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REVIEW

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Suicide prevention following conviction within the criminal justice system: a review of good practice using a social-ecological framework

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Abstract

Suicide is a leading cause of death among individuals in contact with the criminal justice system, with rates far greater than those in the general population. Despite developments in research and practice around suicide prevention, few jurisdictions globally have implemented comprehensive systems or policies across the full criminal justice pathway. In this overview, we present a review of the current evidence base in relation to correctional policy and practice, along with selected examples of good practice in suicide prevention for people serving custodial or community-based sentences, predominantly from England and Wales and Australia. We utilise a social-ecological framework to describe the multi-level factors contributing to suicide risk and various approaches to prevention. While progress has been made, there are still significant gaps in both our understanding and implementation which, if addressed, would meaningfully enhance suicide prevention for this marginalised population.

Keywords Suicide, Prison, Probation, Criminal justice, Prevention

Background

Suicide is a global health problem, with over 700,000 deaths by suicide globally each year [1]. The prevention of suicide is a global priority for public health practitioners, healthcare professionals, and local and national governance, and reducing suicide mortality by one-third is one of the United Nations' sustainable development goals for 2030 (target 3.4.2) [2]. People who come into contact with the criminal justice system (including contact with the police, courts, and in community and custodial supervision settings; hereafter CJS) are at substantially increased risk of premature mortality, including due to suicide, when compared to their general population peers [2–9]. International reviews and studies have highlighted that people released from incarceration are seven times more likely than people in the general population to die by suicide, also suggesting that the risk of suicide is most pronounced in the first 28 days after release [3, 10, 11]. Furthermore, studies have shown that 13% of people who died by suicide within the general population had been in contact with police or probation services within the 12 months prior to their death [8], with suicides occurring in custody further raising that figure. Recent years have seen the development of an extensive body of research examining deaths by suicide and a commensurate increase in efforts to prevent suicides within the CJS, including both custodial settings (i.e., prisons and jails) and, increasingly, community-based settings (i.e., for

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people serving community sentences such as probation or parole [2, 8, 10, 11]).

While the CJS differs markedly between countries, states, and local jurisdictions, it typically involves initial contact with a police service and, if charged, a court system. If convicted, people may be sentenced to a period of community supervision (i.e., a sentence which combines some form of punishment with activities carried out in the community), or they may receive a custodial sentence (i.e., imprisonment) and may also be subject to oversight by a probation or parole service after release from custody. For this review, we will focus on people in the post-conviction stages of the CJS, including 1) people serving a custodial sentence in a prison or jail (hereafter referred to as 'custody'); and 2) people in contact with the CJS in the community (i.e., serving a community sentence or post-prison release, including probation or parole; hereafter referred to as 'probation').

The rates of death by suicide within all stages of the CJS remain consistently high, with international suicide rates in prison ranging from 24–89 deaths per 100,000 person-years, with higher rates reported in higher-income countries [12]. Men are twice as likely and women are ten times more likely to die from suicide in custody than their peers in the general population [12]. Studies from low- and middle-income countries (LMICs) also report higher rates of suicide, with research from Morocco, Ethiopia, South Africa, India, Brazil, and Cambodia reporting suicide rates ranging from 8.7 to 40 per 100,000 person-years in prison populations [12]. Furthermore, a recent review exploring the prevalence of non-fatal suicide attempts in prison identified an international pooled prevalence of 8.6% (95% CI 6.1–11.2) in men and 12.2% (95% CI 7.1–17.2) in women, which is three to four times the 3% lifetime prevalence among adults in the general population [13].

There is a limited evidence base comparing suicide rates between custody and probation populations. Recent studies in England and Wales reported that up to 25% of deaths in custody were due to suicide [14], reflective of suicide as the most common form of death in custody [15]. Suicide accounted for 15% of all deaths among people under probation supervision [16] amongst a population consisting of three times as many people as those in custody [17]. International reviews and studies have highlighted that people released from incarceration are at increased risk of dying by suicide. A recent study examining rates and causes of death among > 1.4 million adults released from incarceration in eight countries reported a rate of 135 suicide deaths per 100,000 person-years within the first week following release [3].

In this paper, we provide a purposive review of the evidence and recent advances to develop suicide prevention within the CJS, with a particular focus on good practice examples from England and Wales and Australia. We draw on a social-ecological framework to understand the contributors to suicide and its prevention in justice-involved people, acknowledging that suicide and suicide prevention are reflective of multiple factors at multiple levels [18].

