The incidence and profile of self-harm among prisoners: findings from the Self-Harm Assessment and Data Analysis Project 2017–2019

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Abstract

Purpose – *Internationally, rates of suicide and lifetime self-harm are higher in prisoners compared to the general population. This study aims to identify specific characteristics of self-harming behaviour and to establish a profile of prisoners who engage in self-harm.*

Design/methodology/approach – *Data from the Self-Harm Assessment and Data Analysis Project (SADA) on self-harm episodes in prisons in the Republic of Ireland during 2017–2019 was used. Annual rates per 1,000 were calculated by age and gender.*

Findings – *The rate of self-harm between 2017 and 2019 was 31 per 1,000 prisoners for men and six times higher at 184 per 1,000 prisoners for women. The rate of self-harm was twice as high among prisoners on remand than sentenced prisoners (60.5 versus 31.3 per 1,000). The highest rates of self-harm among sentenced prisoners were observed among 18–29-year-old men (45 per 1,000) and women (125 per 1,000). The rate of self-harm was higher among women prisoners in all age groups. Contributory factors associated with self-harm were mainly related to mental health but also linked to a prisoner's environment and relationships.*

Practical implications – *There is a need to ensure access to timely and suitable mental health services, including both appropriate referral and provision of evidence-based mental health interventions to address the needs of these cohorts.*

Originality/value – *To the best of the authors' knowledge, this is the first national study to systematically examine incidence and patterns of self-harm among the prison population in Ireland. The recording of severity/intent of each episode is novel when assessing self-harm among the prison population.*

Keywords *Prisoners, Incarcerated, Suicide, Self-harm*

Paper type *Research paper*

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Data sharing: All reports are available publicly on the NSRF and IPS websites. Requests regarding the data are collected area available by contacting infonsrf@ucc.ie

Introduction

Internationally, rates of suicide and self-harm are higher in prisoners compared to the general population (Fazel *et al.*, 2017; Dixon-Gordon *et al.*, 2012). A study published in 2017, including data from 24 high-income countries, reported considerable variation in annual suicide rates in different countries, with rates ranging from 10 to 180 per 100,000 prisoners (Fazel *et al.*, 2017). Evidence suggests that suicide among prisoners is more common in Europe compared to other regions, with an average of 62 deaths per 100,000 (United Nations Office on Drugs and Crime, 2014). The rate of suicide in Irish prisons from 2011 to 2014 was 47 per 100,000 prisoners with a high number of unnatural deaths recorded as suicide following inquest (Iqitar *et al.*, 2018; Fazel *et al.*, 2017).

Large-scale epidemiological studies on the prevalence of self-harm in prisons are scarce. Previous small-scale studies have reported prevalence rates of self-harm in custody of

5%–24% of prisoners (Favril, 2019; United Nations Office on Drugs and Crime, 2014). One national study of self-harm in prisons in England and Wales, including 139,195 self-harm episodes recorded in 26,510 prisoners between 2004 and 2009, reported that 6% of prisoners self-harmed each year (Hawton *et al.*, 2014). In 2021, the rate in England and Wales was 4.8% (Ministry of Justice, 2022). A self-harm rate of 3.8% was reported among prisoners in Ireland in 2004 (National Suicide Research Foundation, 2005), and rates between 2.9% and 4.1% have been recorded between 2017 and 2019 (McTernan *et al.*, 2021). National and international suicide prevention policies highlight prisoners as a priority group with vulnerability to an increased risk of suicidal behaviour (Department of Health, 2015; World Health Organisation, 2014)

Data indicates that younger prisoners have the highest rates of self-harm when compared with other age groups (Favril *et al.*, 2018; Hawton *et al.*, 2014), which is consistent with the profile of self-harm within the general population (Joyce *et al.*, 2022). Incidence of self-harm is significantly higher among female prisoners of all age groups than males (Hawton *et al.*, 2014). International research suggests that the method most commonly involved in suicide deaths in prisoners is hanging (Fazel *et al.*, 2011; Lohner *et al.*, 2007). The most common method of self-harm in prisoners is cutting or scratching (Hawton *et al.*, 2014).

