



**Liverpool  
Public Health  
Observatory**

# **Rapid Evidence Review Series**

## **Suicide Prevention Training**

**Janet Ubido and Alex Scott-Samuel**

**LPHO Report Series, number 99**

**Rapid Evidence Review Series, number 3**

*Produced on behalf of the Merseyside Directors of Public Health*

**October 2014**

**PROVIDING INTELLIGENCE FOR THE PUBLIC HEALTH**

# Rapid Evidence Review Series

## Suicide Prevention Training

<b>Contents</b>	
Summary .....	i
Background .....	1
Methods .....	1
Results .....	2
1. National strategies .....	2
2. Evidence for suicide prevention training .....	4
___ 2.1 Gatekeeper training .....	4
___ 2.2. Skills training .....	12
___ 2.3 Awareness/education curricula .....	13
___ 2.4 Systematic reviews covering several training programme approaches .....	15
Discussion .....	15
References .....	17

## Summary

### Background

Liverpool Public Health Observatory (LPHO) was commissioned by the Merseyside Directors of Public Health, through the Cheshire & Merseyside Public Health Intelligence Network, to produce this rapid evidence review on the effectiveness of suicide prevention training programmes. A rapid literature search of academic databases was conducted to examine research evidence from 2004 to 2014. As this is a rapid evidence review, not a full systematic review, the results should be regarded as provisional appraisals.

Five broad types of suicide prevention programs exist: awareness/education curricula, gatekeeper training, peer leadership, skills training and screening (Katz et al., 2013). There are numerous suicide prevention training programme packages commercially available, such as ASIST and STORM gatekeeper training. Gatekeeper training teaches specific groups of people to identify people at risk for suicide and then to manage the situation appropriately, with referral when necessary (Isaac et al., 2009).

Years of suicide prevention research and program implementation have not yet led to a definitive, highly effective, evidence-based approach to suicide prevention (Isaac et al, 2009). Suicide is a rare enough occurrence to make it difficult to measure outcomes of suicide prevention training programmes. Programme goals generally fall into two categories:

- to improve knowledge, skills and attitudes related to suicide, and
  - to reduce the prevalence of suicidal thoughts, attempts and deaths
- (Isaac et al, 2009; Katz et al, 2013).

### Results

Systematic reviews of gatekeeper training found they were generally successful in imparting knowledge, building skills and moulding the attitudes of trainees (Isaac et al, 2009). This was achieved in various settings, including schools, primary care, mental health, the military, the construction industry and amongst ethnic minority communities.

There was generally a dearth of studies showing effectiveness in terms of decreasing suicide ideation, suicide attempts or deaths by suicide (Isaac et al, 2009). However, there were promising results in studies of military personnel and physicians, reporting significant reductions in such outcomes (Isaac et al, 2009; Mann et al., 2005).

Two of the most widely used prevention training packages in the UK are the Skills Training on Risk Management (STORM) and Applied Suicide Intervention Skills Training (ASIST) gatekeeper training programmes. Evaluation of these packages has produced mixed results. The evidence indicates that STORM and ASIST can lead to significant improvements in attitudes and confidence of participants, but acquisition of skills in STORM training and long term effects of both packages were sometimes questionable. With STORM, there was a strong possibility of bias, with all evaluations carried out by those involved in the development of the package, and the evaluation data was collected by the individuals who had delivered the training. For ASIST, Dolov et al (2008) reported that the extent to which firm conclusions can be drawn about the effectiveness of the package is limited. In a study of ASIST training for indigenous community members in Canada, Sareen et al (2013) concluded that the lack of efficacy of the training was concerning.

The Scottish 'Choose Life' suicide strategy has made use of ASIST, STORM and SafeTALK packages. An evaluation of 'Choose Life' noted that some of the 'right people' are still not being reached, especially GPs (Griesbach et al 2011). The lack of take-up by GPs was often attributed to the time commitment required by the workshops. Griesbach et al (2008) concluded that there is a need for more flexibility in course structures, especially with the rigid 2-day ASIST courses. The STORM package of four half day modules was found to be more flexible. A need was also identified for more robust selection criteria for trainers and for refresher courses to help people maintain skills.

The Question, Persuade and Respond (QPR) and online approaches to training may be considered as alternative options, with studies showing promising results, with courses of a shorter duration than ASIST and STORM. The half day SafeTALK training programme is another possibility, but this has not been fully evaluated.

Taking a broader, more upstream approach, initiatives such as skills based approaches including the Good Behaviour Game (GBG), used in primary schools to encourage the development of self-regulation and coping skills, have been shown to have positive long term outcomes including reductions in suicide ideation and attempts (Poduska, 2014; Wilcox et al, 2008). One of the advantages is that, as a strategy rather than a curriculum, embedded into standard lessons, GBG does not compete for instructional time. Studies reporting on skills based approaches were generally regarded as of high quality in a systematic review by Katz et al (2013).

In schools, skills based approaches may be preferable to a focus on general suicide awareness raising programmes, which have been questioned, having mixed results and the potential to increase harm (Wasserman et al, 2010; Isaac et al, 2009; Sareen et al, 2013).

Evaluation of prevention programmes outside health and school settings are rare. There were examples in the construction industry (Gullestrup et al, 2011), and amongst military personnel (Isaac et al, 2009) of studies showing how multi-faceted programmes including awareness raising and gatekeeper training can be successful in improving knowledge and attitudes and in the case of the military study, reducing suicidal behaviour.

However, attempts to introduce suicide prevention training into the wider community should be treated with caution, bearing in mind the risk of links with increased suicide ideation (Sareen et al, 2013).

### **Barriers/problems identified**

Some of the difficulties relating to training programmes that need addressing include problems in retaining trainers, financial constraints, the resistance of some staff to attend training (especially some of the more senior staff) and organisational resistance (Griesbach et al, 2008; Gask et al, 2006).

The 2008 'Choose Life' evaluation noted that ASIST was perceived to be an expensive course and that training trainers (T4T), often with coaches often brought in from abroad, was a big expense. Supporting the development of local T4T coach training teams for STORM and ASIST and others would help reduce costs and also enhance local relevance (Griesbach et al, 2008).

Questions have been raised about trainer competency (for example ASIST trainers in Cross et al, 2014).

The long term effect of suicide prevention programmes is often uncertain, and some have reported that their effects have not lasted over time, suggesting that regular refresher training is needed (Isaac et al, 2009; Gask et al, 2006).

Although policy makers are in need of an evidence-based review to inform practice, there are few evidence-based suicide prevention training programs. Study quality was often questionable and the problems in measuring outcomes of suicide programmes meant that firm conclusions could not always be drawn. There is a need for a stronger evidence base around training programmes.

### **Key Findings**

- A stronger evidence base around training programmes is required.
- Training should be targeted at those who have the most opportunity to use the skills, especially GPs.
- More flexibility in course structures, possibly making use of shorter courses such as QPR and SafeTALK, would encourage attendance (especially GPs).
- Regular refresher courses are required to help people maintain skills.
- Problems in trainer competency and retaining trainers need to be addressed.
- Training local trainers would help to reduce costs and ensure local relevance.
- Organisational resistance and the resistance of senior staff to attend training is a barrier to programme effectiveness that needs addressing.
- For training programmes to have maximum effect, they must be facilitated in environments in which the organisation's policies and practices encourage and support individual staff's use of newly acquired knowledge and skills.
- Broader, more upstream approaches should be considered, such as GBG, starting in primary schools.

