Sax Institute

Accelerated Evidence Snapshot

Non-clinical interventions and services for individuals with suicide distress or crisis

An Accelerated Evidence Snapshot produced by the Sax Institute
for the NSW Ministry of Health: Mental Health Branch
February 2025

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Disclaimer:

This Accelerated Evidence Snapshot was produced using a rapid evidence review methodology in response to specific questions from the commissioning agency.

It is not necessarily a comprehensive review of all literature relating to the topic area. It was current at the time of production (but not necessarily at the time of publication). It is reproduced for general information and third parties rely upon it at their own risk.

Contents

Introduction

In 2023, the NSW Suicide Monitoring System recorded 933 suspected or confirmed suicide deaths, highlighting the urgent need for effective prevention and intervention strategies.

The Towards Zero Suicides (TZS) initiative launched in 2019[1] aims to reduce the suicide rate in NSW by funding non-clinical suicide crisis services, such as Safe Havens and Suicide Prevention Outreach Teams (SPOTs).[2,3] These services provide culturally sensitive, peer-led and community-based care to individuals experiencing suicidal distress. Safe Havens offer calm spaces co-designed by people with lived experience, while SPOTs deliver outreach support, connecting individuals to broader care pathways.

These services were established as part of the NSW whole-of-government approach to broaden the scope of service delivery beyond traditional health service models under the Strategic Framework for Suicide Prevention (2022–2027).[4] The NSW Ministry of Health (the Ministry) has also promoted consumer participation and peer workforce development in NSW. The Mental Health Branch (MHB) is developing a Peer Workforce Framework that includes sustainable support for suicide prevention peer workers, with the aim of supporting their recruitment and retention in services.

The MHB is currently considering whether refinements to existing community-based non-clinical suicide prevention interventions delivered by Local Health Districts and Specialty Health Networks are required and whether other non-clinical interventions could be implemented in NSW.

Review aim

To identify evaluative studies of community-based non-clinical suicide prevention interventions that have effectively improved suicide-prevention outcomes for, and that were acceptable to, people aged 16 years and over, and to describe their characteristics and common features.

Methods

The systematic process used to produce this Accelerated Evidence Snapshot is summarised below:

1. Conduct a comprehensive literature search
2. Remove duplicate entries from the search results
3. Screen the results according to the predetermined eligibility criteria
4. Extract relevant data from eligible studies and organise it into tabular format
5. Present concise narrative syntheses of the eligible studies, drawing from the available peer-reviewed literature.

The search focused on peer-reviewed literature published since 2019. To ensure this review included information about the effectiveness of non-clinical suicide distress interventions, the search strategy was designed to capture studies reporting outcomes (intervention studies). Given the rapid nature of this Snapshot, we excluded grey literature. We included intervention studies (defined as levels II to IV on the National Health and Medical Research Council (NHMRC) levels of evidence) assessing the effectiveness of interventions delivered in non-clinical settings.

We developed a search strategy using a three-step methodological approach originally proposed by Arksey and O'Malley and further outlined by the Joanna Briggs Institute (JBI).[5,6] First, we undertook a pilot search of PubMed on 11 December 2024. Second, we reviewed results to identify additional search terms, with the final search strategy being translated for additional search engines using validated search engine translation software and automation tools: Systematic Review Accelerator, Polyglot Search Translator, Word Frequency Analyser, SearchRefinery and Spidercite.[7–10] The search strategy and search strings are available in Appendices 1 and 2, respectively. We searched three electronic databases on 13 December 2024, and references (n=1673) were exported into Zotero[11] reference management software: Scopus (213), PsycInfo (285) and PubMed (1175). These results were imported into the TERA Deduplicator application, which removed 131 duplicates. The remaining 1542 references were exported back into Zotero and then into Covidence systematic review workflow management software.[12] No further duplicates were identified.

Three reviewers (SH, EG, AS) trialled reviewing the titles and abstracts of the first 133 papers to assess inter-rater reliability, achieving proportionate agreement of 0.89 (Cohen's Kappa 0.33, fair to moderate agreement). Three reviewers (AS, SH, NP) met to review disagreements and align the approach to screening before the title and abstracts of all 1542 peer-reviewed papers were reviewed independently by two reviewers (AS, SH). Two reviewers (AS, SH) undertook full-text screening. Discrepancies were resolved by a third author (EG). One included study, which was not strictly an intervention study but a study of the acceptability of a self-help tool to be used in interventions for prevention of self-harm, was included based on expert advice (MM and SW).[13]

We developed two data extraction tables to support the identification of relevant information from identified studies. Table 1, below, summarises the information that was prioritised for extraction in these tables. The completed data extraction tables are available in Appendix 4.

Table 1—Information included in the data extraction tables in Appendix 4

Extraction table	Information extracted
Table 4.1: Characteristics of interventions	First author; publication year; brief description of intervention; implementation characteristics including: where reported, location; intervention type (digital, face-to-face, education, therapy, combination); target population (community-level, individual-level, multi-level); participant characteristics (age, gender, specific population); and a brief description of the key features of the intervention.
Table 4.2: Intervention outcomes and effectiveness	First author; publication year; country; level of evidence; study aim; study design; suicide prevention outcome (reduction in suicide rate(s); reduction in suicidality and/or distress; improvement in mental health and wellbeing; increase in suicide awareness and help-seeking intentions; acceptability of intervention); outcome effects (including: where reported, size of effect, direction of effect and statistical significance).

Suicide prevention outcomes of interest for this Snapshot were categorised according to whether they had an impact on outcomes related to the following outcome domains:

- A reduction in suicide rates
- A reduction in suicidality and/or distress
- An improvement in mental health and wellbeing
- An increase in suicide awareness and/or help-seeking intentions
- Acceptability of suicide prevention intervention.

Intervention outcomes and effectiveness were reported based on their proximity to the end goal of reducing suicide deaths. Proximal outcomes were presented first and included those that are directly related to suicide prevention such as suicidal ideation, self-harm or suicide rates. Distal outcomes are those that relate to the acceptability or uptake of an intervention, which were presented last. This structure does not imply that proximal outcomes are inherently stronger. The implementation outcome domain of 'acceptability of suicide prevention interventions' was included because, as reasoned by Proctor et al. (2011)[14], implementation outcomes are considered precursors to treatment outcomes, in that an intervention is unlikely to be effective if it is not considered acceptable or appropriate.[14]

Data extraction was first trialled by three reviewers (AS, SH, NP) before it was undertaken by two authors (BJ, MM) and checked by a fourth author (EG). To ensure the summary of findings was accurate, an author (BJ) with a clinical psychology background and experience in suicide prevention research assisted with the data extraction and writing and editing of the findings. To confirm the interpretation of the findings in the discussion and that their relation to other literature was congruent with broader knowledge in the field, senior academics (SW, MM) reviewed the first draft of this report. The conclusions were written by one of the senior academics (SW).

Summary of findings

The ever-evolving suicide prevention policy environment in Australia should be taken into consideration when reviewing the key findings reported in this Snapshot, as well as the broader literature on suicide prevention (papers identified in the review that did not meet the inclusion criteria but are potentially relevant for the MHB have been listed in Appendix 5).

Study characteristics

We identified 1542 studies in the database search, screening the titles and abstracts of 1484 studies. Of these, we screened the full text of 58 studies, excluding 43 studies for: investigating ineligible outcomes (n=2); describing an ineligible intervention (n=26); or having an ineligible study design (n=15). Fifteen studies met the inclusion criteria and were included in this review. The PRISMA flow diagram outlining the studies included and excluded at each stage is available in Appendix 3.

Of the 15 peer-reviewed studies we identified, the overall quality of evidence was relatively low, with no studies achieving the highest possible rating (Level II—randomised controlled trial [RCT]). While RCTs and cluster-RCTs are feasible in community settings, ethical considerations often prevent withholding potentially beneficial interventions from certain groups, limiting their use in suicide prevention research.

The highest level of evidence we identified was a Level III-1 pseudorandomised controlled trial. This study evaluated the Qungasvik intervention, which was implemented in four rural Yup'ik communities in southwest Alaska.[15] While the findings provide valuable insights, the cultural specificity of the intervention limits its generalisability to the NSW context.

Six studies employed case-control or cohort designs, rated as Level III-2.[16–21] These studies did not include allocated control groups but used alternative methods, such as matching participants by gender and age, to establish comparative groups. Such approaches help address ethical challenges related to control group assignment in suicide prevention research.

The remaining eight studies received a Level IV rating, the lowest in the evidence hierarchy.[13,22–28] These were primarily case studies using pre- and post-test measures without a comparative group, restricting the ability to infer causality. Additionally, most studies lacked longitudinal data, meaning long-term intervention outcomes were not assessed. Despite these limitations, these studies provide preliminary insights into potential approaches that may be effective in non-clinical suicide prevention. Further detail about the methodological limitations of the included studies is provided in Appendix 4, Table 4.3.

Intervention characteristics

All interventions had a common focus on suicide prevention, mental health support and wellbeing promotion, aiming to reduce risk factors associated with suicide while fostering protective mechanisms such as help-seeking behaviours, emotional resilience and stigma reduction.

Interventions were delivered in varied formats but the majority (n=10) were digital or online interventions targeting individuals via web-based platforms, social media or text- or phone-based services.[13,17–20,22–25,27] Digital interventions, such as ifarmwell[22], ReachOut[20], #chatsafe[24], Get Out of Your Head[25] and Better Off With You[27], incorporated online self-help tools, social media campaigns, peer support forums and digital resources to reach participants, ensuring anonymity and flexibility in how participants engaged with the intervention. ReachOut[20] provided psychoeducational content and referral pathways for young people, while #chatsafe[24] offered guidelines about discussing suicide safely online, reducing misinformation and promoting peer support.

Community-led programs such as Wesley LifeForce Networks[16] and Deadly Thinking[26] aimed to build local suicide prevention capacity. Wesley LifeForce Networks established community-led prevention networks, improving service access, reducing stigma and strengthening crisis response efforts.[16] Deadly Thinking focused on Aboriginal and Torres Strait Islander communities, using culturally adapted workshops to improve mental health literacy and resilience.[26] Qungasvik, a community-based program for Yup'ik youth and their families in Alaska, incorporated traditional cultural practices and local leadership to build protective factors against suicide and alcohol misuse.[15]

Workplace-based interventions integrated suicide prevention into professional environments. MATES in Energy delivered suicide literacy training, crisis response education and peer support programs in male-dominated industries, while law enforcement suicide prevention programs promoted mental health awareness, stigma reduction, and access to Employee Assistance Programs (EAPs) and peer support teams.[21,28]

A critical feature of many interventions was the use of lived experience and peer support. Interventions such as Qungasvik, Deadly Thinking, Better Off With You and MATES in Energy actively embedded people with lived experience of suicide, mental health struggles or crisis recovery in the delivery of support services.[15,26–28] These interventions included peer facilitators and cultural leaders or trained community members who shared similar backgrounds with participants, making the support relatable and culturally appropriate.

Crisis support lines were also common, such as Canadian Suicide Prevention Service (CSPS), Lifeline, Samaritans UK and the text-based crisis support service provided by the Danish youth helpline (BørneTelefonen). These provided immediate short-term emotional support, risk assessment and referral services for individuals in acute distress.[18,19,23,26] However, other interventions that did not exclusively offer direct crisis support lines, such as the volitional help sheet (VHS) and ifarmwell, offered referrals to crisis lines as a key resource within their programs, ensuring individuals could access professional help when needed.[22,29]

Another common feature among the included interventions was that they were co-designed with people with lived experience of suicide, to ensure relevance and to enhance access and engagement (Qungasvik, Deadly Thinking, #chatsafe, Get Out of Your Head, Better Off With You, ifarmwell and VHS). Interventions such as Deadly Thinking and Qungasvik were co-designed by members of the

Indigenous communities they worked with and had a strong focus on embedding traditional values and Indigenous perspectives on suicide prevention.

