The Centre for Effective Services

Evaluation of the Implementation and Intermediate Outcomes of *Connecting for Life*, Ireland's National Strategy to Reduce Suicide

Literature review

November 2025

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Regretfully, on the 10th of September 2025, Dr David Kryl passed away.

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List of acronyms

CAMS – Collaborative Assessment & Management of Suicidality

CBT – Cognitive Behavioural Therapy

CES – Centre for Effective Services

CFIR – Consolidated Framework for Implementation Research

CfL - Connecting for Life

DBT – Dialectical Behaviour Therapy

ED – Emergency Department

GP – General Practitioner

HRB – Health Research Board

HSE – Health Service Executive

MBT – Mentalisation-Based Therapy

NGO – Non-Governmental Organisation

NICE – National Institute for Health and Care Excellence

NOSP – National Office for Suicide Prevention

WHO – World Health Organization

Mental health supports

If you, or someone you know needs support, visit www.yourmentalhealth.ie – for information on how to mind your mental health, support others, or to find a support service in your area.

You can get help through:

- text HELLO to 50808 anytime day or night (24/7) to text with a trained listening volunteer
- your GP
- Emergency Department
- HSE Mental Health Services
- yourmentalhealth.ie or telephone information line 1800 111 888 - anytime day or night, for information on mental health services in your area. Mental health supports and services - HSE.ie
- Samaritans on 116 123
- Pieta House on 1800 247 247 or text HELP to 5144

Overview

The literature review consists of two parts. The first section, *best practice in suicide prevention strategy design and implementation*, was compiled by the National Office for Suicide Prevention (NOSP). They provided the text, reference list, and an initial suggestion for the graphic. CES supplemented the NOSP material with edits for clarity, a reference search to fill in the few remaining gaps, expanding the data shown in the graphic and reformatting the graphic.

The second section of the literature review, *evidence-based suicide prevention strategies*, focused on identifying relevant updates and evidence around best practice for suicide prevention that have been published since the review carried out by the Health Research Board (HRB) on behalf of HSE NOSP in advance of the publication of *CfL* in 2015 (Dillon, Guiney, Farragher, McCarthy, & Long, 2015). It is narrow in scope, focusing on published systematic reviews and meta-analyses, and targeted on relevant evidence and best practice from appropriate and comparable clinical contexts. Specific search terms were based on the HRB review, evidence-based strategies included in *CfL*, and commonly cited in the literature on suicide prevention. PubMed was used as the search tool.

Initial search results were screened by two members of the CES evaluation team to determine eligibility for inclusion. Eligible articles then underwent a full-text review for categorisation. The findings were formatted into tables or graphics, with the support of a CES Communications Specialist, and supplemented by brief commentary.

Brief methodology

Sources and search terms for review of evidence-based suicide prevention strategies

The literature search carried out as part of this evaluation is narrow in scope, focusing on published systematic reviews and meta-analyses, and targeted on relevant evidence and best practice from appropriate and comparable clinical contexts. The review focused on identifying relevant updates and evidence around best practice for suicide prevention that have been published since the initial development and publication of the *CfL* strategy (Department of Health, 2015). Search terms were based on evidence-based interventions included in *CfL* and commonly cited in the literature on suicide prevention (further details are provided in Appendix A).

Seventy-seven articles were deemed as containing information on evidence-based suicide prevention interventions relevant to the current evaluation, following screening and review. Articles were categorised under the following evidence-based intervention headings:

- Means restriction
- Media guidelines
- Community-based interventions
- Postvention
- Training
- Psychosocial, including coping skills, problem-solving etc.
- Crisis intervention
- Mental health treatment
- Stigma reduction.

Articles were categorised as 'multiple interventions' if findings on more than one of these interventions were included.

Findings

Best practice in suicide prevention strategy design and implementation

A national suicide prevention strategy is a systematic way of developing a comprehensive and integrated national response to suicidal behaviour and a structural framework to support effective suicide prevention action and evaluation (Platt, Arensman, & Rezaeian, 2019). A well formulated national strategy must incorporate a suite of evidence-based suicide prevention strategies and initiatives (United Nations, 1996). However, success can only be guaranteed if the strategy is effectively implemented. For this document, strategy implementation is defined as a *"dynamic, iterative, and complex process"* that is comprised of various *"activities by managers and employees to turn strategic plans into reality in order to achieve strategic objectives"* [(Yang, et al., 2010, p. 165; cited in (Tawse & Tabesh, 2021)].

This section summarises the literature in relation to best practice in suicide prevention strategy design and implementation. The *CfL* strategy includes many of the elements of best practice outlined in this section. For example, *CfL* is a multi-component systems approach to suicide prevention which includes a cross-sectoral strategic approach, and these elements will be considered in the development of the next phase of suicide prevention work in Ireland.

- It is recognised that single interventions aimed at reducing suicide rates have limited impact on the complex issue of suicide prevention (United Nations, 1996). Current thinking is that multiple interventions implemented at the same time, at many levels (i.e., they contain elements that are implemented in different health care setting or domains and by different providers) and tailored to the local community context, are likely to be the most effective way of reducing the rates of suicide (Hofstra, et al., 2020).

- This multi-component systems approach to suicide prevention combines preventative interventions ranging from those that target individuals at risk, workers who deal with suicidal crisis, and the wider community (Baker, Nicholas, Shand, Green, & Christensen, 2018); all are implemented simultaneously in a localised area.[1]

- Simultaneous implementation of these multi-component strategies/interventions needs to be facilitated by multi-stakeholder implementation teams (at a local, regional or national

[1] For example, LifeSpan, developed by the Blackdog Institute in Australia focuses on simultaneous implementation of nine evidence-based interventions each addressing a different population group or issue. Briefly, the nine strategies are: improving emergency and follow-up care for those in suicidal crisis; using evidence-based treatments; better equipping primary care to identify and support people in distress; improving the competency and confidence of frontline workers to deal with suicidal crisis; partnering with schools to promote help-seeking, mental health, and resilience; engaging the community and providing opportunities to be part of the change; training the community to recognise and respond to suicidality; encouraging safe and purposeful media reporting; and improving safety and reducing access to means of suicide. Collectively, these strategies are intended to engage the whole community in the goal of suicide prevention and build capacity to identify and respond to suicide risk. The delivery of these strategies is managed at each implementation site by LifeSpan Coordinators in collaboration with the LifeSpan central team (Long, et al., 2022). Other examples of multi-component intervention models include European Alliance against Depression and Zero Suicide (European Alliance Against Depression, 2016; National Action Alliance for Suicide Prevention, 2013).

level as necessary). In theory such approaches to suicide prevention have synergistic potential, meaning that the effect of the combined parts of the strategies and interventions can create a stronger effect than the sum of the individual effects of the interventions (Hofstra, et al., 2020).

