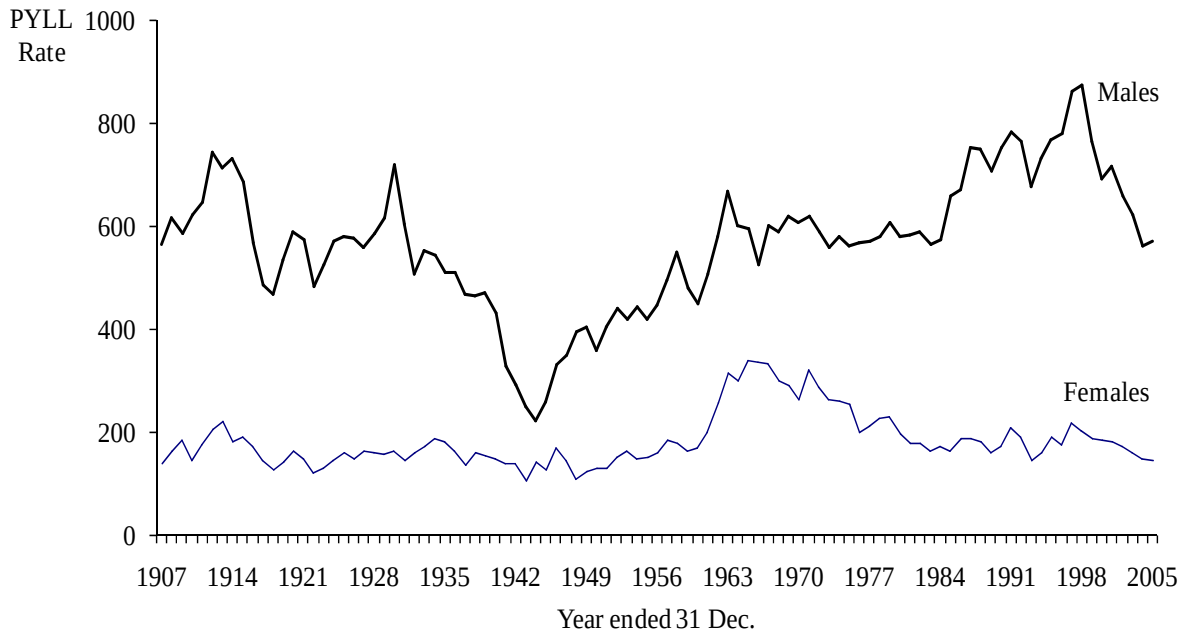
Writing of the US experience of suicide, a recent survey by Nock *et al.* (2008) points out that "the suicide rate is currently at approximately the same level as in 1950 and even 1900..." It is relevant to observe that such a stable pattern exists also in other countries (Ajdacic-Gross *et al.*, 2006). Similar comments could be made about Australia's experience of suicide.(Such comments are not applicable to other countries, especially the former Soviet Union and many of the former Soviet bloc countries, **The comments made about the US and Switzerland can lead to complacency towards suicide**.

But are the generalisations correct? All conclusions have been based on a particular **measure** of suicide, i.e. the headcount of the number of suicides. Attention is now directed to another measure.

An alternative measure: potential years of life lost (PYLL)

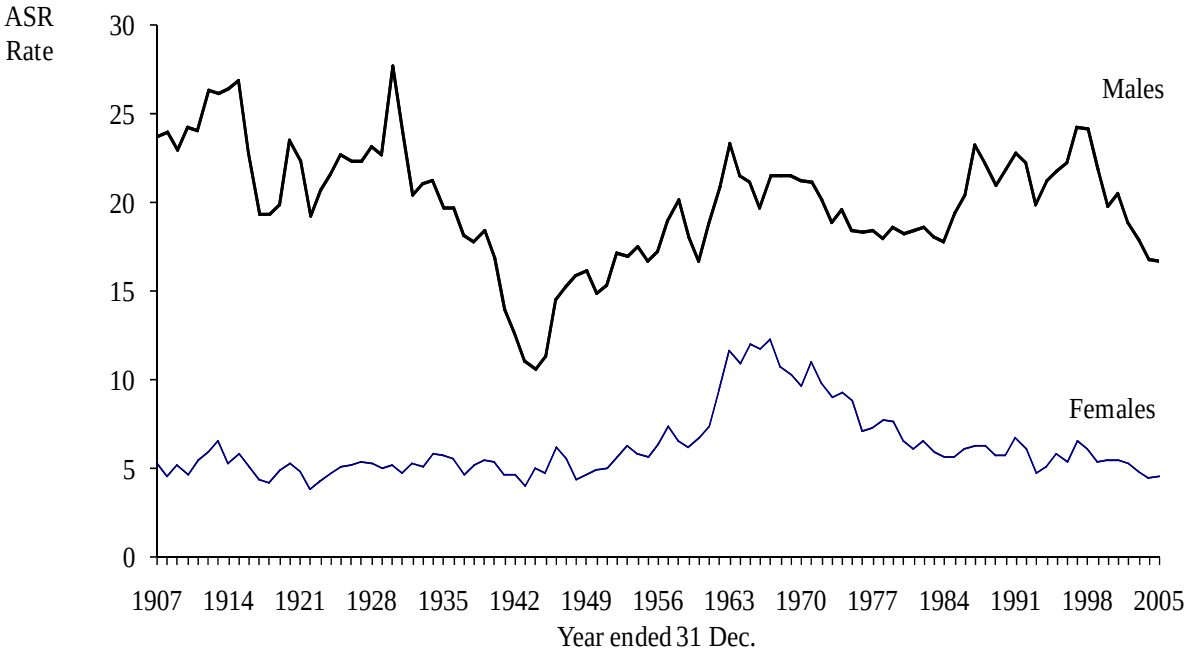
In the context of deaths from tuberculosis, in 1947 Mary Dempsey argued the count of the number of deaths "fails to tell the whole story" (Dempsey, 1947). A headcount measure, or any measure based on it, places an implicit and equal weight on death: a death is a death. If one is concerned with measuring "the relative importance of diseases" or "the seriousness of a disease" (p.158), then according to Dempsey, it is more appropriate to weight each death by the "potential years of life lost" (PYLL) due to mortality. Romeder and McWhinnie (1977) provide and account of the method of calculating the PYLL. Furthermore the ABS now publishes some PYLL data (ABS, 2000).

A recent paper by Doessel *et al.* (2009) has calculated PYLLs from suicide, assuming life expectancy of 75 years for Australia. Figure 6(a) shows the temporal profile for both male and female PYLLs for the 99 years from 1907 to 2005. The measure depicted is the number of PYLLs per 100,000 people. For completeness, Figure 6(b) shows the count suicide rate for both males and females for the same period.



Source: Calculated from AIHW (2007)

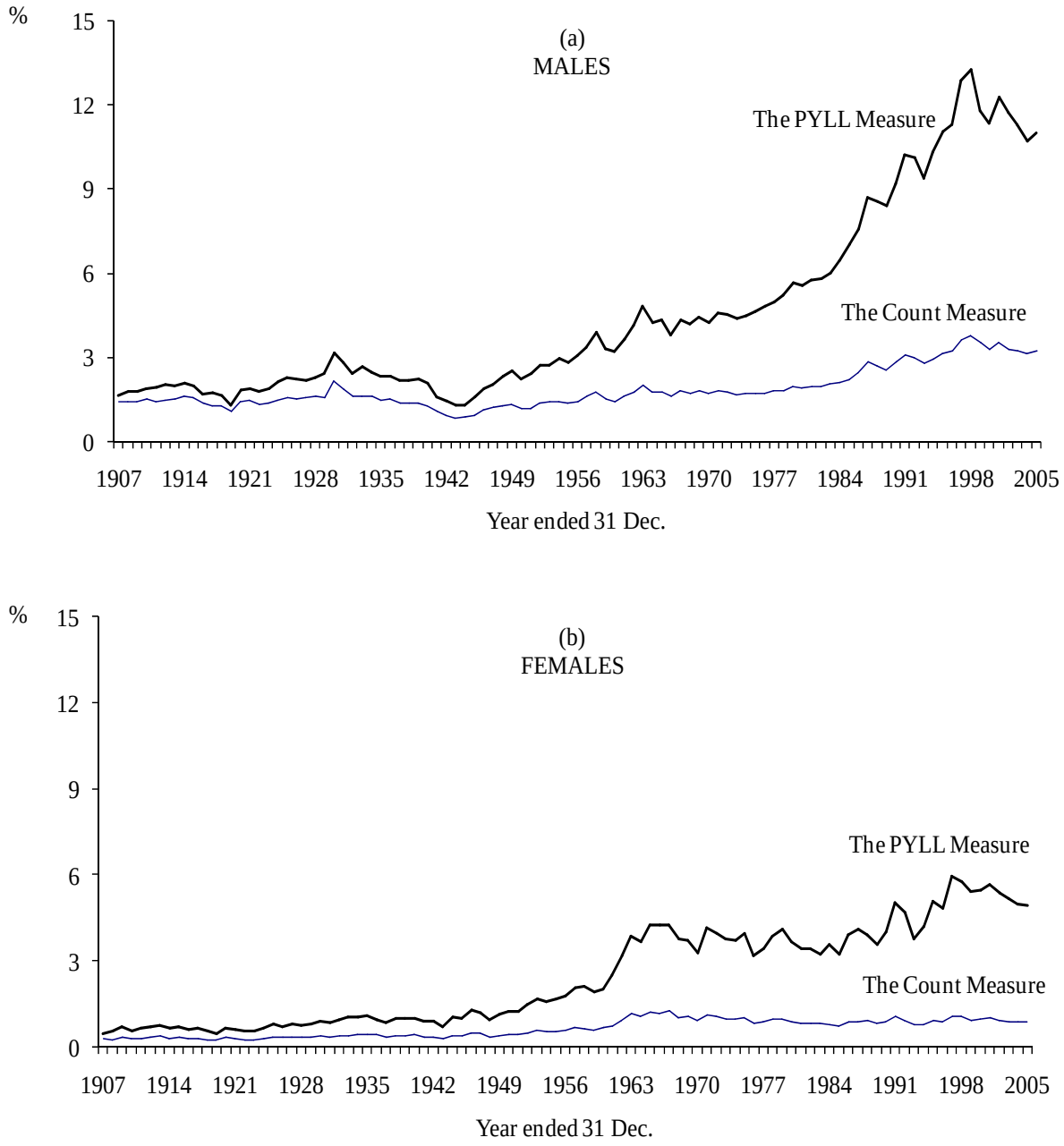
FIGURE 6. (a) Age-standardised suicide (PYLL) rates (number of PYLLs from suicides per 100,000), Australia, males and females, 1907–2005.



Source: Calculated from AIHW (2007)

FIGURE 6. (b) Age-standardised suicide (count) rates (number of suicides per 100,000), Australia, males and females, 1907–2005.

We now consider what the count measure and the PYLL measure reveal about the **relative numerical importance** of suicide in comparison with all deaths. The comparisons are for both males and females. See Figure 7 (a and b).



Source: Calculated from AIHW (2007)

FIGURE 7. Suicide as a percentage of all deaths measured by the count measure (number) and the potential years of life lost (PYLL) measure, Australia 1907–2005, males and females.

Figure 7 clearly shows that suicide is relatively more important as a cause of death, when measured by PYLLs than when measured with the simple count measure. Further observation suggests also that the difference in the two measures has widened since the 1960s, which reflects the rise in suicide by "young people".

It is useful to consider some descriptive statistics on these two measures of suicide, as indicated in Table 1. The Table emphasises the percentage share of total mortality that is due to suicide, for males and females, and provides three statistical summary measures: the minimum, the maximum and the mean. Observe that all values for the PYLL measure are higher than for the headcount measure.

Thus the PYLL measure produces a **quite different picture** of suicide compared to the count measure. Two differences are important. First, suicide is a **larger relative problem** than first thought. Second, the **size of the suicide problem has increased** in recent decades, not remained (more or less) constant, as suggested by the headcount measure.

TABLE 1. **A Comparison of the Percentage Shares of Two Measures of Suicide to Two Measures of Total Mortality, Australia, 1907 to 2005**

	The Count Measure		**The PYLL Measure**	
	Males	**Females**	**Males**	**Females**
Minimum (**%**)	0.83 (1943)	0.26 (1908, 1922)	1.28 (1943)	0.45 (1919)
Maximum (**%**)	3.76 (1998)	1.28 (1967)	13.27 (1998)	5.95 (1997)
Mean (**%**)	1.85	0.65	4.57	2.44

Note: The years in parentheses for both the minimum and the maximum shares indicate the time at which that minimum/maximum occurred.
Source: Calculated from AIHW (2007).

It may seem to some that this issue of "how to measure suicide" is a "technical issue", and should be left to the experts to discuss among themselves. However this is not really the case. The PYLL measure incorporates two quantitative measures (the number of suicides and the age

of suicide) into a single metric (or measure), and is the more relevant measure when making social judgments. These two variables, number of suicide and age at suicide, are easy to understand, and most people who look at suicide data know there is a connection. It is commonplace to hear people say something like the following: “Yes, the suicide rate is staying much the same, but it is very worrying that there is so much youth suicide.” The PYLL measure quantifies this **unease** with the headcount measure. It is also relevant to observe that the PYLL concept forms the basis of “Burden of Disease” measures, using the Disability Adjusted Life-Year (DALY) metric, as popularised by Christopher Murray and Alan Lopez.

The conclusion of this empirical work is that suicide is **a larger problem** than the simple headcount measure indicates. Furthermore, the temporal trend in PYLLs indicates that suicide has become a relatively more important social issue. **Complacency about suicide is not an appropriate disposition to adopt**.

It should be noted that the PYLL calculations reported here are based on ABS suicide data. As argued in detail in the text on Term of Reference (B) below, ABS suicide data are seriously underestimated. Thus the PYLL data here are also underestimated.

The paper referred to above by Doessel *et al.* (2009) is available on request.

FINANCIAL COSTS

There has been no work undertaken, as far as we are aware, to determine the economic or financial costs of suicide in Australia. However, work is currently underway within AISRAP to produce a time-series data set quantifying the economic costs of suicide. This work has not yet been completed. The methodology being undertaken is to determine an upper and lower estimate of "the value of a statistical life" (VSL). There is unanimity in the health economics literature that the calculation of the empirical estimates of the VSL concept is the appropriate way to proceed to answer such questions.

In addition to producing time-series estimates of the economic loss associated with suicide, a second data set will be produced to answer a different question. That second question is as follows: "what would be the economic losses avoided **if the suicide rate in Australia had fallen at the same rate as the "All Cause" mortality rate?**" Underlying this question is the **fact** that "All Cause" mortality has fallen throughout the twentieth century, but that deaths from suicide have not reflected this trend. This second question, a "what if" question, is concerned with quantifying what would have happened if the factors which produced the massive decline in "All Cause" mortality had also operated on the suicide rate. In other words, the answer to this second question will quantify **the opportunity cost** associated with the relative lack of progress in understanding suicide (and determining the efficacy of various preventive measures), compared to other areas of medicine. The knowledge base in physical medicine includes not simply an understanding of disease processes but an extensive armamentarium of efficacious therapies. The opportunity cost (to be quantified in answering this second question) is an **effect** of the relative neglect of research directed to suicide. For more details see Williams and Doessel (2007).

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TERM OF REFERENCE (B)

THE ACCURACY OF SUICIDE REPORTING IN AUSTRALIA, FACTORS THAT MAY IMPEDE ACCURATE IDENTIFICATION AND RECORDING OF POSSIBLE SUICIDES, (AND THE CONSEQUENCES OF ANY UNDER-REPORTING ON UNDERSTANDING RISK FACTORS AND PROVIDING SERVICES TO THOSE AT RISK)

ACCURACY OF SUICIDE REPORTING IN AUSTRALIA

It has been pointed out by AISRAP (Cantor *et al.* 2001; De Leo *et al.*, 2006; De Leo, 2007; De Leo, 2009) that the official data on suicide in Australia (published by the Australian Bureau of Statistics, ABS) are subject to various problems of enumeration. This problem is not unique to Australia: Stengel (1964) has said that *"Suicide rates tend to understate the truth, even in countries with a long tradition of vital statistics"*. Issues affecting the quality of suicide data include:

- Unreported cases of deaths;
- Determination of intent by the Coroner;
- Delays in coronial processes;
- Timing of data compilation;
- Changes in policies or legislations; and
- Changes in coding (e.g. ICD-10 from ICD-9).

Furthermore, the question of accuracy of suicide reporting in Australia has been particularly questioned in more recent years. This has been made evident by comparing the "official" ABS data for Queensland with the data from the Queensland Suicide Register (QSR), managed by AISRAP. Harrison *et al.* (Australian Institute of Health and Welfare, 2009), by revising the suicide data for Australia in 2004, found an under-reporting rate of 16% (in Queensland in 2004, the difference between QSR and ABS data suggested under-reporting by about 24%). In recent years, under-reporting of suicide in Queensland increased to 43% in 2007. Before elaborating on the specific causes behind observed differences between these two datasets, we first begin by explaining the process of recording death in Australia. Specific attention will be given to the QSR, a unique suicide mortality database.

Process of suicide recording

The Australian Bureau of Statistics: In 2003, the ABS commenced using the National Coroners Information System (NCIS), a national internet-based data storage and retrieval system for all Australian coronial cases registered after July 2000, to code coroner-certified deaths. Prior to 2006, the ABS had sought clarification on causes of death (where not enough information was available on the NCIS) by undertaking personal visits to Coroner offices to extract information from court, hospital and police records (ABS, 2009; Walker *et al.*, 2008). However, since 2006, the NCIS has been the only source of data used by the ABS for coroner-certified deaths, resulting in an increase in numbers of deaths assigned to unspecified causes of mortality, particularly from New South Wales and Queensland (ABS, 2009). For a death to be considered a suicide, it must be "recognised as due to other than natural causes and be established by a coronial inquiry that death results from a deliberate act of the deceased with the intention of taking his or her own life" (ABS, 2007, p. 20). Where there are uncertainties about intent and circumstances surrounding the death, the default category of 'accident' is assigned under the ICD-10 requirements (ABS, 2007).

The Queensland Suicide Register: The QSR provides an independent assessment of the incidence of suicide in Queensland. It is described in detail below.

The Queensland Suicide Register

The Queensland Suicide Register (QSR) is a comprehensive database of suicide data, managed by AISRAP and funded by Queensland Health since 1990. The database gathers information on deaths by suicide of all residents of Queensland including data obtained from the following sources:

- *Report to the Coroner by police officer in the event of a possible suicide* (prior to December 2003: "Form 4" and post-December 2003: "Form 1"). Incorporated in the new Form 1 is the Psychological Autopsy questionnaire, which had been added (first) to Form 4 in December 1993.
- *Post-mortem examination report;*

- *Toxicology results.*

The Queensland Office of the State Coroner provides AISRAP with reports on all suicide deaths in Queensland, including information on the underlying causes of death, *pre-mortem* conditions and circumstantial evidence from police investigations. The toxicology report provides an analysis of substances present in the circulatory, urinary and digestive systems at the time of death.

Form 1 combines the information collected in Form 4 which was in use prior to December 2003 (demographic details and circumstances surrounding the death) with a Psychological Autopsy report (data on the medical history, current psychological history of the deceased and critical life events). This form is completed by a police officer during the investigation of a possible suicide case and involves interviews with informants close to the deceased. These questionnaires, referred to as the "psychological autopsy" were also embedded to Form 4, but did not come into full use until the end of 1993; therefore, information on QSR cases prior to 1994 is relatively limited. Psychological autopsy interviews were revised in 1999, 2001, 2005, and 2007, with the latest version adopted in November 2009.

Classification of suicides in the QSR: In the Queensland Suicide Register, AISRAP employs a three-tiered classification of suicide: Beyond Reasonable Doubt, Probable, and Possible (see Suicide Classification Flow Chart is in Figure 8). Cases are classified as "suicide" according to the level of certainty as follows:

1. Beyond Reasonable Doubt: The available information refers to one or more significant factors that, in combination, constitute a pattern highly indicative of suicide.
2. Probable: The available information is not sufficient to allow for a judgment of "beyond reasonable doubt", but it is more consistent with death by suicide than by any other means.
3. Possible: The available information is suggestive of suicide but there is the substantial possibility that the death may be due to other external or internal causes.

