Scottish Government
Riaghaltas na h-Alba
gov.scot

Understanding the Mental Health Needs of Scotland's Prison Population

HEALTH AND SOCIAL CARE

social research

Understanding the Mental Health Needs of Scotland's Prison Population

Authors: Lindsey Gilling McIntosh[1], Cheryl Rees[1], Caroline Kelly[2], Sheila Howitt[3], Lindsay D. G. Thomson[1,2]

[1] Division of Psychiatry, University of Edinburgh

[2] Forensic Mental Health Services Managed Care Network

[3] The State Hospitals Board for Scotland

The University of Edinburgh research team received expert advice and assistance in conducting this research from Dr Sheila Howitt and the Forensic Mental Health Services Managed Care Network.

THE UNIVERSITY *of* EDINBURGH

Contents

List of abbreviations

ADHD	Attention deficit-hyperactivity disorder
AHP	Allied health professional
ASD	Autism spectrum disorder
AUD	Alcohol use disorder
CIS-R	Clinical Interview Schedule - Revised
CJVSF	Criminal Justice Voluntary Sector Forum
FASD	Foetal alcohol spectrum disorder
GP	General practitioner
HMIPS	Her Majesty's Inspectorate of Prisons for Scotland*
HMP	Her Majesty's Prison*
HMYOI	Her Majesty's Young Offender Institute*
ID	Intellectual disability
MDMHT	Multidisciplinary mental health team
MWC	Mental Welfare Commission for Scotland
NHS	National Health Service (Scotland)
NPHN	National Prisoner Healthcare Network
NPS	Novel psychoactive substances
OCD	Obsessive-compulsive disorder
PD	Personality disorder
PTSD	Post-traumatic stress disorder
SHeS	Scottish Health Survey
SMI	Severe mental illness
SIMD	Scottish Index of Multiple Deprivation
SPS	Scottish Prison Service
SRU	Separation and reintegration unit
TBI	Traumatic brain injury
TTD	Transfer for Treatment Direction

* Please note this research was completed before the death of Her Majesty the Queen.

Executive Summary

People in prison experience numerous and often complex mental health and behavioural difficulties at a higher rate than people in the community. Mental health services in prison should be equivalent to those in the community in terms of accessibility, quality, and the types and range of interventions available. Research undertaken in the United Kingdom documents elevated prevalence of a range of common mental health problems and serious mental disorder, and evidences particular vulnerabilities and service gaps for certain groups, including women, young people, older adults, and people on remand. As part of a wider health needs assessment programme, the Scottish Government commissioned a national assessment of mental health needs among Scotland's prison population to ensure that future changes to prison mental health services are evidence-based and person-centred.

A mapping of mental health services available to individuals in and leaving prison

A mapping exercise was undertaken to describe the services available to support the mental health of people in Scotland's prisons. While there have been major positive developments in multi-disciplinary prison mental health services in the past decade since responsibility for prison healthcare delivery transferred to the NHS, the findings evidenced inequities across certain prisons resulting in inconsistent and somewhat arbitrary service resource allocation not closely linked to the number of prison residents. The current allocation of NHS resources directs support by necessity to the acutely mentally ill while leaving a large population of people in prison without support from which they could benefit. Service pressures resulting from difficulties in staff recruitment and retention have been exacerbated by the COVID-19 pandemic and require action. While there is a role and willingness from non-health agencies to support the mental health and wellbeing of people in prison, these efforts are hindered by reduced opportunity for relevant staff training, and limited cross-agency partnership working and information sharing between justice, health and third sector organisations.

Understanding the scale of mental health needs in the prison population

Robust data on the mental health needs of Scotland's prison population are required to develop services designed to meet the particular needs of this group. However, data on mental health needs of people living in Scotland's prisons are not routinely collected at the national level. Quantitative modelling was used to estimate the proportion of Scotland's prison population that likely has mental health needs, using information known about the needs of people in the community. The findings show that 15% of the prison population likely has a long-term mental health condition, 17% a history of self-harm, 30% a current alcohol use disorder, 16% symptoms of anxiety and 18% symptoms of depression over the past week. Estimated prevalence of needs was higher in the remand population, in younger age groups, and in women relative to men, except for alcohol use disorder and depression. Data on the use of inpatient forensic services by people in prison were examined and indicate that, relative to Scotland's prison population as a whole,

these individuals were disproportionately female and on remand. The vast majority were transferred for the treatment of a psychotic disorder.

Engagement with professional stakeholders and individuals with lived experience

Reflecting on current mental health service provision and challenges related to this, professional stakeholders working across justice, health, third sector organisations and other partner agencies called for a ‘cultural shift’ and cited that ‘a big sea change’ would need to happen for mental health to be more meaningfully supported within Scotland’s prisons. They also highlighted the need for increased resources across the Scottish Prison Service (SPS) and NHS mental health teams, and improved access to relevant training for SPS staff to support the implementation of a trauma-informed approach within prisons.

People with lived experience of having mental health needs while in prison recalled a reluctance to share their mental health concerns with prison officers due to a general lack of dignitity and respect from officers, or perceived lack of training to provide sought after support.

Conclusions and recommendations

This needs assessment found that current service provision to support the mental health and wellbeing of people in prison places too much responsibility on the individual to engage and choose to share information with mental health services to gain necessary support. Mental health services in prison are not equivalent to care available to people in the community, and do not adequately address the high levels of need in this population. A fundamental change in the approach to prison care and prison mental health services is required.

Joint and coordinated action from justice, health and social care, and third sector providers is needed to overcome longstanding and structural challenges to supporting the mental health and wellbeing of people in prison. This could be achieved through the development of a formal partnership at the national level, empowered to deal with strategic and operational issues, and would offer opportunities for governance, quality improvement and assurance in multi-agency mental health services and support. The findings also underscore the need for additional prison mental health services resources, particularly in prisons where this is currently limited, in order to achieve consistency across the prison estate. Changes in practice at the operational level are needed to better facilitate cross-agency partnership working and information sharing. Relevant mental health training should be mandatory for all staff who work with people in prison, in keeping with the whole-prison approach to supporting individuals’ mental health and wellbeing.

Introduction

Research around the world consistently finds that people in prison are more likely to have mental health needs than the general population. Certain groups of people, including young people and older adults, as well as those with physical or learning disabilities, are at a high risk of experiencing poor mental health while in prison. This report uses the term ‘mental health needs’ to refer to the broad set of psychological and behavioural problems associated with mental disorder, personality disorder, substance use, neurodevelopmental disorder and other brain conditions for which mental health services can offer support.

The mental health needs of individuals in prison are often multiple and complex. They range from common problems such as anxiety, depression and substance dependency to serious mental disorder including schizophrenia. In the 17th SPS Prisoner Survey (SPS, 2019a) individuals in prison self-reported having been assessed and diagnosed with mental disorder at the following rates: depression 39%, anxiety/panic disorders 29%, post-traumatic stress disorder (PTSD) 11% and schizophrenia 4%, indicating high levels of need. These mental health needs are highly comorbid, meaning they frequently experience multiple co-occurring problems. Unfortunately, adverse outcomes from poor mental health, including self-harm and suicide, are also more common in prisons and these events have noticeably risen among Scotland’s prison population in recent years (SPS, 2018; 2019b).

Increased mental health burden in the prison population is a problem multifactorial in origin. For many individuals, these issues precede imprisonment and are thought to be associated with predisposing factors such as higher rates of traumatic or adverse life experiences, head injury and substance use. Individuals who come into prison are also more likely to be from communities characterised by multiple deprivation, to have spent time in local authority care, and to have experienced interpersonal victimisation. Imprisonment itself, however, can also be damaging to someone’s mental health. The remand period is recognised to be one of particular vulnerability. Removing people from society and their loved ones, disrupting their sense of purpose and restricting their personal control, can detrimentally affect their wellbeing and lead to hopelessness. According to SPS data, two-thirds of all deaths by apparent suicide in prison occur during the first three months of custody (Her Majesty’s Inspectorate of Prisons for Scotland, 2019). Isolation has detrimental and enduring effects on a person’s ability to cope in prison, particularly for young people. The prison environment and custodial factors perpetuate this; overcrowding, bullying and discrimination can have further negative effects. Some people in prison use illicit drugs to try to cope with negative feelings, though drugs can both exacerbate existing difficulties and precipitate serious mental and physical illness and even death.

Not all people in prison who have mental health needs engage with services to address these needs. The research literature evidences, and prison healthcare providers generally acknowledge, that, too often, problems can go unrecognised by prison staff and health teams. Public stigma around mental illness and distrust of health professionals lead to a reluctance to disclose ongoing problems. However,

the scale of need and degree of comorbidities often far outstrip the resources available to support individuals even when their needs are known. Furthermore, there is a small cohort of individuals with high levels of mental health need, usually because of underlying personality disorder, who exhibit problematic behaviours and may be moved between prisons, usually within separation and reintegration units (SRU). There is widespread concern that this arrangement leaves people with personality disorder in prison with unmet needs.

Scottish health legislation and policy embraces the internationally agreed principle of equivalence. This ensures an ethical and legal obligation for individuals in prison to be able to access the same level, range and quality of healthcare as that provided in the community. However, there is also a view that equivalence of care is insufficient and greater investment in prison health services is needed to compensate for the levels of deprivation, risk factors for poor mental health and health inequalities experienced by the prison population. This view draws upon evidence demonstrating that improved health and mental health is associated with positive social and economic outcomes, and reduced re-offending after imprisonment. Prison is just one setting where health services are likely to find 'hard-to-reach' people who can benefit from engagement with services. SPS' health improvement framework, Better Health Better Lives (Brutus et al., 2012), advocated a 'whole-prison' approach, recognising that many risk factors are inter-related and can best be tackled through comprehensive, integrated programmes. From this it follows that prisons can be a setting for positive mental health, as well as the treatment of illness and protection against worsening of mental health needs.

Given the extent of mental health needs among Scotland's prison population, it is essential to have effective, consistent, and cohesive management of mental health, substance use and neurodevelopmental service provision in prisons. While mental health is a whole-prison concern, involving multiple agencies working in partnership, the NHS has been responsible for the delivery of primary and community healthcare in prisons in Scotland since 2011. The National Prison Care Network (formerly National Prisoner Healthcare Network) leads a 'once for Scotland' approach to the planning, design and delivery of health and social care in prison. Prison-based multidisciplinary mental health teams provide primary and secondary care largely for common mental health needs. Services for mental illness and learning disabilities are in most cases organised and operated separately from substance use services. Individuals in prison or accused of a criminal offence who have severe mental illness, or those with particularly complex needs, can access specialised, tertiary care including assessment and treatment by transfer to one of 20 high, medium, low security psychiatric units, locked wards or intensive psychiatric care units which accept transfers from prison. Secure hospitals, part of Scotland's forensic mental healthcare system, represent a largely separate system of care but one which interfaces heavily with prison mental healthcare in its operation.

Working independently, but often in partnership, with NHS colleagues to support mental health and wellbeing of people in prison in Scotland is a range of third and voluntary sector organisations. These organisations operate within the prison and offer throughcare support for people leaving prison. Problems upon liberation in relation to housing, relationships, and challenges finding employment can negate

any improvements in mental health and wellbeing. Since 2011, SPS has had a more limited operational role in support for mental health services in prisons though it continues to be involved in promoting wellbeing, in identifying and supporting individuals with mental health needs in prison and in implementation of its suicide risk management strategy, 'Talk to Me'.

The provision of mental health services across the Scottish prison estate is variable and in need of improvement to meet the scale and nature of need (National Prisoner Healthcare Network, 2014; 2016). There is also recognition of problems implementing a whole-prison approach with considerable silo working among health, social work, SPS and third sector agencies and this fails to meet the needs of those in custody and following liberation. The sustainability of the current mental healthcare model in prisons has been questioned, with likely demand outstripping available resources. This is in part due to concerns about the numbers of nursing staff and the ability to provide an effective mental health service with clinical time routinely taken up by treating substance use problems. As will be detailed in this report, this and other staffing problems have been exacerbated by the pressures of the ongoing COVID-19 pandemic.

Reports in recent years have evidenced that existing mental health services are not proactively designed to meet the needs of their patient groups. Reports from Her Majesty's Inspectorate of Prisons for Scotland (HMIPS), the Mental Welfare Commission for Scotland (MWC) and the European Committee for the Prevention of Torture highlighted serious concerns regarding access to appropriate mental health treatment for young people and women at HMYOI Polmont and HMP YOI Cornton Vale, respectively. Most recently, a thematic report by HMIPS stressed age-specific mental health needs of older people living in prisons, which services must adapt to meet, particularly given the growth of this cohort in Scottish prisons. There appears significant appetite for change from relevant partners to address these pressing issues.

The Scottish Government has commissioned four national needs assessments in relation to Scotland's prison population. These include social care support, physical and general health, substance use, and the present mental health needs assessment. SPS is developing strategies for mental health and drugs and alcohol, which are expected to update the organisation's role in supporting the mental health and wellbeing of individuals in prison. Locally, several mental health needs assessments led by NHS Boards have been completed or are ongoing. These pieces of work indicate that significant and acutely needed changes in prison mental healthcare are afoot.