## Background

Liverpool Public Health Observatory (LPHO) was commissioned by the Merseyside Directors of Public Health, through the Cheshire & Merseyside Public Health Intelligence Network, to produce this rapid evidence review, with a three week timescale. It is the third in a series of LPHO reviews, with the previous two reviews covering the topics of loneliness interventions and the cost effectiveness of monitored dosage systems. This review presents the evidence on the effectiveness of suicide prevention training programmes.

The rapid evidence review will inform the sub-regional Suicide Reduction Action Plan (SRAP), being developed by the Cheshire & Merseyside Suicide Reduction Network which is governed via CHAMPS. A key component of the plan relates to the provision of suicide prevention training for anybody working with individuals who may be at greater risk of suicide.

Rapid evidence reviews are used to summarise the available research within the constraints of a certain timescale, typically less than three months and in this case, three weeks. They differ from full systematic reviews due to these time constraints and therefore there are limitations on the extent and depth of the literature search. They are as comprehensive as possible, yet some compromises are made in terms of identifying all available literature. They are particularly useful to policy makers who need to make decisions quickly but should be viewed as provisional appraisals (CRD, 2009).

With this in mind, the scope of the review was to consider the effectiveness of existing suicide prevention training programmes, models of delivery and what groups of professionals and other individuals/settings might benefit most from suicide prevention training in order to optimise coverage and workforce competence and confidence.

## Methods

One researcher, with the support of a subject librarian, based the search strategy as closely as feasible in the permitted timescale to the CRD guidance for undertaking rapid evidence reviews (CRD, 2009).

### **Identification of studies**

The following electronic databases were searched from 2004-2014: Scopus, Ovid (Medline), PsycINFO, the NIHR Centre for Reviews and Dissemination database (CRD database) and NICE guidance. The CRD database was the first to be searched, as this includes all the main systematic reviews relevant to the NHS and also includes Cochrane reviews.

The researcher developed a research strategy incorporating synonyms and spelling variants, based on key papers and how they had been indexed, and were adapted to each database.

Reference lists were visually scanned from relevant articles meeting the inclusion criteria.

## **Inclusion and exclusion criteria**

The focus of the review was how training delivery should be tiered to meet specific needs of different learners relative to their role and/or their likely exposure to individuals experiencing suicidal ideation.

Training packages considered ranged from basic awareness training, to specialist intervention based training. Relevant national UK guidelines were considered, along with evaluation reports on suicide prevention training for Ireland, Canada, America and Australia as well as the UK.

The review looked for evidence of the effectiveness of suicide prevention training, in papers published since 2004, up to 1<sup>st</sup> September 2014. Key search terms for the review were combinations of 'suicide', 'awareness', 'prev\*', 'training', 'package' and 'prog\*', in addition to the names of known suicide prevention programme training packages (including Living Works, ASIST, STORM, safeTALK, Yellow Ribbon, and QPR) and 'gatekeeper'.

Initially, searches were made for key words in the title plus abstract fields. If this produced too many articles for the particular search term, then the search for that term was limited to the title only. After duplicates were removed, a total of 186 articles were retrieved from the initial database search. After reading the abstracts, 34 were selected for inclusion. At this stage, studies were excluded that were not directly relevant. The remainder of publications included were identified through the reference lists scan and word of mouth. These included government publications (English, Scottish and Canadian) and a document from the World Health Organisation.

## **Data abstraction**

Data was not systematically extracted, as would be expected from a full systematic review. However, the researcher grouped the data into themes of different types of gatekeeper training, skills training, awareness raising and national strategies.

# **Results**

## **1. National strategies**

In February 2011 the Department of Health published a mental health strategy for England: *No Health Without Mental Health: A Cross-Government Mental Health Outcomes Strategy for People of All Ages* (DH, 2011). This strategy is accompanied by implementation framework guidance (DH, 2012). This implementation framework specifically highlights the roles of various organisations. In relation to suicide, providers of primary care are required to:

*'Arrange evidence-based training for their workforce in relation to mental health (including suicide awareness). All primary care staff can benefit from evidence-based training led by people with experience of mental health problems, helping to increase understanding and raise awareness of mental health and wellbeing'.*

(taken from Callaghan, 2013)

A recent government strategy document states that:

*'Appropriate training on suicide and self-harm should be available for staff working in schools and colleges, emergency departments, other emergency services, primary care, care environments and the criminal and youth justice systems'*

(taken from *'Preventing suicide in England, A cross-government outcomes strategy to save lives'*  
HMG/DH, 2012)

Previously in 2006, the report on Avoidable Deaths (2006) delivered key service recommendations, with the ninth and final one being:

*'Training and record-keeping: front-line clinical staff receive training in the management of suicide risk at least every 3 years'*

(Avoidable Deaths, 2006; reported in Jones, 2010)

Universal suicide prevention programmes target a whole population group (e.g. all students in a school). Selected programmes focus on those at-risk. Indicated prevention programmes focus on those already engaged in suicidal behaviour (Miller et al, 2009). Five broad types of suicide prevention programs exist: awareness/education curricula, gatekeeper training, peer leadership, skills training and screening (Katz et al, 2013).

Gatekeeper training teaches specific groups of people to identify people at risk for suicide and then to manage the situation appropriately. Various gatekeeper training packages exist, including 'Applied Suicide Intervention Skills Training' (ASIST), 'Skills Training on Risk Management' (STORM) and SafeTALK.

The ASIST package is widely used in Australia, Canada, Ireland, Northern Ireland, Norway, Scotland and the United States (Gould et al, 2013). In Scotland, the national Choose Life suicide prevention strategy features ASIST, STORM and SafeTALK (Griesbach et al, 2011). In Canada, gatekeeper training has been broadly implemented as part of many provincial and territorial suicide prevention policies (Sareen et al, 2013). The Canadian Suicide-Safer Communities (SSC) strategy recommends that there should be two trained gatekeepers per 10,000 residents, which they note has largely been achieved (SSC, 2011).

The WHO reported that in 34 (38%) of countries responding to their recent global survey, training in suicide assessment and intervention was widely available for mental health professionals. Availability ranged from 14 countries in the European Region to 3 countries in the African Region. Training for general practitioners was available in 23 (26%) of the responding countries. Within the regions this ranged from 9 countries in the European Region to 1 country each in the African and Western Pacific regions. Suicide prevention training for non-health professionals – such as first responders, teachers or journalists – was available in 33 (37%) of the responding countries. Within the regions this ranged from 15 in the European Region to none in the African Region (WHO, 2014).

The WHO (2014) noted that training in new skills and competencies should be an essential part of any national strategy. They outlined a typical goal in national strategies relating to training and education as follows:



*'Maintain comprehensive training programmes for identified gatekeepers (e.g. health workers, educators, police). Improve the competencies of mental health and primary care providers in the recognition and treatment of vulnerable persons'.*

It was noted that training of those in the media should be an important consideration. Media reporting of suicide events needs to be evaluated and all media should be engaged and trained about responsible reporting (WHO, 2014).