This review adopted a purposive approach to literature selection, focusing on current key research, policies, and practices in suicide prevention within post-conviction CJS settings which can inform policy and practice development. The initial selection was based on key studies and policies already known to the authors through prior work in the field in England and Wales and Australia. This was followed by reference list chaining, targeted database and policy website searches, and consultation within professional networks to identify additional relevant literature. Systematic reviews and meta-analyses were prioritised, where available, to provide the most generalisable evidence. Additional sources were included to ensure representation of both health and justice perspectives on suicide prevention risk and practice.

We focused on literature that: (1) addressed suicide prevention within post-conviction criminal justice settings; (2) provided insights across different levels of the social-ecological model; (3) reflected international perspectives; (4) included both prison- and community-based interventions; and (5) contained evidence on effectiveness or implementation considerations.

Theoretical framework: a social-ecological model

In this review we draw on a social-ecological model of violence and health [19] onto which several current theories of suicide have previously been mapped [18, 20]. The model is based on a four-tier framework for categorising risk and protective factors which, in turn, guide the development of corresponding prevention strategies. The tiers are:

1. *Individual* (e.g., personal characteristics and risk factors, such as demographics and health conditions);
2. *Relationships* (e.g., direct person-to-person interaction, such as with family, peers, partners and staff members);
3. *Community* (e.g., neighbourhood centres, institutions, workplaces, and healthcare settings);
4. *Societal* (e.g., social and cultural norms, policies, and other guiding rules or laws).

This framework allows for a comprehensive understanding of how various factors interact across different tiers for an individual to influence suicide risk and provides a structure for organising prevention strategies.

Risk and predisposing factors

Risk and predisposing factors for suicide are more prevalent among individuals in contact with the CJS than in the general population [13]. For example, an international umbrella review of mental and physical health [21] within the CJS indicated high rates of mental disorders, with over one in every ten people in prison diagnosed with depression (11%) or post-traumatic stress disorder (PTSD; 10%), and 4% reported to have a psychotic illness. This and other reviews have also demonstrated a high burden of substance use [22] with 24% of people who enter prison reported to have an alcohol use disorder and 39% a drug use disorder [21]. This prevalence likely reflects the experience and social and health inequalities of the population, and the potentially damaging nature of contact with the CJS [23], with their presence reflected at individual, relationship, community, and societal levels.

Individual-level risk factors

At the individual level, evidence consistently demonstrates that certain factors increase the risk of suicide and self-harm in CJS populations [13]. For example, half of people who die by suicide in prison have made one or more previous suicide attempts, which increases the odds of suicide eight-fold [24]. In a recent systematic review and meta-analysis of risk factors for suicide in prisons, effect sizes varied considerably with the highest risk being from suicidal ideation during their current period in prison (OR 15·2; 95% CI: 8·5–27·0), having a history of attempted suicide (OR 8·2, 95% CI: 4·4–15·3) and having a history of self-harm (OR 7·1; 95% CI: 4·4–11·5) and being prescribed psychotropic medication (OR 3·8; 95% CI: 2·8–5·1). Regarding clinical diagnoses, a diagnosis of depression (OR 4·9; 95% CI: 1·6–14·8), and alcohol misuse (OR 2·5; 95% CI: 1·4–4·3) were most significant. A comprehensive meta-analysis [13] on risk factors for suicide attempts in prison found that, at the individual level, the presence of suicidal ideation was the strongest factor (OR: 16.2; 95% CI: 8.18–32.4), followed by previous psychiatric treatment in prison (OR: 8.0; 95% CI: 3.20–20.18), a history of non-suicidal self-injury (OR: 6.16; 95% CI: 4.98–7.62) or suicidal behaviour (OR: 5.95; 95% CI: 3.17–11.16) current psychological distress (OR: 5.6; 95% CI: 2.79–11.46) and the presence of any psychiatric diagnosis (OR: 5.0; 95% CI: 3.58–6.89). Other strong factors (OR > 3) included psychiatric treatment before prison, current psychotropic medication, childhood sexual, physical, or emotional abuse, high impulsivity, and a family history of suicide. It is notable that in LMICs, the prevalence of suicidal ideation is generally lower than rates reported in high-income countries, ranging from 2.3% reported in Nepal to 14.9% in Colombia [12]. This difference may reflect both true variations in prevalence and cultural factors affecting the reporting of suicidal ideation [25].