An in-depth national mental health needs assessment was overdue, with SPS and the National Prisoner Healthcare Network calling for it in substantive reports in 2007, 2014, and 2016. It is necessary to ensure that future changes to prison mental health services are evidence-based and person-centred. This report will aid the Scottish Government's objective to deliver integrated health and social care in prisons. It uses a triangulation of sources and the best available data to determine the scale and nature of mental health needs within Scotland's prison population, to understand current service provision in custody, and as part of throughcare, and engage with stakeholders to gather their views and insights on current challenges.

Literature review

- There is good research evidence on the proportion of the UK prison population that experiences mental health problems or behavioural difficulties. The prevalence of most of these conditions is higher among the prison population compared to the general population.
- People in prison are far more likely than not to have a mental health need. There is a high degree of comorbidity, meaning most people in prison are experiencing multiple mental health needs.
- People on remand are generally at a greater risk of experiencing mental health needs than people in prison who have been sentenced. Women may experience more mental health needs than men, but men are less likely to be in contact with prison mental health services for treatment for their needs.
- Many conditions are under-recognised by services, particularly certain neurodevelopmental disorders such as attention deficit disorder and foetal alcohol spectrum disorders. There is a notable evidence gap in relation to the mental health needs in young people in prison.

Prevalence of mental health problems in the prison population

Within the UK, there have been few attempts at a national level to systematically assess the mental health needs of individuals in prison, and none recently. The Office of National Statistics published a landmark report in 1998 on the mental health needs of people in prison (Singleton, Gatward & Meltzer, 1998). Over 3,000 people were surveyed and assessed through standardised clinical interviews across all prisons in England and Wales. Through comparison to the general population, the study reported clear evidence of increased psychiatric morbidity among the prison population across a range of mental health problems, including major mental disorder, personality disorder, substance use and self-harm. In Scotland, two national needs assessments were also conducted in the 1990s (Cooke, 1994; Davidson et al., 1995), followed by a comprehensive national healthcare needs assessment in Scotland published by SPS in 2007 (Graham, 2007). Though the Graham (2007) report remains the most recent national assessment of mental health needs in Scotland's prison population, it has been noted that the policy impact of its findings are limited by the report's reliance on existing data held by SPS to estimate the prevalence of mental health needs across Scottish prisons. At a local level, several NHS Boards have undertaken or are undertaking prison mental health needs assessments to inform planning for future service provision (e.g. Flanigan, Hunter-Rowe & Smart, 2021; Kreis et al., 2016).

In the 15 years since the Graham (2007) needs assessment, a great deal has changed in the evidence base and how services are delivered in prisons. There is now a good understanding of mental health needs of the general population, and an awareness of the unique set of risk factors people in prison have for poor mental health, as well as the negative effects of imprisonment on mental health. The prison

population itself has also changed, as the cohort of older people in prison has grown, so have the number of people with long-term mental health conditions. Finally, there is also a recognition that mental health needs of this population are multiple and complex, with a high degree of comorbidity, including with substance use problems.

Table 1. Prevalence of current or recent mental health problems in UK prison samples

Condition type	Number of studies [a]	Prevalence (%)
Substance use disorders		
Drug use disorder	3	35 - 67
Alcohol use disorder	8	33 - 81
Psychotic disorders		
Schizophrenia	2	1 – 2
Any psychosis	5	3 – 18
Affective disorders		
Depressive episode	1	22
Depressive disorder	7	19 – 55
Neurotic, stress-related and somatoform disorders		
Anxiety	2	10 – 36
Phobia	1	11
Panic disorder	1	6
Post-traumatic stress disorder	3	8 – 16
Somatoform disorder	1	8
Eating disorders	1	20
Personality disorders	3	34 - 77
Neurodevelopmental disorders		
Intellectual disability	5	0 - 10
Attention deficit hyperactivity disorder	4	23 - 41
Autism spectrum disorders	4	2 - 9
Traumatic brain injury	4	24 - 79
Dementia [b]	2	2 - 7

[a] Number of studies reporting prevalence in a UK general prison population; see Appendix A for additional study details. [b] Only measured in samples aged 50+ years.

A rapid literature review gathered available evidence on the prevalence of current or recent mental health problems in the UK prison population and identified characteristics associated with increased risk of such problems. Studies were included in the review if they were conducted in a UK prison and a standardised and validated assessment tool was employed to establish the presence of a disorder or symptoms mapping onto diagnostic criteria for the disorder. A range of tools were used, including validated screening questionnaires and clinical

diagnostic interviews. While many of those who screen positive for mental health problems would not meet diagnostic criteria for mental disorder, they may nevertheless benefit from support from services. In order to maximise the relevance of the review, studies where data collection took place during or after 2001 were eligible. Summary information on the prevalence of mental health problems within the UK prison population is presented in Table 1. Additional detail on study methods is available in Appendix A.

Substance use disorders

Substance use and dependence represented the most common mental health needs in the UK prison population. In fact, research shows that individuals in prison are more likely to have a substance use problem than to not have one. Due to restricted access to substances in prison, such problems are typically assessed retrospectively through screening tools, with reflection on someone's use of substances in the year prior to imprisonment. A separate needs assessment was commissioned by the Scottish Government to comprehensively evaluate needs relating to substance use in Scotland's prison population, including drugs, alcohol, and tobacco.

Alcohol is the most commonly misused substance, with the reported prevalence of alcohol use disorders (AUD) ranging between 33% (dependence only; Bebbington et al., 2017) and 81% (abuse and/or dependence; Newbury-Birch et al., 2009). Disordered use of substances other than alcohol ('drug use disorders') are reported in 35-67% of individuals in prison (Bebbington et al., 2017; Hassan et al., 2011; Tyler et al., 2019). While cannabis was identified as the most prevalent drug used in the prison population (Stewart, 2008), cocaine and heroin are the drugs most frequently associated with abuse and dependence (Jones & Hoffmann, 2006). A higher proportion of men are at risk of an AUD than women, though there is no gender difference observed for drug dependency. Substance use problems co-occur with other mental health problems in a substantial minority if not a majority of individuals in prison (Bebbington et al., 2017), though rates of so called dual-diagnosis varied considerably in this research literature depending on the number of mental health and substance use conditions assessed by any individual prevalence studies. A conservative estimate is that 18% of the prison population has both a severe mental illness and a co-occurring substance use problem (Offender Health Research Network, 2009).

The use of novel psychoactive substances (NPS), previously known as 'legal highs', is a growing threat to the safety and wellbeing of people in prison. There are four main categories to these drugs: stimulants, cannabinoid, hallucinogenic and depressant. People can and do become violent under the influence of NPS, and can experience serious adverse psychological and physical effects, including death. While there are no robust prevalence studies to date, the 2019 Scottish Prisoner Survey reported 30% of people in prison in Scotland disclosed using NPS whilst in prison, with synthetic cannabis (often known as 'Spice') being most commonly used (Scottish Prison Service, 2019a). Moreover, while prisons take measures to address this public health problem, it is recognised that the research literature has

for the most part yet to catch up and therefore prevalence figures regarding problems with NPS use may not reflect the present circumstances.

Psychotic disorders

Research shows between 3-18% of the UK prison population experienced psychosis in the previous month, though this reduced to 3-12% when the mode of assessment was clinical interview (Bebbington et al., 2017; Hassan et al., 2011; Jarett et al., 2012; Senior et al., 2013). These estimates include drug-induced psychosis occurring because of using drugs in prison. Psychotic disorder is more common in men, and the remand population was more likely to be acutely psychotic than the sentenced prison population. Research on the prevalence of psychotic disorder subtypes in prison is limited to schizophrenia, which is roughly equivalent to that of the general population at 1-2% (Kingston et al., 2011; Senior et al., 2013).

Affective disorders

Available research on the prevalence of affective (mood) disorders in UK prisons is limited largely to depressive disorders, though Tyler et al (2019) found that 25% of the sample had a mood disorder, including major depression, bipolar disorder, or dysthymia. Estimates for the prevalence of depression present a wide range, an artefact of both the mode of assessment and characteristics of subgroups assessed. The detection and treatment of depression in older adults has garnered considerable research interest, as this group of individuals in prison appear to be more vulnerable to depression with increasing age. Between 19 and 32% of the UK prison population is found to be currently experiencing mild or major depression (Bebbington et al., 2017; Hassan et al., 2011; Senior et al., 2013; Tyler et al., 2019), rising to 43-55% of those over the age of 50 (Kingston et al., 2011; Murdoch et al., 2008; O'Hara et al., 2016). Women are at a greater risk of affective disorders than men. In older adults, depression is associated with poor general health as well as dementia.

Neurotic, stress-related and somatoform disorders

A third of the UK prison population is found to be experiencing clinical anxiety at any one time (Tyler et al., 2019) while as many as 10% suffer from generalised anxiety disorder (Bebbington et al., 2017). Bebbington and colleagues (2017) also reported 11% of those assessed had phobia (women were twice as likely as men) and 5.5% met criteria for panic disorder. Tyler et al (2019) reported the prevalence of somatoform disorder, or psychosomatic disorder typified by physical responses to psychological distress, to be 8% and women were at twice the risk of men. There were no studies identified which assessed the prevalence of obsessive compulsive disorder (OCD) in the general UK prison population, however a small study examining mental health needs of women in prison who were pregnant and applying for transfer to prison Mother and Baby Units found that nearly 20% of these women met criteria for OCD (Dolan et al., 2019).

PTSD is likely under-recognised and under-treated in prison, given the high proportion of individuals in prison who report exposure to traumatic events in their

lifetimes as well as in the period immediately preceding incarceration. Studies have found between 8-17% of individuals in prison meet criteria for current PTSD or complex PTSD (Bebbington et al., 2017; Facer-Irwin et al., 2021; Tyler et al., 2019). PTSD is twice as common in women as men (Bebbington et al., 2017; Tyler et al., 2019). Individuals in prison who have had adverse childhood experiences, multiple traumatic events, who are survivors of sexual abuse, and those who have experienced homelessness are at greater risk of PTSD. PTSD is also highly comorbid with other mental health problems including depression, substance use disorders, and self-harm.

Eating disorders

Just one study assessed the prevalence of eating disorders in a UK prison sample. Screening prevalence obtained by Tyler et al (2019) using the SCOFF Questionnaire identified 20% of the sample as meeting screening criteria for an eating disorder, and it was twice as common in women than as in men. While the proportion of the prison population who would meet diagnostic criteria for an eating disorder is expected to be less than 20%, research shows individuals with eating disorders have significant unmet needs.

Personality disorders

The prevalence of having any personality disorder (PD) ranges widely from 34 to 77%; the range likely affected by differences in mode of assessment (Bebbington et al., 2017; Slade & Forrester, 2013; Tyler et al., 2019). The remand and short-term prison population is more likely to have personality disorder (Slade & Forrester, 2013). Generally, research in prison samples finds that antisocial and paranoid personality disorders are more common in men, and women are much more likely to present with borderline personality disorder. People who meet criteria for PD most often meet criteria for several subtypes. There is substantial comorbidity between PD and mental illness and substance use disorders.

Neurodevelopmental disorders

There is poor recognition of neurodevelopmental disorder, including intellectual disability (ID), attention deficit hyperactivity disorder (ADHD), autism spectrum disorders (ASD), and foetal alcohol spectrum disorders (FASD) in prison populations. In the UK there is variable access for assessment and diagnosis of neurodevelopmental conditions for people in the community, though fortunately in Scotland this service gap is being addressed though the development of pathways for multidisciplinary neurodevelopmental assessment and diagnosis in children and young people (Rutherford et al., 2021). It is believed that most of the UK prison population with a neurodevelopmental disorder have not received a diagnosis or treatment in relation to this. A recent screening study conducted in a sample of residents at HMP Inverness reported that 33% of the sample met screening criteria for a neurodevelopmental disorder (Young et al., 2018). Prevalence studies have found that while 0-3% of individuals in prison meet diagnostic criteria for ID (Hayes et al., 2007; Herrington, 2009), as many as 10% may have suspected or borderline ID (Hassiotis et al., 2011; McCarthy et al., 2015; Murphy et al., 2017; Young et al., 2018).

The most common neurodevelopmental disorder among the UK prison population is by far ADHD, which while prevalent in 23-41% of the prison population (Howitt & Thomson, 2015; Farooq et al., 2016; McCarthy et al., 2015; Young et al., 2018), is rarely diagnosed and treated by UK prison mental health services. ADHD significantly co-occurs with other neurodevelopmental conditions. Sixty-three percent of Scotland's prison population with suspected ASD and 40% of those with ID also met criteria for ADHD (Young et al., 2018). The prevalence of ASD ranges from 2-9% (Robinson et al., 2012; Underwood et al., 2016; Young et al., 2018). Two screening studies conducted in Scottish prison samples reporting the prevalence of ASD to be 5.5% and 9% (Robinson et al., 2012; Young et al., 2018). Reflecting on the relatively low prevalence of ASD in Scotland's prison population, Robinson et al (2012) suggested that rather than routinely screening for ASDs in prison, prison staff should be encouraged to raise concerns about individuals who may be struggling to cope in the prison environment. There were no studies assessing the prevalence of FASD within UK prisons. While the prevalence is 1-3% in UK children (McCarthy et al., 2021), FASD is thought to be overrepresented and under-recognised in criminal justice settings, as people with FASD are up to 19 times more likely to be incarcerated than those without FASD (Popova et al., 2011).

Individuals with neurodevelopmental disorder are considered more vulnerable in the prison environment, with noted issues in relation to bullying, self-advocacy, comorbid health and mental health conditions, and challenges in progression through the criminal justice system (e.g. Talbot, 2008). There is a high co-occurrence of neurodevelopmental disorder and psychiatric symptoms particularly anxiety (Young et al. 2018), an association which is even greater for individuals who meet criteria for more than one neurodevelopmental disorder.