Where age was reported, participants ranged from 12 to 73 years. Although individuals under 16 years were not the primary focus of this Snapshot, three studies combined results for participants under 16, so these findings were included for completeness.[15,17,23] Four studies specifically targeted young people aged 16–24.[15,17,20,24] In terms of gender representation, most studies were balanced. However, some studies overrepresented women, while others focused explicitly on men[22] or male-dominated professions[21,28], leading to male overrepresentation in those studies. No studies addressed interventions designed intentionally for individuals identifying as gender diverse or part of the LGBTQIA+ communities; however, in one study that focused on young people, more than a third of participants identified as non-heterosexual.[24] Two studies focused on First Nations populations: one in rural Alaska[15] and another in regional and remote areas of Australia.[26] Additionally, one study examined suicide prevention programs for law enforcement officers in the US[21], another targeted Australian farmers[22], and a further study focused on individuals working in Australia's energy industry.[28] Two studies reported on interventions set in Australia.[16,26] The majority of interventions were delivered virtually (*n*=6)[13,20,22,24,25,27], using modalities such as social media, websites and videos, or through telephone and text crisis lines (*n*=4).[17–19,23] Three interventions were delivered face-to-face in a community setting[15,16,26] and two were delivered in a workplace setting.[21,28] For further details about the characteristics of interventions, refer to Table 4.2 in Appendix 4.

Common features of interventions

The most common feature of the reported interventions was tailored individual-level support and engagement via a digital platform, whether a website, social media, text messages or phone calls.

Most interventions (n=10) incorporated some degree of co-design or local adaptation, empowering service users to influence the design of the intervention.[13,15,16,20,22,24–28] Co-design ranged from seeking input through focus groups of service users to community ownership of the intervention's creation.

For group interventions, a key component was the presence of a facilitator who could be regarded as a peer or an insider—someone the participants were likely to relate to and respect. Examples included an Aboriginal Elder from the community in the study by Snodgrass and colleagues (2020)[26], someone with expert cultural knowledge in Allen and colleagues' (2023) study with Indigenous Alaskan communities[15], or an individual with prior experience working in the industry as implemented in Ross and colleagues' (2020) study conducted in work settings.[28]

Interventions were delivered in varied formats, but the majority (n=10) were digital or online interventions targeting individuals via web-based platforms, social media or text- or phone-based services.[13,17–20,22–25,27] In terms of *universal*, three interventions focused exclusively on broader suicide prevention awareness and education campaigns.[24,25,27] Two studies referred to *targeted* interventions focusing on populations at increased risk of suicide: one based on a psychological treatment approach for Australian farmers[22] and the other a digital safety-planning intervention for people who

self-harm.[13] Finally, an intervention[20] offering broad suicide awareness resources, with step-up options to *targeted* and *indicated* interventions was described.

Several of the digital interventions featured videos describing individuals with lived experience of suicide and mental health challenges who shared their personal stories and recovery journeys.[20,25,27] These videos were reportedly well received by participants, with high levels of engagement, relevance and interest reported.

Crisis lines featured prominently in the included studies, offering telephone-based crisis support[18,19] or SMS and chat-based support.[17,23] The expertise of crisis helpers varied, ranging from trained volunteers to professionally accredited counsellors. This variation potentially blurred the distinction between clinical and non-clinical support.

Outcomes and effectiveness of interventions

This section summarises the effectiveness of various suicide prevention interventions based on key outcome measures, including suicide rates, suicidality and distress, mental health and wellbeing, awareness and help-seeking, and intervention acceptability.

The reviewed studies demonstrated positive impacts on suicide rates, distress reduction, mental health and help-seeking behaviours, though the effectiveness varied depending on the target population, intervention type and delivery format. Community-led programs such as Wesley LifeForce Networks[16] and follow-up 'check-in calls' with Northern Ireland's Lifeline telephone line[18] showed strong real-world reductions in suicide rates, while digital interventions such as ReachOut[20], ifarmwell[22] and #chatsafe[24] provided accessible and effective options for reducing distress and increasing awareness. The success of crisis line interventions, such as BørneTelefonen[17], a Danish youth text line, and CSPS[23], highlighted the importance of immediate emotional support and continued connections for individuals in distress.

Despite these successes, not all studies demonstrated significant improvements in mental wellbeing. Workplace programs, such as those targeting law enforcement officers[21], faced challenges in effectively improving mental health outcomes. Additionally, while digital campaigns were highly engaging and acceptable, some had limited impact on sustained behaviour change.[25,27]

Overall, these findings suggest that a suite of interventions—which may include community-based programs, crisis support services, workplace training and digital campaigns—could collectively contribute to addressing suicidal distress, promoting mental wellbeing and encouraging help-seeking behaviours in community and non-clinical settings.

Impact on suicide rates

Two studies reported a direct impact on reducing suicide rates. The Wesley LifeForce Networks intervention demonstrated a 7% reduction in suicide rates, with an incidence rate ratio of 0.93 ($p = 0.03$), indicating the effectiveness of the community-led suicide prevention initiative.[16] Similarly, the Northern Ireland Lifeline's evaluation of follow-up 'check-in calls' showed individuals who received

follow-up calls were 3.3 times less likely to die by suicide ($p < 0.001$), and those referred to emergency services also had a significantly lower risk of suicide ($p < 0.01$).[18]

Reduction in suicidality and/or distress

Several interventions successfully reduced suicidal ideation and emotional distress. The CSPS found a significant decrease in emotional intensity from the beginning ($M = 3.6$) to the end of text conversations ($M = 2.28$, $p < 0.001$), suggesting immediate emotional relief for users.[23] The ifarmwell program demonstrated a significant reduction in distress scores, with a mean change of -2.76 units post-intervention and -3.52 units at a six-month follow-up, indicating sustained improvements in mental wellbeing.[22] Similarly, Sindahl et al., assessing BørneTelefonen, reported that 49% of suicidal youth felt helped and 81.4% would use the service again.[17]

Digital interventions also contributed to reducing distress. The Better Off With You campaign led to a small but significant reduction in psychological distress ($p < 0.05$, effect size $r = 0.17$), and <0.01% of participants reported increased suicidal thoughts.[27] ReachOut showed modest but significant reductions in the percentage of users at high risk of suicide at three-month follow-up ($p < 0.001$).[20]

Improvements in mental health and wellbeing

Several studies showed positive effects on mental health and wellbeing. A culturally grounded intervention in Native Alaskan communities showed significant, albeit small, increases in Reasons for Life (protective factors buffering suicide) β slope estimate = 0.287, 95% CI [0.054–0.494]) and Reflective Processes (reflection on negative consequences of alcohol misuse) (β slope estimate = 0.306, 95% CI [0.091–0.503]), but only for high-dose usage.[15] The ifarmwell program resulted in a significant increase in wellbeing scores, which remained stable at the six-month follow-up.[22] Men exposed to Get Out of Your Head, a digital suicide prevention campaign incorporating lived experience, had a small increase in *openness to emotions* ($p = 0.047$, $d = 0.15$), however only for a subset of participants with mental health challenges.[25] Similarly, the MATES in Energy workplace training program led to a small but significant self-reported improvement in wellbeing (increase in mean from 3.82 to 3.86, out of 5, $p < 0.001$).[28] For youth accessing ReachOut, there was a significant reduction in symptoms of depression, anxiety and stress at three-month follow-up.[20] In a crisis text line for youth, those with suicidality experienced: improved wellbeing (35.9%, down to 23.9% at follow-up); plan of action formulated (53.4%); reduced problem severity (20.6%, down to 8% at follow-up); improved self-confidence (31%, down to 22.7% at follow-up); and improved sense of agency (27%).[17] Outcomes were significantly better for youth without suicidality. However, workplace-based police suicide prevention intervention programs did not report significant improvements in mental wellbeing.[21]

Increase in awareness and help-seeking behaviours

Many interventions successfully increased awareness and improved help-seeking intentions. The #chatsafe campaign led to a 57.9% increase in perceived behavioural control and a 42.9% increase in willingness to intervene in suicide-related discussions online.[24] Similarly, the MATES in Energy program led to a significant increase in suicide literacy and positive attitudes toward help-seeking.[28]

The Deadly Thinking program, which was culturally tailored for Aboriginal and Torres Strait Islander communities, significantly increased help-seeking intentions, with small to moderate effect sizes (Cohen's d = 0.17 to 0.52).[26]

Interventions targeting specific populations also demonstrated effectiveness in improving awareness and mental health engagement. The Get Out of Your Head campaign, which focused on men's mental health, resulted in a small but significant increase in help-seeking intentions when users were experiencing suicidality (p = 0.023, d = 0.15).[25] Meanwhile, people exposed to the digital suicide prevention intervention Better Off With You showed significant improvement in one domain of help-seeking intentions (z = 2.33, $p < .05$).[27]

Intervention acceptability and participant satisfaction

Most interventions were highly acceptable to participants, with high user satisfaction scores across digital, workplace and community-based programs. The ReachOut intervention received overwhelmingly positive feedback, with 99.1% of participants rating it as 'good' or 'excellent'.[20] Similarly, ifarmwell had high usability scores (84.70 out of 100) and user satisfaction ratings (26.92 out of 32).[22] The #chatsafe intervention was also well received, with 95.49% of participants reporting no distress from the content.[24] The duration of phone calls to the UK-based crisis line was significantly longer when the caller was connected with a crisis supporter outside of their region (p<0.001).[19] Call duration was assumed to be a proxy measure for the degree to which the caller felt supported and willing to disclose. In a crisis text line for youth, those with suicidality reported feeling helped (49%), having autonomy in the conversation (64.1%) and being taken seriously (64.4%), and regarded the text line as a resource to use in the future (81.4%).[17] Men rated the Get Out of Your Head digital campaign as appealing (71.3%), interesting and relevant (73%).[25] A co-designed digital version of the volitional help sheet (VHS) (a safety planning resource to reduce self-harm) was found to have high levels of acceptability and perceived effectiveness.[13] Those with self-harm in the past year were more likely to perceive VHS as burdensome (OR 1.64, 95% CI 1.11–2.41); those with non-suicidal self-harm were more likely to rate higher acceptability.

Community-based interventions were also well received. The Deadly Thinking program was highly rated, with 81% of participants expressing satisfaction with the materials and facilitators.[26] Similarly, the Better Off With You campaign received positive engagement ratings, with 91% of participants finding the content engaging and relevant.[27] Workplace interventions such as MATES in Energy were also well received, reinforcing the importance of industry-specific mental health programs.[28]

Discussion and conclusion

This Snapshot aimed to identify evaluative studies of community-based non-clinical suicide prevention interventions that have effectively improved suicide-related outcomes for, and that were acceptable to, people aged 16 years and over, and to describe their characteristics and common features. The findings of this Snapshot will inform potential additions/alterations to government suicide prevention initiatives funded under the TZS policy initiatives to be delivered in NSW within the next funding cycle.

In suicide prevention care, opportunities to collect data demonstrating effectiveness are often limited, requiring data collection methods that are non-burdensome and minimally intrusive to participants and the community. This may explain why most included studies had methodological limitations and reported a lower level of evidence (according to the NHMRC levels of evidence hierarchy). For example, many of the identified studies had small sample sizes, which could be due to suicide-related outcomes occurring in small proportions of included populations. They also had brief implementation periods that could relate to the short-term funding cycles highlighted in a recent scan of the current Australian policy context, which is discussed further below.[30]

The Snapshot identified three studies involving digital suicide prevention awareness campaigns[24,25,27] and two focused on digital self-help interventions, both of which demonstrated modest but significant effects on reduced suicidality and distress.[13,22] The latter findings are supported by a systematic review and meta-analysis of suicide prevention using self-guided digital interventions that found there were small but significant effects for the primary outcome of reduction in suicide ideation.[31] The authors of this review concluded that self-guided digital interventions directly targeting suicidal ideation are effective immediately post-intervention (since included studies also mostly had short durations of follow-up). Importantly, they also conducted sensitivity analyses that considered whether intervention effects differed when they targeted individuals with depression versus individuals who had already reported suicidal ideation. The findings from sensitivity analyses indicated that targeting interventions to individuals who have already reported suicidal ideation may be more effective than targeting depressed participants. The systematic review authors stated that the findings suggest: *'digital interventions should be promoted and disseminated widely, especially where there is a lack of, or minimal access to, health services'.* This may suggest that consideration needs to be given to the right mix of targeted and universal suicide prevention interventions and that digital self-help interventions may be an important part of this mix.

