Creating Hope Together

Scotland's Suicide Prevention Strategy 2022-2032

Suicide Prevention in High-Risk Settings: A Scoping Review

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Executive Summary

The current scoping review aimed to identify suicide prevention interventions, actions, and/or recommendations in justice, housing, and care-experienced settings in order to support Action 6.1 (Outcome 4) of Scotland's National Suicide Prevention Strategy *'Creating Hope Together'* (Scottish Government, 2022).

A search of academic and grey literature was conducted. Studies were included if they reported on a suicide prevention intervention, action plan and/or recommendations, were conducted in justice, housing or care-experienced sectors, published between 2014-2024 and were conducted in Western countries. A total of 32 papers were synthesised as part of the review.

The majority of papers focused on justice settings. Gatekeeper training for staff, peer support programmes for inmates and for correctional staff, and restriction of access to means interventions were shown to be effective, implemented into action plans and recommended for future focus.

All reported interventions in housing settings were effective in reducing suicidal ideation. However, no study explored suicidal behaviour (attempt or suicide death) as an outcome. The bulk of the evidence supported the effectiveness of Housing First Interventions (policy implementing permanent housing options) and The Hope Service (a holistic psychosocial and practical support service). Local and national action plans were identified which prioritised suicide prevention in housing settings via gatekeeper training for frontline housing staff and investing in affordable housing options. No recommendations for best practice were identified specific to housing settings.

There was a dearth of research on interventions in care-experienced settings limiting our ability to conclude on effective suicide prevention interventions in this setting. Action plans set goals to develop interventions in this sector, but no specifics were outlined. Interventions implemented in this sector should be a priority for future research, given the high rates of suicide in this population.

There were various limitations to the current scoping review. For example, no studies were conducted in Scotland, and only six were conducted in the UK, limiting the generalisability to the Scottish population. Also, as this was a scoping review, the methods were not as rigorous as a classic systematic review.

Despite the limitations, these findings provide important insight into both 'what works' and the future of action in local and national plans. These findings should be considered when investing, planning and implementing future interventions or actions for suicide prevention in Scotland.

1. Introduction

1.1 Background

In 2022, The Scottish Government launched the National Suicide Prevention Strategy *'Creating Hope Together'* (Scottish Government, 2022). Action 6.1, Outcome 4, of the strategy states "In settings and services where people are at higher risk of suicide, ensure there is a suicide prevention action plan in place which takes account of risk and protective factors, and connects statutory partners (where appropriate) and local suicide prevention plans. This should draw on existing plans, resources and best practice approaches taken within settings to prevent suicide". In order to support the delivery of Action 6.1, the Academic Advisory Group were tasked with conducting a scoping review of the literature (academic and practice), with the aim to identify suicide prevention actions and/or interventions by organisations that have a staff/user population at high risk of suicide or operate in a setting that is high risk.

1.2 What do we know?

Evidence shows there are certain subgroups in society who face additional vulnerability of suicidal thoughts and behaviours, compared to the general population (Turecki & Brent, 2016). Those who have been in contact with the care system (care-experienced), individuals experiencing difficulties with housing and those in contact with the criminal justice system are among the groups which have shown high prevalence of suicidal thoughts and behaviours.

The World Health Organisation (2007) have highlighted for many years the importance of preventing suicide during incarceration. Suicide rates across the entirety of Western Europe are consistently higher in prisoners, compared with the general population (Fazel, Ramesh & Hawton. 2017). Indeed, suicidal thoughts and behaviours are a major problem across the lifespan in correctional settings, with younger individuals reporting higher instance of suicide attempts and older prisoners reporting suicidal ideation most frequently (Stoliker et al. 2018). Not only does being an inmate pose higher risk, individuals in contact with probation services (Phillips, Padfield & Gelsthorpe, 2018; Sirdifield, Brooker & Marples, 2020), and law enforcement officers (Dixon, 2021; Violanti et al., 2019) are also reported to be at increased risk for suicide. Focusing efforts on prevention in justice settings is therefore of the upmost priority.

Experiencing issues with housing is a further risk factor for suicidal thoughts and behaviours. One meta-analysis identified a pooled prevalence of 28.80% for lifetime history of suicidal ideation and 9.16% for lifetime history of suicide attempt in homeless people. This is considerably higher than that of the general population (Ayano et al., 2019). In addition to homelessness, those who have stable homes but experience issues with housing quality (e.g. functional problems with heating, lighting, ventilation) also face additional risk (Lee, 2024).

Finally, the rate of suicidal thoughts and behaviours in care-experienced individuals (e.g. foster care, kindship care, residential care) is markedly higher than non-care populations. For example, Evans et al. (2017) conducted a meta-analysis comparing the prevalence of suicidal ideation in children and young people with care-experiences, and those without. Authors estimated a prevalence of suicidal ideation of 24.7% in children and young people with care-experience, compared to 11.4% in non-care youth. In wider suicide prevention literature, this population is understudied, and an understanding of where prevention efforts should be focused is lacking (Gyourko et al., 2024).

To date, there are no reviews which provide a comprehensive overview of both effective interventions across these three high risk settings, along with key actions and recommendations for best practice which have been or will be implemented. Understanding both 'what works', along with insight into the future of research and/or action, will provide guidance of where prevention efforts should be placed in a Scottish context. The research questions for this scoping review are therefore detailed below.

1.3 Research Questions

1. What suicide prevention approaches have been implemented by organisations that have a staff/user population at high risk of suicide or operate in a setting that is high risk?
2. What is the evidence of the impact of these actions and/or resources on the incidence of suicidal thoughts and behaviours?
3. What are the key elements of a suicide prevention plan within these settings which make it effective?
4. What are the key actions of those who work in the highlighted settings within the action plans?

2. Methods

This scoping review followed the Arksey & O'Malley (2005) framework, which included 1) specifying the research questions, 2) identifying relevant literature, 3) selecting studies, 4) mapping out the data, and 5) summarising, synthesising and reporting the results. A literature search was conducted on 28th November 2024 using three major academic databases (PsycINFO, CINHAL and MedLine). To focus the search, Subject Headings (MeSH terms) and Boolean phrases ("AND", "OR") were applied related to i) suicidal ideation or behaviour, ii) suicide prevention or mental health interventions/actions/recommendations, iii) high risk settings identified for this review (justice, housing, care-experienced settings). In addition, in an effort to obtain relevant grey literature, the first 20 pages of Google UK were reviewed using simplified search terms related to i) suicide prevention, and iii) high risk settings identified for this review (justice, housing, care-experienced settings). Advice was sought from the University librarian on best practice for searching grey literature. All relevant PDFs and corresponding website were searched by the first author for materials, reports and implemented action plans for each of the high-risk settings. For a detailed

description of the search strategy, please refer to Appendix 1 and Appendix 2. Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) Guidelines were followed throughout this study. A protocol was not pre-registered on PROSPERO, and no quality assessment was conducted given this is a scoping review.

2.1 Eligibility Criteria

Studies were included in the review if they: i) reported on a suicide prevention intervention, action plan or recommendations for action, ii) reported on an outcome of suicidal ideation, suicide attempt, suicide death or any other suicide-related outcomes which may be relevant (e.g., tackling suicide-related stigma or education or awareness of suicide), iii) reports on justice, housing or care-experienced settings, iv) reported on a population of staff of working age 16+ years or service beneficiaries aged 12+ years, v) were written in English, vi) published and/or reported on within the last 10 years (period 2014-2024) , vii) published in Western settings only, viii) are peer-reviewed academic journal articles, government or policy reports, third-sector reports or service evaluations, and ix) conducted qualitative or quantitative analysis of primary or secondary data or reviews.

Studies were excluded if: i) they were case studies, commentaries, letter to editors, book chapters, conference abstracts or study protocols, or ii) the full text was not accessible.

2.2 Screening

Inter-rater reliability checks were conducted on 10% of the screening, by a second member of the research team. There was a corroboration rate of 96.7%. Discrepancies were resolved through discussion. Due to the nature of the method used, it was not possible to complete inter-rater reliability checks on the grey literature search.

2.3 Data extraction

Data relating to included studies were extracted by the first author. Extracted data included author name, publication year, participant characteristics, intervention type, outcome measure, main results, and limitations.

2.4 Terminology

For the purposes of this scoping review, we have used the term 'suicide-related outcomes' given this has been used to investigate effectiveness of suicide prevention interventions in other high-quality reviews (Robinson et al., 2018). Within this term, we included suicidal behaviours (suicide death or suicide attempt), suicidal ideation and other relevant suicide outcomes (e.g. tackling suicide-related stigma, knowledge of suicide risk factors).