## 2. Evidence for suicide prevention training

Suicide is a rare enough occurrence to make it difficult to measure outcomes of suicide prevention programmes. Programme goals generally fall into two categories:

- to improve knowledge, skills and attitudes related to suicide, and
- to reduce the prevalence of suicidal thoughts, attempts and deaths

(Isaac et al, 2009; Katz et al, 2013).

For training programmes in suicide prevention, the main goal will be the first of these two, with a reduction in suicide levels being a secondary outcome.

Years of suicide prevention research and program implementation have not yet led to a definitive, highly effective, evidence-based approach to suicide prevention (Isaac et al, 2009). For school based initiatives, Katz et al (2013) noted that many programmes exist on the 'Best Practices Registry', but few are evidence-based. Some suicide prevention training programs that have initially been reported as successful have not seen their effects last over time. Intervention effects can diminish, suggesting that in some cases, suicide prevention programs are not temporary commitments and regular training is likely to be needed (Isaac et al, 2009).

There is a lack of evidence as to whether training is safe or whether it might increase distress and suicide ideation, especially in school programmes (Sareen et al, 2013).

### 2.1 Gatekeeper training

Gatekeeper training teaches specific groups of people to identify people at risk for suicide and then to manage the situation appropriately, with referral when necessary (Isaac et al, 2009). Gatekeepers can be divided into two main groups. The designated group consists of those who are trained as helping professionals (e.g. mental health staff). Emergent gatekeepers are community members who may not have been formally trained to intervene with those at risk of suicide, but emerge as potential gatekeepers as recognised by those with suicidal intent. This would include teachers; clergy; pharmacists; those employed in institutional settings, such as schools, prisons, and the military; and family and friends (Isaac, 2009; Sareen et al, 2013; Mann et al, 2005).

There are numerous gatekeeper training packages including Question Persuade and Respond; Yellow Ribbon International for Suicide Prevention; ASIST; STORM and

safeTALK. Training programmes last anywhere from a few hours to 5 days, with most dedicated to 2 days training (Isaac, 2009).

A systematic review of 13 studies involving gatekeeper training by Isaac et al (2009) noted that this method has been used for various population groups, including staff and adolescents in schools, military personnel, peer helpers, primary care physicians and ethnic minority groups (aborigines). They mention that most successful training programmes are incorporated into larger suicide prevention initiatives.

This review found that gatekeeper training was successful at imparting knowledge, building skills, and moulding the attitudes of trainees, but that more work needs to be done on longevity of these traits. For school based programmes, there are numerous studies showing an increase in skills, attitudes, and knowledge generally, but there is a dearth of studies around the effectiveness of school-based gatekeeper programs in decreasing rates of suicidal ideation, suicide attempts, or deaths by suicide. In contrast, large scale cohort studies in military personnel and physicians have reported promising results with a significant reduction in suicidal ideation, suicide attempts and deaths by suicide (Isaac et al, 2009).

A systematic review by Mann et al (2005) reached similar conclusions, and noted that general practitioners' education was the most promising initiative addressing suicide prevention. GPs can be regarded as designated gatekeepers. Primary care physicians will already have basic suicide related training, but recognise the need for more (Isaac et al, 2009). Mann et al (2005) found that physician education increases the number of diagnosed and treated depressed patients with accompanying reductions in suicide, although booster programs appear necessary. Education of emergent gatekeepers was also found to help to reduce suicidal behaviour, in cases where the roles of gatekeepers are formalised and pathways to treatment are readily available, such as in the military (Mann et al, 2005).

The CRD<sup>1</sup> reviewed the study by Isaac et al (2009) and noted that conclusions should be interpreted with caution due to the lack of details on study quality. In their systematic review of 7 studies involving programmes targeting the military, Bagley et al (2010) noted there were often problems with the methodology.

### **STORM**

'Skills Training On Risk Management' is a gatekeeper education intervention known as STORM (Box 1). The package was developed in the UK and focuses on the key skills needed to assess and manage a person at risk of suicide. It has been endorsed by the Department of Health as a good risk assessment package and was supported by the National Institute for Mental Health in England (NIMHE) (Green & Gask, 2005). There is a separate STORM package for staff working with children and young people, but no evaluations of this were found.

---

<sup>1</sup> CRD: **NIHR Centre for Reviews and Dissemination. CRD database** (NHS National Institute for Health Research, Centre for Reviews and Dissemination, University of York). <http://www.crd.york.ac.uk/CRDWeb/AboutPage.asp>

There have been four studies evaluating the effects of STORM, but all were carried out by those involved in the development of the project, which could lead to bias in reporting.

The first of these reported that STORM training for health and voluntary workers successfully demonstrated improvement in confidence and attitudes towards suicide, and that it was possible for participants to acquire these skills (Green and Gask. 2005). This success led to the package being offered commercially to health and social care organisations as part of their suicide prevention strategy.

An evaluation of a STORM programme in 2006, delivered by mental health nurses to mental health workers in the North West of England, was part of the 2005 evaluation paper (Gask, Dixon, Morriss, Appleby, & Green, 2006). It was noted that the longer-term impact of the programme was uncertain, partly due to the lack of engagement of senior staff and absence of an organisational culture to keep pace and reinforce/maintain the skills learnt.

Hayes et al (2008) carried out a study of an adapted version of STORM for the prison service. "Train the Trainers" sessions were delivered by two of the authors of the study, to 15 staff in the first wave of training. This took place over two training sessions, each of two day's duration. The trained trainers then delivered the package to a further 183 staff at the three prisons. Scores on attitudes, confidence and knowledge around risk remained significantly improved at follow-up 6-8 months after training. However, there was some decline in knowledge and confidence shown over time, suggesting the importance of refresher training. The authors recommended that refresher training is provided every 12 to 18 months.

The most recent STORM evaluation also found significant improvements in attitudes and confidence of participants (as with the earlier evaluations, it was still not shown to increase skills). These improvements remained more positive up to six months post training (Gask et al., 2008). Participants were NHS, local authority and voluntary organisation staff in a Scottish region. Trainers were mainly mental health nurses.

Key factors in the success of the training were the presence of a champion or local opinion leader who supported and directed the intervention, local adaptation of the materials, commissioning of a group of facilitators who were provided with financial and administrative support, dedicated time to provide the training and regular peer-support. The authors noted possible sources of bias, including that the evaluation data was collected by those who had delivered the training (Gask et al, 2008).

### **Box 1 About STORM**

**STORM is for frontline workers in health, social and criminal justice services.** It aims to develop complex clinical communication skills through the use of role play and video feedback on performance. It also attempts to address attitudes. There are four modules, each lasting half a day (risk assessment, crisis management, problem solving, and crisis prevention), each having a similar structure. Each module begins with a presentation of facts and myths concerning suicide, based on converging research evidence. Trainees next watch a video demonstrating the skills required for the module. They then practice these skills in role plays, some of which are videotaped, and in the final section the group reviews these videos and provides feedback in a group setting (Hayes et al, 2008; Griesbach et al, 2011).

## **LivingWorks**

LivingWorks is a public service corporation focusing on understanding and preventing suicide. Founded in 1983, they developed a range of suicide intervention programs in collaboration with the governments of Alberta and California, and the Canadian Mental Health Association. These packages include ASIST, SafeTALK, Suicide talk and suicide care (LivingWorks, online).