Many studies evaluated implementation outcomes, such as user acceptability and appropriateness.[13,19,20,22,24–27] However, implementation measures alone do not provide sufficient evidence to conclude that the interventions were effective and must be considered in the context of other findings. Overall, the interventions were highly acceptable, none were rejected by service users, and none were considered unsafe. This highlights the importance of collaboration or co-design with individuals who engage with these interventions or activities. Such collaboration ensures the support provided is both safe and acceptable, and this should be a key consideration in any decisions regarding funding approaches aimed at reducing or preventing suicide.

This Snapshot identified two studies that recruited Indigenous populations.[15,26] More research with Indigenous communities is necessary since suicide rates are often higher among these communities and a global systematic review of the effects of suicide prevention interventions in Indigenous peoples (which had an Australian-based academic lead and senior authors) found there was insufficient evidence to confirm the effectiveness of any one suicide prevention intervention because of a shortage of studies, risk of bias, and population and intervention heterogeneity.[32] No studies involving other NSW Health priority populations were included in the Snapshot; however, the additional papers in Appendix 5 include a scoping review of suicidal ideation and behaviours among LGBTQI+ adolescents and young adults.[32]

A recent environmental scan of all government-funded suicide prevention interventions in Australia highlighted that the National Suicide Prevention Adviser's Final Advice is founded on 'whole of system, whole of life' principles, aiming to provide early intervention anywhere it could be needed in the service delivery system.[30,33,34] This tenet is reliant on a whole-of-government approach to suicide prevention, which includes all government levels (federal, state and territory, and local government) and all portfolios (not just health or mental health) working together on integrated policies and programs to prevent suicide and self-harm. Relatedly, it would be ideal if this approach were partisan and apolitical. It states that the first system enabler is governance and collaboration across governments and portfolios, and others have echoed this systems approach.[35] If such governance and collaboration were effective, it could enable large cross-jurisdiction evaluation studies with sufficient sample sizes and stronger study designs to determine the effectiveness of non-clinical suicide prevention interventions. Larger studies could also determine the contributions of their components to their effectiveness, and which components demonstrate effectiveness in particular contexts, which is important for determining which components are suitable to be delivered at scale[36] as well as which components may be included in a mix of targeted or universal delivery approaches. However, the short-term funding cycles for suicide prevention highlighted in this policy scan can present a barrier to the scaling-up of effective interventions.

As mentioned earlier in this discussion, it was apparent that most included studies in this Snapshot had short-term follow-up, so while most were effective in achieving their outcomes, they can only demonstrate short-term effectiveness. A related challenge that the environmental scan identified was that:

> *'the current government-led suicide prevention landscape reflects the underlying relatively short-term funding cycles and the lifecycles of government policy and strategies which present a challenge to establishing a system of sustainable services and programs needed to support long-term recovery.'*[30]

This is also a challenge for conducting research, evaluation and monitoring of suicide prevention initiatives, which includes sufficient durations to measure long-term changes from sustained suicide prevention efforts. In addition, a focus on the reduction of deaths (while important) also fails to recognise that distress will fluctuate across the lifespan because of situational, environmental and health-related factors. Therefore, it does not capture how to intervene early in distress for all at-risk groups. Sustained and recurrent funding cycles are necessary to demonstrate which non-clinical interventions and components of interventions are effective in preventing suicide, for whom, and under what circumstances.

Limitations

A strength of this Snapshot is that it provides timely evidence to inform proposals for the next stage of TZS initiatives to be delivered in NSW. However, there are several limitations. We had a three-week time frame in which to conduct this Snapshot, which has limited our ability to provide an exhaustive representation of the evidence available at the time. The stringent eligibility criteria, which restricted included papers to intervention studies and excluded reviews, means overviews of the evidence for particular interventions provided by such reviews were not included in the findings. For this reason, a list of additional studies has been included in Appendix 5 and some of these studies are discussed in relation to the findings from the literature identified in the Snapshot above.

Conclusions

The findings of this Snapshot provide insight into the common features of suicide prevention interventions and their effectiveness. There is a dearth of evidence as to what may be effective in the community when delivering non-clinical interventions to people at risk of, or experiencing, suicidal distress. This is not to suggest that non-clinical interventions are not effective, but it reflects the complex nature of community-based evaluations and is symptomatic of accelerated funding cycles. Considering this, the Snapshot does note that people are seeking crisis and ongoing support for their suicidal distress and are using multiple media to access that support. This Snapshot demonstrates that digital interventions have significant uptake, and that self-paced self-help resources that prioritise lived experience representation and/or co-design of resources, are received well.

Notably, the evidence reflects the value of continued connections, demonstrating that follow-up has merit, and that exploring how people can remain connected during periods of crisis via ongoing interactions with services, may be key. A sense of belonging to a community that can offer support, in whatever medium the service user opts for, appears to be effective in reducing distress or enhancing wellbeing (or both). The role of peers or a trusted insider also appears consistent in the small number of studies published, meaning that the community-based services who engage with experts by experience, or people with professional industry expertise, may be able to enhance the effectiveness of targeted interventions through the sharing of their professional or personal experience. The role of peer and non-peer workforces working side by side and being safely supported requires ongoing attention.

When determining funding priorities, it is important to recognise the multifactorial presentations of distress for individuals who may be more at risk than the general population or who live in high-risk areas. This requires a strong understanding of authentic co-design principles and skills in recognising distress to intervene early. Additionally, it is essential to incorporate embedded or long-term evaluation to genuinely assess the impact of the funding. Enhancing the ability of services or activities to share data relating to their intervention outcomes would enable NSW Health to better understand what works, for whom, and in what circumstances.

Appendices

Appendix 1—Search terms

Step	Concept	Search terms
1	Population	16 years and over ("all adult (19 plus years)" or "adolescent (13 to 18 years)")
2	Intervention	“suicid* crisis" or "suicid* adj3 thoughts" or "suicid* ideation" or suicidal or *suicid* or 'suicid* distress' or "suicide adj3 attempt*" or 'mental health crisis' or crisis or 'suicide lived experience' or 'suicide prevention' or 'emotional distress' or 'self-harm' or 'psychological distress' or 'hopelessness' OR *Suicide Prevention/ or Suicide, Attempted/ or Suicidal Ideation/* AND ‘'non-clinical' or 'non-clinical service*' or 'support' or 'aftercare' or 'telephone support' or 'non-clinical' or 'community-based' or 'peer worker' or 'peer support*' or 'group session' or 'text' or 'text messag*' or 'phone' or telephone or 'call back service' or 'chat' or advice or 'safe space*' or 'calm space*' or 'recovery area' or 'comfortable' or hotline* or 'home visit' or referral or transport or assistance or 'crisis support' or postvention or 'support group' or 'crisis support' or 'group support' or outreach or 'peer-to-peer' or 'secondary prevention’ or ‘Crisis Hotline’ or ‘safety planning’ or ‘emotional support’ or ‘peer support program’ or ‘lived experience’ or ‘warm line’ or ‘Question, Persuade, Refer’ or QPR or ASIST or ‘Applied Suicide Intervention Skills Training’ or ‘support group*’ or ‘coping strateg*’ or ‘mobile crisis team*’ or ’de-escalation’ or ‘drop-in crisis cent*’ or ‘safety plan*’ or ‘digital intervention’ or ‘chat service*’ or ‘mobile app’ or ‘coping skills’ or ‘crisis support’ or ‘protective environment’ or ‘connectedness model*’ or ‘recovery-oriented care’ or ‘empowerment’ or ‘strengths-based’ or ‘means safety counsel*’ or ‘pastoral counsel*’ or ‘spiritual peer support’ or ‘faith-based intervention’ or ‘family intervention’ or ‘mentorship’ or ‘mobile crisis team’ or ‘crisis stabili*’ or ‘crisis counselling’ OR *Crisis Intervention/ or Community health services/ or Peer group support/ or Self-help groups/ or Peer counselling/ or Telemedicine/ or suicide prevention hotline/ or Telehealth/ or Telemedicine/ or Internet-based interventions/ or*

Step	Concept	Search terms
		Mobile health applications/ or Art therapy/ or Music therapy/ or Recreational therapy/ or Wilderness therapy/ or Yoga therapy/ or Animal-based therapy/ or Social support/ or Social integration/ or Volunteer programs/ or Family therapy/ or Public policy/ or Social welfare/ or Housing policy/ or LGBTQI+ lth/ or Rural health/ or Prisoners/ or Aged mental health/ or Stress management/ or Resilience/ or Self-care/ or Life skills education/ or Suicide survivors/ or Spiritual therapy/ health/ or Indigenous he NOT Clinical or 'clinical service*' or inpatient or hospital* or 'acute medical' or psychiatric or 'specialist service' or ED or 'emergency department' or ward or admission or veteran* or 'domestic violence' or COVID or COVID-19
3	Comparison	Not required
4	Outcomes	Experience or engagement or confidence or access or interaction or 'staff retention' or 'mental health indicator*' or 'suicide indicator*' or 'quality of life' or 'physical health indicator*' or safety or trust or reach or retention or acceptability or economic or 'suicide rate' or 'rate of suicide' or 'self-harm rate' or 'rate of self-harm' or resilian* or coping or 'help seeking' or 'change in suicide rate' or 'number of suicide attempts' or 'attempted suicide" or ' help-seeking' or 'social connectedness' or "suicid* adj3 thoughts" or "suicid* ideation" or suicidal or 'suicid* distress' or "suicide adj3 attempt*"
5	Study types	(experimental study or evaluat* or randomi* controlled trial or RCT or nonrandomi* controlled trial or cluster randomi* trial or cluster RCT or crossover study or stepped wedge or multiple baseline or quasi-experimental or pre post or interrupted time series or before after or evaluation study or intervention study or repeat cross-section or intervention or cohort or impact* or effectiveness or effect*) *OR Evaluation Study/* NOT 'clinical trial' or pharmac* or 'drug trial' or 'drug therapy' or *Clinical trial/*