We include three high-risk settings in this scoping review. Care-experienced settings are defined as settings which exist to support those with current or past 'in-home care' or 'out-of-home' care, including but not limited to voluntary transfer of parental responsibility to statutory services, foster care, residential care, and formal kinship care. We define justice

settings to include, police, prosecution, courts and prison settings. Housing settings include those which exist to support homeless individuals, as well as social housing, temporary housing, and interventions which aim to alleviate stress due to housing (e.g. due to eviction, cost of housing).

3. Results.

A total of 567 articles were retrieved from the academic databases. After duplicates were removed and the screening process was completed, 21 papers were eligible for inclusion. Two articles were identified via reference screening of the included papers, and the grey literature search identified an additional 13 reports.

Several papers reported findings from the same dataset, resulting in the exclusion of four articles (Borschmann et al., 2020; Wu et al., 2020; Wu et al., 2022; Zhang et al., 2021). Where multiple papers on the same dataset were found, the first published manuscript was chosen for inclusion (Slesnick et al., 2020). One review was published both as a government report (Borschmann et al., 2020) and in a peer-reviewed journal (Carter et al., 2022). In this instance, the version which has gone through the peer-review process was selected to be part of the synthesis. This scoping review therefore includes findings from 32 papers (see Appendix 3 for PRISMA statement).

The results span across six suicide prevention domains: i) prevention, ii) early intervention, iii) distress/crisis intervention, iv) postvention, iiv) recovery, iiiv) multiple domains. The majority of studies covered multiple domains (n=17). Where interventions are investigated, we have provided further categorisation into psychotherapy, gatekeeper training/psychoeducation, interpersonal interventions, policy, brief contact, other or multi-modal. Where action plans or recommendations are explored, we have provided further categorisation into the dimensions of workplace culture, treating people well, mental health awareness, accessing support, measuring success, looking back to look forward, learning to grow, other or multi-dimensional. A summary of this categorisation, along with other key study details has been provided in Table 1. For a more detailed summary of study population and intervention description, please see Table 2 situated in Appendix 4.

3.1 Overview

Of the reports included in this scoping review, eight related to housing, fifteen related to justice and seven related to care-experienced settings. One local action plan reported on all three settings (Rhode Island Strategic Plan, 2023), and one national action plan reported on both housing and justice (USA National Strategy for Suicide Prevention Federal Action Plan, 2024). Most of the articles were conducted in the United States of American (USA; n= 17), with other studies conducted in England (n = 5), Australia (n=1), Portugal (n=1), Canada (n=1), The Netherlands (n=1), and Wales (n=1). The remaining five articles were conducted across multiple countries. None were conducted in Scotland.

Most of the studies (n=21) were published in peer-reviewed academic journals. The remaining papers were government or organisation reports (n=11). Seventeen articles reported on effectiveness of interventions, nine outlined action plans, and six reported on recommendations. Interventions, action plans and recommendations have been synthesised separately.

3.2 Care-experienced settings

3.2.1 Suicide Prevention Interventions

3.2.1.1 Quantitative Studies

Three studies and three reviews examined the effectiveness of interventions in reducing suicide-related outcomes in settings with care-experienced individuals using quantitative methods (Evans et al., 2023; 2024; Osteen et al., 2018; Pears et al., 2024; Santos et al., 2023; Taussig et al., 2024).

3.2.1.1.1 Gatekeeper training

The reviews reported a sparsity of research in this setting (Evans et al., 2023; 2024; Santos et al., 2023). Only three papers reporting suicidal-related outcomes were identified across all three reviews. Of these, one staff gatekeeper intervention was effective (Osteen et al., 2018). Authors found self-efficacy in performing the gatekeeper role, and knowledge about suicide significantly improved from pre-test to post-test and was maintained over time (until 6-months follow-up). However, there was no significant difference in attitudes towards suicide or in use of gatekeeper behaviours from pre-training to 3 or 6-months follow-up.

3.2.1.1.2 Interpersonal interventions

One study found no significant reductions in suicidal thoughts in care-experienced young people after engaging in a program supporting children in foster care with transitions at school (Pears et al., 2014).

3.2.1.1.3 Psychotherapy

One study found no significant effects of a community-based mentoring scheme (Fostering Health Futures for Preteens; FHF-P) on the odds of suicidal thoughts or behaviours 7-12 years after receiving the intervention, compared to the control group (Taussig et al., 2014).

3.2.2 Suicide Prevention Action Plans

3.2.2.1 Accessing Support

One local and one national action plan aimed to develop, implement and build universal screening, prevention and treatment options for youth (up to age 25) transitioning out of foster care (USA National Strategy for Suicide Prevention Federal Action Plan, 2024; Rhode Island Suicide Prevention Strategic Plan, 2023). Specific interventions were not detailed in either plan.

3.2.3 Suicide Prevention Recommendations

3.2.3.1 Accessing Support

Katz et al. (2020) reviewed the literature and made recommendations for suicide prevention in transition-aged youth with out-of-home care experience. Mobile and web-based interventions for suicide prevention were recommended as best practice to reach this population. However, authors were not specific on which interventions to prioritise.

3.2.4 Summary of care-experienced setting findings

Overall, nine included articles reported on suicide prevention interventions and recommendations for action in care-experienced settings. There was a distinct lack of effective suicide prevention interventions identified in this sector, with only one staff gatekeeper intervention reporting reductions in suicide-related outcomes. Recommendations were made to utilise digital interventions for this population.

3.3 Housing settings

3.3.1 Suicide Prevention Interventions

3.3.1.1 Quantitative Studies

Four studies and one review investigated the effectiveness of suicide prevention interventions in housing settings using quantitative designs (Brackertz, 2020; Collins et al., 2016; Jackson et al., 2022; Kenneally et al., 2023; Slesnick et al., 2020). All of the synthesised studies reported that interventions were effective in reducing suicidal ideation. None examined suicidal behaviour as an outcome.

3.3.1.1.1 Interpersonal interventions

One study (Jackson et al., 2022) found a significant reduction in suicidal ideation from baseline to follow-up 6 months after engaging with The Hope Service, a psychosocial and practical support service (including housing services) for men aged 30-64 at risk of suicide.

3.3.1.1.2 Psychotherapy

One randomised control trial (RCT) found a significant decline in suicidal ideation for homeless individuals in the treatment group (Cognitive Therapy for Suicide Prevention) compared to the treatment as usual group (TAU) (Slesnick et al., 2020)

3.3.1.1.3 Brief contact Interventions

Kenneally et al. (2023) found a reduction in suicidal ideation in homeless veterans engaged in Veterans Affairs Brief Intervention and Contact (VA BIC), compared to a TAU group.

3.3.1.1.4 Policy

One study and one review explored the effectiveness of Housing First Intervention in reducing suicide-related outcomes (Brackertz, 2020; Collins et al., 2016). Collins et al. (2016) found that level of suicidal ideation, odds of suicidality interfering with their daily life, and odds of reporting intent to act on ideation decreased significantly from baseline to 2-year follow-up in a sample of homeless individuals with alcohol problems. However, there were

no significant differences from baseline to follow-up in presence of a plan. A review (Brackertz, 2020) found a significant reduction in suicidal ideation after Housing First, across two in samples of homeless individuals with diagnosed mental health disorders.

Brackertz (2020) was unable to identify any studies in their review which examined the effectiveness of interventions to reduce suicide-related outcomes due to factors associated with housing stress and evictions due to economic recession – a noted gap in the research.

3.3.1.2 Qualitative Studies

3.3.1.2.1 Interpersonal interventions

Two studies (Farr et al., 2024; Jackson et al., 2022) conducted interviews investigating experiences of The Hope Service. Both studies revealed participants' value in the service being non-judgemental, supportive, and informal. Participants described how space and time were important to enable trust to develop with staff and helped to make the environment feel safe. Results from both studies aligned in mentioning the benefits of the person-centred service, with both psychosocial and emotional support as well as specialist advice helping participants to manage setbacks now and in the future. Farr et al. (2024) reported that participants noted signposting as a valuable addition to the service.

3.3.1.2.2 Other

Schwan et al. (2018) conducted interviews with homeless young people who were engaged in an arts program. Participants highlighted that having 'something to do' was framed as valuable because it fostered a sense of agency in the face of feeling powerless. The paper reported that for some youth, art creation is better understood as a survival strategy rather than a hobby.

