

The Use and Impact of Applied
Suicide Intervention Skills Training
(Asist) in Scotland: An Evaluation

Annex: A Review of the
International Literature

**THE USE AND IMPACT OF
APPLIED SUICIDE INTERVENTION SKILLS
TRAINING (ASIST) IN SCOTLAND: AN EVALUATION**

**ANNEX: A REVIEW OF THE
INTERNATIONAL LITERATURE**

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It should be noted that since this research was commissioned a new Scottish government has been formed, which means that the report reflects commitments and strategic objectives conceived under the previous administration. The policies, strategies, objectives and commitments referred to in this report should not therefore be treated as current Government policy.

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CHAPTER ONE INTRODUCTION

1.1 This report presents findings from a review of the international literature undertaken as part of a larger national evaluation of Applied Suicide Interventions Skills Training (ASIST) in Scotland. The evaluation was commissioned by the Scottish Government, and was undertaken by Rona Dolev, Dawn Griesbach, Clare Lardner and Patricia Russell. The evaluation had four objectives:

- To review information from previous evaluations of ASIST and distil the lessons which can be learned, particularly in relation to impact and effectiveness
- To obtain the views and theories of change of key stakeholders responsible for introducing ASIST in Scotland, to explore whether and how ASIST should be further rolled out in Scotland for optimal and sustained impact and effectiveness
- To explore participants' experiences of delivering or receiving and using ASIST training, in order to appraise ASIST's implementation, impact, and (where possible) its effectiveness in Scotland.
- To make recommendations about whether and how ASIST should be targeted in the future to optimise impact in Scotland, and to identify further research and evaluation activity which could usefully be undertaken to support the implementation process.

1.2 This is a large and complex evaluation which involves a number of components, including:

- A review of the international literature on ASIST
- A limited review of other suicide prevention training programmes, undertaken with a view to identifying similarities and differences between ASIST and these other programmes
- An analysis of the national ASIST database, held and maintained by the Scottish Government
- Interviews with key stakeholders, including Choose Life co-ordinators and members of the Choose Life National Implementation Support Team
- Interviews with ASIST trainers and course participants
- A large-scale survey of ASIST participants
- In-depth local implementation studies (LIS) in selected areas / organisations around Scotland.

1.3 This report focuses on the first two points above, and will attempt to answer the following questions:

- How has the implementation of ASIST varied in different parts of the world?

- What do we know about the effectiveness of ASIST from the international literature?
- What are the similarities and differences between ASIST and other suicide prevention training programmes and are there any lessons for the future of ASIST in Scotland?

About Applied Suicide Intervention Skills Training (ASIST)

1.4 ASIST was developed in 1983 by a group of four professionals working in the fields of psychiatry, psychology and social work,¹ in collaboration with the provincial and state governments of Alberta and California and the Canadian Mental Health Association in Alberta. The creation of ASIST was in response to growing concern about suicide in the region. Originally developed for the Canadian province of Alberta, the programme is now widely disseminated throughout Canada, as well as in Australia, New Zealand, the United States (including the US Army), Norway, Northern Ireland and Scotland. The two-day ASIST workshop is currently the most widely used and researched suicide intervention training programme in the world.

1.5 The aim of ASIST is to help front-line caregivers from all disciplines and occupational groups (formal and informal) to become more willing, ready and able to provide practical suicide first aid to persons at risk. It involves a two-day intensive, interactive and practice-dominated course designed to help caregivers recognise risk and learn how to intervene to prevent suicide.²

1.6 The two-day ASIST workshop covers five learning modules: introduction, attitudes, risk estimation, intervention/skills and resourcing/networking. The structure of the workshop is fixed and participants must attend both days consecutively. The training is based on adult education principles with less than 15% of the workshop employing a lecture format. It also makes use of the principles of graduated learning, continuous reinforcement, and the setting of competency-based objectives. The programme is disseminated by trained local trainers, who have attended a five-day ‘training for trainers’ (T4T) workshop.

1.7 The Canadian-based LivingWorks Education is the central organisational body for ASIST. LivingWorks provides services such as training for trainers, resource support, quality monitoring and programme updating. The LivingWorks model aims to help communities to increase their capacity to provide locally-based suicide intervention training and services. LivingWorks trains community representatives to become ASIST trainers (through T4T), who provide training through workshops to others in the community. This model uses a combination of local knowledge of the community and its organisations and an established international organisation providing standardised training and learning materials.

¹ Ramsay, Tanney, Tierney and Lang, who later established LivingWorks Education Inc.

² It must be acknowledged that there is some ambiguity in the term “caregiver.” LivingWorks defines a caregiver as “any person in a position of trust”. *“This includes professionals, paraprofessionals and lay people. It is suitable for mental health professionals, nurses, physicians, pharmacists, teachers, counselors, youth workers, police and correctional staff, school support staff, clergy, and community volunteers.”* See www.livingworks.net/AS_Abt.php.

1.8 ASIST is the main training programme supported under the Scottish Government's ten-year Choose Life national strategy and action plan in the area of suicide prevention. ASIST was introduced in Scotland in 2003, and by September 2007 over 10,000 participants had been trained.

Structure of this report

Chapter 2 of this report provides an overview of the methods used in the review of the ASIST literature.

Chapter 3 describes the implementation of ASIST in different areas around the world.

Chapter 4 presents findings of the review of the international literature on ASIST. This section considers the effectiveness and impact of ASIST training on four levels: (i) participant reaction; (ii) participant skills acquisition; (iii) changes in participant behaviour following the training; and (iv) organisational / community change.

Chapter 5 provides a description of STORM (Skills-based Training on Risk Management), MHFA (Mental Health First-Aid) and SMHFA (Scotland's Mental Health First Aid). This section highlights similarities and differences between these training programmes and ASIST.

Chapter 6 discusses the findings presented in Chapters 3, 4 and 5, and makes suggestions for possible future research.

CHAPTER TWO METHODS

2.1 This section describes the methods used to undertake an analysis of the international literature on ASIST. The purpose of this review was to examine the ways in which ASIST has been implemented in different countries and contexts around the world (discussed in the next chapter), and to ascertain the effectiveness and impact of ASIST (discussed in Chapter 4).

Scope of the review

2.2 The review included all available and relevant literature relating to the Applied Suicide Interventions Skills Training (ASIST) programme up to 2007. These included evaluation reports (published and unpublished), a number of small-scale Scottish evaluations, and a wide variety of other reports or articles on ASIST which were not strictly evaluations.

2.3 The majority of papers included in this review were identified by the commissioners of this study. A further search was conducted by the research team to identify any literature relating to ASIST which was not included in the original list. In addition, all Choose Life Coordinators in Scotland were contacted to confirm whether there were any other published, or soon-to-be published evaluations of ASIST in Scotland which should be included in the review.

2.4 In addition to reviewing ASIST literature, a limited review of the literature on other types of suicide prevention training was undertaken. The training programmes which provided evaluation evidence were: Skills-based Training on Risk Management (STORM), Mental Health First Aid (MHFA) and its Scottish equivalent, Scottish Mental Health First Aid (SMHFA). Although MHFA and SMHFA are not suicide prevention programmes, they address the possibility of suicide in people who are experiencing mental ill health using risk review material from an earlier version of ASIST.

2.5 The aim of this review was to examine the similarities and differences between ASIST and other training programmes that address suicide intervention; and to identify any lessons for the future development and sustainability of ASIST in Scotland. The primary focus was on similarities and differences in format, targeting and implementation, rather than comparisons of effectiveness. The findings from this second review are presented in Section 5 of this report.

What counts as evidence?

2.6 In order to provide evidence of effectiveness, suicide intervention programmes would ideally be able to demonstrate a direct reduction in suicide rates. There are, however, substantial difficulties in demonstrating such an impact. For example:

- The reporting of suicidal acts is inaccurate and unreliable.
- Suicide is a statistically rare event.
- Interventions, such as training, are indirect (i.e., targeted at helpers, not suicidal individuals).

- The effects of some interventions — training, in particular — may not be seen for many years
- Furthermore, in the case of training interventions, it is not clear how many people need to be trained — and how much contact they need to have with people who are at risk — in order to result in a reduction in suicides.

2.7 Moreover, it is generally acknowledged that suicide rates are affected by a multitude of societal and individual factors³ — not just the suicide intervention programme. Given these complexities, it would be practically impossible to attribute any changes in suicide rates to a specific preventive intervention. In light of these limitations, most evaluation studies seek to measure changes across a broad range of outcomes (for example, reported changes in caregivers’ knowledge and skills), and improvements in these areas are seen as evidence of a programme's effectiveness.

2.8 However, even when the focus is on *indirect* measures of programme effectiveness, community-based suicide intervention programmes are still very difficult to evaluate. This is due to their “complex, programmatic and context-dependent” nature.⁴ The various elements involved in the implementation and delivery of suicide prevention programmes (e.g. participation, targeting, role out, variation in settings, sustainability) are hard to predict and control and hence are difficult to evaluate using standard experimental designs. It is, therefore, not always possible to design and execute scientifically rigorous studies using statistical methods of analysis. In light of the challenges involved in conducting research in the area of suicide prevention, the following review incorporates findings from both qualitative and quantitative designs, and adopts a broad view of evidence which includes that which is provisional, emergent and incomplete.⁵ This approach reflects a view of suicide prevention practice as “complex, dynamic and deeply rooted in context.”⁶

2.9 A model which is often used to evaluate training interventions is the Kirkpatrick Model. This considers the effectiveness of the training on four levels: (i) reaction; (ii) learning; (iii) behaviour change and (iv) organisational change. These four levels will be described in more detail at the beginning of Section 4 of this report.

Assessing and appraising the evidence

2.10 The initial search for ASIST-related literature produced 37 papers which were considered to be relevant and useful for achieving the aim of this review. These included:

- fifteen (15) international evaluation reports, published and unpublished

³ Beautrais A. (1998). *A review of evidence: In our hands – The New Zealand youth suicide prevention strategy*. Report for the New Zealand Ministry of Health. The document is available on the Ministry of Health’s website: <http://www.moh.govt.nz>

⁴ Rychetnik L, Frommer M, Hawe P, & Shiell A (2002) Criteria for evaluating evidence on public health interventions. *Journal of Epidemiology and Community Health*, 56: 119-127.

⁵ Upshur R (2001) The status of qualitative research as evidence. In J Morse, J Swanson & A Kutzel (Eds.), *The nature of qualitative evidence* (pp. 5-26). Thousand Oaks, CA: Sage.

⁶ White J (2005) *Preventing Suicide in Youth: Taking Action with Imperfect Knowledge*. A research report prepared for the British Columbia Ministry of Children and Family Development. University of British Columbia.

- seven (7) small-scale unpublished Scottish reports undertaken for local monitoring purposes (e.g., findings from a single questionnaire survey involving small numbers of people)
- fifteen (15) miscellaneous papers, mostly unpublished, which comprised a broad range of other types of reports, including strategic policy documents, magazine articles, project reports on a wide range of suicide prevention activities (including ASIST), etc.

2.11 The key difference between the 15 international evaluation reports (including one Scottish report) and the seven small-scale Scottish reports was that the international reports were designed as training programme evaluations (i.e. they addressed the various Kirkpatrick levels, typically incorporated a number of measures, attended to methodological issues etc), whereas the Scottish reports were designed as local monitoring exercises and hence were less rigorous in terms of their methodology.

2.12 A full list of papers is given in References section of this report. Note that three of the 15 evaluation papers involved evaluations of an early version of ASIST, the Suicide Intervention Workshop (SIW). In order to meet the aims of this review, the main focus was on the 15 evaluation reports, with all other literature used as a supplementary sources of information.

2.13 For the purpose of assessing the quality of evidence, all 15 international ASIST evaluation reports were subjected to more detailed appraisal. One of the 15 reports was a Scottish evaluation commissioned by Choose Life locally in West Dunbartonshire and received intensive support from NIST. As all 15 papers were either partly or wholly qualitative, a framework developed by Spencer et al (2003) for assessing the quality of qualitative evaluations was used as a basis for commenting on the strengths and weaknesses of each study.⁷ The papers were assessed in four broad areas:

- whether the evaluation's aims and objectives have been clearly stated and addressed
- whether data were adequately collected
- whether data were adequately analysed, interpreted and reported
- whether findings were contextualised into a theoretical/practical framework.

2.14 A copy of the full list of criteria is provided in Annex 1 of this report. On the basis of these criteria, the quality of each paper was judged as good, fair or poor. One-fifth of the evaluation papers were appraised by two additional independent reviewers. There was 90% initial agreement between reviewers and the small areas of disagreement were resolved through further discussion.

⁷ Spencer L, Ritchie J, Lewis J & Dillon L (2003). *Quality in qualitative evaluation: a framework for assessing* London. See: http://www.policyhub.gov.uk/docs/qqe_rep.pdf, in particular, pp 22-28.

2.15 The quality of evidence in the different studies varied greatly, with roughly a third of the papers falling into each of the three quality assessment categories. It was decided to include all papers in the review for two reasons: (a) the small number of papers available; and (b) all papers, regardless of their research quality, had some interesting insights to offer. However, the quality of each individual paper has informed the way evidence has been considered in terms of answering the questions outlined in Section 1 of this report. (See Discussion in Section 6.)

Synthesising the evidence and writing the final report

2.16 A data extraction sheet was used to allow a full summary of each paper to be made. Data extraction sheets for all papers are provided in Annex 2 of this report. These tables contain:

- information about the authors
- publication details
- place and time of evaluation
- aim and focus of evaluation
- ASIST version used
- targeting and implementation
- sample size and composition
- time between training and evaluation
- evaluation design and instruments
- findings
- cost information
- lessons / recommendations
- strengths and weaknesses of the evaluation
- quality of evidence
- other comments (e.g. local policy framework, geography etc).

2.17 In-house reports from Scotland have been summarised using a simplified data extraction sheet and were not graded on quality of evidence (see Annex 3), as they were not designed or intended as methodologically rigorous studies.

CHAPTER THREE IMPLEMENTATION OF ASIST

3.1 The ASIST programme has a 22-year implementation record. This section presents information about the way in which ASIST has been implemented in different countries and contexts. It includes basic information about the implementation of ASIST in Scotland. This information has been extracted partly from the 37 reports identified for the ASIST literature review, and partly from official ASIST-related websites in the different countries.

Targeting of training

3.2 All studies included in this review evaluated ASIST programmes that were targeted at community caregivers (formal and informal). Two of these studies evaluated ASIST training programmes that also targeted young people and three studies evaluated programmes targeted at University students (medical and other).

3.3 ASIST training in Scotland is primarily targeted at community caregivers.⁸ An evaluation of ASIST in West Dunbartonshire found that the majority of ASIST participants felt that the workshop was of direct relevance to the activity that they pursued in their job (AskClyde 2007). Those working with clients with mental health problems or victims of abuse were most likely to feel the training was directly relevant to their jobs. However, this latter finding relates to a very small sample which was compared to a group of professionals working with only a limited number of types of client group.

3.4 No information was available from the literature about whether participation in training is typically voluntary or mandatory. Only one evaluation in Northern Ireland stated that ASIST training was mandatory for Foyle Trust employees in front-line positions (Carney 2005).⁹

Cross-national variation in implementation

3.5 ASIST started out as a local training programme for the Government of Alberta in Canada. It is now part of national, regional and organisational suicide prevention efforts in a growing number of countries worldwide. Table 1, on the following page, summarises and compares implementation strategies in three countries where ASIST has been widely disseminated: Australia, Norway and Scotland. This comparison provides some interesting insights into the similarities and differences in implementation strategies which could inform further implementation in the Scottish context. Note that all of this information is taken from official ASIST-related websites in the respective countries, or has been provided by individuals responsible for the administration of ASIST in those countries. Where information has been taken from websites, we have no way of knowing how accurate or up-to-date it is.¹⁰

⁸ None of the Scottish evaluations describe ASIST workshops that specifically target young people or university students.

⁹ The Foyle Health and Social Services Trust is responsible for the provision of community health and social care services in the council areas of Derry City, Limavady and Strabane, Northern Ireland.

¹⁰ ASIST in Australia: <http://www.livingworks.org.au>; ASIST in Norway: <http://www.unn.no/category10029.html>; ASIST in Scotland: www.chooselife.net/Training/Training.asp.

Table 1: A cross-national comparison of ASIST implementation

	Australia ¹¹	Norway ¹²	Scotland ¹³
Period of implementation	12 years	9 years	4 years
Project management	Lifeline Australia (Non-profit organisation)	Vivat (Government-run, based at the University of Oslo)	Choose Life (Government-run)
Funding	Commonwealth funding. Since 1999 – a self-sustaining enterprise within Lifeline	Government funding – the Directorate of Social and Health Affairs	Government funding – the Scottish Government
Number of workshops	>2,800	>3,000	>500
Number of trainers	>400	120	206 (includes 48 long-term inactive trainers)
Number of participants	>47,000	>12,700	>9,100
Facilitation of training	Many Lifeline centres include ASIST workshops in the training they provide to their own volunteers and the wider community.	Workshops included in various college and university health-related courses and the police college	Organisation and facilitation of workshops carried out by local authorities, Community Health Partnerships, etc. There are also several organisations that are rolling out ASIST: ChildLine, Scottish Ambulance Service, Ministry of Defence, Scottish Association for Mental Health, etc. ¹
Requirements for becoming a trainer	No formal pre-requisites. Being committed to suicide intervention and able to address and facilitate small group activities.	Trainers are local professionals who <i>must</i> have teaching experience and experience of working with suicidal persons. Most trainers have a 3-year college education or higher education.	Officially, no formal pre-requisites. However, this may vary from one local authority to another. Experience of delivering training and familiarity with Choose Life and ASIST are required.
T4T provided by	LivingWorks International Coaching Team	Vivat's Teaching Team	LivingWorks International Coaching Team
Adaptation of teaching material	Lifeline prints and disseminates Australian editions of LivingWorks materials under licence.	All teaching materials have been translated or re-made for distribution in Norway. The educational film has been re-produced using Norwegian actors.	LivingWorks original teaching materials

¹¹ General information about ASIST in Australia was taken from the 'LivingWorks Australia' website: <http://www.livingworks.org.au>. Up-to-date figures regarding the number of workshops & trainees were provided by Nicole Kooy, LivingWorks Coordinator of Training Resources & Research, Australia.