- There is some evidence indicating that multi-component systems approaches to suicide prevention are most effective (Baker, Nicholas, Shand, Green, & Christensen, 2018). In addition, multi-level suicide prevention interventions have been shown to be more effective than single level interventions, and further that effect size rises significantly with the number of levels involved (Hofstra, et al., 2020). Regarding the synergistic effects of multi-level interventions, the findings are at best promising, due to the low number of studies with more than one level.

- At the heart of these multi-component systems approach to suicide prevention is cross-sectoral action, that is, interventions that occur (inside and) outside the health sector but affect health outcomes (Pirkis, et al., 2023). Such an approach to suicide prevention recognises the fact that policies across a range of sectors can influence risk (of self-harm and suicide).

- This cross-sectoral action necessitates multi-sectoral collaboration – where partnerships are formed between government, NGOs, community members, citizens, and researchers (Pearce, et al., 2022a). Thus, providing a broad-based response to suicide that engages all sectors including government, health care systems and providers, businesses, educational institutions, community-based organisations, family members, and friends.

- Such an approach is in line with a public health response to suicide prevention, as it recognises that suicide is both a mental health and a public health concern. Like other public health problems, suicide is affected by many influences related to individual characteristics, interpersonal relationships, the community, and the larger society (Pirkis, Dandona, Silverman, Khan, & Hawton, 2024; Sinyor, Chan, Niederkrotenthaler, Vanda, & Platt, 2024; WHO, 2014).

- In has been increasingly recognised that including people with lived or living experience is essential to multi-sectoral collaboration (Pearce, et al., 2022a; Pearce, et al., 2022b). Empowering and involving people with lived or living experience perspectives increases understanding of how to respond effectively to suicide risk and provide services and supports that best meet the needs of persons experiencing a suicidal crisis. The lived or living experience perspectives can also inform efforts to better prepare communities nationwide to respond to the aftermath of suicide and to support recovery among all who may be affected. In addition, there is also a role for lived or living perspectives in identifying and driving the necessary improvements in policies and systems.

- A national cross-sectoral strategic approach to suicide prevention should be underpinned by:
  - strong leadership and governance at the highest level of government, with clearly delineated roles and responsibility, inclusive decision-making processes, and support from policy makers;
  - oversight and coordination across the diverse sectors and stakeholder groups to ensure coherence in strategy implementation;
  - appropriate investment and funding and a recognition that people are a key strategic resource (Lorange, 1998); it is essential for organisations to effectively utilize the know-how of their employees at the right places; and
  - strong surveillance, monitoring, and evaluation mechanisms to ensure accountability, and learning, and to contribute to the evidence base.

- Multi-component systems approaches to suicide prevention are inherently complex as they involve multiple stakeholders, implementing multiple interventions in a dynamic context that is influenced by social, economic, political, and cultural factors. One way to support the work is to apply an implementation science lens to help understand 'how' interventions are being delivered and 'why' they do (or do not) work (Bauer & Kirchner, 2020). In addition, implementation science frameworks can help systematically guide how researchers plan for, employ, adjust and measure key aspects of the strategy, such as fidelity to the plan, or adoption by partners.

- Implementation science can be integrated into the work in several ways, for example by (Gustavson, et al., 2021):
  - Establishing implementation structures that can guide teams and provide a framework on how strategies will be implemented.
  - Using implementation frameworks to help understand what and how factors are influencing strategy delivery, recognise resource needs from stakeholders, and identify appropriate strategies to overcome anticipated or unanticipated challenges to programme delivery (Nilsen, 2015). This is vital given that one of the crucial obstacles to successful implementation of a strategy is not anticipating possible nor enhancing possible benefits of factors facilitating the implementation (Nilsen, 2015).
    - Implementation frameworks[2] can be used specifically to identify and anticipate barriers to successful strategy implementation. There are several challenges to successful implementation, including for example (Platt, et al., 2019):

[2] The implementation framework that *CfL* used in the Interim Strategy Review was the Consolidated Framework for Implementation Research (CFIR; Damschroder, et al., 2022). The CFIR framework is very useful when structuring results as it covers all important aspects of the implementation process (Kasal, et al., 2023).

        - limited knowledge, capacity, or capability among partners about how to change working practices, in order to deliver interventions;
        - Ineffective planning, coordination, or collaboration between delivery partners;
        - a mismatch between inputs (resources, equipment, or personnel) and the ambition, demands, and outcomes of the strategy;
        - an unsupportive political, social, or legal environment; and
        - limited capacity to monitor implementation progress and make necessary adjustments.

    - According to the WHO (WHO, 2018), the biggest barriers to suicide prevention strategy implementation that need to be considered in more depth include, management and logistics (i.e., understanding the problem, actions, and interventions), stakeholders (i.e., leadership and management, teamwork and collaboration, legislation and policies), financial resources (i.e., budget for implementing suicide prevention), human resources, stigma, data collection, and multi-sectoral involvement.

- Identifying and applying appropriate evidence-informed implementation strategies to overcome anticipated or unanticipated challenges in strategy delivery (Bauer & Kirchner, 2020).

- Using evaluative and iterative strategies to guide how researchers plan for, employ and adjust, and measure key aspects of the delivery of the strategy, such as fidelity to the components or adoption by stakeholders that subsequently influence effectiveness.