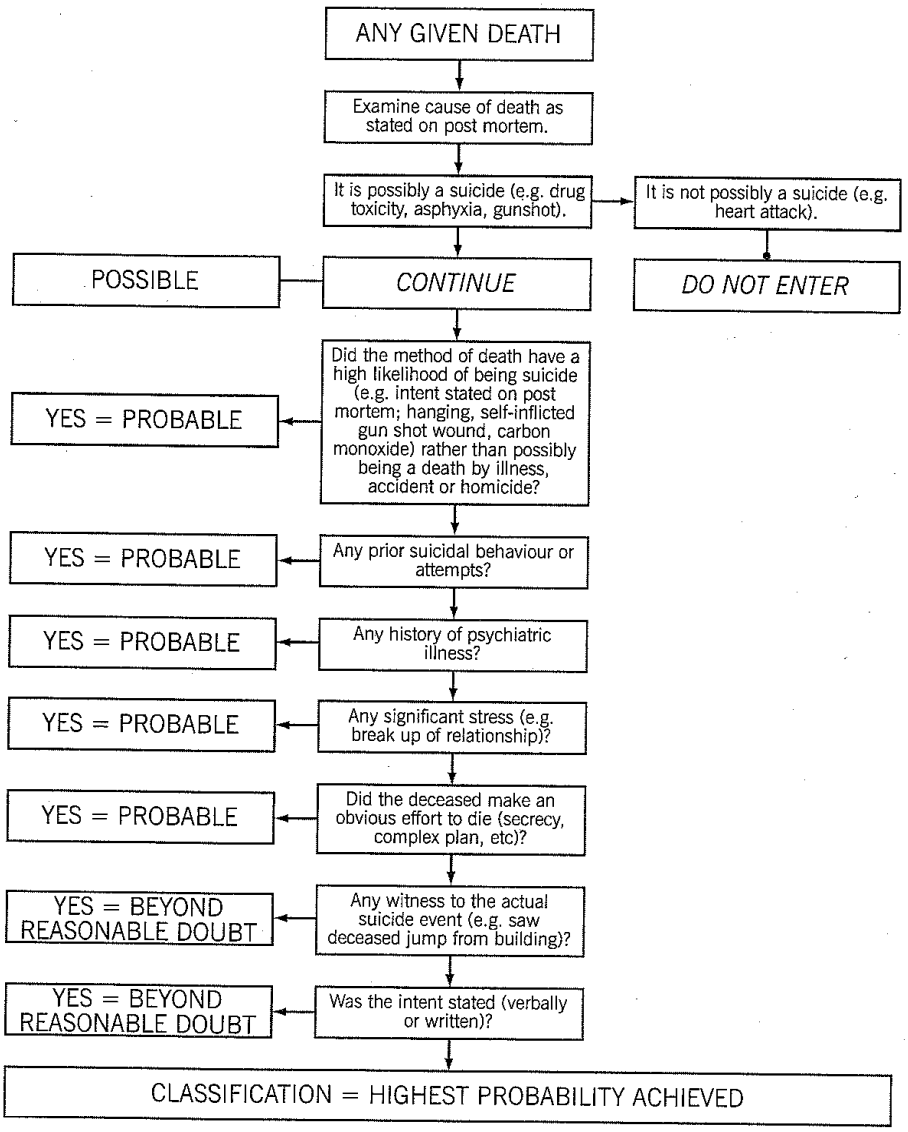

FIGURE 8. Suicide classification flow chart.

Role of QSR in research: The Register is central to AISRAP's research. Some examples of previously conducted research based on the Queensland Suicide Register data include:

- Suicide in the Building Industry
- Suicide from the Story Bridge
- Suicide and Schizophrenia
- Suicide and Queensland Rail
- Suicides and Motor Vehicle Accidents
- Firearm Suicides
- Suicide and Marital Status
- Trends in Suicide and Suicide Methods
- Suicide and Occupation
- Suicide in Indigenous Populations

Role of QSR in informing suicide prevention policy: The Queensland Suicide Register supports the analysis of suicide mortality data in order to inform appropriate suicide prevention activities. The database represents a major source of data that is used for the **triennial suicide report**, prepared by AISRAP. The purpose of this Report is to provide information on the incidence of suicide in Queensland through analysis of statistical data on suicide mortality for the period of three years. The analysis in the Report covers demographic, psychosocial and behavioural aspects of individuals who may have died by suicide. The analysis in the triennial Report uses only the data for the "probable" and "beyond reasonable doubt" cases. The analysis of the trends and patterns observed in these cases aims to increase the current understanding of the incidence of suicide and support the development of suicide prevention strategies. Cases coded as "possible" are excluded from analyses, as the available information is not sufficient to determine suicide as the most likely cause of death (i.e. the death might have been due to other external causes such as accident).

In addition to the information provided in the Report, further information stemming from the QSR is disseminated in the form of other reports, journal articles and book chapters and through conferences, presentations and information sessions. Consumers of the information include

government and non-government organisations in a variety of fields, including health, justice, education and social services.

ABS *vs.* QSR: why are ABS and QSR results different?

Since the establishment of the QSR, its reports on suicide mortality in Queensland have been well aligned with those of the Australian Bureau of Statistics, with fluctuations within the range of 5%. However, from 2002 onward the discrepancy between the two systems has been increasing almost exponentially, reaching a difference of almost 200 suicide deaths for 2006 (De Leo, 2009). There are **two major reasons** for the observed differences in suicide incidence reported by the ABS and that of the QSR.

Firstly, the balance adopted by the ABS between **the timeliness of data provision and the accuracy with which it is delivered** has been recognised to impact the quality of suicide data in Australia. Where coroners' cases are not finalised and the findings are not available to the ABS in time for publication of Causes of Death statistics, deaths are coded to other accidental, ill-defined or undetermined intent rather than suicide (ABS, 2009). In particular, the proportion of deaths coded to Chapter XVIII: "Symptoms, signs and abnormal clinical and laboratory findings, not elsewhere classified" (ICD-10 codes R00-R99) has increased steadily over the last 10 years from 0.5% (635 deaths) in 1998 to 1.4% (1,895 deaths) in 2007. A major reason for the increase in the number of deaths coded to non-specific causes relate to a change in ABS processes for obtaining information regarding coroner-certified deaths. Since 2006, the ABS relied totally on information available on the NCIS for information related to deaths certified by a Coroner. Prior to this, the ABS had sought additional information on coroner-certified deaths where information was not available on NCIS by undertaking personal visits to Coroners' offices to extract information from paper records.

Secondly, the differences between the ABS and QSR suicide mortality datasets are related to **coding of suicide cases**. There are two key issues regarding coding: firstly how a case is classified (whether as a suicide, accidental death of unspecified death), and into which year it is included. The ABS identifies potential data issues with both these situations.

"*In relation to suicide, there has been an increase in recent years in the number of open coroner's cases. Where cases are not finalized and the findings are not available to the ABS in time for publication of cause of death statistics, deaths are coded to other accidental, ill-defined or unspecified causes rather than suicide. The cause of death statistics are not revised once the coronial enquiry is finalized*" (ABS, 2006).

The National Coronial Information System (NCIS) has reported on the closure rates of cases recorded in their system (including cases of suicide) in their Annual Report (NCIS, 2005). They found, for example, that across all cases only 29% of 2005, 64% of 2004 cases were closed at the time of their report. However, while for 2000 95% of cases were closed, for 2001 only 83% were closed suggesting also a variation in the final level of case closure. These figures differ by state with Queensland, Western Australia and NSW, the most regionally dispersed states, having 59%, 65% and 73% of all cases closed compared to 82% for Victoria.

While the ABS publishes the annual *Causes of Death* around 15 months after the end of the reference year, QSR published suicide statistics in periodical publications (every 3 years), allowing for a more comprehensive picture of suicide mortality with inclusion of cases that require more lengthy coroners' investigations. Recently, the ABS has announced that the suicide mortality data for 2007 will now also be updated as more information becomes available and released "again" after two years (ABS, 2009).

With regard to year of death, again there is a difference between the QSR and the ABS data. The QSR will enter the case by the year in which the death occurred, this being ascertained from the reports provided through the Queensland coronial system. The ABS on the other hand reports on the year of registration of death. This datum comes through the State Registries of Births, Deaths and Marriages, with checking for the cause of deaths mainly undertaken through the NCIS. The ABS recognizes that this again can lead to data differences, stating that: "*The statistics in this publication relate to the number of deaths registered, not those which actually occurred, in the years shown. Over the last decade about 7% of suicide deaths occurring in one year were not recognized until the following year or later.*" In a state such as Queensland, with extremely

remote areas such as Western Queensland and Cape York, it is likely that this issue will have a greater impact than in more closely settled populations. A 7% error in suicide statistics represents a number difference of the order of 35 to 45 Queensland cases in any year, this being in addition to the possible errors from the unfinalised cases discussed above. On the national level, using the ABS mortality data for 2007, this would account for approximately 130 under-reported suicide cases for that year.

"*Following the example of many European countries, it would be desirable to start a periodical publication (e.g. every 3-5 years) to provide a more comprehensive picture of suicide mortality, including finalised investigations, reclassified (ex-accidental or ex-undetermined) causes of deaths and deaths that occurred (especially in hospitals) with a delay from a self-injurious event. This would provide a more credible depiction of suicide mortality in the country and permit better research."* Yet *"Some underreporting in suicide statistics is virtually ubiquitous, and has to be tolerated (e.g. misclassification as accident, road accident, or disease-related, particularly in the elderly; cover-up because of stigma, socio-cultural norms, or insurance reasons; or remoteness of location)"* (De Leo, 2007). However, there is still space for improving official data quality: QSR may be such an example.

It is relevant to point out that the Australian Institute of Health and Welfare has undertaken a "recount" of suicide data published by the ABS for a single year, viz. 2004 (Harrison *et al*., 2009). This "recount" exercise took account of many of the criticisms that had accumulated about ABS procedures, including delays associated with coronial decisions. And what was the result? The recount showed that **the ABS had underestimated suicide for Australia in 2004 by 16 per cent!** It should be emphasized that this "recount" exercise was **not** implementing a **concept** of suicide different from that of the ABS: all that was different were **procedures** of counting and the **mis-classifications**. (As an aside it is relevant to note that this is "recount" exercise brought the "recount ABS" data closer, for Queensland, to the QSR data for that year.)

Relevance at the state and national level

The above discussion has focused on the incidence of suicide in Queensland, and the consistency of the ABS statistics with those derived from the QSR. However, the issues raised by the ABS in 2006 are not limited to Queensland but apply also to the national statistics on suicide. While to some degree these issues (of timing and coding) will impact on all suicide statistics, the level to which the incidence in individual states is affected is linked to state specific factors, including size and population levels. The states with the lowest level of case closure, as reported by the NCIS are Queensland, Western Australia and NSW (NCIS, 2005), and it is likely that with higher rates of unclosed cases there will be associated levels of underreporting of suicide mortality, as such cases are included as accidental or ill-defined or unspecified causes.

Does the difference between the ABS and the QSR data really matter?

There are two dimensions to the general question asked in the sub-heading immediately above. First, this question can be interpreted as a technical question in statistics. In this context the question can be restated as follows: are the time-series data for Queensland recorded in the ABS data set and the QSR data set different at a given level of statistical significance?

This technical (or statistical) question has been answered by some recent research undertaken by AISRAP (Williams *et al.,* 2010). The statistical procedure undertaken was as follows: first, equations-of-best-fit were estimated using ordinary least squares regression. Males and females were analysed separately. (As these equations were subjected to five diagnostic tests, we can have confidence in the estimated equations.) Second, the estimated equations were then used to obtain the predicted values for each year. The third (and final) step was to apply Wald Tests which provided an answer to the following question: is a predicted value based on ABS data statistically different from a predicted value based on QSR data? The answer to this question was overwhelmingly “yes”. Thus the difference between the two data sets was statistically significant.

The second meaning to this question posed in the sub-heading above relates to policy: does the difference matter in terms of evaluating the National Suicide Prevention Strategy (NSPS)? The

short answer is “yes”. The ultimate objective of the NSPS is to “decrease suicide”. Any ultimate evaluation of the NSPS will be flawed as it will have to be based on the flawed data published by the ABS. As an aside it is useful to make the comment that the ABS is a monopolist of suicide data for Australia: but it does not have a monopoly for Queensland! The alternative **QSR measure** of suicide in Queensland has played a large part in the ABS decision in 2009 to **revise** its procedures of measuring suicide.

CONSEQUENCES OF ANY UNDER-REPORTING: CONCLUSIONS

In assessing the incidence of suicide mortality data in Queensland, as well as in the whole of Australia, it is important to understand why these data collections differ. The first question that has to be considered is whether the slight declining trends in suicide incidence shown by the ABS data (compared to the slight upward trend from the QSR data) are in fact a reflection of a change in society or an artefact of data collection and processing procedures. The key issues of timing of the data collection processes and coding of suicide cases, as employed currently by ABS still has potential for improvement.

Of particular significance (for identifying and understanding potential risk factors for suicide) is a very large number of cases under investigation and those ending with an open verdict. In fact, these cases would never enter official mortality data, as they are never reconciled. Consequently, the incidence of suicide would continue to remain under-estimated, with a limited understanding of suicide risk factors, related to such cases.

Additionally, the magnitude of under-reporting in Australia is difficult to ascertain due to:

- differences in legislation and death certification procedures between the States and Territories, and
- the unavailability of similar sources of suicide data such as that of QSR in other states and territories.

The reason behind rigorous assessments of suicide rates is to support quality policy decision making; however, where there are limitations in the data, these are likely to constrain the

effective use of such information and the **subsequent decisions** made from it. Many users of the data take the basic statistics as the definitive statement of suicide incidence, without considering the caveats offered. Rather than that, researchers and policy makers should be cautious when interpreting mortality rates due to external causes of death. More detailed analysis of trends and inter-relationships between different external causes of death within specific States and Territories are warranted.

It is useful to conclude this section of the AISRAP Submission on the importance of **data quality:**

"...suicide prevention plans…require credible baselines for evaluating their effects. All relevant parties need to work jointly on improving data quality. This is of crucial importance for scientists and policymakers, and for those personally affected by a suicide death" (De Leo, 2007).

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TERM OF REFERENCE (C)

THE APPROPRIATE ROLE AND EFFECTIVENESS OF AGENCIES, SUCH AS POLICE, EMERGENCY DEPARTMENTS, LAW ENFORCEMENT AND GENERAL HEALTH SERVICES IN ASSISTING PEOPLE AT RISK OF SUICIDE

INTERSECTORAL COOPERATION

AISRAP has collaborated with the Office of the State Coroner (OSC), a part of the Department of Justice in Queensland, since 1990. This partnership has played an integral role in research conducted at AISRAP. Recently, the OSC, in conjunction with AISRAP, has revised sections of "Form 1", a structured form which is routinely used by the Queensland Police Service (QPS) in cases of possible suicide. Data obtained from "Form 1" are reported in the periodic publications the latest being *Suicide in Queensland 2002-2004, Mortality Rates and Related Data* (De Leo *et al.,* 2006). Specifically, the Form 1 contains demographic details, a summary of the circumstances surrounding the suicide, medical information, psychological history and critical life events of the deceased. This information contributes to the identification of risk factors for suicide and provides the major source of information for the QSR.

AISRAP, as part of its contribution to the revision of the form used by the QPS to investigate possible suicides, has developed good relations with the police force in Queensland. As a result, AISRAP staff has given seminars, within the QPS, about the importance of the relevant form. In addition, over the years, serving officers within the QPS have attended AISRAP's two-day workshops. Furthermore, two police officers have completed AISRAP's Postgraduate program.

It has been recognised that suicide rates are subject to reporting bias, sometimes stemming from inaccurate accounts of events and limited information obtained from investigating officers. The recently updated "Form 1" in Queensland will prompt investigating officers to ask questions that elicit potential suicidality and expose potentially ambiguous suicides. Consequently, this will assist in the accurate classification of suicides and accurate reporting of suicide data.

EFFECTIVENESS OF GENERAL HEALTH SERVICES: A GAP

The provision of health services in Australia is dominated by the five-year intergovernmental agreements between the Commonwealth of Australia and the governments of the states and territories.

Until recently, these agreements were described as the "Medicare Agreements", but are now referred to as the "Health Care Agreements". These agreements (or contracts) are the mechanisms by which the Australian Government implements its hospital-based health insurance arrangements, i.e. the hospital component of "Medicare", Australia's compulsory, universal system of health funding.

Essentially, "hospital Medicare" entitles all Australian citizens and permanent residents to zero-price hospital services as public patients provided by recognised public hospitals.

The most important institutional feature of hospital provision in Australia is that the central government operates virtually no hospitals. (The small exception to this statement relates to hospital services within the Australian Defence Force.) The provision of hospital services is dominated by the governments of the six states and two territories. For the Australian government to have a health insurance arrangement for hospital-based health services requires that funding agreements be in place with the eight sub-national governments that operate public hospitals in Australia. For example, the 2003-2008 Agreement says, in part: "The Commonwealth will contribute to the cost of State public hospital services for eligible persons, on time and at a level specified in this Agreement…".

A problem arises from these arrangements in that there is a time-limit (35 days) imposed for the provision of hospital-based services. This temporal limitation creates an incentive for hospitals to be concerned predominantly with short run, acute medical conditions. As a result of this matter, the Commonwealth Department of Health and Ageing has given **some** attention to filling **gaps** or (as described in the discussion of Terms of Reference (A), "government failures" or "Medicare failures"). An example is the Chronic Disease Management program: this involves specific Medicare Items which enable a general practitioner (GP) to manage the health care of people

with chronic conditions. More specifically, there is a Medicare Item number for the Preparation of a GP Management Plan as well as services of a multidisciplinary team (practice nurses, Aboriginal health workers etc.). This program was developed, in part, because chronic conditions were not handled well by the hospital system (with its focus on acute care), and GPs applying the "standard" GP consultation items (which also focus on short term medical problems).

People who attempt suicide and "end up" in hospital, often have long term mental health and/or emotional problems. As such, they are "square pegs" in the "round holes" of Australia's hospital system with its focus on treatment for acute medical conditions.

It was the recognition of this "gap" in the spectrum of health services relevant to people who attempt suicide that led AISRAP to establish the Life Promotion Clinic. Another manifestation of a "gap" in the structure of health services in Australia is the poor coordination of services for people on discharge from an acute care, recognised public hospitals. AISRAP has a proposal, "The Lifehouse", that will fill this pressing need. This proposal is outlined in detail under Term of Reference (G).

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TERM OF REFERENCE (E)

THE EFFICACY OF SUICIDE PREVENTION TRAINING AND SUPPORT FOR FRONT-LINE HEALTH AND COMMUNITY WORKERS PROVIDING SERVICES TO PEOPLE AT RISK

We will address this Term of Reference by describing what AISRAP does, in terms of university-level teaching, as well as suicide prevention skills training. We will conclude with some evaluative comments.

UNIVERSITY QUALIFICATIONS

AISRAP, located at Griffith University in the southern suburbs of Brisbane, undertakes specialised post-graduate teaching in suicidology. More specifically, suicide research and prevention can be studied at the following three levels.

1. **Graduate Certificate in Suicide Prevention**

This qualification is designed for people who work in health, education, law enforcement, and the fields of religious, social and community service. Graduates have included nurses, GPs, allied health professionals, teachers, social workers, counsellors etc.

2. **Master of Suicidology**

This course-work program reflects the needs of health, law enforcement and social and community service providers and religious leaders who require detailed and scientifically-based knowledge of suicide, suicide research and suicide prevention.

3. **Master of Suicidology (Honours)**

This is a three-year program of post-graduate study. It builds on the two-year Masters by course work (above) with the third year devoted to research. The topic of the thesis is a matter of choice for the candidate, and can be on either a national or international topic.

In addition, eligible students can enrol in the PhD degree offered by Griffith University.

Our course work awards are offered part-time, on-campus and online, for the convenience of students.

SUICIDE PREVENTION SKILLS TRAINING

In addition to tertiary qualifications AISRAP provides on request, tailored workshops on "Suicide Prevention Skills Training". These workshops apply a skill-based approach to suicide prevention training, relevant not only to prevention, but also intervention and postvention.
These workshops can be tailored to specific organisations and can be presented in a half-day, one-day or two-day format.

Training package

AISRAP originally developed a training package for preventing suicide in young people, which was targeted at a wide range of workers from health, education, community, emergency, youth, and corrective services sectors. This training package was informed by a large-scale Needs Analysis of diverse workers in the field of suicide prevention in Queensland, and was funded by the Queensland Government Youth Suicide Prevention Strategy. AISRAP further extended this package beyond a focus on young people, to the "whole of lifespan".

This program was developed to meet a set of nationally recognised industry competencies, grouped together under the title of *A Course in Suicide Prevention, Intervention and Postvention.* The course met accreditation requirements of the Australian Quality Training Framework.

The aim of AISRAP's training is to develop participants' awareness, knowledge and skills in suicide prevention. Specifically, it is expected that participants will develop a common set of understandings and skills as members of the community who are concerned with suicide prevention.