Traumatic brain injury

People in prison commonly report a history of head injury and are more likely to report repeated head injuries, as well as moderate-to-severe head injuries, which can result in cognitive impairment and disability. Mental health service providers can offer assessment and intervention for the cognitive, psychological and behavioural difficulties resulting from traumatic brain injury (TBI). Recognising this public health problem, the Scottish Government has supported research on head injury in Scottish prisons and piloted routine screening for head injury in partnership with researchers from the University of Glasgow (Scottish Health in Custody Network, 2022).

The prevalence of TBI in UK prison research literature ranges from 24% to 79%, with variation due in large part to differences in measurement approaches. The prevalence of TBI based on self-report using validated screening tools is 60-79% of individuals in prison (McMillan et al., 2021; O'Rourke et al., 2018; Williams et al., 2010), and a data-linkage study reported that nearly one-quarter of Scotland's prison population had previously been admitted to hospital for a head injury (McMillan et al., 2019). Most individuals who reported a history of TBI report a history of repeated TBIs. TBI is slightly more common in women in prison than in men, though TBIs in men are more likely to be moderate to severe in nature. The

leading causes of TBI in men is assault and road traffic accidents. In women, TBIs are most likely to be the result of domestic abuse.

Dementia

The prevalence of dementia following diagnostic assessment is 2% of individuals in prison aged 50 years and older (Kingston et al., 2011) and up to 7% of those aged 50 and older screened positive for dementia on cognitive impairment assessments. Men in prison are at a greater risk of developing dementia than women (Forsyth et al., 2020). As in general population studies, dementia is a risk factor for depression in the prison population as well. Unfortunately, dementia can go unnoticed in prison settings for a considerable length of time. Forsyth et al (2020) observed that only 3% of the individuals who screened positive for dementia on cognitive assessment had a current diagnosis of dementia. The population of people in prison in Scotland is aging, with the proportion of the older adult population doubling over the last decade (The Scottish Government, 2020), underscoring the need to develop adequate methods of detecting dementia in this population and in providing appropriate mental health support to affected individuals.

Summary

Effective identification of pre-existing and current mental health needs is critical for the planning and development of prison mental health services, and support for these needs is vital to successful rehabilitation and community reintegration. This rapid review of the prevalence literature found a high burden of psychiatric and neurodevelopmental conditions in samples of people in prison in the UK. Individuals in prison are far more likely to have a current mental health need than to not. In fact, a comprehensive assessment of a range of disorders in a representative prison sample found that only 10% of individuals did not meet any criteria for a current mental disorder (Bebbington et al., 2017). Levels of comorbidity are high in this population, with studies reporting approximately half of the prison sample assessed met criteria for more than one disorder. It is concerning that these needs are often unrecognised and unmet by prison mental health services, given the large proportion of individuals in prison who have mental health needs but who are not in contact with services (Offender Health Research Network, 2009; Tyler et al., 2019).

Women in prison have a greater mental health burden compared to men, with the exception of alcohol use and psychotic disorders. Men in prison who have mental health needs are less likely than women to have had previous contact with mental health services and to be in contact with prison in-reach services, underscoring the need for more robust mental health screening procedures to detect those in need of intervention. It is concerning that neurodevelopmental disorder, particularly ADHD and FASD, is thought to be overrepresented in prison and yet detection and support for these individuals is poor. There is a notable evidence gap in our understanding of the extent and scale of mental health needs in young people under the age of 21 in prison. Finally, as the proportion of the older adult prison population increases, prison mental health services must be prepared to address the multiple psychiatric needs of this population alongside their physical health needs.

Mental health services for individuals in prison: Service mapping

- Available support for the mental health of individuals in prison is multi-agency and multi-disciplinary. A mapping exercise found wide variation between prisons in NHS service size and configuration, with per prison resident input somewhat arbitrary from allied health professionals, psychiatry and clinical psychology professionals. Several prisons reported unfilled nursing vacancies and difficulties in recruiting staff.
- Providers stressed the importance of adequate transition planning and throughcare support to those leaving prisons, citing that limited support can have a detrimental impact on mental health and community reintegration.
- Multiple barriers to supporting the mental health of Scotland's prison population beyond those relating to service provision were identified, including barriers to information sharing and coordination between agencies supporting the care of individuals within prisons, between prisons and between the community and prisons.

Mapping exercise approach

NHS Scotland is responsible for the provision of healthcare including mental healthcare to those in prisons but it is recognised that other partners including SPS, prison-based social work teams and third sector organisations work together and independently to support the mental health of individuals in prison. A mental health services mapping exercise conducted in 2012 by the Forensic Network on behalf of the NPHN Mental Health Subgroup (2014) found that service provision in nursing and psychiatry was related to historical factors rather than a true assessment of need, and there was a serious lack of clinical psychology input. There has not been a national mapping exercise conducted since this time.

The aim of the present service mapping exercise was to understand current provision available to people across all of Scotland's 15 prisons as well as prison leavers. The mapping exercise was undertaken by the Forensic Network, selected for its experience in conducting the previous national mapping exercise and for its links with prison health centres in relation to the care of individuals who require transfer from prison to secure hospitals. Electronic proformas were sent to prison health centre managers and prison-based social work team leads across all 15 prisons for completion and return in September 2021. A 100% completion and return rate was achieved. To gather third sector input into the mapping exercise, the research team and the Forensic Network partnered with the Criminal Justice Voluntary Sector Forum (CJVSF), a network of over 30 third sector organisations working in criminal justice settings in Scotland. Input was gathered through proforma response and from a virtual discussion event hosted by CJVSF with

attendance from organisations which support the mental health of individuals in and leaving prison.

Findings

Service size and configuration

Integrated primary and secondary mental health services are available in 13 of the 15 prisons in Scotland. In HMP Greenock and HMP Dumfries services are offered through primary care only. Mental health and substance use services are integrated in six establishments. In nine prisons these services are not integrated (NHS Tayside prison mental health services, serving HMP Perth and HMP Castle Huntly, were reported to be in the process of integrating mental health and substance use services) though work closely and collaboratively.

Service staffing, according to number of qualified or registered professionals, across nursing, allied health professionals, psychiatry and clinical psychology as reported by health centre managers is set out in Appendix B. Responses which identified unfilled vacancies within the service are also described in the table. Workforce figures are reported using the standard by discipline; namely whole time equivalent (1 WTE = full time / 37.5 hours per week) for nursing and allied health professionals (AHP), and number of sessions per week (one session = ½ day, 10 sessions per week) for psychiatry and clinical psychology.

Across the prison estate there are 91 WTE nurses employed, with 76 being mental health nurses. HMP Barlinnie, HMP Perth and HMP Kilmarnock mental health teams also include substance use or learning disability nurses. There are 90 prison residents per nurse overall (of any nursing specialty). There is substantial variation across Scotland's prisons in the resident-to-nurse ratio, with the most favourable staffing complement in HMP YOI Cornton Vale and HMP Inverness. NHS Tayside prison mental health practitioners work across HMP Perth and HMP Castle Huntly, with a minimal service operating at HMP Castle Huntly, Scotland's only operating open prison. Individuals who are acutely mentally ill or experiencing a mental health crisis would not remain in the open estate. In such instances, the individual would be transferred back to closed conditions where their needs can be more closely and safely monitored and their mental health stabilised.

There were mental health nurse vacancies noted at six prisons, including multiple posts unfilled at HMYOI Polmont, HMP Kilmarnock and HMP Perth. AHPs, including occupational therapists and speech and language therapists, form part of the core multidisciplinary mental health teams in just over half of establishments, though there is wide variation across these prisons in terms of input per resident. Across the entire estate there are fewer than 10 WTE AHPs (854 residents per 1.0 WTE) within prison mental health services, a quarter of them employed at HMP Kilmarnock. In establishments where AHPs are not part of the mental health team they may nevertheless be providing support to individuals with mental health needs.

Psychiatry provision across the prison estate totals to 39 sessions, equivalent to just under four full time psychiatrists. This equates to an average of 210 residents

per one half-day psychiatry session. The only vacancy noted is in HMP Grampian, where sessions for learning disability and substance use specialties remain unfilled (65:1 if all sessions were filled). The number of funded psychiatry sessions per week appears relatively arbitrary in relation to prison size, with too few sessions at the largest prisons including HMPs Edinburgh, Barlinnie and Addiewell.

There are presently 164 clinical psychology sessions funded across the estate[1], an average of 50 residents per one half-day session. Relative to other establishments, clinical psychology input into HMP Low Moss, HMP Greenock, and HMP Grampian is substantial. In comparison, the input into HMP Glenochil and HMP Shotts is low with over 100 residents per session. HMP Dumfries, HMP Inverness, and HMP Castle Huntly do not currently offer a clinical psychology service.

Service delivery

Screening and referral

All people being received into prison in Scotland complete a standardised health screening by a member of the prison nursing team, most often a general rather than mental health nurse. The mental health portion of the screening asks about previous history of mental illness, self-harm, prior contact with mental health services, previous inpatient admissions for psychiatric care and any medication currently prescribed. The nurse who completes the screen will complete a referral to prison mental health services if there is a current mental health concern or the individual is in receipt of medication for a mental health or substance use problem. Responses from several establishments recognised that the process could be more thorough, or that a mental health nurse should deliver that mental health screening. Social work and third sector colleagues highlighted the need for a more robust process in place to identify mental health needs for those coming into prison, however NHS teams on the whole did not identify issues with the existing process.

Multidisciplinary case management

Discussions for where mental health is the focus occur primarily in two multi-disciplinary forums. The prison multidisciplinary mental health team (MDMHT) meeting occurs fortnightly or monthly, and is chaired by SPS and features wide professional representation including, typically, forensic psychology, substance use nurses, social work and prison staff in addition to representation from the NHS mental health team. The purpose of these meetings is to discuss any mental health concerns amongst the individuals within the prison establishment, review management of individuals on the Talk to Me programme, and discuss potential hospital transfers. The NHS mental health team meets either weekly or fortnightly, with representation from health professionals that comprise the core service in each establishment. Existing cases are reviewed, relevant complex care concerns

[1] These figures exclude posts funded in two establishments on a time-limited basis through additional funding from Action 15 during 2018 to 2022 (The Scottish Government, 2017). Additionally, where it was reported that the clinical psychology service comprised a range of qualified professionals, total input in sessions is provided in the table.

identified and access to further assessments and interventions by the mental health team are discussed.

Distinct from these two forums, respondents detailed a range of multi-disciplinary meetings convened to support individuals, at which mental health or substance use concerns are discussed where relevant, on a case-by-case basis. These include Care Programme Approach[2] meetings for the coordination of transitional care, Talk to Me Conferences, integrated case management meetings, and risk assessment and management meetings.

Interventions

Respondents described specific interventions delivered by members of the multidisciplinary team (MDT) offered to support individuals' mental health. Most establishments reported a range of individual and group interventions for common mental health and substance use problems, according to a tiered approach. Interventions vary in intensity and in the staff who deliver them. For example, information and self-help interventions, such as self-help pamphlets and literature and relaxation CDs, are available to individuals in prison without the need for referral. Other low intensity interventions involve direct clinical content, initiated usually by clinical psychology, though they are facilitated or co-facilitated by nursing staff and other non-health colleagues, including prison-based social work and SPS staff in certain establishments (for example, HMP Inverness, HMP YOI Cornton Vale and HMYOI Polmont). These low intensity interventions typically target common and less severe mental health problems, for example anxiety management, mindfulness, psychoeducation and coping skills. High intensity interventions are typically delivered by clinical psychology and can include cognitive behavioural therapy, acceptance and commitment therapy, and trauma therapy. Interventions for personality disorder are delivered by clinical psychology, are driven by the individual's case formulation, and span a range of therapeutic models including cognitive analytic therapy, schema therapy, mentalisation-based therapy and cognitive behavioural therapy. All establishments cited the Talk to Me programme as the only service in place for the prevention of suicide. There were few specific interventions described as part of a service for personality disorder, which if available is led by clinical psychology. There was little evidence of differential access to interventions for certain groups of individuals (for example, by the individual's gender or legal status) within prison, except for psychological interventions which in many cases is not initiated for individuals with less than six months to serve before their earliest date of liberation.

Discharge planning and throughcare

Discharge planning and throughcare follows a matched-care approach. The prison mental health team will make a referral to the relevant community mental health team if ongoing support is required, for example in cases where the individual is

[2] The Care Programme Approach is a method of coordinating mental health care for an individual with severe mental illness, with participation from the multidisciplinary team, and external service providers and agencies where relevant.

receiving antipsychotic medication or would benefit from further psychological intervention. On a case-by-case basis, case conferences are held to plan for the transition of care, to which community providers are sometimes invited. Social work teams described a significant role for their profession in liaising with community agencies and third sector services on behalf the wider MDT. If ongoing support is not required, the individual is provided with information and advice on community mental health services and signposted to their general practitioner (GP) as the first point of contact for any developing problems. Individuals on medication-assisted treatment for substance use problems are provided with an appointment to attend the community substance use team on the day of or the day following liberation.

Issues and challenges

We asked professionals to consider service gaps and other barriers beyond service provision to supporting the mental health of people in prison. Their comments have been organised into the following themes.