3.3.2 Suicide Prevention Action Plans

Three action plans referenced efforts related to housing settings (Birmingham City Council, 2021; USA National Strategy for Suicide Prevention Federal Action Plan, 2024; Rhode Island Strategic Plan, 2023)

3.3.2.1 Mental Health Awareness

The USA National Strategy for Suicide Prevention Federal Action Plan (2024-2026) has a goal of implementing Mental Health First Aid trainings to front-line workers in the housing sector; and to disseminate communications and educational information on suicide prevention.

3.3.2.2 Learning to grow

One action within a local plan aimed to enhance the use of data to inform suicide prevention in individuals experiencing housing instability (Rhode Island Suicide Prevention Strategic Plan, 2023).

3.3.2.3 Other

The Birmingham Suicide Prevention Advisory Group Action Plan intends to work with Local Authority Property and Housing Teams to include suicide risk in building design considerations for social housing in order to reduce access to means.

One strategic plan for a state in USA outlined an action to invest in housing stabilisation for more affordable housing options for the local area (Rhode Island Suicide Prevention Strategic Plan, 2023)

3.3.3 Summary of housing setting findings

Ten included articles reported on suicide prevention in housing settings. All the reported interventions were effective in reducing suicidal ideation. The bulk of the evidence supported the effectiveness of Housing First and The Hope Service. Psychotherapy, brief contact interventions and other were also effective. Suicide Prevention Action Plans aimed to implement gatekeeper training to housing staff, implement more affordable housing options and reduce access to means in social housing design considerations. No recommendations were made.

3.4 Justice Settings

3.4.1 Suicide Prevention Interventions

3.4.1.1 Quantitative Studies

Four studies and three reviews investigated the effectiveness of suicide prevention interventions in justice settings using quantitative methods (Arensman et al., 2016; Brady et al., 2023; Carter et al., 2022; Kubiak et al., 2019; Meja et al., 2024; NICE, 2018; Winters et al., 2017).

3.4.1.1.1 Gatekeeper training

Three studies and one review reported on the effectiveness of gatekeeper training for police officers (Arensman et al., 2016; Brady et al., 2023; Kubiak et al., 2019; NICE, 2018). Of these, two studies (Arensman et al., 2016; Brady et al., 2023) and one review (NICE, 2018) found significant increases in police officers' confidence in responding to suicidal crisis from pre-test to post-test after engaging in gatekeeper training. Arensman et al. (2016) and NICE (2018) evidence-review also reported increased suicide knowledge from pre-test to post-test, while Kubiak et al. (2019) found no such significant changes in police officers' suicide knowledge.

3.4.1.1.2 Interpersonal interventions

Two reviews reported that peer support programs were effective in lowering the suicide death rate (Winters et al., 2017), in reducing suicidal ideation and increasing suicide-related help-seeking (NICE, 2018).

3.4.1.1.3 Psychotherapy

Two reviews reported the effectiveness of psychotherapy (including CBT, DBT, and group mindfulness) in reducing both suicidal ideation and suicidal behaviour in adult prisoners (Carter et al., 2022) and in prisoners with 'serious mental illness' (Winters et al., 2017).

3.4.1.1.4 Other

One study reported on the Female Offender Re-Entry Movement (FOR-Me), a transition programme aimed at trauma treatment, substance abuse recovery and re-entry to services after prison in female offenders. No effects were observed from baseline to 6-months post-treatment in reporting of suicide attempts (Mejia et al., 2024).

Winters et al., (2017) reported that forensic institutions which utilise environmental factors to prevent suicide for high-risk inmates are effective in reducing suicide - for example 'safer cells', observations by staff members examining the cell for any changes, or the use of cameras to monitor inmates. Authors also highlighted psychopharmacology effective in reducing suicide in prisoners - specifically the use of lithium, Clozapine, antidepressants and ketamine. Similarly, Carter et al. (2022) found medical treatment units for severe mental illness were effective in reducing suicide death. Finally, a review by Carter et al. (2022) highlighted that appropriate screening in youth detention centres was effective in reducing suicide attempts.

3.4.1.1.5 Multi-modal

One review reported the effectiveness of interpersonal psychotherapy in reducing suicidal thoughts and behaviours in prisoners with 'serious mental illness' (Winters et al., 2017).

3.4.1.2 Qualitative Studies

Two qualitative studies investigated the effectiveness of suicide prevention interventions (Howard League for Penal Reform, 2016; Stigter-Outshoven et al., 2021).

3.4.1.2.1 Other

Current and former prisoners reported that 'safer cells' prevented suicide attempt in the short term but were not effective in the longer term (Howard League for Penal Reform, 2016). Stigter-Outshoven et al. (2021) found that individuals did not perceive 'cells as an intervention' to be for the betterment of the person's wellbeing, instead participants stated a belief that the choice to use the cell as an intervention was shaped by risk avoidance of staff.

3.4.2 Suicide Prevention Action Plans

3.4.2.1 Accessing support

One action in The USA National Strategy for Suicide Prevention Federal Action Plan (2024-2026) is to provide grant funding to implement projects for clinical services and other evidence-based activities or services for adults and youth who are currently, or were formally, involved in the criminal justice system. A local action plan specifically intends to

implement peer support and community health worker supports for justice-involved populations (Rhode Island Suicide Prevention Strategic Plan, 2023).

Minnesota Department of Health Suicide Prevention Action Plan for Criminal Justice System (2023) aims to implement universal suicide risk screening and assessment protocols into prisons and to establish clear policies to support individuals with transition back to the community after prison.

3.4.2.2 Mental Health Awareness

One local justice focused action plan aims to implement coping/life skills, resiliency, physical health and functioning and specific suicide education programmes for incarcerated individuals (Minnesota Department of Health Suicide Prevention Action Plan for Criminal Justice System, 2023)

3.4.2.2 Learning to grow

One national action plan, and one local action plan aim to utilise data to identify gaps and inform suicide prevention for justice-involved individuals (The USA National Strategy for Suicide Prevention Federal Action Plan, 2024; Rhode Island Suicide Prevention Strategic Plan, 2023).

3.4.2.3 Workplace culture

Minnesota Department of Health Suicide Prevention Action Plan for Criminal Justice System (2023) aim to lower barriers to seeking mental health care by reducing stigma, ensuring confidentiality and maintaining an effective referral system for incarcerated individuals.

3.4.2.4 Treating people well

Minnesota Department of Health Suicide Prevention Action Plan for Criminal Justice System (2023) aim to promote connectedness to ensure that incarcerated individuals maintain regular contact with family and other sources of support.

3.4.2.5 Other

Rhode Island Suicide Prevention Strategic Plan (2023-2030) aim to implement multi-sectoral partnerships for suicide prevention, and to promote universal evidence-based suicide screening in justice systems.

3.4.3 Suicide Prevention Recommendations

3.4.3.1 Accessing Support

Three reports recommended routine mental wellness assessment 'check ins' for individuals throughout their time in prison (Cramer et al., 2017; Howard League for Penal Reform, 2016; Department of Justice, USA Federal Government, 2023), and to make immediate observation and treatment plans based on the outcome of the assessments (Cramer et al., 2017).

Two reports support the implementation of evidence-based peer support programs for prison staff (Shweitzer, 2021) and for inmates (Department of Justice, USA Federal Government, 2023).

One review recommended implementing several suicide prevention and postvention support services for law enforcement officers, including confidential and anonymous 24/7 hotlines, employee assistance programs, staff psychology services outside of work, chaplaincy services and psychological debriefings after a suicide (Schweitzer, 2021).

3.4.3.2 Mental health awareness

Five reports recommended universally implementing mental health and suicide prevention gatekeeper training for those who work in justice settings (Cramer et al., 2017; Department of Justice, USA Federal Government, 2023; Her Majesty's Inspectorate of Probation, 2022; Howard League for Penal Reform, 2016; Schweitzer, 2021). Two studies recommended ensuring training is live, interactive and the initial time commitment is at least 8 hours (Cramer et al., 2017; Her Majesty's Inspectorate of Probation, 2022). Training content was advised to be focused on attitudes, suicide risk and protective factors, warning signs and creating a personalised safety/prevention plan (Cramer et al., 2017). Participants also argued that training needs to be specific to their workforce (e.g. probation), and that there is a value in training being delivered by people with lived experience of suicidality (Her Majesty's Inspectorate of Probation, 2022).

One review recommended implementing emotional self-care training programmes in order to prevent suicide in staff working in justice settings (Schweitzer. 2021)

3.4.3.3 Learning to Grow

Department of Justice, USA Federal Government (2023) recommended focusing on the advancement of research and improving data collection efforts in order to prevent suicide in law enforcement staff.

Cramer et al. (2017) made a recommendation to conduct psychological autopsies after each suicide completion within a justice setting.