The training program looks at all levels of action: prevention, intervention and postvention. It is different from other training programs in that it goes beyond the face-to-face "first-aid" skills commonly associated with working in suicide prevention. The training program takes the

particular focus of promoting evidence-based and best practice based prevention, intervention and postvention, and the content is regularly updated with current research.

To further participants' skill development, the following Specialised Training Modules have been developed as part of the training package:

- Community Development
- Networking
- Advanced Risk Assessment
- Assessment Skills for Working with Young People (Education)
- Suicide Prevention in Indigenous Communities
- Working with Indigenous Young People
- Postvention in Indigenous Communities
- Postvention in the School Setting
- What You Need to Know About Suicide Prevention in a Department of Emergency Medicine
- Current Research in Suicide and Suicide Prevention

Organisations that have previously received AISRAP's training (including on an annual basis) include:

- Queensland Ambulance Service
- Queensland Police
- Queensland Fire Service
- Epic Employment
- Queensland Corrective Services
- Queensland Divisions of General Practice
- TAFE Queensland
- Queensland Health
- Lifeline
- Commonwealth Rehabilitation Service (Queensland)
- Currumbin Private Hospital

- Queensland Building Construction Industry
- Kinnections Family and Relationships Centre
- Assure Programs
- Rotary Lions Clubs (Local clubs in Queensland)
- No Time to Say Goodbye (Bereavement Group, Noosa)
- Women's Correctional Centre (Brisbane)
- Community Forensic Mental Health Service (Queensland Health)

In addition, AISRAP has produced a book-length training manual, which was the outcome of a Queensland-wide training needs analysis. For details see Hawgood and De Leo (2002). This is a manifestation of AISRAP's long-standing commitment to suicide prevention training.

On-line suicide prevention skills training

Another training activity that AISRAP has undertaken is an on-line suicide prevention skills training package (e-SPST). The purpose of this package was to provide education and knowledge to workers on prevention of suicide, with an additional emphasis on mental health issues, given mental illness as a major risk factor for suicidal behaviour. The training outcomes included increased worker competency in suicide prevention and increased effective client outcomes and service responses to suicidal clients. An account of e-SPST is given in Attachment 1.

SOME EVALUATIVE COMMENTS

The brief descriptions given above provide an indication of what "can be done" to address the various issues surrounding suicide prevention training. In the absence of any empirical data on "what others do" it is difficult to address this Term of Reference.

However, AISRAP has undertaken some research on "what is taught to medical students" about suicide. This is an important issue as many people who commit suicide (or attempt suicide) have consulted their GPs prior to doing so (De Leo, 2010). Thus medical practitioners have a very important role in suicide prevention. However there is no uniform content for suicide prevention in Australia's medical schools: thus there is no "national suicide prevention curriculum". For

details see Hawgood *et al*. (2008). This important paper is summarized in the Attachment 2 for the convenience of the Committee.

Some years ago, when it was established that the skills necessary to be an effective GP were not being addressed coherently by Australia's medical schools, the Australia's Department of Health not only exercised moral suasion on the universities with medical school, but also provided specific funds for Australia's universities to "lift their game" on GP education. The Senate Committee could recommend a similar "therapy" for Australia's medical schools on the issue of a "national suicide prevention curriculum".

Of course, medical practitioners are not the only health professionals that are relevant in the context of having specific skills for the prevention of suicide. Other relevant health professionals (receiving tertiary education at Australian universities) could also benefit from systematic study of suicide prevention. The more relevant professional groups include the following: nurses, psychologists, social workers and occupational therapists.

This simple suggestion that suicide prevention education be undertaken in a coherent fashion, via the "national suicide prevention curriculum", for relevant health professionals, may have a long-term impact on suicide prevention.

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ATTACHMENT 1

AISRAP's online training: *e*-SPST

In addition to the Suicide Prevention Skills Training workshops, AISRAP was funded by DoHA in 2002 to develop, implement and evaluate an online suicide prevention skills training package (referred to as e-SPST). This online training progresses the work undertaken by the Australian Institute for Suicide Research and Prevention (AISRAP) in the year 2000, on the Coordinated Training Project (CTP). The CTP was an initiative of the Queensland Government Youth Suicide Prevention Strategy (1998-2002). The outcomes of the CTP included a 2-day face-to-face training package for preventing suicide in young people, which AISRAP further refined and entitled Suicide Prevention Skills Training (SPST). While the CTP was based on the Queensland Government Youth Suicide Prevention Strategy (QGYSPS), this current online training is an initiative of the subsequent National Suicide Prevention Strategy (NSPS). The NSPS targets the whole of lifespan, as opposed to "young people" only, and therefore, this online training project is relevant to prevention of suicide across age groups.

The aim of AISRAP's online training (e-SPST) is to provide education and knowledge to workers regarding prevention of suicide, with an additional emphasis on mental health issues due to their major role in suicidal behaviour. The training outcomes include increased worker competency in suicide prevention and increased effective client outcomes and service responses to suicidal clients.

There are significant gaps in the literature about the effectiveness of suicide prevention training. World-wide there is a lack of serious evaluation, as little can be said about the impact that training has on reducing suicidal behaviour. The majority of existing studies are based on the assumption that knowledge and skill acquisition (and retention), results in program effectiveness. However, the claim that a program demonstrates increased worker competency in suicide prevention does not necessarily equate to more effective client outcomes or reduced suicide morbidity or mortality rates. To date, there are very few training programs that have seriously considered evaluation design and measurement of these outcome variables. Only three studies have conducted any type of longitudinal follow-up study for which results were varied (Morris *et al.*, 2000; Rutz, 2001; Knox *et al.*, 2003). And, at least one study to date has used suicide mortality as an outcome measure (Appleby *et al.*, 2001), with no positive results demonstrated between the training and suicide rates.

Another serious limitation of existing suicide prevention programs is the lack of standardised content development and implementation. Currently, the content domains of suicide prevention, intervention and postvention in training programs are diverse in emphasis, breadth, and scope. This is because internationally, and within countries there is no single agreed-upon standard for

minimum competency within these educational domains. Training providers, clinicians, and suicidologists need to collaborate in determining more appropriate processes for ensuring minimum competency standards across knowledge and skill domains.

In recognition of the lack of evidence-based information on effective suicide prevention, intervention and postvention, this online training represents content which we believe most closely reflects best-practice guidelines, literature and theories in the field of suicide prevention. As such, the training content has been designed to meet comparable minimum standards for suicide prevention practice, and to meet mental health standards reflected in current mental health practices. In addition, the collaborative input received from the project Steering Committee for the initial project development phase has ensured that the training material is sensitive to different work contexts and is culturally appropriate.

An attempt was also made to focus on improved evaluation procedures for determining the impact of suicide prevention training. Whilst the limited scope of the project prevented ultimate rigor in the evaluation design (e.g. limited project timeline and available funds), we have focused on the next best possible design; follow-up periods, control group design, and inclusion of a hypothetical case study for measurement of knowledge and skills-based competencies in an applied setting.

Initially, the e-SPST project was funded as a two year project, beginning in November, 2002, due for completion in November 2004. However, a 6-month extension was requested in 2003 due to the need to gather a more complete data set on participant learning outcomes, which resulted in a new project deadline of July 2005. In May 2005, AISRAP was successful in requesting further funding to extend the project for an additional 12 month period beginning November 2005, in order to implement a more rigorous evaluation of the training for completion in November 2006. The commercial name of this online training package is electronic Suicide Prevention Skills Training (*e*-SPST), which reflects learning via electronic and distance learning modes, and shall be the term applied throughout this document. Since no additional funds have been provided, AISRAP is no longer able to operate this online training, which we believe is a tremendous loss to the Australian community of suicide prevention workers (and their consumers). However, the evaluation results indicated herein provide a strong rationale for continual funding in order to provide more education to workers in this much needed domain of suicide prevention education.

The need for training in suicide prevention

The need for suicide prevention training of general and specialised mental health workers, as well as primary care providers, has been highlighted by researchers, policy makers and national and international government bodies for many years. Recognition of the 'gate-keeper' role of these health workers and also community workers in suicide prevention has led to an increased focus on targeting workers for suicide prevention training.

Gatekeeper training is aimed at educating community adults and workers who often come in contact with suicidal persons. Gould and Kramer (2001) describe the objectives of gatekeeper training as increasing gatekeepers' knowledge, attitudes and skills in identifying those at risk of suicide; enhancing their ability to identify specific risk level; and increasing their response capacity, that is, management and/or referral as appropriate. More advanced suicide prevention training has also been proposed for workers dealing directly with intervention and management of suicide prevention. However, there are fewer of these more specifically targeted training and education programs.

Suicide prevention training has traditionally focused on preventing youth suicide, and primary community gatekeepers have included teachers, counsellors and coaches, often within the school setting. The focus on the school context reflects a previously widespread assumption that workers who are most in contact with young people are best able to respond to suicide warning signs in this population. More recent research, however, shows that the group of Australians at highest risk from suicide are not young people, but are adult males aged 25-34 years (ABS, 2006). The Australian National Suicide Prevention Strategy (2003-2008) (LIFE, 2000) now focuses on the whole-of-lifespan response to suicidal ideation and behaviour, and, in response, training is now more often provided to clergy, general practitioners, nurses, allied health professionals, guidance counsellors, and welfare workers. Recent Australian community-worker suicide response training has therefore expanded to include a focus on workers across a variety of settings that come into contact with suicidal persons of *all ages.*

The few Australian studies examining the need for suicide prevention training, have typically focused on teachers and General Practitioners (GPs). In an analysis of adolescent suicide knowledge of GPs (n=404) and secondary school teachers (n=481), Scouller and Smith (2002) concluded that these two front-line professional groups may require further training to reliably recognise suicide risk among already high risk youths. They found that teachers, who interact with adolescents in a structured environment on a daily basis and who may therefore observe behavioural and other changes over time, have less knowledge about suicide prevention than

GPs. They found that teachers had very poor knowledge of suicide warning signs (and how to identify suicide warning signs), precipitating factors, and the importance of their (teachers') own role in the prevention process. Finally, Scouller and Smith (2002) reported that while GP's have sufficient knowledge about precipitating factors (and to a lesser extent about warning signs) of adolescent suicide, they (GPs) were significantly less well informed about suicide risk factors and demographics, and subsequent implications for treatment and prevention.
Low levels of knowledge and ambivalent attitudes towards suicide prevention among some Australian gatekeepers may in fact be translated into lack of abilities in dealing with and responding to suicidal people. This link was investigated by Leane and Shute (1998), who measured attitudes of teachers and clergy (including Catholic priests, Protestant ministers and other non-traditional "denominations") in private Christian and public high schools in metropolitan Adelaide and South Australia. Leane and Shute (1998) showed that clergy are often unable to recognise signs of suicide risk any better than educated laypersons, and that suicide is generally regarded as unacceptable, especially among those with strong religious beliefs. Knowledge and attitudes also vary among clergy of different denominations, for example Catholic priests have a significantly greater knowledge of suicide warning signs than non-traditional ministers. In addition, those with a greater knowledge of warning signs tend to view suicide as a "cry for help" rather than a manipulative ploy.

These findings highlight the need for well designed and evaluated education and training programs for workers and community adults who are in a position to identify risk and respond accordingly in order to prevent suicide.

Effectiveness of suicide prevention training

Skills-based suicide intervention training increases knowledge, skills, and overall competence in suicide intervention, particularly among school teachers and school counsellors (Garland and Zigler, 1993; Kalafat and Elias, 1995). Crisis intervention workers in general counselling settings feel more competent in dealing with suicidal persons following intervention skills training (Neimeyer & MacInnes, 1981), and positive increases in suicide response skills are experienced by teachers who participate in in-service suicide prevention training sessions (Davidson & Range, 1999). Other training programs demonstrate positive changes in referral procedures, increased knowledge, changed attitudes and intervention responses of workers (once again within the school etting primarily) (Garland and Zigler, 1993; King and Smith, 2000; Mackesy-Amiti *et al.*, 1996; Tierney, 1994). Suicide prevention training is believed to be valuable at a community level, for example educating citizens about the impact of negative and stigmatising attitudes towards suicide. At a minimum, less conventional suicide prevention training which is focused on a combination of personal factors of the trainer *as well as* suicide intervention skills may increase competency for dealing with crisis situations, as well as modifying negative attitudes about suicide *(*Gould &

Kramer, 1999; Guo & Harstall, 2002). Despite such seemingly positive results, much research conducted on suicide prevention training lacks rigorous impact evaluation, an issue for discussion below.

Measuring effectiveness: limitations to suicide prevention training evaluation

Neimeyer & Pfeiffer (1994) discuss the irony that suicide rates are so high whilst training of mental health workers is relatively lacking. However, before such training is initiated by program developers, it should be asked whether suicide prevention training programs actually make any difference in the level of attempted or completed suicides in a community.

In a comprehensive review of the literature on suicide prevention training (including articles published between the 1950's and November 2006) (Hawgood, Irving, & De Leo, yet to be published paper), 31 articles (out of 3750 that met inclusion and exclusion criteria) aimed to examine whether training programs are effective in impacting knowledge, attitudes and skills acquisition and retention of training recipients. Very few studies examined the effectiveness of training programs in reducing suicide or suicidal behaviour.

Mann *et al*. (2005) aptly pointed out that there is a serious lack of efficacy in the majority of suicide prevention programs. The majority of existing studies are based on the assumption that knowledge and skill acquisition results in program effectiveness. However, contrarily, the claim that a program demonstrates increased worker competency in suicide prevention does not necessarily equate to more effective client outcomes, or reduced suicide morbidity or mortality rates. Some studies have, more aptly, attempted to demonstrate the impact or effectiveness of training by using suicide mortality as an outcome measure, and/or using longitudinal evaluation designs (Appleby *et al*., 2000; Morris *et al*., 2005). Only three studies have conducted any type of longitudinal follow-up study for which results were varied (Morris *et al*., 2000; Rutz, 2001; Knox *et al*., 2003).

Several important shortcomings of suicide prevention training studies can be highlighted in the literature. While some suicide prevention training outcomes have focused on immediate post-training changes in knowledge and/or attitudes about suicide intervention, response and referral (Turley, Pullen, Thomas & Rolfe, 2000; Hazel & McDonell, 2002), very few studies have conducted longitudinal or follow-up evaluations (Davis, 2001). Where follow-up designs have been implemented, the attrition rates are high preventing objective and reliable outcomes. Additionally, in the majority of studies where the outcome measurement is worker competency, a subjective indicator of outcome is assessed, that is, participants are asked to rate their own abilities as opposed to "actual" knowledge or skill acquisition. Another limitation is that the majority of studies have extremely small sample sizes, making it difficult to draw conclusions or

inferences about the impact of training on suicide rates, even given the low base rate of suicide. Also, the majority of suicide prevention training studies have been conducted on specific populations (e.g. school teachers, medical practitioners, mental health or emergency workers) so that the generalisability and applicability of findings to other gate-keepers or population sub-groups and work contexts is limited. Finally, the majority of studies in this area lack appropriate control groups (including the control of confounding variables such as years experience in the field, contact with suicidal clients, previous suicide prevention training or education, profession and qualifications etc), or other rigorous testing techniques.

In addition to these limitations, suicide prevention training internationally and nationally, lacks standardised content development, implementation, and evaluation design processes. Currently, the content domains of existing suicide prevention programs (e.g. suicide prevention, intervention and postvention) are diverse in emphasis, breadth, and scope. This is because internationally, and within countries, there is no single agreed-upon standard for minimum competency within these domains. Training providers, clinicians, and suicidologists need to collaborate in determining more appropriate processes for ensuring standardised minimum competency standards across knowledge and skill domains.

Online suicide prevention training

Most existing training in suicide prevention is delivered as *face-to-face* workshops, thus creating difficulties in accessibility, higher costs and limited mobility of trainers (Doolan & Nichols, 1994; Sacco, 1994; Hodgson, *et al*., 2000). In rural and remote areas, workers have limited (or nonexistent) access to timely professional support, up-to-date learning materials, and knowledge in suicide prevention. This has resulted in negative professional consequences both for individuals and organisations (eg, Guscott, 1998; Mitchel, Robinson, Seiboth *et al*., 2000; Morrissette, 2000). There are significant "cost" barriers to organisations in isolated areas, most notably the travelling and accommodation costs for trainers who are located in urban centres. Rural workers, as well as those whose lifestyles and/or organisational commitments make access to "standard face-to-face" training difficult, require a flexible and equitable approach. An internet-based training course is geographically independent and can be asynchronous with respect to time, therefore training content and learning materials may be effortlessly accessed at any time, for any time period, increasing flexibility and exposure to training materials.

To the author's knowledge, internationally, only three suicide prevention programs are offered in online mode (not including tertiary-based and post-graduate education courses). Two online programs are based overseas: the National Centre for Suicide Prevention Training in America (Stone, Barber and Potter, 2005), which offers three types of online suicide prevention workshops within a public health framework, and, another American-based online program, "Question, Persuade, Refer" (QPR) by Paul Quinnett (2002). The Australian Institute for Suicide

Research and Prevention (AISRAP), Griffith University, offers the only other online suicide prevention skills training (SPST) program, known as *e*-SPST. The development, implementation and evaluation of this e-SPST program is the focus of the subsequent discussion.

Executive summary of findings – Evaluation of e-SPST

Setting

This online training program (electronic Suicide Prevention Skills Training – e-SPST) is the only web-based flexible learning program in suicide prevention and mental health in Australia. It is a modulised course offering contemporary education in the field of suicide prevention, intervention and postvention, with interactive activities and learning scenarios provided via blackboard software (Version 6, hosted by Griffith University servers). The target audience is workers in the field of mental health, general and allied health, emergency services, education, youth work, ministry and clergy, and community welfare.

Project objectives / Aims

The overall goal of this project was to evaluate the effectiveness of the e-SPST on worker competency, especially on service delivery outcomes. Specific aims were to a) evaluate worker competency in suicide prevention, intervention and postvention, and b) determine the impact of training on worker knowledge and skills gained and retained at 6 months follow-up.

Expected outcomes of the e-SPST were increased worker competency (knowledge and skills) and capacity in suicide prevention, and, increased effective client outcomes and service responses to suicidal clients.

Background and rationale

The need for suicide prevention training of general and specialised mental health workers, as well as primary care providers, has been highlighted by researchers, policy makers and government bodies nationally and internationally. Recognition of the "gate-keeper" role of health and community workers in suicide prevention has led to an increased focus on targeting these workers for suicide prevention training. The Australian National Suicide Prevention Strategy (NSPS) (2003-2008) (LIFE, 2000) focuses on the whole-of-lifespan response to suicidal ideation and behaviour. Training and education has been highlighted as one of the essential elements of successful suicide prevention programs by the NSPS (LIFE framework, Action Areas 6 and 3). The specific aims of initiatives under Action Areas 6 and 3 of the LIFE Framework are to "Increase the percentage of the health, welfare, education and other human services workforce that has undertaken training in suicide prevention", and to "Enhance the capacity of service in the community to recognise, respond to and refer individuals showing signs of high suicide risk". Since 2003, the e-SPST has been operational, and has offered two intakes of training (2 x 3-month courses) with follow-up evaluations. A feasibility study and a pilot study involved a total

184 participants. Preliminary findings demonstrated significant improvements and retention in worker knowledge for two out of three of the course Units. Whilst the e-SPST has provided a unique opportunity for workers to gain increased knowledge and skills for their specific work context, there was a need for more rigorous evaluation of its impact both on worker competency, and on client suicidal behaviour. This report reflects summary outcomes of the e-SPST project from November 2002 to 2005, and then focuses predominantly on the most recently funded project (2005-2006); the evaluation of the e-SPST.

Methodology

Two studies were conducted to meet the aims of the project: Study 1 was designed to determine whether there was an increase in competency and capability of workers in the area of suicide prevention and mental health. Measurements were taken of worker competency levels (knowledge, attitudes and skills) in the areas of suicide prevention, intervention and postvention at pre- and post-completion of the e-SPST, and three and six-month follow-up periods. In addition, the 6-month follow-up measure also included open-ended questions about participant experiences of the e-SPST. The second part of the evaluation (Study 2) was designed to determine the impact of the training on client service delivery (client outcomes). Two separate measures were administered to participants at 6-month follow-up; a hypothetical case study and a perceived capability survey. To facilitate more rigorous evaluation of the effect of the e-SPST program, a matched control group of workers in the field of suicide prevention who had not undertaken the e-SPST was included.

Results

The e-SPST intake for November 2005 yielded a total of 52 student enrolments; eight males and 44 females. The largest number of enrolments was from Social workers (n=16) and counsellors (n=11) followed by nurses and psychologists (n=5). An attrition rate of 57% resulted in 22 students completing the whole course. Approximately 50% is the expected attrition rate for 'free' online training courses of this nature (Stone, Barber and Potter, 2005). We believe that our attrition rate of 57% would have been much lower, but for the unavoidable technological problems (section 9 of this report) occurring within the first two months of course duration.