Self-harm episodes in prison vary in terms of lethality, level of suicidal intent and risk factors (Hawton *et al.*, 2014; Dixon-Gordon *et al.*, 2012). Much of the previous research on risk factors for self-harm in prisons has focused on specific types of self-harming behaviour, such as self-injury in the absence of suicidal intent or episodes that are classified as suicide attempts (Dixon-Gordon *et al.*, 2012; Lohner *et al.*, 2007). It is, therefore, difficult to synthesise and generalise the findings of these studies, but there is some consistent evidence that white ethnic origin, previous self-harm and mental disorders are risk factors for self-harm in prisoners. A large-scale study of prisoners in England and Wales identified the following risk factors: female sex, younger age, white ethnic origin, prison type and a life sentence or being un-sentenced (Hawton *et al.*, 2014). A recent study of 542 prison entrants in England found that the strongest risk factors were previous self-harm in prison and current suicidal ideation (Ryland *et al.*, 2020).

Suicidal behaviour in prison settings is highly complex. Favril *et al.* (2022) note that 8.6% of men and 12.2% of women attempted suicide during their incarceration. Risk factors for suicide and self-harm in prisoners include male sex, single cell occupancy, current, recent or lifetime history of suicidal ideation, family history of suicide, past or current psychiatric diagnosis, history of alcohol use problems, remand status, solitary confinement, low education, trauma histories, adverse childhood experiences, victimisation, aggression, impulsivity, illicit substance use and poor social support while incarcerated (Favril *et al.*, 2022; Zhong *et al.*, 2021; Favril *et al.*, 2022; Favril *et al.*, 2018; Fazel *et al.*, 2017; Hawton *et al.*, 2014; Humber *et al.*, 2013; Marzano *et al.*, 2011; Sakelliadis *et al.*, 2010; Sarchiapone *et al.*, 2009). The prevalence of Axis 1 mental health diagnosis, alcohol and drug misuse in Irish prisoners is significantly higher than the rate of these vulnerabilities among the general Irish population (Gulati *et al.*, 2019). Specific environmental risk factors for self-harm in prisoners include time spent in a close supervision cell (CSC) or solitary confinement, disciplinary violations and being a victim of sexual or physical harassment while incarcerated (Favril *et al.*, 2022; Favril *et al.*, 2022; Vinokur and Levine, 2019; Walker *et al.*, 2014).

While there have been several reviews of suicide among prisoners in Ireland (Fazel *et al.*, 2011; Dooley, 1997), this is the first national study to systematically examine incidence and patterns of self-harm among the prison population in Ireland. The National Self-Harm Registry Ireland has monitored self-harm presentations to hospital emergency departments among the general population since 2006 (Joyce *et al.*, 2022). However, self-harm in correctional settings remains poorly understood internationally, and there is a lack of data on characteristics of act, risk profile and typology of prisoners involved (demographics,

contributory factors, etc.). All cases of self-harm are included in this research, irrespective of the motivation or extent of the injury caused.

The medical severity and suicidal intent of each episode was recorded in this study, which is novel when assessing self-harm among the prison population. Due to the fluctuating nature of suicidal intent and its varying relationship with severity (Kiekens *et al.*, 2018; Silverman & De Leo, 2016), a matrix was developed for this study to capture the dynamic relationship between the two components for each act of self-harm. Thus, self-harm incidents are mapped onto this "matrix", which reflects a continuum of suicidal behaviour. This enables easy analysis of the nature of self-harm acts, and patterns across repeated acts, allowing for comprehensive analysis of the outcome of any incident and helping to inform the care plan of individual prisoners so that future risks can be reduced and organisational learning can be increased.

Another unique aspect of the present study is that factors relate to individual as well as environmental risks.

Using data from the Self-Harm Assessment and Data Analysis (SADA) project, this study aims to identify specific characteristics of self-harming behaviour and to establish a profile of prisoners who engaged in self-harm in prisons in Ireland from 2017 to 2019, following the implementation of the SADA national surveillance system.