Few detailed studies examining risk factors for suicide or poor mental health outcomes have been conducted with people on probation [26]. In the limited studies, the individual risk factors for suicide identified have been similar to those in the general population, such as substance misuse, mental health problems (particularly depression and psychosis), and previous suicide attempts [10, 23]. However, the prevalence of these risk factors is considerably higher among people on probation than in the general population, with rates of mental disorder of up to 40% reported [27–32].

Research has demonstrated that certain demographic groups face disproportionate suicide risk across the CJS. For example, White men are suggested to be at higher risk than other ethnicities [27]. Women in the CJS have been consistently shown to be at disproportionately higher risk of suicide compared to the general female population, with standardised mortality ratios (SMRs) ranging from 11.0 to 14.9. In contrast, men in the CJS have SMRs of 4.0 to 4.6 which, despite being elevated, are lower than those observed in women [11, 27, 33]. Whereas in the general population, where men are three times more likely than women to die from suicide, this means that within prison and probation populations, the risk of suicide becomes more similar [11]. There is a growing evidence base indicating that women in contact with the CJS have different needs to those of their general population peers and have experienced higher rates of serious childhood abuse and trauma [33]. They are frequently survivors of domestic and intimate partner violence and abuse than women outside of the CJS, and are more likely to report substance misuse and mental health problems than women outside of the CJS [33–37].

Relationship-level risk factors

At the relationship level, social engagement and interpersonal interactions play a role in suicide risk. For instance, an international systematic review identified that an absence of social visits in prison was associated with higher suicide risk (OR: 1.9, 95% CI: 1.5–2.4), emphasising the importance of maintaining community connections [24].

Studies have found that interpersonal conflict also has strong associations with suicide risk. For example, there is strong and consistent evidence that the perpetration of violence is related to suicide [13], including domestic and/or intimate partner violence and abuse, with 20–30% of suicides in the community having a history of domestic violence or abuse perpetration [11, 34–37]. Recent research has identified that 60% of suicide decedents on

probation had a history of dual harm behaviour (i.e., they had previously engaged in both self-harm and violence perpetration), compared with < 10% of suicides being by those who engaged in either self-harm or violent behaviour alone [38].

Furthermore, bereavement and exposure to suicide are well-recognised risk factors, with studies indicating that up to 50% of all people in prison report previous experience of suicide within close family or in prison [38].

Community-Level Risk Factors

Prison environment

Recent systematic reviews and meta-analyses examining risk factors for suicide or suicide attempts among people in prison across 27 countries [12, 13, 21, 24] have identified several specific institutional factors that were strongly associated with suicidal behaviour. For suicide, these include being detained or on remand (i.e., awaiting trial or sentencing) (OR: 3.6; 95% CI: 3·1–4·1) and for suicide attempts included disciplinary infractions (OR: 3·5; 95% CI: 1·2–9·7) and being threatened with violence OR: 2·6; 95% CI: 2·0–3·3) [3, 24]. Furthermore, institutional isolation through single-cell occupancy (OR: 6.8; 95% CI: 2·3–19.0) or no social visits (OR: 1.9; 95% CI: 1.5–2.4) was associated with significantly increased suicide [24] and solitary confinement with suicide attempts (OR: 5.0; 95% CI: 2·7–11·6) [13]. These findings suggest that prison social environment factors substantially influence suicide risk beyond individual-level characteristics.

In LMICs, institutional challenges that may exacerbate suicide risk include severe resource constraints, with significantly fewer mental health professionals available than in high-income countries (0.3 outpatient staff per 100,000 incarcerated people compared to 7.3 per 100,000 in high-income countries), as well as frequent overcrowding and inadequate training of prison staff [39]. However, a 2017 meta-regression which tested associations in custodial suicide with general population suicide rates (exploring the role of incarceration rates and prison-related factors, such as overcrowding, the ratio of incarcerated people to staff members, daily spend, turnover, and imprisonment duration) found no notable associations [39]. This finding suggests that more complex interactions between individuals and their environment may contribute to the elevated rates observed in the literature.

Post-release and probation

Community-level factors affecting post-release suicide risk include geographical location and community infrastructure. For example, studies in Australia and the United States (US) have identified higher suicide risk among people released from prison into communities with poor transitional support services, especially those from Indigenous communities where community-level disadvantage was more pronounced [3, 11, 40, 41]. Furthermore, actions taken by statutory probation or parole services following a breach or violation of community-based supervision requirements (known in the United Kingdom [UK] as 'enforcement action') have been identified as strong markers for suicide risk [8, 11, 42]. A 2025 study [11] examining post-release mortality in England and Wales reported a bimodal pattern of mortality risk, with peaks in suicide rates immediately after release and again after six months, suggesting critical periods of community reintegration vulnerability.