## **ASIST**

Applied Suicide Intervention Skills Training (ASIST) is widely used in Australia, Canada, Ireland, Northern Ireland, Norway, Scotland and the United States (Gould et al, 2013) (Box 2).

Evidence for the effectiveness of ASIST training is mixed. Dolev et al (2008) reported that the extent to which firm conclusions can be drawn about the effectiveness of ASIST is limited – both by the relatively small number of studies available and by the poor quality of the evidence.

A recent randomised controlled trial (RCT) concluded that the lack of efficacy of ASIST training was concerning (Sareen et al, 2013). The study analysed the effects of training ethnic community members in Canada, but found no increase in gatekeeper behaviours over a 6 month period. A study by (Wyman et al., 2008) produced similar findings, with a 12 month follow up. Sareen et al even noted a trend to increased suicide ideation among ASIST participants. School awareness programmes have raised similar concerns, with the possibility of iatrogenic effects (Isaac et al, 2009. See p.14). Several methodological weaknesses with the studies were noted.

In an RCT on ASIST in crisis hotlines in the US, Gould et al (2013) found that callers who spoke with ASIST-trained counsellors appeared less depressed, suicidal and overwhelmed. Improvements in callers' outcomes were linked to ASIST-related counsellor interventions.

A US study by Cross et al (2014) assessed the performance of those who had undergone 'train the trainer' ASIST training. Of the 34 ASIST trainers who delivered the ASIST programme to crisis centre staff, only 18% were rated as solidly competent. The authors concluded that few trainers had high levels of both adherence and competence and that more research is needed to examine the cost-effectiveness of 'train the trainer' models.

*Workplace:* An evaluation of a suicide prevention programme in the construction industry in Queensland Australia was carried out by Gullestrup et al. in 2011. Intervention components included universal General Awareness Training (GAT; general mental health with a focus on suicide prevention); gatekeeper training provided to construction worker volunteer

### **Box 2 About ASIST**

#### **ASIST is for anyone from professionals and volunteers to community members.**

It was developed in the Canada and is intended as 'suicide first aid' training. It aims to help people become more ready, willing and able to recognise and intervene effectively to help those at risk of suicide. The course is delivered over 2 days, where participants develop skills through observation and role play. All ASIST trainers attend a 5-day 'training for trainers' (T4T) course.

*(Griesbach et al, 2011; Sareen et al, 2013)*

'Connectors'; and Suicide First Aid (ASIST) training offered to key workers. Engagement was successful, with 67% of building sites and employers across Queensland agreeing to participate. GAT participants demonstrated significantly increased suicide prevention awareness compared with a comparison group. Connector training participants felt prepared to intervene with a suicidal person, and knew where to seek help for a suicidal individual following the training.

### **Choose Life**

'Choose Life' is the Scottish government's ten-year strategy and action plan to prevent and reduce suicide. The programme began in 2002 with ASIST, which was rolled out nationally in 2004. Since 2006, the programme was expanded to offer a range of training options, mainly STORM, but also SafeTALK (see p.10 below) and Scotland's Mental Health First Aid (SMHFA), which although not a suicide prevention training programme, addresses the possibility of suicide in people who are experiencing mental ill health and uses risk review material from an earlier version of ASIST (Griesbach et al, 2008).

Griesbach et al (2011) carried out an impact evaluation of the Choose Life training programme, finding that each area in Scotland had at least 2 ASIST trainers (half had more than 6). There were fewer STORM and safeTALK trainers – only one or two in most areas. It was estimated that as of May 2011, 35,000 people across Scotland had attended suicide prevention training. It is argued that the programme has made a contribution to the decreasing rate of suicide in Scotland since 2002. Although there is no firm evidence for this, an evaluation in 2008 did find that participants reported higher levels of knowledge, confidence and skills in relation to intervening with someone at risk of suicide after ASIST training. The proportion of participants who reported intervening with someone at risk of suicide increased by 20% across all sectors after ASIST training and most felt they had done so to good effect (Griesbach et al, 2008). However, it is possible that there may be methodological limitations, including self-reported success. Mackenzie et al (2007) discussed some of the challenges faced in trying to evaluate the Choose Life programme, including the appropriateness of establishing control groups, which is impossible if an intervention has been rolled out nationally.

*Some of the barriers* identified to the success of programmes included difficulties in retaining trainers, financial constraints and the resistance of some staff to attend the training. This latter point was also made by Gask et al (2006) who found unwillingness on the part of senior staff to participate in training and share their skills.

Some of the 'right people' are still not being reached, especially GPs (Griesbach et al 2011). The lack of take-up by GPs was often attributed to the time commitment required by the workshops (Griesbach et al, 2008). There is a need for more flexibility in course structures, especially with the rigid 2-day ASIST courses. A need was also identified for more robust selection criteria for trainers and for refresher courses to help people maintain skills.

The 2008 evaluation noted that ASIST was perceived to be an expensive course and that training trainers (T4T) was a big expense. Supporting the development of local T4T coach training teams for STORM and ASIST and others would help reduce costs and enhance local relevance (Griesbach et al, 2008).

Griesbach et al (2008) found evidence to recommend that to make the greatest impact, training should be targeted at those who have the most opportunity to use the skills. As well

as front-line health professionals such as mental health workers and GPs, this would include those who have greatest contact with key target groups in areas of high deprivation and those affected by drug and alcohol problems. This conclusion was supported by Balaguru et al (2013).

### ***Yellow Ribbon International (YR)***

Yellow Ribbon training is described in Box 3. Freedenthal et al (2010) noted that reports about Yellow Ribbon's effectiveness have remained anecdotal. Their study found that staff did not report any increase in student help-seeking 6 to 8 months after the programme.

#### **Box 3 About Yellow Ribbon**

Yellow Ribbon programming includes school wide assemblies, peer leadership training for students, staff training for adult gatekeepers such as high school teachers, community presentations, and local chapters that provide outreach and education. Yellow Ribbon programming includes distribution of the "Ask4Help" card, which contains suicide hotline numbers, instructions to youth to give the card to somebody who can help, and directions to potential helpers on how to proceed. The overriding messages of the Yellow Ribbon programming are that youth should tell an adult if somebody they know is suicidal ("Be a link") and seek help for themselves when necessary ("It's OK to ask for help")

*(Freedenthal, 2010)*

### ***QPR***

Question Persuade and Respond (QPR) was supported by studies of a high quality of evidence as reported in a systematic review by Katz et al (2013). In a school-based intervention, Wyman et al (2008) described how peer leaders were trained using QPR (Box 4) as gatekeepers, in order to deliver school-wide messaging regarding positive suicide-prevention practices.

#### **Box 4 About QPR**

The QPR Gatekeeper Training for Suicide Prevention programme teaches participants to recognise the warning signs of a suicide crisis and how to "question, persuade, and refer" someone for further assessment and care. It was developed in the US and is usually taught face-to-face in a one-hour session by QPR Certified Gatekeeper Instructors (i.e., those who complete at least 8 hours of specialised training in the QPR suicide prevention method and approach). The QPR institute also offers the QPR Suicide Triage Training programme (8 hours), aimed at individuals who might encounter suicidal individuals during the course of their work. This programme is designed to standardise detection, assessment, documentation and management of patients at elevated risk for suicidal behaviours. All trainings involve lectures, discussion, and role-playing to build skills.