Nevertheless, impressive results were revealed for Study 1. Significant increases in participants' competency levels for Unit 1, 2, and 3 were evidenced from pre-to post-training. Furthermore, these significant differences in competency gains were retained for both the 3 and 6-month follow-up assessments. Qualitative data analyses suggested that students were highly satisfied with the training despite technological problems, and self-reported key learnings were aligned very closely to all Unit learning objectives.

Study 2 of the evaluation used a matched control group and findings indicated that there were no significant associations between worker characteristics (prior experience in the field of suicide

prevention, previous training, and contact with suicidal clients) and participants' outcome scores between the student and control groups. As expected the student Capability survey administered to each of the student and control groups, highlighted some differences, namely that the student group perceived most worker capabilities within suicide prevention as more important than the control group. The student group also rated themselves higher than the control group on the majority of specific suicide prevention capabilities (particularly in areas of applied and specific suicide prevention skills). Regarding the case scenario evaluation, there were no significant differences between the student and control groups, although the student group reported higher scores overall than the control.

Discussion / Conclusions

It is clear from the results that suicide prevention training as delivered by the e-SPST leads to significant knowledge gains for all three Units of the program, and more importantly, that this knowledge is retained up to 6 months post training. A more comprehensive evaluation design involved use of a matched control group of participants who did not do the e-SPST, and compared results obtained on a capability survey and case scenario evaluation to determine the impact of the e-SPST. That there were no significant differences between the groups on these measures indicated that there may not have been any impact of the training on knowledge gains. However, there was no pre-training administration of these measures and therefore, it is unknown whether the student group had a much lower knowledge base compared to the control group to begin with. It is an inherent bias of suicide prevention training (and evaluations), that students who perceive themselves as most in need of training are those whom self-select for training in the first place. These people usually are motivated to learn and acquire knowledge. Similarly, those in the control group may have perceived themselves as already having the knowledge and therefore did not enrol in the training. Furthermore, they may have volunteered to participate in the evaluation with the confidence of knowing that their existing knowledge could be successfully applied to the assessment.

Recommendations support the future implementation of the e-SPST. Specifically, it is recommended that marketing of future intakes of the program occurs nationally, that a one-off grant be dedicated to increasing the technical and operational aspects of the e-SPST portal (particularly the registration form that currently requires amendments to suit all private and public workplace internet services), and finally, that a smaller amount of annual financial support be provided for the administration costs associated with updating curriculum, and the conduct of evaluation processes and student assessment.

ATTACHMENT 2

Summary of
Is suicide prevention properly taught in medical schools?
by Jacinta L. Hawgood, Karolina E. Krysinska, Naoko Ide and Diego De Leo (2008)

The purpose and design of this study: To determine the need and feasibility of developing a national suicide prevention (SP) curriculum for undergraduate medical students.

The exploratory study design included semi-structured phone interviews and surveys. Data was obtained from ten (out of 15) Australian Medical Schools (AMS), 373 medical students from one Queensland medical school, and 24 Australian General Practitioners, between April and June, 2006.

Results: Convergent views of AMS, medical students, and GPs revealed a high need and support for SP curricula, especially on skills-based education. **Students who previously received SP education rated themselves significantly higher on skills-based SP abilities than those who had not**. Over one-third of GPs had not received SP training from their universities (37.5%), yet 66% had experienced a case of suicide among their patients, and a third recorded on average a case of suicide every two years. The majority of students and GPs rated themselves as least competent on skills-based SP capabilities, yet rated these capabilities very high in importance for the medical profession. Whilst 80% of AMS provides some form of SP education, the quantity and quality of this is divergent. All AMS indicated support for a more uniformed SP curriculum, identified priority SP topics and delivery mechanisms, and 80% agreed to participate in a future piloting of a SP curriculum.

Practice points:

- Currently, there is no uniform or standardised national approach to suicide prevention education in Australian Medical Schools (AMS), yet this study demonstrates that AMS, undergraduate medical students and General Practitioners strongly support a national suicide prevention curriculum in AMS.
- Suicide prevention education may increase students' perceived competency of suicide prevention, intervention and postvention capabilities.
- There is a specific high need for skills-based suicide prevention education which informs medical students on the 'how to' of suicide prevention.
- The diversity and complexity of the AMS curriculum environment (structure and design) requires specific consideration to enable introduction of a national suicide prevention curriculum.

- Further information and consultation is required from AMS to specify the curriculum structure and the resource requirements for a national suicide prevention curriculum, in order to progress to a piloting of such a curriculum.

Conclusions:

Study participants were clearly supportive of a suicide prevention curriculum in undergraduate medical schools. There is room for further investigations on when and how to deliver SP curricula within AMS. All of the SP curriculum topics proposed by the researchers were perceived to be of importance, but differed in terms of level of priority. However, determining the point at which specific elements of the SP curriculum should be integrated within current AMS curriculum structures will rely upon a number of considerations. In the first instance, this will depend on identified SP learning objectives and competencies. Secondly, a SP curriculum needs to be delivered against a background understanding of the complex interactions and contributions of a wide array of risk factors; not just biological/genetic but also sociological, psychological, and cultural. A SP curriculum that addresses such fundamental concepts and principles would be best delivered alongside curricula which address these related educational areas of learning.

Issues surrounding the delivery of SP curriculum will also require further investigations, namely regarding the individual resource needs of each AMS and how best to ensure high quality expert education within existing budgets and within existing student workload commitments. Given the fact that many patients who commit suicide have visited their GP in the 12 months or less before death (Luoma *et al.,* 2002; Mann *et al.,* 2005), and that there is significant interest and a demonstrated need for suicide prevention education (as shown in this study), and that promising results have been shown regarding the impact of such education for GP attitudes, knowledge and skills (Rutz 2001; Mann *et al.,* 2005); in light of these considerations, it seems appropriate to invest in the medical education of future physicians with the aim of reducing the death toll due to suicide.

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TERM OF REFERENCE (F)

THE ROLE OF TARGETED PROGRAMS AND SERVICES THAT ADDRESS THE PARTICULAR CIRCUMSTANCES OF HIGH-RISK GROUPS

In this section we describe AISRAP's role in the development and implementation of targeted programs and services, and highlight our research on **high risk groups**. In fact, AISRAP has undertaken many studies that illuminate the fact that certain groups are at high risk. This is not surprising as the data collected in the Queensland Suicide Register (discussed in detail under Term of Reference B above) provides a unique mechanism to identify **high risk groups**. Consider the following studies:

- Suicide in the Building Industry
- Suicide from the Story Bridge
- Suicide and Schizophrenia
- Suicide and Queensland Rail
- Suicides and Motor Vehicle Accidents
- Firearm Suicides
- Suicide and Marital Status
- Trends in Suicide and Suicide Methods
- Suicide in Different Occupations
- Analysis of Suicide in Indigenous Populations

All the issues mentioned above have been the subject of previous AISRAP research. Such research is unique and can only be undertaken because of the data collected by AISRAP for the Queensland Suicide Register. Attachment 3 to this section of our Submission provides an example of one of these studies: it is a brief account of the first-mentioned project, "Suicide in the Building Industry". The AISRAP research mentioned above has been published or has been commissioned as a consultancy. Published studies are available on request.

We now make some comment on the issue of "targeting" before turning our attention to "high risk groups".

ROLE OF TARGETED PROGRAMS AND SERVICES

Suicide prevention activities comprise a continuum of activities and interventions, sharing a common goal: **reducing the rate of suicide**. Each activity or intervention is defined by the target group, the proposed outcomes and the people involved in this activity or intervention (e.g. psychologists, GPs). Universal suicide prevention is targeted at the general population and aims to improve the emotional and social wellbeing of the communities. It should include social security programs, improved health-care availability, community-based suicide prevention programs and restricted access to lethal means of suicide. Selective suicide prevention strategies are aimed at populations identified as potentially at risk of suicide. Indicated suicide prevention is aimed at populations already identified as showing signs of suicidal behaviour.

The term "**targeted suicide prevention activities**" commonly refers to selective and indicated suicide prevention, both directed to vulnerable sub-populations, i.e. those at increased risk of suicidal behaviours. AISRAP's research enables such suicide prevention activities to be "brought to light". Identification of high risk groups is in fact a prerequisite for development and implementation of targeted programs and services.

Furthermore AISRAP helps the Government and community to addresses the outcomes of **Action Area 5** "Providing targeted suicide prevention activities" of the *Living Is For Everyone: A Framework for Prevention of Suicide in Australia* (2007). This is pursued by informing suicide prevention policy in the form of reports to the Australian Government and recommendations to partners within a specific research project (e.g. the Building Construction Industry). An example of such cooperation is described in Attachment 3. This example relates to the commercial building construction industry in Queensland. For the convenience of the Committee, we reproduce here the **outcomes** of this Action Area:

- Improved access to a range of support and care for people feeling suicidal;
- Systemic, long term, structural interventions in areas of greatest need;
- Reduced incidence of suicide and suicidal behaviour in the groups at highest risk; and
- Improved understanding, skills and capacity of front-line workers, families and carers.

Attachment 4 provides the detailed recommendations from the BCI study. Attachment 4 clearly illustrates how **practical** improvements can flow from targeted research. This is but one example of AISRAP's work in targeted prevention.

HIGH RISK GROUPS

We now consider a quite general study which identifies **high risk groups** in aggregate. This study is reproduced in Attachment 5 to this part of the AISRAP Submission (Kõlves *et al.*, 2009).

Suicide risk in different subpopulations in Australia (Queensland)

The purpose of this study is to determine suicide risks for specific groups within the Australian community. However, to determine such risks requires specific information that is not generally available: for this reason the study is restricted to Queensland as the relevant data have been compiled as part of the collection for the Queensland Suicide Register. We begin with "A simple account" to ease the reader into the technicalities of this type of work, and then present "A more detailed summary".

A simple account

Suicide rates differ remarkably between countries, and between specific communities and subgroups within the one country. The analysis in this study covered the following subpopulations in Queensland: gender, age, Indigenous ethnicity, geographical location or living area (measured by the ARIA classification scheme), labour force status, country of birth, mental health status and history of suicide attempts.

Table 2 presents some empirical results on suicide risks associated with the particular subpopulations mentioned above. The structure of statistical risk comparisons is such that there are always two groups being analysed, e.g. people of Indigenous origin and people of non-Indigenous origin; people living in metropolitan areas and people living in non-metropolitan areas; people who are employed and people who are unemployed etc, etc. In the context of

suicide risk, it is crucial that one has data on suicide rates for the two groups, so as to calculate the degree of risk for the two groups being considered. The analysis reported in Table 2 has been undertaken by reference to **relative rates**, which is also called the rate ratio (RR). See Woodward (2004) for details.

Table 2 simplifies some more detailed results, which are reported in the paper reproduced at Attachment 5. It is simplified in the sense that some important details (rates, and upper and lower confidence intervals etc.) have not been reproduced. In addition, not all the comparisons of sub groups in the original paper are reported in Table 2.

It is useful to describe the significance of RR, as defined, by recourse to three cases. First, if the rate ratio has the value of unity (RR=1), it means that there is no difference between the two groups in terms of the particular comparison. On the other hand if the rate ratio is less than unity (RR<1), then the event (in our case suicide) is less likely in the group of interest than in the control group. The third case is when the value of the risk ratio is greater than unity (RR>1). This means that the event of interest (suicide) is more likely to occur in the group of interest than in the control group.

The RR values reported in Table 2 are **point estimates,** and as such, they are subject to error. One way of handling the extent of the error is by calculating upper and lower confidence intervals, as reported in the original paper. A hypothetical example of this issue is as follows: let us assume that a particular comparison involved a RR value of 1.01. Could we conclude that this meant that the suicide rate for this comparison was **really** higher than that for the control group? Or did this (small) difference arise by chance? The confidence intervals provide a **numerical** way of answering this question. The * notation employed in Table 2 indicates when we can have some confidence that the difference between the one group and the control group is "real", and did not arise by chance. ("Chance" is defined by a one-in-twenty chance, or a probability of 0.05.) These considerations explain the use of 95% confidence intervals in the original paper at Attachment 5.

***Table 2*. Risk of suicide in different subpolulations, Queensland**

	Comparison	Rate Ratio	Interpretation
Indigenous origin (vs non-Indigenous origin)	Male	1.98*	Risk of male Indigenous suicide is almost twice as high as for non-Indigenous males.
	Female	1.93*	Risk of female Indigenous suicide is almost twice as high as for non-Indigenous females.
Regional location; (Metropolitan vs all other areas)	Male	.70*	Risk of suicide in metropolitan areas is lower than in non-metropolitan areas.
	Female	.83*	No difference.
Regional location; (Regional areas vs all other areas)	Male	1.26*	Risk of suicide in regional areas is higher than in non-regional areas.
	Female	1.12	There is no difference.
Regional location; (Remote areas vs all other areas)	Male	1.99*	Risk of suicide in remote areas is higher than in non-remote areas.
	Female	1.67	There is no difference.
Labour force status for ages 15-64; Males	Unemployed	14.36*	Suicide rate for the unemployed is fourteen times higher than for the employed.
	Not in labour force	1.94*	Suicide rate for those not in the labour force is almost twice as high as for the employed.
Labour force status for ages 15-64; Females	Unemployed	16.21*	Suicide rate for the unemployed is sixteen times higher than for the employed.
	Not in labour force	1.96*	Suicide rate for those not in the labour force is almost twice as high as for the employed.
Mental illness (vs no mental illness)	Male	4.46*	The risk of suicide for males with mental illness is more than four times that for males without mental illness.
	Female	8.58*	The risk of suicide for females with mental illness is over eight times that for females without mental illness.
Previous suicide attempts (vs no attempt)	Male	10.77*	The risk of suicide for men who had previously attempted suicide is almost eleven times the risk of men who had not attempted suicide.
	Female	14.29*	The risk of suicide for females who had previously attempted suicide is over fourteen times the risk of females who had not attempted suicide.
Overseas born (vs Australian born)	Male	0.73	No difference in risk.
	Female	0.89	No difference in risk.

Note: * Significant at the 5 per cent level.

Source: Kõlves, Milner and De Leo (2009).

This can be illustrated by reference to any of the comparisons in Table 2. Take "Suicide by Labour Force Status" for males, for example. The control group in this case is "Employed", given that the two groups of interest are "Unemployed" and "Not in the Labour Force". By definition, the RR for the male control group (the employed) is unity (the RR=1). On the other hand, the RR for the unemployed is 14.36, and this is statistically significant. **The conclusion is that "unemployment" is a statistically significant risk factor for suicide.** Note the statement of "meaning" for this case in Table 2, i.e. "Suicide rate for the unemployed is fourteen times higher than for the unemployed".

There is another possibility for labour force status, i.e. "Not in the Labour force". In this case, the RR is 1.96, which is statistically significant. This means that the suicide risk for "people not in the labour force is almost twice that of people employed".

The sources of the data, and the procedures undertaken for this study, were as follows. Using Australian Standard Population (by Census 2001) Age-Standardised Rates (ASR) for suicide were calculated where possible. Crude Rates (CR) were analysed if age-specific information was not available for all of the subpopulations. The main source of data was QSR, using the data for 2005-2007. Information also came from the ABS, National Survey of Mental Health and Wellbeing (a survey undertaken in 2007), the Australian Institute for Health and Welfare and the WHO SUPRE-MISS Study.
A more detailed summary of the findings will now be presented.

A more detailed summary

Summary outcomes: Results are presented separately for each of the factors, distinguishing the sub-populations.

Gender and age: Suicide risk was 3.5-times higher among males, in particular for the age group 85+ years. This age group was followed by the age group 35-44 years, which had highest rates for females. The risk was significantly higher risk for the age groups 35-44 years (for males), 25-34 years (for males) and 45-54 years (for males and all persons) and the age group 35-44 years (for females).

Indigenous status: the risk was almost twice as high for Indigenous males than for non-Indigenous males. Risk estimates for Indigenous females and all persons were also close to double those of non-Indigenous females and all persons.

Metropolitan, regional and remote areas: People residing in Metropolitan Areas have a lower rate of suicide than those in Regional or Remote Areas. In Metropolitan areas, males and all persons had a significantly lower risk of suicide than those in others areas. In comparison, there was a greater risk of male and all persons suicide in Regional Areas of Queensland. Additionally, the risk was also higher for males and all persons in Remote Areas. This suggests that increased remoteness is associated with higher risk of suicide. There were no significant risk differences for females.

Labour force status: Only the working age population (people aged 15-64 years) was used in this analysis. Among the working age population the risk of suicide is more than 10-times higher among unemployed compared to employed males and employed females. Suicide risk was significantly higher for people not in the labour force compared to employed males and females.

Mental illness: Since the QSR excludes cases with undiagnosed mental disorders it provides only a conservative estimate of mental illness. Due to this, and the relatively crude estimation of mental illness in the population, this analysis must be viewed as an approximation, rather than as a definitive and precise account. Crude rates indicated a higher rate of suicide in cases with a mental illness diagnosis compared to those without one. This risk was eight times higher for females with a mental diagnosis and over four times higher for males.

Suicide attempts: For this analysis the population data was estimated using information from a community survey (the WHO SUPRE-MISS Study) conducted in Brisbane and the Gold Coast by De Leo *et al.* (2005). Using a sample of 11,572 persons, this study found that 3.3% of males and 5% of females had attempted suicide in their lifetime. This estimate was used to provide a rough approximation of the total numbers of persons who had attempted suicide in the general population. The results showed that males with a history of a suicide attempt have a risk of

suicide over 10-times higher than those with no such history. In females, this risk was over 14-times higher.

Country of birth: For the purpose of this analysis some "country of birth" groups were collapsed into major regions to ensure sufficient numbers for suicide rate calculations. All rates were age-standardised using World Standard Population for age 15+ years. The highest suicide rates (15+ years) were found in males born in Eastern European countries (35.3 per 100,000. In females, the highest rates were among those born in Western Europe (8.1 per 100,000). The lowest rates were found for people born in North Africa and the Middle East for both genders (8.0 per 100,000 for males and 1.6 for females). Rate ratios compared with people born in Australia indicated significantly lower risks of suicide for males born in North Africa and the Middle East, in Southern and Central Asia and in South-East Asia. Rate ratios were also significantly lower for all persons born in North Africa and the Middle East.

Attention is now directed to two high risk groups, i.e. older men living in rural locations and working in agricultural or pastoral industries, and people who have experienced marital separation.

Suicide in Indigenous populations of Queensland

Suicide among Indigenous Australians, whilst virtually unknown until three decades ago, has in recent times become the leading cause of external mortality for both Indigenous males and females (Pink & Allbon, 2008). There has been considerable qualitative research done on this subject, but little epidemiological evidence about the specific factors that distinguish Indigenous suicides from non-Indigenous suicides.

This project was conducted as an extension of the ongoing management and analysis of the data contained in the Queensland Suicide Register, and received specific funds from Queensland Health. Its main aim was to provide an incidence of suicide among Indigenous population in Queensland and increase understanding and awareness of the cultural aspects of Indigenous suicide. This research was the first of its kind undertaken in Australia.

The deliverables included:

- A literature review of the international and Australian literature on epidemiology and characteristics of Indigenous suicide, with focus on historical, social and cultural issues and the impact of suicide contagion;
- Analysis of the extensive data on all suicide cases collected through the Queensland Suicide Register from 1994 to 2006, comparing the trends of suicide mortality and key characteristics of Indigenous and non-Indigenous suicides;
- Enhanced understanding of the particularities of suicidal behaviours in Indigenous populations to enable policy interventions for communities and individuals at risk.

Key findings of this research are provided in Attachment 6. For more details see De Leo *et al.* (in press).

Firearms and suicide

Although the ABS (in various publications on suicide) publishes data on the method of suicide (hanging, firearms etc.), little analysis can be undertaken. However, the much more detailed data in the Queensland Suicide Registry enables us to answer questions on which the ABS data are silent.

Statistical analysis of data from the QSR clearly indicates that the following factors are statistically significant with respect to the selection of firearms as a suicide method: age (65+); male; possessing a gun license; and rural/remote location. This study clearly indicates that "access" is an important factor. For further details see Klieve *et al.* (2009).

The issue of access to firearms had a national focus in 1997 following tragic events associated with mass murder at Port Arthur in Tasmania. The Australian government and the governments of the states and territories, agreed to a "gun buy-back" program. A major policy question is as follows: did the "buy-back" program have an effect on suicide by firearms? In other words were the regulatory reforms efficacious in reducing suicide by this means?

A number of studies have concluded that the reductions in firearms suicides post-1997 (the year of implementation of the inter-governmental National Firearms Agreement) have been a result of those regulatory changes incorporated in the "buy-back" program. It is in this policy context that the authors of another paper analysed the QSR data to determine the effectiveness of that policy (Klieve *et al.*, 2008).