- Conducting implementation research including gathering data on the processes involved in the delivery of an intervention, its reception, and the setting or implementation context of the intervention to help improve understanding of how and why the intervention works (Krishnamoorthy, et al., 2023). In addition, framing implementation outcomes such as acceptability, reach, adoption, fidelity, feasibility, and sustainability (Proctor, et al., 2010) as key variables in an evaluation programme of work, can increase understanding of underlying mechanisms and causal relationships in implementation processes.

- Traditionally, suicide prevention efforts have often focused on identifying and getting help for those who are at risk for suicide, but suicide prevention can also occur prior to the onset of risk to prevent the development of risk. To this end there has been increasing attention on "upstream" risk factors that affect the whole population. The upstream societal factors (or social determinants) that influence suicide risk and mental health, include adverse

childhood experiences, unemployment, a lack of safe and affordable housing, and financial hardship (Pirkis, et al., 2024; Gallagher, et al., 2025).

- Moving upstream in suicide prevention involves promoting and enhancing social connections, strengthening economic supports, providing enhanced services and resources to underserved groups at elevated risk for suicidal behaviours, and devoting efforts to develop, implement, and evaluate primary suicide prevention initiatives (Iskander & Crosby, 2021). At the same time, ways to strengthen the protective factors that promote strength and resilience (the ability to endure, respond to, and recover from stress and adversity) should be identified to reduce suicide risk.

- Suicide prevention theory and research have long identified the social context as crucial to protecting individuals and populations from suicide. The social context is also crucial to understanding suicide risk especially given the evidence that suicide is socially patterned being significantly more prevalent in areas of social disadvantage compared to more affluent areas (O'Connor & Portzky, 2018). Theories of suicide suggest that social factors, such as isolation and the feeling of being a burden to others, may increase suicide risk. Opportunities to contribute, through gainful employment that pays a living wage, or by volunteering or mentoring, may help reduce suicide risk by fostering supportive relationships and a sense of meaning and purpose.

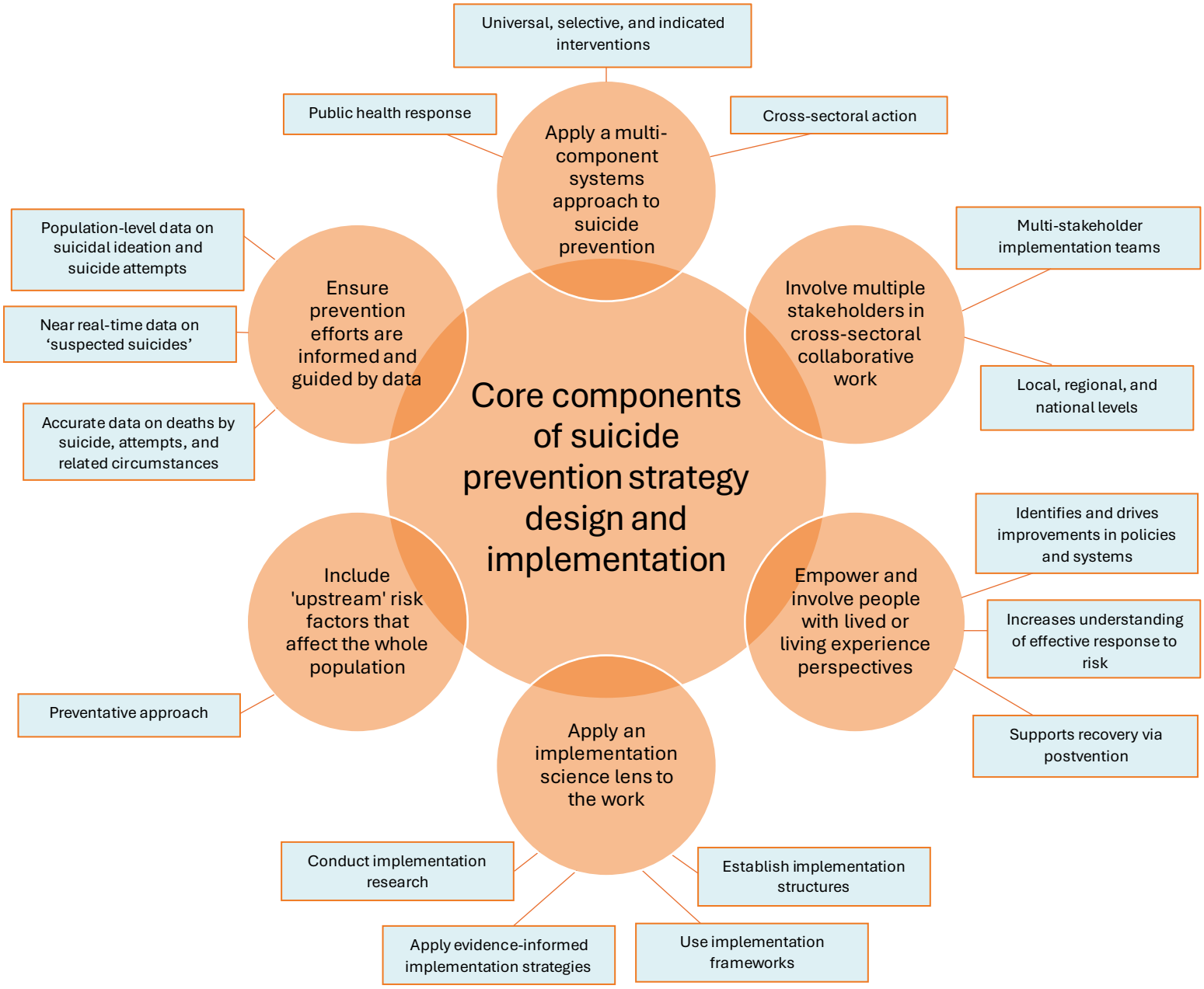
- Access to timely and accurate data on deaths by suicide, suicide attempts, and related circumstances is critical to ensure that prevention efforts are reaching those most at risk. Thus, suicide prevention efforts must be guided by timely and reliable data collected at the national, regional, and local levels monitoring trends, guiding prevention efforts, informing public policy, and assessing the effects of interventions.