3.4.3.4 Workplace culture

Two reports recommended strengthening coordination, communication and information sharing between prison staff (Cramer et al., 2017; Department of Justice, USA Federal Government, 2023).

3.4.3.5 Treating people well

The Howard League for Penal Reform (2016) highlighted the importance of ensuring qualities of compassion in prison staff in order to prevent suicide.

3.4.3.6 Looking back to look forward

The Health and Social Care Committee, National Assembly for Wales (2018) recommended that the current process for assessing and managing prisoners' risk of suicide is reviewed to ensure that it is sufficiently robust to identify those at risk of suicide, and to identify the right support for those thereafter.

3.4.3.7 Other

In order to prevent suicide, The Howard League for Penal Reform (2016) recommended creating meaningful activity, job and education opportunities within the prison setting.

Cramer et al. (2017) make three recommendations relevant to 'other' dimension. These were to creating prevention policies reviewed by medical or mental health staff, ensure official and timely notification of officials and family members after a suicide attempt or completion, and to continuously monitor those at high risk of suicide in prison and ensure the cell environment is safe to prevent access to means.

3.4.4 Summary of justice settings findings

Seventeen articles reported on suicide prevention in justice settings. Staff gatekeeper training, peer support programmes for inmates and for staff, and restriction to access to means interventions were shown to be effective in reducing suicide-related outcomes. Local and national action plans aimed to implement gatekeeper training and utilise local data to inform prevention efforts. A number of recommendations were made for this sector. Most of the evidence recommended universal mental health and suicide prevention gatekeeper training for staff, peer support for staff and for inmates, and routine mental wellness 'check ins' for prisoners.

Table 1. Study Summary Table.

Setting	Study; country	Study type (dimension or intervention type); study design	Domain	Outcome	Main findings	Limitations (identified by review team)
Justice						
	Arensman et al. (2016); Germany, Ireland & Portugal	Intervention (gatekeeper); Quasi-experimental	Multiple domains (prevention, early intervention, crisis intervention, postvention)	Suicide knowledge Confidence in responding to suicidal crisis	Increased suicide knowledge from pre-test to post-test across all countries (M=3.88, SD=1.3; M=4.35, SD=1.3; F=28.27, p<.001). Increased confidence in responding to suicide crisis from pre-test to post-test across all countries (M=4.48, SD=1.82; M=5.85, SD=1.80; F=248.61, p<.001).	This was a multi-country study (Ireland, Germany & Portugal), but participants were disproportionately recruited from one country (Ireland), compared to the other two nations.
	Brady et al. (2023); USA	Intervention (gatekeeper); Quasi-experimental	Multiple domains (early intervention, crisis intervention)	Confidence in identifying mental health symptoms and suicidal warning signs.	Confidence in identifying mental health symptoms and suicidal warning signs significantly improved from pre-test to post-test (M = 2.87, SD = 0.48; M = 3.34, SD = 0.43) (t(157) = -13.36, p<0.001)	Training was developed specifically for the local area so generalisability may be limited; Small sample size.
	Carter et al (2022); Global	Intervention (multiple modals); review	Multiple domains (prevention,	Suicidal ideation	38 included studies in review. Nine studies reported evidence of	This was a worldwide search so some of the papers may not be

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	early intervention, crisis intervention. Recovery)	Suicide attempt	beneficial intervention effect, including interventions cognitive behavioural suicide prevention program, problem-solving intervention, treatment units for severe mental illness, peer support program and group mindfulness, appropriate intake screening and tailored DBT program.	applicable to a Scottish context.
Cramer et al. (2017); USA	Recommendations (multiple dimensions: accessing support, learning to grow, other, workplace culture, mental health awareness); review	Multiple domains (prevention of, early intervention, crisis intervention, postvention)	Suicide	Composite recommendations from several sources. The 21 recommendations relate to policy, training, assessment and management, best practice for after a suicide attempt or completion	Was not a systematic review so may have missed potentially insightful studies.
Department of Justice, USA Federal Government (2023); USA	Recommendations (multiple dimensions: learning to grow, workplace culture, accessing support, mental health awareness)	Other	Suicide	23 recommendations made to reduce suicide in those who provide law enforcement. Recommendations were grouped under themes: Utilising public policy to advance, increase access to and utilisation of evidence-	Specific to USA law enforcement so may not be generalisable to Scotland

| | | | | based services and interventions, advance research, improve data collection efforts, strengthen coordination and information sharing, support standards for routine mental wellness visits, advance the practice of evidence-based peer support, support education and training that increases knowledge and provides skills and strengthen communication. | |
| Her Majesty's Inspectorate of Probation (2022); England | Recommendations (looking back to look forward) | Prevention of | Confidence in working with people at risk of suicide | Variation in confidence amongst staff working with people at risk of suicide.

Participants expressed desire for more training

Participants felt in-person multiple day training would improve their confidence, rather than short online courses

Participants highlighted value in training being specific to their profession, | Did not report on specific training which was held. Participants spoke of general training in their role. |

				and the value of training delivered by those with lived experience	
	Kubiak et al. (2019); USA	Intervention (gatekeeper); quasi-experimental	Multiple domains (prevention of, early intervention, crisis intervention)	Suicide knowledge	No significant effects from pre-test to post-test on the knowledge of the importance of asking youth about thoughts of suicide (NS)	Reliability of outcome measure was low.
	Mejia et al (2024); USA	Intervention (other); quasi-experimental	Recovery	Suicide attempt	No effects were observed from baseline to 6-months post-treatment in suicide attempts (NS)	Many participants were lost at follow-up due to unstable housing and contact information among participants
	Minnesota Department of Health Suicide Prevention Action Plan for Criminal Justice System (2023); USA	Action plan (multiple dimensions: mental health awareness, treating people well, accessing support, workplace culture.)	Multiple domains (prevention, other, recovery)	Suicide	Study highlighted opportunities for action: 1. implement universal mental health and suicide risk screening and assessment protocols, 2. promote connectedness to ensure that incarcerated individuals maintain regular contact with family and other sources of support, 3. lower barriers to seeking mental health care by reducing stigma, ensuring confidentiality and	This action plan reports on opportunities for action and are not specifically being implemented at this stage.

				maintaining an effective referral system, 4. promote resilience of incarcerated individuals with education and outreach through suicide prevention, coping/life skills, resiliency training, 5. promote and support a mental health continuum of care, 6. promote general health and physical functioning of incarcerated individuals, 7 establish and communicate clear policies and procedures across systems to support individuals returning to a community setting after seeking care for suicidal ideation or other mental health concerns.	
	NICE (2018); England	Interventions (multiple modals); review	Prevention of	Suicide death Suicide attempt Suicidal ideation	Four studies included in review. Three found significant intervention effects of a peer-support programme, suicide prevention training	No RCTs were included in this review

				programme and a 'listener' scheme	
	Rhode Island Suicide Prevention Strategic Plan (2023); USA	Action plan (multiple dimensions: accessing support, learning to grow, other)	Multiple domains: Prevention, early intervention	Suicide	Four actions related to justice: 1. Enhance the use of data to inform suicide prevention in individuals with involvement in criminal justice system, 2. include peer support and community health worker service supports for justice-involved populations, 3. promote universal evidence-based suicide screening in justice systems, 4. implement multi-sectoral partnerships for suicide prevention.	Relevant to a local area within the USA, so may not be applicable to a Scottish context.
	Schweitzer (2021); USA	Recommendations (accessing support)	Multiple domains (prevention, postvention)	Suicide	Recommendations made for implementing suicide prevention gatekeeper training, confidential and anonymous 24/7 hotlines, employee assistance programs, peer support programs, staff psychology services outside of work, chaplaincy services, and emotional self-care training programs in order to prevent	Was not a systematic review so may have missed potentially insightful studies. The review also did not report the number of papers which have drawn the authors to make the recommendations that they have.

				suicide in law enforcement officers. Psychological debriefings, counselling, chaplaincy support and peer support were advised for postvention.	
Stigter-Outshoven et al. (2021); The Netherlands	Intervention (other); qualitative	Prevention of	Suicide attempt	Interviewees felt that risk avoidance was the aim of this intervention, rather than betterment of the individual's wellbeing	Not all results in this study specified if suicidality was the outcome, so some findings had to be omitted from this review. It is not clear whether the findings related to suicidality were provided by the people with experience of a crisis, mental healthcare workers, police or those from the patient council.
The Health and Social Care Committee, National Assembly for	Recommendations (looking back to look forward)	Prevention of	Suicide	The committee made a recommendation that the process for assessing and managing prisoners' risk of suicide is reviewed to ensure	Specific to Wales, so may not be generalisable to a Scottish context.