Various equations were estimated using negative binomial regression. More specifically, trends in both the suicide rate and method selection, were analysed. Essentially, the "buy-back" program involved a strategy of restricting access to firearms. But it can be argued that the method choice for suicide is determined not simply by access, but also by social or cultural factors. The statistical analysis showed that (for Queensland) there was a significant decrease in the firearm suicide rate **before** and **after** the implementation of the National Firearm Agreement. The main point, however, was that there was no significant difference between these two periods. In other words, the decrease in firearms suicides pre-dated the policy change in 1997. Put otherwise, there is little evidence to indicate that the restrictive firearms policy was efficacious in reducing firearms suicide.

Suicidal ideation and behaviours following marital separations

Although marital separation has become increasingly common in Western countries, studies of the effect of such separation (in terms of suicidal ideation and behaviour) are very limited.

To shed light on this issue AISRAP approached separated males and females who had recently contacted relationship counselling services, help-line services, and a variety of support and self-help groups. With institutional ethics approval, the relevant people were asked to participate in the study. Entry criteria for the study were to be 18 years or older, have separated from their spouse or *de facto* partner within the previous 18 months, but not yet divorced.

Multinomial logistic regression analysis was applied to the data collected from the participants: the purpose was to determine which variables were statistically significant in explaining suicidal

ideation. Essentially, there were marked differences between males and females: separated males were at an increased risk of developing suicidal behaviour during the separation process compared to separated females, having taken account of the effect of age, education, employment and children. For males, other relevant variables were low education, separation-related shame and stress associated with legal negotiations. See Kõlves *et al.* (2010) for more details.

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ATTACHMENT 3

Suicide within the construction industry in Queensland

The purpose and design of this project: Suicide within the construction industry in Queensland, Australia, was reportedly high in a recent Royal Commission report. The current study examined the incidence and causes of suicide in Queensland's Commercial Building Construction Industry (CBCI) using psychological autopsy and focus group investigations. See Heller *et al.* (2007).

In order to calculate the incidence of suicide, a variety of data sources were reviewed, including those from industry databases (i.e., insurance companies that specialize in workers from the CBCI), the Australian Bureau of Statistics (ABS), and the Queensland Suicide Register (QSR). Additionally, quantitative (through psychological autopsy) and qualitative investigations (focus groups with industry representatives) were conducted to reveal some of the individual, work, home, and work-home interface factors that may be associated with suicide in this group.

Summary outcomes: The results showed that over the seven-year period 67 suicide deaths by employees in the CBCI, resulting in an average of 9.6 suicides per year, represented 2.4% of all suicides by working-age males (15–64 years) in Queensland from 1995 to 2001. The vast majority of these suicides were males (n = 64; 95.5%), with only three females (4.5%). Suicide rates were higher among CBCI employees than the Australian male suicide rate, at each year of investigation, reaching statistical significance in 1998 and 1999. For example, in 1998, members of the CBCI were 1.91 (95% CI 1.06–3.19) times more likely to die by suicide than the Australian general male population. Across the entire period (1995–2001), CBCI suicide rates were significantly greater than Australian male rates (38.3 per 100,000 vs. 27.6 per 100,000).

Comparing the information surrounding the suicide deaths of CBCI and Queensland (non-CBCI) working aged males, CBCI suicides were significantly more likely to have consumed alcohol preceding death (59.4% vs. 42.0%), have had a relationship problem in the three months prior to death (53.1% vs. 29.5%) and had multiple stressful life events preceding suicide (66.1% vs. 51.7%). Further, they were non-significantly more likely to report alcohol related problems (23.4% vs. 17.4%) and less likely to have consulted a mental health professional in the three months preceding death (7.8% vs. 17.3%).

At elevated risk of suicide were younger CBCI workers (15 to 24 year olds), with the suicide rate 61.7 suicides per 100,000, which was more than two-times the Australian male 15–24 year old rate. Additionally, young employees were at excessive risk with separation/divorce, relationship problems, and untreated psychiatric conditions. Further research is necessary to ascertain possible causality in this regard, for example, if the work pressure leads to alcohol abuse and marital separation, or vice versa.

The main conclusions of this study were that construction workers have a tendency towards elevated suicide rates, compared to the general male working age population, and that this is amplified in young CBCI workers, whose suicide risk is approximately twice that of age-matched cohorts. It appears that work-related factors (e.g., long working hours, pressure), interpersonal factors (e.g., relationship problems), and individual factors (e.g., alcohol and substance abuse) interact to contribute to suicide risk in the CBCI. Focus groups revealed that the strain of long working hours impacted personal relationships, with a high rate of separation reported in the industry. Strong cultural themes evolve around the industry itself, such as being "masculine", and having a frequent association with alcohol and drug use, with more emphasis on "toughing it out" than on communicating problems. That such themes are encountered by young males upon immediately entering the industry may contribute to perpetuating existing attitudes and behaviours, and may prove resistant to change, once ingrained.

Alcohol and substance abuse counselling may be recommended for future prevention initiatives, with random drug and alcohol testing possibly having an impact on reducing the incidence of this maladaptive coping behaviour. Prevention programs may need to incorporate wholesale changes to the industry culture, before any specific interventions may be rendered viable. Future research should include industry-specific psychological autopsy interviews with next-of-kin, to more reliably understand the contribution of work factors in the development of fatal suicidal behaviours.

The final phase of this project included also **Recommendations** for the Suicide Prevention Steering Committee of the CBCI. The recommendations are inclusive of activities, informed by critical report findings, as well as best practice guidelines and evidence-based research where possible. They have also been aligned with then Living Is For Everyone (LIFE) Framework. The Recommendations are fully listed in Attachment 4. However, a full report on Suicide in CBCI can be provided on request.

Reference

Heller TS, Hawgood JL, De Leo D (2007). Correlates of Suicide in Building Industry Workers. *Archives of Suicide research, 11*, 105-107.

ATTACHMENT 4

Building construction industry project - recommendations

Introduction:

The aim of this section of the Final Report is to propose Recommendations for the Suicide Prevention Steering Committee of the Building Construction Industry, which have been informed directly by the critical findings of Phase 1 and 2 of this project.

The recommendations are by no means exhaustive. They are inclusive of activities which are informed by critical report findings, as well as best practice guidelines and evidence-based research where possible. Additionally, these recommendations are reported in recognition of existing suicide prevention strategies implemented by the Building Construction Industry, via the Union's which support this industry (for example; trauma counselling, etc).

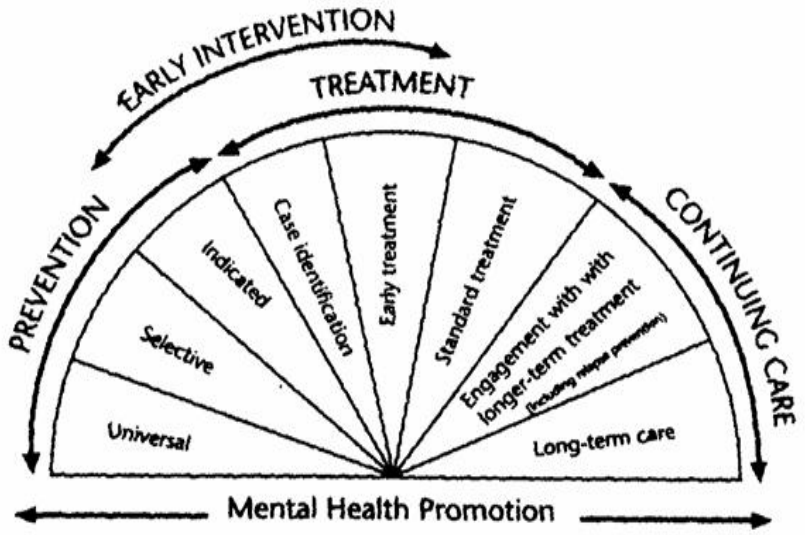
These recommendations have been aligned with the Living is for Everyone (LIFE) Framework for suicide prevention, which is a strategic framework that guides the National Action Plan for prevention of suicide and self-harm in Australia (Commonwealth of Australia, 2000; www.livingisforeveryone.com.au). This framework addresses the needs of all age groups of the life-span, with special attention to the needs of high risk and priority groups.

When planning activities for prevention and intervention, it is recommended that a range of activities are included with due consideration of:

- The purpose of the intervention/prevention activity;
- The target group (e.g. high risk individuals, through to "all of the population" of workers);
- The effectiveness of activities/strategies employed (e.g. use of activities where the evidence for change in risk level is apparent);
- The costs and benefits of the proposed activities; and
- The need for collaboration and networking with key relevant stakeholders/service providers likely to provide more integrated responses for the proposed activities.

On this basis, the recommendations which follow will not only be consistent with the LIFE Framework for suicide prevention, but also, they will take into account the above-mentioned considerations.

In the instance that these recommendations become the basis for subsequent Government funding submissions, it may be important for planners to be aware of the LIFE Framework and the associated Spectrum of Interventions (Mrazek & Haggerty, 1994) utilised for understanding and implementing suicide prevention intervention and prevention activities (see Figure). Therefore, recommendations appear under headings which are consistent with both of these.



Source: adapted from Mrazek & Haggerty (1994).

Suicide Prevention Program / Initiatives:

PREVENTION[1]

Universal prevention activities – these activities are directed at the entire population of construction workers (include health promotion and protection measures)

- Promote awareness that suicide is a preventable problem within the industry[2]
    a. Use of informative and factual flyers on the problem of suicide, as well as the associated contributing factors indicated in this report.
    b. Use of educational seminars or training incorporated into the Blue Card Training, or TAFE/Apprenticeship course modules[3]. Content should address i) knowledge of warning signs ii) how to seek help for self and for peers who display these signs, iii) where to get support, and iv) the prevalence of problems which are associated with suicidal behaviour (such as depression, substance use, relationship

[1] It is advised that current employers, union representatives and employees themselves are actively involved in the consultation phase of design and delivery of all prevention program activities.
[2] Rather than "awareness messages", education materials should be supportive of protective factors, such as help-seeking, coping and problem solving abilities, and with a focus on reducing risk factors, via increasing knowledge of treatment facilities within the local areas etc.
[3] These mechanisms are suggested due to the potential to capture the widest audience, and most likely, the youngest employees (i.e. the high risk group of 15-24 year olds).

problems etc) and ways to identify and respond to these problems before they become contributing factors to suicidal behaviour.

- Reduce the stigma associated with help-seeking, mental illness, and suicide
    a. Instigate environmental changes across all learning environments and building sites via use of simple factual posters, flyers and course materials which dispel myths about mental illness and suicide, and which clearly convey that '*its okay to ask for help*'.
    b. Use of educational seminars or training incorporated into the Blue Card Training, or TAFE/Apprenticeship course modules which directly addresses the issue of masculinity and the associated traditional culture of unacceptability of help-seeking (in order to positively influence attitudes towards help-seeking).
- Promote well-being, resilience and coping
    a. Use of educational seminars or training incorporated into the Blue Card Training, or TAFE/Apprenticeship course modules which focus on very key understandings and skills for problem-solving and coping particularly with regards to i) work-related stressors, ii) individual problems, and iii) work-home interface stressors (e.g. relationship and family problems resulting for work related stressors such as work-load etc)
- Enhancing positive environment in the workplace
    a. Reduce perceived stressors within the workplace which potentially increase worker risk for suicide
        i. Enforce maximum weekly working hours 'cap'.
        ii. Determine means for increasing job security by liaising with relevant stakeholders in the industry etc.
        iii. Reduce unreasonable pressure on employees associated with unrealistic deadlines.
    b. Reduce bullying behaviour by 'policing' employees and employers behavior.
- Increase workplace safety by reducing access to means
    a. Develop and implement random alcohol and drug testing for all Industry members.
    b. Provide drug and alcohol counselling for identified individuals.
- Establish coordinated working group or advisory committee for overseeing suicide prevention activities for the BCI
    a. Form a group of individuals representative of all levels of the BCI including employees, employers, unions, Master Builders, government representatives, contractors/sub-contractors, and representatives in the field of suicide prevention and other key stakeholders.
    b. Identify key committee objectives including advisory roles for short and long term suicide prevention strategies and evaluation frameworks.

Selective prevention activities – directed at those at greater risk than the general population of workers; a subgroup of workers who are already at risk of suicide due to certain risk factors which place them at risk (usually service-based responses).

- Provide career and financial advice to young males (aged 15-24 years)
    a. Implement educational seminars or workshops tailored specifically for encouraging and motivating career development pathways for young males.
    b. Implement educational workshops/seminars[4] on gaining financial security (long term planning and investment), specifically with options for short and long term gains related to current incomes etc.
- Implement suicide prevention training programs for "identified gate-keepers" or 'mentors' (workers in the industry)
    a. Develop and implement training for volunteer gate-keepers (workers) with a focus on identification of warning signs for suicide, as well as appropriate referral procedures, and basic strategies for approaching a person identified as "at risk".
- Provide 'mentoring' services for "new employees" to the industry
    a. Develop and offer peer mentoring systems whereby an apprentice/new employee is partnered with an experienced industry worker;
    b. Peer mentor should be trained to provide information, orientation, social support, etc in an effort to reduce bullying and increase resilience (suggestion that mentors receive a financial inducement to maintain contact and sustainability of the program)
- Provide support services for men experiencing relationship difficulties (e.g. who don't have custody of their children; who are separated, or those with increased relationship conflict)
    a. Use of both individual and group services: i) individuals - provide access to professional personnel with whom workers can easily identify (i.e. those not dressed in suits, as professionals etc); ii) groups – provide a "group" service, whereby men are less likely to feel stigmatised in seeking help and accepting the same.
    b. Ensure services[5] are widely acceptable and accessible attending to localities, costs, and issues of confidentiality.
- Provide services for families and partners of workers, who require support in coping with work-related stressors as well as any consequent family-related issues
    a. Use of professional personnel who can deliver educational (plus question/answer) talks throughout the year on the issues of coping with difficulties associated with 'coping' and responding to the work-home interface conflicts.

[4] Seminar speakers should be industry employees who have experience in successful financial and career achievements.
[5] Services can be partnerships with other.

b. Initiate family and/or partner involvement in activities coordinated by the industry such as informal gatherings (monthly or bi-annually) (eg BBQ's, social group etc); in order to increase connectedness and belongingness.

Indicative prevention activities – activities directed at the high risk individuals within the BCI, where workers display warning signs/vulnerabilities that indicate high risk (eg; suicidal ideation, substance abuse, depression or mental illness)

- Provide programs for 'at risk' individuals
    a. Use of trained mentors to follow-up already identified 'at risk' persons, including basic 'checking' up and monitoring of i) current mental state, ii) worker's use of and access to support services, and iii) post-treatment satisfaction[6]

TREATMENT

- Develop appropriate referral protocols and procedures for responding to workers who are identified as suicidal.
    a. Engage service providers (both immediate and long term referrals) who will respond to suicidal or 'at risk' workers; be sure to identify providers across all localities throughout Queensland.
    b. Ensure relevant Industry personnel[7] have increased awareness of referral criteria of the local treatment services.
- Collaborate with treatment facilities/services utilised by workers who are suicidal
    a. Encourage worker to accept Industry participation in supporting his/her treatment.
    b. Maintain support and contact with the family/partner of 'worker, with consent of the worker.
    c. Encourage involvement of family/partner in ongoing and shared responsibility of monitoring the worker within the home setting by maintaining contact with the workers family.

[6] Note that this is NOT a counselling role, just a monitoring role where warning signs of escalating risk are identified whilst person is receiving help elsewhere.
[7] The relevant industry personnel may be the employer, the mentor, or the counselling contractor.

CONTINUING CARE/ POSTVENTION

- Provide ongoing care for workers who attempt suicide
    a. Monitor workers mental health following in-patient or out-patient treatment (ie; upon their return to work)
    b. Maintain support services in the form of available counselling and other service responses, specifically based on the individual's needs.
    c. Reduce the impact of stigmatised responses by peers in the workplace etc, by re-emphasising facts and dispelling myths about suicide as in Universal recommendations.
    d. Monitor other potential at risk persons following the suicide/suicide attempt.
- Provide appropriate bereavement support following a suicide or suicide attempt of an industry worker
    a. Provide information and education to workers and employers about grief responses to sudden death and suicide
    b. Provide information on available support services to workers, families, and staff
    c. Establish partnerships with community organisations, police, funeral homes, hospitals, churches/clergy and specialist bereavement service providers, to improve quality support for the bereaved by suicide.
    d. Follow-up families of deceased BCI workers particularly at anniversaries of the death for up to 5 years following the death.
    e. Evaluate effectiveness of postvention response, by reflecting upon outcomes and impact on workers, service coordination and response etc.

The following section provides recommendations regarding evaluation of suicide prevention programs, beginning with a brief overview of evaluation in this field.

Research & evaluation:

Introduction:

The implementation of any strategy should be accompanied by an evaluation component to determine the effectiveness of the given strategy. The ultimate goal of suicide prevention programmes is the prevention of suicide and suicidal behaviour. These phenomena are difficult to evaluate for a number of reasons. Completed suicides are fairly infrequent events when considered at the occupational level, (approximately 10 per year) which makes it difficult to detect changes that may be due to specific programme, especially if multiple programmes are implemented simultaneously. It is very difficult to measure the non-fatal suicidal behaviour, as most attempters do not seek medical help for their actions. Suicide and suicidal behaviour are not outcomes that follow a straight-line trajectory, with specific markers leading predictably to a

suicidal crisis or death. This makes it difficult to identify the appropriate intermediate targets for change and the corresponding outcome measures that would be most suitable for evaluation purposes. Evaluation must be realistic and cost-effective (Commonwealth Dept Health & Aged Care, 2000), with resources available to ensure the viability of the programme.

Program evaluation:

Despite these limitations, various short, medium and long-term indicators of success have been suggested to be useful for evaluation of the suicide prevention programmes. Short-term indicators are required to indicate progress towards the long-term outcomes. These are those changes that the strategy itself is designed to produce, for example, increased knowledge of risk factors, awareness of services available. Medium term indicators of success reveal changes that you might come to expect further down the road, for example, increased help seeking among workers or referrals of their at-risk peers. The ultimate outcome or long-term indicator of success is a reduction in the suicidal behaviour and completed suicides, which may take many years to reveal if the programme does in fact have that level of impact (Ameen & Nizamie, 2004).

Establishing the evaluation framework, including indicators of outcomes, prior to implementation will save time and money in the long term. When attempting to secure funds to ensure that a programme is sustainable, having the blue-print for evaluation will be highly regarded. The National Suicide Prevention Strategy is currently in the process of evaluating all of the programmes that they have implemented since 1999.

Internal and external evaluation:

Internal evaluation refers to implementation of an evaluation process which is implicit in the program that one is developing. This means that from the outset (i.e. in the planning stage of the program), a framework is developed for determining the impact of the program. (e.g. Did the program achieve what it purports to achieve? What is the difference in the outcome from pre to post program implementation?).

To maintain objectivity, the use of external evaluators is regarded as general practice. This allows independent observation of the process, strategies, and indicators.

Partnerships with external bodies: the utilisation of existing services is a cost-effective and time-effective approach to implementing programmes. However, programmes may need to be contextualised to the peculiarities of the industry. Strategies that work in one setting may not necessarily translate to effectiveness in a different context. Therefore, a piloting phase may be necessary to determine limitations prior to full implementation.

Recommendations for Evaluation:

1. Design, plan, and implement programmes that are guided by evidence provided in Phases 1 and 2 of this investigation.
2. Determine a series of short, medium and long-term performance indicators for any programme that will be used prior to implementation.
3. Develop/adapt consistent data collection tools to be utilised in pre- and post-programme implementation assessment periods. For example, prior to an awareness campaign, ascertain the current knowledge about suicide from a representative sample, and re-test the same population following the campaign.
4. Collect baseline data on indicative markers, e.g. knowledge of risk factors, current referral rates etc.
5. Maintain continual vigilance over the programmes, and if they appear to have a deleterious effect (e.g. increases in suicidal behaviours by those engaged in particular services) be prepared to suspend the programme.
6. Engage and/or collaborate with capable external evaluators to determine the effectiveness of the suicide prevention strategies employed.

ATTACHMENT 5

Kõlves K, Milner A & De Leo D (2009). ***Suicide risk in different subpopulations in Australia (Queensland)*****.**

Report

Suicide risk in different subpopulations in Australia (Queensland)

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National Centre of Excellence in Suicide Prevention

WHO Collaborating Centre
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Brisbane, 2009

Suicide rates differ remarkably between countries and subgroups. The aim of the present paper is to present and compare the risk of suicide in different subpopulations. Analysis will cover subpopulations by gender, age groups, Indigenous ethnicity, living area (ARIA), labour force status, country of birth, status of mental illness and history of suicide attempts.