Societal-Level Risk Factors

Access to means

Notable differences can be seen in the methods of suicide used in different CJS settings and this likely reflects, in part, a reduced access to means in prison [43]. For example, research in the UK has demonstrated that 95% of suicides in prison are by hanging, strangulation, or suffocation [14], compared to 59% in the general population [44]. For people on probation, however, methods are more aligned with the general population, although differ between men and women, with hanging and strangulation accounting for 66% of suicides in men, while poisoning is the most common method of suicide for women, accounting for 41% of deaths [16].

Stigma

Studies also provide some insights into current challenges around the stigma associated with suicide. In Nepal, one study [45] found that only 2.3% of incarcerated people reported suicidal ideation during incarceration, with around 1% of men in federal prison in South Carolina reporting self-harm [46]. The authors of these studies posited that this likely reflects underreporting due to stigma and lack of assessment protocols, rather than a truly low prevalence.

Access to services

Although access to health services is a critical element of suicide prevention, evidence suggests 30% of people in the general population that who die by suicide have had contact with the CJS in the 12 months prior to their death, which is higher than the proportion who have had contact with mental health services during the same period [47]. Studies conducted in probation settings have reported that only half of those reporting moderate or severe mental health concerns were currently accessing mental health treatment in the community [28, 29, 31]. It is, therefore, vital that all suicide prevention approaches are engaged with all stages of the CJS, as this reflects an opportunity for accessing a difficult-to-reach and

potentially high-risk population not currently in contact with mental health services. Significant challenges have been reported in relation to the quality and timeliness of information sharing between community agencies and with access to services for people in contact with the CJS [29, 31] and these community-level systemic limitations likely affect the quality of care received and the ability of those in contact with CJS to receive appropriate and timely mental health support.

Good practice in suicide prevention interventions within the CJS

Good practice in suicide prevention within the CJS continues to evolve [48]. The World Health Organization (WHO) published in 2000 an international template for suicide prevention within custodial settings [15]. These guidelines emphasised the importance of understanding and addressing the common risks and needs in jails and prisons internationally and acknowledged the imported risks and environmental factors contributing to in-custody suicide risk. The guidelines also highlighted the significance of individual assessment, staff training, management, mental health treatment, incident response, and the physical environment in relation to suicide prevention. The tenets of a national public health suicide prevention approach have been outlined within the WHO's LIVE LIFE framework [49], which highlights four key effective evidence-based interventions: 1) restricting access to the means of suicide; 2) interacting with the media to ensure responsible reporting of suicide; 3) fostering socio-emotional life skills; and 4) the early identification and support of everyone affected by suicide. Research, policy, and practice have continued to evolve during the intervening period [48] and these developments must be integrated into our understanding of best practices.

Any comprehensive and effective suicide prevention strategy requires coverage at all levels of the social-ecological model with engagement in individual, relational, community and systemic, approaches. Such strategies must also recognise and reflect the unique differences and similarities between custodial and probation environments and systems. The following sections will cover each of these in turn, exploring current evidence and approaches.

Societal-Level Interventions

Policy and multi-component approaches

While the presence of duty of care within the CJS differs between jurisdictions, it is generally greatest within custodial settings and least pronounced in community settings. Increasingly, countries and jurisdictions are developing and publishing suicide prevention policies and frameworks within custodial settings, e.g., England and Wales and Victoria (Australia) [50–52]. However, there are no identified published policies specifically aimed at outlining processes for preventing suicide within probation populations.

The only identified probation-specific policy regarding suicide [53] does not focus on prevention directly but outlines a systemic approach to recording suicide deaths, while outlining a structured learning approach for each death to inform the prevention of future suicides. England and Wales is the only jurisdiction that annually publishes real-time data on deaths in both custody and probation, although proxy data systems which provide good estimates are developing (e.g., in Australia [54]). Furthermore, data on deaths within custody is becoming more widely available in other jurisdictions [53–58]. The highest quality systems should have written and published suicide prevention action plans for continuous improvement and examples are available within custodial settings [59, 60] and some include actions relevant for probation settings [61]. However, these are not routinely available in many jurisdictions [16, 54]. The availability of custodial and probation policies, published data, and action plans confirms the feasibility of systemic approaches, and development more widely could provide a cornerstone to effective suicide prevention.