- The importance of near real-time data on suicide has increasingly been recognised in detecting and responding to increases in suicide attempts and deaths by suicide, identifying emerging populations at risk, and assessing the effectiveness of suicide prevention efforts over time (Hawton & Pirkis, 2024).

- In addition, population-level suicide-related data related to suicidal thoughts, and attempts; risk factors; healthcare use; and other relevant outcomes are also critical to identifying emerging trends, planning suicide prevention efforts, and assessing progress.

The core components of suicide prevention strategy design and implementation are displayed in Figure 1.

Figure 1: Core components of suicide prevention strategy design and implementation[3]



[3] (WHO, 2014, p. 30) distinguishes between universal, selective, and indicated interventions as follows:

1. Universal prevention strategies - designed to reach an entire population in an effort to maximize health and minimize suicide risk by removing barriers to care and increasing access to help, strengthening protective processes such as social support, and altering the physical environment.
2. Selective prevention strategies - target vulnerable groups within a population based on characteristics such as age, sex, occupational status, or family history.
3. Indicated prevention strategies - target specific vulnerable individuals within the population, e.g., those displaying early signs of suicide potential or who have made a suicide attempt.

Evidence-based suicide prevention strategies

Prior to the publication of *CfL*, a literature review was carried out by the HRB (Dillon et al., 2015) to determine the international evidence base for suicide prevention strategies[4]. The review concluded that the suicide prevention interventions with the strongest evidence base included restricting access to means and psychosocial interventions, such as CBT and DBT. Screening and gatekeeping were noted as effective when followed by referral to behavioural interventions. Emergency Departments (ED) were also identified as a promising location for the delivery of suicide prevention interventions. The overall conclusion of this review was that the evidence base for suicide prevention interventions was limited.

Following on from the HRB review, a literature search was carried out to identify relevant updates to the evidence base published between 2015 and 2024.

- Full details of the literature search carried out by the CES evaluation team are provided in Appendix A. A description of the evidence-based suicide prevention interventions presented in this review is provided in Table 1.
- Figure 2a illustrates the quantity of articles retrieved under each of the evidence-based suicide prevention intervention headings outlined in Table 1. Articles that contain information on more than one intervention were categorised as 'multiple interventions'.
- Figure 2b shows the evidence-based interventions referred to in articles categorised as containing multiple interventions.
- A summary of findings relating to each intervention type is provided in Appendix B. Findings from articles reporting on 'multiple interventions' are also presented in Appendix B, along with a summary of 'community-based interventions' in specific at-risk groups. Most of the articles categorised as 'community-based interventions' present findings on more than one type of intervention.

Of the 77 full text articles included, the majority were categorised as including information relating to psychosocial interventions, including problem-solving and coping skills (*n* = 21, 27%) or community-based interventions (*n* = 17, 22%). A further 15% (*n* = 12) of articles related to training and 13% (*n* = 10) reported on crisis intervention, while 12% (*n* = 9) articles reported on multiple interventions.

- A smaller number of articles focused specifically on mental health treatment (*n* = 3, 4%), means restriction (*n* = 2, 3%), postvention (*n* = 2, 3%), and media guidelines (*n* = 1, 1%).
- Nine (12%) included information on multiple interventions. Within these, information was included on the following evidence-based interventions: means restriction (*n* = 7); psychosocial (*n* = 6); mental health treatment (*n* =6); training (*n* = 4); community-based interventions (*n* = 3); crisis intervention (*n* = 3); and media guidelines (*n* = 2).

[4] The term 'intervention' will be used for the remainder of this report to distinguish between national suicide prevention strategy and more focused interventions.

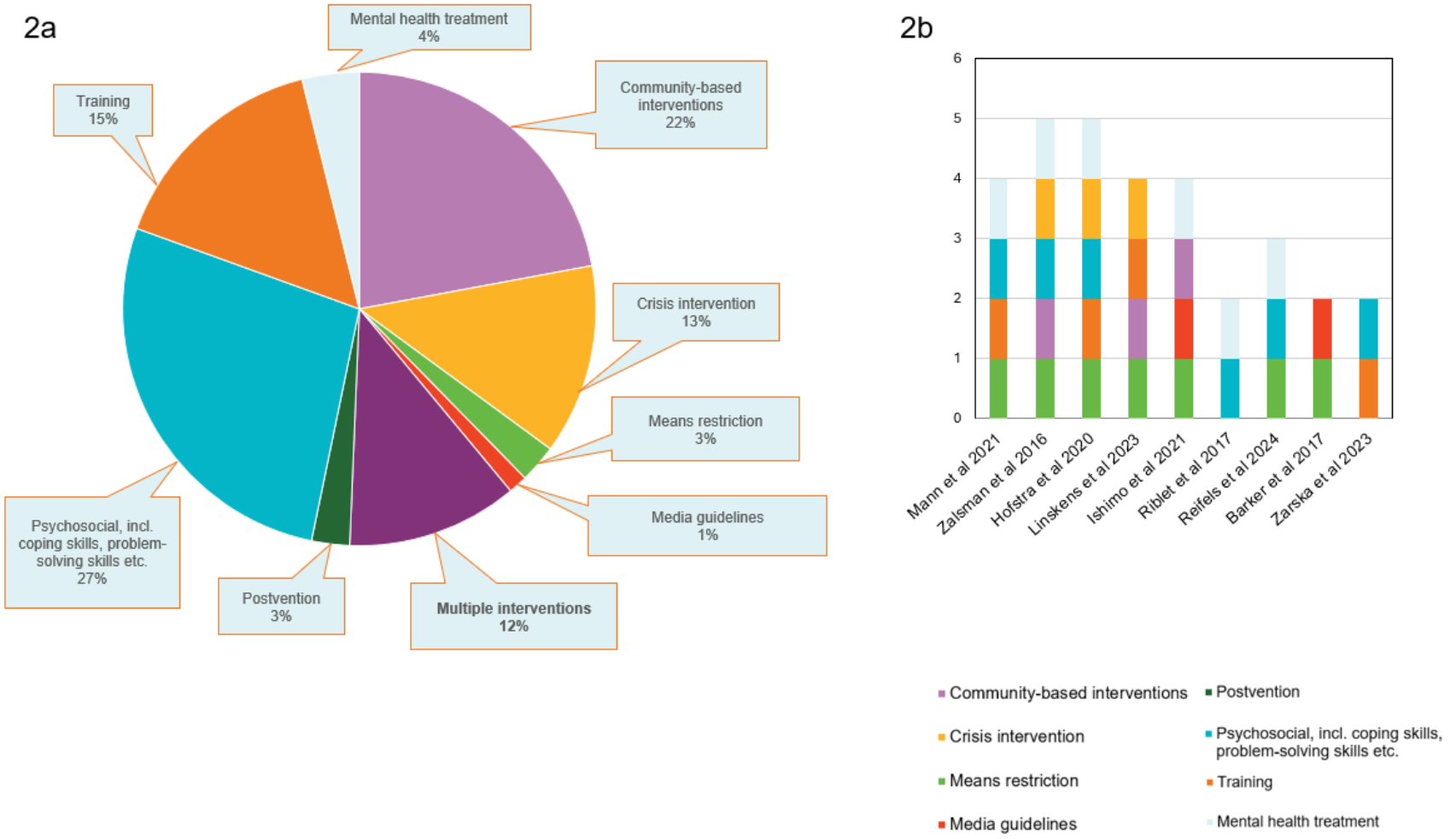
Table 1: Description of evidence-based suicide prevention interventions