¹² General information about ASIST in Norway was taken from the 'Vivat' website, <http://www.unn.no/category/10029.html>, and from Silvola (2004). Up-to-date figures regarding the number of workshops & trainees were provided by Harriet Johansen, Vivat Consultant, Norway.

¹³ General information about ASIST in Scotland was taken from the 'ChooseLife' website: www.chooselife.net. Up-to-date figures regarding the number of workshops & trainees was taken from the national ASIST database, held and maintained by the Scottish Government.

3.6 Australia has the longest ASIST implementation record of the three countries (12 years), and is delivering ASIST via a non-profit organisation (Lifeline Australia). Since 1999, ASIST has been a self-sustaining enterprise within Lifeline. Norway has a nine-year implementation record, and is delivering ASIST as part of the Norwegian National Plan for Suicide Prevention and in close collaboration with the National Suicide Prevention Centre at the University of Oslo. Scotland has the shortest implementation record (4 years), and is delivering ASIST with the support of the Scottish Government's Choose Life National Implementation Support Team. In both Norway and Scotland, ASIST is government-funded.

3.7 The requirements for becoming an ASIST trainer vary cross-nationally. In order to become a trainer in Norway, candidates must have practical experience in working with suicidal persons or suicide intervention, teaching experience, good communication skills and the ability to lead small groups, and they must be personally qualified: most trainers have a three-year college education or higher education. In Australia and Scotland, on the other hand, there are no formal pre-requisites for becoming an ASIST trainer. In Scotland, according to the Choose Life website, in order to become an ASIST trainer, it is required that a candidate has completed the 2-day ASIST workshop, and it is highly *recommended* that a candidate:

- is familiar with Choose Life and their local area's Choose Life activities
- has experience of delivering training
- has support from their employer to get time off to provide the training
- has an open mind about suicide and the ability to talk openly about the subject.

3.8 The selection process takes into account participant skills and individual contribution to the trainer pool both locally and nationally. Similarly, in order to become a trainer in Australia, one merely needs to be committed to suicide prevention, willing to talk openly about suicide; able to address and facilitate small group activities; and open to on-going learning in the trainer role.

3.9 Funding for ASIST training in Scotland is mainly provided by the Scottish Government to local authorities through national Choose Life funding. Local authorities decide how the funding will be allocated in their areas. Although it is generally expected that some of the Choose Life funding will be used for training purposes, not all local authorities will necessarily give the same priority to training, and even among those who prioritise training, not all will give the same priority to ASIST (as opposed to other suicide prevention training programmes).

3.10 Finally, an additional significant point of comparison relates to the adaptation of ASIST teaching materials to each country's cultural context. Australia and Norway have both printed their own national editions of LivingWorks materials. Moreover, in Norway, the educational films included in the ASIST training have been re-produced using Norwegian actors (presumably to overcome the language barrier). In contrast, Scotland uses the original Canadian version of teaching materials.

CHAPTER FOUR A REVIEW OF THE EFFECTIVENESS AND IMPACT OF ASIST

4.1 In order to determine the effectiveness of an intervention, it is imperative to measure the outcomes of the intervention against its aims and objectives. ASIST has three aims, focusing on immediate, short-term and long-term outcomes:

- *Immediate aim:* to enhance the suicide intervention knowledge and skills of caregivers, in order that they can recognise and respond to people at risk.
- *Short-term aim:* to register qualified trainers in local communities, who in turn can provide front-line caregivers with the confidence and competence they need to apply first-aid suicide intervention in times of individual and family crises.
- *Long-term aim:* to reduce the number of suicide attempts and deaths.

4.2 Most research effort to date has focused on measuring the immediate outcomes of ASIST. Some research has attempted to address short-term outcomes, for example, the impact of training on organisational and community goals and activities. As explained in Section 2 above, the long-term aim of a reduction in suicide rates is an impractical outcome measure for determining the effectiveness of a training intervention.

4.3 The following summary of evidence is framed according to the Kirkpatrick model,¹⁴ which is widely used in evaluating training interventions. The model looks at the effectiveness of training at four levels:

1. Reaction (What did the learner feel about the training?)
2. Learning (What knowledge and skills did the learner gain?)
3. Behaviour change (Has the learner applied the training in practice?)
4. Organisational change (What have been the outcomes at an organisational / societal level?)

4.4 It has been suggested that the Kirkpatrick Model should include a fifth level — Return on Investment (i.e. Was the organisational investment worth the outcome?)¹⁵ However, none of the papers included in the review had information on “return on investment”.

4.5 The findings discussed in this section are based primarily on the 15 evaluation papers which were identified for the review. This information is supplemented, where relevant, by data collected in the seven unpublished Scottish evaluations.

¹⁴ Kirkpatrick D.L. (1959). Techniques for evaluating training programmes. *Journal of American Society of Training Directions*: Vol 13, pp. 3-9; 21-26, and vol 14, pp. 13-18; 28-32

¹⁵ Ken Ingram, in ‘Helping trainers to love evaluation’, *The Evaluator*, Summer 2004. (Newsletter of the UK Evaluation Society).

Reaction to ASIST (Kirkpatrick level 1 outcome)

4.6 Participants' reaction to the training was measured in seven of the 15 evaluation papers. In these papers, the vast majority of participants held a very positive view of the ASIST workshop. They expressed high levels of satisfaction and generally felt that taking part in the training was worthwhile and beneficial. The 'role-play' component of the training received special mention as being an invaluable part of the course, and there was a general feeling that training was provided in a safe and supportive environment.

4.7 The seven Scottish reports echoed these findings, with local ASIST training being highly rated, seen to be beneficial, and likely to be recommended to others. Negative comments were rare.

4.8 An Australian study (Mikhailovich *et al* 2003), examining the implementation of ASIST in a university setting, raised a concern as to a possible negative emotional impact of the training on participants (especially vulnerable ones). This issue was also raised by participants in a Scottish evaluation in Shetland (Todd 2005). However, both studies stated that, despite any potential negative emotional impact immediately following training, in the longer run training was largely perceived as a positive experience. In response to any possible negative emotional impact of training, an independent Irish evaluation of ASIST (Bookle and Burtenshaw 2004) recommended that participants should be informed in advance of the course content in order to prepare them for the intense nature of the programme.

Enhancing knowledge, skills and attitudes (Kirkpatrick level 2 outcome)

4.9 Changes in participants' suicide intervention knowledge, skills and attitudes following training were measured in 13 of the 15 papers. In the majority of these papers, 'change' had been assessed using either indirect measures (self report — 11 out of 13 papers), or, in the minority of cases, through direct measures (paper tests — three papers; simulated scenarios — two papers). Some studies used more than one method.

4.10 All studies found an overall positive change in participants' *self-reported* suicide intervention knowledge, skills and attitudes post-training.¹⁶ Similarly, participants' *self-reported* levels of knowledge, skills and attitudes compared favourably to those of controls (who had not undertaken training). A similar outcome of enhancement of knowledge and skills following training was also found in the Scottish in-house reports.

4.11 These findings were reinforced by five studies that used *direct* measures of knowledge, skills and attitudes. Participants who were trained in ASIST registered a significant improvement in both post-workshop simulated scenario exercises¹⁷ (Tierney 1994; Turley *et al*

¹⁶ Knowledge, skills and attitudes have been measured in the various papers as either individual variables or as an overall "readiness" score.

¹⁷ Note that, in one of the two studies which used a simulated scenario measure (Turley *et al*, 2000), the trainee group had a higher level of baseline experience and competency in suicide intervention than the control group. While acknowledging this weakness in design, the authors claim that this actually highlights the capacity of the workshop to facilitate enhanced suicide intervention competencies even among those who have prior experience and training.

2000) and paper test scores (post-training compared to pre-training, and trained participants compared to a control group) (MacDonald 1999; ORS 2002; Tierney 1994).

4.12 Evaluations including follow-up measures have largely found that gains in knowledge, skills and attitudes are maintained at follow-up (typically three to six months post-training). Some studies have even reported an *increase* in skills at follow-up, particularly for those who have helped a person in crisis during that period. An American study (ORS 2002) suggested that gains in knowledge and skills over time are most sustainable among participants with less pre-workshop experience of working with suicidal individuals.

4.13 There were two exceptions to this overall trend. Carney (2005) identified two topics for which there was a decrease in knowledge at three months follow-up: (1) the need to encourage a suicidal individual to talk about their wish to die; (2) the need to calmly enquire about what is happening in the suicidal individual's life. Carney suggested that these findings highlight the need for a possible review of how this information is delivered in the ASIST training course, or perhaps the need for regular updating of training.

4.14 Perry and McAuliffe (2007) found a decrease in comfort level among participants in relation to talking to clients about suicide, post-training. The authors suggested that the decrease in comfort level is consistent with research into the process of transferring knowledge into practice in adult learners: "Integration of new knowledge and skill requires transition time and focused effort."¹⁸

Applying knowledge and skills into practice (Kirkpatrick level 3 outcome)

4.15 Changes in knowledge, skills and attitudes do not necessarily translate into changed behaviour. This section examines evidence relating to the transfer of workshop learning into practice. Ten of the 15 evaluation studies measured the extent to which ASIST trainees had applied their acquired knowledge and skills. It is important to note that, in all but two of these studies, a single *self-report* questionnaire item (asking participants whether they had used ASIST's Suicide Intervention Model (SIM), post-training) was used for measuring the transfer of knowledge and skills into practice. Since there is likely to be some difference between what people *say* they did and what they *actually* did, the evidence presented in this section (and any conclusions to be drawn from it) is limited.

4.16 According to participant *self-report* measures, around 50% of trainees used the SIM model (or elements of it) at least once with a person at risk of suicide, within three to six months post-training (when most follow-up studies have taken place). Moreover, according to an independent evaluation of ASIST in West Dunbartonshire (AskClyde 2007), 92% of respondents who had the opportunity to use their training had no difficulty in implementing ASIST-based learning. According to the authors of this study, the main reason given by respondents for *not* using ASIST post-training was that they had not become aware of an individual at risk of suicide by that point in time. A follow-up survey found that within six to nine months of being trained, the majority of respondents had put their ASIST training into practice.

4.17 Two papers employed additional measures (other than participant self-reports) for the application of knowledge and skills into practice. Perry and McAuliffe (2007) evaluated the

¹⁸ Zemke R & Zemke S (1988). 30 Things We Know about Adult Learning. *Training*: 57-61.

implementation of ASIST in a large community hospital in Canada. To complement staff self-report measures, the authors also measured: (a) the proportion of their clients that staff routinely assessed for suicide risk; (b) identification of suicidal risk among mental health patients in the Emergency Department; and (c) admission rates of suicidal patients presenting in the Emergency Department. All of these measures were taken repeatedly over a four-year period. The findings suggest that knowledge and skills were transferred effectively from the training context to the workplace. Following training there was an increase of between 14-21% in the identification of suicidal risk among mental health patients and more staff assessed a higher proportion of their clients for suicide risk. There was also a steady reduction in suicidal patients' admission rates (from 56 to 42%), reflecting (according to staff) the clearer process of exploring reasons for dying and living and an increased focus on strengthening the client's protective factors in the community, which enabled some admissions to be averted.

4.18 A second paper, which examined the transfer of knowledge into skills, is an evaluation of ASIST training provided to primary and secondary school staff members in Virginia, USA (Cornell *et al* 2006). Over a period of two years, the evaluators measured: (a) the number of referrals to mental health services; (b) the number of students questioned about suicide; and (c) the number of contracts made (not to engage in suicidal behaviour) with potentially suicidal individuals. The authors carried out two studies: the first compared the above measures before and after training, and the second compared the above measures between trainees and controls.

4.19 In the first study, the authors found that, following training, participants made more referrals to mental health services than they did pre-training. However, in the second study, the authors found that, overall, the control group made more referrals than the trainees did. It is not clear whether an increase in the number of referrals to mental health services is interpreted by the authors as being a desirable outcome. On the one hand, it is said to reflect increased awareness of signs of suicide risk, but on the other hand, it is also said to reflect a lack of confidence in one's ability to help individuals who are at risk.

4.20 The number of students questioned about suicide did not differ pre- and post-training. Moreover, when asked about whether they had wondered if a student might be suicidal but decided *not* to question that student, trainees reported this to happen on average 6.7 times a year. For the control group this figure was only 0.7 times a year. This finding may reflect trainees' improved ability to detect suicidal signs, but it does nevertheless suggest that they do not always act on their concern.

4.21 Finally, in the first study, the authors found no significant difference between the number of contracts not to engage in suicidal behaviour made before training and three months following training. However, in the second study the authors found that within two years post-training, trainees made more contracts with suicidal individuals than did a control group. In conclusion, the findings from this study are not clear cut.

4.22 Further insights into the transfer of knowledge and skills into practice are provided by qualitative data collected in some of the studies. For example, many participants reported that the skills they have learned in the workshop have translated into more engagement in intervention and changes in helping activities consistent with workshop objectives (Turley and Tanney, 1998). Reasons provided for these positive changes have mainly been mainly that following training: (a) participants have become more aware of the signs they should look for in someone thinking of suicide; (b) participants have a clearer understanding that they *must* intervene; (c) participants have more confidence to ask a person *directly* whether they are thinking about

suicide; (d) participants have more confidence in their ability to carry out a suicide intervention (Argyll & Bute in-house evaluation 2004).

The impact of ASIST on broader organisational and societal goals and objectives (Kirkpatrick level 4 outcome)

4.23 Only a minority of ASIST evaluations (three out of 15 papers) attempted to examine the broader organisational and societal impact of ASIST training. This is not a surprising finding considering the complexity involved in measuring such outcomes. Though limited in scope, these papers offer some interesting anecdotal evidence as to the potential impact of ASIST.

Organisational level

4.24 Hinbest and Associates (2001) evaluated the implementation of ASIST in a Canadian school setting, in which training had been delivered to school and community representatives concurrently. They found that at an organisational level training had an impact in two main areas. First, training facilitated interaction and improved relationships between community agencies, and particularly between school and community representatives. Second, training also actively contributed to the development and articulation of system-wide protocols and school policies.

4.25 Evidence regarding the impact of ASIST in a health care organisation can be found in an evaluation of ASIST in a large community hospital in Canada (Perry and McAuliffe 2007). Following a four-year 'Suicide Assessment project' (including staff training in ASIST), the hospital's reputation in the community has been enhanced and it is now identified as a leader in suicide prevention training. The hospital is receiving training requests from partner mental health agencies and other organisations. In addition, the local community college has made the program mandatory for their nursing students. This is a good example of how an effective implementation of ASIST in an organisation can broaden its impact beyond the walls of the establishment.

Community level

4.26 At first glance it seems that the most straightforward way of measuring the impact of a suicide intervention programme at a community level is to track changes in suicide (and attempted suicide) rates following programme implementation. This, however, is a problematic approach as it is generally acknowledged that suicide rates are affected by a multitude of social, societal and individual factors, and hence it is virtually impossible to attribute any changes specifically to the suicide intervention programme in question.

4.27 Only one study had attempted to examine the impact of suicide intervention training by measuring suicide rates (Cornell *et al* 2006). This evaluation was carried out in a number of Virginia schools, which present more contained and controlled environments than the broader community. The control group in the study reported a greater number of students who attempted suicide than did the trainee group (more than three times higher). This might seem a highly promising finding, however, it is impossible to demonstrate a causal effect of training on this outcome, especially since both training and control groups were self-selected.

4.28 An in-house evaluation in Argyll & Bute (2005) offers anecdotal evidence (based on trainees' self-reports) for the effectiveness of the ASIST model in achieving a reduction in the *immediate* risk of self-harm and suicide for individuals with suicidal ideation. Feedback from the individuals at risk consistently stated that they found the intervention to be helpful and that they were grateful for having someone that listened to them.

4.29 Due to the inherent difficulties in demonstrating programme impact by looking at suicide rates, most studies seek to measure improvements across a broad range of areas as evidence of a programme's efficacy. A useful example is provided by Walsh and Perry (2000), examining the impact of introducing ASIST in a small rural community in Canada. The authors found that with over 300 individuals trained in the community, the consensus from both the community-wide Suicide Prevention Team and the Child and Youth Mental Health team was that people in the community recognise potential suicidal individuals earlier, act on their assessment with more comfort and have a good understanding of other supportive resources in the community. They have noted that ASIST provided a common language for suicide assessment and intervention in the community. People referring teenagers to mental health services were better able to provide basic risk estimations and were better able to follow recommendations based on the intervention model.

CHAPTER FIVE OTHER SUICIDE INTERVENTION TRAINING PROGRAMMES

5.1 We undertook to carry out a limited review of the literature on other suicide prevention programmes to try and establish whether there were lessons to be learned from them that would provide additional insights to the evidence from the ASIST literature review, with particular reference to future direction and sustainability.

5.2 We initially aimed to identify three programmes which covered a similar spectrum to ASIST in terms of aims and objectives, target client groups, settings and content but widened our focus to include a broader picture of mental health. We quickly identified Skills-based Training on Risk Management (STORM) and Mental Health First Aid (MHFA) and its revised Scottish equivalent (SMHFA) as programmes which met those criteria and had a reasonable evaluation base. However, we were unsuccessful in finding a third programme. We explored the possibility that the Samaritans had relevant evaluation material on their training but we understood that they were currently engaged in carrying out such an evaluation. We also made inquiries about some work in Northern Ireland on GP Depression Awareness Training but the results of a recent pilot study were not going to be available within the timescales for this review, and in any case, they were likely to be limited in scope.

5.3 This section of the literature review, therefore, focuses on STORM, MHFA and SMHFA. Table 2, at the end of this section, gives a summary of the key similarities and differences between ASIST, STORM, MHFA and SMHFA.