Wales (2018); Wales				that it is sufficiently robust to identify those at risk of suicide, and to identify the right support for those thereafter.	
The Howard League for Penal Reform (2016); England & Wales	Intervention (other); qualitative Recommendations (multiple dimensions: mental health awareness, treating people well, accessing support, other)	Prevention of	Suicide attempts Suicide death	Qualitative findings were that 'safer cells' prevented suicide attempts in the short term, but were not effective for long term prevention Recommendations of: Implementing better staff mental health training Improving attitudes towards mental health attitudes in the workplace Ensuring qualities of compassion in staff Formalising peer support mentoring programmes Creating meaningful job and education opportunities Support throughout prison and throughout transition back into the community	Participants were current and past prisoners, however it was unclear whether they had personal lived experience of suicidal thoughts and behaviours.

The USA National Strategy for Suicide Prevention Federal Action Plan (2024); USA	Action Plan (multiple dimensions: Mental health awareness; other)	Multiple domains (crisis intervention; prevention)	Suicide	Actions related to justice were: 1. provide grant funding to state, local, and tribal governments, as well as community-based nonprofit organizations, to implement projects for clinical services and other evidence-based activities or services for adults and youth for crisis stabilization who are currently involved in the criminal justice system or were formerly involved. 2. identify knowledge gaps on effective suicide prevention for justice-involved individuals and coordinate a webinar or a series of webinars for various justice personnel and others.	This is a national strategy relevant to the USA, so it may not be generalisable to a Scottish context
Winters et al. (2017); USA	Intervention (multiple modals); review	Prevention	Suicide ideation Suicide attempts Suicide	Effective psychological interventions were cognitive behavioural therapy, dialectical behavioural therapy and interpersonal psychotherapy.	This review was not systematic so insightful studies may have been missed.

| | | | | | forensic institutions which utilise environmental factors to prevent suicide for high-risk inmates are effective in reducing suicide

Peer support programs were effective in lowering the suicide rate in institutions.

use of lithium, Clozapine, antidepressants and ketamine was effective in reducing suicide - specifically the use of lithium, Clozapine, antidepressants and ketamine | |

Housing

	Birmingham City Council (2021); England	Action plan (other)	Prevention	Suicide	work with the Local Authority Property and Housing Teams to include suicide risk in building design considerations for major refurbishment to social housing and corporate assets.	there has been an obstacle to implementing this action beyond the control of the council
	Brackertz (2020); Australia	Intervention (policy); review	Prevention	Suicide ideation	No studies identified that examined the effectiveness of interventions to reduce	This review was not systematic so insightful

			Suicide attempt	suicide risk due to factors associated with housing stress and evictions due to economic recession.	studies may have been missed.
			Suicide		
				Housing First Interventions have the capacity to reduce suicide risk in homeless populations.	
Collins et al. (2016); USA	Intervention (policy); non-randomised control trial	Other	Suicidal ideation	Participants level of suicidal ideation (IRR = .57, SE = .15, p = .03), the odds of suicidality interfering with their daily life (OR = .33, SE = .09, p < .001), and their odds of reporting intent to act on ideation (OR = .45, SE = .18, p = .046) decreased significantly from baseline to the 2-year follow-up. There were no significant differences from baseline to follow-up in presence of a plan (NS)	A substantial proportion of the sample (11%) died before the follow-up (not by suicide).

Conducted in USA so not be generalisable to Scotland. |
			Suicidality interfering with daily life		
			Intent to act on suicidal ideation		
			Suicidal plan		
Farr et al. (2024); England	Intervention (interpersonal intervention); Qualitative	Multiple domains (prevention of, recovery)	Suicidal thoughts and behaviours	Service users spoke about the Hope service creating a supportive space where men felt comfortable with disclosure, with person-centred care.	Some participants disengaged from the service, which may have led to some bias in the sample.

				Time and space to speak in a non-judgemental, trusted, safe environment.	
				Focusing on major practical issues enabled people to regain a sense of control - and breaking down complex problems into a series of manageable steps was beneficial. Participants mentioned the combination of psychosocial and emotional support as well as specialist advice made the intervention distinctive.	
				Signposting was also seen as a valuable part of the service. The independent nature of this service was helpful.	
Jackson et al. (2022); England	Intervention (interpersonal intervention); mixed methods	Multiple domains (prevention of, recovery)	Suicidal ideation	the number of service users reporting suicidal ideation reduced by 55% from baseline to 6-months follow-up after the intervention.	A large number of participants were lost at follow-up.

					The service users benefitted from the service being non-judgemental, supportive, easy to talk to and informal, which enabled trust to develop. Staff helped make problems manageable, breaking down difficulties into a series of achievable steps, and that their experience with the service gave them confidence and helped manage setbacks now and in the future.	
	Kenneally et al. (2023); USA	Intervention (brief contact); pilot RCT	Multiple domains (Prevention of, early intervention, recovery)	Suicidal ideation	During the 6-month follow-up, suicidal ideation improved in those engaged in VA BIC, while it worsened in those in TAU	This was a pilot RCT, so a very small sample engaged in treatment
	Rhode Island Suicide Prevention Strategic Plan (2023); USA	Action plan (multiple dimensions: learning to grow, other)	Multiple domains: Prevention, early intervention	Suicide	Two actions related to housing: 1. invest in housing stabilisation for more affordable housing options, 2. enhance the use of data to inform suicide prevention in individuals experiencing housing instability	Relevant to a local area within the USA, so may not be applicable to a Scottish context.

Schwan et al. (2018); Canada	Intervention (other); qualitative	Other	Suicidal thoughts and behaviours	Having 'something to do' fostered a sense of agency in the face of feeling powerless. art creation is better understood as a survival strategy rather than a hobby.	Not all results specified if suicidal thoughts or behaviours was the outcome, so these findings had to be omitted from this review.
Slesnick et al. (2020); USA	Intervention (Psychotherapy); RCT	Prevention of	Suicidal ideation	There was a significant decline in suicidal ideation from baseline through follow-up (9-months) B=−5.52, SE=0.21, z=−26.51, p<0.001). Those in the CTSP+TAU group showed a faster decline in suicidal ideation than those in the TAU condition ((B=−0.85, SE=0.43, z=−− 2.01, p<0.05).	Convenience sampling at drop-in shelters. Those attending drop-in centres are easier to reach, and may be more likely to engage than those not using drop-in centres.
The USA National Strategy for Suicide Prevention Federal Action Plan (2024); USA	Action plan (mental health awareness)	Prevention	Suicide	Two actions related to housing: 1. Conduct mental health first aid trainings to frontline workers in the housing sector; disseminate communications and educational information on suicide prevention	This is the USA National Strategy so may not be applicable to a Scottish context.

Care-experienced settings

Evans et al. (2023); High-income countries	Intervention (gatekeeper training); review	Prevention	Suicidal ideation Suicide attempts	The review found a lack of papers reporting suicidal outcomes (n-2). One intervention was a peer mentoring intervention, while the other was arts based.	Does not report effectiveness of interventions, only an evidence-map demonstrating which outcomes were assessed.
Evans et al. (2024); High-income countries	Intervention (gatekeeper training); review	Prevention	Suicidal ideation Suicide	No intervention evaluations reported relevant data for suicide-related outcomes	Only looked at papers with moderator analysis, therefore main effects of interventions were not investigated.
Katz et al. (2020); USA	Recommendations (Accessing support)	Other	Suicide	This review recommends mobile and web-based interventions for suicide prevention for transition-aged youth.	This review does not report on the effectiveness of interventions. Recommendations were not specific on which interventions to prioritise.
Osteen et al. (2018); USA	Intervention (gatekeeper); quasi-experimental	Multiple domains (prevention of, early intervention, crisis intervention)	Confidence in performing gatekeeper role Attitudes towards suicide and	Self-efficacy in performing gatekeeper role significantly improved from pre-test to post-test and was maintained over time (until 6-months follow-up) ($F(3,90)=6.75$, $p<0.001$). There was no significant difference in attitudes	Attitudes towards suicide were positive at baseline in participants, therefore there was limited room for improvement. This could have biased the results.

			suicide prevention	towards suicide and suicide prevention	
			Suicide knowledge	Suicide knowledge increased from pre-test to post-test and were maintained over time.	
			Use of suicide prevention gatekeeper behaviours	There was no significant difference in use of gatekeeper behaviours from pre-training to 3 or 6-months follow-up.	
Pears et al. (2024); USA	Intervention (interpersonal); RCT	Prevention of	Suicidal ideation	There was no significant intervention effect of KITS on suicidal ideation at age 9-11 years (NS).	Small sample size children were pre-adolescent when assessed for suicidal ideation so may have benefitted from a longer follow-up period.
Rhode Island Suicide Prevention Strategic Plan (2023); USA	Action plan (accessing support)	Multiple domains: Prevention, early intervention	Suicide	One action related to care-experienced setting: 1. promote universal evidence-based suicide screening in youth transitioning out of foster care	Relevant to a local area within the USA, so may not be applicable to a Scottish context.