Appendix 2—Search strings*

Database	Search string	Date searched	Output
PsycInfo	("suicid* crisis" or "suicid* adj3 thoughts" or "suicid* ideation" or "contemplat* adj3 suicide" or suicidal or suicide* or "suicid* distress" or "suicide adj3 attempt*" or "suicide lived experience" or "suicide prevention" or "emotional distress" or "self-harm" or "psychological distress" or hopelessness).mp. or (Suicide Prevention or Suicide, Attempted or Suicidal Ideation).sh. AND (("non-clinical" or "non-clinical service*" or support or aftercare or "telephone support" or non-clinical or community-based or "peer worker" or "peer support*" or "group session" or text or "text messag*" or phone or telephone or "call back service" or chat or advice or "safe space*" or "calm space*" or "recovery area" or comfortable or hotline* or "home visit" or referral or transport or assistance or "crisis support" or postvention or "support group*" or "group support" or outreach or "peer-to-peer" or "secondary prevention" or "crisis hotline" or "safety planning" or "emotional support" or "peer support program" or "lived experience" or "warm line" or "Question Persuade Refer" or QPR or "coping strateg*" or "mobile crisis team*" or de-escalation or "drop-in crisis cent*" or "safety plan*" or "digital intervention*" or "chat service*" or "mobile app*" or "coping skills" or "crisis support" or "protective environment" or "connectedness model*" or "recovery-oriented care" or empowerment or "strengths-based" or "means safety counsel*" or "pastoral counsel*" or "spiritual peer support" or "faith-based intervention" or "family intervention" or "mentorship" or "mobile crisis team" or "crisis stabili*" or "Safe Haven*" or "Suicide Prevention Outreach Teams").mp. or (Crisis Intervention or Community health services or Peer group support or Self-help groups or Peer counselling or Telemedicine or suicide prevention hotline or Telehealth or Telemedicine or Internet-based interventions or Mobile health applications or Art therapy or Music therapy or Recreational therapy or Wilderness therapy or Yoga therapy or Animal-based therapy or Social support or Social integration or Volunteer programs or Family therapy or Public policy or Means restriction or Social welfare or Housing policy or LGBTQI+ health or Indigenous health or Rural health or Prisoners or Aged mental health or Stress management or Resilience or Self-care or Life skills education or Suicide survivors or Spiritual therapy).sh.) not (Clinical or "clinical service*" or inpatient or hospital* or "acute medical" or psychiatric or "specialist service" or ED or "emergency department" or ward or admission or veteran* or "domestic violence" or covid or "covid-19").af. AND (("experimental study" or evaluat* or "randomi* controlled trial" or RCT or "nonrandomi* controlled trial" or "cluster randomi* trial" or "cluster RCT" or "crossover study" or "stepped wedge" or "multiple baseline" or quasi-experimental or "pre post" or "interrupted time series" or "before after study" or "evaluation study" or "intervention study" or "repeat cross-section" or intervention or cohort or impact* or effectiveness or effect*).mp. or Evaluation Study.sh.) not (("clinical trial" or pharmac* or "drug trial" or "drug therapy").mp. or Clinical trial.sh.) AND ("suicide prevention" or Experience or engagement or confidence or access or interaction or "staff retention" or "mental health indicator*" or "suicide indicator*" or "quality of life" or "physical health indicator*" or safety or trust or reach or retention or acceptability or economic or "suicide rate" or "rate of suicide" or	13 Dec 2024	Limiting to English 2019 – present = 285 papers

* Note all searches were limited to 2022 – current

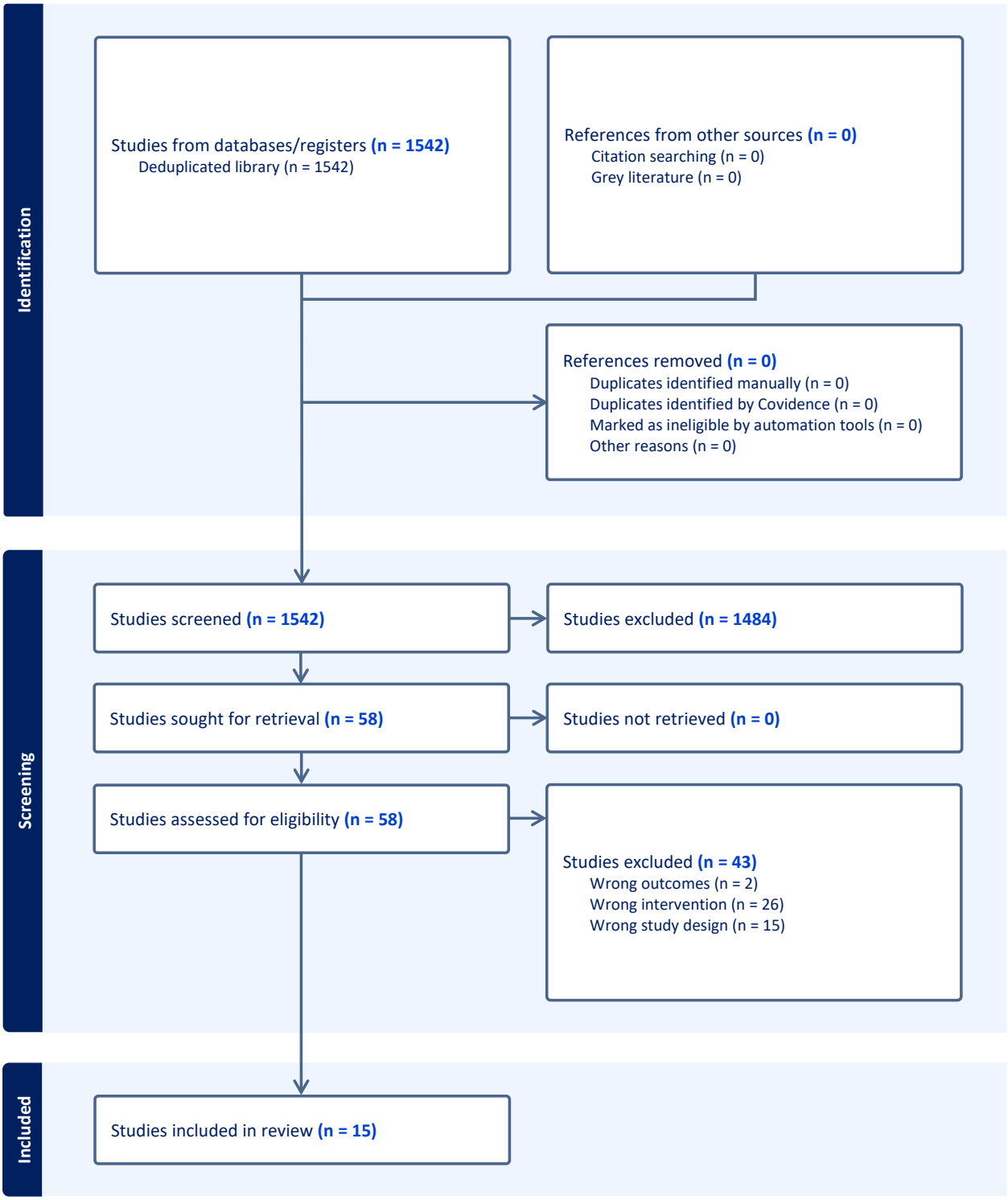
	"self-harm rate" or "rate of self-harm" or resilian* or coping or “help seeking” or “change in suicide rate” or “number of suicide attempts” or “attempted suicide” or “help-seeking” or “social connectedness” or "suicid* adj3 thoughts" or "suicid* ideation" or suicidal or “suicid* distress” or "suicide adj3 attempt*").mp. AND (Australia* or 'New Zealand' or Austria or Belgium or Canada or Denmark or France or Germany or Greece or Iceland or Ireland or Luxembourg or Netherlands or Norway or Portugal or Spain or Sweden or Switzerland or Turkey or 'United Kingdom' or England or Wales or Scotland or 'United States' or USA or America* or Italy or Japan or Finland or Mexico or Israel).mp. or (Australia or Scandinavia or Developed Countries).sh. AND 1 and 2 and 3 and 4 and 5 and 7 AND limit 8 to (English language and yr="2019 -Current").		
Scopus	TITLE-ABS-KEY ("suicid* crisis" OR "suicid* adj3 thoughts" OR "suicid* ideation" OR "contemplat* adj3 suicide" OR suicidal OR suicide* OR "suicid* distress" OR "suicide adj3 attempt*" OR "suicide lived experience" OR "suicide prevention" OR "emotional distress" OR self-harm OR "psychological distress" OR hopelessness) OR INDEXTERMS (suicide AND prevention OR attempted AND suicide OR suicidal AND ideation)) AND ((TITLE-ABS-KEY (non-clinical OR "non-clinical service*" OR support OR aftercare OR "telephone support" OR non-clinical OR community-based OR "peer worker" OR "peer support*" OR "group session" OR text OR "text messag*" OR phone OR telephone OR "call back service" OR chat OR advice OR "safe space*" OR "calm space*" OR "recovery area" OR comfortable OR hotline* OR "home visit" OR referral OR transport OR assistance OR "crisis support" OR postvention OR "support group*" OR "group support" OR outreach OR peer-to-peer OR "secondary prevention" OR "crisis hotline" OR "safety planning" OR "emotional support" OR "peer support program" OR "lived experience" OR "warm line" OR "gatekeeper training" OR "Question Persuade Refer" OR qpr OR "coping strateg*" OR "mobile crisis team*" OR de-escalation OR "drop-in crisis cent*" OR "safety plan*" OR "digital intervention" OR "chat service*" OR "mobile app" OR "coping skills" OR "crisis support" OR "protective environment" OR "connectedness model*" OR "recovery-oriented care" OR empowerment OR strengths-based OR "means safety counsel*" OR "pastoral counsel*" OR "spiritual peer support" OR "faith-based intervention" OR "family intervention" OR mentorship OR "mobile crisis team" OR "crisis stabili*" OR "Safe Haven*" OR "Suicide Prevention Outreach Teams") OR INDEXTERMS ((crisis AND intervention) OR (community AND health AND services) OR (peer AND group AND support) OR (self-help AND groups) OR (peer AND counselling) OR telemedicine OR (suicide AND prevention AND hotline) OR telehealth OR telemedicine OR (internet-based AND interventions) OR (mobile AND health AND applications) OR (art AND therapy) OR (music AND therapy) OR (recreational AND therapy) OR (wilderness AND therapy) OR (yoga AND therapy) OR (animal-based AND therapy) OR (social AND support) OR (social AND integration) OR (volunteer AND programs) OR (family AND therapy) OR (public AND policy) OR (means AND restriction) OR (social AND welfare) OR (housing AND policy) OR (lgbtqi AND health) OR (indigenous AND health) OR (rural AND health) OR prisoners OR (aged AND mental AND health) OR (stress AND management) OR resilience OR self-care OR (life AND skills AND education) OR (suicide AND survivors) OR (spiritual AND therapy))) AND NOT ALL (clinical OR "clinical service*" OR inpatient OR hospital* OR "acute medical" OR psychiatric OR "specialist service" OR ed OR "emergency department" OR ward OR admission OR veteran* OR "domestic violence" OR covid OR covid-19)) AND ((TITLE-ABS-KEY ("experimental study" OR evaluat* OR "randomi* controlled trial" OR rct OR "nonrandomi* controlled trial" OR "cluster randomi* trial" OR	13 Dec 2024	Limiting to English 2019 – present, scholarly journals = 213 papers