Multi-component approaches

Reflective of good practice, public bodies in several countries, including the UK, Australia, Canada, and the US, have published details of multi-component and multi-agency prevention approaches [50–52]. The content of these policies varies, although they typically focus on identifying those at greatest/increased risk, managing post-identification, reducing access to means, responding to incidents, and staff training [62]. These approaches generally engage correctional and health staff at every stage of identification and management. In LMICs, suicide prevention approaches face additional challenges due to resource constraints. For example, it has been reported that only 0.5% of health budgets in some LMICs are allocated to mental health treatment, compared to 5.1% in high-income countries [12].

A recent systematic review and meta-analysis [63] reported on evaluations related to suicide prevention initiatives within correctional institutions internationally. The authors reported that such initiatives were effective in reducing suicide deaths (pooled rate ratio: 0.35 [95% CI: 0.23 to 0.55]), emphasising the positive impact that active prevention can provide. However, the authors identified only 24 studies conducted since 1980 and, of these, only nine had suicide deaths as the outcome variable. Only six included studies evaluated

multi-component programs, and all were more than 20 years old. The review found that although many systemic approaches are available and in place globally, few have been evaluated for their overall or component effectiveness in LMIC settings, highlighting an important gap in the evidence base.

These findings point to both the need and opportunity for developing contextually appropriate suicide prevention approaches in LMIC correctional settings. While comprehensive multi-component programs may not be feasible in many resource-constrained environments, targeted interventions focusing on basic screening, staff awareness training, and peer support mechanisms may offer pragmatic starting points that can be implemented within existing resource constraints [25, 63].

Case Study from England and Wales: Assessment, Care in Custody and Teamwork (ACCT)

Assessment, Care in Custody and Teamwork (ACCT) is the mandatory care planning process for incarcerated people identified as being at risk of suicide or self-harm within all prisons across England and Wales. It was introduced in 2007 and is outlined in detail within a broader systemic policy [51]. It is a staged process whereby any staff member can initiate the ACCT, which begins with prison staff reviewing and acting to ensure the safety of the incarcerated person, followed by a brief assessment linking to a care plan and regular multi-agency reviews.

There have been no published effectiveness evaluations, although a notable reduction in suicides was observed after its full implementation, within the broader systemic policy changes in 2007 [64]. Since 2014, suicide rates have risen to levels similar to those prior to its introduction, and a qualitative review of the ACCT in 2015 found that although incarcerated people felt well-supported, there were considerable challenges associated with its operation and format [65].

Community-Level Interventions

Managing transitions

A cornerstone of suicide prevention in the CJS is the recognition that all transition points are high-risk periods [3, 11, 15]. Most notably, international evidence consistently indicates that suicides increase during and after police contact, the early stages of imprisonment, after sentencing, after release from prison, and when enforcement is initiated following a breach of sentence conditions [3, 11]. Within custodial settings, international guidelines highlight the importance of screening individuals for risk areas upon their arrival at prison and the completion of a more comprehensive psychosocial assessment to inform appropriate prevention and intervention pathways [15].

Fewer policies acknowledge the risk associated with transitioning out of prison. For example, the custody-related suicide prevention policies in England and Wales and Victoria (Australia) require sharing risk and health information with community services [50–52]. However, the inclusion of preventive actions can be limited, and there is often no specific requirement for the receiving service to address the shared information and associated risks. Significant gaps also exist in coordinating services during transition points. These include limited preparation or planning for the person transitioning, inadequate or delayed information sharing between agencies, and difficulties with referrals and access to services, especially for those less familiar with the unique needs of this population [65–67].

Case Study from England and Wales: Support and Safety Plan in Community Approved Accommodation

In England and Wales, 'Approved Premises' refers to housing approved by the Ministry of Justice which provides intensive supervision and curfew in the community for those assessed as being at increased risk of serious harm to others or reoffending upon release from prison.

The Support and Safety Plan (SaSP) is a prevention approach involving all Approved Premises residents in a three-phase process, regardless of previous suicide or self-harm risk [68]. The three stages are:

(1) A collaborative guided assessment, which considers current and future wellbeing, current suicidality, and previous suicidal behaviour;
(2) An individualised support plan collaboratively completed with staff using a triangulation discussion with the resident and file information – which is reviewed within two weeks and regularly throughout the residency;
(3) Optional use/creation of a probation-specific suicide safety plan.

SaSP aims to identify and support potential risk areas and ongoing needs, promoting wellbeing, and prevent distress. SaSP encourages trust between residents and staff members to openly discuss self-harm, suicide, and/or distress while fostering a collaborative approach to wellbeing throughout their stay.