Methods

Data source

The SADA project is a national surveillance system that monitors self-harm in all prisons in the Republic of Ireland (McTernan *et al.*, 2021). All episodes relating to self-harm by those aged 18 years and over between January 2017 and December 2019 were included in this study. The following definition of self-harm was used: "self-harm is (non-accidental) self-poisoning or self-injury, irrespective of the apparent purpose of the act" (National Institute for Health and Care Excellence, 2004). In this study, suicidal behaviour is on a continuum, and the definition includes acts involving varying degrees of suicidal intent, both fatal and non-fatal and various underlying motives such as loss of control and self-punishment. The Irish Prison Service (IPS) is the data controller for the SADA project and completes a form on all self-harm cases.

Data items and procedure

Data on each episode of self-harm are recorded using the standardised SADA form by the multi-disciplinary team in each prison, including prison staff and representatives from psychology, primary care, psychiatry and other relevant service providers involved with the person in custody. The form consists of four sections: (1) demographic information; (2) severity and intent matrix; (3) typology of prisoner; (4) contributory factors and is completed using a standard operating procedure outlined in the SADA manual (Centers for Disease Control and Prevention, 2022; Irish Prison Service, 2018). Applying the case-definition and inclusion/exclusion criteria, episodes are identified and discussed at regular meetings of the multi-disciplinary team to assess for accuracy. A data set was developed from the SADA data collection form, including demographic information (sex and age), circumstances of the self-harm episode and prison-related information and typology.

Circumstances of the self-harm episode that are documented include date and time of occurrence, method, severity, suicidal intent and contributory factors. A measure of severity was developed based on physical consequences of the episode, ranging from 1 to 6, from no treatment required (1) to hospitalisation (5) and death (6). A measure of suicidal intent associated with the self-harm episode was developed based on the Beck Suicide Intent Scale (SIS) (Beck *et al.*, 1979), ranging from 1 to 3, including no/low intent (no thoughts, no

plan or premeditation) (1), medium level of intent (some level of thoughts, premeditation, planning) (2) and high level of intent (evidence of thoughts, ideation and planning) (3). A coding guide based on the items of the Beck SIS was used when assigning an intent score and was informed by subjective reporting from the prisoner and objective evidence. Severity and intent are coded together on the "severity/intent matrix", a table with intent across the top and severity at the side where the act is be plotted to allow for the consideration of both components in relation to each other. Using collateral information and details from prisoner interviews, contributory factors that influenced or motivated the self-harm episode were determined. The contributory factors were categorised according to the three domains of security (environmental, procedural and relational), as described by Kennedy (2002), with the addition of mental health. The degree of severity and intent and contributory factors associated with each episode of self-harm were reviewed and agreed upon among the multi-disciplinary teams in each prison. Repetition was defined as a repeat act of self-harm by a prisoner recorded by the multi-disciplinary team.

Variables related to prisoner typology include accommodation type, cell type, legal status, sentence length, stage of sentence, offence and regime level. Prisoners are housed in different types of accommodation, including general population, on protection (restricted regimes sometimes involving 23-h lock up and isolation from all other incarcerated individuals in line with Rule 62 and Rule 63 of the prison rules 2007), CSC (isolation for management/discipline reasons often used to manage violent and disruptive incarcerated individuals), high support units (HSU; specialist support in accommodation for incarcerated individuals who are in an acute phase of a mental illness, are vulnerable or require detoxification from substances), safety observation cells (SOC; health care prescribed seclusion where there is risk of self-harm/harm to others, often limited to 24 h) or special observation (15-min checks during lock-up) (Irish Statute Book, 2023). Cell type includes single, double and triple cells. Single cells generally have an increased level of privacy compared to double and triple cells. Legal status refers to whether the individual is on remand, on trial, or tried but yet to be sentenced or sentenced. The IPS operates a 3-tier incentivised regime (IR) programme (basic, standard and enhanced) aimed at supporting and assisting incarcerated individuals to live meaningful and productive lives during their time in custody. All incarcerated individuals enter the IR programme on committal at the second tier (standard), and in line with the objectives of their sentence management plan, they can progress to tier 3 (enhanced) if all milestones are achieved and complied with. Conversely, should non-engagement or a discipline issue become a feature of their lives, incarcerated individuals can be downgraded to tier 1 (basic) for a remedial period until positive engagement and progress is noted. The prison the individual is in custody in is also recorded. The SADA project includes comprehensive data from all 12 institutions in Ireland, consisting of 10 traditional "closed" institutions and two open centres, which operate with minimal security.