Santos et al. (2023); Portugal	Intervention (gatekeeper); review	Multiple domains (prevention of, early intervention, crisis intervention)	Confidence in performing gatekeeper role Attitudes towards suicide and suicide prevention Suicide knowledge Use of suicide prevention gatekeeper behaviours	Only one study with an outcome related to suicide. This study (Osteen, et al., 2018) is already included as part of the review. See above.	Inconsistent terminology regarding the definition of residential youth care could have led to bias in study screening and inclusion
Taussig et al. (2024); USA	Intervention (psychotherapy); RCT	Prevention of	Suicidal thoughts and behaviours	There was no significant intervention effect of FHF-P on the odds of suicidal thoughts or behaviours, compared to the control group, 7-12 years after receiving the intervention.	The follow-up period varied between 7-12 years
The USA National Strategy for	Action plan (Accessing support)	Multiple dimensions	Suicide	Reported on one action: to provide grant funding to develop, implement, and	This is a national strategy relevant to the USA, so it may not be

Suicide Prevention Federal Action Plan (2024); USA	(prevention of, other)	build replicable prevention and treatment models for residential-based care, treatment, and services for adolescents and youth (up to age 25) transitioning out of foster care.	generalisable to a Scottish context

4. Discussion

This scoping review aimed to identify suicide prevention actions and/or interventions by organisations that have a staff/user population at high risk of suicide or operate in a setting that is high risk. Settings were limited to justice settings, housing settings, and settings which exist to support those who are care-experienced. The results of 32 studies were synthesised. Most of the papers were focused within the justice setting, followed by housing. Few interventions based in care-experienced settings were identified.

Interventions in justice settings were the most widely reported in this scoping review. This is unsurprising given there has been a recognition of the need for suicide prevention in this sector for many years (World Health Organisation, 2007). A number of different types of interventions, actions and recommendations were found to be effective, including suicide specific and mental health awareness gatekeeper interventions for staff in correctional settings, and psychotherapy approaches for inmates and for staff.

Environmental interventions (e.g. 'safer' cells, monitoring high risk inmates) were recommended to prevent suicide attempts and death in the short term in justice settings, but were not seen by inmates to be beneficial as a long-term solution. Wider suicide prevention advice supports restriction to access to means as an integral part of national and local suicide prevention strategies (Hawton, Knipe & Pirkis, 2024).

Peer support programs were effective in reducing suicidal ideation, suicide death and in increasing suicide-related help-seeking in justice settings. Recommendations for action, and a local action plan also emphasised the importance of implementing peer-support, both for prevention and postvention in inmates and in law enforcement officers.

All interventions in housing settings were found to be effective in reducing suicidal ideation (including psychotherapy, brief contact, policy, interpersonal and 'other' interventions). However, no study explored suicidal behaviour (attempt or suicide death) as an outcome. Research demonstrates that there are different vulnerability factors associated with thinking about suicide, as there are with engaging in a suicide attempt or dying by suicide (O'Connor & Kirtley, 2018). Therefore, we must be cautious when applying the effectiveness of these interventions to outcomes of behaviour.

The bulk of the evidence supported the effectiveness of Housing First Interventions and The Hope Service in reducing suicidal ideation. Findings related to The Hope Service highlighted that a person-centred approach is valued by individuals with lived experience of suicidal ideation. This aligns with wider recommendations in the literature urging for a 'one size fits all' approach to be re-considered (Jobes & Chalker, 2018; Zortea et al., 2020).

No recommendations for best practice were identified specific to housing settings as part of this scoping review. However, both local and national suicide prevention action plans outlined goals to alleviate the strains of homelessness (through gatekeeper training for

housing staff, working with local housing teams to restrict access to means, invest in affordable housing options and to use data to inform future work). Therefore, it is promising that this sector is being considered as a matter of focus.

There was a distinct lack of research on care-experience settings. This aligns with the wider suicide literature, whereby this population is understudied (Gyourko et al., 2024). This finding limited our ability to conclude on effective suicide prevention interventions in this setting. Local and national action plans simply stated a goal to focus on developing suicide prevention in the care-experienced population, and no specifics were outlined. It is clear that more work is needed to understand how to effectively prevent suicide in the care-experienced population.

4.1 Limitations

There are limitations of this review which should be acknowledged. This review was a scoping review; therefore, the methods were not as rigorous or detailed as a classic systematic review. For example, no quality assessment of included studies was conducted, and the amount of detail reported on was less.

Results identified very few studies reporting on settings for those with care-experience. Although every effort was made to capture all relevant studies in a care-experienced setting, there is extensive variation in terminology used to describe this population. Therefore, some study reports may have been missed. In addition, due to time constraints, our search strategy used subject headings only. Therefore, relevant articles for all three settings not retrieved via this method may have been missed.

Due to interventions, actions and recommendations covering multiple domains (prevention, early intervention, crisis intervention, postvention and recovery), we were unable to provide narrative synthesis of the results into these categories. Although they have been highlighted in the study summary tables. This finding speaks to the complexity of suicide prevention and demonstrates that effective prevention of suicide covers multiple domains and multiple aspects of an individual's life.

Finally, there were no studies conducted in Scotland, and only six conducted in wider a UK context. Therefore, some of the results may not be generalisable to a Scottish context.

4.2 Conclusions

This scoping review aimed to identify suicide prevention actions, recommendations, and/or interventions within justice, housing and care-experienced settings. This was the first review to provide an overview of effective interventions, and actions/recommendations in these three high risk settings. Most papers reported on justice settings, where gatekeeper, interpersonal and restriction of access to means interventions were shown to be effective, implemented into action plans and recommended for future focus. Findings revealed a number of interventions were effective in reducing suicidal ideation in housing settings, but

there was a lack of focus on suicidal behaviour. Finally, a lack of studies reported on care-experienced setting, limiting our ability to conclude on this setting. The findings of this review should be considered when investing, planning and implementing future interventions or actions for suicide prevention in Scotland.

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6. Appendices

Appendix 1. Database search strategy

Appendix 1A. PsycINFO Search

Search line	Searches	Number of papers
S1 (concept 1)	DE "Justice" OR DE "Probation" OR DE "Incarceration" OR DE "Prisons"	27,822
S2 (concept 2)	(DE "Transitional Housing" OR DE "Halfway Houses" OR DE "Housing") OR (DE "Homeless")	17,028
S3 (concept 3)	DE "Adopted Children" OR DE "Foster Care" OR DE "Foster Children" OR DE "Group Homes"	11,686
S4 (suicide prevention approaches)	DE "Intervention" OR DE "Preventive Mental Health Services" OR DE "Early Intervention" OR DE "Crisis Intervention Services" OR DE "Crisis Intervention" OR DE "Treatment" OR "DE "Mental Health Programs" OR DE "Mental Health Program Evaluation" OR DE "Mental Health Education" OR DE "Mental Health Resources" OR DE "Education" OR DE "Self-Management" OR (DE "Therapeutic Social Clubs" AND DE "Training" OR DE "Mental Health Inservice Training" OR DE "Community Mental Health Training" OR DE "Support Groups" OR DE "Peer Support"	198,805

Search line	Searches	Number of papers
S5 (suicide)	(DE "Suicide" OR DE "Attempted Suicide" OR DE "Suicidality" OR DE "Suicidal Behavior" OR DE "Suicidal Ideation") OR (DE "Suicide Prevention")	56,895
S6	S1 OR S2 OR S3	55,775
S7	S6 AND S4 AND S5	62
S8	Date restriction: 2014-2024	**33**

Appendix 1B. CINHAL Search

Search line	Searches	Number of papers
S1 (concept 1)	(MH "Criminal Justice") OR (MH "Correctional Facilities") OR (MH "Police") OR (MH "Probation") OR (MH "Incarceration")	15,879
S2 (concept 2)	(MH "Halfway Houses") OR (MH "Housing") OR (MH "Public Housing") OR (MH "Residential Facilities") OR (MH "Residential Care") OR(MH "Public	28,196