Intervention	Description of intervention	Examples of corresponding *CfL* actions
Means restriction	Restricting access to common means of suicide, such as firearms, pesticides, or medications. Examples include implementing policies like safe storage practices for firearms or limiting access to lethal medications.	All 5 actions under strategic goal 6
Media guidelines	Responsible media reporting to help prevent suicide contagion by avoiding sensationalism, providing resources for help, and promoting stories of resilience and recovery.	Actions 1.4.1-1.4.4
Community-based interventions[5]	Building strong social support networks and promoting community resilience. Examples include programmes that foster connectedness, social integration, and access to mental health resources.	Actions 1.1.3, 1.1.4, 1.2.2, 1.3.1, 2.2.1-2.3.3, 3.3.1-3.3.5, 5.1.2, 5.1.3
Postvention	Support provided to affected individuals and communities following a suicide attempt or death. Postvention efforts may include counselling, education, and support groups.	Actions 4.3.1, 4.3.2
Training	Training, such as gatekeeper and General Practitioner (GP) suicide prevention training programmes, which aim to increase knowledge and enhance skills related to suicide prevention.	Actions 2.3.1, 2.3.2, 2.3.3, 3.1.5, 5.4.1-5.4.4
Psychosocial, incl. coping skills, problem-solving skills etc.	CBT and DBT are effective in enhancing coping skills and emotional regulation, which can help individuals better manage stress and suicidal thoughts.	Actions 3.3.6, 3.3.7, 4.1.3, 4.2.1, 5.1.4, 5.1.5
Crisis intervention	Crisis intervention services, including suicide hotlines, crisis centres, and mobile crisis teams, which provide immediate support to individuals in acute distress.	Actions 4.1.1, 4.1.2, 4.1.4, 4.1.5, 4.3.1
Mental health treatment	Mental health conditions, particularly depression, substance abuse, and schizophrenia, are major risk factors for suicide. Providing evidence-based treatment for these conditions, such as DBT/CBT, psychotherapy or medication, which aim to reduce suicide risk.	Actions 1.2.1, 3.2.1, 3.3.7, 5.2.1-5.2.3, 5.3.1-5.3.3
Stigma reduction	Types of stigma include self-stigma, public stigma, stigma by association, and structural discrimination.[6] Strategies to reduce stigma can include social contact, education, public awareness which may overlap with media guidelines and training strategies.	Actions 1.3.1

[5] Including school-based programmes.

[6] (Thornicroft, et al., 2022)

Figure 2: (a) Categorisation of articles identified in the literature search (b) Evidence-based suicide prevention interventions referred to in articles categorised as containing multiple interventions



Conclusion

Some overlap exists in the suicide prevention interventions presented in this review. For example, there is overlap between psychosocial interventions and mental health treatment interventions. Another example of overlap of categorisations relates to stigma reduction, such that some training interventions may include attempts to reduce stigma, and some media guidelines or community-based interventions may also address stigma. Most of the articles reporting on community-based interventions reported on more than one intervention. This overlap creates a challenge for isolating and measuring the impact of individual suicide prevention interventions.

Only a small number of articles were identified in relation to some suicide prevention interventions, for example:

- Few articles specifically focused on postvention.
- Relatively few papers focused specifically on stigma reduction. There is a potential gap in the literature in relation to stigma reduction interventions and overlap in attempts to address stigma though other interventions, e.g., training and community-based interventions.

While a greater evidence base is required to understand the impact of these interventions on suicide and suicidal behaviour, this does not discount their importance as part of a broader suicide prevention strategy. Recent research has highlighted the perceived effectiveness of components of postvention interventions (Hofmann, et al., 2024). This review highlights the importance of psychoeducation and having a structured approach to intervention and appropriate content. For example, manualised interventions, consistency, closed and homogenous groups; trained facilitators; and support from peers, group members, the community or online. A recent review has also highlighted the need for supports and signposting for bereaved persons to be delivered within the coronial service (O'Driscoll, Khan, O'Connell, Corcoran, & Griffin, 2023).

The evidence identified in the literature search is broadly similar to the findings reported by Dillon and colleagues (Dillon, et al., 2015) in advance of the publication of the *CfL* strategy. Similar findings were also reported by Tye and colleagues, more recently (Tye, et al., 2015). Evidence for restricting access to means is stronger than other suicide prevention interventions. Evidence for psychosocial interventions remains promising. Evidence for other suicide prevention strategies remains mixed and it is difficult to attribute changes in suicide or suicidal behaviour to specific interventions.