5.4 We made an informal assessment of the evaluation studies and overall the quality of evidence for STORM and MHFA is good. No assessment of quality of evidence was made for SMHFA. An evaluation of SMHFA has been carried out; however, the results of this were only published towards the end of our evaluation of ASIST.¹⁹

Skills-based Training on Risk Management (STORM)

5.5 STORM is a suicide prevention training package designed for all front-line health and / or social care staff, criminal justice staff and staff in voluntary agencies, and particularly those working with people at risk of suicide. The aim is to benefit service users by giving staff the skills to provide appropriate risk assessment and risk management. The course is designed to be flexible to meet service needs.

5.6 STORM has been developed by the University of Manchester. The course is based on Learning Theory and delivered through teaching techniques designed to help trainees gain and maintain the skills needed to assess a person at risk of suicide and manage the crisis effectively. The main focus is role-rehearsal, using video, self-reflection and feedback.

5.7 The STORM team uses a cascade model for training. They offer the STORM Facilitators' course (equivalent to ASIST T4T) commercially (not-for-profit). The facilitators' training is usually delivered to a group of four to six staff in an organisation at one time,

¹⁹ A report of the evaluation of SMHFA is available from: www.healthscotland.org.uk/smhfa/index.cfm.

although organisations may later train additional groups of staff. The trainers then cascade the training to others in their own organisation.

5.8 The cost of training four STORM Facilitators is £6,600 + VAT and expenses. This is a one-off fee for four days of training, the licence to run STORM, three sessions of face-to-face support and unlimited e-mail and phone support, plus teaching materials and expenses for STORM staff. Costs increase if more staff are trained. There is a new self-injury module which will cost £3,600 + VAT and expenses for training four staff. There will also be a combined package costing £8,000 + VAT and expenses for four staff.

Methods

5.9 STORM is based on learning theory and delivered through teaching techniques designed to help trainees gain and maintain the **skills** needed to **assess** a person at risk of suicide and **manage the crisis** effectively. The main focus is role-rehearsal, using video, self-reflection and feedback, which are seen as essential for developing the *micro-skills* that staff need to assess and manage a suicide crisis, e.g. eliciting suicide ideas and plans, problem-solving, future coping if the patient is suicidal and combating hopelessness.

5.10 STORM originally had four modules:

- Assessment
- Crisis Management
- Problem Solving
- Crisis Prevention.

5.11 A new module on self-injury was introduced during 2007. The modules can be delivered flexibly to meet different service needs — e.g. in four separate modules, together, or modules can be omitted depending on the pre-existing skills of trainees.

Evaluations: evidence of effectiveness and impact

5.12 The creators of STORM have undertaken a programme of evaluation from the start because of a lack of evaluation evidence about suicide prevention training. They offer the view, however, that, in addition to their own programme of evaluation, there is evidence to support the approach taken by STORM from interventions to address depression or anxiety.

5.13 There is a rolling programme of evaluations developed and carried out by Gask, Morriss and colleagues. Three evaluations have been completed and three further studies will report in 2008. In general, the evaluations have used quasi-experimental designs with pre- and post-test measures using validated tools, as well as qualitative methods (interviews with participants).

5.14 **Study 1** is described as “Evaluation of the Package” (undertaken in 1997, published in 1999). This was an evaluation of an early version of STORM that led to a change in the main focus. The aim was to try out a brief training intervention to teach suicide risk assessment and management to 33 non-psychiatrically trained multi-disciplinary staff (health, social work and voluntary sector). The key focus was on teaching interview skills. The training package and the evaluation were based on techniques of role-rehearsal and feedback which Gask had used successfully during the 1980s with patients suffering from depression.

5.15 **Studies 2 and 3** are grouped under the heading “Translation into Practice,” and address aspects of implementation. They are, therefore, potentially useful for comparison with the findings from the ASIST review.

5.16 **Study 2:** “Geographical Feasibility” (undertaken in 1997, published in 2000) was an evaluation of STORM undertaken in South Lancashire. The aim was to assess the feasibility of implementing district-wide training in the assessment and management of suicidal patients, and to assess the impact of training on relevant clinical skills. The training was targeted at front-line workers in three health care settings — primary care, accident and emergency and mental health. Participant attendance rates were used as the criteria for feasibility. Training was delivered in the place of work and at times that did not interfere with clinical responsibilities. The period of training also varied according to the previous knowledge and skills of the staff group. The training was delivered by three mental health trainers recruited for the purpose. There were 167 participants (47% of those eligible).

5.17 **Study 3:** “Clinical Practice” (undertaken in 2002, published in 2006) was an evaluation of delivering STORM through three mental health nurse trainers, to front-line staff (community and in-patient) in three Mental Health Trusts in northwest England. The aim was to assess take-up; the impact on attitudes; the impact on confidence in assessing risk; the short-term impact of training on risk-assessment and management skills; and the longer term maintenance of skills. The study also gathered information about changes in clinical practice.

Reaction to STORM: Kirkpatrick Level 1

5.18 Participants’ reaction to STORM was measured in Studies 2 and 3. The findings from both showed high levels of satisfaction with the training among participants. In particular, the training was well-accepted and perceived to be useful in the workplace.

Enhancing knowledge, skills and attitudes: Kirkpatrick Level 2

5.19 All three studies showed improvements in knowledge and confidence. However, in relation to evidence of improvements in attitudes, the findings were more variable. In addition, there was no consistent evidence of improvements in skills over the three studies.

5.20 Study 1 showed improvements in confidence, risk assessment and management skills, and clinical micro-skills that were retained for at least one month. There was less improvement in managing crisis and in problem-solving skills. The authors found improvements in participants’ ability to provide immediate support, but not in general interview skills (which had been the main focus of the study), nor in combating hopelessness or removing lethal weapons. These findings led to a change of emphasis in the development of STORM towards providing immediate support and problem solving. Another key outcome was the recommendation that the package should be delivered in the front-line workers’ place of work.

5.21 In Study 2, all three groups showed substantial improvements in confidence, but improvements in attitudes were statistically significant only in accident and emergency staff, who had the most negative attitudes before training. There were also improvements in assessment, clinical management and problem-solving, but only the score for management of suicidal intent improved significantly. The greatest improvement was among non-mental health staff. The authors suggested that training may result in fewer improvements for mental health

staff because of a “ceiling effect” (mental health staff already have high levels of knowledge and skills).

5.22 In this study, the impact on skills was assessed in two ways: through the use of SIRI (Suicide Intervention Response Inventory — a tool designed to assess the ability of counsellors to recognise appropriate responses to suicidal clients — and by blind rating of a volunteer video sample one to two months after the training. The second assessment is discussed under Kirkpatrick Level 3 (below). There was no change in the SIRI scores pre- and post- training.

5.23 Study 3 showed positive changes in participants’ attitudes and confidence up to four months after the training. There were, however, a low number of returned questionnaires (31.6% of eligible participants) at the four-month follow-up. The authors also identified important insights into changes in clinical practice, particularly for less experienced or untrained nursing staff, from the qualitative aspects of this study

Applying knowledge and skills in practice: Kirkpatrick level 3

5.24 To-date, the STORM evaluations have not included a study of how participants have used their skills in their work practice. Rather, changes in participants’ use of their skills has been assessed through recruiting a volunteer sample to be videotaped in role play scenarios, using blind ratings by trained reviewers.

5.25 In Study 2, 28 (out of 167) participants volunteered to take part in the follow-up videotaping. The sample showed improved skills one to two months after training. The study did not extend to clinical practice, for example, it did not measure changes in referral patterns, nor was any attempt to find out how long the improvement in skills was maintained among the volunteers

5.26 In Study 3 there was some improvement but no significant changes in skills or any long-term benefits to skills shown in the volunteer video sample. The authors noted that there was low participation in the videotaped assessment and that those who did volunteer were probably the most competent and confident of the participants. They also suggested that the analysis may have lacked statistical power. The overall result, however, is that there is, as yet, no consistent evaluation evidence for the application of skills in practice following STORM training.

5.27 The authors identified two factors that may have affected skills acquisition (from a purposive sample of 16 qualitative interviews (including the three trainers):

- Lack of clarity (in the Mental Health Trusts) about how national policy on skills acquisition is to be implemented at ground level; and
- Lack of engagement by senior staff, highlighted by lower grade staff, accompanied by a lack of educational culture or support.

5.28 While the findings of Study 3 suggested that it was feasible to provide STORM training in Mental Health Trusts, the authors concluded that the environment of a NHS Mental Health Trust is not necessarily responsive to an intervention, even if it is in line with government policy; and that national directives do not necessarily lead to a successful translation into practice. They suggested that further research was needed to clarify the barriers and levers for effective deployment of educational interventions within health care. In particular they highlighted the

importance of senior staff providing a visible commitment, and ongoing supervision and support, if the benefits of training were to be maintained. They also suggested that there should be an exploration of the relationship between training provided at organisational level to healthcare staff and developments in national policy

Costs

5.29 There has been an attempt to undertake an economic evaluation of STORM. Study 2 found that the total cost of training 167 people was £84,785 — £508 per person or £86 per trainee hour. The biggest cost was in relation to the time of the trainers. The authors made estimates of potential cost-effectiveness which varied according to assumed impact on suicide rates. For example, if there was a 2.5% reduction in suicide, it would mean that costs of district-wide training would be £99,747 per suicide prevented and £3,391 per life saved.

Mental Health First Aid (MHFA)

5.30 Mental Health First Aid (MHFA) training was developed in 1999/2000 by Betty Kitchener and Tony Jorm²⁰. The initial development was done at the Centre for Mental Health Research at the Australian National University. From 2005, the course has been based at the ORYGEN Research Centre, University of Melbourne.

5.31 The underlying philosophy of MHFA is that people with mental health problems can potentially be helped by people in their social networks. Kitchener and Jorm cited evidence that better social support reduces the risk of developing mental disorders and improves outcomes for people experiencing disorders. MHFA follows the model of first-aid for physical disorders by training the public to give help to people who are developing mental health problems or who are in a crisis situation.

5.32 MHFA aims to improve mental health literacy and to train members of the public in how to support someone in a mental health crisis situation (including someone who is at risk of suicide) or who is developing a mental disorder. It is about helping, not diagnosis. MHFA can assist in early intervention or ongoing community support; and can be useful for people who work in areas that may involve contact with people who have mental health problems — e.g. teachers, police, or carers.

5.33 Since 2000, over 30,000 people from around the world have attended MHFA training. The participants have included members of the general public, health and welfare professionals, industry workers and managers, human resources staff, community workers and general first-aiders. MHFA was initially funded by a grant from the Australian Capital Territory Government. However, when government funding ran out the authors suggested that the course be offered on a fee-for-service basis²¹. This was implemented, and there continues to be high demand for the course particularly from workplaces.

²⁰ General information about MHFA was taken from the Australian MHFA website: www.mhfa.com.au.

²¹ *Mental health first aid training for the public: evaluation of effects on knowledge, attitudes and helping behaviour* BMC Psychiatry 2002; 2:10.

5.34 The programme has been overseen by the original creators, Kitchener and Jorm, who have also carried out a programme of evaluation. MHFA is now being used in a number of other countries: Singapore, Hong Kong, Canada, Finland and Scotland. There are also plans to roll out MHFA in England and Wales shortly. Following the development of Scottish MHFA, the Australian programme has been changed to reflect Scottish practice in recruiting instructors, the course delivery and the development of a self-harm module.

Methods

5.35 MHFA is a 12-hour course, run in four 3-hour sessions usually offered over two days, but not necessarily consecutively. The course gives an overview of major mental health problems: depression, anxiety, psychosis and substance use disorders. It teaches symptoms, causes and evidence-based treatments. It also addresses possible crisis situations, including a person who is suicidal. It introduces five steps:

- Assess risk of suicide or harm
- Listen non-judgmentally
- Give reassurance and information
- Encourage person to get appropriate help
- Encourage self-help strategies.

5.36 There is no reference in the literature to the use of role rehearsal in the course IS THERE ANY?. Course participants also receive a manual which covers the major mental health disorders, best type of help available, local resources and how to apply the steps of MHFA to various situations. The manual can be purchased separately.

Training of instructors²²

5.37 The instructor training course (equivalent to the ASIST T4T) is five days long. In Australia, it costs \$3,500 (£1,522), which covers the five days training (including lunch and refreshments), an instructor training kit consisting of seven videos / DVDs, teaching notes, Powerpoint CD, six books, additional readings, an MHFA T-shirt and an MHFA bag. Instructors also get ongoing support, regular newsletters and updates from the MHFA office in Melbourne. The fee also covers accreditation. Each course must have a minimum of ten people and a suitable venue available.

5.38 There are criteria for selection of instructors. Anyone who wishes to be trained to deliver MHFA has to be able to demonstrate:

- substantial knowledge about mental illness and treatments,
- good teaching and communication skills
- positive attitudes towards people with mental health problems
- personal or professional experience with people with mental health problems
- good knowledge of mental health and community services

²² All the information in this section is taken from the Australian MHFA website: www.mhfa.co.au.

- enthusiasm – “fire in the belly” – to improve the mental health literacy of the community and to reduce the stigma surrounding mental illness.

5.39 There are now over 650 instructors in Australia, covering all states and territories. The interest in training as an instructor has been strongest in rural areas. This may be attributable to the shortage of mental health services in these areas and the greater concern to support others in the local community. Some Instructors are trained and deliver MHFA as part of their job: for example in a non-governmental Organisation (NGO) (e.g. Lifeline, Red Cross, Anglicare), a state area health service or a large employer (e.g. a university, government department). In that case, the workplace manages all aspects of the organisation of the training and may or may not charge a fee to employees. In other cases, a workplace / organisation may pay an outside MHFA Instructor to deliver the 12-hour course for them. This organisation needs to find funding to pay the MHFA Instructor’s fee. The organisation may or may not charge a fee to the attendees. Some MHFA instructors organise the whole course themselves and then charge fees to each participant to cover costs.

5.40 To remain accredited, Instructors are required to conduct at least three courses a year and attend the annual MHFA Refresher Course at least once every three years. Instructors are only required to pay the MHFA Australia programme AUD \$6.60 dollars for a manual and a certificate per participant in their course.

Evaluations

5.41 Kitchener and Jorm have carried out a programme of evaluation from the start. They have completed four studies.

5.42 **Evaluation 1: MHFA training for members of the public (2001):** The first evaluation study was an uncontrolled trial in 2001 with members of the public living in Canberra. This trial examined the effects of the course on knowledge of mental disorders, stigmatising attitudes and ability to provide help to others. One of the aims was to improve mental health literacy. There were 210 participants who were given questionnaires at the beginning of the course, at the end, and at six months follow-up. The sample was mainly middle-aged, well-educated women, and mainly carers or health providers. This study achieved a 75% response rate.

5.43 **Evaluation 2: MHFA training in a workplace setting (2002):** This was a randomised controlled trial (RCT) carried out in 2002 with employees of two Australian government departments (Health and Aging; Family and Communities) who did the course during their work time. This trial involved 301 participants, 78% female – well-educated, half middle-aged who were mental health carers, health staff and interested people (workplace, family friends) who were randomised either to participate immediately in a course or to be wait-listed for five months before undertaking the training. The authors classified this as an efficacy study because it was carried out under ideal conditions: a well-educated group trained in work time by the course creator.

5.44 **Evaluation 3: MHFA training with the public in a rural area (2003):** This was a cluster RCT carried out with members of the public in a large rural area of New South Wales as a partnership between the New South Wales Southern Area Health Service and the Centre for Mental Health Research. The catchment area of the Southern Area Health Service was divided into 16 local government areas. Eight of these areas received the course immediately and the other eight were placed on a waiting list to receive the training later in the year (the controls).

There were 753 participants in the trial: 416 received the course immediately and 337 were in the control group. The sample was 80% female: 50% of whom were trained for work-related reasons. However, the group was not quite so well-educated as in Evaluation 2.

5.45 Evaluation 4: A qualitative study of experiences in applying skills learned in the MHFA training course (2005): The aim was to find out about people's experiences of using MHFA training. The evaluation gathered information from participants' stories about how that had helped someone. These stories are particularly interesting because they tell about the effects of the first-aid on the person helped. In order to systematically analyse such stories, 131 former course participants from the New South Wales controlled trial were approached 19-21 months following the course and asked to complete a questionnaire about their experiences. Ninety-four responded. Respondents were mainly female (70%), mean age 51, mainly well-educated with experience of either their own, or family, mental health problems. It should be noted that the people who were the subjects of the stories were not interviewed.

5.46 Evaluation 5: A review of evaluation studies (2006): This was a review of the first three evaluations (not including the qualitative study). The findings were:

- The majority of participants were middle-aged women whose work involves people contact.
- All trials found statistically significant improvements, five to six months post-training, in knowledge (improved agreement with professionals about treatments); improved helping behaviour; greater confidence in providing help to others; and attitudes towards people with mental disorders.

5.47 The efficacy trial in the workplace found positive mental health benefits for participants but this was not replicated in the other studies

5.48 The strengths of the MHFA evaluations were that two of the studies were RCTs and the inclusion of the qualitative study gives an insight into the post-training experiences of the course participants. The authors acknowledge that there may be some bias in the evaluations, in the sense that the course creators were also the trainers and evaluators in the first two studies.²³ However, their choice of evaluation methods (RCTs or quasi-experimental methods) was intended to reduce bias. The findings of the evaluations led to a change in the design of the original course. This involved lengthening the course from 9 to 12 hours, to allow for more time to be spent discussing each topic.

Reaction to MHFA: Kirkpatrick Level 1

5.49 Only the qualitative study actually measured participant satisfaction and found that the course was well-received. However, in the first evaluation, 190 of the 210 participants attended all 3 sessions which may also be taken as a measure of satisfaction. Elsewhere, the authors have noted in articles the popularity of MHFA and the growth in demand for the course.

²³ After the second evaluation, other trainers were recruited.

Enhancing knowledge, skills and attitudes: Kirkpatrick Level 2

5.50 The first three studies showed that MHFA participants demonstrated:

- Greater knowledge of mental disorders and greater recognition of types of disorder from case vignettes
- Increased confidence in helping others
- Increased agreement with professional views of treatment (a measure not used in evaluations of other programmes).

5.51 Results differed across the first 3 studies as to whether participants were more or less likely to advise people to seek professional help. The authors suggested that these findings may reflect the type and levels of contact that participants have with people who have mental health problems.