	Accommodation") OR (MH "Homelessness")	
S3 (concept 3)	(MH "Child, Adopted") OR (MH "Child, Foster") OR (MH "Child Care Providers") OR (MH "Child Custody") OR (MH "Foster Parents") OR (MH "Foster Home Care") OR (MH "British Association for Adoption and Fostering") OR (MH "Youth Care Facilities") OR (MH "Guardianship, Legal")	12,000
S4 (suicide prevention approaches)	(MH "Psychosocial Intervention") OR (MH "Early Intervention") OR (MH "Intervention Trials") OR (MH "Crisis Intervention") OR (MH "Action Research") OR (MH "Program Implementation") OR (MH "Program Evaluation") OR (MH "Community Programs") OR (MH "Suicide Prevention") OR (MH "Telehealth") OR (MH "Self-Management") OR (MH "Self Care") OR (MH "Support, Psychosocial") OR (MH "Community Support") OR (MH "Support Groups") OR (MH "Gatekeeping")	295,475
S5 (suicide)	(MH "Suicide") OR (MH "Suicide, Attempted") OR (MH "Suicidal Ideation") OR (MH "Mental Health")	64,963

S6	S4 AND S5	15,604
S7	S1 or S2 OR S3	54,814
S8	S6 AND S7	576
S9	Date restriction: 2014-2024	**460**

Appendix 1C. Medline Search

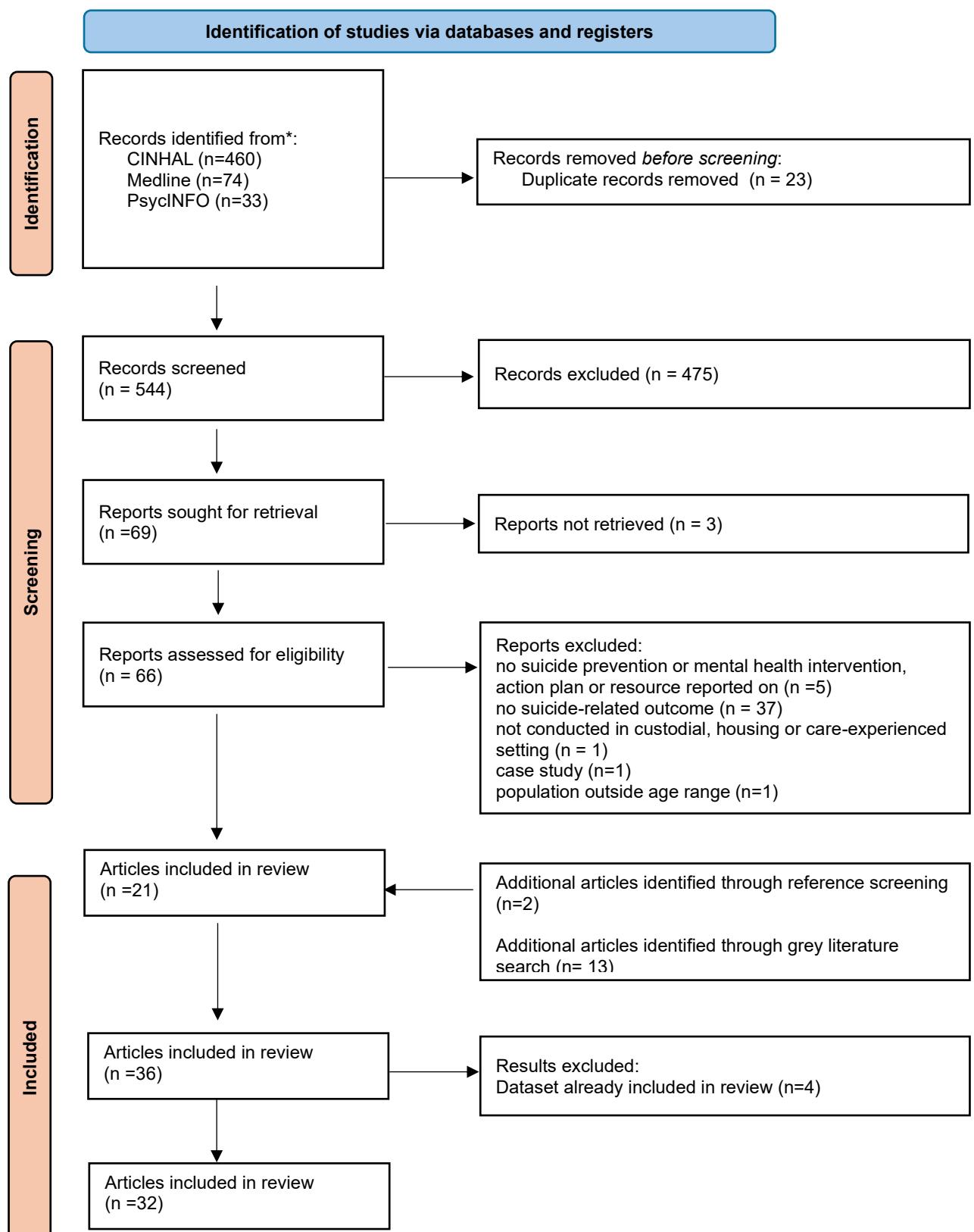| Search line	Searches	Number of papers
S1 (concept 1)	(MH "Criminal Law") OR (MH "Custodial Care") OR (MH "Prisons") OR (MH "Correctional Facilities") OR (MH "Incarceration") OR (MH "Health Services for Prisoners") OR (MH "Police") OR (MH "Jails") OR (MH "Correctional Facilities Personnel")	14,435
S2 (concept 2)		30,510

	(MH "Housing") OR (MH "Public Housing") OR (MH "Housing for the Elderly") OR (MH "Residential Facilities") OR (MH "Group Homes")	
S3 (concept 3)	(MH "Child, Orphaned") OR (MH "Child, Foster") OR (MH "Child, Adopted") OR (MH "Foster Home Care") OR (MH "Legal Guardians")	7,098
S4 (suicide prevention approaches)	(MH "Psychosocial Support Systems") OR (MH "Health Planning Support") OR (MH "Self-Help Groups") OR (MH "Self-Help Devices") OR (MH "Self-Management") OR (MH "Telemedicine") OR (MH "Digital Health") OR (MH "Gatekeeping") OR (MH "Education") OR (MH "Health Education") OR (MH "Suicide Prevention") OR (MH "Program Evaluation") OR (MH "Internet-Based Intervention") OR (MH "Crisis Intervention") OR (MH "Psychosocial Intervention") OR (MH "Health Resources") OR (MH "National Health Programs") OR (MH "Health Services Research")	311,124
S5 (suicide)	(MH "Suicide") OR (MH "Suicide, Attempted") OR (MH "Suicide, Completed") OR (MH "Suicidal Ideation") OR (MH "Mental Health")	136,693

S6	S1 OR S2 OR S3	51,676
S7	S4 AND S5	12,207
S8	S6 AND S7	137
S9	Date restriction: 2014-2024	**74**

Appendix 2. Grey literature search

Date of search	Search engine	Search terms used	Number of relevant results retrieved	Number of papers included in the review
13.01.25	Google UK	Suicide Prevention, Housing	25	4
14.01.25	Google UK	Suicide Prevention, Justice	33	9
17.01.25	Google UK	Suicide Prevention, Care-experience	18	0

Appendix 3. PRISMA diagram

Identification of studies via databases and registers

Identification

Records identified from*:
    CINHAL (n=460)
    Medline (n=74)
    PsycINFO (n=33)

→ Records removed *before screening*:
    Duplicate records removed (n = 23)

Screening

Records screened
(n = 544)

→ Records excluded (n = 475)

Reports sought for retrieval
(n =69)

→ Reports not retrieved (n = 3)

Reports assessed for eligibility
(n = 66)

→ Reports excluded:
no suicide prevention or mental health intervention, action plan or resource reported on (n =5)
no suicide-related outcome (n = 37)
not conducted in custodial, housing or care-experienced setting (n = 1)
case study (n=1)
population outside age range (n=1)

Included

Articles included in review
(n =21)

← Additional articles identified through reference screening (n=2)

Additional articles identified through grey literature search (n= 13)

Articles included in review
(n =36)

→ Results excluded:
Dataset already included in review (n=4)

Articles included in review
(n =32)

Appendix 4. Table 2. Study population and intervention summary

Table 2. Study population & Intervention descriptions (where appropriate).