Multi-agency approach

Suicide risk and suicidal behaviour reflect an interaction between psychology, mental health, previous and current experiences, environment, and culture [69]. Effective suicide prevention sits as a core responsibility of justice and health professionals. Therefore, shared responsibilities and policies which draw together justice and health

services are a minimum requirement to adequately meet this need [70].

Both custodial and probation settings are reliant on additional, external services to achieve effective suicide prevention. In addition to health and substance use services, this includes services which support housing, employment, and families. Evidence highlights significant challenges in the delivery of forensic mental health services across the criminal justice pathway [71, 72], with issues relating to screening and service capacity (when rates of mental disorders are typically high), and providing an equivalence of care [72, 73]. Furthermore, in the community, there are often lower rates of access, engagement, and attendance, with treatment pathways which directly or indirectly exclude those in contact with the CJS; e.g., requiring alternative services due to dual diagnosis, multiple needs, or concerns about the person's risk or behaviour [74].

There are few specialist suicide prevention services and globally many mental health services are under extreme pressure relating to capacity and resources [75]. It is also important to recognise that a less than half of people who experience suicidal ideation approach or access hospital or mental health services, with around 90% never attempting suicide [76] and it is suggested that engaging wider communities to create supportive environments (including emotional and practical support) is a key component in suicide prevention [75]. Furthermore, improving collaborative working between health, justice, and social services has been shown as the most effective model for suicide prevention [70], with peer-based services a positive recent development in many correctional services [77].

Evidence suggests that in LMICs, collaborative approaches to suicide prevention face additional challenges due to infrastructure and resource limitations [12, 78]. To address these constraints, researchers have proposed task-shifting as a potential strategy, whereby non-specialist staff receive training to identify and support individuals at increased risk [12, 78]. Therefore, while this approach shows promise in general mental healthcare delivery in resource-limited settings, its specific application to suicide prevention in correctional settings requires further evaluation.

Reducing access to means

Currently, the intervention with the strongest evidence base for suicide prevention in the general population involves restricting access to the means of suicide as a public health measure [26]. For example, reducing access to paracetamol in the UK resulted in a 22% decrease in suicides by this method [79], while the installation of physical barriers at railway locations in Hong Kong also led to a significant reduction in suicides [80]. The benefits of restricting access to means are well supported by evidence that approximately 90% of people who attempt suicide for the first time do not die from suicide and only approximately one-quarter will make a further attempt in their lifetime [81]. Unrestricted access to lethal means increases the risk of suicide, and evidence from the US has demonstrated that having a firearm in the home doubles the likelihood that someone in that house will die by suicide, even after adjusting for confounding variables [82]. Furthermore, research has identified that 70% of people who attempt suicide report making the decision to do so less than one hour before making the attempt [83]. However, questions remain about the long-term impact of means restriction, as some people may move on to another method if a preferred method is not available [84]. This is referred to as method substitution, and it is particularly common in younger age groups who may be less tied to a single option, e.g., in one study from USA reducing access to firearms only saw an impact on older age groups [85].

The use of public health measures to reduce access to means is developing in correctional settings with the more widespread provision of anti-ligature within cell designs (where specially installed furniture reduces options for ligature points) and the provision of ligature removal knives to staff, with available evidence drawn from police and inpatient healthcare settings. For example, the introduction of collapsible curtains and shower rails in healthcare settings in England resulted in no further suicides occurring using these ligature points [86] and the routine use of anti-ligature cells and ligature knives in police stations led to a significant reduction (from 14 to 3 per year) in deaths by suicide in police custody [87]. Currently, there is very limited evaluation within custodial environments of the impact of reducing ligature points. Ligature-resistant cells could support suicide prevention for high-risk prisoners, given the prevalence of ligature suicides in correctional settings [88]. However, this intervention should complement rather than replace other prevention services, as its high cost may otherwise compromise the availability of critical preventive care.

Within correctional services, the most common approaches to restricting access to means are at the individual level, including the removal of items from the person which they could use to harm themselves (e.g., razor blades or use of special clothing); medication and prescription management; placement in anti-ligature cells; and constant supervision (also known as special observations or 'suicide watch'), where individuals are watched by staff regularly or constantly to be able to intervene. However, there is little evidence regarding the

effectiveness of special observations with a recent review highlighting that although there is evidence within some contexts, in general, the available evidence demonstrates weak or no impact, and this must be balanced with evidence that it can be both resource-intensive and harmful to patients [89].