Funding and service provision

Responses received from both NHS and social work teams recognised that the mental health needs of individuals in prison appeared to far outstrip current resources. The current resources dictate that prison mental health services must direct much of their limited resources to a relatively small proportion of the prison population who are acutely unwell, acknowledging that there are many more who have less severe, or less complex needs which would benefit from care but who are not ‘unwell enough’ to progress past long waiting lists. Individuals in the community with mild or transient mental health problems would more easily be able to seek out and access self-help materials and digital health interventions, whereas these options are limited in prison. Several prison-based social work teams, citing that this has a limiting effect on their ability to support individuals with mental health needs, also highlighted inadequate funding. A social work team from a mid-size prison reported that due to insufficient resources it is not possible, except on rare occasions, to attend MDMHT meetings despite this being a recognised as core to their service.

Staffing

Respondents noted that staffing deficits, which existed prior to the pandemic, have been exacerbated by COVID-19 related sickness absence and self-isolation requirements. Due to staff shortages during the pandemic, mental health nurses have had to cover shifts in the wider health team. This resulted in the cancellation of clinics and assessments or reviews of individuals in prison. Mental health nurses being pulled from their duties away to support wider health services was also an issue prior to the pandemic. In several establishments, mental health nurses were also required to complete the medication rounds and attend medical responses, pulling them away from their usual duties. Distinct from COVID-19 related issues, several mental health teams highlighted difficulties in recruiting staff to posts, primarily mental health nurses (see vacancies in Appendix B), though previous recruitment challenges in psychiatry and clinical psychology were also highlighted by some respondents. All respondents who highlighted staffing issues

stressed that these shortages are detrimentally affecting patient care in their service.

Substances

Responses reflect the considerable challenge for mental health service provision from issues relating to access to and use of substances within prison, and the high proportion of people in prison who have dual diagnoses. NHS teams reported that changes in patterns and prevalence of substance use drives mental health referrals, some providing anecdotal evidence that increased use of NPS during the pandemic fuelled increased need for prison health and mental health services.

Information sharing

NHS and social work teams alike highlighted difficulty accessing relevant health information on individuals in prison. The experience of information sharing and handover between services based in the community and in prison was highlighted as poor in many cases, describing delays and the need for attempts to chase up reports retrospectively. Social workers highlighted frustrations regarding barriers to non-health staff accessing information from their health colleagues, reporting that as a result social work is sometimes required to complete risk assessment and management tools with limited or inaccurate information relating to an individual's mental health. For national service prisons such as HMP YOI Cornton Vale and HMYOI Polmont, which receive individuals in prison from a number of NHS Boards, accessing prior health records from other NHS Boards and held on other clinical information systems is difficult and time consuming.

Non-English speakers

Several social work teams described barriers to accessing prison mental health services linked to residents whose first language is not English. They described difficulty accessing translators for some appointments.

Partnership working

Challenges in effective partnership working was a recurrent response in relation to barriers to meeting the mental health needs of individuals in prison. Several social work teams suggested that an increased awareness of the roles and responsibilities of all professionals involved in care of people in prison would better facilitate joint working. This was also highlighted by third sector organisations, who reported difficulties getting access into prisons to deliver services due to the inflexible structures in place, and an under-recognition by NHS and statutory colleagues of the value of non-clinical services offered by third sector organisations.

Transitions

Service providers highlighted the impact that the process of transitioning from prison to the community can have on someone's mental health is under-recognised. Upon liberation, people are often returning to similar circumstances in the community as they were in before prison, and which may have been made worse by or during imprisonment. Several respondents indicated that current

support for employment, housing, and existing pre-release planning and throughcare support for mental health and substance use (limited largely to referral to community services) is inadequate and sets the individual up to fail.

Facilities and prison regime

NHS teams at several prisons indicated that limited available physical space within the establishment to undertake clinical work with their patients and house staff offices was an operational challenge. This was worsened at times during requirements for people to maintain a necessary minimum physical distance due to the pandemic. Some establishments have explored temporary solutions, for example the use of a portakabin at HMP Shotts, however in this case the request was denied by SPS.

Multiple services highlighted that the limited window of two hours available each morning and afternoon for health centre clinics, on account of working within the time constraints of the SPS regime, was problematic. While health staff can see their patients on the prison halls outside of these clinics, this does not offer the necessary privacy.

Training

NHS teams reported good availability of training relevant to mental health through a range of sources including their local NHS Board, NHS Education for Scotland, and the Forensic Network's School of Forensic Mental Health. However releasing staff to access these training events is difficult in the present context of substantial staffing pressures. Social work teams overwhelmingly stated that they would welcome funding for and access to training related to mental health. Responses indicated there was no mandatory training relating to mental health (with the exception of training on the Talk to Me programme), despite the recognised high prevalence of mental health needs among people in prison. Social work teams viewed a foundation level of training on mental health as integral to good risk assessment and management planning. The need for funding to attend training relating to specific needs including trauma, personality disorder, and dementia was highlighted. There was consistent recognition that some level of mental health training should be mandatory for all staff working in prisons including and in particular, prison staff as this staff group spend the most time with people in prison.

COVID-19

The pandemic was noted to have exacerbated many of the pre-existing challenges in service delivery. It also strained MDT working (through reliance on video conferencing and physical distancing requirements affecting team meetings). It appears many prisons were able to adapt to using the Near Me system to facilitate one-to-one psychiatry and clinical psychology sessions, though in NHS Boards where access to Near Me within prisons was more limited (e.g. NHS Greater Glasgow & Clyde) this halted some types of direct patient therapeutic activity for a prolonged period during the pandemic. Group psychological and psychosocial interventions were suspended in many establishments for much of 2020, and for at least one prison this pause on group work was still ongoing at the time of data

collection (September 2021). Finally, staff have reported an increase in use of illicit drugs in prison and report an increase in mental and physical health problems in the prison population resulting from this, further stressing services.

With these challenges however, have also come positive learning points. Several third sector providers that adapted to working virtually reported that they planned to operate a hybrid model, continuing some remote delivery, which was found to be beneficial. A third sector organisation working with individuals in HMYOI Polmont stated that by moving their services remotely by offering phone and digital support they were able to reach more people in need of support than they had been able to using a face to face approach.

Summary

An updated prison mental health services mapping exercise found considerable variation in NHS service provision across Scotland's prisons. NHS staffing resources in prison do not appear to be closely linked with the size and characteristics of the prison population in individual establishments, which would be a parallel approach to how NHS Scotland resources are geographically allocated to individual NHS Boards (Public Health Scotland, 2021). This largely arbitrary variation leaves the people who live in several prisons unfairly disadvantaged. There has been a notable increase in the staff mix within services, with greater input from the clinical psychology and AHP workforce since the previous mapping exercise. Staffing vacancies, particularly among mental health nurses, is a serious barrier to meeting the mental health needs of individuals in prison.

Providers also highlighted wider challenges to supporting people in prison. They cited limited services for non-English speakers, mental health nurses being pulled away to support physical health and substance use services, problems in information sharing between professionals working in prisons, and constraints from prison facilities and regime on daily service delivery.

Understanding the scale of mental health needs in Scotland's prison population

- There are no current, robust figures for the prevalence of mental health needs of people in prison in Scotland.
- In the absence of such figures, the likely prevalence of several mental health problems of Scotland's prison population were estimated using modelling from the non-prison population. Findings suggest at least 15% of individuals in prison have a long-term mental health condition, 17% a history of self-harm, 30% an alcohol use disorder, 16% symptoms of anxiety over the past week, and 18% symptoms of depression over the past week.
- Data on the transfer of individuals from prison to inpatient psychiatric units indicated that, relative to Scotland's prison population as a whole, these individuals were disproportionately female and on remand. The vast majority were transferred for the treatment of a psychotic disorder.

As has been set out in this report, evidence from prospective research studies undertaken in UK prisons indicates that a majority of people in prison likely experience difficulty relating to their mental health whilst in prison. Estimates for each condition range between studies due to factors including differences in the population of study (gender, legal status) and method of screening and assessment.

Estimating the prevalence of mental health needs of Scotland's prison population can assist in planning service provision effectively in order to reduce the gap between health needs and interventions. However, data on the mental health needs of Scotland's prison population, and whether these are being met, are not currently collected centrally. This prevents the direct assessment of mental health needs from existing data. There is no national, systematic process in place to comprehensively assess and monitor the level of mental health needs of those in Scotland's prisons. In the absence of such data, quantitative analysis of existing secondary datasets, and known information on the prison population, can assist in estimating the proportion of people in Scotland's prisons who likely have a mental health problem. Utilising this methodology means the needs of population subgroups (for example based on gender, ethnicity, and age group) can also be considered.

Every approach to establishing the prevalence of mental health needs in the prison population has its disadvantages and each dataset its limitations. Data on the number of individuals accessing different types of mental health services will miss those who may be unwell but have chosen not to seek help (for example, due to fear of stigma) or are otherwise unable to access these services (e.g. service waiting lists, limited availability in the relevant geographical area, disengagement from mental health services). Self-reported history of or current experience of mental health problems collected through survey methodology can be affected by bias resulting from differential response rates for certain groups of people, through

imprecise screening tools, and because of difficulty verifying the information provided.

The selected approach was informed by epidemiological research methodology and shaped by the availability of existing data. These findings are likely to be helpful to inform prison mental health policy and augmentation of services available to individuals in prison.

Data sources

A variety of datasets were accessed and analysed to estimate the likely range of mental health needs of Scotland's prison population.

Scottish Health Survey

The Scottish Health Survey (SHeS) is an annual survey conducted on the Scottish population in private households and is used and monitored as an indicator of health of the people in Scotland. The self-reported prevalence of certain common mental health problems is derived from this dataset, including anxiety, depression, alcohol use disorders and history of self-harm or suicide attempt. Data from SHeS were used to estimate an individual-level probability model for the non-prison population of Scotland having mental health needs. Though the survey is conducted annually, the 2019 dataset, accessed from the UK Data Service, was used in the present study as it was the most recent year for which its methods were not substantively affected by the COVID-19 pandemic.

Extract from the SPS PR2 system

SPS provided a dataset describing demographics of Scotland's prison population as of January 2022. These data were extracted from PR2, which is the operational information system used by SPS to manage the prison population. A wide range of information is included in the PR2 system and there are several fields relating to mental health. However, following discussions with SPS regarding how this information is collected, verified, and updated it was determined that it would not be a reliable or valid indicator of mental health needs for this study. Therefore, the PR2 variables used in this study were limited to age, gender, ethnicity, and legal status.

Use of Rule 41 extensions for reasons relating to mental health

Rule 41 in the Prisons and Young Offenders Institutions (Scotland) Rules 2011 allows a prison Governor to order that an individual in prison be accommodated in specified conditions due to a health condition where they are a risk to themselves or others, following advice from a healthcare professional. This enables certain measures to be taken to protect the health and welfare of a person or people in prison. Individuals subject to Rule 41 may be accommodated in a specified part of the prison or separately from other prison residents, for example confined to their own cell or placed in segregation. A Rule 41 initiated by an establishment cannot last for more than 14 days unless an extension is authorised by Scottish Ministers. Extensions may be granted for an additional one-month period and multiple extensions may be requested for one individual. While SPS Headquarters do not collate data on the initial use of Rule 41, data on the number of extensions to the use of Rule 41 during the years 2018 to 2021 was available and provided by SPS.

Forensic inpatient care

People with a mental illness, learning disability or related condition who are accused of or convicted of a criminal offence may be placed under the Criminal Procedure (Scotland) Act 1995, which allows the individual to be treated in hospital. Hospitals that accept these transfers include high, medium, low security forensic hospitals and intensive psychiatric care units. The MWC and the Forensic Network monitor the transfer of individuals from prison to psychiatric units under the Act. Data on prison-hospital transfers were retrieved from MWC annual reports and from a report provided by the Forensic Network office.

Analytic approach

Because current and robust figures on the mental health needs of Scotland's prison population are not available, the proportion of individuals in prison in Scotland who have mental health needs was modelled from available data on the non-prison population of Scotland. Individual likelihood of having one of five mental health problems was derived from the SHeS 2019 data using logistic regression and applied to the current prison population using the PR2 extracts. The five mental health problems modelled were:

- having a long-term mental health condition,
- having a history of deliberate self-harm or suicide attempt,
- drinking behaviour consistent with a likely alcohol use disorder,
- anxiety symptoms in the previous week,
- and depression symptoms in the previous week.

Demographic characteristics measured in both datasets were used as predictor variables: gender, age, ethnicity, and Scottish Index of Multiple Deprivation (SIMD) quintile.

Full details of the statistical approach is set out in Appendix C. Descriptive statistics are reported relating to Rule 41 extensions and to individuals in prison who require inpatient psychiatric treatment.

Results

Prevalence estimates

Quantitative modelling found that, relative to the mental health needs in the non-prison population, the estimated prevalence of all five mental health needs is higher for individuals in prison in Scotland. The estimated prevalence of mental health problems is set out in Table 2. The relative difference between the two populations was greatest for alcohol use disorders. Prevalence estimates were also derived for subgroups of the prison population, set out in Appendix D.