	"cluster RCT" OR "crossover study" OR "stepped wedge" OR "multiple baseline" OR quasi-experimental OR "pre post" OR "interrupted time series" OR "before after study" OR "evaluation study" OR "intervention study" OR "repeat cross-section" OR intervention OR cohort OR impact* OR effectiveness OR effect*) OR INDEXTERMS ("Evaluation Study")) AND NOT (TITLE-ABS-KEY ("clinical trial" OR pharmac* OR "drug trial" OR "drug therapy") OR INDEXTERMS ("Clinical trial"))) AND (TITLE-ABS-KEY ("suicide prevention" OR Experience OR engagement OR confidence OR access OR interaction OR "staff retention" OR "mental health indicator*" OR "suicide indicator*" OR "quality of life" OR "physical health indicator*" OR safety OR trust OR reach OR retention OR acceptability OR economic OR "suicide rate" OR "rate of suicide" OR "self-harm rate" OR "rate of self-harm" OR resilian* OR coping OR “help seeking” OR “change in suicide rate” OR “number of suicide attempts” OR “attempted suicide” OR “help-seeking” OR “social connectedness” OR "suicid* adj3 thoughts" OR "suicid* ideation" OR suicidal OR “suicid* distress” OR "suicide adj3 attempt*") OR INDEXTERMS ((self-injurious AND behavior) OR (attempted AND suicide) OR (stress AND psychological) OR (harm AND reduction) OR (information AND seeking AND behavior) OR (risk AND reduction AND behavior))) AND (TITLE-ABS-KEY (australia* OR "New Zealand" OR austria OR belgium OR canada OR denmark OR france OR germany OR greece OR iceland OR ireland OR luxembourg OR netherlands OR norway OR portugal OR spain OR sweden OR switzerland OR turkey OR "United Kingdom" OR england OR wales OR scotland OR "United States" OR usa OR america* OR italy OR japan OR finland OR mexico OR israel) OR INDEXTERMS (australia OR scandinavia OR developed AND countries)) AND PUBYEAR > 2018 AND PUBYEAR < 2026 AND (LIMIT-TO (DOCTYPE , "ar")) AND (LIMIT-TO (LANGUAGE , "English")) AND (LIMIT-TO (SRCTYPE , "j")) AND 1 AND 2 AND 3 AND 4 AND 5 AND 7 AND 8 AND 9		
PubMed	("suicid* crisis"[tw] OR “suicide*”[tw] OR "suicid* thought*"[tw] OR "suicid* ideation"[tw] OR "contemplat* suicide"[tw] OR suicidal[tw] OR "suicid* distress"[tw] OR "suicide attempt*"[tw] OR "mental health crisis"[tw] OR ("lived experience"[tw] AND suicide[tw]) OR "suicide prevention"[tw] OR "emotional distress"[tw] OR self-harm[tw] OR "psychological distress"[tw] OR hopelessness[tw]) OR ("Suicide Prevention"[Mesh:NoExp] OR "Suicide, Attempted"[Mesh:NoExp] OR "Suicidal Ideation"[Mesh:NoExp]) AND ((non-clinical[tw] OR "non-clinical service*"[tw] OR support[tw] OR aftercare[tw] OR "telephone support"[tw] OR non-clinical[tw] OR community-based[tw] OR "peer worker"[tw] OR "peer support*"[tw] OR "group session"[tw] OR text[tw] OR "text messag*"[tw] OR phone[tw] OR telephone[tw] OR "call back service"[tw] OR chat[tw] OR advice[tw] OR "safe space*"[tw] OR "recovery area"[tw] OR music[tw] OR lighting[tw] OR comfortable[tw] OR hotline*[tw] OR "home visit"[tw] OR referral[tw] OR transport[tw] OR assistance[tw] OR "crisis support"[tw] OR postvention[tw] OR "support group*"[tw] OR "group support"[tw] OR outreach[tw] OR peer-to-peer[tw] OR "secondary prevention"[tw] OR "crisis hotline"[tw] OR "safety planning"[tw] OR "emotional support"[tw] OR "peer support program"[tw] OR "lived experience"[tw] OR "warm line"[tw] OR "Question Persuade Refer"[tw] OR QPR[tw] OR "coping strateg*"[tw] OR "mobile crisis team*"[tw] OR de-escalation[tw] OR "safety plan*"[tw] OR "digital intervention"[tw] OR "chat service*"[tw] OR "mobile app"[tw] OR "coping skills"[tw] OR "crisis support"[tw] OR "protective environment"[tw] OR resilienc*[tw] OR "connectedness model*"[tw] OR "recovery-oriented care"[tw] OR empowerment[tw] OR strengths-based[tw] OR "means safety counsel*"[tw] OR "pastoral counsel*"[tw] OR "spiritual peer support"[tiab:~0] OR "faith-based intervention"[tw] OR "family	13 Dec 2024	Limiting to English 2019 – present = 1175 papers

	intervention"[tw] OR mentorship[tw] OR "mobile crisis team"[tw] OR "crisis stabili*"[tw] OR "Safe Havens"[tw] OR "Suicide Prevention Outreach Teams"[tiab:~0]) OR ("Crisis Intervention"[Mesh:NoExp] OR "Community health services"[Mesh:NoExp] OR "Peer group support"[tw] OR "Self-help groups"[Mesh:NoExp] OR "Peer counselling"[tiab:~0] OR Telemedicine[Mesh:NoExp] OR "suicide prevention hotline"[tiab:~0] OR Telehealth[Mesh:NoExp] OR Telemedicine[Mesh:NoExp] OR "Internet-based intervention"[tiab:~0] OR "Mobile health app*"[tw] OR "Art therapy"[Mesh:NoExp] OR "Music therapy"[Mesh:NoExp] OR "Recreational therapy"[tiab:~0] OR "Wilderness therapy"[tiab:~0] OR "Yoga therapy"[tiab:~0] OR "Animal-based therapy"[tiab:~0] OR "Social support"[Mesh:NoExp] OR "Social integration"[Mesh:NoExp] OR "Volunteer programs"[tiab:~0] OR "Family therapy"[Mesh:NoExp] OR "Public policy"[Mesh:NoExp] OR "Means restriction"[tiab:~0] OR "Social welfare"[Mesh:NoExp] OR "Housing policy"[tiab:~0] OR "LGBTQI health"[tw] OR "Indigenous health"[tiab:~0] OR "Rural health"[Mesh:NoExp] OR Prisoners[Mesh:NoExp] OR "Aged mental health"[tiab:~0] OR "Stress management"[tiab:~0] OR Resilience[Mesh:NoExp] OR Self-care[Mesh:NoExp] OR "Life skills education"[tiab:~0] OR "Suicide survivors"[tiab:~0] OR "Spiritual therapy"[tiab:~0])) NOT (Clinical[all] OR "clinical service*"[all] OR inpatient[all] OR hospital*[all] OR "acute medical"[all] OR psychiatric[all] OR "specialist service"[all] OR ED[all] OR "emergency department"[all] OR ward[all] OR admission[all] OR veteran*[all] OR "domestic violence"[all] OR covid[all] OR covid-19[all]) AND (("experimental study"[tw] OR evaluat*[tw] OR "randomi* controlled trial"[tw] OR RCT[tw] OR "nonrandomi* controlled trial"[tw] OR "cluster randomi* trial"[tw] OR "cluster RCT"[tw] OR "crossover study"[tw] OR "stepped wedge"[tw] OR "multiple baseline"[tw] OR quasi-experimental[tw] OR "pre post"[tw] OR "interrupted time series"[tw] OR "before after study"[tw] OR "evaluation study"[tw] OR "intervention study"[tw] OR "cross-section"[tw] OR intervention[tw] OR cohort[tw] OR impact*[tw] OR effectiveness[tw] OR effect*[tw]) OR "Evaluation Study"[tiab:~0]) NOT (("clinical trial"[tw] OR pharmac*[tw] OR "drug trial"[tw] OR "drug therapy"[tw]) OR "Clinical trial"[tiab:~0]) AND ("suicide prevention"[tw] OR Experience[tw] OR engagement[tw] OR confidence[tw] OR access[tw] OR interaction[tw] OR "staff retention"[tw] OR "mental health indicator*"[tw] OR "suicide indicator*"[tw] OR "quality of life"[tw] OR "physical health indicator*"[tw] OR safety[tw] OR trust[tw] OR reach[tw] OR retention[tw] OR acceptability[tw] OR economic[tw] OR "suicide rate"[tw] OR "rate suicide"[tiab:~3] OR "self-harm rate"[tw] OR "rate self-harm"[tiab:~3] OR resilian*[tw] OR coping[tw] OR "help seeking"[tw] OR "change suicide rate"[tiab:~3] OR "number suicide attempts"[tiab:~3] OR "crisis counselling"[tw] OR "Suicid* Ideation"[tw] OR "Suicide attempt*"[tw] OR "attempted suicide"[tw] OR help-seeking[tw] OR "social connect*"[tw] OR “suicidal thoughts”[tiab:~3] OR “suicidal ideation”[tiab:~3] OR suicidal[tw] OR “suicide attempt”[tiab:~3]) OR ("self-injurious behavior"[Mesh:NoExp] OR "suicide, attempted"[Mesh:NoExp] OR "stress, psychological"[Mesh:NoExp] OR "harm reduction"[Mesh:NoExp] OR "information seeking behavior"[Mesh:NoExp] OR "risk reduction behavior"[Mesh:NoExp]) AND (Australia*[tw] OR "'New Zealand'"[tw] OR Austria[tw] OR Belgium[tw] OR Canada[tw] OR Denmark[tw] OR France[tw] OR Germany[tw] OR Greece[tw] OR Iceland[tw] OR Ireland[tw] OR Luxembourg[tw] OR Netherlands[tw] OR Norway[tw] OR Portugal[tw] OR Spain[tw] OR Sweden[tw] OR Switzerland[tw] OR Turkey[tw] OR "'United Kingdom'"[tw] OR England[tw] OR Wales[tw] OR Scotland[tw] OR "'United States'"[tw] OR USA[tw] OR America*[tw] OR Italy[tw] OR Japan[tw] OR Finland[tw] OR Mexico[tw] OR Israel[tw]) OR (Australia[Mesh:NoExp] OR		

	Scandinavia[Mesh:NoExp] OR "Developed Countries"[Mesh:NoExp]) AND #1 and #2 and #3 and #5 AND LIMITS: English, from 2019 – 2025.		

Appendix 3—Prisma diagram



Appendix 4—Data extraction tables

Table 4.1: Intervention characteristics

First author, year	Brief description of intervention
Allen, 2023[15]	**Intervention name** Qungasvik **Location** Rural Alaska (Southwest Alaska, Yup'ik communities) **Target population characteristics** Alaskan Native youth at risk of suicide and alcohol misuse aged 12–18 years **Mode of delivery** Face-to-face community-based activities **Level of intervention** Multi-level (individual, family and community) **Brief description of intervention** Qungasvik is a community-based participatory intervention aiming to foster cultural engagement, promote community resilience, and promote protective factors linked to suicide and alcohol misuse. The intervention contains 18 basic modules for delivery at individual, family or community level. Each module promotes several protective factors for suicide and alcohol misuse. It was co-designed in partnership with Alaskan Native communities and researchers. It is delivered by community members and cultural leaders with lived experience and also involves peer facilitation by young people with lived experience.
Côté, 2022[23]	**Intervention name** Canadian Suicide Prevention Service (CSPS) **Location** Nationwide, Canada **Target population characteristics** Individuals in distress aged 14–62 years. **Mode of delivery** Digital: Text-based crisis intervention (SMS support service) **Level of intervention** Individual level, with multi-level support through external resources **Brief description of intervention** CSPS allows users to text trained crisis counsellors for immediate crisis support. Crisis counsellors use active listening and problem-solving techniques.
Gunn, 2023[22]	**Intervention name** ifarmwell **Location** Nationwide, Australia (online, rural focus) **Target population characteristics** Australian farmers experiencing distress and mental health challenges aged 21–73 years **Mode of delivery** Digital: Online self-help intervention **Level of intervention** Individual level **Brief description of intervention** ifarmwell is an online intervention co-designed with farmers and informed by Acceptance and Commitment Therapy (ACT) and includes five interactive modules that equip users with practical coping strategies to deal with stressors beyond their control, such as drought and financial pressures. The intervention aims to increase psychological flexibility, reduce distress, and improve mindfulness and acceptance-based coping. Farmers can access the program at their own pace, and it includes SMS and email reminders to encourage engagement.
Kahl, 2020[20]	**Intervention name** ReachOut **Location** Nationwide, Australia **Target population characteristics** Young people with mental health concerns aged 16–25 years **Mode of delivery** Digital: Online, self-directed intervention **Level of intervention**