Relationship-Level Interventions

Peer-based services

There is growing recognition of the benefits of peer-based services within custodial environments, with examples of effective services to support health, wellbeing, and suicide prevention [90]. Notably, there have been few robust evaluations of the effectiveness of these approaches on suicidal ideation or behaviour [48] with most evidence drawn from the perceptions of those delivering the services. There is limited but increasing evidence that well-organised and supported peer-support programs can influence wellbeing and reduce distress; e.g., the Listener Scheme, a peer-support service run by Samaritans in prisons in the UK and the Republic of Ireland, the goal of which is to reduce feelings of distress and crisis that may lead to suicide [91].

Postvention

The provision of services after a suicide, known as "postvention", to people in prison has been developing to reflect the recognition of the risk of exposure to suicide on later suicidal behaviours and the high rate of exposure in this population [39]. A specialist postvention service grounded in peer support launched nationally in the UK in 2019 and has demonstrated in early evaluations its feasibility and an increased awareness of available support for people in prison [92].

Individual-Level Interventions

Identification and assessment

The identification of people at increased risk is a cornerstone of most suicide prevention approaches. Good practice includes ensuring a nuanced understanding of the differing patterns of risk and unmet needs across the CJS for effective suicide prevention, especially with some jurisdictions moving towards fewer custodial sentences and alternatives including restorative justice (victim – offender mediation) and community-based sentencing, especially for young people (e.g., Scotland and Norway [93, 94]). However, screening tools for suicide have been consistently found to be ineffective in predicting suicide in practice [26, 95]. There is also no evidence of these tools being adapted for individuals leaving prison or under probation supervision. The challenges of identification become apparent in light of evidence suggesting that fewer than 40% of people making lethal or near-lethal suicide attempts in UK prisons had been identified as being at increased risk prior to the act [96].

Any approach to the identification of those at increased risk of suicide within custody requires careful consideration due to the serious consequences. Although screening tools for suicide may be promoted, research has reported the widespread use in healthcare settings of unvalidated and locally developed tools, which were no better than chance at identifying people who subsequently attempted suicide [9]. Current recommendations, as outlined in the 2013 NICE guidance for assessing, managing, and preventing self-harm [97], is that screening should not attempt to predict who is at increased risk of suicide or who will not engage in the behaviour, with a high proportion of deaths occurring in those who are deemed low risk and even the strongest factors being only weakly related to suicide. Alternatively, they recommended that intake screening should reflect needs related to suicide, which connect to a care pathway [98]. These may include the indicators of imminent suicide risk (e.g., suicidal ideation, expressions of hopelessness, or recent suicidal behaviour) where safety measures can be applied, and identifying individual needs directly linked to an intervention pathway, e.g., mental health concerns, substance misuse, inadequate social support, housing instability, or violence perpetration [99].

Assessment involves a personalised approach to evaluating the risks and needs related to suicide with best practice emphasising the use of psychosocial assessment and case formulation [95, 99]. This comprehensive psychosocial assessment evaluates the person's current needs and considers their safety and any vulnerabilities, including the psychological, environmental, and social factors that underpin the person's risk of suicide or suicidal behaviour. These assessments are recommended to be undertaken within a person-centred and trauma-informed model of care, reflecting the high rates of trauma in this population. The USA National Commission on Correctional Health Care (NCCHC) outlined various options and key principles for assessment [62]. These include community approaches such as the UK's Zero Suicide approach and Collaborative Assessment and Management of Suicidality (CAMS) developed in the USA [99]. Each approach views suicide assessment as an ongoing process, rather than a one-off event. This reflects the understanding that serious suicide attempts are not the result of a single event, but rather an accumulation and interaction of individual characteristics, experiences, and proximal and distal events [100]. Following this assessment, the completion of a collaborative case formulation aims to summarise the current risk areas and difficulties, including understanding why they occur, to inform a plan for their care and risk management [89, 95].

Custodial studies have explored the benefits of using theoretical models of suicide, e.g., the Integrated Motivational-Volitional (IMV) Model [100] in assessment. Studies indicate that these models can increase the viability of dynamic and flexible assessment with up to 80% of people accurately identified as being at increased risk, compared with staff judgement being closer to 40% [101]. Some jurisdictions have begun to integrate these theories of suicide into their assessment approaches [68].

Individual and small-group interventions

Guidance and policy on the management and intervention with an individual at an increased risk of suicide is another element of good practice frameworks [15, 50–52]. Recommendations in these guidance include considering any associated and co-existing conditions which may have been identified when completing the psychosocial assessment; considering the provision of a cognitive behavioural therapy- (CBT) or dialectical behavioural therapy (DBT)-informed psychological intervention; considering removing any items likely to be used in self-harm; focusing on a strengths-based approach to identify solutions to reduce distress; and encouraging the development of a suicide safety plan). It is not recommended that substance misuse treatment should be offered as a specific intervention [102].