5.52 It should also be noted that there were some limitations to Evaluation 3. This was the first time external instructors were used to deliver MHFA training, and some of the attendance data was incomplete. The authors could not be sure how many had completed the course as there was missing attendance data on 176 participants.

Applying knowledge and skills in practice: Kirkpatrick level 3

5.53 Study 4 is, to date, the first published qualitative study of people's experiences of using their knowledge and skills in practice. Kitchener and Jorm took this approach because they wanted to find out how many people actually used their skills following the course and whether they had good or bad experiences in doing so. There was a high response rate. The findings were that:

- Most respondents (78%) reported direct experience of a helping someone with a mental health problem, and felt that the course had enabled them to take steps to help.
- Participants reported increased empathy and confidence in handling a mental health crisis.
- These positive effects were reported by a wide range of people with varied expectations and needs.
- There was no evidence that people felt they were over-reaching themselves because of over-confidence.
- Participants still felt able to cope with a mental health crisis even if they had **not** encountered someone with a mental health problem since attending the training.

Organisational / societal change: Kirkpatrick level 4

5.54 Following the first evaluation, 1,500 people were trained in Canberra over an 18-month period. Kitchener and Jorm concluded that that it would be feasible to train 2% of the population which in their view could have a significant public health impact.

Scottish Mental Health First Aid (SMHFA)

5.55 In 2003, NHS Health Scotland, on behalf of the National Programme for Health and Well Being, commissioned the Scottish Development Centre for Mental Health to develop and manage a pilot of MHFA in Scotland under Aim 1 - Raising awareness and promoting mental health and well-being. Following an evaluation²⁴ of the pilot (2004), NHS Health Scotland developed the Scottish MHFA course. They made some changes, based on the evaluation, to the content and format, and to the training of Instructors. Alcohol and drugs are integrated into the sessions rather than delivered separately. A component on self-harm has also been introduced. Some changes were made to the language to make it more accessible

5.56 NHS Health Scotland, funded by NIST, continues to be responsible for the management and delivery of support to SMHFA and oversees the development of the training and its associated materials. The aim is to recruit and train 300 people to become SMHFA Instructors by the end of March 2008. The programme aims to raise mental health literacy in the general public. There are some key target groups of people including people who work in the Ambulance Service, Scottish Police Forces and Prison Service, JobcentrePlus, primary health care and social care, staff in further and higher education, support workers in a variety of settings, voluntary and community groups, and workplaces.

Methods

5.57 The course involves 12 hours of training over 2 consecutive days or 1 day a week for 2 weeks or 4x3 hour sessions. There is a mix of presentations, activities and discussions. Topics include: what is meant by mental health/ill health; signs and symptoms of common MH problems e.g. depression, anxiety disorders and psychosis; the range of effective interventions and treatments; and how to access professional help and support. Participants get a manual which covers the course content and a certificate.

Training of Instructors

5.58 Following the pilot, the selection and approval process for Instructors was strengthened and made more transparent. SDC introduced criteria for recruitment, including competencies. They also produced information for applicants on what will be expected of them, and what knowledge, skills and abilities are needed. The new Instructors' training started in 2005.

5.59 Applicants are selected on how well they meet the criteria for being and which target group/groups they intend to deliver courses for. The following are the essential criteria for selection and for being approved to deliver courses:

- professional and/or personal experiences in the field of mental health, including relevant qualifications
- experience of delivering training/teaching effectively
- experience of effective networking

²⁴ <http://www.wellscotland.info/research-papers.html>

- knowledge of the range of Scottish mental health services
- good interpersonal and communication skills
- good knowledge about mental health problems
- positive attitudes towards people with mental health problems
- enthusiasm to reduce stigma associated with mental ill health.

5.60 The training includes: two days for the SMHFA course; three days for the Development Centre; and two days for the Assessment.

5.61 Approval to be a SMHFA Instructor will continue as long as SMHFA Instructors:

- deliver at least 4 courses in the 12 months after becoming an approved Instructor
- attend and contribute to SMHFA Networks, locally and nationally
- demonstrate Continuous Professional Development in relation to SMHFA

5.62 It is expected that SMHFA instructors will be responsible for the organisation of courses themselves, or with the support of their sponsoring organisation. This includes the ordering of and payment for SMHFA manuals and certificates for participants as well as the practical arrangements for delivery, e.g. venue, refreshments, equipment, etc. Some of the major care organisations include SMHFA in staff induction. A number of ASIST Trainers are also SMHFA Instructors.

5.63 There is a Training Team of five (originally six) at SDC contracted by Health Scotland to do the Instructors' Training. There are nearly 200 trained Instructors covering a wide geographical area, including nearly all the Islands. Instructors are CPNs, Social Workers, MH Promotion staff, voluntary sector, community MH teams. They also include service users at a certain stage of recovery. There is an option to do the training in pairs which may suit the last group.

Costs

5.64 There is a charge for someone to be trained as a SMHFA instructor. The fees include all the training sessions and refreshments, the SMHFA manual and Instructor's toolkit, which is a comprehensive package of training and reference materials, and membership of the SMHFA national network which will provide ongoing support and updates. The fees for training to be a SMHFA instructor are:

- Statutory sector and self-employed/independent trainers £1,000
- Voluntary sector (with a national remit or annual income above £1 million) £750
- Voluntary sector (revenue less than £1 million p.a.) £500.

5.65 The charge for the SMHFA Manual, which is issued to all participants, is £1.50. Certificates of attendance are provided at no charge. Instructors or their sponsoring organisations are required to purchase these manuals from Health Scotland. These fees and costs are subsidised through funding from the National Programme for Improving Mental Health and Well-being.

5.66 Although the course can be delivered free, it is expected that many organisations will charge a fee to attend and that this fee will include the cost of the manual, certificate, percentage of the venue hire and refreshments and the Instructor's preparation and delivery time. The maximum fee instructors are expected to charge is £150 per participant.

Evaluation

5.67 In 2006, NHS Health Scotland commissioned Hexagon to conduct an evaluation²⁵ to assess the delivery of the SMHFA course with regards to the mechanisms, infrastructure and processes involved in implementing the SMHFA programme. It also looked at the impact on the course on knowledge, attitudes, skills and behaviour towards mental health issues and the impact on participants' own mental health and self development. It addressed process, outcome and formative objectives. The evaluation ran from March 2006 to March 2007.

Process evaluation

5.68 The process evaluation found that:

- 177 Instructors had been trained by March 2007 suggesting that it was feasible to reach the target of 300 trained Instructors by March 2008
- Over 400 courses had been run between March 2005 and February 2007 with 5250 participants from all over Scotland.
- Not all instructors were able to fulfil the expectation of delivering 4 courses a year, although some delivered more. Support from employers was one factor but in other cases changes in work or personal circumstances led to problems. The authors also found that the majority of Instructors prefer to co-deliver the training which would halve the number of participants that could be trained in a year unless the projected number (300) of Instructors was increased.
- Many Instructors felt that they would benefit from being given additional support from both their employers and at a national level to allow them to fulfil their role as a SMHFA Instructor more effectively.
- Participants came from a wide range of backgrounds but there was a predominance of women (79% of participants) and a lower level of participation from men, BME communities and older people.
- Participants appeared to have more awareness and higher levels of knowledge of mental health issues than the general population. The authors suggest that SMHFA needs to attract people with no more than average prior knowledge if it is to achieve its objective of improving mental health literacy.

²⁵ <http://www.healthscotland.org.uk/smhfa/IndEvaluation.cfm>

Outcome evaluation

Reaction to SMHFA: Kirkpatrick Level 1

5.69 There was a high level of satisfaction with the training with the vast majority believing that the objectives for the training were met and rating the content and delivery highly. Two thirds also felt that the training was very useful to them in their jobs.

Enhancing knowledge, skills and attitudes: Kirkpatrick Level 2

5.70 Pre- and post-course (20 weeks) surveys showed that participants felt that their knowledge about mental health issues and conditions had increased. They also showed that there had been actual increases in knowledge about issues covered in the training. Participants reported increased confidence with over 70% reporting that they would be confident in recognising if someone was experiencing a mental health problem after the course, compared to under a quarter before the training. Finally, there was evidence of some improvement in attitudes even though most participants reported positive attitudes prior to the training.

Applying knowledge and skills in practice: Kirkpatrick level 3

5.71 Participants reported having been able to apply the learning from the course in a variety of situations. They reported increased confidence in guiding someone experiencing mental health problems to professional help or to a support group, and in advising people how to help themselves. Participants were also asked, pre-and post-training, to respond to scenarios. There was no change in the way that people felt they would respond to family or friends who were experiencing mental health problems but an increase in the likelihood that they would offer help if they encountered such a person in the workplace or through their job.

Formative evaluation

5.72 The formative evaluation found that:

- The basic structure and overall content were positively received by both participants and Instructors but there was some evidence on areas for improvement to allow tailoring to specific groups.
- As the number of Instructors increase there may be a need of a quality management procedure.
- Efforts to target the training to particular sectors had mixed results. There had been greater success when the initiative to train employees had come from the sector itself. The authors suggest that lessons could be learned from those experiences and in particular in relation to the need for a strong commitment from senior managers.
- There may be difficulties in achieving the delivery of four courses a year by each Instructor.

5.73 Overall the authors concluded that the SMHFA course had a positive impact on participants' knowledge skills and confidence, and on their mental health literacy. It also found examples of people using the skills in practice. The authors suggested some minor changes and highlighted 2 areas:

- The suggestion by a number of Instructors that delivering the training in 2 hour modules would allow it to be delivered to a wider range of participants, e.g. an adult education class.
- The scope for tailoring the format to meet the needs of specific groups e.g. by reflecting their work environment and attracting a wider audience.

Similarities and differences between ASIST, STORM , MHFA and SMHFA

5.74 Table 2 provides an overview of the similarities and differences between ASIST, STORM, MHFA and SMHFA.

Table 2: A description of the key features of ASIST, STORM, MHFA and SMHFA

	ASIST	STORM	MHFA	SMHFA
Developed by	A partnership of four mental health professionals (Richard Ramsay, Bryan Tannev, Roger Tierney and William Lang - who later created Living Works Education), in conjunction with the Canadian Mental Health Association and the government of Alberta.	Linda Gask and Richard Morriss (and others) for Suicide Prevention at the University of Manchester.	Betty Kitchener and Tony Jorm at the Centre for Mental Health Research at the Australian National University. From 2005, the course has been based at the ORYGEN Research Centre, University of Melbourne.	Same as MHFA. The development and adaptation of the programme into a Scottish context was carried out by the Scottish Development Centre for Mental Health (through Health Scotland).
Introduced in (year)	Developed in 1983 in Alberta, Canada. Introduced in Scotland in 2003.	Pilot 1997 of an interview skills training package. First STORM training seems to be 1999.	2000	Pilot 2004 of MHFA with a few adaptations to look at applicability in the Scottish context. Mar 2005 - First SMHFA training course
Programme aim	A “first aid” intervention to help all caregivers become more willing, ready and able to help persons at risk.	To teach risk assessment and risk management through a skill-based suicide prevention training package.	To improve mental health literacy and to train people in supporting individuals in a mental health crisis situation.	To increase mental health literacy by giving people the skills and confidence to help others who are experiencing mental health problems.
Target audience	All caregivers, including professionals, paraprofessionals and lay people	All frontline healthcare, social care, criminal justice staff and staff in the voluntary sector.	Members of the public and those in contact with people with mental health problems.	The general public and some key groups: police, ambulance service, primary health and social care, and voluntary and community groups.
Teaching modules	Five learning modules: introduction, attitudes, risk estimation, intervention/skills and resourcing/networking.	Four modules: Assessment, Crisis Management, Problem Solving and Crisis Prevention	It gives an overview of the major mental health problems in Australia: depression, anxiety, psychosis and substance use disorders. It teaches symptoms, causes and evidence based treatments. It also addresses possible crisis situations including suicide.	The course includes four sessions: (1) Introduction to mental health; (2) depression, drugs and alcohol; (3) Suicide, anxiety disorders; and (4) psychotic disorders & self harm.
Teaching tools	ASIST Is an interactive and practice-dominated course. The workshop includes: brief lectures, small group discussions, educational films and role play	Brief Lectures and groups discussion. The main focus is on modelling of the skills using videos; role play practice of specific micro-skills in trios (professional- client-observer) with pre-prepared scripts and video feedback of recorded role-played interviews.	Mix of lectures, presentations and discussions.	A mix of presentations, activities and discussion.

	ASIST	STORM	MHFA	SMHFA
Workshop length	Two full consecutive days	4 modules. Each can be delivered in 2 hours if necessary. Or there can be a full day comprising 2 modules or 2 days covering all 4 modules. A new module on self-harm was developed in 2007.	4 x 3hour sessions.	12 hours.
Place delivered	Varies	Within an organisation or workplace.	Within organisations who contract for MHFA delivery or at locations suitable to members of the public	Varies
Flexibility in delivery	None. The structure of the workshop is fixed and participants must attend both days.	The modules can be delivered separately, together, or modules can be omitted depending on the pre-existing skills of participants. The material can be modified in content for different teams, e.g. primary care, A&E staff.	Usually delivered in two days, but not consecutively.	Delivered on two consecutive days, or two days over two weeks, or as four 3-hour sessions
Training provided by	Local ASIST trainers, who have undergone a 5-day T4T course delivered by LivingWorks Education. In Scotland, most trainers are employed and their and employers release them for training courses as required. Some Scottish trainers are self-employed.	It is a cascade model. The STORM team offer the STORM facilitators course. Four staff within an organisation normally undertake the Facilitators Training which takes 4 days. The Trainers cascade the training across their organisation at a time and in a way that suits staff training and service needs.	Instructors who usually work through an employer such as: an NGO (e.g. Lifeline, Red Cross, Anglicare), a state area health service, a large employer (e.g. a university, government department), or work as fee-for-service private practitioners. Some Instructors are self-employed. They are responsible for organising and instructing their own courses and are encouraged to charge participants where possible. They need to pay for course manuals and certificates and advertising if necessary.	Instructors who have undertaken a 7-day course, which includes the two-day SMHFA course itself. Required to deliver four courses per year.
Recruitment of trainers	Officially, no formal pre-requisites (apart from having participated in an ASIST workshop). However, this may vary from one local authority to another. Experience of delivering training and familiarity with Choose Life and ASIST are desirable.	No criteria	Applicants need to meet criteria including knowledge of mental illness, teaching and communication skills.	Applicants need to meet criteria (strengthened from original MHFA criteria) to include personal or professional experience of mental health, training or teaching and good communication skills.
Cost of training	Fee: £150 per person, max 24 people Workshop kit for 24 participants - £605	The cost of training four STORM facilitators is £5500. This is a one-off fee plus VAT for 4 days training for 4 staff, 3 sessions of face to face support and unlimited e-mail and phone support plus teaching materials and expenses.	Fee: £132 per person. Max 16 people on a course.	Fee: instructors are expected to charge a max of £150 per participant (to be paid by the participant's organisation)

	ASIST	STORM	MHFA	SMHFA
Funding	Funded by Choose Life and by local areas. National and local organisations also contribute to funding.	Offered commercially to health and social care organisations as part of their suicide prevention strategy.	Either fee for service or delivered by an organisation (who pays)	Funded by NHS Health Scotland. Courses may be free, e.g. through NHS or instructors or their sponsor organisations may charge a fee.
Implementation	Canadian-based LivingWorks Education is the central organisation body for ASIST, providing services such as T4T, resource support to local trainers and programme updating.	Offering the package commercially is part of the implementation. STORM is recognised by the Department of Health (England) as a useful training package.	MHFA was initially funded by a grant for the Australian Capital Territory Government but now runs as fee-for-services with continuing demand, particularly from workplaces	NHS Health Scotland manages SMHFA on behalf of the National Programme and oversees development of training materials. The Scottish Development Centre for Mental Health co-ordinates training of instructors
International dissemination	Yes. ASIST is widely disseminated in Canada, Australia, New Zealand, the United States (incl. US Army), Scotland, Norway and Northern Ireland. Teaching materials have been locally adapted in Norway and Australia	No — although Eire and Northern Ireland are looking at it.	MHFA is now being used by a number of other countries: Singapore, Hong Kong, Canada and Finland. Scotland has taken it on and England and Wales will do so shortly.	No - SMHFA is the Scottish version of MHFA

CHAPTER SIX DISCUSSION

6.1 This report has presented findings of a review of the international literature on ASIST. It has also included a limited review of the literature on STORM, MHFA and SMHFA. This work was undertaken within the context of a major national evaluation of ASIST in Scotland.

6.2 The main objectives of the literature review were, first, to examine the ways in which ASIST has been implemented in different countries, and second, to determine the effectiveness of ASIST.

6.3 The purpose of the limited review of the literature on STORM, MHFA and SMHFA was to identify similarities and differences between these programmes and ASIST that might add insights to our consideration of the future development and sustainability of ASIST. There was no intention to *compare the effectiveness* of ASIST with that of STORM or MHFA / SMHFA, as it is clear that each of the programmes has slightly different aims and target audiences.

6.4 This section will discuss the findings of these reviews, and offer some preliminary observations about their implications for the future of ASIST. The focus will be on the three questions set out in Chapter 1:

- How has the implementation of ASIST varied in different parts of the world?
- What do we know about the effectiveness of ASIST from the international literature?
- What are the key similarities and differences between ASIST and other suicide prevention training programmes and are there any lessons for the future of ASIST in Scotland?

6.5 At the end of this chapter, we identified some issues that we went on to explore in the wider evaluation of ASIST in Scotland (reported elsewhere), as well as possible areas for further research on ASIST. However, before going on to discuss these subjects, it is important to first consider the quality of the evidence that provided the basis for this review.

Quality of evidence

6.6 The quality of the literature on the effectiveness of ASIST was highly variable. Although ASIST has been available for some 22 years, only 15 formal evaluations of the training programme could be identified from the international literature. Moreover, most of these were unpublished. Only five of the studies (including the Scottish study) were considered to be good-quality evaluations. The remaining 10 were either of fair or poor standard. The extent to which we can draw firm conclusions about the effectiveness of ASIST is limited – both by the relatively small number of studies available, and by the quality of the evidence (e.g. small sample sizes, lack of triangulation of findings, methodological weaknesses etc).