First author, year	Brief description of intervention
	Individual level **Brief description of intervention** ReachOut provides psychoeducational resources, personal stories, quizzes, videos, audio recordings, apps, peer-support forums and clinical referral pathways to help users manage their mental health and seek support. The intervention was co-designed with young people and reviewed by a clinical advisory group to ensure relevance and effectiveness. It is widely accessible, anonymously available, and aims to improve help-seeking behaviours and mental wellbeing through self-guided exploration of mental health information and strategies. It includes peer stories and user-generated content.
Keyworth, 2021[13]	**Intervention name** The volitional help sheet (VHS) **Location** Nationwide, UK **Target population characteristics** Individuals with a history of self-harm aged 18 and above **Mode of delivery** Digital: Online, self-guided intervention **Level of intervention** Individual level **Brief description of intervention** VHS is a brief, web-based intervention designed to help individuals at risk of self-harm develop implementation intentions—'if-then' coping strategies—to automatically respond to self-harm triggers with alternative actions. It presents users with common high-risk situations and a list of pre-formulated coping responses, allowing them to create personalised action plans to reduce the likelihood of repeat self-harm. It was co-designed based on feedback from a Patient and Public Involvement (PPI) group consisting of individuals with lived experience of self-harm, suicidal behaviour or mental health service use, and offers participants access to crisis line support.
La Sala, 2023[24]	**Intervention name** #chatsafe **Location** Nationwide, Australia **Target population characteristics** Young people exposed to suicide aged 16–25 years **Mode of delivery** Digital: social media campaign via Instagram, Facebook, Snapchat **Level of intervention** Individual level **Brief description of intervention** #chatsafe is a social media-based suicide prevention campaign designed to help young people communicate safely online about suicide. It consists of a six-week social media campaign, delivering co-designed content via Instagram, Facebook and Snapchat, including guidelines about safe communication, self-care, checking in on peers and reporting unsafe content. The intervention aimed to increase young people's willingness to intervene against suicide online, enhance their internet self-efficacy and improve confidence and safety when discussing suicide on social media. It was co-designed with young people and integrates peer experiences into the campaign.
Morgan, 2022[16]	**Intervention name** The Wesley LifeForce Networks program **Location** Australia (multiple states including NSW) **Target population characteristics** Community members in high-risk areas, primarily adults **Mode of delivery** Face-to-face community-based intervention **Level of intervention** Community level **Brief description of intervention** The Wesley LifeForce Networks program is a community-led suicide prevention initiative operating across Australia. It is designed to empower local communities to develop and implement suicide prevention strategies tailored to their specific needs. The intervention establishes local suicide prevention networks, supported by a national team that provides guidance, training, and administrative support. Each network engages local stakeholders, such as healthcare providers, emergency services, and community members, to raise awareness, reduce stigma, improve access to support services, and coordinate suicide prevention activities. The intervention does not impose a pre-existing model but instead adapts to local contexts, ensuring sustainability through ongoing community engagement and support. It includes trained community members as peer facilitators
Ramsey, 2019[18]	**Intervention name** Lifeline **Location** Northern Ireland, UK **Target population characteristics**

First author, year	Brief description of intervention
	Individuals in crisis who contacted Lifeline Crisis Services, primarily adults **Mode of delivery** Digital: Telephone calls and follow-up calls **Level of intervention** Individual level **Brief description of intervention** Lifeline is a 24/7 crisis support line aimed at individuals in acute distress or at risk of suicide. Staffed by professionally qualified crisis counsellors, it provides immediate emotional support, risk assessment and referrals to emergency or mental health services when necessary. The intervention includes 'check-in' follow-up calls.
Ross, 2020[28]	**Intervention name** MATES in Energy **Location** Qld, Australia **Target population characteristics** Workers in the energy sector, primarily male adults **Mode of delivery** Face-to-face workplace training **Level of intervention** Multi-level (Individual and workplace training) **Brief description of intervention** The MATES in Energy program is a suicide prevention initiative adapted from the MATES in Construction model to support workers in the energy sector in Australia. It provides General Awareness Training (GAT) about mental health and suicide prevention, peer-support programs (Connector training), Applied Suicide Intervention Skills Training (ASIST), and case management for at-risk workers. The intervention aims to improve suicide literacy, reduce stigma about help-seeking, and create a support network within workplaces by training workers to identify and support colleagues in distress. It is delivered by trained peer workers.
Sindahl, 2019[17]	**Intervention name** Text-based crisis support service provided by the Danish national child helpline (BørneTelefonen) **Location** Nationwide, Denmark **Target population characteristics** Children and young people under 23 years old with suicide ideation who contacted the Danish national child helpline via SMS. **Mode of delivery** Digital: Text-based crisis intervention Individual level **Brief description of intervention** This intervention is a text-based crisis helpline service for children and young people under 23 years old experiencing suicidal thoughts. The service is staffed by trained volunteers and aims to provide emotional support, risk assessment and encouragement for further help-seeking.
Snodgrass, 2020[26]	**Intervention name** Deadly Thinking **Location** Australia (NSW, Qld, WA) **Target population characteristics** Aboriginal and Torres Strait Islander communities, primarily adults **Mode of delivery** Face-to-face workshops **Level of intervention** Community level **Brief description of intervention** The Deadly Thinking program is a culturally adapted community-based social and emotional wellbeing workshop designed for Aboriginal and Torres Strait Islander communities in rural and remote Australia. It uses group discussions, videos and facilitated conversations to improve mental health literacy, help-seeking attitudes and emotional resilience. The program is based on Indigenous perspectives and was developed through consultation with Aboriginal communities, and it is delivered by Indigenous peer facilitators with lived experience.
Stas, 2024[25]	**Intervention name** Get Out of Your Head **Location** Flanders, Belgium **Target population characteristics** Men aged 18+ struggling with mental health issues or suicidal thoughts, as well as men who know someone in distress. **Mode of delivery** Digital: Online public health campaign **Level of intervention**

First author, year	Brief description of intervention
	Individual-level digital intervention **Brief description of intervention** The Get Out of Your Head campaign is an online suicide prevention initiative targeted at men that aims to reduce stigma, increase help-seeking behaviour and encourage emotional openness. It consists of campaign videos, website content and real-life testimonies from men with lived experience of mental health struggles. The campaign was co-designed with mental health professionals and a focus group of men with lived experience.
Thoen, 2020[21]	**Intervention name** Law enforcement suicide prevention and wellness programs **Location** Nationwide, US **Target population characteristics** Law enforcement officers across city police departments and sheriff's offices. **Mode of delivery** Agency-offered wellness and suicide prevention programs, including Employee Assistance Programs, peer support and critical incident stress management. **Level of intervention** Multi-level (Individual and organisational) **Brief description of intervention** The 55 agencies included in the study offered varying types of suicide prevention and wellness programs to staff. 29 offered Employee Assistance Programs, 18 agencies offered a peer support team to assist officers in crisis, 16 offered wellness training programs, 10 offered suicide prevention programs, four offered internal psychological services and 2 offered a crisis helpline.
Turkington, 2024[19]	**Intervention name** Samaritans UK **Location** UK (nationwide crisis helpline) **Target population characteristics** Individuals in crisis who contacted Samaritans UK via landline calls. **Mode of delivery** Digital: Telephone-based crisis support **Level of intervention** Individual level **Brief description of intervention** The intervention is a crisis helpline that provides one-off support via telephone and is delivered by trained volunteers.
Webb, 2023[27]	**Intervention name** Better Off With You **Location** Australia (Northern Sydney and Northern Queensland) **Target population characteristics** General community members, with a focus on individuals experiencing suicidal ideation. **Mode of delivery** Digital: website **Level of intervention** Individual level **Brief description of intervention** The Better Off With You campaign is a peer-to-peer digital suicide prevention campaign in Australia that aims to reduce perceived burdensomeness among people experiencing suicidal ideation. The intervention includes video stories from individuals with lived experience and a website with mental health resources, aiming to encourage connection and help-seeking.

Table 4.2: Outcomes and effectiveness of included interventions

First author, year, country, level of evidence	Study aim	Design	Sample/setting	Outcomes & effectiveness				
				Suicide rates	Suicidality &/or distress	Mental health & wellbeing	Awareness & help seeking	Intervention acceptability
Allen, 2023[15] US, III-1	To test of the impact of the Qungasvik intervention in four rural Yup'ik communities in Southwest Alaska in relation to intermediate and ultimate outcomes of ameliorative protective factors that buffer suicide and alcohol misuse risk.	Pseudorandomised controlled trial (dynamic wait-listed design)	N=239 participants aged 12–19 years (51% male; 49% female) residing in four rural Yup'ik communities in southwest Alaska		Yup'ik culturally specific and 'protective' 'ultimate outcome': **Reasons for Life**: small increase over time during intervention for medium-dose (β = 0.18; 95% CI: = [-0.04−0.37]) and high-dose interventions (β = 0.29; 95% CI: = [0.05−0.49]), however only high dose showed credible growth (however non-significant effect). A time x age interaction (β = 0.28; 95% CI: = [0.05–0.49]) suggested growth in RL over time with increasing age.	Yup'ik culturally specific and 'protective' 'intermediate outcome': Composed of items from the Multicultural Mastery Scale: Mastery and including protective factors at the individual, family and community level. Dose-dependent intervention effects were associated with growth in ultimate but not intermediate variables.		
Côté, 2022[23], Canada, IV	1. Describe the users of the Canadian Suicide Prevention Service*; (CSPS)* text helpline; 2. Explore the perceived impact of the service; 3. Identify characteristics of interventions that are associated with a greater likelihood of positive or negative effects of the exchanges.	Case series with pre-test/post-test outcomes	N=112 transcripts of text exchanges; persons in distress using the CSPS text service and engaging with the service for at least 20 mins and where some part of the exchange concerned suicide.		A significant decrease in emotional intensity from the beginning (M = 3.6; SD = 0.849) to the end (M = 2.28; SD = 9.93) of calls (t = 14.727; p <0.001)			
Gunn, 2023[22], Australia, IV	To evaluate the effectiveness of the ifarmwell online intervention on farmers' short- and long-term distress and mental wellbeing, and to examine ratings of usability and satisfaction with the website.	Single arm, pre-test/post-test outcomes	N=228 at baseline (mean age 45.9 years; 63.2% female). N=77 completed follow-up (intervention end), and N=61 completed 6-month follow-up (mean age 48.1 years; 63.6% female).		Kessler Psychological Distress Scale (K10): significantly lower than baseline distress scores with a mean change of -2.76 units [95%CI: -3.61, -1.91]. This continued at 6-month follow-up, with a mean change of -3.52 units [95%CI: -4.44, -2.60] from baseline.	Mental Health Continuum Short Form (MHC-SF): increased from baseline to post-intervention [95%CI: 0.18–4.09]. Post-intervention scores did not significantly differ from 6-month follow-up scores on either outcome (distress and mental wellbeing), indicating a maintenance of these effects over time.		User satisfaction (CSQ-8 – Client Satisfaction Questionnaire-8). Usability (SUS – System Usability Scale): Average satisfaction post-intervention was 26.92 (SD = 4.12) on a scale of 8 to 32. Average usability post-intervention was 84.70 (SD = 13.14) on a scale of 0 to 100.
Kahl, 2020[20], Australia, III-2	To explore the impact of ReachOut.com (ReachOut) on mental health outcomes of young people who used the service over a 3-month time period.	Cohort	N=1609 Australian youth aged between 16 and 25 years (mean 19.40, SD 2.98) who had used the ReachOut website previously to access information and support for themselves or for someone they knew. Participants were recruited through pop-up notifications on the ReachOut website		For youth accessing a co-designed digital intervention, ReachOut, there was a significant, albeit modest, decrease in the percentage of those at high risk of suicide at 3-month follow-up (p <.001).			99.1% scored the overall rating for the interventions as 'good' or 'excellent'.