*(Smith et al 2014)*

This study differed in its aims from the other studies in the review by Robinson et al. (2013) in that a core feature was changing the culture of the school as well as equipping gatekeepers with enhanced skills. However, while the findings included increases in self-reported preparedness, there was no significant impact on gatekeeper behaviours during the one year follow up period, as reported in Sareen et al (2013). A US study by Cerel et al (2012) similarly found substantial improvements in self-perceived suicide knowledge and preparedness to help in those receiving QPR training, but no long-term effects were measured

Studies by Tompkins et al (2009) and Mitchell et al (2013) of QPR used with US college students noted that they found long term effects, although their follow-up was relatively soon, only 3 to 6 months after QPR training. Mitchell's study indicated long-term increases in suicide prevention knowledge, attitudes, and skills on 8 items (warning signs, how to ask about suicide, influencing help-seeking, how to get help, knowledge of local resources, talking about resources, accompanying person to get help, and calling a crisis line). There were short-term only increases (i.e. immediately post-test) on 2 items (suicide prevention facts and appropriateness of asking about suicide).

The European wide SEYLE project<sup>2</sup> is a large scale study of 11,000 adolescents across Europe (Wasserman et al, 2010). Interventions in the project include gatekeeper training (QPR), awareness training on mental health promotion for adolescents, and screening for at-risk adolescents by health professionals. There will be follow up studies at 3 and 12 months. The QPR training was delivered to school staff, involving a two hour interactive lecture and a one hour role play session. Results have not yet been reported.

### **SafeTALK**

SafeTALK is described in Box 5.

#### **Box 5 About SafeTALK**

SafeTALK is a half day training programme aiming to teach participants to recognise and engage with people who may be having thoughts of suicide. The SafeTALK trainee would connect them with someone else in their community who is trained in suicide intervention, such as a professional mental health worker or someone trained in ASIST.

SafeTALK can be used either as a stand-alone or as a precursor for ASIST training.

*(Griesbach et al, 2011)*

There is a lack of robust evidence for the effectiveness of SafeTALK. A 6 month pilot of safeTALK in Scotland suggested that it can achieve its goals and participants indicated that objectives were largely achieved (McLean et al 2007). A small-scale evaluation of a 3 hour

---

<sup>2</sup> the European Commission funded the Saving and Empowering Young Lives in Europe (SEYLE) project, which aims to promote mental health and reduce suicidality and risk taking behaviours among adolescents.

workshop for veterinary undergraduates and staff in Scotland unsurprisingly found increases in knowledge, confidence and awareness immediately after the course (Mellanby et al., 2010).

### ***Other gatekeeper programmes***

A training package recognising the need for an additional focus on the broader organisational context was designed specifically for an Australian study, aimed at mental health workers in hospitals and the community (Donald et al., 2013). It was based on the theory that for an innovation to work, it needs to become routinised into the culture of the local organisation. Participants on this enhanced programme were reported to have significantly higher levels of knowledge in relation to suicide prevention strategies and demonstrated a greater expansion of networks than the control group. However, the increased knowledge is likely to have had more to do with the length of the training – 3 days as opposed to 1 day for the controls. The study is reported to demonstrate that training efforts that lead to embedded changes in staff behaviour or practice, in addition to the usual increased knowledge and skills, can have a greater impact

A nurse led suicide prevention training package for multidisciplinary staff in a North Wales NHS Trust was developed in 2008 based on awareness raising, featuring ‘ten commitments’ to improve empathy (Jones, 2010). The course was 3 hours in length, enabling staff to attend a session during a morning (9.30–12.30) or afternoon (1.30–4.30), thus allowing them the flexibility of having part of the day set aside for other clinical duties. There are plans to evaluate the training in future.

### ***Online learning***

Three studies relating to online learning on gatekeeper training were found through the literature search. Smith et al (2014) undertook a comparison of different gatekeeper programmes – including the ‘Essential Learning’ online suicide prevention programme. Essential Learning is a US web-based programme providing online learning, staff compliance training, and continuing education to human service organisations and practitioners. The online module on Suicide Prevention discusses the prevalence and risk factors associated with suicide, as well as the relationship between depression and suicide. The course also covers signs and symptoms of suicidal behaviour and effective staff responses and interventions for clients at risk for suicide (Smith et al, 2014). Smith et al found that those with online training did as well as those with face to face QPR training (see p.9) in reporting greater confidence in their skills compared to those with no training. On suicide knowledge, those with QPR outperformed those with online training.

Lancaster et al (2014) found that a web-based version of QPR training may be as effective as face to face QPR training. Lancaster’s study and a study by Stone et al. (2005) both concluded that web-based training programmes have advantages such as increased scheduling flexibility and decreased training costs. As with face to face programmes, there is a need to understand how to maintain gatekeepers’ knowledge, confidence, motivation and skills over time.

Stone’s study of online workshops for mental health workers and school staff found that online workshop participants showed consistent improvements in their knowledge of suicide prevention. They concluded that online training is a valuable, flexible, easy to use, low cost



option to help meet suicide prevention training needs (Stone et al, 2005). However, it was noted that there are high dropout rates with the free online training used in this study, which makes evaluation difficult.

### ***Organisational culture as a barrier to the effectiveness of gatekeeper training***

Wyman et al. (2008) recognised the importance of the organisational culture in ensuring the success of an intervention (see under QPR heading above). In a qualitative evaluation of ASIST training in Wales, Evans et al (2013) explored the organisational influences on intervention behaviour. They noted the importance of attending to the organisational and contextual factors affecting intervention related behaviour.

An evaluation of STORM skills training (Gask et al, 2006) found unwillingness on the part of senior staff to participate in training and share their skills. This meant that there was an absence of linked supervision and support from within the organisation for the training. Similarly, Donald et al (2013) concluded that insufficient support from management and lack of follow-up support have been found to be obstacles to the implementation of suicide prevention training. Gask et al (2006) also found that the environment of the NHS mental Health Trust is not necessarily responsive to an intervention. In 2008, Gask et al found that key factors for success included the presence of a champion or local opinion leader who supported and directed the intervention.

## **2.2. Skills training**

Suicide prevention can be strengthened by encouraging protective factors, such as strong personal relationships, a personal belief system and positive coping strategies (WHO, 2014). Skills training involves developing positive skills such as coping behaviours that will reduce the risk factors associated with suicide amongst other things.

All the skills training interventions noted below were detailed in studies rated as having a high level of evidence by Katz et al, (2013).

### ***Good Behaviour Game (GBG)***

The Good Behaviour Game (GBG) is a behaviour management strategy that Poduska et al (2014) describe as a team-based classroom behaviour management strategy that helps children master the role of student and be successful at the key demands of the classroom, including paying attention and working well with others (see Box 6). It has been supported by a study of a high quality of evidence as reported in a systematic review by Katz et al (2013).

One of the advantages is that, as a strategy rather than a curriculum, embedded into standard lessons, GBG does not compete for instructional time. The GBG provides teachers with 3 days of group-based training: a 2-day initial training and a 1-day booster session (details in Poduska et al, 2014).