Methodology

Using Australian Standard Population (by Census 2001) Age-Standardised Rates (ASR) for suicide were calculated where possible. Crude Rates (CR) were analysed if age-specific information was not available for all of the subpopulations. Risks were calculated using the concept of relative rates (also called rate ratio - RR), which is the approximation of relative risks (also called risk ratio) with 95% confidence intervals (Woodward, 2004).

Data sources

The Queensland Suicide Register (QSR) is a comprehensive database of suicide mortality data, since 1990 managed by the Australian Institute for Suicide Research and Prevention (AISRAP) and funded by Queensland Health. The database gathers information on deaths by suicide of all residents of Queensland, including data obtained from police reports, post-mortem and toxicology reports. Since 1994, psychological autopsy questionnaires have also been used. This information is predominantly provided by the Queensland Office of the State Coroner and cross-checked with the data available on the National Coroners Information System. Causes of death are then scrutinised in the QSR following the Suicide Classification Flow Chart, developed by the AISRAP, and categorised into: Beyond Reasonable Doubt, Probable, or Possible. The latter are excluded from analyses as the

available information is not sufficient to determine suicide as the most likely cause of death (i.e. the death might have been due to other external causes such as accident).

The QSR provides an independent assessment of the incidence of suicide in Queensland. There are other sources of suicide mortality data, in particular the Australian Bureau of Statistics (ABS) annual publications on Causes of death. Since the establishment of the QSR, its reports on suicide mortality in Queensland had been well aligned with those of the Australian Bureau of Statistics (ABS), with fluctuations within the range of 5%. However, since 2002, the discrepancy between the two systems has been increasing almost exponentially, reaching a difference of about 200 suicide deaths in 2006 and 2007 (De Leo, 2009; unpublished material from the QSR).

Information also came from the ABS, National Survey of Mental Health and Wellbeing (2007), Australian Institute for Health and Welfare, WHO SUPRE-MISS Study. Each chapter will clarify the data sources used for the specific calculations.

Suicide by gender and age

For 2005-2007, suicide data was gathered from the QSR and population data came from the estimated Queensland population (Catalogue no 3201.0). Age standardised suicide rates using Australian 2001 Census Population by gender for 2005-2007 were calculated.

For 2005-2007, the age-standardised suicide rate (ASR) was 20.34 for males and 5.75 for females in QLD. Suicide risk (RR) was 3.54-times higher among males (95%CI=2.88-4.34). Relative rate calculations between age groups compared the suicide rate in a specific age group versus the suicide rate for all other age groups. Risk calculations are presented in Table 1. For males, age-specific suicide rates were highest for the age group 85+ years, followed by the age group 35-44 years, which had highest rates for females. RRs showed significantly higher risk for the age groups 35-44 years (RR=1.69, 95%CI=1.34-2.13 for males), 25-34 years (RR=1.51, 95%CI=1.18-1.93 for males) and 45-54 years (RR=1.37, 95%CI=1.06-1.76) for males and all persons and the age group 35-44years for females (RR=1.80, 95%CI=1.18-2.75).

Table 1. Age-specific suicide rates and rate ratios

	Male				Female				All persons			
Age	CR	RR	L CI	U CI	CR	RR	L CI	U CI	CR	RR	L CI	U CI
0-15	0.7	0.03	0.01	0.09	0.4	0.06	0.01	0.27	0.6	0.03	0.01	0.09
15-24	20.7	1.04	0.79	1.36	5.4	0.92	0.54	1.58	13.2	1.02	0.80	1.31
25-34	28.3	1.51	1.18	1.93	7.5	1.36	0.85	2.18	17.9	1.48	1.19	1.84
35-44	30.8	1.69	1.34	2.13	9.3	1.80	1.18	2.75	19.9	1.70	1.39	2.09
45-54	26.1	1.37	1.06	1.76	7.4	1.35	0.84	2.16	16.7	1.36	1.09	1.70
55-64	20.1	1.00	0.74	1.36	6.7	1.18	0.69	2.03	13.5	1.05	0.81	1.37
65-74	21.4	1.07	0.73	1.56	5.7	0.99	0.47	2.05	13.5	1.05	0.75	1.47
75-84	25.6	1.29	0.82	2.04	5.7	0.98	0.42	2.27	14.2	1.11	0.74	1.65
85+	34.5	1.73	0.81	3.72	7.4	1.29	0.35	4.72	17.8	1.38	0.72	2.67

RRs are calculated using all other age groups as reference to the specific age group

Suicide in Indigenous populations of Queensland

For 2005-2007, the number of Indigenous and non-Indigenous suicides was taken from QSR. Indigenous population data came from the estimates and projections for 2006 (Catalogue no 3238.0), while data for the comparison populations were drawn from estimated Queensland population for 2006 (Catalogue no 3201.0). Rates were age-standardised using the 2001 census population for the Australian population.

Risk calculation and age-standardised suicide rates indicate that Indigenous populations in Queensland had a significantly higher risk of suicide than persons who were non- Indigenous for 2005-2007. As can be seen in Table 2, this risk was almost twice as high for Indigenous males than for non- Indigenous males (RR=1.98, 95%CI=1.35-2.90, $p<0.05$). Risk estimates were also close to double for Indigenous females (RR=1.93, 95%CI=1.28-2.91, $p<0.05$) and all persons (RR=1.96, 95%CI=1.34-2.96, $p<0.05$).

Tabel 2. Indigenous and Non-Indigenous suicide for the period 2005 to 2007

	Indigenous (ASR)	Non-Indigenous (ASR)	RR	L 95% CI	U 95% CI
Male	40.09	20.27	1.98	1.35	2.9
Female	11.02	5.71	1.93	1.28	2.91
All persons	25.27	12.89	1.96	1.34	2.86

Suicide in metropolitan, regional and remote areas

Suicide rates in metropolitan, regional and remote areas were calculated using the Accessibility/Remoteness Index of Australia (ARIA+) developed by the Commonwealth

Department of Heath and Aged Care (DHAC) and the National Key Centre for Social Applications of Geographic Information System (GISCA). Released by GISCA in 2003, ARIA+ is a new version of the ARIA measures and defines 5 categories of remoteness (Major Cities, Inner Regional, Outer Regional, Remote and Very Remote) based on the physical road distance to different service centres (see 'ABS Views on Remoteness Consultation, Australia cat. no. 1244.0.00.001' for more information). In this analysis, Metropolitan Areas were those classified as Major Cities (ARIA+ value index of 0 to 0.2), Regional Areas included Inner Regional and Outer Regional areas (ARIA+ value index of 0.2 to 5.92), while Remote areas present a combination of Remote and Very Remote areas (ARIA+ value index greater than 5.92).

The source of data for suicide was drawn from the QSR, while population data came from Estimated resident population (States and territories, remoteness areas – 5-year age groups) tables provided by the ABS (ABS, 2006, Ref. No. 3238.0.55.001). The standard Australian population 2001 was used for age-standardisation.

Age-standardised and relative rates can be seen in the Table 3. These show that people residing in Metropolitan Areas have a lower rate of suicide than those in Regional or Remote Areas. In Metropolitan areas, males (RR=0.70, 95%CI=0.58-0.85, $p<0.05$) and all persons (RR=0.71, 95%CI=0.60-0.85, $p<0.05$) had a significantly lower risk of suicide than those in others areas. In comparison, there was a greater risk of male (RR=1.26, 95%CI=1.04-1.54, $p<0.05$) and all persons suicide (RR=1.24, 95%CI=1.04-1.48, $p<0.05$) in Regional Areas of Queensland. Additionally, the risk was also higher for males (RR=1.99, 95%CI=1.33-2.98, $p<0.05$) and all persons (RR=1.99, 95%CI=1.38-2.87, $p<0.05$) in Remote Areas. This suggests that increased remoteness is associated with higher risk for suicide. There were no significant risk differences for females.

Tabel 3. Suicides in different ARIAs

Metropolitan areas vs. all other areas 2005 to 2007

	Metropolitan (ASR)	Non-Metropolitan (ASR)	RR	L 95%CI	U 95% CI
Male	17.41	24.84	0.70	0.58	0.85
Female	5.33	6.46	0.83	0.57	1.19
All persons	11.22	15.72	0.71	0.6	0.85

Regional areas vs. all other areas 2005 to 2007

	Regional (ASR)	Non-Regional (ASR)	RR	L 95%CI	U 95% CI
Male	21.81	17.27	1.26	1.04	1.54
Female	5.8	5.17	1.12	0.77	1.62
All persons	13.85	11.14	1.24	1.04	1.48

Remote areas vs. all other areas 2005 to 2007

	Remote (ASR)	Non-Remote (ASR)	RR	L 95%CI	U 95% CI
Male	36.32	18.25	1.99	1.33	2.98
Female	8.79	5.28	1.67	0.72	3.87
All persons	23.33	11.71	1.99	1.38	2.87

Suicide risk by labour force status

In 2005-2007, information about the labour force status for suicides was gathered from the QSR. Only the working age population (people aged 15-64 years) was used in this analysis. The main limitation of the QSR labour force data is the relatively high proportion of 'unknowns' in suicide deaths (22.3% for males and 28.1% for females). In the present analysis, we assumed that unknowns were randomly distributed among the three labour force categories: employed, unemployed and not in labour force. Data about the labour force status of the QLD population was gathered from the ABS by financial years from 2004/05 to 2007/08. The mean per year was calculated. However, for data interpretation we have to consider that QSR and ABS may conceptualise 'unemployment' differently. The QSR relies on the information given by next-of-kin whose perceptions may differ from official categorisation.

Among the working age population the risk of suicide is more than 10-times higher among unemployed compared to employed males (RR=14.36, 95%CI=10.93-18.87) and employed females (RR=16.21, 95%CI=9.26-28.40). Suicide risk is significantly higher for people not in the labour force compared to employed males (RR=1.94, 95%CI=1.42-2.66) and females (RR=1.96, 95%CI=1.13-3.42).

Table 4. Suicide rates and ratios for population aged 15-64 (missing – unknown = 23.5%)

	CR	RR	L 95% CI	U 95% CI
Males				
Employed	12.5	1		
Unemployed	180.0	14.36	10.93	18.87
Not in labour force	24.3	1.94	1.42	2.66
Females				
Employed	3.0	1		
Unemployed	48.0	16.21	9.26	28.40
Not in labour force	5.8	1.96	1.13	3.42
All persons				
Employed	8.2	1		
Unemployed	113.4	13.85	10.84	17.70
Not in labour force	12.4	1.51	1.15	1.98

*Rates for population aged 15-64 (using assumption that missing data is equally distributed between three work force categories separately for males and females)

	CR*	RR	L 95% CI	U 95% CI
Males				
Employed	16.1	1		
Unemployed	231.5	14.36	11.29	18.27
Not in labour force	31.3	1.94	1.47	2.56
Females				
Employed	4.1	1		
Unemployed	66.7	16.21	10.08	26.08
Not in labour force	8.1	1.96	1.23	3.14
All persons				
Employed	10.7	1		
Unemployed	148.3	13.85	11.18	17.16
Not in labour force	16.2	1.51	1.19	1.91

Mental Illness

Population data for those with and without mental disorder came from the National Survey of Mental Health and Wellbeing 2007 (ABS, 2007 Cat. No. 4326.0). This survey estimates the prevalence of specific mental disorders using the World Mental Health Survey Initiative version of the World Health Organization's Composite International Diagnostic Interview, version 3.0 (WMH–CIDI 3.0). Respondents aged 16 to 85 years of age were asked about experiences of mental illness throughout their lifetime. This produces an estimated percentage of persons in the Queensland population sample with symptoms of a mental disorder.

Suicide cases with or without a diagnosed psychiatric disorder for the period 2005-2007 were taken from the QSR. This provides a conservative estimate of mental illness as excludes cases with undiagnosed mental disorders. Due to this, and the relatively crude estimation of mental illness in the population, the analysis presented below must be viewed as an approximation, rather than as a definitive and precise account.

Crude rates indicated a higher rate of suicide in cases with a mental illness diagnosis compared to those without one. This risk was eight time higher for females with a mental diagnosis (RR=8.58, 95%CI=5.77-12.77, $p<0.05$) and over four times higher for males (RR=4.46, 95%CI=3.67-5.45, $p<0.05$).

Table 5. Suicides with diagnosis of mental illness versus those without mental illness aged between 16 and 85 years (2005 to 2007)

	Mental diagnosis (CR)	No mental diagnosis (CR)	RR	L 95%CI	U 95% CI
Male	70.36	15.76	4.46	3.67	5.43
Female	23.29	2.71	8.58	5.77	12.77
All persons	44.24	9.38	4.72	3.97	5.6

Suicide attempts and subsequent suicide deaths

In 2005-2007, cases of suicide with and without a lifetime history of a suicide attempt were taken from the QSR. The population data was estimated using information from a community survey (WHO SUPRE-MISS Study) conducted in Brisbane and the Gold Coast by De Leo, Cerin et al. (2005). Using a sample of 11, 572 persons, this study found that 3.3% of males and 5% of females had attempted suicide in their lifetime. This estimate was used to provide a rough approximation of the total numbers of persons who had attempted suicide in the general population (by applying these percentages to the estimated resident population of Queensland for the years 2005 to 2007 as provided by the ABS, Cat. No. 3201.0). The assumption that suicide attempts would have an equal distribution across Queensland was confirmed by comparing percentages of cases from the QSR with and without a history of suicide attempts across different geographical regions in Queensland.

Crude rates and relative rate calculations are presented in Table 6. This shows that males with history of a suicide attempt have a risk of suicide over 10-times higher than those with no such history (RR=10.77, 95%CI=8.25-14.04, $p<0.05$). In females, this risk was over 14-times higher (RR=14.29, 95%CI=9.12-22.39, $p<0.05$).

Table 6. Suicide with and without suicide attempts, aged 18 years and over 2005 to 2007

	Suicide attempt (CR)	No suicide attempt (CR)	RR	L 95%CI	U 95% CI
Male	147.6	13.71	10.77	8.25	14.04
Female	42.72	2.99	14.29	9.12	22.39
All persons	83.05	8.34	9.96	7.94	12.48

Suicide risk by country of birth in Australia

Suicide data for 2004-2006 was obtained from the Australian Institute for Health and Welfare for Australia. The data was classified by sex, eight age groups (0-14, 15-24, 25-34, 35-44, 45-54, 55-64, 65-74, 75+) and country of birth (Standard Australian Classification of Countries, the Australian Bureau of Statistics, was used for minor groups). Using the same variables as the suicide data, Australian population data was obtained from 2006 Census data. Some 'country of birth' groups were collapsed into major regions to ensure sufficient numbers for suicide rate calculations. Given the low population number in the youngest age group (0-14 years) for people born in other countries, the calculations used populations aged 15+ years. All rates were age-standardised using World Standard Population for age 15+ years.

The results presented in Table 7 show that the highest suicide rates (15+ years) are in males born in Eastern European (35.3 per 100,000. This region has highest rates around the world. In females, the highest rates were among those born in Western Europe (8.1 per 100,000). The lowest rates were found for people born in North Africa and the Middle East for both genders (8.0 per 100,000 for males and 1.6 for females). Rate ratios compared with people born in Australia indicated significantly lower risks of suicide for males born in North Africa and the Middle East (RR=0.35, 95%CI=0.16-0.79, $p<0.05$), in Southern and Central Asia (RR=0.37, 95%CI=0.17-0.82, $p<0.05$) and in South-East Asia (RR=0.40, 95%CI=0.18-0.86, $p<0.05$). Rate ratios were also significantly lower for all persons born in North Africa and the Middle East (RR=0.27, 95%CI=0.09-0.87, $p<0.05$).

Table 7. Suicide rates and ratios by country of birth in Australia for age 15+ in 2004-2006

Birthplace	Male		L	U	Female		L	U	Persons		L	U
	ASR	RR	95CI	95CI	ASR	RR	95CI	95CI	ASR	RR	95CI	95CI
Australia	22.7	1.0			5.5	1.0			13.9	1.0		
New Zealand	24.6	1.08	0.61	1.92	6.5	1.18	0.38	3.67	15.6	1.12	0.54	2.31
Other Oceania	16.3	0.72	0.35	1.48	3.7	0.66	0.16	2.66	9.3	0.67	0.35	1.27
United Kingdom and Ireland	22.4	0.99	0.55	1.77	7.7	1.39	0.47	4.14	15.1	1.09	0.53	2.25
Western Europe	24.2	1.07	0.60	1.90	8.1	1.46	0.50	4.31	16.0	1.15	0.56	2.36
Northern Europe	21.0	0.93	0.51	1.68	6.4	1.15	0.37	3.60	12.8	0.92	0.43	1.97
Southern and South-Eastern Europe	15.5	0.69	0.36	1.31	3.7	0.67	0.18	2.50	9.7	0.70	0.31	1.58
Eastern Europe	35.3	1.56	0.92	2.64	6.7	1.22	0.40	3.75	19.9	1.43	0.72	2.85
North Africa and Middle East	8.0	0.35	0.16	0.79	1.6	0.29	0.05	1.68	3.9	0.28	0.09	0.87
Sub-Saharan Africa	13.1	0.58	0.29	1.14	3.4	0.62	0.16	2.38	8.3	0.60	0.25	1.41
South-East Asia	9.0	0.40	0.18	0.86	2.8	0.51	0.12	2.14	5.5	0.39	0.15	1.06
North-East Asia	11.9	0.52	0.26	1.06	4.9	0.89	0.26	2.99	8.0	0.58	0.24	1.37
Southern and Central Asia	8.4	0.37	0.17	0.82	3.3	0.60	0.15	2.33	6.0	0.43	0.17	1.12
North America	19.0	0.84	0.46	1.54	5.5	1.00	0.31	3.24	12.1	0.87	0.40	1.89
Central and South America	11.8	0.52	0.26	1.05	2.3	0.41	0.09	1.93	6.9	0.49	0.20	1.23
All overseas	16.5	0.73	0.39	1.38	4.9	0.89	0.29	2.76	10.5	0.76	0.34	1.66

RRs are calculated using born in Australia as reference group

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ATTACHMENT 6

Summary of

Suicide in Indigenous Populations of Queensland

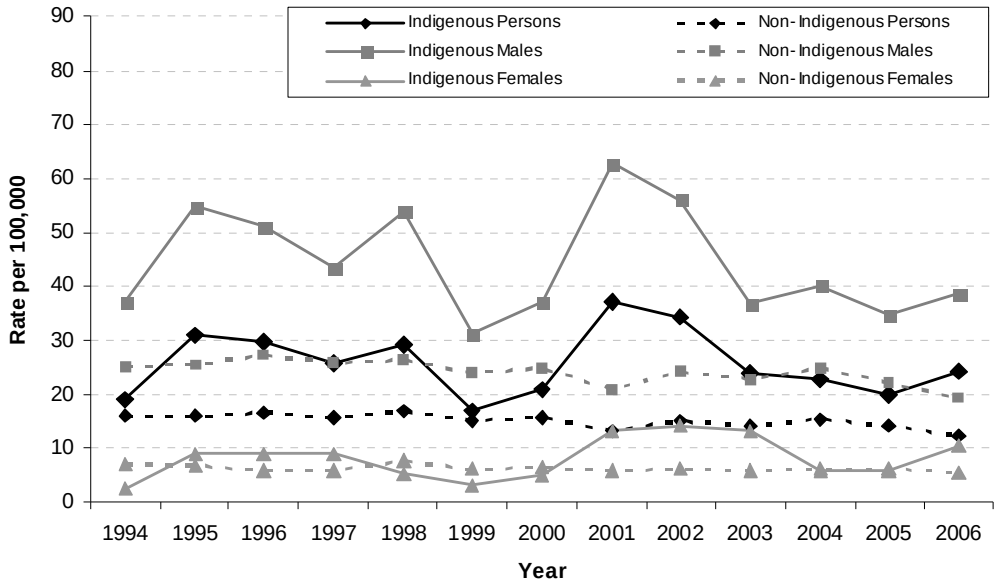
by Diego De Leo, Jerneja Sveticic, Helen Klieve, Kirsty Andersen, Allison Milner, Kathy McKay (in press)

In this report, all cases of Indigenous suicides between 1994 and 2006, obtained from the Queensland Suicide Register, were analysed. Over this time period, 425 Indigenous cases (351 males and 74 females) and 6,288 non-Indigenous suicide cases (4,923 males and 1,305 females) were collected. Indigenous people accounted for 6.4% of all deaths by suicide in Queensland.