Population data were obtained from the IPS (Irish Prison Service, 2020) to facilitate the calculation of rates, including the average number of persons in prison between 2017 and 2019 by sex, age and legal status.

In line with information sharing protocols, data are submitted to the National Suicide and Harm Prevention Steering Group at the IPS for the purpose of surveillance and monitoring and subsequently shared in pseudonymised form with a third party, the National Suicide Research Foundation (NSRF), who have a Data Processing Agreement with the IPS. The NSRF analyse and report on the data for monitoring/review of incidents and service improvement.

Statistical analysis

Annual self-harm rates per 1,000 by gender were calculated based on the number of persons recorded by the SADA project in that calendar year. Rates per 1,000 by age were

calculated based on the number of sentenced prisoners recorded by the SADA project on a specific day in each year (30 November). The three-year rate was based on the sum of the number of persons who presented in each year and the sum of the annual population. If incident numbers were below five, data were masked to protect the identity of individuals. All data were analysed using IBM SPSS Statistics 27, including descriptive statistics and running Pearson Chi-Squared Independence Tests.

Results

Demographics

Between 01 January 2017 and 31 December 2019, there were 696 episodes of self-harm recorded in Irish prisons, involving 397 individuals (328 males and 69 females). The rate of self-harm between 2017 and 2019 was 31 per 1,000 prisoners for males and six times higher, at 184 per 1,000 prisoners, for females. The highest rates of self-harm among sentenced prisoners were observed among 18–29-year-old men (45 per 1,000) and women (125 per 1,000). The rate of self-harm was higher among female prisoners than males in all age groups.

The most frequently used method of self-harm for sentenced prisoners was self-cutting or scratching (65%), most prevalent amongst young people aged 18–29 years old (31%). The other common method of self-harm among sentenced prisoners was hanging (20%), most frequently recorded among males ages 18–29 years (9%) and females aged 30–39 years (15%), although this was based on small numbers. Females were more likely to engage in hanging than males (33% vs 16%; $p < 0.001$); however, a greater proportion of males who engaged in hanging had high levels of intent compared to females (81% vs 20%; $p < 0.001$). Almost one-third (30.5%; $n = 121$) of individuals engaged in self-harm more than once during the study period. Repetition was more pronounced for females (39.1%; $n = 27$) than for males (28.7%; $n = 94$) (Table 1).

Characteristics of self-harm

For almost one-third (32%) of self-harm episodes, no medical treatment was required. Half of all episodes (52%) required minimal medical intervention/minor dressings or local wound management. One in eight required hospital outpatient or accident and emergency department treatment (13%). During the study period, 15 self-harm episodes involved admission to the hospital or intensive care unit (2%). Severity of self-harm was greater for males than females, with a higher proportion of episodes by men requiring outpatient treatment (15% vs 7%, df = 5, $p < 0.001$) and hospitalisation/intensive care unit/loss of life (4% vs 1%, df = 4, $p < 0.001$) as shown in Table 1. One in eight non-fatal episodes (13%) were of high intent. Males were more likely to engage in self-harm of high intent than females (16% vs 6%, df = 3, $p < 0.001$). Three per cent of episodes were deemed to be associated with high severity ($n = 24$).