6.7 The quality of the evidence on STORM and MHFA was good, however, the number of studies was small. In the case of STORM, the three studies that we used were part of a rolling programme and there were three more evaluations underway that will report in 2008. Most of the evaluations of these two programmes involved experimental, or quasi-experimental research designs, which included significant qualitative components.

6.8 Having said this, for ASIST, as well as STORM and MHFA, in most cases the evaluations were conducted by individuals who were closely involved in the creation of the programmes. This is not necessarily a cause for concern. However, in such a situation, it is important to be aware of the possibility that reported findings of the studies may be biased.

6.9 Only one evaluation of SMHFA has been undertaken to date. The results of this were only available towards the end of the evaluation of ASIST in Scotland.

Implementation of ASIST

6.10 ASIST has been implemented in Canada, Australia, New Zealand, the United States, Norway, Northern Ireland and Scotland. It is a standardised training course delivered over two consecutive days. A large portion of the course is devoted to skills-acquisition and practice. While the actual content of the course does not appear to vary from one country to another, ASIST has, nevertheless, been rolled out in slightly different ways in different countries. We explored whether, and how some of these variations and developments of ASIST could usefully be adapted to the Scottish context and /or could help to support further roll-out of ASIST. We noted some key variations and developments of ASIST that could potentially be adapted to the Scottish context and / or help to support further roll-out of ASIST.

6.11 The experience of implementing ASIST in Norway is of particular interest. In Norway:

- T4T is provided by a Norwegian-based teaching team, rather than by LivingWorks. *There may be scope to follow this example and create a Scottish teaching team now that there is a body of experienced trainers in Scotland.*
- Prospective ASIST trainers in Norway must meet certain requirements before they can be considered as trainers: i.e., they must already have previous experience of teaching; they must have experience of working with suicidal people; and they must have, as a minimum, a college or university degree. *Standardised criteria for the recruitment and selection of trainers could improve and / or maintain the overall quality and consistency of training, and in addition, could help to reduce turnover of trainers.*
- All training materials, including videos, have been translated and re-produced in Norwegian. *The acceptability and perceived relevance of the training material may be greater if Scottish scenarios and dialogue are used.*
- There is some element of ‘mainstreaming,’ as ASIST is delivered as part of wider training, e.g., in the Norwegian police college. *Incorporating ASIST training in other programmes is one way to increase coverage and to support sustainability.*

6.12 In some other countries (Australia and Canada, for example), responsibility for rolling out ASIST has been undertaken by a single organisation, often with government funding — although in Australia, ASIST has been funded as a self-sustaining activity since 1999. *It may be that, when the Choose Life strategy reaches the end of its lifetime in 2013, continuation of ASIST training will depend on some other organisational structure. The example of other countries seems to show that there are workable models*

Effectiveness of ASIST

6.13 Based on the limited evidence available, it would seem that ASIST is effective on a number of levels:

- There is evidence of high levels of participant satisfaction with ASIST training (Kirkpatrick level 1 outcome). At the same time, there is also some evidence to suggest that participants may need to be better prepared in advance for the intensive nature of the training.
- Evidence indicated an overall positive change in participants' *self-reported* suicide intervention knowledge, skills and attitudes post-training (Kirkpatrick level 2 outcome) — particularly among individuals who had no prior experience of working with suicidal individuals. These findings were reinforced by five studies that used *direct* measures of knowledge, skills and attitudes. In addition, participants generally claimed to have maintained these skills over time. However, the majority of the studies had not undertaken any follow-up of participants beyond six months after training.
- Studies typically showed that approximately half of participants reported that they had put the ASIST Suicide Intervention Model into practice within six months after training (Kirkpatrick level 3 outcome). Further evidence from Scotland suggests that this proportion may increase over time. Evidence from more direct measures of behaviour change in participants is sparse and inconclusive, although what evidence there was, suggests that ASIST skills may be used to good effect in the workplace. Some of the findings indicated that the concept of questioning individuals about their suicidal intentions may need to be given more attention during training.
- There was limited evidence to suggest that ASIST can facilitate interaction and improved relationships between community agencies, and that it has contributed to the development and articulation of protocols and policies in relation to working with people who are at risk of suicide (Kirkpatrick level 4 outcomes).

6.14 There was no information available in any of the literature about the cost effectiveness of ASIST. This is a significant gap in the evidence.

6.15 In summary, the international literature on ASIST offered some evidence to suggest its effectiveness in enhancing participants' suicide intervention knowledge and skills. This finding was complemented by high levels of participant satisfaction. Some evidence indicates that the knowledge and skills learned in the workshop are put into practice in the workplace, however, this evidence was limited in scope and based largely on participants' self-reports. Evidence relating to a wider impact of ASIST on organisational and societal goals and objectives was even more scarce, and mainly focused on the contribution of ASIST to facilitating interaction and improved relationships between community agencies. *These findings highlight the need for future evaluations to give more consideration to assessing the impact of ASIST on longer-term Kirkpatrick level 3 and 4 outcomes.*

Similarities and differences between ASIST, STORM and MHFA

6.16 From our review of the literature on STORM, MHFA and SMHFA, we identified a number of similarities to, and differences from, ASIST. In broad terms, ASIST and MHFA / SMHFA are similar in that they are both based on the principles of first-aid, i.e. giving knowledge and skills to people in the wider community so that they can help others. This encompasses both people in their workplaces, including health and social care settings, and people who live and work in the community, i.e. family, friends, clergy, and hairdressers. STORM is a training package for health and social care professionals and is intended to be delivered within an organisation. There were, however, some features of all the programmes that, either by their similarities or differences, pointed to aspects of implementation that could usefully be explored in relation to the future of ASIST. Some of these aspects reinforce those we have already identified in paragraphs 6.10 – 6.12 above.

ASIST and STORM

Similarities

6.17 Both ASIST and STORM are based on learning theory and put a great deal of emphasis on skills practice through role-play and feedback.

6.18 The majority of trainees are women. *This may have implications for the targeting of training in the future, especially given that the majority of suicides in Scotland are men. There may be more opportunities for ASIST-trained men to intervene with other men, for example, in social settings.*

6.19 Evaluations of both ASIST and STORM found that there was more improvement in knowledge, confidence and skills among those who had less previous knowledge and experience of people at risk of suicide.

Differences

6.20 ASIST has its genesis in the principle of “first-aid” (to offer help but not diagnosis), aiming to prevent the **immediate** risk of suicide, while STORM offers skills-based training on risk assessment and risk management.

6.21 ASIST is targeted at all community caregivers (both lay people and professionals). STORM is designed to help front-line professionals working with patients or clients who are at risk of suicide. In addition, some of the techniques offered by STORM, e.g., assessment and problem-solving, could also be transferable to other areas of work. *STORM may be perceived by health and social care professionals as more useful or relevant to their role than ASIST, and this would have implications for the most appropriate target group for ASIST and the most effective use of resources.*

6.22 Unlike ASIST, STORM does not directly address attitudes as part of the course. The STORM approach is that practising skills leads to changes in attitudes. The evaluations of STORM do seem to show that there are improvements in attitudes, although it is more variable according to the occupation or previous experience of the trainee. For ASIST, there is more consistent evidence for improvements in attitudes. *There may be some groups for whom a more direct focus on attitude change is important.*

6.23 STORM may be delivered flexibly. Participants who already have certain skills may omit some of the modules. Also, modules can be delivered at different times to suit the needs of participants and their organisations. In contrast, ASIST must be delivered as a two-day course on two consecutive days. *This relative inflexibility is potentially a barrier to participation by individuals who cannot spare two consecutive days for training. This is likely to apply more to professionals, e.g., nurses, social workers, doctors, teachers, etc.*

6.24 ASIST is funded by the Scottish Government as part of the wider Choose Life strategy – money was devolved to local areas, on the understanding that training was to be a part of local activities. STORM operates commercially as a not-for-profit organisation. It is recognised by the Department of Health in England as a useful training programme within the context of their national suicide prevention strategy, but has no central funding. Health Authorities in England have autonomy to decide which training programmes they will support, and STORM has been used in a number of areas. *There may be some lessons to be learned from STORM's funding arrangements, but these arrangements operate through organisations which may be less relevant to a community-focused programme.*

ASIST and MHFA

Similarities

6.25 Like ASIST, MHFA is based on the philosophy of “first-aid”.

6.26 The target audience for both programmes are members of the public: family, friends and people in the community, as well as those whose jobs may bring them into contact with individuals who may be at risk of suicide, e.g. health and welfare professionals, teachers, police, carers. The majority of the trainees for both programmes are women. *The high percentage of female participants reinforces the issue of targeting male trainees, as discussed above in paragraph 6.18..*

Differences

6.27 MHFA training covers mental health more widely, while ASIST focuses solely on suicide. *The broader approach taken by MHFA may appeal to a wider audience.*

6.28 Potential MHFA instructors must meet strict selection criteria. According to ASIST-related websites from a number of countries, there are less stringent criteria used in selecting potential ASIST trainers. *This issue has already been touched upon in paragraph 6.11 above.*

6.29 MHFA initially had Australian Government funding but is now fee-based. It is either delivered within an organisation and instructors receive a salary; **or** instructors operate as self-employed private practitioners and charge according to a recommended fee structure — although they can vary fees according to circumstances. In Scotland, there are some trainers who work privately but the majority are employed and their employers release them for training courses as required. *As noted above, there may be other options for the funding arrangements and, in addition, for the status of trainers.*

Suggestions for future evaluation research

6.30 In light of the small number of ASIST evaluations there is a need for further formal evaluation to take place. This should be based on good-quality, independent research that aims to establish the effectiveness of ASIST training on both individuals and the broader community.

6.31 A reduction in suicide rate should not be identified as the outcome measure for a successful intervention. Research should include other psychological and social outcomes such as enhancement in suicide intervention skills, the transfer of learned skills into practice, the impact of training on organisational and community goals and activities.

6.32 Evaluations of ASIST rely *heavily* on self-report measures — both for measuring increases in suicide intervention knowledge and skills and for measuring the transfer of these skills into practice. Although participant self-reports are informative and can offer useful insights, they do not substitute for more direct measures. It is therefore recommended that future evaluations include direct measures of Kirkpatrick levels 2 and 3 outcomes. Kirkpatrick level 2 outcomes (“learning”) can be measured using pen and paper tests and simulated scenarios. Kirkpatrick level 3 outcomes (transfer of learning into practice) can be measured by carrying out trainee follow-up using observation and/or multi-source, multi-rater performance feedback from a variety of stakeholders in actual life/work situations (“360 degree assessment”).

6.33 Future evaluations of ASIST should give more consideration to assessing the impact of ASIST on an organisational and community level (Kirkpatrick level 4 outcomes). This could be achieved, for example, by carrying out local implementation studies.

6.34 There is a clear need to evaluate longer-term outcomes of training. Most evaluation studies carried out short-term follow ups (three to six months).

6.35 In their report of a competency-based evaluation of ASIST in Australia, Turley, Pullen, Thomas and Rolfe (2000) suggest that when considering ASIST’s focus on promoting links with community resources “future evaluations should assess the extent to which people at risk are actually linked into supportive and appropriate options of ongoing care.”²⁶

6.36 Further research could follow-up on young people who have become ASIST-trained in order to examine the extent to which it is appropriate to train young people, and the kind of support they might need in fulfilling their helping role.

6.37 Further research is needed on the cost effectiveness of ASIST – a considerable gap in the literature.

²⁶ Turley B, Pullen L, Thomas I & Rolfe A (2000). LivingWorks Applied Suicide Intervention Skills Training (ASIST): A Competency-Based Evaluation. Report for Lifeline Australia Youth Suicide Prevention Project.

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ANNEX 1: FRAMEWORK FOR ASSESSING THE QUALITY OF EVIDENCE IN EVALUATION STUDIES

Based on Spencer *et al* (2003).²⁷

To receive a GOOD grading all of the following criteria need to be fulfilled:

1. Clear statement of study aims & objectives
2. Evaluation addresses its aims and objectives
3. Discussion of rationale for study design
4. Description of sample selection & sample profile
5. Clear description of procedures for data collection
6. Alternative perspectives in the data have been presented and explored.
7. In quantitative studies, outcomes are measured in a valid and reliable way²⁸
8. Findings are credible and are supported by data/study evidence which is visible to reader
9. In qualitative studies, clear links between data, interpretation and conclusions, as well as discussion of explicit & implicit explanations within the findings
10. Discussion of the underlying assumptions / theoretical perspectives / values which have shaped the form and output of the evaluation

To receive a POOR grading at least 4 of the following criteria need to be fulfilled:

1. No statement of study aims & objectives
2. Evaluation does not address aims & objectives
3. In RCTs or quasi-experimental designs, study groups not treated equally
4. In RCTs or quasi-experimental designs, baseline study differences
5. Missing or incomplete information about data collection procedures
6. Inappropriate methods of data collection / analysis²⁹
7. Significant omissions or errors in analysis
8. Incomplete / unclear reporting of findings
9. No discussion of limitations / contextualisation of findings
10. Interpretation and conclusions not based on the data presented.
11. No discussion of underlying assumptions / theoretical perspectives / values that have shaped the evaluation.

All other studies are graded as FAIR

²⁷ Spencer L, Ritchie J, Lewis J & Dillon L (2003). *Quality in qualitative evaluation: a framework for assessing research evidence*. Report produced for the Cabinet Office by the National Centre for Social Research. Government Chief Social Researcher's Office, London. http://www.policyhub.gov.uk/docs/qqe_rep.pdf, in particular, pp 22-28.

²⁸ Valid = instrument measures what it's supposed to measure; Reliable = instrument yields consistent, stable and replicable findings

²⁹ Inappropriate methods of data collection are such that compromise the integrity of research data — mainly, the use of inappropriate statistical tests to evaluate results, bias, or sloppy technique.

ANNEX 2: DATA EXTRACTION SHEETS FOR EVALUATION PAPERS INCLUDED IN THE REVIEW

Authors (date); Title of paper; Publication details	Place of evaluation; Time of data collection; Evaluation done by	Aim of evaluation; Focus of evaluation (Kirkpatrick 1-5)	Training programme(s); Programme targeting; Implementation	Sample size; Sample composition	Time between training & evaluation	Design & instruments
AskClyde (2007) An Independent evaluation of ASIST in West Dunbartonshire. Unpublished report	West Dunbartonshire, Scotland April – August 2005 AskClyde Research & Consultancy	1. Explore participant views of ASIST 2. identify their views on the relevance of ASIST to their roles 3. gather participant accounts of adopting ASIST 4. Consider implications of findings for future targeting of training Levels 1,2,3	ASIST People who have direct contact with the locally identified Choose Life priority groups (offered to a wide range of agencies & community groups)	43 trainees completed questionnaires (63% response rate), 13 of them had also been interviewed 55% social care services; 33% health-related services; 12% service planning / management	2-9 months following training	One-group posttest-only design * questionnaire (open ended items coded into quantitative units) * one-to-one interviews
<p>Findings</p> <ul style="list-style-type: none"> * Views of ASIST: Participants in the ASIST workshops held a strongly positive view of the training and felt that taking part was worthwhile and beneficial. Specifically, participants reported gaining knowledge (52%), confidence (48%), and skills (23%). The organisation, planning and delivery of workshops were also rated highly by participants. * <u>Relevance of ASIST</u>: The majority of respondents (76%) felt that the workshop was of direct relevance to the activity that they pursue in their job. Those dealing with clients with mental health issues or victims of abuse were most likely to feel the training was directly relevant to their jobs. * <u>Experience of using ASIST</u>: 42% of respondents had put ASIST training into practice by the time of the survey. The main reason given by respondents for not using ASIST was that they had not become aware of an individual at risk of suicide by that point in time. 92% of respondents who have had the opportunity to use their training reported no difficulty in implementing ASIST-based learning. Within 6-9 months of being trained the majority of respondents had applied their ASIST training. The people who had been identified by respondents as being at risk of suicide were most likely to be females under 25 years. * <u>Targeting of training</u>: ASIST workshop participants worked in a broad range of organisations, generally delivering front line social care and mental health services in the public and voluntary sectors within West Dunbartonshire. Their clients predominantly fell into two key groups: young people (40%) and people with mental health problems (27%). Health care professionals have been put forward by participants as an additional group they thought should be targeted for ASIST training. * 55% of respondents recommended a short refresher workshop at some point to maintain their skills and knowledge. <p>Cost information / cost-benefit analysis Not reported</p>						
<p>Lessons / recommendations</p> <ul style="list-style-type: none"> * ASIST training is being widely implemented in practice and is done so fairly quickly after training. * It is impossible to draw a clear conclusion from the finding that people identified by respondents as being at risk of suicide were most likely to be females under 25 years, due to the small sample size (info was gathered about 17 people identified as being at risk of suicide). However this is an issue worth exploring in future evaluations, as if this finding is representative of all participants, young men may not be getting the assistance they need (they accounted for only 24% of respondents' suicide interventions). * ASIST training appears to be fairly well targeted at the area's priority groups, hence it is suggested that ASIST training within agencies targeting West Dunbartonshire's priority groups should continue. * Targeting of future training provision could productively be focused on a wider range of professionals, although this would require an increased investment in training. Those professionals dealing with the most vulnerable clients could be prioritised. * Future training needs to recognise the requirement for follow up / refresher training. 						

Strengths & weaknesses of evaluation
Strengths – clear description of data collection methods and procedures, alternative perspectives in the data have been presented and explored, acknowledgement of limitations of study.
Weaknesses – small sample; Kirkpatrick levels 3&4 addressed in a limited way, no control group
Quality of evidence (good, fair, poor) Good
Other comments (if relevant) including:
Local policy framework; geography (rural / urban); socio-economic profile; other operational issues (e.g. how training is funded), transferability of findings
This is an independent evaluation commissioned by Choose Life, West Dunbartonshire Council.
This is an evaluation of the first 4 workshops delivered in West Dunbartonshire. An additional 6 workshops have taken place by June 2006.
The finding that only 23% of participants have reported enhancing their suicide intervention skills in the workshop is somewhat puzzling, and doesn't seem to fit very well with either the conclusions of this study or the aims of the ASIST workshop.