Comparison of age-standardised rates between the two populations revealed significantly elevated suicide mortality among Indigenous males and females, when compared to their non-Indigenous counterparts. For all Indigenous people, the average rate was 25.7 per 100,000 population (15.0 in non-Indigenous), for Indigenous males 44.4 per 100,000 (24.1 in non-Indigenous males) and for Indigenous females 8.1 per 100,000 (6.2 in non-Indigenous females). This corresponded to a rate ratio of 1.7:1 (1.8:1 for males and 1.3:1 for females).

Gender ratio (males' versus females' suicide rates) was higher among Indigenous people (5.5:1) than among non-Indigenous populations (3.9:1).

Figure 1: Age-standardised suicide rates, Indigenous & non-Indigenous populations, QLD, 1994-2006



Trends, presented in Figure 1, depict a significant decrease in non-Indigenous suicide over the observed time period ($p<.001$ for males and all persons, $p<.05$ for females). On the other hand, no statistically significant differences in trends of Indigenous suicides rate, neither for males or females, were observed.

The Indigenous population had the highest suicide rates in the 15-24 age group (59.0/100,000) and 25-34 age group (55.2/100,000). In children aged between 5 and 14 years, the Indigenous population had a rate of almost 4 suicides per 100,000, which was more than 7-times higher than in non-Indigenous peers.

Further comparison of cases of Indigenous and non-Indigenous suicides by their socio-demographic characteristics, history of psychiatric and medical treatments, and life events preceding deaths showed several significant differences. Some of the most interesting ones were the following:

- Hanging was used in 86.6% of all suicides in Indigenous people, compared to 36.3% in the non-Indigenous population.

- The majority of Indigenous suicides (51.7%) occurred among single or never-married persons, a significantly higher proportion than that among the non-Indigenous. (31.5%). On the other hand, almost twice as many non-Indigenous suicide cases were separated or divorced at the time of death than Indigenous.

- Almost half of Indigenous suicide cases were unemployed at the time of their death, which was almost twice as many than in non-Indigenous cases.

- Unipolar depression was nearly 4-times less present in Indigenous suicide cases than among the non-Indigenous population. On the other hand, alcohol and substance abuse (particularly cannabis) were more prevalent in Indigenous suicide cases.

- On average, 23.3% of Indigenous suicide cases had received treatment by a mental health professional in their lifetime (compared to 42.3% of non-Indigenous), and 10.1% in last 3 months prior to suicide (compared to 25.6% of non-Indigenous).

- Indigenous and non-Indigenous suicide cases presented similar percentages of communication of suicidal intent (about 42%) and histories of previous suicidal behaviours (about 26%). Suicide notes were left much more rarely by Indigenous people than by non-Indigenous Australians (13.6% vs. 39.3%).

- The role of physical illnesses in Indigenous suicide seems less relevant than in suicide cases of non-Indigenous Australians.

- Two-thirds of the entire sample (both Indigenous and non-Indigenous cases) reported being exposed to at least one major, stressful life event, with no significant differences observed across age or gender.

- Among the types of life events there were several commonalities (e.g., relationship issues), but also appreciable differences. In Indigenous populations there was a much larger exposure to suicide in the social group, more often bereavements, conflict situations in the immediate social group and past or pending legal issues.

Results from this report highlight certain unique characteristics and risk factors for suicide in Indigenous communities, and call for a development of suitably tailored prevention programs. Specific consideration should be placed to controlling the use of alcohol and illicit drugs, as these elements have clearly been evidenced as important contributory factors in Indigenous suicide. Further, early recognition and early intervention in treatments of mental disorders appear to be of primary importance for Indigenous health promotion, and help-seeking behaviour should be vigorously promoted. And lastly, significant improvements in recording and reporting of deaths by all external causes, but particularly suicides, in Indigenous people are required.

TERM OF REFERENCE (G)

THE ADEQUACY OF THE CURRENT PROGRAM OF RESEARCH INTO SUICIDE AND SUICIDE PREVENTION, AND THE MANNER IN WHICH FINDINGS ARE DISSEMINATED TO PRACTITIONERS AND INCORPORATED INTO GOVERNMENT POLICY

INTRODUCTION

The most recent National Mental Health Action Plan (2006-2011) indicates a total of $62.4 million was provided under the National Suicide Prevention Strategy (July, 2006 to 2011) to expand and enhance national and community-based projects. The percentage of funds targeted towards suicide research was modest. Historically there has been scant attention to the role research plays in directly informing effective treatment/intervention and prevention outcomes. However, more recently, the National Suicide Prevention Strategy has emphasised the importance of suicide research for building an evidence base for suicide prevention (discussed in more detail below).

AUSTRALIAN NATIONAL SUICIDE PREVENTION INITIATIVES

A literature review conducted by AISRAP on the effectiveness of suicide prevention (AISRAP, 2008), identified **some critical gaps** pertaining to suicide research and program evaluation as follows:

Over a period of seven years from 1999 to 2005, 22 national and 156 state/territory suicide prevention projects were funded as part of Australia's National Suicide Prevention Strategy (Headley *et al.*, 2006; Pirkis *et al.*, 2006). These programs covered a wide range of approaches targeting several particular groups in different settings. Certain types of programs were particularly dominant, mostly universal and selective approaches in community-based settings (e.g. public health interventions aiming at enhancing well-being and resilience and/or improving mental health literacy), and the three major target groups for interventions were young people, Aboriginal and Torres Strait Islander populations and people in rural and remote areas. Whilst very few of these projects may have involved research as a critical and primary component, the large majority were program-based. Although research evaluation is an additional component of

suicide prevention, only 60 per cent of 156 local programs included an effectiveness evaluation component and none of those evaluated the impact of the interventions on actual suicide rates (Headley *et al.,* 2006). Based on the descriptive analysis of other types of projects' outcomes, including pre- and post-intervention measures of social connectedness and mental health literacy, knowledge of suicide risk and protective factors, and levels of symptoms of depression, several characteristics of "good projects" were identified (Headley *et al.,* 2006). These included understanding the local context, planning the project and considering logistical factors, establishing a reference group involving key stakeholders, providing innovative and/or multifaceted interventions, forming collaborative partnerships and recognition of sensitivities around mental health issues and suicide.

Regarding the focus of prevention programs, many national suicide prevention policies focus on universal, population-wide interventions (e.g. public awareness, education and mental health literacy programs), and appear to neglect the selective and targeted approaches, thereby overlooking certain high-risk groups (Beautrais *et al.,* 2007). This may also be the case in Australia. Reviews of 22 national initiatives and 156 state/territory initiatives, based upon the LIFE Framework, indicated that the majority of programs focused on certain target groups, mostly young people and Aboriginal and Torres Strait Islander populations, more than others at significantly elevated risk of suicide (e.g. people with a history of suicidal behaviour or psychiatric illness) (Headley *et al.,* 2006; Robinson *et al.,* 2006). The same review showed that universal approaches enhancing well-being and community capacity building were among the most frequently utilised (despite the lack of evidence for their effectiveness), whilst many promising selective and indicated approaches, including treatment for people with psychiatric illness or a history of suicidal behaviour, seemed to have been neglected. As suggested in the *Living is for Everyone Framework* (2007), "there is a need to strike a balance between population-based approaches, and interventions with high risk groups that focus on identifying and managing suicide related behaviours and mental illness". De Leo (2002) highlights that, whilst there is a huge amount of research and literature on suicide prevention (including both fatal and non-fatal suicidal behaviour), suicide prevention "remains an imperfect art based on scant scientific evidence".

As documented in the 2007 *Living is for Everyone Framework* (Commonwealth of Australia, 2008*)*, suicide prevention programs must be guided by current research evidence, including an evaluation design. This means that specific testable hypotheses must be demonstrated; and, although the use of the "gold standard" of scientific proof regarding the effectiveness of interventions (i.e. a controlled randomised trial) is not always feasible and ethical in the domain of suicide prevention research, other sound evaluation designs could be used, e.g. quasiexperimental designs using control groups (Goldney, 1998; Gunnell & Frankel, 1994). The role of research in suicide prevention (if taken seriously) involves an evaluation component as well as complex and often difficult investigations of enquiry.

RECENT NATIONAL RESPONSES EMPHASISING SUICIDE PREVENTION RESEARCH

In July 2008, AISRAP (at Griffith University) was appointed as a **National Centre of Excellence in Suicide Prevention.** In October, 2008, The Hon. Nicola Roxon, MP Minister for Health and Ageing, announced that the National Suicide Prevention Strategy would fund this Centre to provide important research informing effective suicide prevention initiatives, particularly those supporting high-risk groups amongst the population. This critical step towards recognising the importance of suicide research has been a long awaited and much-needed response for suicide prevention.

The aim of the National Centre of Excellence in Suicide Prevention is to deliver evidence-based best practices in suicide prevention, to support Australian Government Departments, non-government agencies, academics and community groups in their respective initiatives in the field of suicide prevention. Best practice is benchmarked against the highest international standards in suicide prevention, and concerns conception, planning, execution and evaluation of all activities undertaken.

The research projects and outcomes complement and add value to the wide range of suicide prevention work being undertaken by the Department of Health and Ageing, other

Commonwealth, State and Territory Government Departments, academics, clinicians and other service providers working in the field of suicide prevention across Australia. More importantly however, the suicide research findings will fill important research gaps not yet addressed by Government as part of a nation-wide response to suicide prevention.

Scientific findings from the work of the Centre will be communicated in international refereed journals and also at national and international conferences, as well as directly informing national and state policy (resulting in the development of evidence-based prevention programs at the community level).

The National Centre of Excellence in Suicide Prevention has been:

- providing advice on evidence-based best practice in suicide prevention activity to inform the National Suicide Prevention Strategy work plan, commencing with the Access to Allied Psychological Services (ATAPS) program, but also in relation to other activity, such as population health approaches to suicide prevention through school-based activity;
- offering direct support to agencies contracted to the Department to undertake new and emerging suicide prevention activities, particularly where this pertains to selective interventions to individuals who have attempted suicide or self-harm;
- providing a biannual critical literature review outlining recent advances and promising research developments in suicide prevention, particularly where this can help to inform our national activities;
- providing advice on improving approaches to evaluation of suicide prevention activities and on the development of evaluation frameworks for new projects, such as the ATAPS suicide prevention project and other identified areas of the National Suicide Prevention Strategy (NSPS) work plans over the period of the Agreement; and
- providing advice on the implications of existing suicide prevention data and on issues around the credibility of suicide data.

IMPORTANT RESEARCH PROPOSALS TO GUIDE FUTURE SUICIDE PREVENTION IN AUSTRALIA

In addition to the very recent work currently being undertaken as part of its role as a National Centre of Excellence, AISRAP has produced excellent research studies highlighting promising results which may inform suicide prevention programs and policy at national and state levels.

AISRAP would like to propose **two specific research projects** to the Senate Committee which require a significant amount of support (both in terms of commitment and funding). **These projects however, fill important gaps in suicide prevention research, yet may lead to critical positive outcomes for suicide and suicide prevention nationally (and internationally).** These projects are treatment-intensive, implemented with scientific rigor, but conducted under the directorship of the highest level of expertise in suicidology (lead by an international expert, Professor Diego De Leo). Such leadership is a necessity for the successful operation and conduct of these projects. Furthermore, these two proposals represent "real world", applied research which is particularly rare in the field of suicide prevention. One of the issues is that although pilot projects or demonstration projects seem to be efficacious, they are subject to the Hawthorne Effect. In other words they are not effective in real world settings. This is captured neatly in the following statement: "We have a lot of programs that work; they just don't work in the real world." There are several reasons for this, such as the ethical and research complexities involved and also the need for a significant level of psychiatric and scientific leadership and expertise.

Project 1

One of these projects has recently been trialled successfully by AISRAP (funded by the Commonwealth Department of Health and Ageing), entitled **"Post-Discharge Care in Psychiatric Patients at High-Risk of Suicide".** An article based on the study outcomes (De Leo *et al.,* 2008) and the large Report are available from AISRAP, on request. The current proposal is to duplicate this study on a much larger scale (potentially at a national level).

The purpose and design of this study: The purpose of the study was to assess the effectiveness of Intensive Case Management (ICM) on outcomes for suicidal psychiatric patients in the post-discharge period, compared to Treatment As Usual (TAU). The ICM intervention consisted of two primary components: weekly face-to-face case management and active telephone contact. Expected outcomes of the ICM intervention were: a) the ICM group would have a reduced risk of suicide and suicidal behaviour, compared to the TAU group, in addition to reduced levels of depression and hopelessness, and improved quality of life; b) the ICM group would have enhanced life/social functioning including employment, compared to the TAU group; and, c) the ICM group would access a wider range of services, and be more satisfied with services received, compared to the TAU group.

The Intensive Case Management (ICM) intervention trialled in this study was developed to fill an existing gap in follow-up care for discharged suicidal psychiatric patients. A central feature and strength of the ICM model utilised in this study lies in an emphasis on the power of the therapeutic relationship to strengthen patient emotional resilience and help-seeking behaviour via regular supportive telephone contact, and increased face-to-face interaction with case managers.

Summary outcomes: There appear to be remarkable benefits in case-managing patients immediately after post-discharge. This is shown by the impressive difference in retention of ICM patients compared to TAU treatment. Whilst there is no compelling evidence that the ICM approach was directly and wholly responsible for this finding, on the other hand, there is not enough evidence from "intention to treat" findings to suggest that ICM does not account – at least in part - for this. Fundamentally, the findings reported in this study indicate that there may be limited clinical gain in recommending ICM treatment beyond 5-6 months from intake, since no significant impact of treatment could be observed beyond that time. Our findings have also illustrated that ICM may have a positive impact on re-hospitalisation rates, thus providing a cost-effective alternative to inpatient care for older male psychiatric patients at risk of suicide. Additionally, the findings suggested that certain risk factors (such as employment and quality of life) may be modifiable and thus potential targets for treatment when targeted at a specific patient profile (older males with Unipolar Depression). Whilst it is difficult to determine the exact component of ICM most beneficial to patient outcome, it can be supposed that a

combination of intensive case management and telephone contact may have an additive effect culminating in improved patient outcomes.

The fact that this study has been conducted with a "real world" sample of psychiatric patients expands previous knowledge from studies usually performed on subjects with a history of suicide attempts, but not presently suicidal, or with milder degrees of suicidality. Obviously, the identified methodological issues of our study may limit generalisability of the results; however, **our findings indicate that ICM, as delivered in the current trial, offers an affordable (cost-wise) and easily applicable care option. Recommendations support the adoption of ICM treatment frameworks, especially in the care of older male psychiatric populations at risk of suicide in the first 6 months post-discharge.**

Project 2

The second project is a model of treatment for suicidal behaviour which offers an alternative to hospital-based care. Entitled "**the Life House",** this project is an initiative of the Australian Institute for Suicide Research and Prevention (AISRAP) in partnership with the National Suicide Prevention Taskforce (of AISRAP, Griffith University). The aim of the Life House project is to develop an alternative to hospital-based care that can provide a comprehensive range of services (including community based psycho-social rehabilitation) for individuals who are suicidal. (Further details of the proposal can be provided by AISRAP, on request.)

The first of its kind in Australia, the Life House will be a full residential care facility where clinical specialists and support workers will care for people who have made an attempt at suicide.

Research strongly suggests that individualised and coordinated care for first-time attempters in an appropriate environment is critical to providing an effective response and recovery. By providing at least 14 days of care at no charge, the Life House will fill the significant gap between hospital-based care and emergency room or outpatient care for people who are suicidal.

Professor Diego De Leo currently conducts the Life Promotion Clinic at Griffith University, a research-based outpatient clinic for people who have attempted suicide. This clinic will offer ongoing support to those who are admitted to the Life House.

The world-first research conducted at the Life House will also provide advice to the Queensland and Australian Governments and other service providers on the support, treatment and behaviour of suicidal people.

The role of the Life House: The Life House will include three distinct yet complementary roles:

- To offer non-medical accommodation to people who are suicidal, and provide a comprehensive range of services through volunteers and trained professionals.
- To provide the foundation for research on suicidal behaviour and its treatment.
- To provide a setting for clinical training of postgraduate students in the behavioural sciences and human services fields.

Why such a model of treatment is needed: Most people who commit suicide display warning signs. These may include attempting suicide, mood changes and directly communicating their intentions. Many types of intervention are available, but there is little education about what signs to look for, how to respond to the attempts, how to care for the person and who to turn to for help. At this stage, Australia offers few treatment options for people who are suicidal, and their families.

People at immediate risk of suicide may receive hospital-based treatment as a psychiatric patient. However, this kind of hospital treatment applies a medical model to a problem that is often social or interpersonal in origin, and the treatment can be stigmatising and frightening. And, suicidal behaviour can affect any member of the community—whether they have a mental illness or not. People at less risk of suicide may obtain their own treatment from general practitioners, psychiatrists, psychologists, counsellors and other health and social service workers. These services are usually either costly or in short supply, and are typically ill-equipped to address the needs of a person at risk of suicide. **The Life House will fill an important service gap by**

offering a coordinated service, outside of the hospital setting, specifically designed to treat people who are suicidal and assist their families. The Life House will provide a safe and supportive environment away from the pressures of daily life. A stay at the Life House will instil in residents a sense of belonging and connectedness, and give them the chance to talk confidentially with health, financial, and legal professionals, counsellors and social workers, caring volunteers and fellow residents. With an approximate term stay of fourteen days, residents will have private bedrooms and communal living areas.

Staffing of the Life House: The Life House will be managed by a director with appropriate clinical training and experience, who will be responsible for the day-to-day management of staff and services. The staff will mostly be volunteer professionals with experience in providing counselling and crisis services. Additional paid services will be provided by professional consultants who are experienced in their field and interested in providing services to people with suicidal behaviour. It is envisaged that postgraduate trainees will also help staff the Life House, under the supervision of their education provider and Life House professional staff.

Admission criteria: The Life House will be open to people who have current suicidal thoughts or have recently attempted suicide for the first time. Residents can be male or female and of any age, and will require a referral from a health professional or human service professional (for example, a general practitioner, psychiatrist, psychologist or social worker, or emergency department). People who display active psychotic symptoms, such as hallucinations or delusions, or who are chronic alcohol or drug abusers will not receive treatment at the Life House. It is intended for those who are experiencing a one-off crisis rather than individuals who have repeated suicide attempts. Residents will be expected to abide by rules of conduct while staying at the Life House.

The importance of research: Research will be a critical component of the Life House. All research projects will be conducted in accordance with the research priorities of the Australian Institute for Suicide Research and Prevention (AISRAP), and their design and administration

will be the responsibility of the AISRAP Director and staff. All research projects will need the approval of the Director of AISRAP, the Life House Director and the Griffith University Human Ethics Committee. The informed consent of Life House residents will be required before they can participate in projects. The wellbeing of Life House residents will always take precedence over research interests.

Dissemination of research findings

AISRAP publishes journal articles in peer-reviewed journals, as well as communication of results via media and other community channels. AISRAP provides both tertiary education (Post Graduate programs), and training (both generic and specialist suicide prevention skills training), emphasising the evidence base for applied suicide prevention.

Furthermore, AISRAP has undertaken much research in the field of suicide prevention education and training (to cross-sectoral populations as well as throughout Australia's medical schools; between the years 2002-2007), which underpin the development and delivery of AISRAP's educational programs. However, AISRAP is unsure whether the specific research findings from these studies have been disseminated by the funding bodies. AISRAP perceives these findings as critical for informing the training and education agenda of the National Suicide Prevention Strategy as well as the implementation of Australia's suicide prevention training (within the community and targeted to specialist occupations including medicine). AISRAP can provide outcomes of these studies upon request.

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TERM OF REFERENCE (H)

THE EFFECTIVENESS OF THE NATIONAL SUICIDE PREVENTION STRATEGY IN ACHIEVING ITS AIMS AND OBJECTIVES, AND ANY BARRIERS TO ITS PROGRESS

INTRODUCTION

Australia's *National Suicide Prevention Strategy* (NSPS) has guided suicide prevention policy since 1999. With its predecessor, the National Youth Suicide Prevention Strategy (NYSPS), being established in 1995, Australia was one of the first countries to develop a national strategic approach to suicide prevention. *The Framework for Prevention of Suicide and Self-Harm in Australia (The LIFE Framework)*, which serves as a strategic framework that guides suicide prevention initiatives, was developed in 1999. On top of all these activities, two separate bodies, the National Advisory Council on Suicide Prevention (NACSP) and a Community and Expert Advisory Forum, together with a Suicide Prevention Advisory Committee in each jurisdiction, have overseen the NSPS. In search of the best available empirical support for activities within the NSPS, these bodies commissioned several other partners to provide empirical evidence upon which to base potentially effective interventions.

We start this section by describing AISRAP's role in this matter and continue with a review of key research projects for the effectiveness of the NSPS. We then end this section by specifying some barriers to the progress of the NSPS. By drawing on our expertise with the NSPS.