Typology

Regarding prisoner accommodation, 50% of self-harm episodes involved prisoners housed in the general population, compared with 34% of prisoners on protection. A minority (7%) were housed in CSC, HSU (5%) and SOC or special observation (4%). The highest incidence of self-harm was recorded among prisoners housed in single-cell accommodation (74%), followed by those housed in a double cell (26%). A minority (<1%) were housed in cells occupied by three or more individuals. The rate of self-harm was two times higher among prisoners on remand than those sentenced (60.5 versus 31.3 per 1,000) between 2017 and 2019. Incidence of self-harm was highest among prisoners placed on a standard regime (46%), followed by those on an enhanced regime (40%) and a

Table 1 Profile of prisoners engaging in self-harm, 2017–2019

			No. of episodes					
			Gender					
			Male		*Female*		*Total 2017–2019*	
Demographics	*Data item*	*Variable*	N	%	N	%	N	%
Risk profile	Age	18–29 years	269	51.8	32	18.1	301	43.2
		30–39 years	172	33.1	67	37.9	239	34.3
		40+ years	73	14.1	78	44.1	151	21.7
		Unknown	5	1.0	0	0	5	0.7
		All	519	100.0	177	100.0	696	100.0
	Method	Self-cutting or scratching	368	70.8	87	49.2	455	65.4
		Hanging	83	16.0	59	33.3	142	20.4
		Blunt object	28	5.4	<5	1.1	30	4.3
		Overdose	7	1.3	<5	1.7	10	1.4
		Fire/flames	6	1.2	<5	2.3	10	1.4
		Other	27	5.2	5	2.8	32	4.6
	Repetition	More than one episode during study period	94	18.1	27	15.3	121	17.4
Characteristics	Severity	No treatment needed	107	21.0	112	63.3	221	31.8
		Minor intervention/minor dressings	171	32.9	44	24.9	215	30.9
		Local wound management	139	26.8	8	4.5	147	21.1
		Outpatient/A&E treatment	77	14.8	12	6.8	89	12.8
		Hospitalisation/intensive care/loss of life	<25	4.4	<5	0.6	24	3.5
	Intent	No/low intent	312	60.1	134	75.7	446	64.1
		Medium level of intent	126	24.3	32	18.1	158	22.7
		High level of intent	81	15.6	10	5.6	91	13.1
Typology	Accommodation	General population	198	38.4	147	83.5	345	49.9
		Special observation	11	2.1	<5	0.6	12	1.7
		Protection	229	44.4	<5	1.7	232	33.5
		CSC	43	8.3	7	4.0	50	7.2
		SOC	17	3.3	<5	0.6	18	2.6
		HSU	18	3.5	17	9.7	35	5.1
	Cell type	Single	388	76.1	118	66.7	506	73.7
		Double	121	23.7	54	30.5	175	25.5
		Triple or more	<5	0.2	5	2.8	6	0.9
	Legal status	Remand	145	28.0	76	42.9	221	31.8
		Sentenced	372	71.8	90	50.8	462	66.5
		Tried/on trial	<5	0.2	11	6.2	12	1.7
	Sentence length	Under 1 year	78	20.9	30	34.5	108	23.5
		1 to 2 years	53	14.2	33	37.9	86	18.7
		2 to 3 years	56	15.0	<5	4.6	60	13.0
		3 to 5 years	64	17.2	<5	4.6	68	14.8
		5 to 10 years	64	17.2	15	17.2	79	17.2
		10+ years	40	10.7	0	0.0	40	8.7
		Life	18	4.8	<5	1.1	19	4.1
	Stage of sentence	First trimester	98	26.9	35	35.7	133	28.8
		Second trimester	137	37.6	34	34.7	171	37.0
		Third trimester	129	35.4	29	29.6	158	34.2
	Regime level	Enhanced	175	40.1	61	37.9	236	39.5
		Standard	201	46.1	75	46.6	276	46.2
		Basic	60	13.8	25	15.5	85	14.2

Notes: CSC: close supervision cell; SOC: safety observation cell; HSU: high support unit
Source: Table by McTernan *et al.* (2023)

basic regime (14%). The highest proportion of prisoners (55%) were serving a sentence of under three years, with 24% serving a sentence of under one year, 19% serving a sentence of one to two years and 17% serving a sentence of five to 10 years. More than one-third of self-harm episodes occurred in the second trimester of a sentence (37%); however, trimester occurrence varied among prisoners with one-third also occurring in the third trimester (34%) and 29% in the first trimester.