Authors (date); Title of paper; Publication details	Place of evaluation; Time of data collection; Evaluation done by	Aim of evaluation; Focus of evaluation (Kirkpatrick 1-5)	Training programme(s); Programme targeting; Implementation	Sample size; Sample composition	Time between training & evaluation	Design & instruments
Bookle & Burtenshaw (2004) Evaluation of Training Delivered by the Suicide Resource Office of the South Eastern Health Board Unpublished report	Ireland: South Eastern Health Board region Aug – Dec 2004 Burtenshaw Kenny Associates	An evaluation of the four main training programmes delivered by the SEHB Training and Development Officers (ASIST being one of them). Aimed to establish stakeholders' satisfaction from training & extract learning to inform future efforts Levels 1,2, 3	Not reported Health services staff; schools and third-level colleges; youth workers; and local community workers SEHB recruited two Training and Development Officers who develop and deliver training programmes relating to suicide prevention	Focus group - 19 participants Telephone interviews – 6 participants Professionals and voluntary sector	Focus group - Immediately after training Telephone interviews – a few months post-training (not specified)	Qualitative Focus group Telephone interviews

<p>Findings</p> <p><u>Level 1:</u> * Participants were extremely positive about how the course was delivered and had considered all programme objectives to be met. * The interdisciplinary mix of participants promoted networking and highlighted an inter-service impact of suicide. * SIM is clear and easy to understand. * Appreciation of the variety of modes of delivery in the course.</p> <p><u>Level 2:</u> Respondents held that training has reaffirmed prior teaching and added to existing knowledge.</p> <p><u>Level 3:</u> Respondents frequently used the prompt card in the workplace.</p> <p><u>Improvements:</u> * more info and preparation in advance of the course, * follow-up programme of regular information updates; * Replace Canadian video with one set in Ireland, * Too much time spent on networking – info available elsewhere</p> <p>Cost information / cost-benefit analysis Not reported</p> <p>Lessons / recommendations</p> <ul style="list-style-type: none"> * The Suicide Resource Office should inform participants in advance of the course content and prepare them for the intense nature of the programme. * There should be accessible follow-up options for people who need further emotional support as a result of their participation in the programme. * The Suicide Resource Office should provide clear information concerning opportunities to become ASIST trainers. * The Suicide Resource Office should substitute a video set in Ireland for the Canadian one currently used in the programme. * The Suicide Resource Office should develop a follow-up programme of regular information updates for past participants. * The Suicide Resource Office should promote the ASIST Programme in young people's residential care services. <p>Strengths & weaknesses of evaluation</p> <p>Strengths – Data gathered from a range of professionals, findings used to make recommendations.</p> <p>Weaknesses – no clear separation between outcomes of focus group & interviews, incomplete reporting of data collection & analysis; incomplete sample profile</p> <p>Quality of evidence (good, fair, poor) Fair</p> <p>Other comments (if relevant) including: Local policy framework; geography (rural / urban); socio-economic profile; other operational issues (e.g. how training is funded), transferability of findings</p>

Authors (date); Title of paper; Publication details	Place of evaluation; Time of data collection; Evaluation done by	Aim of evaluation; Focus of evaluation (Kirkpatrick 1-5)	Training programme(s); Programme targeting; Implementation	Sample size; Sample composition	Time between training & evaluation	Design & instruments
Carney (2005) An Evaluation of the Applied suicide Intervention Skills Training (ASIST) program in Foyle Trust Unpublished report	Foyle Trust, Northern Ireland Not reported Trainee Clinical Psychologist – Queen's University, Belfast	To examine whether the ASIST program increases participants' knowledge, skills and confidence in suicide intervention and to examine any change in participants' attitudes to suicide following training Levels 2, 3	ASIST Foyle employees, the Education sector and the Voluntary sector Workshops run on monthly basis and are mandatory for Foyle trust employees who may come into contact with suicidal individuals	32 participants completed both pre & post training Qs (F/M: 22/10) 18 completed the above as well as the 3-month follow up Q.	Pre-training, immediately after training, and 3 months following training	One-group pretest-posttest design (1) Survey adapted from ORS (2002) (2) Questionnaire adapted from the SOQ (Suicide Opinion Questionnaire)
Findings						
* Participants' reported levels of comfort, ability and confidence in helping a suicidal individual have significantly increased post training as compared to baseline measures. These increased levels have been maintained at the 3-month follow up.						
* Overall, there was a significant increase in participants' knowledge of suicide intervention and prevention post training, which has been maintained at follow up. However, two areas have suffered a decrease in knowledge at 3-months follow up: (1) the need to encourage suicidal individual to talk about their wish to die; (2) the need to calmly enquire about what is happening in the suicidal individual's life.						
* There was no significant difference in attitudes towards suicide between pre-and post training, with the exception of viewing suicide as an impulsive act (decreased post training). The most commonly held attitudes viewed suicide as a reflection of mental illness and as a cry for help rather than a serious attempt on one's life.						
* At 3-months follow up there was a dramatic increase in participants' view of suicide as a reflection of normal (and perhaps inevitable) human behaviour.						
* 66% of participants who had completed the follow-up questionnaire (n=12) reported having had at least one contact with a suicidal individual in the previous month. All of them have reported applying elements of SIM in dealing with the suicidal individual.						
Cost information / cost-benefit analysis						
Not reported						

<p>Lessons / recommendations</p> <ul style="list-style-type: none"> * ASIST significantly increases participants' knowledge, ability and confidence in suicide intervention up to 3 months following training. * The areas where a decrease in knowledge emerged at the 3-months follow-up highlight the need for a possible review of how this information is delivered in the program or perhaps the need for regular updating of training. * The emergence of suicide as a 'reflection of normal behaviour' as the second most commonly held attitude at the 3-month follow-up reaffirms the importance of exploring attitudes in a suicide intervention program. It also provides evidence that there may be a need for regular updating of the ASIST program, as one of its core aims is to train participants to help suicidal individuals seek out alternatives to suicide. * The emergence of suicide as a 'cry for help rather than a serious attempt on one's life' as one of the most commonly held attitudes by participants (both pre and post training) suggest that this might be an area that requires more focus during training. This attitude carries the risk of threats of suicide being disregarded. <p>Strengths & weaknesses of evaluation</p> <p>Strengths – data collected over 3 separate workshops, pre & post training measures.</p> <p>Weaknesses – no control group; very small number of participants completing all 3 questionnaire phases (18 out of 72 approached), partial sample profile; poor Kirkpatrick level 3 measure (3 questionnaire items).</p> <p>Quality of evidence (good, fair, poor) Fair</p> <p>Other comments (if relevant) including: Local policy framework; geography (rural / urban); socio-economic profile; other operational issues (e.g. how training is funded), transferability of findings</p>	
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Authors (date); Title of paper; Publication details	Place of evaluation; Time of data collection; Evaluation done by	Aim of evaluation; Focus of evaluation (Kirkpatrick 1-5)	Training programme(s); Programme targeting; Implementation	Sample size; Sample composition	Time between training & evaluation	Design & instruments
Cornell, Williams & Hague (2006) Evaluation of Student Suicide Prevention Training in Virginia Unpublished report	Virginia, USA Sep 2004 - Jan 2005 Researchers at the University of Virginia's Youth Violence Project	To evaluate the effectiveness of the ASIST training model (and QPR model – not included in this template) Levels 2,3,4	ASIST School staff members in Virginia The Virginia Department of Health initiated a training program on working with potentially suicidal students, offering ASIST & QPR training	Phase 1: 55 ASIST trainees (28% response rate), 252 control Phase 2: 46 ASIST trainees (74% follow up) School staff members who participated in ASIST workshops (no. of schools not specified)	Phase 1: 1-22 months Phase 2: immediately before training & 3 months following training	Quasi experimental Phase 1 – Posttest only nonequivalent control group design Phase 2 – One group pretest-posttest design Survey

<p>Findings*</p> <p>Combined phase 1 & phase 2 findings:</p> <ul style="list-style-type: none"> * 92 % of participants reported that the training had increased their knowledge & expertise in suicide intervention, 74% reported it had increased their confidence in working with potentially suicidal students. Most unfavourable responses regarding training (training hasn't increased knowledge, confidence etc) came from participants who have already had suicide prevention training in the past or who have already felt confident in their skills before the training. * 81% of participants reported training had changed their way of working with potentially suicidal students (Kirkpatrick level 3). <p><u>Phase 1: (comparisons between trainees & controls)</u></p> <ul style="list-style-type: none"> * The control group referred more students for mental health services outside of school than did the trainees. * Trainees made significantly more contracts with potentially suicidal students than did the controls. * The control group reported a greater number of students who attempted suicide than did the trainee group (more than 3 times higher). * ASIST trainees reported that they wondered if a student might be suicidal but decided not to question that student on average 6.7 times a year. For the control group this figure was only 0.7 times a year. This finding might reflect trainees' improved ability to detect suicidal signs, but it does nevertheless suggest that they do not always act on their concern. <p><u>Phase 2: (pre & post training comparisons)</u></p> <ul style="list-style-type: none"> * Knowledge scores were significantly higher post training: An increase in the number of referrals for potentially suicidal students post training 1. * Significant increase in collaborative partnerships with outside agencies post training; Reported changes in suicide assessment instruments used by the school post training. * No significant differences were found pre and post training regarding the number of students questioned about suicide or the number of contracts made with potentially suicidal students. <p>Cost information / cost-benefit analysis</p> <p>Not reported</p>
<p>Lessons / recommendations</p> <ul style="list-style-type: none"> * Findings from this study raise the possibility that training had a strong effect on suicide attempts, since the average number of suicide attempts was more than three times higher in the control group than in the training group. However, this promising result must be viewed with caution – since participants were not randomly assigned to training and control groups, it is not possible to conclude that there was a causal effect of training on this outcome. This finding supports the need for a randomised controlled study to examine the beneficial effects of training in student suicide attempts. * Since ASIST trainees reported that although they had wondered whether a student was suicidal they did not always question him/her about it (ASIST teaches that one should always question a person if you suspect they might be suicidal), it is suggested that the concept of questioning a student when there is a concern about suicide should be given more attention during the training. <p>Strengths & weaknesses of evaluation</p> <p>Strengths – survey instrument presented to two focus groups and piloted; participants' occupational background taken into account in analysis.</p> <p>Weaknesses – in phase 1 no measures were taken to examine any pre-existing differences between trainee and control groups on their motivation, experience or knowledge of suicide prevention; some survey items have been analysed for ASIST & QPR trainees grouped together, hence it is not possible to draw conclusions regarding either of them; some inconsistency in interpretation of findings (see other comments).</p> <p>Quality of evidence (good, fair, poor)</p> <p>Fair</p>

Other comments (if relevant) including:

Local policy framework; geography (rural / urban); socio-economic profile; other operational issues (e.g. how training is funded), transferability of findings

This report includes an evaluation of both ASIST and QPR training. The above template refers to ASIST findings only.

- * Findings 1 & 2 reflect responses of ASIST & QPR trainees grouped together. No separate analysis was available in the report.
- * It appears that staff training can lead schools to make changes in policy and practice that enhance suicide prevention efforts.

The finding of an increased number of referrals for mental health services for potentially suicidal students is interpreted inconsistently depending on the context. When the increase is found post as compared to pre training it is interpreted as a positive thing (reflecting increased awareness), however when the same increase is found for the control group as opposed to the training group it is interpreted as a negative thing (reflecting lack of confidence in ability to help students)

Authors (date); Title of paper; Publication details	Place of evaluation; Time of data collection; Evaluation done by	Aim of evaluation; Focus of evaluation (Kirkpatrick 1-5)	Training programme(s); Programme targeting; Implementation	Sample size; Sample composition	Time between training & evaluation	Design & instruments
Gottormsen, Hoifodt, Silvola & Burkeland (1999?) Applied Suicide Intervention Skills Training – an Evaluation Unpublished report	Tromso, Norway 1998 – 1999 Department of Psychiatric Research & Development, University Hospital of North Norway	To Examine whether the ASIST workshop was suited to medical students Levels 1,2	ASIST Medical students Implemented as part of the sixth year teaching curriculum	47 (M/F: not reported) Medical students 62% of students that have undergone training	Not clear	Qualitative design Focus groups
Findings						
<ul style="list-style-type: none"> * Students reported increased knowledge, confidence and willingness to engage in suicide intervention post-training. * Students found the tools provided in the workshop to be easy to understand and remember. * The workshop had increased students' awareness of their own emotions towards suicide. * Role play was seen as the most helpful and important element of the workshop. 						
Cost information / cost-benefit analysis						
* Providing a programme to the entire class of medical students means arranging seven workshops each year, which cost NOK 20,000 (around £1,700), and were covered by student teaching funds.						
Lessons / recommendations						
<ul style="list-style-type: none"> * ASIST appears to enhance suicide intervention skills and will continue to be incorporated in the psychiatry clerkship at the University of Tromso. * A risk of the programme is that simplifying a complex situation by preparing set procedures for action may give a false sense of security. * A limitation of the workshop is that it doesn't touch on specific issues for doctors, nevertheless the interdisciplinary approach was viewed as beneficial as it prepared students for the realities of working life. 						
Strengths & weaknesses of evaluation						
Strengths – data analysed by 4 independent researchers, acknowledgement of limitations of study. Weaknesses – incomplete reporting of findings, not clear how long has passed between training and evaluation, focus groups run by workshop trainer.						

Quality of evidence (good, fair, poor)
Fair

Other comments (if relevant) including:
Local policy framework; geography (rural / urban); socio-economic profile; other operational issues (e.g. how training is funded), transferability of findings
Evaluation of ASIST for use by a professional group (medical students).
The ASIST workshop has been part of the sixth year practical training programme in Psychiatry since 1998.

Authors (date); Title of paper; Publication details	Place of evaluation; Time of data collection; Evaluation done by	Aim of evaluation; Focus of evaluation (Kirkpatrick 1-5)	Training programme(s); Programme targeting; Implementation	Sample size; Sample composition	Time between training & evaluation	Design & instruments
Hinbest & Assoc' Consulting (2001) Youth suicide Prevention in British Columbia: Putting Best Practices into Action – Evaluation Report Unpublished report	British Columbia, Canada 1999-2000 Independent evaluator - Hinbest & Assoc'; funded by the Ministry for Children & Families	Documenting project activities, develop info to improve implementation & address impact and effectiveness issues Levels 1, 2, 4	ASIST ASK-Assess-Act (based on the LivingWorks model) School and community representatives Implemented as part of the 'suicide awareness education' component of the project	Survey – not reported; follow up interviews - 49 School and community reps from 7 different communities. Follow up interviews: 82% female.	1-3 years post-training participants reported retrospectively about pre-training, immediately after training & present time	One-group posttest only design Survey Telephone interviews

Findings

Survey:

* Respondents taking part in training showed high levels of satisfaction. Most also indicated an increase in knowledge and appropriate changes in attitudes towards helping those at risk.
* Most respondents reported that training (delivered to school & community representatives concurrently) has facilitated interaction and improved relationship between community agencies, and particularly between school and community representatives. Training has also actively contributed to the development and articulation of system-wide protocols and school policies.

Follow up interviews:

* Participants reported (retrospectively) a significant increase in suicide intervention skills post training. Most respondents indicated that their skills have either maintained or increased in the time since they had taken the training, particularly those who had helped a person in crisis during that period.
* A very powerful part of the training was perceived by many to be the role-play and experiential and interactive elements. Repetition and practice helped both the learning and the retention of information.