In line with Hofstra and colleagues (Hofstra, et al., 2020) suggestion, multi-level interventions, which integrate multiple approaches across different settings are most likely to impact suicide and suicidal behaviour as this approach shows significantly greater effectiveness compared to single-level interventions, highlighting the importance of a comprehensive approach in suicide prevention efforts.

Aligning with goal 7 of the *CfL* strategy, a review carried out in 2024 highlights the need for more research on priority groups identified in *CfL* (Hursztyn, et al., 2024).

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Appendix A: Detailed methodology

Sources

A search of PubMed[7] was carried out to identify relevant literature. Additional publications identified by the Evaluation Advisory Group and supplied to the CES evaluation team were considered for inclusion.

PubMed query

The following query was used to search PubMed on 1st July 2024:
("suicide"[MeSH Terms] AND "prevention"[Title/Abstract] AND ("intervention"[Title/Abstract] OR "means restriction"[Title/Abstract] OR "media guidelines"[Title/Abstract] OR "community based interventions"[Title/Abstract] OR "postvention"[Title/Abstract] OR "training"[Title/Abstract] OR "coping skills"[Title/Abstract] OR "problem solving skills"[Title/Abstract] OR "psychosocial"[Title/Abstract] OR "crisis intervention"[Title/Abstract] OR "mental health treatment"[Title/Abstract] OR "risk assessment"[Title/Abstract] OR "stigma reduction"[Title/Abstract]))

Filters

The following filters were applied to the PubMed search:
Meta-Analysis, Systematic Review, English, from 2015/1 - 2024/6

Inclusion and exclusion criteria[8]

The following inclusion and exclusion criteria were applied during screening and review.

Inclusion criteria

- Articles that include a systematic review, review, or meta-analysis of a suicide prevention intervention or interventions
- Articles where the outcome measured includes suicide and/or suicidal behaviour (suicidal ideation, self-harm) as a primary outcome
- Articles published between January 2015 and June 2024
- Publications in English language.

Exclusion criteria

- Single studies on suicide prevention
- Reviews of pharmacotherapy interventions
- Reviews of risk/protective factors, at-risk populations, and suicide methods that did not assess which interventions worked but used their findings to make recommendations for what could/should work
- Reviews of interventions that had suicide/suicidal behaviours as one of their secondary outcomes
- Reviews that did not include primary studies (i.e., reviews of reviews).

Screening and categorisation of articles

- A total of 157 abstracts were identified in PubMed. Titles and abstracts were screened by two members of the CES evaluation team with each reviewer screening half of the abstracts. Abstracts were marked as 'discuss' where it was unclear if they met the

[7] https://pubmed.ncbi.nlm.nih.gov/

[8] These criteria are based on the criteria applied in a review carried out by the HRB on behalf of the HSE's NOSP in advance of the publication of *CfL* (Dillon, Guiney, Farragher, McCarthy, & Long, 2015).

inclusion criteria for the review. Following discussion, if it was still unclear if the article was relevant, it was included for full text review.

- Following title and abstract screening, 91 full texts were reviewed, 80 of which were deemed as containing information on evidence-based suicide prevention interventions relevant to the current evaluation. Three of these articles, which focused on risk assessment, were excluded as a result of recent changes to the National Institute for Health and Care Excellence (NICE) guidelines which advise against the use of risk assessment tools and scales for the prediction of suicide and the repetition of self-harm (National Institute for Health and Care Excellence, 2022). Again, two members of the CES evaluation team reviewed the full texts, each reading and extracting information from half of the full texts. Articles were discussed as necessary. Articles were categorised under the evidence-based intervention headings outlined in Table 1. Articles were categorised as 'multiple interventions' if findings on more than one of the interventions identified in Table 1 were included.[9]

[9] At title and abstract review stage, a minor adjustment was made to the inclusion criteria. For articles categorised as 'training', the primary outcomes most often related to changes in knowledge, attitudes, beliefs etc., rather than suicide and/or suicidal behaviour (suicidal ideation, self-harm). The inclusion criteria were adjusted to ensure that relevant articles reporting on training were not excluded.

Appendix B: Detailed findings

Findings relating to specific suicide prevention interventions

The findings relating to each of the nine evidence-based suicide prevention interventions are outlined below.

Means restriction – Findings support the restriction of access to poisons as a means of reducing suicide (Lim, Buckley, Chitty, Moles, & Cairns, 2021), and evidence for reduced number of suicides by jumping, following the installation of physical barriers and fencing at frequently used sites such as bridges and cliffs, as well as measures like road closures that limit access to these sites (Okolie, et al., 2020). Further, a recent publication on public health approaches to suicide prevention, highlights the importance of reducing access to means (Hawton, Knipe, & Pirkis, 2024).

Media guidelines – Examining media stories of hope and recovery, Niederkrotenthaler and colleagues (Niederkrotenthaler, et al., 2022) report a small decrease in suicidal ideation among the intervention group. They propose that their research provides new evidence about narratives for suicide prevention which may relate to media guidelines for the reporting of suicide-related information.

Community-based interventions[10] – Of the 17 articles categorised as 'community-based interventions', 16 referred to specific communities and typically reviewed more than one evidence-based intervention, e.g., indigenous communities, occupational and educational communities etc. These findings are presented in a separate section below. The remaining article concluded that arts-based programmes may be a useful component of interventions designed to decrease suicidal risk and behaviours (Sonke, et al., 2021).

Postvention – Linde and colleagues reviewed seven intervention studies, primarily focusing on cognitive-behavioural approaches, bereavement groups, and writing therapy. The findings suggest that while some interventions, particularly bereavement groups and writing therapy, show promise in reducing grief intensity, the overall quality of evidence is limited due to methodological weaknesses in the studies (Linde, Treml, Steinig, Nagl, & Kersting, 2017). Andriessen and colleagues report some evidence for the effectiveness of general interventions for uncomplicated grief and a gap in the literature with regards to complicated grief (Andriessen, et al., 2019). Linde et al. (2017) highlight the unique challenges faced by this group, such as feelings of guilt, shame, and stigmatisation, which can complicate the grieving process and increase the risk of developing complicated grief. These paper underscores the need for tailored interventions to address the specific needs of those bereaved by suicide and call for more robust research in this area (Andriessen, et al., 2019; Linde, et al., 2017).