Wyman et al (2014) note the importance of such upstream programmes in strengthening a broad set of self-regulation skills. Poduska's (2014) study reports that GBG is one of the few preventive interventions shown to have positive outcomes for elementary schoolchildren lasting through to young adulthood, ages 19-21, including reductions in the use of drugs and

alcohol, school-based mental health services, and suicide ideation and attempts (also reported in Wilcox et al, 2008).

**Box 6**  
**About GBG**

Through the Good Behaviour Game (GBG), children work together to create a positive learning environment for all students by monitoring their own behaviour as well as that of their classmates. As a universal preventive intervention, the focus of GBG is on strengthening the classroom environment and socialising children to the role of student. In GBG classrooms, teams of children win when they meet behavioural expectations by not exceeding a criterion level of classroom rule infractions. Teams do not compete against one another; all teams can win. Over the course of the year, the duration of the game increases and GBG is played at different times throughout the day, during different activities and instructional subjects, and in a variety of venues.

*(Poduska et al, 2014)*

Other effective skills based programmes for schoolchildren identified by Katz et al (2013) as being supported by high quality evidence included the ‘Sources of Strength’ peer leadership training, and the CARE (Care, Assess, Respond, Empower) and CAST (Coping and Support Training) programmes (details in Katz et al, 2013).

**CARES**

Wexler et al (2014) suggest an alternative to suicide prevention gatekeeper training that they feel would be more appropriate and effective for rural indigenous Canadian communities, with important implications for other ethnically diverse communities. They noted that suicide is often viewed exclusively as a private, individual problem. Wexler et al argue that this narrow conceptualisation often invites professional responses that target the individual person for change, while neglecting many of the socio-political processes and structural forces that confer suicide risk, including, for example, social inequity, racism, homophobia, or colonisation. The alternative they suggest is the CARES approach, which stands for ‘*Collaborations for At-Risk (youth) Engagement and Support*’. Developed with indigenous leaders and community members, the CARES model attempts to address some of the limits of the rigid approaches that the authors feel characterise most gatekeeper training models, emphasising community and cultural protective factors using a storytelling approach.

## 2.3 Awareness/education curricula

General suicide awareness education programs have mostly been regarded as under evaluated and studies that have examined these programs have shown little effect (Isaac et al, 2009). In a UK based systematic review of interventions in schools, Balaguru et al (2013 – from St.Helens) noted the factors behind lack of success. Interventions that were too short in duration were less likely to succeed, as were those that lacked any ongoing support for school staff from mental health services. They concluded that an ideal suicide prevention programme is one that is long-term. Awareness or education programmes are especially useful for staff and students with poor knowledge, living in rural areas and having poor

access to mental health services. Their findings also revealed that populations with a high representation of ethnic minority populations having cultural taboos on suicide may in particular benefit from educational interventions (Balaguru et al, 2013).

*Potential barriers to effectiveness:* Isaac et al (2009) noted that it has been reported that general education for adolescents on the topic of suicide can be potentially harmful, owing to iatrogenic effects. Also, suicide education may not be as effective because of its inability to reach people who are either not enrolled in formal education programs or absent for some reason (Isaac et al, 2009).

Wasserman et al (2010) reported that curriculum-based programmes, have shown mixed results in terms of effectiveness and impact. Knowledge about suicide has improved, but there have been both beneficial and harmful effects in terms of help-seeking, attitudes and peer support. Curriculum-based programs increase knowledge and improve attitudes concerning mental illness and suicide, but the evidence that they prevent suicidal behaviour is insufficient. Such programs may even be detrimental for emergency cases or high-risk pupils, if they do not provide direct access to care (Wasserman et al, 2010).

### **Signs of Suicide (SOS)**

Signs of Suicide (SOS) is a curriculum and screening program (Box 7), supported by studies of a high level of evidence, according to Katz et al (2013). In their systematic review of 13 studies of various styles of school-based programmes, Miller et al (2009) noted the SOS programme was the only one that found significantly reduced rates of suicide attempts and improved knowledge and attitudes about depression and suicide. However, they noted that methodological limitations of this study combined with a dearth of other studies of this kind indicate that more research in this area is needed before more definitive practice guidelines can be provided.

#### **Box 7 About SOS**

Signs of Suicide (SOS) is a universal programme that promotes the idea of suicide being directly related to mental illness, rather than a normal reaction to stress or emotional distress. The programme includes suicide awareness, education, and screening strategies. Through video and guided classroom discussions, students learn to acknowledge the SOS displayed by others and to take them seriously, to let their peers know that they care, and to tell an adult.

*(Katz et al, 2013)*

Katz et al (2013) similarly found that SOS was one of only two school programmes found to reduce suicide attempts, but noted that the follow up was only 3 months and the programme did not reduce suicide ideation. A systematic review of eight studies by Cusimano & Sameem (2011) found significant improvements in knowledge, attitude and help-seeking behaviour. Also, a decrease in suicide ideation was found in two studies, but the authors concluded that no evidence yet exists that such programmes can reduce suicide rates.

## 2.4 Systematic reviews covering several training programme approaches

There have been several systematic reviews of suicide prevention training programmes. Some have compared different approaches. A systematic review of interventions in school settings by Robinson included gatekeeper training (e.g. QPR and SOS training packages, see pages 9 and 14) as well as curriculum-based awareness raising and screening. Gatekeeper training was found to be effective in improving knowledge, attitudes and confidence (Robinson et al, 2013). Robinson et al concluded that the most promising interventions for schools appear to be gatekeeper training and screening programmes.

A similar review by Katz (2013) noted that most of the 16 studies examined evaluated the programmes' abilities to improve students' and school staff's knowledge and attitudes toward suicide. They found that Signs of Suicide and the Good Behaviour Game were the only programs found to reduce suicide attempts (see pages 12 and 14 above for descriptions of these programmes). However, the follow up for the SOS programme was only 3 months, and the programme did not reduce suicide ideation. The results for the Good Behaviour Game were more reliable, with a much longer follow-up period (15 years) and there was also a reduction in suicide ideation. Several other programs were found to reduce suicidal ideation, improve general life skills, and change gatekeeper behaviours.

A schools' programme review by Miller et al (2009), featuring 13 studies, noted the considerable methodological weaknesses of studies, also noted by the CRD, concluding that overall, the scientific foundation regarding school-based suicide prevention programmes was very limited.

## Discussion

Although policy makers are in need of an evidence-based review to inform practice, there are few evidence-based suicide prevention training programmes. This rapid review found several systematic reviews of suicide prevention training programmes which on the whole found a lack of good quality studies. In addition, reviews themselves were also sometimes considered to be of poor quality, as indicated by the CRD<sup>3</sup> reviews of systematic reviews by Katz et al (2013) and Miller et al (2009).

Systematic reviews of gatekeeper training found they were generally successful in imparting knowledge, building skills and moulding the attitudes of trainees. There was generally a dearth of studies showing effectiveness in terms of decreasing suicide ideation, suicide attempts or deaths by suicide (Isaac et al, 2009).

### Implications

The available evidence suggests that to make the greatest impact, training should be targeted at those who have the most opportunity to use the skills. As well as front-line health

---

<sup>3</sup> CRD: NIHR Centre for Reviews and Dissemination. CRD database (NHS National Institute for Health Research, Centre for Reviews and Dissemination, University of York). <http://www.crd.york.ac.uk/CRDWeb/AboutPage.asp>

professionals such as mental health workers and GPs, this would include those who have greatest contact with key target groups in areas of high deprivation and those affected by drug and alcohol problems (Griesbach et al 2008; Balaguru et al, 2013).