Cost information / cost-benefit analysis

Not provided

Lessons / recommendations	
<ul style="list-style-type: none"> * Sustainability – the participating communities suggested and have tried to implement a variety of strategies building towards long-term sustainability of their efforts. * Having the training delivered concurrently to school and community representatives has enhanced their ability to provide support - by contributing to higher levels of understanding & awareness of the different work contexts, and developing personal knowledge and relationships between community partners. * There is a need for training to be a long-term and repeated activity. In one of the communities 87% of respondents indicated that they would be interested in a refresher course if it was targeted at their needs. * As a support to local community development, gatekeeper training was provided in many different formats. One of the keys to success was making it fit the time and needs of potential gatekeepers, and giving them a reason to come back for a more substantial training session. The Ask-Assess-Act format (1-2 hours) fitted well with school training as it ensured that more people were able to take up training. 	
Strengths & weaknesses of evaluation	
Strengths – data gathered from a range of communities,	
Weaknesses – incomplete reporting of data collection & analysis; data described not analysed statistically in any way, small group size pre & post measures are retrospective	
Quality of evidence (good, fair, poor)	
Poor – based on criteria 15, 17, 18, 21	
Other comments (if relevant) including:	
Local policy framework; geography (rural / urban); socio-economic profile; other operational issues (e.g. how training is funded), transferability of findings	

Authors (date); Title of paper; Publication details	Place of evaluation; Time of data collection; Evaluation done by	Aim of evaluation; Focus of evaluation (Kirkpatrick 1-5)	Training programme(s); Programme targeting; Implementation	Sample size; Sample composition	Time between training & evaluation	Design & instruments
MacDonald (1999) Suicide Intervention Training Evaluation: A Study of Immediate and Long Term Training Effects Unpublished thesis	Alberta, Canada 1995 Doctoral student in Educational Psychology	To conduct an impact evaluation of SIW, examining immediate and long term training effects Levels 1,2	Suicide Intervention Workshop (SIW) (Early version of ASIST)	Immediate study : 28 trainees (F/M: 25/3) and 27 controls (F/M: 25/2) Long-term study: 15 participants	Immediate study – ? Long terms study – 2 years following training	Immediate study: Quasi-experimental posttest only non-equivalent control group design Long-term study: one-group pre-test posttest only design Questionnaire (incl. Revised measures from SOQ, and scale devised by author)

<p>Findings Findings from immediate training effects study: * All respondents held attitudes appropriate for suicide intervention work and had good knowledge of suicide related information. * Treatment group was more accurate at estimating suicide risk levels and identifying predictive risk factors than control group. Findings from long-term study: * All respondents held attitudes appropriate for suicide intervention work and had good knowledge of suicide related information. * Respondents were accurate at estimating suicide risk levels and identifying predictive risk factors. * Most respondents proposed intervention responses that were generally appropriate for the level of suicide risk. * Respondents highly rates and recommended SIW, indicating that training was perceived as being useful.</p> <p>Cost information / cost-benefit analysis Not reported</p>	
<p>Lessons / recommendations N/A</p>	
<p>Strengths & weaknesses of evaluation Strengths – study controlled for pre-test and workshop effects, control group and pre-test measures. Weaknesses – small group sizes, unclear reporting</p>	
<p>Quality of evidence (good, fair, poor) Fair</p>	
<p>Other comments (if relevant) including: Local policy framework; geography (rural / urban); socio-economic profile; other operational issues (e.g. how training is funded), transferability of findings</p>	

Authors (date); Title of paper; Publication details	Place of evaluation; Time of data collection; Evaluation done by	Aim of evaluation; Focus of evaluation (Kirkpatrick 1-5)	Training programme(s); Programme targeting; Implementation	Sample size; Sample composition	Time between training & evaluation	Design & instruments
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<p>Mikhailovich, Pamphilov & Davis (2003)</p> <p>The Suicide Intervention Project Evaluation Report</p> <p>Unpublished report</p>	<p>Canberra, Australia</p> <p>2003</p> <p>Evaluation carried out by the Institute for Regional and Community Development & commissioned by the YWCA of Canberra</p>	<p>To assess the activities & effects of the SIP programme</p> <p>Levels 1,2,3</p>	<p>This is an evaluation of SIP (Suicide Intervention Project), which includes (amongst other components) an ASIST workshop.</p> <p>18-25 year old university students, especially "at risk groups" such as males, indigenous people, students from non-English speaking communities & international students</p>	<p>Total sample: 125 participants</p> <p>Staff survey: 258</p> <p>Focus groups: 15 participants (F/M: 13/2)</p> <p>University students (primarily female undergraduates)</p>	<p>Pre & post training (1-12 months)</p> <p>Focus groups: 3, 6, 12 months following training</p>	<p>Various: qualitative; one group pretest-posttest design</p> <p>Document analysis, observation, focus groups, interviews, questionnaires & surveys</p>
<p>Findings</p> <p><u>Level 1 (Reaction):</u></p> <ul style="list-style-type: none"> * Students found the ASIST programme to be a very 'intense', 'full on' experience that at times was overwhelming for some, though it was largely seen as an important dynamic in the learning experience. Respondents saw limitations in the format of the first day ("passive transfer" of knowledge). The general feeling was that training provided a supportive and safe environment to learn about suicide intervention. Delivery was identified as flexible but with structure. * Role play was noted as one of the most valued and best facilitated aspects of the training experience. However, it was suggested that the management of the role plays in groups made up of predominantly international students needs further review in terms of design & implementation. * Concerns were raised about the potential anxiety this training triggered in people, especially for those who had some personal experiences around suicide. * ASIST was one of the most valued aspects of the Suicide Intervention Project. <p><u>Level 2 (Learning):</u> Respondents agreed that the ASIST programme gave them valuable opportunities to develop their existing skills and to gain new knowledge and understanding about how to carry out a suicide intervention.</p> <p><u>Level 3 (behaviour):</u> The majority of participants in the focus group reported having applied their learning from the workshop to help others</p>						
<p>Cost information / cost-benefit analysis</p> <p>If this programme was to gain further funding it is recommended that greater emphasis be given to extending the opportunities for QPR ("Question, Persuade, Refer") training to students and staff given the similarities in participant outcomes between the 2-hour QPR and 3.5 day peer education training (includes ASIST) groups and the demand and interest expressed in the training. The longer training programme should be specifically targeted and limited to recruit and train peer educators in a select & needs based manner.</p>						
<p>Lessons / recommendations</p> <ul style="list-style-type: none"> * The attempt to target "at risk" groups remains a challenging task for prevention initiative and further work is required in identifying the specific training needs of Indigenous and international students. Culture rather than gender appeared to be a greater challenge in attracting and training students for the programme. * A key factor in the success of the programme must be attributed to its extensive and sustained promotion. * Further research should be conducted into the relationship and factors associated with intentions and behaviour to help others, specifically in relation to barriers inhibiting students from talking to each other about mental health and suicide. This should be fed into training programmes and researched with long follow up periods. * Any further implementation of the SIP should consider narrowing the number of strategies utilised in the programme and focusing on short to intermediate outcomes in order to maximise efficiencies for implementation and achievement of specified outcomes within a designated funding period. 						
<p>Strengths & weaknesses of evaluation</p> <p>Strengths: Very thorough evaluation, reliance on a variety of methods of data collection and analysis.</p> <p>Weaknesses: small sample for focus groups.</p>						
<p>Quality of evidence (good, fair, poor)</p> <p>Good</p>						

Other comments (if relevant) including:
Local policy framework; geography (rural / urban); socio-economic profile; other operational issues (e.g. how training is funded), transferability of findings
 * The number of Canberra University staff and students trained in SIP exceeded by far the required training target.

Authors (date); Title of paper; Publication details	Place of evaluation; Time of data collection; Evaluation done by	Aim of evaluation; Focus of evaluation (Kirkpatrick 1-5)	Training programme(s); Programme targeting; Implementation	Sample size; Sample composition	Time between training & evaluation	Design & instruments
Jacobellis (2003) Partners for teen suicide prevention: Final report Unpublished report	Colorado, USA OMNI institute	Relevant aims: 1) To what extent do trained gatekeepers utilise their learnt skills? 2) Are concerns about youth participating in suicide intervention training shared by youths themselves? Levels 1,3	ASIST Community gatekeepers & youth in 3 Colorado communities Implemented as part of the Partners for Teen suicide Prevention project	Overall 649 trained. No specific info re sample size Youth & caregivers.	Not reported	Follow up questionnaire – no info included in paper Focus groups

Findings
AIM 1: Findings from follow-up activities (re utilisation of learnt skills) were not sufficient for drawing even preliminary conclusions.
AIM 2: Strong agreement among youth participants that there were few related risks with youth being trained in the ASIST model (or other suicide prevention approaches), and that the potential risks are outweighed by potential benefits. Youth asserted their belief that suicidal youth are more likely to approach other youth rather than adults. They also felt that youth their age were mature enough to take on this responsibility and could be more effective in this regard after being trained to respond appropriately. Youth who attended the training felt that it was beneficial to do so alongside adults because this helped them learn together.

Cost information / cost-benefit analysis
 The project has potential for long-term sustainability given local revenue collection through registration fees for training events. The project supports the training of a number of ASIST trainers in each community. The charging of a nominal fee for becoming trained as an ASIST gatekeeper can provide ongoing project support as long as community members are interested in becoming trained and trainers remain active. In addition, the Office of Suicide Prevention has provided support to these communities through small state-sponsored grants, which has resulted in continued coalition activity and efforts to expand services.

Lessons / recommendations
 * Further research can track the number of students that become ASIST trained and follow-up comprehensively on both training and applied experiences, in order to examine the extent to which it is appropriate to train youth and the types of support they are likely to need in performing their gatekeeper responsibilities.
 * It is important for further research to examine the larger infrastructure of the school-based efforts to see if protocols are established around notification, debriefing and post-intervention support.
 * The holding of state-wide conferences and an active state-level advisory group may also assist in keeping prevention efforts, for both youth and adults, focused and ongoing.

Strengths & weaknesses of evaluation	
Strengths: Addressing the issue of youths' perceptions of ASIST. Weaknesses: Failed to measure level 3 outcomes, a lot of missing information regarding data collection, sample profile, analysis of data.	
Quality of evidence (good, fair, poor) Poor – based on criteria 12, 15, 18, 19, 21	
Other comments (if relevant) including:	
Local policy framework; geography (rural / urban); socio-economic profile; other operational issues (e.g. how training is funded), transferability of findings	
* Permission was obtained from one of the curriculum creators to make appropriate adaptations to role-plays and various simulation exercises to address specific concerns regarding youth.	
* LivingWorks was very involved in this project, with Ramsay (one of the founders of ASIST) visiting each pilot community to personally consult on implementation issues, questions or concerns.	

Authors (date); Title of paper; Publication details	Place of evaluation; Time of data collection; Evaluation done by	Aim of evaluation; Focus of evaluation (Kirkpatrick 1-5)	Training programme(s); Programme targeting; Implementation	Sample size; Sample composition	Time between training & evaluation	Design & instruments
ORS (2002) Youth Suicide Prevention Project – annual evaluation report Unpublished report	Washington, USA Not reported Independent evaluator - ORS	To assess the impact of the training workshops (ASIST, QPR, PTA) sponsored by the project. <i>Data reflect an evaluation of ASIST only.</i> Levels 2,3	ASIST, QPR, PTA Not reported Implemented as part of a training package sponsored by YSP project.	148 pre& post; 39 pre, post & follow-up Adults; 81% female, 78% Caucasian	Immediately before & immediately after training, 3 month follow-up	One-group pretest-posttest design Questionnaire survey (incl. Rating scales, multiple choice questions)
Findings						
* Participants in the workshops report enhanced knowledge of suicide prevention, intervention and assessment skills. This notion has been affirmed using a set of factually-based multiple-choice items used to test suicide knowledge. Knowledge gains have been maintained at 3 months.						
* There is evidence that the gains over time (knowledge, comfort, competence, confidence) are more substantial among those participants with less experience with suicide.						
* Training has been demonstrated to be raising the awareness about the issue of youth suicide for participants.						
* Over 35% of follow-up respondents reported having had contact with one or more suicidal youth, and referring youth to a wide range of possible resources.						
Cost information / cost-benefit analysis						
Not reported						
Lessons / recommendations						
* It appears that the workshop is geared more towards informing and supporting those who are less familiar with suicide as an issue and a practice. The programme should continue to explore whether other types of outcomes may be more appropriate among those with greater experience prior to the workshop.						
* Further research should examine whether the current survey tool is providing enough information for the programme about the impacts of training on knowledge, skills and ability.						
* Further research should examine what are the true long-term effects of the training and how can the programme best measure these impacts.						
* Further research should enquire whether participants are turning knowledge into practice, and if so, how can this be measured and documented.						

Strengths & weaknesses of evaluation	
Strengths – pre, post & follow up measures, data from 3 areas	
Weaknesses – low follow up rate, no control group, some missing info regarding data collection, poor Kirkpatrick level 3 measure (2 self-report items).	
Quality of evidence (good, fair, poor)	
Fair	
Other comments (if relevant) including:	
Local policy framework; geography (rural / urban); socio-economic profile; other operational issues (e.g. how training is funded), transferability of findings	

Authors (date); Title of paper; Publication details	Place of evaluation; Time of data collection; Evaluation done by	Aim of evaluation; Focus of evaluation (Kirkpatrick 1-5)	Training programme(s); Programme targeting; Implementation	Sample size; Sample composition	Time between training & evaluation	Design & instruments
Pearce, Rickwood & Beaton (2003) Preliminary evaluation of a university-based suicide intervention project: impact on participants Published paper (AeJAMH, 2:1)	Canberra, Australia June – Sep 2002 University of Canberra	To evaluate SIP in terms of changes experienced by participants in relation to their ability to respond to the mental health problems of their university peers. Levels 2,3	This is an evaluation of SIP (Suicide Intervention Project). The main component of the SIP programme is ASIST , and it also includes a series of presentations and information packs. University students As part of the SIP project	42 participants (F/M: 30/12; mean age: 24.2) University students (sampling aimed at a wide range of backgrounds)	Pre-training, immediately after training, and 2 weeks following training	One group pretest-posttest design Questionnaires (including measures of attitude, social distance, subjective norms, etc' - adapted from mostly validated scales)
Findings						
* Participants were shown to improve on all the factors that were predicted (based on the Theory of Planned Behaviour – Fishbein & Ajzen, 1975) to determine the behaviour of talking to other university students about mental health feelings. These factors include more favourable attitudes and subjective norms, greater feeling s of control and greater intentions regarding performing the behaviour of talking to other students about mental health feelings.						
* Pre & posttest measures of social distance & social connectedness did not change significantly – indicating either participation in SIP did not improve participants' resilience, or alternatively (since pre-test measures of distance were very low and of connectedness were very high) is a reflection of the little room for improvement on these specific measures.						
* No correlation was found between any of the factors predicted to determine behaviour (of talking to other students about mental health feelings) and any of the actual behavioural follow-up measures. This might be due to using an ambiguous measure of reported behaviour or carrying out follow up within a very short period following training.						
Cost information / cost-benefit analysis						
Not reported						

<p>Lessons / recommendations</p> <ul style="list-style-type: none"> * Overall the SIP programme appears to be effective in promoting mental health by improving the confidence of participants in responding to the mental distress of other students. * In relation to suicide intervention - It is expected that since SIP increases participants' levels of confidence & comfort in talking to other students about their feelings – this would make them more effective in their approach to persuading individuals with suicidal ideation to get help. * Further research should use more sensitive measures of connectedness to reveal the impact of SIP on social relationships. * It would be useful for further research to examine the impact that SIP participants make in terms of their relationships with isolated student groups. * Behavioural measures of self-reported behaviour need to be concrete and unambiguous (e.g. "talking to someone about feelings can be interpreted in various ways") * The period of time between training and follow up ought to be longer two weeks in order to give participants more opportunity to come across students who indicate a need. 	
<p>Strengths & weaknesses of evaluation</p> <p>Strengths: pre & posttest measures; Weaknesses: small sample size; no control group; follow up done very soon after training (2 weeks).</p>	
<p>Quality of evidence (good, fair, poor) Good</p>	
<p>Other comments (if relevant) including:</p> <p>Local policy framework; geography (rural / urban); socio-economic profile; other operational issues (e.g. how training is funded), transferability of findings SIP is a peer-based mental health promotion programme designed by the University of Canberra and the WMCA of Canberra. This is an evaluation of the first year of the SIP at the University of Canberra. There is no specific discussion of ASIST.</p>	

Authors (date); Title of paper; Publication details	Place of evaluation; Time of data collection; Evaluation done by	Aim of evaluation; Focus of evaluation (Kirkpatrick 1-5)	Training programme(s); Programme targeting; Implementation	Sample size; Sample composition	Time between training & evaluation	Design & instruments
<p>Tierney (1994) Suicide Intervention training evaluation: A preliminary report Published paper (Crisis, 15/2)</p>	<p>Canada Not reported One of the founders of ASIST</p>	<p>(a) To examine whether training enhance abilities, knowledge & attitudes. (b) To detect differences in training effects between various trainee groups Level 2</p>	<p>Suicide Intervention Workshop (SIW) (Early version of ASIST) Not reported? Not reported?</p>	<p>Study 1: 36 trainees (19 pre-posttest cond', 17 posttest only control cond') Study 2: 176 trainees, 22 control Study 3: 154 trainees, 23 control</p>	<p>Study 1: 1-3 days pre-training & 1-5 days following training. Studies 2&3: treatment group: beginning & end of workshop; control group: 2 days apart</p>	<p>Study 1(abilities)- posttest only equivalent control group design * SIRI questionnaire * Simulated scenario – scored with the Suicide Intervention Protocol (SIP) Studies 2&3 (knowledge & attitudes)- pretest-posttest nonequivalent control group design * SDS, SIQ, IQS, IKT tools</p>

Findings	<p>* <u>Ability</u>: The workshop had no effect on the ability to recognise facilitative responses as measured by SIRI (this might be due to a ceiling effect as pre-test responses were high); the simulated suicide scenario method, however, has shown an increase in suicide intervention skills.</p> <p>* <u>Attitudes</u>: attitudes toward suicide intervention changed significantly as a result of the workshop experience.</p> <p>* <u>Knowledge</u>: The workshop group showed significant increase in knowledge, whereas the control group did not.</p>
Cost information / cost-benefit analysis	Not reported
Lessons / recommendations	<p>* The simulated suicide intervention scenario (using SIP) proved to be an effective procedure. It is the closest thing to an actual intervention that is ethically possible.</p> <p>* In order to learn about optimal training possibilities it would be helpful to compare training programmes that are lecture-based vs. those designed around experiential practice-based learning, and programmes that focus on attitudes and/or intervention abilities.</p> <p>* Post-testing conducted at various follow up times could provide information regarding the stability of training effects.</p>
Strengths & weaknesses of evaluation	<p>Strengths – random selection of participants (study 1); controlling for test-effects, practice effects and rater bias (study 1); using a simulated suicide scenario situation for measuring intervention abilities.</p> <p>Weaknesses – small groups sizes (study 1) and control groups (studies 2&3).</p>
Quality of evidence (good, fair, poor)	Good
Other comments (if relevant) including: Local policy framework; geography (rural / urban); socio-economic profile; other operational issues (e.g. how training is funded), transferability of findings	

Authors (date); Title of paper; Publication details	Place of evaluation; Time of data collection; Evaluation done by	Aim of evaluation; Focus of evaluation (Kirkpatrick 1-5)	Training programme(s); Programme targeting; Implementation	Sample size; Sample composition	Time between training & evaluation	Design & instruments
Turley, Pullen, Thomas & Rolfe (2000) LivingWorks Applied Suicide Intervention Skills Training (ASIST): A Competency-Based Evaluation Unpublished report	Australia (range of rural and urban locations) Not specified LivingWorks Education, Australia	To evaluate the effectiveness of ASIST in enhancing participants' ability to acquire and apply new learning about suicide intervention competencies. Level 2	ASIST Community caregivers (professional or informal) Carried out as part of the Lifeline Australia Youth Suicide Prevention Project	91 trainees (F/M: 68/23); 40 controls (F/M: 25/15) 44% of trainees & 63% of controls had previous training and experience in suicide intervention. Professional & informal caregivers from a wide range of backgrounds	Pre workshop, and 1 week post workshop	Quasi-experimental pretest-posttest nonequivalent control group design * Questionnaire (likert scales & open-ended questions) – devised by author * Simulated scenario audio-tape & questionnaire