Contributory factors relating to mental health issues/mental illness were the primary risk factors for suicidal behaviour recorded (50%), followed by substance misuse (19%) and poor coping skills, and difficulties managing emotions (10%). The category of mental health issues includes mental disorders, as well as problems with hopelessness/low mood.

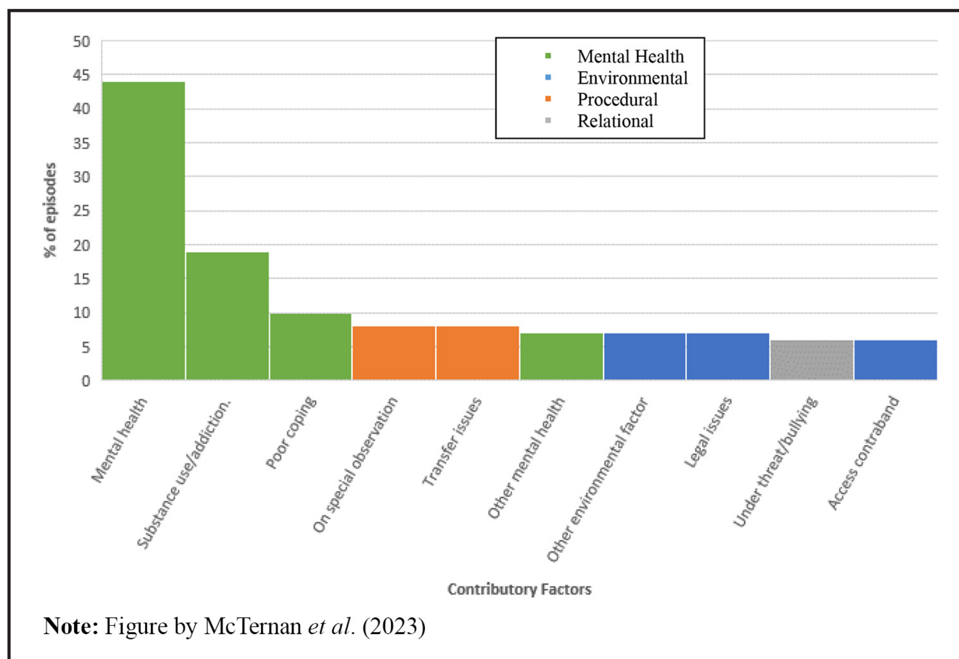
Findings also highlight prison-specific factors, the majority related to environmental issues (30.6%), such as type of accommodation or cell type (13%), reduced IR status (8%), transfer-related issues (8%) and cell move (8%). Relational issues were also common (30%), including relationship difficulties with significant others (8%), with other prisoners (7%) and difficulties with staff (5%) (Figure 1).

Discussion

This is the first national study to systematically examine the profile of self-harm among the prison population in the Republic of Ireland. The findings are generally in line with international research (Favril *et al.*, 2022; Vinokur and Levine, 2019; Walker *et al.*, 2014; Hawton *et al.*, 2014). The rate of self-harm was six times higher for females than males and two times higher among prisoners on remand (those detained in custody while awaiting sentencing post-trial) than it was among sentenced prisoners. The highest rates of self-harm among sentenced prisoners were observed among 18–29-year-old men (45 per 1,000) and women (125 per 1,000) when compared to other age groups. Contributory factors relating to mental health issues/mental illness were the primary factors recorded, predominantly related to poor coping skills, substance misuse and difficulties managing emotions.

The rate of self-harm during the study period, at 3.7% prisoners, is very similar to the rate of 3.8% reported in 2004 (National Suicide Research Foundation, 2005). This indicates that the rate of self-harm has remained stable over the past two decades and is approximately one-third lower than in England and Wales (Ministry of Justice, 2022; Hawton *et al.*, 2014). The IPS is committed to contributing towards the seven strategic goals and objectives of

Figure 1 Most common contributory factors 2017–2019



Note: Figure by McTernan *et al.* (2023)