A focus on broader, more upstream approaches to suicide prevention should be an important consideration, using skills based initiatives such as the Good Behaviour Game starting in primary schools (Poduska et al, 2014; Wicox et al, 2008) and the Canadian community based CARES approach (Wexler et al, 2014). The Good Behaviour Game was shown to have positive long-term outcomes, including reductions in suicide ideation and attempts.

Some of the difficulties relating to training programmes that need addressing include problems in retaining trainers, financial constraints, the resistance of some staff to attend training (especially some of the more senior staff) and organisational resistance (Griesbach et al, 2008; Gask et al, 2006). As noted by Gask et al (2006), for training programmes to have maximum effect, they must be facilitated in environments in which the organisations rules and practices encourage and support individual staff's use of newly acquired knowledge and skills.

The long term effect of suicide prevention programmes is often uncertain, and some have reported that their effects have not lasted over time, suggesting that regular refresher training is needed (Isaac et al, 2009; Gask et al, 2006).

## **Key findings**

- A stronger evidence base around training programmes is required.
- Training should be targeted at those who have the most opportunity to use the skills, especially GPs.
- More flexibility in course structures, possibly making use of shorter courses such as QPR and SafeTALK, would encourage attendance (especially GPs).
- Regular refresher courses are required to help people maintain skills.
- Problems in trainer competency and retaining trainers need to be addressed.
- Training local trainers would help to reduce costs and ensure local relevance.
- Organisational resistance and the resistance of senior staff to attend training is a barrier to programme effectiveness that needs addressing.
- For training programmes to have maximum effect, they must be facilitated in environments in which the organisations policies and practices encourage and support individual staff's use of newly acquired knowledge and skills.
- Broader, more upstream approaches should be considered, such as GBG, starting in primary schools.

## References

- Avoidable Deaths (2006) Five Year Report of the National Confidential Inquiry into Suicide and Homicide by People with Mental Illness. Centre for Suicide Prevention, Manchester.
- Bagley, S. C., Munjas, B., & Shekelle, P. (2010). A systematic review of suicide prevention programs for military or veterans. *Suicide & Life-Threatening Behavior*, 40(3), 257-265.
- Balaguru, V., Sharma, J., & Waheed, W. (2013). Understanding the effectiveness of school-based interventions to prevent suicide: A realist review. *Child & Adolescent Mental Health*, 18(3), 131-139. doi:10.1111/j.1475-3588.2012.00668.x
- Callaghan S (2013) A Review of Mental Health & Wellbeing Training across Cheshire and Merseyside. A Report for the Cheshire and Merseyside Public Health Network. Steve Callaghan EQE Health Ltd.
- Cerel, J., Padgett, J. H., Robbins, V., & Kaminer, B. (2012). A state's approach to suicide prevention awareness: Gatekeeper training in kentucky. *Journal of Evidence-Based Social Work*, 9(3), 283-292.
- CRD (2009) Systematic reviews. CRD's guidance for undertaking reviews in health care. NHS Centre for Reviews and Dissemination. York: CRD University of York. [http://www.york.ac.uk/inst/crd/pdf/Systematic\\_Reviews.pdf](http://www.york.ac.uk/inst/crd/pdf/Systematic_Reviews.pdf)
- Cross, W. F., Pisani, A. R., Schmeelk-Cone, K., Xia, Y., Tu, X., McMahon, M., . . . Gould, M. S. (2014). Measuring trainer fidelity in the transfer of suicide prevention training. *Crisis*, 35(3), 202-212.
- Cusimano, M. D., & Sameem, M. (2011). The effectiveness of middle and high school-based suicide prevention programmes for adolescents: A systematic review. *Injury Prevention*, 17(1), 43-49.
- DH (2011) No Health Without Mental Health: A Cross-Government Mental Health Outcomes Strategy for People of All Ages. <https://www.gov.uk/government/publications/the-mental-health-strategy-for-england>
- DH (2012) No Health Without Mental Health: Implementation Framework. Department of Health. <https://www.gov.uk/government/publications/national-framework-to-improve-mental-health-and-wellbeing>
- Dolev R, Russell P, Griesbach D, Lardner C (Griesbach and Associates) (2008) The Use and Impact of Applied Suicide Intervention Skills Training (ASIST) in Scotland: An Evaluation: Annex - A Review of the International Literature . The Scottish Government, May 2008
- Donald, M., Dower, J., & Bush, R. (2013). Evaluation of a suicide prevention training program for mental health services staff. *Community Mental Health Journal*, 49(1), 86-94.
- Evans, R. E., & Price, S. (2013). Exploring organisational influences on the implementation of gatekeeper training: A qualitative study of the applied suicide intervention skills training (ASIST) programme in wales. *Critical Public Health*, 23(2), 213-224.
- Freedenthal, S. (2010). Adolescent help-seeking and the yellow ribbon suicide prevention program: An evaluation. *Suicide and Life-Threatening Behavior*, 40(6), 628-639.
- Gask, L., Dixon, C., Morriss, R., Appleby, L., & Green, G. (2006). Evaluating STORM skills training for managing people at risk of suicide. *Journal of Advanced Nursing*, 54(6), 739-750.
- Gask, L., Lever-Green, G., & Hays, R. (2008). Dissemination and implementation of suicide prevention training in one scottish region. *BMC Health Services Research*, 8