AISRAP's ROLE WITHIN THE NSPS

AISRAP was one of the partners involved in the process of development and consultation regarding the LIFE Framework (2000) and its later re-development (2007). Additionally, AISRAP was particularly involved in the development of *The Queensland Government Suicide Prevention Strategy 2003–2008*, which was coordinated by Queensland Health.

Acknowledging that research into suicide prevention can be important in evaluating the efficacy of suicide prevention interventions, the NACSP recommended the development of the research agenda and options to encourage further research in the field. Consequently, the Department of

Health and Ageing commissioned a project that sought to **inform priority setting in suicide prevention research**, by empirically examining existing priorities and by seeking stakeholders' views on where future priorities might lie. One of the partner organisations in this project was AISRAP. The key findings of this project were published in several articles (Robinson *et al.*, 2008; Niner *et al.*, 2009). Since these articles are attached to our Submission, we will at this point provide only a brief summary of the main findings.

In summary, the stakeholders indicated that emphasis should be given to intervention studies, in particular to the evaluation of specific interventions and response of the health and community service systems. They felt that completed suicide and attempted suicide are both important and that evaluative activities should move the focus from individual-level risk factors to groups identified as having particularly high levels of risk. Many felt that evaluation efforts should employ mixed methods, should be multidisciplinary and should be relevant to the Australian context. (They also argued that there was scope for increasing the utility of research findings by communicating them in a manner that would enable them to be utilised by policy-makers, planners and practitioners. Several called for a more cohesive framework for suicide prevention that could guide suicide prevention research.) This study provided guidance with respect to the direction Australia's suicide prevention research agenda should take. However, additional objective examination is still required. It was proposed, for example that a "*standard assessment of the relative burden of suicide for different groups could help clarify where future efforts could be directed and could be sought as part of the priority-setting process"* (Niner *et al.*, 2009).

AISRAP is aware that updating of research trends and results, related to suicide and self-harming behaviours, is of great importance in developing and implementing suicide prevention strategies and programs. As part of its roles as a *WHO Collaborative Centre* and *National Centre of Excellence in Suicide Prevention,* AISRAP places great importance on keeping up-to-date with the literature available on suicide research and prevention. In order to maintain its high professional standards, AISRAP (as the *National Centre of Excellence in Suicide Prevention*) has committed to create a special unit of researchers with the aim of scanning all the international literature published in English. The aim is to identify new promising lines of prevention and the most relevant research results applicable to the Australian context. The result of this activity is

the publication of *Suicide Research: Selected Readings*, Volume I (Andersen *et al.* 2009) and Volume II (Sveticic *et al.* 2009). In this way, AISRAP's "**educative role**" regarding national and state-level suicide prevention strategies, is fulfilled with this "alerting service" of recent research findings within suicidology. This published awareness service is publically available in hard copy for to all interested parties.

EFFECTIVENESS OF THE NSPS IN ACHIEVING ITS AIMS AND OBJECTIVES

Since the establishment of the NSPS there have been few evaluations that examined the appropriateness, effectiveness and efficiency of the NSPS. In order to achieve this purpose the Department of Health and Ageing (DoHA) in 2005 commissioned Urbis Keys Young to undertake an evaluation of the NSPS. One of the main conclusions of the evaluation was that "*stronger evidence regarding the impact and outcomes of NSPS funded projects is required*" (Evaluation of the National Suicide Prevention Strategy, 2006, p. 7). Prior to that, the National Advisory Council on Suicide Prevention, with financial support of DoHA, commissioned *A Manual to Guide the Development of Local Evaluation Plans*, which was prepared by the Centre for Development and Innovation in Health at the Australian Institute for Primary Care, La Trobe University (Mitchell & Lewis, 2003). This *Manual* is intended to help projects funded under the LIFE Framework to identify indicators and measures that could be used to evaluate their activities.

Up to this day, however, there has been no evaluation involving projects that have not been funded under the LIFE Framework, e.g. by non-governmental organisations, dealing with suicide and/or self-harm behaviours on a volunteer basis. Therefore, it is of even greater importance that Queensland Health decided to conduct a **Mapping exercise of existing suicide prevention programs and services in Queensland** (government and non-government) which are specifically directed to the prevention of suicide and/or self-harming behaviours. AISRAP was given this task "*due to its lead role in Queensland on research and prevention in suicide, in addition to national and international suicide research*" (quoted from the Project Plan). The role of AISRAP is to map, and describe, existing Queensland suicide prevention programs and services, as well as identify the gaps/linkages in existing services, summarise the evidence-base

and effectiveness of implementation for individual services, and provide recommendations. The project is currently in its initial phase. The findings will be, according to the plan, available at the end of 2010. More detailed information about the Mapping Exercise is provided below.

The mapping exercise of existing suicide prevention programs and services in Queensland

The Mapping Exercise is the **first of its type in Australia** to map and describe existing suicide prevention services, programs and initiatives. Its aim is to establish a baseline of all existing services, projects and activities operating in the field of suicide, particularly those funded by the Commonwealth, State and non-government organisations (NGOs). At present, this study is restricted to services in Queensland.

The purpose of this study: This Mapping Exercise will involve the clear identification, review and dissemination of information about all current programs/services which are directed to the prevention of suicide and/or self-harming behaviours. This will include identifying the current status of suicide prevention activities in Queensland overall, and also by individual organisations. A summary of this information will then be published on a web-based database with links to relevant websites (e.g. provider organisations' websites). The project also aims to establish a **register of suicide prevention programs or services** currently operating in Queensland. This project will facilitate better access to information on various suicide prevention programs or services for our communities. It will also identify linkages and gaps in service provision which are relevant to the implementation of future programs/services to improve the availability of suicide prevention initiatives.

The key objectives of this study are as follows:

- Practical and applied knowledge to a theoretical field by identifying how national suicide prevention guidelines, standards and recommendations, policies and plans of action are implemented at the community level, and the extent to which they respond to client and local need.

- Providing information to policy makers for the development and improvement of national and state suicide prevention policies and to support continuous program or service improvement.
- Effective implementation of future suicide prevention programs or services by avoiding duplication and supporting evaluations of existing prevention programs or services.
- Identifying linkages and gaps in service provision.
- Increasing awareness of existing information on programs or services for members of the community, researchers, policy makers and stakeholders. As such, appropriate channels and methods of communication will be used to ensure that the findings reach each of these audiences (via a final report, generalist publications and a web-based database).
- Increased potential for forging new partnerships between Commonwealth, State and NGOs which are undertaking programs or services in suicide prevention.
- First comprehensive register of suicide prevention programs or services in Queensland.

Contribution of this study to achieving the aims of the NSPS: This enterprise is seen as particularly relevant in the light of implementing future programs, especially projects funded by the Commonwealth and state governments. In fact, this would **avoid undue duplication or overlapping of programs** and would permit **a more rigorous evaluation of the benefits of individual projects**. Examples exist, throughout the country, in which several different programs – operating simultaneously – have targeted the same community. It is clear that under these circumstances it is virtually impossible to disentangle any individual impact from programs. There is a danger of wasting resources through duplicated administration (on duplicated projects), materials, brochures and questionnaires dealing with suicide themes. Such duplication may trigger idiosyncratic reactions for community members, and a general feeling of insensitivity to the real needs of that community.

AISRAP will further evaluate the data to examine scientifically the quality and effectiveness of currently existing suicide prevention programs and services in Queensland. This subsequent phase of the evaluation is exclusively for research purposes and will not be part of the final project report. Data gathered from individual organisations will be strictly confidential. In addition, the data will be analysed and published at an aggregated level. The outcomes of this

evaluation will increase our overall knowledge about "what works" to achieve the broad goals of suicide prevention and mental health promotion. Specifically, it will contribute to the overall evaluation of the *National Suicide Prevention Strategy*. Accordingly, this information will be disseminated by publishing the findings in scientific journals and/or presentations for a specialized public (e.g. at a conference).

BARRIERS IN THE PROGRESS OF NSPS

Evaluating the National Suicide Prevention Strategy, *per se*, is problematic. An overall evaluation in terms of the **outcome measure** of number of suicides) will be compromised by the inaccuracy of ABS data on suicides, as has been pointed out at a number of places earlier in this Submission. This point cannot be overemphasised. The complications associated with "cause of death" data in Australia have serious implications for the evaluation of the National Suicide Prevention Strategy: **any evaluation based on inaccurate data will also be inaccurate**.

"Evaluation" can be undertaken in some other ways, on specific projects or components of the National Suicide Prevention Strategy. Such work may apply a qualitative approach to research. AISRAP was commissioned to undertake an evaluation of a project "Building Bridges: Learning from Experts". This particular project (McKay *et al.*, 2009) involved the implementation of a suicide prevention strategy in four Aboriginal communities, *viz*. three ex-Deed of Grant in Trust communities in Cape York, and one other community in south-west Queensland. The full report (40 pages) associated with the evaluation is available from AISRAP on request (for summery see Attachment 7). However, for the Senate Committee's convenience a relatively brief account of that evaluation of the "Building Bridges" project has been prepared and is attached to this section of the AISRAP Submission.

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ATTACHMENT 7

Summary of
Building Bridges: Learning from Experts – Building bridges to implement successful life promotion and suicide prevention expertise across Aboriginal communities,
by Kathy McKay, Kairi Kõlves, Helen Klieve and Diego De Leo

In 2009, AISRAP completed an evaluation of a suicide prevention strategy implemented in four Queensland communities – three ex-DOGIT communities in Cape York and one mixed-community in south-west Queensland. The significantly high rates and complex nature of Indigenous suicide cannot be understood without first understanding the effect of colonisation on Indigenous cultures and communities and acknowledging that the Australian experience is very different to those overseas (Hunter, 2002; Hunter, 2007; Hunter and Milroy 2006; Hunter *et al*., 2001; Kidd, 1997; Rowse, 1993; Tatz, 1999; Tatz, 2001;). Consequently, suicide prevention strategies considered to be effective in non-Indigenous populations may not be relevant in the Australian Indigenous population.

Further, each community included within the Building Bridges Project had different historical experiences that affected the social environment in which the activities were implemented. All the activities were adapted by the Project Officers to suit the individual needs of each community. The activities simply could not have been uniformly implemented. Indeed, the activities seemed to work more effectively in communities that already experienced a certain level of connectedness which existed in Yarrabah, Hope Vale and Kowanyama. Implementation was much more complicated in a mixed community like Dalby, where there was little feeling of connectedness among the Indigenous population.

Consequently, this evaluation did not solely rely on suicide rates to assess the effectiveness and appropriateness the Building Bridges Project. However, as suicide prevention is the ultimate goal, the evaluation looked at some indicators that the communities involved have begun to enhance resilience to and reduce the risk factors of self-harm and suicidal behaviours. This was done by examining whether the activities strengthened community connectedness, increased community capacity and strengthened empowerment. The discussions carried out by the evaluation team were invaluable to find out what was happening on a day-to-day basis in the four communities involved in the Building Bridges Project. It was found that the community participants perceived the project to be successful based on, seemingly small, changes that directly affected them. Not all the positive changes experienced in the communities were officially recorded by the project team or the state government. Further, not all the problems experienced in the communities were mentioned.

One of the most important considerations for the future of these activities is whether they can be naturally sustained within Indigenous communities after the completion of the Building Bridges Project. Sustainability can be linked to the work done during the project by the Project Officers and the community acceptance of the different activities. This can lead to positive community changes which in turn enhance resilience to and reduce the risk of self-harm and suicidal behaviours occurring in the community. However, these changes can take long time to occur and may need long-term commitment from funding bodies, research partners and community members. By recognising problems and becoming aware of possible solutions, a community could become connected, empowered and capable enough to start implementing possible solutions.

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APPENDIX I: AISRAP's Role in Suicide Research and Prevention

1. About AISRAP

The Australian Institute for Suicide Research and Prevention (AISRAP) at Griffith University was established in 1997 with the aim of promoting, conducting, and supporting comprehensive inter-sectoral programs of research for the prevention of suicidal behaviours. Among its antecedents was the Queensland Suicide Prevention Project, originated by Queensland Health as a mortality database in 1990. This project was also aimed at reviewing all the available information on suicide prevention in Australia. The Queensland Suicide Prevention Project remained within Queensland Health's walls until 1994; then, with the name of **Queensland Suicide Register (QSR)**, it moved to the Princess Alexandra Hospital (1995), and subsequently to the Belmont Private Hospital (1996). Initially located at Nathan Campus (1997) and affiliated to the School of Psychology, AISRAP has since then continued to maintain the QSR. In 2000, AISRAP moved to Mount Gravatt. In the same year, it became an independent institute within the Health Group.

Recognised for its scientific standing, the Institute became a **World Health Organization Collaborating Centre for Research and Training in Suicide Prevention** in July 2005. In relation to this role, AISRAP was entrusted the following activities:

1. Collection and dissemination of information on suicide epidemiology and research findings on suicidal behaviour;
2. Standardisation of suicide terminology and nomenclature;
3. Participation in collaborative research under WHO's leadership, including planning, conduct, monitoring and evaluation of outcomes, and promotion of its results through conferences and publications;
4. Education and training, including research training and postgraduates courses, both on-campus and on-line, and provision of supervision for PhD candidates;
5. Coordination of activities carried out by several institutions on suicide-related topics;

6. Providing information and advice on scientific and policy-related issues in the field of suicide prevention.

In 2008 AISRAP was established as the **National Centre of Excellence in Suicide Prevention (NCESP),** funded by the Commonwealth government's Department of Health and Ageing. The Centre plays a key role in the Australian Government's National Suicide Prevention Strategy by delivering evidence-based best practices in suicide prevention, to provide support to Commonwealth Departments, non-government agencies, academics and community groups in their respective initiatives in the field of suicide prevention. The newly established NCESP will:

- Provide advice on evidence based best practice in suicide prevention activity to inform the National Suicide Prevention Strategy work plan, commencing with the ATAPS program, but also in relation to existing activity such as population health approaches to suicide prevention through school-based activity;
- Offer direct support to agencies contracted to the Department to undertake new and emerging suicide prevention activities, particularly where this pertains to selective interventions to individuals who have attempted suicide or self harm;
- Provide a bi-annual critical literature review outlining recent advances and promising developments in research in suicide prevention, particularly where this can help to inform our national activities;
- Provide advice on improving approaches to evaluation of suicide prevention activities and on the development of evaluation frameworks for new projects such as the ATAPS suicide prevention project;
- Provide advice on the implications of existing suicide prevention data and on issues around the credibility and suicide data.

Apart from research activities, AISRAP provides education and training for health and allied professionals. Offering postgraduate programs in suicidology in 2001 was a world first. In addition, the Institute holds Suicide Prevention Skills Training workshops for professionals and consumers. Workshops are tailored to specific organizational needs of workers, and are delivered within an adult learning framework.

In 2004, the Institute opened the **Life Promotion Clinic** at Griffith University. This was the first outpatient facility in Australia focused on providing specialised treatment to people with a history of suicidal behaviour. The Life Promotion Clinic is a unique place of care and monitoring service for suicide attempters, where psychiatrists and psychologists cooperate in providing the highest possible standard of assistance.

This research institution, of growing impact in the community delivers, among most advanced protocols of care, a modified version of Dialectical Behaviour Therapy, and has become a formal Training Agency of the Royal Australia and New Zealand College of Psychiatrists. Today, it is also an official site for Advanced Training in Psychotherapy. The Clinic hosts a bi-monthly Seminar Series featuring presentation delivered by experts in the field, in topics of current interest to the community and industry stakeholders.

The Institute receives financial and infrastructure support from the Commonwealth and Queensland governments, the private sector and Griffith University.

2. AISRAP's role in suicide prevention

Functions of AISRAP

- To conduct research on fatal and non-fatal suicidal behaviours, their risk and protective factors, and related mental health issues;
- To develop appropriate research methodologies, strategies, and priorities for suicide research and prevention;
- To develop, promote and evaluate suicide prevention programs in both urban and rural areas of Australia;
- To maintain a comprehensive state-of-the-art suicide mortality database (QSR);
- To develop effective evidence-based treatment protocols for suicidal persons;
- To disseminate research outcomes;

- To assist and advise on the development and evaluation of culturally appropriate suicide prevention, intervention and postvention programs;
- To develop and implement suicide prevention education for mental health professionals and other allied health professionals;
- To provide the community with reliable information on suicidal behaviours and their prevention;
- To advise the WHO worldwide (particularly in the Western Pacific Region) on suicide prevention strategies.

Main outcomes of AISRAP

A contribution to the Five-Year Suicide Prevention Strategy in QLD, 2003-2008 (concept and directions);

- A contribution to the National Suicide Prevention Strategy (4 reports, 2 books, 15 international articles);
- The creation of post-graduate courses in suicidology (a world first);
- AISRAP is an accredited agency in the delivery of training in suicide prevention;
- The opening of the Life Promotion Clinic (an Australian first), a unique place of care and monitoring service for suicide attempters;
- The transformation of a small academic unit in to an institute with 15-20 staff members;
- The international recognition of the excellence of AISRAP's research through its designation as a WHO Collaborating Centre in 2006.

Vision of AISRAP

- The provision of quality research, for the benefit of the entire community, by creating an institute of excellence, both nationally and internationally;
- Quality research provides essential ground for effective suicide prevention;
- A distinctive feature of AISRAP is selecting its research projects on the basis of their practical outcomes and potential capacity to influence governments, policy makers and community members.

3. AISRAP's Research Work

Main research projects

- WHO/START Study *(WHO/WPRO, Commonwealth);*
- Suicide in the Mentally Well *(ARC, Police, QLD-H);*
- Indigenous Suicide *(QLD-H, Rotary Health Fund)* - the incidence of suicidal behaviours in indigenous communities in Queensland - evaluation and development of baseline data;
- Family Well-Being in Indigenous Families *(Commonwealth)* - Learning from Experts - Building from Bridges to implement successful life promotion and suicide prevention expertise across Aboriginal communities;
- Suicide in Queensland *(QLD-H);*
- Mapping Exercise: suicide prevention programs in Queensland;
- Suicide in immigrant populations living in Australia;
- Last Contact with Health Carers Before Suicide *(ARC, UNSW, State Coroner, QLD-H, Div. General Practitioners).*

Other research projects

- Psychotherapeutic Intervention with Suicide Attempters: RCT of modified DBT vs. TAU *(GU, PAH & Logan Hospitals);*
- Respite House for Suicide Attempters *(Gregory Terrace Boys);*
- NICE-SP: Trends in the WHO/EURO Region *(EuroSafe, Fondazione Zancan);*
- WHO/SUPRE-MISS *(NH-MRC, QLD-H);*
- CASE Study *(Commonwealth, QLD-H);*
- Rail suicide *(QLD Rail, NCIS);*
- Suicide in Policemen *(NSW Police);*
- Male Suicidal Behaviours during the Separation Process *(ARC, Relationships Australia, Mensline, Kinnections);*
- Post-Discharge from Psychiatric Care of Suicidal Patients *(Commonwealth);*
- Improving Psychological Autopsy Techniques: A Quality Control on QSR *(QLD-H).*

Formal international co-operations

A formal Memorandum of Understanding has been signed between AISRAP and the following institutions:

1. Centre for Suicide Research, Pecking University, China (2004);
2. SNEHA and Voluntary Hospital Systems (VHS), Chennai, India (2006);
3. National Public Health Institute, Oslo, Norway (2007);
4. Estonian-Swedish Mental Health and Suicidology Institute (2008);
5. Fondazione Zancan, Italy (2008).

Research collaborations are in place with many international institutions; among them are:

- Suicide Research Centre, University of Oxford, UK;
- Suicide Research Centre, University of Gent, Belgium;
- Irish Foundation for Suicide Prevention, Cork, Ireland;
- CRISE, University of Quebec at Montreal, Canada;
- Estonian-Swedish Mental Health and Suicidology Institute, Tallinn, Estonia;
- Karolinska Institute, WHO CC on Suicide Research, Stockholm, Sweden;
- Public Health Institute, Helsinki, Finland;
- Department of Psychiatry, Columbia University, New York, USA;
- Hong Kong Jockey Suicide Research Centre, China;
- Department of Medical Psychology, University of Vienna, Austria;
- Department of Social Psychiatry, University of Moscow, Russian Federation;
- Fondazione Zancan, Padua, Italy;
- Department of Psychiatry, University of Teheran, Iran.

APPENDIX II: AISRAP's Record of Publications

Publications in international journals

In year 1997

BILLE-BRAHE U, KERKHOF A, DE LEO D *et al.*: A repetition-prediction study of European parasuicide populations: a summary of the first report from Part II of the WHO/EURO Multicentre Study on Parasuicide in cooperation with the EC Concerted Action on Attempted Suicide. *Acta Psychiatrica Scandinavica,* 95: 81-86, 1997.

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