First author, year, country, level of evidence	Study aim	Design	Sample/setting	Outcomes & effectiveness				
				Suicide rates	Suicidality &/or distress	Mental health & wellbeing	Awareness & help seeking	Intervention acceptability
			between November 2014 and August 2014, and February 2016 and June 2016. The analysed sample n=1609 was predominantly female (1352, 85%), and many had previously sought help from a mental health professional (1203, 74.5%). 13.9% had a history of hospital admission for a mental health issue.					
Keyworth, 2021[13], UK, IV	To explore the acceptability of the volitional help sheet (VHS), examine for whom and under what circumstances this intervention is more or less acceptable, and develop a series of recommendations for how the VHS can be used to support people in reducing repeat self-harm.	Case series using mixed methods (post-test outcomes only)	Phase 1: N=10 individuals with a history of self-harm, suicidal behaviour or receiving mental health service; Phase 2: N=514 Adults in the UK who had previously self-harmed. The sample comprised mostly women (331/514, 64.4%), 27.4% (141/514) were aged 18–34 years, 21.2% (109/514) were aged 35–44 years, 18.1% (93/514) were aged 45–54 years, and 33.3% (171/514) were aged ≥ 55 years. The majority of the sample was White (472/514, 91.8%), and 63.4% (326/514) were of higher social grade (nonmanual workers). The gender and age characteristics of the sample were comparable with people who reported history of self-harm in a general population dataset.					Found to have high levels of acceptability and perceived effectiveness. Those with self-harm in the past year more likely to perceive VHS as burdensome (OR 1.64, 95% CI 1.11–2.41); those with non-suicidal self-harm more likely to rate higher acceptability.
La Sala, 2023[24], Australia, IV	To test the #chatsafe intervention with regards to: - willingness to intervene against suicide online - perceived internet self-efficacy - adherence to communication behaviour To investigate the safety and acceptability of the intervention and to determine whether age, gender or rate of social media use influenced the	Case series with pre-test/post-test outcomes	N=266 young people (16–25 years) living in Australia who had been exposed to a suicide or a suicide attempt in the past two years at the time of recruitment (July – November 2020). The median age of participants was 18.9 years, most identified as cisgender female (206/266, 77.4%) more than half (145/266, 54.5%) identified as non-heterosexual, and the majority (213/266, 80.1%)		Participants reported a 57.9% increase in perceived behavioural control.		Participants reported a 42.9% increase in willingness to intervene against suicide (primary study outcome).	49.62% found it helpful; 47.37% reported increased confidence when sharing discussions about suicide online; most reported the content posed no risk to themselves (95.49%) or others (84.21%); 39.85% believed the content would help prevent further suicidal behaviour.

First author, year, country, level of evidence	Study aim	Design	Sample/setting	Outcomes & effectiveness				
				Suicide rates	Suicidality &/or distress	Mental health & wellbeing	Awareness & help seeking	Intervention acceptability
	impact of the #chatsafe intervention.		were currently studying. All participants had exposure to a suicide or suicide attempt in the past 2 years, and most participants knew the person who had died by suicide or made a suicide attempt in their offline lives (234/266, 88%) as opposed to only knowing the person online.					
Morgan, 2022[16], Australia, III-2	To examine the effect of the establishment of Wesley LifeForce Networks across Australia on the suicide rate in Network catchment areas.	Case control	N=60 cases and N=60 controls; LifeForce Networks had to be operational and established between 2001 and before 2017 to be included in this study. There were more Networks in regional areas (n=30, 50%) than in major cities (n=18, 30%) or remote areas (n=12, 20%), which is consistent with the profile of all Networks, as was the distribution of Networks across Australian state or territories. Control areas without established LifeForce Networks but with similar demographic characteristics were identified and matched to LifeForce Networks at a ratio of 1:1, based on key criteria including remoteness, relative socioeconomic disadvantage and population size. The characteristics of the control areas matched with the network areas in relation to socioeconomic disadvantage scores and remoteness. Mean population was significantly lower in control areas (M=29,724, SD=39,359) than Network areas (M=58,349, SD=71,386), t(59)=3.52, p<.001.	7% reduction in suicide rates, indicated by an incidence rate ratio (IRR) of 0.93 (p = 0.03).				
Ramsey, 2019[18], UK, III-2	To describe the characteristics of people	Matched case control	N=118 people who contacted Lifeline	Those who received check-in calls were 3.3 times less				

First author, year, country, level of evidence	Study aim	Design	Sample/setting	Outcomes & effectiveness				
				Suicide rates	Suicidality &/or distress	Mental health & wellbeing	Awareness & help seeking	Intervention acceptability
	who accessed a crisis support phone line who later died by suicide, versus those who were alive.		between 2008 and 2014 and went on to die by suicide; 30.5% female; majority (92%) aged between 18 and 54.	likely to die by suicide, compared with individuals who did not receive or engage in follow-up calls ($p < .001$). Those who received a referral to emergency services were significantly less likely to die by suicide ($p < .01$).				
Ross, 2020[28], Australia, IV	To examine the effectiveness of suicide prevention general awareness training, delivered by MATES in Energy to workers in the energy industry, and estimate the prevalence of recent suicidal ideation and exposure to suicidal behaviours.	Pre/post-test	N=4887 employees in the energy industry across Qld; 73.2% male; 2% with recent suicidal thoughts.			Self-reported improvement in wellbeing: small (increase in mean from 3.82 to 3.86, out of 5) but significant ($p < .001$).	Significant increase in mean scores for items assessing suicide awareness, knowledge, and attitudes to help-seeking and -giving.	
Sindahl, 2019[17], Denmark, III-2	To explore: (1) how children and youth contacting a Danish children's helpline with suicide ideation differ from children discussing other topics, (2) whether text messaging effectively helps reduce suicidality, and (3) which counsellor behaviours are most effective at reducing suicidality via texting. NOTE: qual results from aim (1) not reported here.	Case control	N=6060 cases of text-counselling sessions (number of participants unknown); in 7.1% (444) of cases, suicidal thoughts or behaviour were either the primary reason for contact or a related topic.					Those with suicidality reported feeling helped (49%), having autonomy in conversation (64.1%), were taken seriously (64.4%), and regard text line as future resource (81.4%).
Snodgrass, 2020[26], Australia, IV	To evaluate the acceptability and feasibility of Deadly Thinking, a social and emotional wellbeing promotion program targeted to Aboriginal and Torres Strait Islander communities.	Pre/post-test	N=413; 69.8% female; mean age 41.6 years; 70.4% identified as Aboriginal or Torres Strait Islander persons; across 40 rural and remote locations across Qld, NSW, WA, ACT and Vic.			100% of participants reported the intervention would help them understand and deal with their worries.	Significant increase in help-seeking intentions with small to moderate effect sizes (Cohen's $d = 0.17$ to 0.52).	81% of participants were satisfied with presenter, materials, and content.
Stas, 2024[25], Belgium, IV	To evaluate the effectiveness of Get Out of Your Head, an online suicide prevention campaign targeted to men.	Pre/post-test	N=203 men; 115 completed post-test assessment; most (67%) were employed with higher education qualification (63.6%); 33.5% experienced suicidal ideation in previous 12 months; 11.8% had attempted suicide over their lifetime, with 2% in previous 12 months.				Small increase in likelihood of seeking help when experiencing suicidality ($p = 0.023$, $d = 0.15$). Participants showed higher intention of seeking help when experiencing suicidal thoughts ($M = 31.88$, $SE = 0.68$) after viewing the campaign, compared with baseline ($M = 30.67$, $SE = 0.60$). About half (49.6%, n=57) of the participants stated that they understood more about men's mental health.	71.3% rated interventions as 'appealing' and 73% rated it 'interesting'.

First author, year, country, level of evidence	Study aim	Design	Sample/setting	Outcomes & effectiveness				
				Suicide rates	Suicidality &/or distress	Mental health & wellbeing	Awareness & help seeking	Intervention acceptability
Thoen, 2020[21], US, III-2	1. To document the use of any suicide prevention or other wellness program used by law enforcement agencies across the US; and 2. to compare mental wellness of officers working within agencies with suicide prevention programs against those without.	Case-control	N=144 law enforcement officers (76.2% male) from 19 law enforcement agencies across the US, ranging from small (5–20 FTE) to large (101+ FTE) agencies.			Mental wellbeing: No significant differences were reported.		
Turkington, 2024[19], UK, III-2	To compare the duration of crisis helpline calls answered locally with those answered in a different region in the UK.	Case-control	4,647,567 calls (number of participants unclear) originating from 608 locations across the UK.					Duration of phone call to UK-based crisis line was significantly longer when caller was connected with a crisis supporter outside of their region ($p<0.001$). Call duration is assumed to be a proxy measure for the degree to which caller felt supported and willing to disclose.
Webb, 2023[27], Australia, IV	To investigate the safety, acceptability and initial effectiveness of Better Off With You, a digital suicide prevention campaign.	Case series using mixed methods (pre-/post-test outcomes and qualitative interviews)	N=157. Participants were from two PHN regions (Northern Sydney and Northern Queensland); 40.8% reported suicidal thoughts over their lifetime; 6.3% had contemplated acting on suicidal thoughts in previous 6 months.		Reduction in psychological distress ($z = 2.05$, $p < .05$, small effect size $r = .17$). <0.01% indicated suicidal thoughts were more prominent and not manageable following the intervention.			91% rated engaging and relevant.

Table 4.3: Assessment of study level of evidence and description of limitations

First author, year, country	Study design	Level of evidence (NHMRC Evidence Hierarchy)[37]*	Study limitations
Allen, 2023[15], US	Pseudorandomised controlled trial (dynamic wait-listed design)	III-1	Challenges in experimental control, small sample size and measurement limitations (psychometric limitations, youth self-report) are key limitations to the interpretation of these findings. Reach of high-dose intervention was also limited and did not extend to most youth.
Côté, 2022[23], Canada	Case series with pre-test/post-test outcomes	IV	Preliminary study with relatively small sample size that limits statistical power and findings. The study methodology and design have limitations for validating counsellor observations with service-user experiences and outcome follow-up.
Gunn, 2023[22], Australia	Single arm, pre-test/post-test outcomes	IV	It is acknowledged that the present study was potentially limited by the lack of a control group, so we cannot rule out the possibility that participants' distress and wellbeing would have improved over time regardless of their participation in ifarmwell. Module completion rates and participant attrition are also a limitation of this study. Note from MM—the outcomes of interest as reported here do not seem to have a clear link to suicide risk or prevention.
Kahl, 2020[20], Australia	Cohort study	III-2	ReachOut is not designed to be a crisis service or to meet the particular needs of young people at risk of suicide. The possible impact of other help-seeking avenues reduces confidence in the attribution of causality to the intervention. In addition, this sample had complex mental health needs that may not be representative of young people across the mental health spectrum but rather of those in high distress. Self-selection bias and participant characteristics (i.e. majority female) limits the generalisability of findings to a broad population. Intervention dose/usage not defined or measured in any objective way, unable to explore the impact of different components of the intervention on mental health outcomes and the dosage effects (a gap for future research?)
Keyworth, 2021[13], UK	Case series using mixed methods (post-test outcomes only)	IV	Participants were identified from a pre-existing sample of the general public who reported a previous history of self-harm and were recruited and incentivised by YouGov to complete the questionnaire. Therefore, the sample may not be fully representative of a community with a history of self-harm. - Unable to determine whether our sample is representative of this population because of a lack of available studies. - TFA constructs were measured using an instrument developed by the research team; therefore the psychometric properties of the tool are unknown.
La Sala, 2023[24], Australia	Case series with pre-test/post-test outcomes	IV	This was not a controlled study and the changes observed cannot be directly attributed to the #chatsafe intervention. Data as to timing of suicide bereavement or exposure was not collected (other than broadly in the last 2 years) nor was proximity/nature of relationship with the deceased. This information would allow for a more thorough exploration of how the grieving process impacted the intervention perception. Information bias—Author-derived scales may not have adequately captured online behaviours and experiences, particularly with regards to adherence to #chatsafe guidelines. Response bias—data relies on participant self-report