Training – Twelve articles were identified which focused on training for nurses (Richard, et al., 2023; Dabkowski & Porter, 2021; Ferguson, et al., 2018; Ferguson, et al., 2020), GPs (Milner, et al., 2017),

[10] For this review, we have included any community-based strategy under 'community-based interventions'. This includes some groups which may be deemed to be at higher risk of suicide and/or suicidal behaviour, e.g., certain occupations, school and university communities, indigenous communities, prisoners etc.

healthcare settings (Dillon, et al., 2020), educational settings (Pistone, Beckman, Eriksson, Lagerlöf, & Sager, 2019), as well as gatekeeper training (Holmes, Clacy, Hermens, & Lagopoulos, 2021; Morton, et al., 2021; Nasir, et al., 2016; Yonemoto, Kawashima, Endo, & Yamada, 2019; Torok, Calear, Smart, Nicolopoulos, & Wong, 2019). A recent review concluded that gatekeeper training is effective in improving knowledge, skills, self-efficacy, and likelihood to intervene in crisis situations; however, the review notes that the evidence to support changes in attitudes and gatekeeper behaviour is mixed (Collins, 2021). The findings of the articles identified in the systematic search broadly echo these findings with studies generally reporting changes in self-efficacy, skills, knowledge, and attitudes in the short term, with less consistent evidence for longer-term sustainability of outcomes, and changes in behaviour or patient outcomes, e.g., suicide or suicidal behaviour.

Psychosocial, including problem-solving skills, coping skills etc. – Twenty-one articles were identified. Evidence for the impact of psychosocial interventions is summarised in a Cochrane review of interventions for self-harm (Witt, et al., 2021). The authors suggest that psychosocial therapy based on CBT approaches may result in fewer individuals repeating self-harm at longer follow-up time points but note that the quality of evidence in their review was low. They suggest that further development of Mentalisation-Based Therapy (MBT) is warranted, and DBT may also lead to a reduction in the frequency of self-harm. Further, one article included a meta-analysis and demonstrated an inverse relationship between problem-solving skills and suicidal ideation, attempts, and suicide death (Darvishi, Farhadi, Azmi-Nae, & Poorolajal, 2023).

Crisis intervention – Evidence for crisis intervention methods varied. Balasa and colleagues found no support for the impact of emergency department-based youth suicide prevention interventions on reducing suicide attempts or suicidal ideation (Balasa, et al., 2023). Four articles reported on telehealth platforms stating that the effectiveness of these interventions varied, with some demonstrating significant benefits, in reducing suicidal thoughts, suicide rates, and re-attempts (Kreuze, et al., 2017; Sullivan, et al., 2022; Shoib, et al., 2024; Gryglewicz, et al., 2024). Some support for direct telephone interventions was also observed (Baldaçara, et al., 2023) and findings also provide some support for Safety Planning Intervention as a feasible and acceptable intervention, associated with improvements in suicide behaviour, suicidal ideation, reductions in hospitalisations, and better treatment engagement (Ferguson, Rhodes, Loughhead, McIntyre, & Procter, 2022; Marshall, et al., 2023). Caring Contacts and follow-up communications were also shown to have a protective effect against suicide attempts (Katsivarda, Assimakopoulos, & Jelastopulu, 2021; Skopp, et al., 2023).

Mental health treatment – With a focus on Substance Use Disorder, one article reports a lack of evidence for successful interventions to reduce self-harm and suicide in this risk group (Padmanathan, et al., 2020). Findings support the effectiveness of Collaborative Assessment & Management of Suicidality (CAMS) for reducing suicidal ideation; however, no differences were reported for suicide attempts, self- harm, other suicide-related correlates, or cost effectiveness (Swift, Trusty, & Penix, 2021). Findings indicate that Brief Contact Interventions (BCIs), especially when extended beyond 12 months, are associated with a significant reduction in the likelihood of re-attempting suicide (Azizi, et al., 2023).

Stigma reduction – None of the reviewed papers focused specifically on stigma reduction. Some overlap exists with training and community-based interventions which aim to address stigma as one component of a broader intervention.

Findings from articles reporting on multiple suicide prevention interventions

Mann et al. (2021) – While some interventions, like training GPs and means restriction, show strong evidence for reducing suicide rates, other approaches such as gatekeeper training and internet-based interventions require further investigation.

Zalsman et al. (2016) – The review finds strengthened evidence for the effectiveness of restricting access to lethal means, such as firearms and pesticides, in preventing suicide; highlights the effectiveness of school-based awareness programmes in reducing suicide attempts and ideation; and notes insufficient evidence for some approaches, such as primary care screening and media guidelines.

Hofstra et al. (2020) – Findings suggest that multi-level interventions, which integrate multiple approaches across different settings, show significantly greater effectiveness compared to single-level interventions, highlighting the importance of a comprehensive approach in suicide prevention efforts.

Linskens et al. (2023) – Interventions that reduce access to means, implement organisational policies and culture in workplace settings, e.g., police and military, and screen for depression within the community may reduce suicide deaths. The effectiveness of other strategies, such as public awareness campaigns, crisis lines, and gatekeeper training, remains unclear due to inconsistent evidence.

Ishimo et al. (2021) – The findings highlight that physical barriers and some law reforms are particularly effective in reducing suicide mortality, while other interventions show mixed results.

Riblet et al. (2017) – Results highlight that while the WHO brief intervention and contact programme significantly reduces the odds of suicide, other interventions like CBT did not show statistically significant effects in reducing suicide rates.

Reifels et al. (2024) – The findings indicate that while some interventions show potential effectiveness, the overall quality of the evidence is variable, and there is a need for further research to better understand which interventions are most effective in challenging contexts, such as disasters and public health emergencies.

Barker et al. (2017) – Focus on physical barriers and improved media guidelines to reduce incidents of rail-related suicides. The review finds that these interventions, particularly platform screen doors, have been effective in significantly reducing suicide attempts and fatalities. However, the effectiveness of blue lights and suicide pits is less clear.