- Gould, M. S., Cross, W., Pisani, A. R., Munfakh, J. L., & Kleinman, M. (2013). Impact of applied suicide intervention skills training on the national suicide prevention lifeline. *Suicide and Life-Threatening Behavior*, 43(6), 676-691.
- Green, G., & Gask, L. (2005). The development, research and implementation of STORM (skills-based training on risk management). *Primary Care Mental Health*, 3(3), 207-213.
- Griesbach D, Russell P, Dolev R, Lardner C (2008) The use and impact of Applied Suicide Intervention Skills Training (ASIST) in Scotland: a literature review and evaluation. Scottish Government Social Research, Health and Community Care, Research Findings no.63.
- Griesbach D, Russell P and Associates (2011) Impact evaluation of the Choose Life training programme. NHS Health Scotland.  
<http://www.healthscotland.com/uploads/documents/17217-ChooseLifeImpactEvaluation.pdf>
- Gullestrup, J., Lequertier, B., & Martin, G. (2011). MATES in construction: Impact of a multimodal, community-based program for suicide prevention in the construction industry. *International Journal of Environmental Research and Public Health*, 8(11), 4180-4196.
- Hayes, A. J., Shaw, J. J., Lever-Green, G., Parker, D., & Gask, L. (2008). Improvements to suicide prevention training for prison staff in England and Wales. *Suicide and Life-Threatening Behavior*, 38(6), 708-713.
- HMG/DH (2012) Preventing suicide in England, A cross-government outcomes strategy to save lives'. Department of Health.  
[https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/216928/Preventing-Suicide-in-England-A-cross-government-outcomes-strategy-to-save-lives.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/216928/Preventing-Suicide-in-England-A-cross-government-outcomes-strategy-to-save-lives.pdf)
- Isaac, M., Elias, B., Katz, L. Y., Belik, S. -, Deane, F. P., Enns, M. W., . . . O'Neil, J. (2009). Gatekeeper training as a preventative intervention for suicide: A systematic review. *Canadian Journal of Psychiatry*, 54(4), 260-268.
- Jones R (2010) The development of nurse-led suicide prevention training for multidisciplinary staff in a North Wales NHS Trust. *Journal of Psychiatric & Mental Health Nursing*, 01 March 2010, vol./is. 17/2(178-183), 13510126.
- Katz, C., Bolton, S. -, Katz, L. Y., Isaak, C., Tilston-Jones, T., & Sareen, J. (2013). A systematic review of school-based suicide prevention programs. *Depression and Anxiety*, 30(10), 1030-1045.
- Lancaster, P. G., Moore, J. T., Putter, S. E., Chen, P. Y., Cigularov, K. P., Baker, A., & Quinnett, P. (2014). Feasibility of a web-based gatekeeper training: Implications for suicide prevention. *Suicide and Life-Threatening Behavior*,
- LivingWorks (online) website accessed 8/10/14. <https://www.livingworks.net/programs/>
- Mackenzie, M., Blamey, A., Halliday, E., Maxwell, M., McCollam, A., McDaid, D., . . . Platt, S. (2007). Measuring the tail of the dog that doesn't bark in the night: The case of the national evaluation of choose life (the national strategy and action plan to prevent suicide in scotland). *BMC Public Health*, 7(1), 146.
- McLean Joanne, et al (2007) Evaluation of the Scottish SafeTALK pilot . Scottish Development Centre for Mental Health, 2007
- Mann, J. J., Apter, A., Bertolote, J., Beautrais, A., Currier, D., Haas, A., . . . Hendin, H. (2005). Suicide prevention strategies: A systematic review. *Journal of the American Medical Association*, 294(16), 2064-2074.

- Mellanby, R. J., Hudson, N. P. H., Allister, R., Bell, C. E., Else, R. W., Gunn-Moore, D. A., . . . Rhind, S. M. (2010). Evaluation of suicide awareness programmes delivered to veterinary undergraduates and academic staff. *Veterinary Record*, 167(19), 730-734.
- Miller, D. N., Eckert, T. L., & Mazza, J. J. (2009). Suicide prevention programs in the schools: A review and public health perspective. *School Psychology Review*, 38(2), 168-188.
- Mitchell, S. L., Kader, M., Darrow, S. A., Haggerty, M. Z., & Keating, N. L. (2013). Evaluating question, persuade, refer (QPR) suicide prevention training in a college setting. *Journal of College Student Psychotherapy*, 27(2), 138-148.
- Poduska, J. M., & Kurki, A. (2014). Guided by theory, informed by practice: Training and support for the good behavior game, a classroom-based behavior management strategy. *Journal of Emotional and Behavioral Disorders*, 22(2), 83-94.
- Robinson, J., Cox, G., Malone, A., Williamson, M., Baldwin, G., Fletcher, K., & O'Brien, M. (2013). A systematic review of school-based interventions aimed at preventing, treating, and responding to suicide-related behavior in young people. *Crisis: The Journal of Crisis Intervention and Suicide Prevention*, 34(3), 164-182. doi:10.1027/0227-5910/a000168
- Sareen, J., Isaak, C., Bolton, S., Enns, M.W., Elias, B., Deane, F., Munro, G., Stein, M.B., Chateau, D., Gould, M. & Katz, L.Y. (2013) Gatekeeper training for suicide prevention in first nations community members: A randomized controlled trial", *Depression and anxiety*, vol. 30, no. 10, pp. 1021-1029.
- Smith, A. R., Silva, C., Covington, D. W., & Joiner Jr., T. E. (2014). An assessment of suicide-related knowledge and skills among health professionals. *Health Psychology*, 33(2), 110-119.
- SSC (2011) Pillars for Building a Suicide-Safe Community. Suicide-Safer Communities Canada. <http://suicidesafercommunities.livingworks.net/how.html>
- Stone, D. M., Barber, C. W., & Potter, L. (2005). Public health training online: The national center for suicide prevention training. *American Journal of Preventive Medicine*, 29(5), 247-251.
- Tompkins, T. L., Witt, J., & Abraibesh, N. (2009). Does a gatekeeper suicide prevention program work in a school setting? evaluating training outcome and moderators of effectiveness. *Suicide and Life-Threatening Behavior*, 39(6), 671-681.
- Wasserman, D., Carli, V., Wasserman, C., Apter, A., Balazs, J., Bobes, J., . . . Hoven, C. W. (2010). Saving and empowering young lives in Europe (SEYLE): A randomized controlled trial. *BMC Public Health*, 10
- Wexler, L., White, J., & Trainor, B. (2014). Why an alternative to suicide prevention gatekeeper training is needed for rural indigenous communities: Presenting an empowering community storytelling approach. *Critical Public Health*,
- WHO (2014) Preventing Suicide: A Global Imperative. World Health Organisation [http://apps.who.int/iris/bitstream/10665/131056/1/9789241564779\\_eng.pdf?ua=1&ua=1](http://apps.who.int/iris/bitstream/10665/131056/1/9789241564779_eng.pdf?ua=1&ua=1)
- Wilcox, H. C., Kellam, S. G., Brown, C. H., Poduska, J. M., Ialongo, N. S., Wang, W., & Anthony, J. C. (2008). The impact of two universal randomized first- and second-grade classroom interventions on young adult suicide ideation and attempts. *Drug and Alcohol Dependence*, 95(SUPPL. 1), S60-S73.
- Wyman, P. A., Brown, C. H., Inman, J., Cross, W., Schmeelk-Cone, K., Guo, J., & Pena, J. B. (2008). Randomized trial of a gatekeeper program for suicide prevention: 1-year impact on secondary school staff. *Journal of Consulting and Clinical Psychology*, 76(1), 104-115.



Wyman, P. A. (2014). Developmental approach to prevent adolescent suicides: Research pathways to effective upstream preventive interventions. *American Journal of Preventive Medicine*, 47(3 SUPPL. 2), S251-S256.

[j.ubido@liv.ac.uk](mailto:j.ubido@liv.ac.uk) Liverpool Public Health Observatory  
October 2014

### **Acknowledgements**

Thanks to all those who commented on drafts of this review.



**Liverpool  
Public Health  
Observatory**

Liverpool Public Health Observatory (LPHO) is a research and intelligence centre, commissioned by the Merseyside and Cheshire Directors of Public Health, through champs, the public health collaborative service, to provide public health research and intelligence to local authorities.

LPHO is situated within the University of Liverpool's Division of Public Health and Policy.

To contact LPHO, e-mail [obs@liv.ac.uk](mailto:obs@liv.ac.uk) or telephone 0151 794 5570.

**Liverpool Public Health Observatory**

Department of Public Health and Policy  
Whelan Building  
Quadrangle  
University of Liverpool  
Liverpool L69 3GB

Tel: 0151 794 5570/81  
Fax: 0151 794 5588  
E-mail: [obs@liv.ac.uk](mailto:obs@liv.ac.uk)

WWW: <http://www.liv.ac.uk/PublicHealth/obs>



UNIVERSITY OF  
**LIVERPOOL**