Comparison to previous Scottish research

Comparison to previous assessments of mental health in Scotland's prison population is limited due to differences in how mental health problems were operationalised and measured. However, Cooke (1994) found that 7.3% of men in

prison have experienced major psychiatric disturbance in their lifetime, and Graham (2007) reported 14% of the prison population had a history of psychiatric disorder, according to SPS recorded data. Following direct screening, Davidson et al (1995) reported that 24.8% had a neurotic disorder (which would include anxiety and depression), 2.3% had psychosis, 22% alcohol use disorder and 73% drug use disorder. In the Scottish Prisoner Survey 2019, 39% of respondents self-reported being diagnosed with depression prior to coming into prison, 29% an anxiety or phobic disorder and 4% schizophrenia.

Table 2. Estimated prevalence (with 95% confidence interval (CI)) of mental health problems in Scotland's non-prison and prison population

Mental Health condition	**Scottish non-prison population (*N* = 4,903)**		**Scotland's prison population (*N* = 7,507)**	
	%	95% CI	%	95% CI
Long-term mental health condition	9.9	7.7 – 12.8	15.5	12.1 – 19.8
History of self-harm	9.5	5.5 – 16.1	17.0	10.0 – 27.3
Alcohol use disorder	14.1	11.3 – 17.5	29.9	24.9 – 35.9
Anxiety	12.1	7.4 – 19.2	16.0	9.6 – 25.6
Depression	10.9	6.5 – 17.9	17.9	10.7 – 28.7

Use of Rule 41 extensions for reasons relating to mental health

While data are not available on initial use of Rule 41 in prisons across Scotland, between 2018 and 2021 there were 340 authorisations (for 235 individuals) to extend the use of Rule 41 beyond the initial 14-day period. Over the same period there were 94 second extensions (meaning beyond the initial 14 days plus initial one-month extension) for 85 individuals, and 43 third extensions for 42 individuals. Figures on subsequent extensions (up to seventh extension) were also provided, though pertain to a very small number of episodes. Comparison across years showed no global trend in Rule 41 extensions, except for a slight increase in the number of subsequent extensions from 2020 to 2021, although 2020 was the only year where sixth and seventh extensions were authorised, pertaining to fewer than five cases.

Use of forensic inpatient services

The Mental Welfare Commission for Scotland (2021) reports figures on the compulsory treatment of individuals subject to criminal proceedings. Assessment and treatment orders can be used to remand individuals to hospital for care. In 2018-2019, there were 222 assessment and treatment orders, 239 in 2019-20 and 204 in 2020-2021 (Mental Welfare Commission, 2021). Orders of transfer for treatment direction (TTD) are used for the transfer of individuals who have been sentenced. According to the MWC there were 41 TTD orders issued in 2018-19, 36 in 2019-20 and 36 in 2020-21. Applying figures released by the Scottish

Government (2021a) on the total number of sentenced individuals in custody each year, approximately 1% require inpatient psychiatric care in a given year (1.1% 2018-19; 1.2% 2019-20; data not yet available for 2020-21).

The Forensic Network provided additional information on prison hospital transfers. Between 2018 and 2021, 20% of transfers were for women, although women make up only 3.6% of the current prison population. The majority of those transferred (62.3%) are on remand, even though people remanded to prison comprise 29.6% of the current prison population. The average number of days between date of referral and date of transfer ranged from 14.6 to 25.6 calendar days, an average of 21.1 days in 2021. The Department of Health & Social Care for England (2018) recommends transfer take no more than 28 days from referral. There is no standard set out for Scotland.

According to the Forensic Network's comprehensive inpatient census undertaken on 26 November 2013 (the most recent data available), there were 111 patients in hospital who were admitted from prisons, comprising 21.3% of the forensic inpatient population at that time. The most represented diagnostic category among the people in prison who require forensic inpatient care is psychotic disorders (81.1%), the next largest group being affective disorders (5.4%) and personality disorder (4.5%).

Summary

In the absence of robust indicators at the national level on the mental health needs of Scotland's prison population, the estimated prevalence of several mental health needs was modelled using data in the SHeS on a representative sample of the non-prison population. Analysis found 15% of the prison population likely has a long-term mental health condition, 17% a history of self-harm, 30% an alcohol use disorder, 16% symptoms of anxiety and 18% symptoms of depression in the past week. Estimated prevalence was generally higher in the remand population, in younger age groups, and in women relative to men except for AUD and depression. Data on the transfer of people from prison for inpatient psychiatric treatment between 2018 and 2021 indicated that, relative to Scotland's prison population as a whole, these individuals were disproportionately female and on remand. The vast majority were transferred for the treatment of a psychotic disorder.

Stakeholder and lived experience interviews

- Qualitative interviews were conducted with people within Scotland with lived experience of prison and mental health conditions, a range of executive and senior level professional stakeholders and operational stakeholders.
- Respondents with lived experience of prison and mental health conditions indicated they were unable to share mental health concerns with prison officers due to a pereceived lack of dignity and respect from them or that they lacked sufficient training to provide appropriate support.
- Executive and senior level stakeholders spoke of the need for a 'cultural shift' and that 'a big sea change' would need to happen for mental health to be more meaningfully supported within Scotland's prisons.
- Operational and executive and senior level stakeholders voiced a need for increased SPS and NHS resources and increased SPS training to support establishments to embrace trauma-informed practice.

To address the corporate element of the health needs assessment through representation of the views of a range of stakeholders and interested parties, six qualitative interviews were conducted with a range of executive and senior level stakeholders. Representatives from SPS with strategic, health, justice and governance remits were interviewed alongside representatives from the third sector, and bodies providing legislative and welfare oversight. A further nine interviews were conducted among NHS and SPS staff with care responsibilities and six interviews among people in Scotland with experience of prison and mental health conditions.

Operational interviews

- 2 consultants
- 2 prison officers
- 1 mental health care manager
- 4 mental health nurses

Lived experience

- 1 person on remand/ with serious mental illness
- 1 sentenced person/ aged 50+
- 3 community-based people
- 1 carer

In addition, a 'peer listening' exercise based on the topic guide was conducted with three individuals transferred from prison to the high secure State Hospital for treatment of their serious mental illness (SMI). Additional detail on the methodology is set out in Appendix E.

The interviews followed topic guides that reflected main aspects of the prison journey from reception to liberation and were tailored to each group being interviewed; stakeholders, individuals with lived experience and carers.

Perspectives of people in Scotland with experience of prison and mental health conditions and their carers

Reception, remand and ‘jail life’

The consensus among lived experience respondents was that establishing suicidal intent was the primary focus of mental health enquiry at reception into prison. The extent to which mental health issues are explored at reception varied by establishment with some better than others. Reception was also the point at which prescription information should be conveyed to set up regular medication. The majority of respondents felt highly stressed and ‘wracked with nerves’ during reception and indicated it may be better to revisit some discussions a couple of days later. Those with multiple experiences of prison stated they were in ‘crisis mode’ and thinking ahead to ‘jail life’ issues such as ‘who's in prison? What have I got to worry about? Where am I going to get put? Who's going to be there? Have I got enemies and have I got friends...getting my stuff. Does my family know I’ve been moved prison?’ Respondents described how the responsibility was very much on the individual to engage and choose to share information with mental health services to gain any support.

Being housed within a remand hall presented a ‘chaotic’, ‘noisy’, and ‘volatile’ environment. One person described being on remand as having ‘knocked me unwell’. Uncertainty in their living environment, with people constantly arriving and leaving along with no end in sight regarding criminal proceedings, led to a very ‘draining’ experience for people, with little available to provide purposeful activity and distraction. Contrastingly, for some respondents remand was seen as a stable environment, providing a break from the stresses of living with homelessness and substance use problems.

Relationships and interactions with officers and peers

A range of perspectives were offered about the role of prison officers and mental health. Almost all respondents spoke of officer interactions in general terms that influenced how they expected officers to support their mental health needs. Day-to-day officer interactions shaped the development of trust and the extent to which they felt comfortable sharing mental health needs that are seen as a vulnerability in prison. Although respondents spoke of officers who ‘went above and beyond’ providing or allowing ‘informal’ mental health support, there was mention of those who ‘didn’t give two monkeys’. Respondents indicated that they were unable to share mental health concerns with officers due to a general lack of “respect and dignity” they received from them, with a need for officers to recognise residents as “human beings” or that officers lacked training to provide appropriate support. Respondents viewed officers as gatekeepers who could deny access to mental health support and medication. If officers could not be seen to be supportive of day-to-day interactions, then they could not be trusted with the knowledge of mental

health needs. Respondents did not feel listened to when they attempted to talk to officers[3].

Respondents also had mixed opinions about sharing mental health needs with peers. Reasons for this included not trusting peers, concern about being labelled vulnerable and potentially exploited, alongside not wanting to burden others who have similar problems. Respondents had mixed perceptions of Listeners[4], trained by the Samaritans. While some saw Listeners as a valuable resource, others viewed it as a service that could be abused and was something they would never engage with in part due to the Listener's position as a resident which meant they could affect no change in their circumstances.

Observation cells and the separation and reintegration unit

Reinforcing a reluctance to share mental health needs with officers was a perception that "their answer to everything is throw you in a suicide cell. So, then you end up even more stressed because they put you in a daft outfit and then they put you on 15-minute observations, even during the night". It was noted that where staff did talk to residents there was an undertone of risk aversion "if you do this [die by suicide] it's on us". The visibility of the observation cell next to the officer area, meaning the entire hall could be aware of who was being held in them and potentially marking someone as vulnerable, was an additional reason given by respondents to lie about mental health needs if questioned by officers. Placing someone in an observation cell has additional implications. For example, the whole hall may need locked up to facilitate 15-minute observations. Respondents described that this could lead to discord among peers, as could mental health driven disruptive behaviours that disturb the whole hall, for example constant banging on a door.

Only respondents with an SMI diagnosis had been housed within the SRU. They viewed this as a blessing and curse. From a positive perspective, staff within the SRU were seen as more highly trained with a better understanding of SMI than hall officers. Respondents described how their behaviour had not been interpreted as mental ill health until they reached the SRU, which led to a mental health referral. The main negative aspect of the SRU, which was also described in relation to observation cells, was that it was essentially an empty cell with nothing to distract respondents from how they were feeling[5].

---

[3] SPS recognises that among its workforce "there is a mismatch between the culture, roles, and competences currently in place, and those we will need for future success" (Scottish Prison Service, 2016, p. 22), within the context of developing a service which supports those in their care to unlock their potential and fosters opportunities for change.

[4] The Listener scheme is a peer-support scheme within prisons, which aims to reduce suicide and self-harm. Listeners are people in prison who provide confidential emotional support to their peers who are struggling to cope or feeling suicidal. They are specially selected and trained for the role by Samaritans volunteers.

[5] According to Article 3 of the European Convention on Human Rights, the SRU is not a suitable place for individuals in acute mental distress; an alternative remedy should be sought (Keenan vs United Kingdom, European Convention on Human Rights, 2001).

Mental health needs, support and coping strategies

Several respondents described how they made multiple disingenuous attempts to seek drugs from mental health teams to support substance use habits, or to sell for financial gain due to lack of external support. Others admitted damaging their cells to convince doctors they required medication. In some cases, this behaviour led to disrupted relationships with officers and mental health teams apparently denying access to mental health services when individuals were genuinely seeking support when they realised that their mental health was significantly deteriorating. Respondents described adopting coping strategies that helped them manage their own mental health including reading, listening to music, breathing techniques, and talking with specific members of the mental health team.

A minority of respondents were receiving mental health support prior to imprisonment. Overall, respondents described having positive relationships with mental health teams. However, while respondents felt that being offered antidepressant medication seemed to be the answer to every mental health need, they also voiced a desire for talking therapies and for mental health team staff to encourage greater engagement with available self-help resources, such as by demonstrating coping techniques like guided breathing. This sentiment was raised where mental health teams cared for large populations.

Individuals described that despite spending time in observation cells, including following attempted suicide, they had little contact with the mental health team. Family members described feeling frustrated that the opportunity of stabilising and addressing substance use problems or other drivers of mental ill health within prison was not being utilised. In their view, attempts generally fail as engagement is central to mental health treatment within establishments yet many are unable to do so. For example, a carer commented that their partner “was too unwell to know to engage”. Family members also voiced concerns that the needs of those with SMI who avoid being placed in an observation cell or the SRU may be invisible to officers and therefore overlooked by mental health staff because they isolate in their own world. This left families feeling isolated and frustrated that missing the opportunity to address underlying needs, which time in prison can provide, would leave their loved ones repeatedly returning to prison.

Liberation

A majority of respondents had experienced liberation at least once with little, if anything, positive said about the process. This included people being liberated after long-term sentences and from prisons respondents considered to be generally ‘good’. While liberation on parole was associated with greater throughcare planning regarding housing and benefit applications, little support for mental health and substance use problems was described except being told to see community teams, GP etc. Moreover, while appointments in the community were generally made for them prior to release by mental health teams, respondents described experiencing various issues that could prevent them from attending, for example illicit drug seeking. The lack of appropriate support after release, which contributed to

disrupted transitions from custody to the community was viewed by respondents as a missed opportunity, particularly by family members. Respondents gave multiple examples of being recalled to custody or being remanded within a few days of being released. Several described how they were released from prison with no support and found themselves homeless.

Successful transitions were reported when people received support from community psychiatric nurses and third sector in-reach work. Respondents described how engagement with third sector organisations, fostered by interaction with peer support workers, supported them through those first few high-risk weeks and helped break the imprisonment cycle by, for example, securing accommodation and therefore avoiding homelessness and the chaotic lifestyle that can bring.