Setting	Study	Population	Intervention details (name & brief description)
Justice			
	Arensman et al. (2016)	Staff trained were all police officers. Total sample, n=828, M = NR (<31 years 49.3%, 31-35 years 33.4%, >45 years 17.3%), 19.9% female	Optimising Suicide Prevention Programmes and Their Implementation in Europe (OSPI-Europe); 4-hour OSPI gatekeeper training. Designed to provide overview of extent of depression & suicidal behaviour; symptoms, warning signs and risk factors; motivating help-seeking; dealing with acte suicidal crisis and informing bereaved relatives. Includes role-plays
	Brady et al. (2023)	Police Officers; n = 159; M = NR; F = 23%	Juvenile Mental Health for Law Enforcement (JMHLE); 6-hour gatekeeper training; Five sections of training focused on responding to youth mental health crisis (1. identifying mental health symptoms, 2. averting mental health crisis and de-escalation, 3. implementation of the program, 4. mental health signposting, 5. proper documentation and follow-up with senior staff)
	Carter et al (2022)	Studies of people who had contact with one or more of the following criminal justice settings: custodial setting, remanded in custody, on parole/licence serving community-based supervision orders, on community forensic orders or in a secure forensic hospital	Global literature review of initiatives to prevent suicide and suicidal behaviour in criminal justice system settings. Paper does not specific if there was a limit on type of intervention.
	Cramer et al. (2017)	Correctional settings (not reported)	Recommendations for best practice concerning suicide prevention in correctional settings
	Department of Justice, USA	Law enforcement staff	Recommendations for best practice to reduce suicide in those who provide law enforcement

	Federal Government (2023)		
	Her Majesty's Inspectorate of Probation (2022)	Staff working in probation services. Interviews with n=51 members of probation staff. M = NR, F = NR	Intervention; training on suicide prevention (not specific)
	Kubiak et al. (2019)	Staff trained were all police officers. N= 129, M = NR, F = 24.2%	Crisis Intervention Teams for Youth (CIT-Y); 8-hour supplementary training available to police officers who have completed the 40-hour adult focused crisis intervention teams (CIT). The 40-hour training is design to educate police officers about mental health, and provide techniques and resources that facilitate safe interactions and diversion to community-based services as alternatives to detention. This CIT-Y is an additional resource focused on identifying risk factors and support younger individuals.
	Mejia et al (2024)	Female offenders; n = 113; M = NR (18-24 years 7.1%, 25-35 years 38.1%, 35-44, 33.6%, 45-54 years 17.7%, 55-64 years 3.5%), F = 100%	Female Offender Re-Entry Movement (FOR-Me); a transition programme aimed at trauma treatment, substance abuse recovery and re-entry to services from prison back into the community in female offenders
	Minnesota Department of Health Suicide Prevention Action Plan for Criminal Justice System (2023)	Not reported	Local action plan for suicide prevention in the criminal justice system
	NICE (2018)	Adults, young people and children who are in contact with the criminal justice system.	Review of non-clinical interventions to support people who are at risk of suicidal thoughts and behaviours in custodial settings.

	Rhode Island Suicide Prevention Strategic Plan (2023)	Not reported	Local action plan for suicide prevention
	Schweitzer (2021)	Law enforcement staff	Review of literature and recommendations for best practice for preventing suicide in law enforcement.
	Stigter-Outshoven et al. (2021)	Individuals with lived experience (n=4); members of the local patient council (n=7), police officers (n=3), mental healthcare worked (n=7); M = NR; F = NR	Intervention: police cell as an intervention during mental health crisis
	The Health and Social Care Committee, National Assembly for Wales (2018)	Not reported	Recommendations for suicide prevention in Wales.
	The Howard League for Penal Reform (2016)	Current and past prisoners (n= 30), M= NR, F = 50%	'safer cells'; designed to make suicidal behaviour by use of ligature difficult
	The USA National Strategy for Suicide Prevention Federal Action Plan (2024)	Not reported	National action plan
	Winters et al. (2017)	Individuals with 'serious mental illness' in correctional settings	Review of interventions designed to prevent suicide.
Housing			

	Birmingham City Council (2021)	Not reported	Local action plan
	Brackertz (2020)	Homeless individuals	Review of housing interventions mitigating suicide risk
	Collins et al. (2016)	Homeless individuals; n = 134; M = 48.16 (SD = 9.9); F= 6%	Housing First; homeless assistance approach that prioritises providing permanent housing to people experiencing homelessness. Support services offered to people after there are housed.
	Farr et al. (2024)	service users (n=16, M = NR (range 31-70), F = 0%); project workers (n = 10m M = NR; F = 50%).	The Hope Service; Initial assessment (2 hours) followed up to 8 face to face sessions and unlimited telephone support. Provides psychosocial and practical support for men aged 30-64 who are at risk of suicide. Advice on money, employment, benefit or housing problems and signposting to relevant services.
	Jackson et al. (2022)	service users (n= 80, M = 47.3 (SD = 8.5), F = 0%	The Hope Service; see above.
	Kenneally et al. (2023)	Veterans in 28-day residential substance use treatment centre; VA BIC group n = 11 (M = 53.5, SD = 8.50), F=0%; TAU n=9, (M = 48.9, SD = 11.0), F = 22.2%	The Veterans Affairs Brief Intervention and Contact (VA BIC); First session one-two days prior to discharge from the residential SUD treatment centre. Following discharge, seven additional contacts over three months. Sessions involved assessing wellbeing, suicide prevention education, safety planning, promoting self-monitoring, acknowledging progress, evaluated adherence with treatment and building on self-belief.
	Schwan et al. (2018)	Homeless individuals (service users); n = 20; M = NR (age range 16-24) F = 36%; staff: n=3; M = NR; F = NR.	Intervention; Art Creation & arts-based program; Drop in at a homeless shelter several times a week or part of a life skills program which runs once a day. Involves woodwork, sewing, painting, photography, music, ceramics, mosaics, collage, jewellery, cooking and sculpture.
	Slesnick et al. (2020)	Homeless individuals; n =150; M = 20.99 (SD = 1.96); F=40.7%	Cognitive Therapy for Suicide Prevention (CTSP); 10 (50 min) sessions provided within 6 months. Therapy focused on suicide prevention. Three phases of intervention 1. participants are educated about cognitive model and the intervention is guided by individual risk

			factors and experiences. 2 cognitive restructuring and behaviour change. 3. practice newly acquired skills through guided imagery.
	The USA National Strategy for Suicide Prevention Federal Action Plan (2024)	Not reported	National action plan
Care-experienced settings			
	Evans et al. (2023)	Care-experienced children and young people (<25 years old). In-home care and out-of-home care (foster care; residential care; formal kindship)	Evidence map of interventions targeting wellbeing, mental health and suicide amongst care-experienced young people aged <25 years.
	Evans et al. (2024)	Care-experienced children and young people (<25 years olds). Care-experience defined as foster care, formal kinship care, residential care or other statutory transfer of parental responsibility to another adult	Review of effective interventions (moderator analysis or interaction effects) for preventing suicidal ideation and behaviour
	Katz et al. (2020)	Youth transitioning into adulthood after out-of-home care experience	Recommendations for interventions in transition-aged youth with out-of-home care experience
	Osteen et al. (2018)	Residential or clinical staff working with children involved in the welfare system. N = 44, M = 29.9 (SD = 10.6), F = 71%	"Youth Depression and Suicide: Let's Talk" (YDS) gatekeeper training; Three areas. 1. Acknowledging the problem (addressing myths, risk & protective factors, warning signs), 2. caring for the person (skills oriented), 3. telling a professional (additional skills and crisis management)
	Pears et al. (2024)	Children in foster care and their caregivers. KITS group - n = 102,	The Kids in Transition to School (KITS) Program (Pears et al. 2018); 24 session (2 hours twice weekly) focuses on 'school readiness' prior to

	(M at entry = 5.26 (SD = 0.33), F = 48%. TAU - n =90, (M = 5.25, SD = 0.35), F = 39%.	kinder garden entry in children in foster care. Promoted early literacy, prosocial and self-regulatory skills. There are also 8 caregiver sessions every other week focusing on promoting caregiver involvement and positive parenting techniques.
Santos et al. (2023	Residential youth care settings, including residential treatment	review of the evidence of mental health interventions for care workers or for youth in care in residential youth care settings, including residential treatment.
Taussig et al. (2024)	Children who were placed in any type of out of home care due to maltreatment. Control group = N = 60, M = 20.28, SD = 1.04, F = 48.3; Intervention group, n = 73, M = 19.99 (SD= 0 .91), F = 49.3%	Fostering Healthy Futures for Preteens (FHF-P); FHF-P is a 30-week program of weekly skills groups and one-to-one community-based mentoring. cognitive behavioural curriculum with units addressing emotion recognition, perspective taking, problem solving, anger management, cultural identity, change and loss, healthy relationships, peer pressure, abuse prevention, and future orientation.
The USA National Strategy for Suicide Prevention Federal Action Plan (2024)	Not reported	National action plan