First author, year, country	Study design	Level of evidence (NHMRC Evidence Hierarchy)[37]*	Study limitations
Morgan, 2022[16], Australia	Case control study	III-2	Findings are observational. While Network and control areas were well matched on several key criteria, the analysis did not account for other factors, such as existing health service arrangements or any other specific suicide prevention programs. Not all Networks could be included in the analysis, as there was a lack of post-establishment data about suicide for more recently established Networks.
Ramsey, 2019[18], UK	Matched control design	III-2	Risk of underreporting of suicidal ideation/behaviours and stigmatised behaviours because of self-report. Findings are observational using clinical data specific to users of the Northern Irish Lifeline service, and therefore may not be generalisable. Risk of underestimation of some variables because of inconsistent or missing information in client records. Unable to draw causation
Ross, 2020[28], Australia	Pre- and post-test	IV	Study design limits ability to draw causation. Lack of longitudinal data limits understanding of whether changes are sustained over time. Self-reported data may be subject to positive response bias. Measures assess 'intention' to seek help, not behaviours, therefore unable to determine actual behaviour change.
Sindahl, 2019[17], Denmark	Case control study (mixed methods study)	III-2	Results are correlational, therefore unable to imply causality. Analysis showed significant difference between those who completed follow-up surveys and those who didn't, indicating a positive bias in the data.
Snodgrass, 2020[26], Australia	Pre- and post-test	IV	Limited number of pre/post measures, therefore effectiveness of program unable to be determined. Study design does not allow causal interpretation of the (limited) pre/post data. Data is not longitudinal, therefore unable to assess whether changes were sustained over time. Results report largely on 'intention', not 'action', therefore unable to evaluate actual changed behaviours.
Stas, 2024[25], Belgium	Pre-test / post-test study	IV	Study design does not allow causal interpretation. Data is not longitudinal, therefore unable to assess whether changes were sustained over time.
Thoen, 2020[21], US	Case control study	III-2	Law enforcement agencies were required to opt-in, with many declining, potentially leading to biased sample. Definition of suicide prevention and wellness programs was broad, potentially diluting programs of interest. Effectiveness of individual programs is unknown. Assignment to condition (presence of suicide prevention/wellbeing programs vs not) required self-reporting by officers, some of whom did not know, therefore conditions may be arbitrary.
Turkington, 2024[19], UK	Case control study	III-2	Non-experimental design, therefore unable to draw causality. Assumption that call duration is a proxy measure for degree caller feels supported and willing to disclose. Analysis limited to landline calls only, therefore sample may not be representative. Findings may not be generalisable to other countries.
Webb, 2023[27], Australia	Case series using mixed methods (pre-/post-test outcomes and qualitative interviews)	IV	Conducted in only two regions therefore generalisability limited. No comparison or control group. Not longitudinal. Sample included wider community, therefore target population not focused on.

*The NHMRC Evidence Hierarchy can be found in Appendix 6

Appendix 5—Articles of interest

(that did not meet inclusion criteria)

Table 5.1: Literature reviews

Reference	Paper type	Populations of interest
Abbate L, Chopra J, Poole H, Saini P. Evaluating Postvention Services and the Acceptability of Models of Postvention: A Systematic Review. *Omega (Westport). 2024*. doi:10.1177/00302228221112723	Systematic review	Suicide bereaved
Addison HA, Richmond TS, Lewis LM, Jacoby S. Mental health outcomes in formerly incarcerated Black men: A systematic mixed studies review. *J Adv Nurs*. 2022;78(7):1851–1869. doi:10.1111/jan.15235	Systematic mixed studies review	Incarcerated, men
Allen L, Zelazny J. Suicidal ideation and behaviors among LGBTQ+ adolescents and young adults who have experienced sexual violence: A scoping review of the literature. *J Forensic Nurs*. 2024. doi:10.1097/JFN.0000000000000505	Scoping review	LGBTQIA+ youth
Andriessen K, Krysinska K, Kõlves K, Reavley N. Suicide postvention service models and guidelines 2014–2019: A systematic review. *Front Psychol*. 2019;10:22. doi:10.3389/fpsyg.2019.02677	Systematic review	Suicide bereaved
Aran N, Card KG, Lee K, Hogg RS. Patterns of suicide and suicidal ideation in relation to social isolation and loneliness in newcomer populations: A review. *J Immigr Minor Health*. 2023;25(2):415–426. doi:10.1007/s10903-022-01422-9	Systematic review	Immigrants, CALD background
Bassilios B, Currier D, Krysinska K, et al. Government funded suicide prevention in Australia – an environmental scan. *BMC Public Health*. 2024;24(1):2315. doi:10.1186/s12889-024-19483-w	Environmental scan	
Clibbens N, Baker J, Booth A, et al. Explanation of context, mechanisms and outcomes in adult community mental health crisis care: the MH-CREST realist evidence synthesis. *Health Soc Care Deliv Res*. 2023;11(15):1–161. doi:10.3310/TWKK5110	Realist evidence synthesis	Complex mental health
Dickson JM, Cruise K, McCall CA, Taylor PJ. A systematic review of the antecedents and prevalence of suicide, self-harm and suicide ideation in Australian Aboriginal and Torres Strait Islander youth. *Int J Environ Res Public Health*. 2019;16(17):3154. doi:10.3390/ijerph16173154	Systematic review	Aboriginal and Torres Strait Island peoples, youth
Galante J, Friedrich C, Dawson AF, et al. Mindfulness-based programmes for mental health promotion in adults in nonclinical settings: A systematic review and meta-analysis of randomised controlled trials. *PLoS Med*. 2021;18(1):e1003481. doi:10.1371/journal.pmed.1003481	Systematic review	
Hu D, Comben C, Diminic S, Pagliaro C. Review of Australia's funding commitments for suicide prevention from 2021-22 to 2026-27. *Aust Health Rev*. 2024;48(1):45–51. doi:10.1071/AH23176	Environmental scan	

Iyer R, Meyer D. Detection of suicide risk using vocal characteristics: Systematic review. *JMIR Biomed Eng*. 2022;7(2):e42386. doi:10.2196/42386	Systematic review	
Leske S, Paul E, Gibson M, et al. Global systematic review of the effects of suicide prevention interventions in Indigenous peoples. *J Epidemiol Community Health*. 2020;74(12):1050–1055. doi:10.1136/jech-2019-212368	Systematic review	Aboriginal and Torres Strait Island peoples
Sakashita T, Oyama H. Suicide prevention interventions and their linkages in multilayered approaches for older adults: A review and comparison. *Front Public Health*. 2022;10:842193. doi:10.3389/fpubh.2022.842193	Narrative synthesis	Older adults
Schlichthorst M, Reifels L, Spittal M, et al. Evaluating the effectiveness of components of national suicide prevention strategies. *Crisis*. 2023;44(4):318–328. doi:10.1027/0227-5910/a000887	Narrative review with statistical analysis	
Torok M, Han J, Baker S, et al. Suicide prevention using self-guided digital interventions: A systematic review and meta-analysis of randomised controlled trials. *Lancet Digit Health*. 2020;2(1):e25–e36. doi:10.1016/S2589-7500(19)30199-2	Systematic review and meta-analysis	
Venugopal J, Morton Ninomiya ME, Green NT, et al. A scoping review of evaluated Indigenous community-based mental wellness initiatives. *Rural Remote Health*. 2021;21(1):6203. doi:10.22605/RRH6203	Scoping review	Aboriginal and Torres Strait Island peoples

*These papers are not included in the review and are therefore not referenced. They were collated for MHB because they are relevant to the topic area, yet they did not meet the strict inclusion criteria of this accelerated evidence snapshot.

Table 5.2: Other study types

Reference
Andrews B, Coleman L, Bowlin M, Cox C. Youth crisis hotlines: merging best practice suicide prevention within a system of care. In: Ackerman JP, Horowitz LM, editors. Youth suicide prevention and intervention: best practices and policy implications. Springer International Publishing; 2022. p. 87–95. doi:10.1007/978-3-031-06127-1_10
de Deuge J, Hoang H, Kent K, Mond J, Bridgman H, Skromanis S, et al. Impacts of community resilience on the implementation of a mental health promotion program in rural Australia. Int J Environ Res Public Health. 2020;17(6):2031. doi:10.3390/ijerph17062031
Nicholas A, Niederkrotenthaler T, Reavley N, Pirkis J, Jorm A, Spittal MJ. Belief in suicide prevention myths and its effect on helping: a nationally representative survey of Australian adults. BMC Psychiatry. 2020;20(1):303. doi:10.1186/s12888-020-02715-9
Ftanou M, Reavley N, Robinson J, Spittal MJ, Pirkis J. Developing public service announcements to help prevent suicide among young people. Int J Environ Res Public Health. 2021;18(8):4158. doi:10.3390/ijerph18084158
de Boer TR, Mérelle S, Bhulai S, Gilissen R, van der Mei R. Forecasting call and chat volumes at online helplines for mental health. BMC Public Health. 2023;23(1):984. doi:10.1186/s12889-023-15887-2
Maple M, McKay K, Sanford R. The attempt was my own! Suicide attempt survivors respond to an Australian community-based suicide exposure survey. Int J Environ Res Public Health. 2019;16(22):4549. doi:10.3390/ijerph16224549
Goldstein EV, Prater LC, Wickizer TM. Preventing adolescent and young adult suicide: do states with greater mental health treatment capacity have lower suicide rates? J Adolesc Health. 2022;70(1):83–90. doi:10.1016/j.jadohealth.2021.06.020
McGillivray L, Shand F, Calear AL, Batterham PJ, Chen NA, Rheinberger D, et al. Profiles of passive and active suicidal ideation and attempts among secondary school students in Australia: a cross-sectional analysis. Arch Suicide Res. 2022;26(4):1880–94. doi:10.1080/13811118.2021.1945983
Perdacher E, Kavanagh D, Sheffield J, Dale P, Heffernan E. The use of a digital well-being app (Stay Strong App) with Indigenous people in prison: randomized controlled trial. JMIR Ment Health. 2024;11:e53280. doi:10.2196/53280
Sánchez-Álvarez N, Extremera N, Rey L, Chang EC, Chang OD. Optimism and gratitude on suicide risk in Spanish adults: evidence for doubling up or doubling down? J Clin Psychol. 2020;76(10):1882–92. doi:10.1002/jclp.22962
Like D, Godleski L. Videoconferencing needed in suicide prevention hotlines. J Technol Behav Sci. 2021;6(3):498–500. doi:10.1007/s41347-021-00205-7
Rainbow C, Tatnell R, Blashki G, Melvin GA. Safety plan use and suicide-related coping in a sample of Australian online help-seekers. J Affect Disord. 2024;356:492–8. doi:10.1016/j.jad.2024.04.053

*These papers are not included in the review and are therefore not referenced. They were collated for MHB because they are relevant to the topic area, yet they did not meet the strict inclusion criteria of this accelerated evidence snapshot.

Appendix 6—NHMRC Levels of Evidence

Table 6.1: NHMRC Evidence Hierarchy: designations of 'levels of evidence' according to type of research question[37]

Level	Intervention	Diagnosis	Prognosis	Aetiology	Screening
I	A systematic review of Level II studies	A systematic review of Level II studies	A systematic review of Level II studies	A systematic review of Level II studies	A systematic review of Level II studies
II	A randomised controlled trial	A study of test accuracy with an independent blinded comparison with a valid reference standard, among consecutive patients with a defined clinical presentation	A prospective cohort study	A prospective cohort study	A randomised controlled trial
III-1	A pseudorandomised controlled trial (i.e. alternate allocation or some other method)	A study of test accuracy with an independent blinded comparison with a valid reference standard, among consecutive patients with a defined clinical presentation	All or none	All or none	A pseudorandomised controlled trial (i.e. alternate allocation or some other method)
III-2	A comparative study with concurrent controls: non-randomised experimental trials, cohort study, case-control study and interrupted time series with a control group	A comparison with a reference standard that does not meet the criteria for Level II and III-1	Analysis of prognostic factors among untreated control patients in a randomised controlled trial	A retrospective cohort study	A comparative study with concurrent controls: non-randomised experimental trials, cohort study, case-control study and interrupted time series with a control group
III-3	A comparative study without concurrent controls: historical control study, two or more single arm study, interrupted time series without a parallel control group	Diagnostic case-control study	A retrospective cohort study	A case-control study	A comparative study without concurrent controls: historical control study, two or more single arm study, interrupted time series without a parallel control group
IV	Case studies with either post-test or pre-test/post-test outcomes	Study of diagnostic yield (no reference standard)	Case series or cohort study of patients at different stages of disease	A cross-sectional study	Case studies

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