Executive and senior level stakeholders

Prison as a part of the wider justice system

A majority of respondents commented that it was difficult to reflect on mental health within the prison setting without considering it as an element of the wider justice system. Diversionary schemes, which direct individuals away from a custodial disposal due to their evidenced needs, were not seen as working efficiently.

Scottish Prison Service corporate aims

Almost all respondents recognised the impact of entering a closed institution upon mental health and wellbeing. They also noted the corporate aims of the Scottish Prison Service in relation to identifying and supporting those with mental health needs.

While SPS respondents acknowledged a focus on health within the prison service, with note of ongoing mental health strategy and policy development, they also mentioned the need for a more meaningful and joined up approach with greater strategic direction to overcome barriers. All respondents commented that improvements are being made, however further development was required with talk of the need for a ‘cultural shift’ and that ‘a big sea change’ was necessary for mental health to be more meaningfully supported within Scotland’s prisons. Respondents commented that policy and practice needs to be more responsive to support the ever-changing needs of the prison population.

Almost all respondents discussed that underpinning this ‘cultural shift’ was a focus on establishments adopting a more trauma-informed approach. The key principles underlying the trauma-informed approach are: safety, trustworthiness, choice, collaboration, and empowerment with a view that adoption of a trauma-informed approach will support trauma survivors in a way that provides hope, empowerment, and support that is not re-traumatising (The Scottish Government 2021b). Embracing a trauma-informed approach would place a greater emphasis on recovery within the prison environment and, in particular, the life journey that leads an individual to prison; for some on multiple occasions. While respondents recognised that prisons cannot ‘fix’ everybody, their view was residents should

leave establishments with better life opportunities than they arrived with. Respondents noted that a lessening of the culture of risk aversion had led to a more person-centred approach within establishments. However, there were concerns surrounding the levels of scrutiny establishments are subject to, particularly where adverse events occur, such as a death in custody, and how that colours local decision-making in relation to mental health needs.

To reframe how prison officers care for individuals, most respondents mentioned a requirement for appropriate training, support, and resources to address the mental health issues facing officers on a daily basis and the development of a more trauma-informed environment. Respondents indicated that the dynamic also requires change with officers engaging with residents rather than residents raising issues. Although respondents indicated that relationships with partner agencies, such as third sector services, should be strengthened, it was noted that prison walls are 'more porous' in relation to collaborative working. Half the respondents voiced that both SPS and the NHS did not have a culture or forum for sharing best practice or other knowledge exchange relating to service development.

Prison as an extension of the community

Most respondents voiced frustration that the prison environment is perceived as similar to the community when it comes to implementing recommendations or delivering health services. A failure to consider the legislative and risk management aspects associated with caring for an individual within establishments, and how that was reflected in day-to-day management was highlighted by respondents. A lack of recognition of how the physical environment and layout of prisons could impact upon the implementation of recommendations was also raised. Although most respondents expressed that there should be parity of access to services available in the community and within prisons, it was emphasised that they require to be delivered in a different way, for example by different staff groups or via virtual services. An executive stakeholder noted that community GP practices receive additional funds where they support patients from areas with high levels of multiple deprivation. Disparity in funding was noted as prisons do not receive those funds despite the demographic and complex needs of the prison population. Funding was incorporated into NHS Boards' general allocations when the responsibility for the provision of prisoner healthcare transferred to them in 2011-12. Respondents voiced that prisons are under pressure to do more to support mental health without training or appropriate resources.

The COVID-19 pandemic: learning points from the prison response

A minority of respondents voiced some concern that access to mental health resources diminished during the height of the COVID-19 pandemic, primarily due to prison and NHS staff being required to cover essential services such as medication delivery because of staff shortages. In addition, respondents noted that residents who were already separating themselves from prison life due to mental health needs were less visible to staff and could easily be overlooked.

Counterintuitively, half the respondents reported positive feedback from residents regarding being in small household bubbles with lock up at 5pm and loss of evening recreation to limit viral spread through interpersonal mixing. Respondents described people in prison and prison officers reporting feeling a sense of safety through a reduction in mixing with others, better prison officer and resident interaction and the provision of mobile phones to facilitate in-cell communication with loved ones in the evening. An individual with lived experience also indicated the days went faster with an earlier lock up. SPS listened to feedback and indicated that a central tenant of establishments opening up after lockdown was that household bubbles and the associated sense of safety are maintained with a greater focus on meaningful activity and what that actually means. Respondents highlighted that the opportunity for staff and residents to get to know each other better within household bubbles led to improved, and more trusting relationships. In turn, this could encourage residents to be more open about their needs with prison officers.

Shared values, SPS/NHS alignment and working relationship

Most respondents recognised that the NHS and SPS have different corporate aims and although they operate as partners their relationship could be stronger. Respondents noted that while there are difficulties for SPS in establishing consistency of approach across the nine NHS Boards that deliver services within prisons in Scotland, the NHS have similar challenges operating within prisons of different sizes leading to mental health teams operating differently. The need for change to better support mental health needs within the prison environment was raised by respondents and is recognised within both the NHS and SPS. In particular, SPS respondents indicated that both strategy and language to progress cultural change was being developed at higher levels. Respondents highlighted that the COVID-19 pandemic had demonstrated that health was core to what SPS deliver: ‘If people don't feel well and feel safe and have got that emotional confidence that they can engage with people and with services, then we're not going to get very far’. Mention was also made by a respondent of how several prisons have established joint NHS/SPS partnership boards and were able to act on published recommendations more readily.

Although most executive/senior level and some operational stakeholders spoke of good NHS/SPS relationships, there was a view that SPS and NHS should be communicating and working together more cooperatively to better support people living in prison. The overall impression from respondents was that the NHS and SPS did not always fully appreciate the extent of support they can provide one another. This included, for example, during liberation, or how minor changes to one system can greatly impact another, such as delays in escorting residents to a clinic at the health centre can greatly affect how many people can be seen in a session.

Operational, executive and senior level stakeholders

Mental health needs of the prison population

Although there was little consistency reported by respondents in how mental health needs were detected by different establishments during the reception process and

the days that followed, all methods involved various screening tools and members of both SPS and NHS staff. The one commonality respondents identified was the need for the individual coming into prison to engage with staff and choose to share how they feel or what they are thinking at a point when they were likely to be feeling scared, uncertain or vulnerable.

Most respondents indicated that obtaining information about previous health treatment within the community and current prescription medications on reception involves a somewhat patchwork approach, with pockets of information available from various sources in a range of formats. Respondents highlighted that computer systems and NHS Boards cannot always easily communicate with each other, posing significant issues of information sharing at entry and exit from custody.

There was uncertainty among most respondents about whether there had been an increase in the number of residents presenting with mental health needs or if their mental health needs were simply being more readily identified and referred to services. There was, however, a shared perception among respondents that those being referred to mental health services were presenting with more complex needs. Respondents indicated that underpinning this increase in the complexity of needs was the concept of trauma with residents either more comfortable with disclosing past trauma or staff more readily identifying trauma-related needs. Respondents discussed that mental health services were striving to make prison officers more trauma-informed and formally/informally providing training and support around how to keep people safe whilst treating them in a compassionate, empathic, trauma-informed way. Respondents reported instances where prison officers were endeavouring to understand and support residents without automatically placing them on ‘Talk to Me’. While prison officers understood that for confidentiality reasons they were not privy to health information, they indicated that knowing a little more about residents would help them better understand behaviours and interact with individuals under their care. Respondents commented that prison officers wanted trained and supported to better relate to and manage those within their care.

A third of all stakeholders felt that services are collectively (SPS and NHS) failing people who have been to prison multiple times by not addressing past trauma and that they are simply ‘putting [a] sticking plaster over it’, and that ‘it feels like often it's firefighting’. This failing was related to a need for greater resources and training within both SPS and NHS.

Resources and funding

Regarding resources, the overall picture from respondents was one of limitations relating to NHS staff shortages, the constraints of the physical environment within prisons and prison officer shortages, which affected service delivery and led to trained NHS staff underutilising their skills when having to cover non role specific tasks and delivery of medication. A clear view from respondents was that NHS staff were ‘under resourced and overworked’ and that while there was a focus on mental health teams, this view extended across primary care and substance use services. Within establishments with only one mental health nurse, comment was made by a

respondent that their ‘caseload must be horrific’. However, another respondent from a better resourced but small establishment noted that the ‘luxury of being a small prison [is] we can spend more time with our patients’. These comments highlight the disparity across the prison estate in the number of residents cared for per WTE mental health nurse and the real-world impact that these differences make to resident care.

While an essential task, a majority of operational respondents noted that daily medication delivery takes a large amount of clinic time away from health care staff, with delivery highly dependent upon SPS regime. There was little discussion about how this could be managed better. However, among higher level stakeholders, there was mention of considering risk mitigations, such as supporting individuals to manage their own medication. In addition to freeing up more clinical time, this could give some residents greater control over their lives and potentially remove feelings associated with a lack of autonomy and helplessness to manage their own health needs. This view was reinforced in the comments from an individual with lived experience who described how it “feels good” to be trusted with their own medication. Respondents highlighted that individual establishments also operate different prescribing formularies with medications available within the community not always dispensed within prison, leading to some residents having to adjust long-established medication regimes.

NHS teams were creative in finding ways to adapt services to support the needs of their population within the available resources or address failures in recruitment and retention of staff. Operational respondents cited examples including making links with nursing courses and welcoming students on site. This served a dual purpose of raising the profile of nursing within the prison environment and providing extra support. Greater integration of substance use and mental health nursing teams helped provide a more wrap-around service to the exceptionally high numbers of residents with mental health and substance use issues. Advanced Nurse Practitioners have been recruited in some prisons to support GPs with prescribing services. One service reported adopting a more community-orientated approach with all mental health referrals triaged through the GP service.

Respondents commented that while NHS clinical psychology services have been developed at several establishments, not all prisons have access to these services. This disadvantages those in receipt of therapy who are transferred to prisons without these services. Despite limitations in staff and environmental resources, respondents noted that mental health teams are continually adapting and evolving to improve services, to better meet the needs of their populations and to implement published recommendations. There was some evidence from respondents of best practice sharing but also comment of little time to engage more widely as priorities lie within their own service.

More widely, there was a call from respondents for ‘more trained staff, be it prison officers or NHS staff, we need to understand more about it [mental health needs] before we can do anything about it’. Respondents indicated that better mental health training for prison officers would reduce the number of ‘inappropriate’

referrals to mental health teams that are situationally driven and potentially transient rather than indicative of mental ill health (e.g. receipt of bad news). Appropriate training for officers would also inform the development of a more trauma-informed environment within prisons; and, along with the development of a directory of on-site and third sector service providers, support prison officers to signpost residents to services suitable to their needs.

Observation cells/separation and reintegration units

There were mixed views from prison officer respondents about how often observation cells were used. One stated that they were regularly used to ensure the safety of an individual as staff shortages prevented support being offered to those unable to cope with the prison regime within their usual cell. However, another prison officer noted observation cells being used only as a 'last resort' and was unable to recall anyone in the recent past being placed on observation due to their mental health.

An executive level stakeholder questioned the effectiveness of placing those who express any degree of distress within an observation cell, devoid of interaction and stimulation and dressed in an anti-suicide smock. The further impact upon a person's mental health and potential future willingness to share distress was also questioned. Seeing people being placed into observation cells may, in and of itself, act as a barrier to others disclosing mental health concerns among the wider population. Half of respondents described that there was no middle ground for those in mental distress between single bare cells and accommodation in large halls, with 'safer' cells not always the answer, although SPS are currently assessing observation cells and how they are used.

The perception among some executive level stakeholders was that SRUs were being increasingly utilised to house residents in extreme mental distress. Although it was acknowledged that there can be difficulty in distinguishing behaviour related to mental distress from violent and disruptive behaviour. Where a lack of stimulation, peace and quiet were required, then the SRU was noted to provide that environment in comparison to the main hall. However the use of SRUs and prison more generally as a place of safety was questioned by respondents, particularly for those in acute mental distress who require assessment for transfer to forensic hospital. Work with the State Hospital was however ongoing to better support all individuals within the SRU.

Most executive stakeholders voiced concern regarding access to forensic psychiatric beds. Respondents recognised that the SRU is an area where high levels of staff input could be offered. However, this could also lead to difficulties reintegrating residents back to the main hall leading to resistive behaviours. Respondents cited regular discussions surrounding what support a resident required to transition from the SRU to the prison hall and, if they could not be delivered within the current establishment, then exploring transfer to another prison. An executive level stakeholder highlighted recent changes in the management of those who would previously have been housed within the SRU at HMP YOI Cornton Vale as an example of best practice and collaborative teamwork. This

involved collaborative work between SPS, NHS Forth Valley, and the MWC to reduce the time required to transfer women out the SRU to a more appropriate setting in which to support them.

Respondents described using observation cells/SRU for the management of residents displaying psychotic symptoms related to use of NPS due to the risk they presented to themselves and others. Respondents saw the use of NPS within Scotland's prisons as inextricably linked to mental health needs and the underlying reasons for seeking and using substances.

The needs of specific groups within the prison population

While recognising that there were multiple specific groups within the prison population (for example, armed forces veterans, older adults, people with neurodevelopmental disorders), executive stakeholders noted that it was about 'focusing on an individual and identifying what that person sees are their needs, rather than us [SPS/NHS] undertaking some sort of diagnosis or assessment. It's about that engagement'. However, there was recognition that in many cases interaction and management would be guided by NHS staff.