“Connecting for Life”, Ireland’s National Strategy to Reduce Suicide 2015–2024 (Department of Health, 2015), which include improving surveillance, evaluation and high-quality research relating to suicidal behaviour (Goal 7), and “improving access to timely and high-quality data on suicide and self-harm” (Objective 7.2) by developing “Capacity for Observation” (action 7.2.1). Considering the identified high rate of self-harm among young, sentenced prisoners, consistent with previous research (Hawton *et al.*, 2014) and trends among the general population (Joyce *et al.*, 2022), there is a need to ensure access to timely and appropriate mental health services. This should include both appropriate referral and provision of evidence-based mental health interventions to address the needs of this specific cohort (McTernan *et al.*, 2020; Moore *et al.*, 2015). Young prisoners may necessitate alternative support to adults as a result of differences in their cognitive and developmental life stages and divergent social context (Carter *et al.*, 2022).

The high rate of self-harm among prisoners on remand indicates that prisoners on remand are a particularly vulnerable group in relation to suicidal behaviour. This may be due to uncertainty, anxiety and distress, feeling alone and loss of control (Dear *et al.*, 2001; Shea, 1993). Committal to prison is an important time to identify risk among individuals and to implement appropriate prevention measures such as reception screening (Marzano *et al.*, 2016), broader psychosocial assessment (Hawton *et al.*, 2016) and increased training for Prison Officers in the detection and management of mental health difficulties in the custodial population (Irish Prison Service, 2019a, 2019b; Sousa *et al.*, 2019). Increased support networks for vulnerable remand prisoners preparing for trial/sentencing is warranted (Nargiso *et al.*, 2014).

The gender difference in incidence is larger than observed in the general population and appears to be increasing (Joyce *et al.*, 2022; McTernan *et al.*, 2021); however, it must be noted that the general population only refers to hospital presenting self-harm and not community incidence. Gender-specific safety planning should be prioritised in prisons in the absence of validated risk assessment approaches (Ryland *et al.*, 2020). In addition, focused research into suicide and self-harm trends among females is pivotal to inform the design of evidence-based and trauma informed interventions that are supportive to their unique requirements (Carter *et al.*, 2022).

The most common method of self-harm recorded was self-cutting or scratching, consistent with international evidence (Hawton *et al.*, 2014). Self-cutting or scratching was involved in 71% of male episodes and 49% of female episodes. Highest prevalence was recorded among sentenced prisoners aged 18–29-year-olds (31%). While the majority of episodes involving self-cutting are less severe (Griffin *et al.*, 2018), the risk of repetition is elevated among individuals who engage in self-cutting, and this can lead to complications and significant health risks (Larkin *et al.*, 2014).

This research shows that a relatively high proportion of prisoners engaged in self-harm on more than one occasion. Repetition of non-fatal self-harm is common among prisoners (Hawton *et al.*, 2014; National Suicide Research Foundation, 2005). Continued efforts should be made to prioritise implementation of evidence-based treatments shown to reduce risk of repetition (Hawton *et al.*, 2016).

The other common method of self-harm among sentenced prisoners was hanging, most pronounced among males ages 18–29 years and females aged 30–39 years, although this was based on small numbers. Females were more likely to engage in hanging than males; however, a higher degree of suicidal intent was evident among men than women. Overall, one in eight non-fatal episodes were of high intent. Males were more likely to engage in self-harm of high intent than females. The number of episodes categorised as high lethality were marginally higher than the study of prisoners in England and Wales (Hawton *et al.*, 2014). Restricted access to means and preventative interventions for highly vulnerable prisoners should be considered (Zhong *et al.*, 2021).

Contributory factors relating to mental health issues/mental illness were the primary factors recorded. This is in line with Gulati *et al.* (2019), who found that the prevalence of psychotic disorders, substance use disorders and alcohol use disorders were higher in prisoners than in the general population. Interventions to address self-harm and co-occurring mental health problems specifically are warranted, given the high rate of mental health factors associated with episodes of self-harm among prisoners. They should incorporate targeted medical and holistic approaches to enhance and develop relationships between staff and prisoners to promote a rehabilitative culture that advocates change through procedural amendments, such as the prison disciplinary process (Perry, 2020; Howard, 2017).