Zarska et al. (2023) – Findings support the benefit of training for ED providers which has been shown to improve knowledge, attitudes, and skills. Support is also shown for safety planning and follow-up contact to reduce repeat suicide attempts.

Sultan et al. (2021)[11] – Reducing access to lethal means, implementing organisational policies and culture in police workplace settings, and screening for depression in the community may reduce suicide deaths. The evidence for other standalone interventions, e.g., housing stabilisation programmes, public awareness and education campaigns, crisis hotlines, and gatekeeper training is uncertain. Identifies the European Alliance Against Depression as a promising multi-strategy intervention but evidence was inconsistent for community-based multi-strategy interventions. In high school students, social-emotional learning programmes, gatekeeper training, and screening may reduce suicide attempts but the effects on suicide deaths remains uncertain.

Findings relating to specific community-based interventions or at-risk groups

Indigenous communities – Grande and colleagues identified two studies that showed promise in reducing suicide risk in Indigenous adolescents aged 10 to 19 years using interventions that were tailored to be culturally appropriate (Grande, et al., 2022). A scoping review of community-based suicide prevention programmes aimed at adults in rural and regional Australia examined a range of interventions aimed at increasing education and reducing stigma around suicide. The paper highlights the importance of culturally appropriate services, the inclusion of lived or living experience mentoring, and tailoring programmes to effectively reach the targeted audience (Dabkowski, Porter, Barbagallo, Prokopiv, & Jackson, 2022). Leske and colleagues state that the limited evidence available for Indigenous communities supports the use of multi-level, multi-sectoral interventions (Leske, et al., 2020).

Occupational communities – Findings indicate that while some workplace suicide prevention programmes, particularly those tailored to high-risk occupations such as police, army personnel, and construction workers, show beneficial effects, many of these initiatives have not been formally evaluated and further research is needed to develop, implement, and evaluate workplace-specific suicide prevention programmes (Milner, Page, Spencer-Thomas, & Lamotagne, 2015). Rostami and colleagues highlight the effectiveness of interventions such as CBT in reducing suicidal ideation and behaviours in military personnel but note that community-based initiatives face challenges in demonstrating consistent effectiveness (Rostami, Rahmati-Najarkolaei, Salesi, & Azad, 2022). Findings also support programmes for emergency and protective service employees, particularly those that include awareness training, gatekeeper training, and crisis intervention which may result in reduced suicide rates (Witt, Milner, Allisey, Davenport, & LaMontagne, 2017). Finally, a review which focused on medical students as an at-risk group notes that effects of universal interventions on suicidal ideation and behaviour remain to be determined (Witt, et al., 2019).

Older people – One review reports no effect of interventions to reduce suicidal behaviour and ideation (Chauliac, Leaune, Gardette, Poulet, & Duclos, 2020) while another reports some effective interventions for older people but with a need for more research (Okolie, Dennis, Simon, & John, 2017).

School and university communities – Gijzen and colleagues (Gijzen, Rasing, Creemers, Engels, & Smit, 2022) suggest that while school-based programmes have small but significant effects on

[11] Additional review identified by the *CfL* Evaluation Advisory Group.

reducing suicidal ideation and behaviours, there is considerable heterogeneity in their effectiveness, and more research is needed to confirm these results and explore long-term impacts. Walsh and colleagues (Walsh, Herring, & McMahon, 2023) state that nearly half of the studies in their review of post-primary suicide prevention interventions reported reductions in post-intervention suicidal thoughts and behaviours, and five of the seven trials evaluating effectiveness of interventions using pre- and post-intervention measures reported a significant decrease in suicidal thoughts and behaviours over time. Wolitzky-Taylor and colleagues (Wolitzky-Taylor, LeBeau, Perez, & Gong-Guy, 2020) reviewed universal and targeted programmes on university campuses. They report evidence of increases in knowledge, and skills and self-efficacy to address suicide risk through gatekeeper interventions. Evidence of reductions in suicidal ideation and behaviours was observed across targeted suicide prevention programs for at-risk students. Relatively few papers in this review focused on reducing suicidal thoughts and behaviours. Breet and colleagues (Breet, Matooane, Tomlinson, & Bantjes, 2021) highlight the need for more systemic interventions for school and university communities. Findings also highlight the importance of culturally sensitive approaches and the need for further research to ensure the effectiveness of self-harm programmes when applied in different settings (Liljedahl, Hellner, Pettersson, & Ghaderi, 2023).

Young people in care – Findings from a review focusing on young people involved in child protection systems found evidence that youth-focused interventions, such as emotional intelligence therapy, led to reductions in suicidal thoughts (suicidal ideation), and adult-focused interventions, i.e., gatekeeper training, led to increases in knowledge, skills, and behaviours for suicide prevention. Only one of the youth-focused studies in this review evaluated the impact of the intervention in terms of suicide attempts but found no reduction (Russell, Trew, & Higgins, 2021).

Prison settings – Findings support the efficacy of intervention programmes on self-injury behaviour and the use of CBT to reduce suicidal ideation, as well as other third-generation therapies as interventions (Pedrola-Pons, Sanchez-Carro, Pemau, Garcia-Ramos, & De la Torre-Luque, 2024).

Considerations/Limitations

- The literature search carried out as part of the current evaluation was performed in one database, PubMed, and supplemented by relevant literature identified by the Evaluation Advisory Group. Although a search strategy was devised and inclusion and exclusion criteria were established, this is not a systematic review and may not have identified all the relevant literature on this topic.

- An adjustment was made to the inclusion criteria for articles categorised as 'training'. In these articles, the primary outcomes most often related to changes in knowledge, attitudes, beliefs etc., rather than suicide and/or suicidal behaviour (suicidal ideation, self-harm). The inclusion criteria were broadened, specifically the outcome measures criterion, to ensure that relevant articles reporting on training were not excluded. Due to the small number of articles retrieved for some of the evidence-based suicide prevention strategies, a small number of scoping reviews that were identified in the systematic search were also included in the findings.

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