NHS stakeholders voiced that they may be able to provide initial assessments and offer advice in relation to specific issues (for example, cognitive decline or alcohol-related brain damage), but ideally specialist community services would link into the prison. Respondents indicated there was a need for specialist services such as old age or substance use psychiatry within establishments, and some establishments had received some limited support. However, respondents noted that funding was generally unavailable for specialist services. Both executive and operational respondents commented about the number of individuals with past trauma presenting with personality disorder being managed by prison officers.

Respondents warmly mentioned links with third sector services and their contribution was widely recognised. Third sector services provided primarily support and assistance for substance use problems during liberation with separate groups operating to meet the specific needs of women. Respondents noted that third sector services had no formal links with health and wellbeing teams and were commonly linked to the recovery café/hubs operating within most establishments.

A minority of executive respondents recognised that people on remand were subject to a range of stressors including impending court cases and distance from loved ones. The majority of respondents indicated that people on remand had equal access to mental health resources, although referral to psychological services, where available, could be restricted due to the short length of time people were expected to remain within the prison. Respondents mentioned self-help resources and material that signposted residents to the mental health team, in addition to the referral process which could be self-initiated, or through peers, or any staff member. That individuals on remand have equal access to prison resources except for work was highlighted by respondents, although there was some question as to the extent they can access other rehabilitative or purposeful activities. Two executive stakeholders commented that in one establishment occupational

therapists worked specifically with the remand population to help them develop good habits around mental wellbeing and encouraged engagement with resources and opportunities.

Liberation

Most executive stakeholders remarked how much of a loss to SPS and residents the removal of Throughcare Support Officers had been. While third sector services provided much needed support, there was a sense that it was an SPS responsibility to ensure a safe community transition and that all officers should be trained as Throughcare Support Officers. In doing so, this could allow relationships built over time between residents and officers to be utilised, particularly for people serving longer sentences. While respondents recognised that there were some good practices around liberation, with work by SPS to establish what that should look like currently ongoing, there was a lot more that could be done. Executive respondents commented that not every resident required pre-liberation planning and neither was engagement with planning enforceable. Operational stakeholders indicated that NHS staff made links with mental health community teams where there was a need, set up appointments, shared information and provided a supply of some types of medication. There was, however, concern about the transition from custody to the community. Respondents recognised the first few weeks of liberation could be challenging and chaotic. One mental health team member indicated they were attempting to standardise the liberation process while another noted that 'the mental health and welfare [support] of our patients should cover people getting out'.

Half of executive stakeholders highlighted that liberation support appeared to fail for people on remand, who could often be liberated without warning. Individuals on remand could also leave prison late in the afternoon with no support and no plan in place. One executive stakeholder implied third sector services would not support those who had been on remand or individuals with more complex needs. Supporting those with the most complex needs through the liberation process was previously an SPS role, as staff knew the individual and their needs.

Summary

There was a drive from the top of SPS to operate a more trauma-informed environment in Scotland's prisons. The COVID-19 pandemic has highlighted that the health and wellbeing of individuals in prison is foundational to the underlying aims of the prison service. Operationally, prison officers and NHS teams perceived residents as presenting with more complex mental health needs as well as trauma, and were striving to support residents with limited resources. From a patient perspective, the onus remains very much on individuals to choose to engage and share information with mental health services to gain any support from services.

People with lived experience indicated that reception was a time of extreme stress and that beyond establishing acute needs (i.e. immediate suicidal intent), mental health needs should be explored more deeply a few days later. Being on remand was a draining experience for people, characterised by uncertainty although for some it provided respite from homelessness. Some prison officers were

acknowledged as going above and beyond to support mental health needs. However, the resident-officer dynamic needed improvement more generally, and mental health teams were supportive where they were not operating under an excessive workload. Liberation was most successful where third sector and community services provided in-reach support ahead of someone being released and during the high risk first few weeks which could break the cycle of returning to prison, for example by securing housing.

Report limitations

There are several limitations to the findings of this needs assessment resulting from the continuing COVID-19 pandemic. Face-to-face research was not possible during the timeframe of this project. This required taking an adapted approach using existing and secondary data and undertaking data collection through remote methods only. It is unfortunate to have been unable to go into prisons to speak with staff and residents for this important piece of work.

Had access to prisons been possible, an approach which directly engaged people in prison in a standardised screening process would have been preferred to measure mental health needs in this population. As the project was limited to use of secondary data, it was necessary to estimate the prevalence of mental health problems using data collected on people in the community in Scotland. Quantitative modelling was limited to use of fixed demographic variables as predictors of mental health needs, and could not include other relevant factors such as adverse life experiences and experiences related to imprisonment that increase the likelihood of having mental health needs. The prevalence estimates reported may therefore underestimate likely mental health needs. There were also several mental health needs including psychosis, personality disorder, and neurodevelopmental conditions, which were described in the literature review as experienced by people in prison in the UK, however the prevalence of these needs could not be estimated in this research due to the lack of available data. In the absence of estimates generated from Scotland's prison population, it may still be useful to consider the prevalence reported in the UK prison research literature to inform the planning of services.

While it was possible to use videoconferencing technology to gather the views and insights of individuals with lived experience of mental health problems in prison, access restrictions to prisons and competition for private rooms for remote interviews meant it was not possible to obtain direct input from women, young people, and people with neurodevelopmental conditions currently living in prison. The professional stakeholders who engaged with this project have become familiar and relaxed in their use of videoconferencing technology. However conducting interviews online was a barrier for some individuals with lived experience living in the community due to lack of access to the necessary technology and data/Wi-Fi packages. The research team recognises that in-person interviews might have enriched the interpersonal connection made with these individuals.

Finally, this report highlights the substantial service and workforce pressures experienced by those working to support people living in Scotland's prisons. Not all health professionals who wanted to engage with this needs assessment were able to due to pressures on clinical services and staffing problems exacerbated by the pandemic.

Conclusions

There is overwhelming evidence that individuals in prison are more likely to have a range of mental health needs, which are often multiple and complex. Existing provision to support the mental health of people in prison in Scotland does not adequately meet these needs and that a change in approach is required.

Evidence from multiple elements of this needs assessment converged, indicating that most individuals in prison have, or will develop, mental health needs. Like individuals in the community, the COVID-19 pandemic has likely had a negative impact on the mental health and wellbeing of Scotland's prison population. Recognising this, and despite new challenges in service delivery resulting from the pandemic, many of which are still ongoing, this report found that the fundamental barriers to supporting the mental health of individuals in prison are likely longstanding. Professional stakeholders endorsed the view that individuals should leave prison better off and with greater opportunities than when they entered prison. To deliver this, however, there are substantial changes required in services delivered throughout the prison journey.

A mapping of current mental health service provision for people in and leaving prison highlighted that services in several establishments are insufficiently resourced. In those prisons, this equates to only an emergency service being provided, working with the most acutely ill, and leaving the majority of people in prison without support they could benefit from. NHS mental health teams are under-resourced and overworked, attempting to innovatively manage their workloads as effectively as they can within their limited resources. There are fundamental issues with attracting and retaining staff to work in prisons against the backdrop of high demand for services. Staff absences brought on by the pandemic have further exacerbated resource pressures. Professionals highlighted a number of challenges to meeting mental health needs of people in prison, but a common theme was observed in relation to difficulties in and barriers to coordinated and joint working across SPS, health and third sector organisations to support individuals in prison. All who work in prisons bear a duty to support the mental health and wellbeing of people in prison, and there are corresponding roles for all agencies in implementing the necessary actions to do so.

Several reports published in the last decade have highlighted concern around many of the same problems identified in this report and offered appropriate, evidence-based recommendations to address them (e.g. HMIPS, 2019; NPHN, 2014). Despite repeated scrutiny of the same issues, most recommendations have not been fully implemented. This suggests that current structures and operational arrangements do not facilitate the development of innovative practice or are too restrictive to enable the change required. A fundamental change to prison mental health services is required.

Recommendations

High-level and strategic

1. A fundamental change is required in how the mental health of individuals in prison is perceived, given the demonstrated mental health needs of Scotland's prison population. A model of care should be adopted across all prisons that focuses on assessing and meeting individual needs, supporting individuals' wellbeing, and providing a caring and supportive environment. Trauma-informed care is one model that may be appropriately considered.

2. The model of care adopted should have individuals' needs and wellbeing at its centre and strive to make the prison environment more therapeutic with a greater focus on meaningful activity. To break the cycle of repeated imprisonment, individuals should leave Scotland's prisons with better life opportunities than when they started their sentence.

3. Greater resources are required for NHS mental health services. Rather than use community-based formulations, modelling should be used to determine service provision, accounting for the known demographic and social characteristics of the population in each prison, recognising that most individuals come from communities of multiple deprivation, have had adverse life experiences and many have multiple and complex needs. The outcomes of these models for each prison should be published.

4. An increase in funding for clinical psychology and allied health professionals within the multidisciplinary mental health team is needed in many of Scotland's prisons where current input is either none or limited. As the model of care is developed, a need for increased resources from other professional groups may too become apparent.

5. Standards for prison mental healthcare should be adopted. These could be newly developed or adopted from existing standards such as those published by the Royal College of Psychiatrists (2018). Adopted standards should include staffing requirements per prison resident to ensure consistency across the estate.

6. The development of a formal partnership between SPS (and private contractors, currently Serco and Sodexo), health and social care, and third sector organisations is necessary to drive forward the high-level changes recommended. This partnership should be empowered to deal with strategic and operational issues across the prison and health services. This must include a mechanism to empower decision making across all NHS Boards that interface with the prison estate[6]. There should be mechanisms for governance, and processes embedded to enable routine quality improvement and assurance.

[6] An example of such a change requiring joint decision-making power at the national level would be amending both the prison regime and NHS practice in order to extend the time window available for health professionals to see their patients in the health centre.

Operational

7. The set of health indicators monitored at a national level by Public Health Scotland should be expanded to include reliable data relating to the mental health of individuals in prison. Mental health outcomes should be specified so that progress to achieve these can be monitored.

8. Action is required to address the longstanding staff shortages and retention issues across prison staff and health staff employed within Scotland's prisons. Consideration should be given to the adoption of 'forensic careers' for professionals working across justice and health settings. This would support staff to develop skills and obtain experience of working with patients in different settings, including high, medium, and low secure hospital units; in the community; and in police cells, courts and prisons.

9. Investment in prison facilities is required to provide adequate space to conduct clinical assessments and interventions with individuals in prison.

10. SPS (and private contractors) and healthcare providers should jointly identify a solution which increases the time available each day, currently four hours, for health staff to see their patients in the prison health centres.

11. Training about mental health and trauma should be mandatory for all staff working within prisons to reduce stigma and improve the relationships between prison residents and staff. The induction process for new staff should include education on the remit and role of the various service providers working within the prisons to facilitate joint working and ensure referrals to other providers are made as appropriate.

12. A second mental health screening should conducted in the days following reception, when someone may be better placed to engage in discussion and the immediate stressor of being imprisoned is not as acute. This should be done by a trained mental health professional.

13. Specialty services available in the community, including neurodevelopmental assessment and old age psychiatry, should be accessible to people in prison. That someone is in prison should not be a barrier to accessing appropriate services directly or via videoconferencing technology.

14. Given the expansion of telehealth and online mental health resources available in to people in the community a modernisation is required for digital communications and technology in prisons. Videoconferencing technology should be more widely adopted to support remote mental health service delivery. People in prison should have greater opportunities to use digital technology to access online mental health resources.

15. Information sharing agreements should be introduced so that all professionals involved in the care and support of a person in prison can appropriately, effectively, and efficiently access relevant information relating to mental health needs.

16. Mechanisms for the two-way sharing of information between prisons and the families of people in prison about the mental health, care, and safety of their loved one should be examined.

17. A common prescribing formulary should be introduced across all of Scotland's prisons to eliminate the need to adjust established medication regimens on inter-prison transfer.

18. The throughcare system should be reviewed and consideration given to the development of standards as well as to auditing of performance against these standards.

Acknowledgments

The research team would like to extend their sincere thanks to everyone who contributed to this needs assessment. The team is particularly grateful to the individuals who shared lived experience perspectives, either their own or those of a loved one.

The team would also like to thank the multi-disciplinary group of professionals from a number of organisations for the time they offered in interviews, and the high level of engagement from a range of professionals in the service mapping exercise in light of ongoing service challenges.

Finally, the research team thanks members of the Lived Experience Panel convened for the national needs assessments, the project's Research Advisory Group, and Dr Ian MacNeill, Senior Research Officer for the Scottish Government, for their support, guidance and feedback.

References

Bebbington, P., Jakobowitz, S., McKenzie, N., Killaspy, H., Iveson, R., Duffield, G., & Kerr, M. (2017). Assessing needs for psychiatric treatment in prisoners: 1. Prevalence of disorder. *Social Psychiatry and Psychiatric Epidemiology*, *52*(2), 221-229. https://dx.doi.org/10.1007%2Fs00127-016-1311-7

Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, *3*(2), 77-101. https://doi.org/10.1191/1478088706qp063oa

Brutus, L., Mackie, P., Millard, A., Fraser, A., Conacher, A., Hardie, S., ... & Meechan, H. (2012). *Better health, better lives for prisoners: A framework for improving the health of Scotland's prisoners.* Scottish Public Health Network: Edinburgh. Available at: https://www.scotphn.net/wp-content/uploads/2015/10/A-framework-for-improving-the-health-of-Scotlands-prisoners-Volume-1.pdf [Accessed 7.03.2022].