A recent systematic review and meta-analysis of interventions to reduce self-harm and suicide in correctional settings reported the most frequently used modalities for intervention as CBT, DBT, peer-based support, and staff training [102]. A recent small-scale randomised controlled trial examining a CBT-based intervention in England showed promise, with a reduction reported in self-harm and suicide ideation, although not in psychological factors relevant to suicide, e.g., hopelessness and depression [103].

Safety planning

Suicide safety plans include lists of coping strategies and/or sources of support that a person can use to help alleviate a crisis. Elements of a safety plan usually include recognising warning signs, outlining a range of coping strategies and sources of support (e.g., friends, family members, and/or professionals), and limiting access to self-harm methods.

These brief suicide safety planning-type interventions (SPTI), such as the Crisis Response Plan [104] or the Suicide Planning Intervention [105] have been shown to reduce the risk of suicide-related behaviours in various populations, including hospital emergency departments and outpatients [106, 107]. This intervention may have benefit within the CJS and a safety plan created in collaboration with probation services, featuring additional exercises to enhance risk management, is provided nationwide in England and Wales [68]. However, no published studies yet specifically explore the effectiveness of safety planning for people in contact with the CJS.

Case study from Australia: SLIPS framework in prison mental health

In Australia, a novel approach to suicide prevention in prison settings has been developed through the Suicide/Self-Harm, Legal, Individual, Psychiatric, Safety Plan (SLIPS) framework [108]. This structured professional judgement approach was piloted in a prison mental health unit to support mental health clinicians in assessing and managing risk of self-harm and suicide.

The SLIPS framework explicitly links a structured risk assessment to a collaborative safety planning approach, providing a framework for managing identified risks.

The pilot found that post-implementation, there was an increase in patients reporting thoughts of self-harm to staff, potentially reflecting improved patient-staff engagement. This suggests that even with implementation challenges, the approach may help create an environment where individuals feel more comfortable discussing suicidal thoughts.

Conclusions and outlook

There is a large and growing evidence base demonstrating that the risk of suicide is considerably higher among people in contact with all stages of the CJS pathway compared to the general population. As outlined in this overview, paradoxically, this risk is often highest in groups that are not routinely monitored or researched, such as those under community-based sentences, parole, or probation [11]. The high rates of suicide in this population emphasise the benefits for public health engagement with people across the CJS to make a meaningful difference in suicide rates. However, this requires multi-agency engagement and an appreciation of the differing patterns of risks and service needs at different stages of the journey.

Organisations must also learn from suicide deaths and carefully assess the services provided to enhance future suicide prevention. A crucial aspect of this learning process involves having access to timely and high-quality data, as well as independent investigations of deaths, which can then be analysed to drive improvements and establish shared learning and best practices to inform advancements across agencies.

Several limitations should be acknowledged. Our purposive selection may have introduced bias by potentially overlooking relevant literature not captured in our search strategy. The review draws heavily on examples from England and Wales, which limits generalisability

to other jurisdictions with different criminal justice systems, particularly in LMICs where resource constraints significantly affect implementation possibilities.

Significant gaps also remain in our knowledge and its implementation in practice. International research generally reflects an atheoretical and epidemiological approach grounded in diagnostic and clinical factors that do not reflect the interconnectivity in the development of suicidality with social, experiential, and psychological factors that likely provide the elusive key to effective prevention in practice. Furthermore, limited quality evaluation evidence is available within the criminal justice sector, including some cornerstones of practice (e.g., assessment, observation, and means restriction) and research specifically addressing the experiences of women, ethnic minorities, and other vulnerable subgroups within the CJS. The scarcity of comparable data across jurisdictions also hindered direct comparisons of effectiveness between different approaches and this must be addressed if we are to make sustained progress in preventing suicide deaths. Future research should address these gaps through longitudinal designs, evaluating approaches, and a greater focus on diverse populations and settings.

There is a growing focus on preventing suicide across the post-conviction CJS. There are many examples of good practices, such as collecting and reporting deaths, implementing system-wide prevention policies, using various agency models, conducting appropriate screening and individualised assessments, and offering intervention options that prioritise meeting individuals' needs. Additionally, conducting independent reviews of all deaths can drive future prevention actions. A wider implementation of systems based on these principles could help reduce the incidence of suicide among people in contact with the CJS internationally.

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