The predominant mental health contributory factors identified related to poor coping skills and difficulties managing emotions. A focus on education, developing emotional skills and building resilience among the prison population may lead to improvements in general mental health and wellbeing, engagement with services, improved relationships and progress in their sentence management plan (Chiclana *et al.*, 2019). Substance abuse was also a primary contributory factor associated with self-harm among the prison population in Ireland. Prisoners with multiple needs (such as dual diagnosis) may require more tailored supports and interventions. There is a need for active consultation and collaboration between the mental health services and addiction treatment services for prisoners who present with dual diagnoses to improve outcomes for individuals with co-morbid severe mental illness and a substance misuse problem (Department of Health, 2017).

Research highlights prison-specific factors cited as contributing to episodes of self-harm. Specific environmental risk factors for self-harm in prisoners include time spent in a CSC or solitary confinement, disciplinary violations and being a victim of sexual or physical harassment while incarcerated (Favril *et al.*, 2022; Favril *et al.*, 2022; Vinokur and Levine, 2019; Walker *et al.*, 2014). In line with this, the outcomes of this study highlight prison-specific factors contributing to self-harm. The majority related to environmental issues and relational issues, with a number of prisoners reporting type of accommodation or cell type and reduced IR status. Relationship difficulties with significant others, with other prisoners and difficulties with staff were also common factors.

The wide range of contributory factors highlights the need for an all-inclusive, prison-wide approach towards preventing self-harm in Irish prisons. Research suggests that this should include both population and specific priority group strategies, with multi-agency collaboration between psychological, criminal justice and social care services (Favril *et al.*, 2022). Moreover, research indicates a number of modifiable risk factors are associated with suicide among prisoners, including psychiatric diagnosis, suicidal ideation while incarcerated and single-cell occupancy (Zhong *et al.*, 2021). Preventative interventions incorporating increased availability of evidence-based mental health care should be prioritised (Zhong *et al.*, 2021).

Strengths and limitations

The SADA project provides national data across all twelve institutions in the IPS. The system builds on previous work, which was based on self-harm presentations to emergency departments by prisoners (Joyce *et al.*, 2022). Data are collated by a multi-disciplinary team who have received training on coding and case ascertainment to ensure standardisation. The degree of severity and intent measure decided among the multi-disciplinary team in each prison is novel in assessing self-harm among the prison population. It is designed to enable easy analysis of the outcome of any incident so that future risks can be reduced and organisational learning can be increased. While data collectors are experienced and highly qualified, it is possible some episodes could have been missed due to challenges in the detection of cases, specifically hidden cases and those misclassified. There is currently limited population data to calculate age-gender-specific rates for all prisoners; additional

data would provide insight on certain cohorts. No control group of prisoners who did not self-harm was included, so this study was essentially descriptive in nature.

Future research

It would be beneficial to identify trends or changes in trends among prisoners who self-harm in Ireland. Long-term data would be valuable to address gaps in knowledge in this regard. Future research could examine the risk profile of prisoners and factors contributing to repetition and clustering of self-harm. Examination of cultural and environmental risk factors specifically, in addition to protective factors and the impact of COVID-19, is also warranted (Perry, 2020; Borschmann *et al.*, 2017). Research exploring the lived experiences of people in custody and examining whether intervention reduces instances of self-harm may be useful (Carter *et al.*, 2022; Walker *et al.*, 2021; Fitzalan and Pope, 2019).

Conclusion

The highest rate of self-harm was found among young adult sentenced prisoners when compared with all age groups. Self-harm was six times higher for females than males and twice as high among prisoners on remand than those sentenced during the period of study. Contributory factors associated with self-harm were mainly related to mental health but also linked to a prisoner's environment and their relationships. International literature suggests that prison-specific stressors may increase suicidal behaviour among an at-risk population characterised by complex health and social care needs (Favril *et al.*, 2022). The IPS has progressed to an expert-led and research-based implementation plan for a targeted and bespoke response to self-harm in prisons. However, further population and specific priority group strategies with multi-agency collaboration, incorporating a prison wide approach with targeted interventions aimed at high-risk prisoners, are required to further reduce incidence of self-harm in prisons (Favril *et al.*, 2022; Favril *et al.*, 2022).

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