<p>Findings Readiness to make suicide intervention: * Trainees group's self-declared readiness significantly increased post workshop as compared to pre-workshop. Control group – no change. There were no baseline differences in readiness scores for the two groups. * Responses to qualitative questions (unspecified) have identified the key factors in this "improved readiness" as being (a) improved risk estimation skills; (b) knowledge of the intervention model; and (c) greater understanding of people at risk. Suicide intervention competencies (application): * The trainee group registered a significant improvement in test scores associated with the simulated scenario exercise post workshop ($p < 0.001$). Comparison group – no change. Important to note, however, that the trainee group had a higher level of baseline experience and competency in suicide intervention than the comparison group. The authors claim this highlights the capacity of the workshop to facilitate enhanced suicide intervention competencies even among those who have prior experience and training.</p> <p>Cost information / cost-benefit analysis Not reported</p>
<p>Lessons / recommendations * ASIST workshops enhance participants' sense of readiness for suicide intervention as well as their competency to do so. * Indication that ASIST has value for a wide range of people, including those who have had previous training / experience in suicide prevention. * There is a need to evaluate longer-term outcomes in actual work or life situations. * Considering ASIST's focus on promoting links with community resources, it is suggested that future evaluations assess the extent to which people at risk are actually linked into supportive and appropriate options of ongoing care</p>
<p>Strengths & weaknesses of evaluation Strengths – pre & posttest measures; control group; measure of skills acquisition (simulated scenario); design controls for order effects, learning effects and rater bias. Weaknesses – inconsistency in test conditions for simulated scenario – some participants tested individually and some in groups of varying sizes (2-12); baseline difference in experience and competency between the treatment and control groups (treatment group – higher baseline score), incomplete reporting of qualitative items</p>
<p>Quality of evidence (good, fair, poor) Poor – based on criteria 14, 15, 18, 19, 21</p>
<p>Other comments (if relevant) including: Local policy framework; geography (rural / urban); socio-economic profile; other operational issues (e.g. how training is funded), transferability of findings * LivingWorks Canada team involved in tool development and feedback on design.</p>

Authors (date); Title of paper; Publication details	Place of evaluation; Time of data collection; Evaluation done by	Aim of evaluation; Focus of evaluation (Kirkpatrick 1-5)	Training programme(s); Programme targeting; Implementation	Sample size; Sample composition	Time between training & evaluation	Design & instruments
Turley & Tanney (1998) LivingWorks Australian Field Trial Evaluation Report Unpublished report	Australia: Melbourne, Wollongong & Bundaberg 1996-7 (?) Lifetime Australia & LivingWorks Canada (Tanney – one of the founders of ASIST)	Field trial of two of LivingWorks' gatekeeper training programmes: Suicide Aware (SA) and the suicide Intervention Workshop (IW) Focus on the training team, implementation challenges and intervention workshop outcomes. Levels 2, 3	Suicide Intervention Workshop (IW) (Early version of ASIST) Community caregivers (formal & informal) National & regional coordinators appointed to manage implementation of project; funding secured for national training and implementation infrastructure.	Sample taken from 2,870 people trained during the two-year field trial (sample size not specified – "substantial sample"). 30% follow up. 61% female; 75% higher education; professional and informal caregivers	Pre-training, immediately after training and 4-months following training	One-group pretest-posttest design Questionnaire incl. Self-report outcome measures (devised by authors)
Findings						
* Training team: 70 trainees recruited. Trainer interest sustained throughout programme for most. Trainer activity levels were variable (average = 6). Difficulties raised included recruitment of participants, time commitment and cost of workshop.						
* <u>Implementation</u> : (a) provider issues – main challenges were time commitments, costs & registration fee and organisational support; (b) participants recruitment – barriers were time, pricing and competing programmes); (c) the dynamics of involvement – strategies for eliciting further community response were identified and implemented; (d) community development model – toward the end of the field trial, LivingWorks formalised a framework for mapping the pathway toward deeper engagement in suicide prevention, which needs to be targeted at whole communities, community organisations and individual caregivers.						
* <u>Intervention Workshop (IW)</u> : Immediately after training - training has enhanced participants' readiness to intervene with a person at risk (increased comfort, competence & confidence). Readiness to help was supported by increased knowledge of suicide assessment and intervention. Participants had clarified attitudes & beliefs about suicide and were more optimistic and willing to carry out an intervention. Follow up – changes in knowledge, skills and attitudes remained relatively stable at four months. According to participants' self reports these skills have translated into more engagement in intervention and changes in helping activities consistent with workshop objectives.						
Cost information / cost-benefit analysis The Commonwealth Government grant had paid for the training and resourcing of trainers and the cost of project coordination. However, the cost of providing workshops was the responsibility of the local community.						

<p>Lessons / recommendations</p> <ul style="list-style-type: none"> * Offer programmes within a developmental framework (rather than marketed as random events). * Make strategic use of Suicide Aware – it can provide a strategic pathway into the 2-day SIW. * Improve integration of suicide intervention with core program activities. * Target organisational leaders. * Develop local syndicates of trainers – these provide forums for wider cooperation and support including the sharing of ideas and pooling of resources. * Standardise publicity materials – standardised letters & forms, as well as Australian editions of key brochures. * The summer vacation period (December-February in Australia) is a difficult time to promote and conduct workshops. * Few trainers / participants raised concerns about the appropriateness of this Canadian programme in an Australian setting. An Australian addition of the handbook is being developed. 	
<p>Strengths & weaknesses of evaluation</p> <p>Strengths – measures taken from 3 sites with different geographical and socio-economic profiles; good male representation in sample (39%)</p> <p>Weaknesses – no control group, incomplete information about data collection procedures, unknown sample size / % from each site, low follow-up rate (30%), incomplete report of statistical analysis.</p>	
<p>Quality of evidence (good, fair, poor)</p> <p>Poor – based on criteria 15, 17,18, 21</p>	
<p>Other comments (if relevant) including:</p> <p>Local policy framework; geography (rural / urban); socio-economic profile; other operational issues (e.g. how training is funded), transferability of findings</p> <p>The field trial sites were a predominantly rural region (Bundeberg), a large provincial city (Wollongong), and the suburbs of a big metropolitan (Melbourne).</p>	

Authors (date); Title of paper; Publication details	Place of evaluation; Time of data collection; Evaluation done by	Aim of evaluation; Focus of evaluation (Kirkpatrick 1-5)	Training programme(s); Programme targeting; Implementation	Sample size; Sample composition	Time between training & evaluation	Design & instruments
Perry & McAuliffe (2007) Making it safer: A health centre's strategy for suicide prevention In press	Canada 2002-2004	Examine the outcomes and impact of the implementation of a suicide intervention programme in a health care organisation. Levels 2, 3, 4	Not reported * Staff at a large community hospital: mental health professionals, switchboard operators, rehabilitation therapists. * Staff and students form local community mental health and social service agencies. Staff trainers were recruited internally and delivered training to all staff. See comments.	Pre-training survey: 126 mental health staff (68% response rate)	On-going evaluation for 4 years	One-group pretest posttest design Survey Focus groups

<p>Findings (reflect outcomes of entire project, part of which was ASIST)</p> <ul style="list-style-type: none"> * A comprehensive review of existing suicide assessment tools failed to come up with a suitable tool. A tool developed by researchers in the centre was not seen as useful by staff. * Level 2 – percentage of staff who reported knowing what steps to take after assessing for suicide risk increased from 87% pre-training to 97% post-training. however only 48% 'strongly agreed' that they knew what to do after assessment. * Level 3 – Reduction in suicidal patients' admission rates (from 56% to 42%), reflecting (according to staff) the clearer process of exploring reasons for dying and living and an increased focus on strengthening the client's protective factors in the community. * Level 3 – An increase of between 14%-21% in the identification of suicidal risk among mental health patients in the Emergency Department. * Level 3 – more staff assess a higher proportion of their clients for suicide risk. * Level 3 – there was a decrease in comfort level relating to talking to clients about suicide post-training. The authors hypothesised that this decrease is consistent with what we know about adult learners and the process of transferring knowledge into practice. "Integration of new knowledge and skill requires transition time and focused effort". * Level 4 - The organisation's reputation in the community has been enhanced by developing expertise in suicide intervention. Staff from partner mental health agencies have attended or contracted the centre's ASIST workshops and broadened the impact of this project beyond the walls of this specific organisation.
<p>Cost information / cost-benefit analysis</p> <p>Not reported</p>
<p>Lessons / recommendations</p> <ul style="list-style-type: none"> * The findings (reduction in admissions and increase in suicidal risk identification) suggest that health centre resources are being more effectively utilised by improved ability to support suicidal clients in the community. * Various specific lessons regarding implementation.
<p>Strengths & weaknesses of evaluation</p> <p>Strengths – long term evaluation (4 years), pre, post and follow up measures, direct and indirect measures of level 3 outcomes.</p> <p>Weaknesses - incomplete reporting of data collection & analysis; incomplete sample profile</p>
<p>Quality of evidence (good, fair, poor)</p> <p>fair</p>
<p>Other comments (if relevant) including:</p> <p>Local policy framework; geography (rural / urban); socio-economic profile; other operational issues (e.g. how training is funded), transferability of findings</p> <p>Implementation: staff trainers were recruited internally through an open process. Five staff were chosen from different clinical areas and disciplines as a strategy to embed expertise at the front line. A plan was put in place to train all clinical and administrative staff and psychiatrists in the various mental health programmes over a six month period. With strong endorsement from the mental health director and programme managers, staff were required to sign up to attend one of several ASIST sessions.</p>

ANNEX 3: DATA EXTRACTION SHEETS FOR SCOTTISH 'IN-HOUSE' EVALUATIONS INCLUDED IN THE REVIEW

Title of paper; Place of evaluations Time of data collection	Aim of evaluation; Focus of evaluation (Kirkpatrick 1-5)	Targeting; Implementation	Sample size; Sample composition	Time between training & evaluation	Design & instruments
An evaluation of the use of ASIST in Shetland Shetland April 2003-Aug 2005	To provide a thorough local evaluation of the usefulness and wider impact of providing ASIST in a rural island setting Levels 1, 2, 3	Care professionals & members of the public ASIST offered to all members of the Shetland community from April 2003	179 trainees 32% NHS, 35% Shetland council, 17% voluntary organisations, 15% members of public	Immediately after training & follow up between 3-21 months following training.	One-group posttest-only design Questionnaire devised by author (rating scales & open-ended Qs)
<p>Findings</p> <ul style="list-style-type: none"> * ASIST rated highly by participants in Shetland * ASIST trainees reported feeling better prepared to offer assistance to a person at risk of suicide following training (posttest measure only). * ASIST training might have an impact on the emotional health of participants (but generally seen as a positive experience in the long run). * 50% of ASIST trainees reported having used the training with a person at risk of suicide at least once (in professional and/ or personal contexts). * 9% of participants mentioned the use of a very Canadianised language as being something to change. 					
<p>Cost information / cost-benefit analysis</p> <p>Not reported</p>					
<p>Lessons / recommendations</p> <ul style="list-style-type: none"> * ASIST appears to be effective in equipping participants with suicide prevention skills. * Concerns have been raised over the emotional impact of the course on participants. * Consideration needs to be given to the particular demands placed on the trainers working in small rural communities, as they come to feel responsible for participants on an ongoing basis. <p>Recommendations for measures put in place to support the delivery of ASIST in isolated settings include extending support network for participants (using co-participants, emergency help lines, info about resources), informing people pre-course that the course can be emotionally demanding, and providing support for ASIST trainers.</p>					

Title of paper; Place of evaluations Time of data collection	Aim of evaluation; Focus of evaluation (Kirkpatrick 1-5)	Targeting; Implementation	Sample size; Sample composition	Time between training & evaluation	Design & instruments
ASIST follow-up evaluation (2004 & 2005) Argyll & Bute 2005	To examine what participants have gained from attending ASIST workshops and how they has used their skills Levels 2,3,4	No reported 9 training courses have been carried out between June 04- Nov 05	35 trainees The statutory sectors (majority), the voluntary sectors, NHS, other	Approx 6 months following training	One-group posttest only design Follow-up questionnaire (quantitative & qualitative items)
<p>Findings</p> <ul style="list-style-type: none"> * 82% of trainees reported feeling 'fairly confident' about carrying out a suicide intervention following training. 18% said they felt 'very confident'. * 59% of trainees reported having used their learnt skills to talk to someone at risk of suicide. * 100% of trainees indicated that training has made them more aware of signs that a person may be at risk and contemplating suicide, and that training had increased their confidence in approaching & supporting individuals. * Kirkpatrick level 3 – participants reported that ASIST training has changed the way they deal with an individual identified as being at risk of suicide. The most prominent themes coming out of their quotes were: (a) they have become more aware of the signs they should look for in someone thinking of suicide; (b) they have a clearer understanding that they <u>must</u> intervene; (c) they now have the confidence to ask a person <u>directly</u> whether they are thinking about suicide; (d) they now have more confidence in their ability to carry out a suicide intervention. * Feedback from persons at risk since intervention – most participants reported that the person they have helped was very grateful and glad they had someone to talk to. * 31% of trainees felt that they are 'very confident' in their ability to carry out a suicide intervention 6 months following training. 66% felt 'reasonably confident' and 3% felt 'not confident'. The main reason given for not being fully confident was the need to refresh ones memory of the training as time goes on. <p>Cost information / cost-benefit analysis Not reported</p>					
<p>Lessons / recommendations</p> <ul style="list-style-type: none"> * There appears to be a need among trainees for a refresher course, in order to maintain levels of competence and confidence in carrying out suicide intervention. 					

Title of paper; Place of evaluations Time of data collection	Aim of evaluation; Focus of evaluation (Kirkpatrick 1-5)	Targeting; Implementation	Sample size; Sample composition	Time between training & evaluation	Design & instruments
Feedback from ASIST, Jan 05-Feb 06 Borders 2005-2006	Get feedback about ASIST workshop Levels 1,2,3	Not reported Not reported	41 trainees (36% response rate) 37% support workers; 9% youth workers, 9% nurses, 9% managers, 36% other	6 months post-training	One-group posttest only design Questionnaire
Findings * 80% of respondents reported feeling more confident to help someone at risk post-training. * 78% of respondents reported feeling more able to identify someone having thoughts of suicide post-training. * 85% of respondents felt that the training has enhanced their suicide intervention knowledge and skills. * 41% of respondents had put SIM into practice (between 1-5 times) – the vast majority of cases were in a work-related context. * 31% of respondents have used ASIST in non-suicidal situations. * 63% of respondents felt that their knowledge of suicide-related services has increased following training. * 88% of respondents thought that others in their professional group should attend ASIST.					
Cost information / cost-benefit analysis Not reported					
Lessons / recommendations None					

Title of paper; Place of evaluations Time of data collection	Aim of evaluation; Focus of evaluation (Kirkpatrick 1-5)	Targeting; Implementation	Sample size; Sample composition	Time between training & evaluation	Design & instruments
Evaluation of ASIST training across Dundee and Angus Dundee & Angus Not reported	To assess the impact, targeting and application of ASIST training Levels 1,2,3	Not reported Not reported	23 (29% response rate) Public & voluntary sectors	Up to 2 years	One-group post-test only design Open-ended questionnaire (devised by author)
Findings * 95% of respondents felt the training was beneficial, and all reported they would recommend the course to other people. * 62% of respondents reported they had done an intervention using ASIST. Out of these respondents, 73% reported using the ASIST materials from memory and 27% reported using the prompt card. * 45% of respondents said they would consider delivering suicide talks in their community. No one said they would buy a suicide talk pack but some would like to borrow one.					

Cost information / cost-benefit analysis
 A Suicide Talk pack costs £125

Lessons / recommendations

- * While taking into consideration the small sample size, it seems that ASIST is being widely used following training (note: data collected in study is insufficient to support this conclusion).
- * The format of training is successful in terms of retained skills & knowledge (note: data collected in study is insufficient to support this conclusion).
- * As suicide Talk packs are expensive, the evaluation has illustrated the need to have packs available for people to borrow.

Title of paper; Place of evaluations Time of data collection	Aim of evaluation; Focus of evaluation (Kirkpatrick 1-5)	Targeting; Implementation	Sample size; Sample composition	Time between training & evaluation	Design & instruments
Appendix 3 Aberdeen 2006 (?)	Get feedback about ASIST workshop Levels 1,3	Not reported Not reported	67 participants (55% response rate) Not reported	Not reported	One-group posttest only design Questionnaire
Findings					
* All respondents reported that the workshop was beneficial to them.					
* All respondents found the ASIST model to be useful in their working / living environments.					
* 42% of respondents reported having used the SIM model (mostly in a professional context). 21% of these have used it more than once.					
Cost information / cost-benefit analysis					
Not reported					
Lessons / recommendations					
None					

Title of paper; Place of evaluations Time of data collection	Aim of evaluation; Focus of evaluation (Kirkpatrick 1-5)	Targeting; Implementation	Sample size; Sample composition	Time between training & evaluation	Design & instruments
ASIST Tune-Up: September 2006 Inverclyde September 2006	Get feedback about ASIST workshop Levels 1,3	Not reported Not reported	44 respondents 73% female, 19% male, 8% unknown	Not reported	One-group posttest only design Questionnaire
Findings * 94% of respondents felt that ASIST training had been a beneficial experience. * 89% of respondents believed training would be useful to them in their work / living environments. * 34% of respondents have used SIM (80% have used it in a professional capacity). * 36% of respondents have used some of the resources received at the workshop (e.g. handbook, contact list, prompter card). 80% responded favourably about the resources.					
Cost information / cost-benefit analysis Not reported					
Lessons / recommendations None					

Title of paper; Place of evaluations Time of data collection	Aim of evaluation; Focus of evaluation (Kirkpatrick 1-5)	Targeting; Implementation	Sample size; Sample composition	Time between training & evaluation	Design & instruments
ASIST questionnaire results West Lothian Aug-Sep, 2004	Gather information about ASIST training Levels 1,2,3	Not reported Not reported	18 participants (14% response rate) Not reported	1-4 months	One-group posttest only design Questionnaire (incl. tick boxes & open-ended questions)
Findings * All respondents reported feeling better prepared to help someone at risk of suicide following training. * All respondents reported having recommended Suicide Talk or ASIST to others. * 55% of respondents reported they had applied their training into practice.					
Cost information / cost-benefit analysis Not reported					

Lessons / recommendations
None

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