Cooke, D. (1994). Psychological disturbance amongst prisoners. Scottish Prison Service, Occasional Papers, Report No.3/1994.

Davidson, M., Humphreys, M.S., Johnstone, E.C., Owens, D.G. (1995). Prevalence of psychiatric morbidity among remand prisoners in Scotland. British Medical Journal, 167(4), 545–548. https://doi.org/10.1192/bjp.167.4.545

Department of Health & Social Care. (2018). *Independent review of the Mental Health Act 1983*. Modernizing the Mental Health Act. Increasing choice, reducing compulsion. Final report of the Independent Review of the Mental Health Act 1983. Available at: https://www.gov.uk/government/publications/modernising-the-mental-health-act-final-report-from-the-independent-review [Accessed 01.03.2022]

Dolan, R., Hann, M., Edge, D., & Shaw, J. (2019). Pregnancy in prison, mental health and admission to prison mother and baby units. *The Journal of Forensic Psychiatry & Psychology*, *30*(3), 448- 466. https://doi.org/10.1080/14789949.2019.1586978

European Convention on Human Rights. (2001). Keenan vs United Kingdom. Available at: https://www.bailii.org/eu/cases/ECHR/2001/242.html [Accessed 19.02.2022].

Facer-Irwin, E., Karatzias, T., Bird, A., Blackwood, N., & MacManus, D. (2021). PTSD and complex PTSD in sentenced male prisoners in the UK: prevalence, trauma antecedents, and psychiatric comorbidities. *Psychological Medicine*, 1-11. https://doi.org/10.1017/s0033291720004936

Fazel, S., & Seewald, K. (2012). Severe mental illness in 33 588 prisoners worldwide: systematic review and meta-regression analysis. *The British Journal of Psychiatry*, *200*(5), 364-373. https://doi.org/10.1192/bjp.bp.111.096370

Farooq, R., Emerson, L. M., Keoghan, S., & Adamou, M. (2016). Prevalence of adult ADHD in an all-female prison unit. *ADHD Attention Deficit and Hyperactivity Disorders*, *8*(2), 113-119. https://doi.org/10.1007/s12402-015-0186-x

Flanigan, C., Hunter-Rowe, C., & Smart, E. (2021, June). Health and healthcare needs assessment: Inverness prison. NHS Highland. Available at: https://www.scotphn.net/resources/health-healthcare-in-prison/health-healthcare-in-prison-a-literature-review-2020-2 [Accessed 17.03.2022]

Forsyth, K., Heathcote, L., Senior, J., Malik, B., Meacock, R., Perryman, K., ... & Shaw, J. (2020). Dementia and mild cognitive impairment in prisoners aged over 50 years in England and Wales: a mixed-methods study. *Health Services and Delivery Research, 8*(27). https://doi.org/10.3310/hsdr08270

Graham, L., Heller-Murphy, S., Aitken, L., & McAuley, A. (2012). Alcohol problems in a remand Scottish prisoner population. *International Journal of Prisoner Health*, *8*(2), 51-59. https://doi.org/10.1108/17449201211277174

Graham, L. (2007). Prison health in Scotland. *A health care needs assessment*. Scottish Prison Service. Available at: http://www.ohrn.nhs.uk/resource/policy/ScottishPrisonHealthNeeds.pdf [Accessed 1.03.2022]

Hassan, L., Birmingham, L., Harty, M. A., Jarrett, M., Jones, P., King, C., ... & Shaw, J. (2011). Prospective cohort study of mental health during imprisonment. *The British Journal of Psychiatry*, *198*(1), 37-42. https://doi.org/10.1192/bjp.bp.110.080333

Hassiotis, A., Gazizova, D., Akinlonu, L., Bebbington, P., Meltzer, H., & Strydom, A. (2011). Psychiatric morbidity in prisoners with intellectual disabilities: analysis of prison survey data for England and Wales. *The British Journal of Psychiatry*, *199*(2), 156-157. https://doi.org/10.1192/bjp.bp.110.088039

Hayes, S., Shackell, P., Mottram, P., & Lancaster, R. (2007). The prevalence of intellectual disability in a major UK prison. *British Journal of Learning Disabilities*, *35*(3), 162-167. https://doi.org/10.1111/j.1468-3156.2007.00461.x

Herrington, V. (2009). Assessing the prevalence of intellectual disability among young male prisoners. *Journal of Intellectual Disability Research*, *53*(5), 397-410. https://doi.org/10.1111/j.1365-2788.2008.01150.x

Her Majesty's Inspectorate of Prisons for Scotland. (2019, May). Report on an expert review of the provision of mental health services, for young people entering and in custody at HMP YOI Polmont. Available at: www.prisonsinspectoratescotland.gov.uk/. [Accessed 09.02.2022]

Howitt, S. & Thomson, L. D. G. (2015, March). Screening for attention deficit hyperactivity disorder in HMYOI Polmont. University of Edinburgh.

Jarrett, M., Craig, T., Parrott, J., Forrester, A., Winton-Brown, T., Maguire, H., ... & Valmaggia, L. (2012). Identifying men at ultra high risk of psychosis in a prison

population. *Schizophrenia Research*, *136*(1-3), 1-6. https://doi.org/10.1016/j.schres.2012.01.025

Jones, G. Y., & Hoffmann, N. G. (2006). Alcohol dependence: international policy implications for prison populations. *Substance Abuse Treatment, Prevention, and Policy*, *1*(33), 1-6. https://doi.org/10.1186/1747-597X-1-33

Kingston, P., Le Mesurier, N., Yorston, G., Wardle, S., & Heath, L. (2011). Psychiatric morbidity in older prisoners: unrecognized and undertreated. *International Psychogeriatrics*, *23*(8), 1354-1360. https://doi.org/10.1017/s1041610211000378

Kreis, M., Ogilvie, C., Connor, I., & Lowe, S. (2016). Forth Valley Prisons Health Needs Assessment: Substance misuse and mental health needs. NHS Forth Valley and Forth Valley Alcohol and Drug Partnership.

MacAskill, S., Parkes, T., Brooks, O., Graham, L., McAuley, A., & Brown, A. (2011). Assessment of alcohol problems using AUDIT in a prison setting: more than an 'aye or no' question. *BMC Public Health*, *11*(1), 1-12. https://doi.org/10.1186/1471-2458-11-865

McCarthy, J., Chaplin, E., Underwood, L., Forrester, A., Hayward, H., Sabet, J., ... & Murphy, D. (2015). Screening and diagnostic assessment of neurodevelopmental disorders in a male prison. *Journal of Intellectual Disabilities and Offending Behaviour*, *6*(2), 102-111. https://doi.org/10.1108/JIDOB-08-2015-0018

McCarthy, R., Mukherjee, R. A. S., Fleming, K. M., Green, J., Clayton-Smith, J., Price, A. D., ... & Cook, P. A. (2021). Prevalence of Fetal Alcohol Spectrum Disorder (FASD) in Greater. *Pediatrics*, *171*, 948- 956. http://dx.doi.org/10.1111/acer.14705

McMillan, T. M., Aslam, H., Crowe, E., Seddon, E., & Barry, S. J. (2021). Associations between significant head injury and persisting disability and violent crime in women in prison in Scotland, UK: a cross-sectional study. *The Lancet Psychiatry*, *8*(6), 512-520. https://doi.org/10.1016/s2215-0366(21)00082-1

McMillan, T. M., Graham, L., Pell, J. P., McConnachie, A., & Mackay, D. F. (2019). The lifetime prevalence of hospitalised head injury in Scottish prisons: A population study. *Plos One*, *14*(1), e0210427. https://doi.org/10.1371/journal.pone.0210427

Mental Welfare Commission for Scotland (2021). Mental Health Act monitoring report 2020-2021. Available at: https://www.mwcscot.org.uk/publications [Accessed 9.02.2022]

Murdoch, N., Morris, P., & Holmes, C. (2008). Depression in elderly life sentence prisoners. *International Journal of Geriatric Psychiatry: A Journal of the Psychiatry of Late Life and Allied Sciences*, *23*(9), 957-962. https://doi.org/10.1002/gps.2017

Murphy, G.H., Gardner, J., & Freeman, M. J. (2017). Screening prisoners for intellectual disabilities in three English prisons. *Journal of Applied Research in Intellectual Disabilities*, *30*(1), 198-204. https://doi.org/10.1111/jar.12224

National Prisoner Healthcare Network (2014). Mental health in Scottish prisons: Report of the Mental Health Subgroup. Available at: https://www.researchgate.net/publication/305501501_Mental_Health_in_Scottish_Prisons_Report_of_the_Mental_Health_Subgroup_National_Prison_Healthcare_Network [Accessed 15.09.2022]

National Prisoner Healthcare Network (2016). Mental health subgroup: Implementation report. Available at: https://www.gov.scot/binaries/content/documents/govscot/publications/foi-eir-release/2017/10/foi-17-02140/documents/foi-17-02140-appendix-b-national-prisoner-healthcare-network-mental-health-implementation-group-pdf/foi-17-02140-appendix-b-national-prisoner-healthcare-network-mental-health-implementation-group-pdf/govscot%3Adocument/FOI-17-02140%2BAppendix%2BB%2B-%2BNational%2BPrisoner%2BHealthcare%2BNetwork%2BMental%2BHealth%2BImplementation%2BGroup.pdf [Accessed 15.09.2022]

Newbury-Birch, D., Harrison, B., Brown, N., & Kaner, E. (2009). Sloshed and sentenced: a prevalence study of alcohol use disorders among offenders in the North East of England. *International Journal of Prisoner Health*, *5*(4), 201-211. https://doi.org/10.1080/17449200903343183

Newbury-Birch, D., Jackson, K., Hodgson, T., Gilvarry, E., Cassidy, P., Coulton, S., ... & Kaner, E. (2015). Alcohol-related risk and harm amongst young offenders aged 11-17. *International Journal of Prisoner Health*, *11*(2), 75-86. https://doi.org/10.1108/IJPH-08-2013-0041

Offender Health Research Network (2009). A national evaluation of prison mental health in-reach services: A report to the National Institute of Health Research. Available at: www.ohrn.nhs.uk. [Accessed 9.02.2022]

O'Hara, K., Forsyth, K., Webb, R., Senior, J., Hayes, A. J., Challis, D., ... & Shaw, J. (2016). Links between depressive symptoms and unmet health and social care needs among older prisoners. *Age and Ageing*, *45*(1), 158-163. https://doi.org/10.1093/ageing/afv171

O'Rourke, C., Linden, M. A., & Lohan, M. (2018). Traumatic brain injury and abuse among female offenders compared to non-incarcerated controls. *Brain Injury*, *32*(13-14), 1787-1794. https://doi.org/10.1080/02699052.2018.1539872

Popova, S., Lange, S., Bekmuradov, D., Mihic, A., & Rehm, J. (2011). Fetal alcohol spectrum disorder prevalence estimates in correctional systems: a systematic literature review. *Canadian Journal of Public Health*, *102*(5), 336-340. https://doi.org/10.1007/bf03404172

Public Health Scotland. (2021, March). Resource Allocation Formula (NRAC): Results for financial year 2023 to 2024. Available at: https://www.publichealthscotland.scot/publications/resource-allocation-formula-

nrac/resource-allocation-formula-nrac-results-for-financial-year-2023-to-2024/ [Accessed 24.2.2022]

Robinson, L., Spencer, M. D., Thomson, L. D., Stanfield, A. C., Owens, D. G., Hall, J., & Johnstone, E. C. (2012). Evaluation of a screening instrument for autism spectrum disorders in prisoners. *PLoS One*, *7*(5), e36078. https://doi.org/10.1371/journal.pone.0036078

Royal College of Psychiatrists. (2018). Standards for Prison Mental Health Services – Fourth Edition. Publication CCQI1293. Available at: https://www.rcpsych.ac.uk/docs/default-source/improving-care/ccqi/quality-networks/prison-quality-network-prison/prison-qn-standards/prisons-standards-4th-edition.pdf?sfvrsn=465c58de_2 [Accessed 9.3.2022]

Rutherford, M., Maciver, D., Johnston, L., Prior, S., & Forsyth, K. (2021). Development of a pathway for multidisciplinary neurodevelopmental assessment and diagnosis in children and young people. *Children, 8*(11), 1033. https://doi.org/10.3390/children8111033

The Scottish Government (2021a). Scottish prison population statistics: Legal status, 2019-20. Available at: https://www.gov.scot/publications/ [Accessed 19.2.2022]

The Scottish Government (2021b). Trauma-Informed Practice: A Toolkit for Scotland. Available at: https://hub.careinspectorate.com/media/4362/trauma-informed-practice-a-toolkit-for-scotland.pdf [Accessed 19.02.2022]

The Scottish Government (2020, June). Scottish prison population: Statistics 2019 to 2020. Available at: https://www.gov.scot/publications/ [Accessed 19.2.2022]

The Scottish Government (2017, March). Mental Health Strategy 2017-2027. Available at: https://www.gov.scot/publications/mental-health-strategy-2017-2027/pages/6/ [Accessed 23.2.2022]

Scottish Health in Custody Network (2022, February 18). *Prison Care: Offending and Brain Injury.* Available at: https://www.healthincustodynetwork.scot/prison-care/wp-content/uploads/sites/3/2020/11/2016-03-16-Brain-Injury-Offending-Final.pdf [Accessed 15.09.2022]

Scottish Prison Service (2018). Self harm & suicide attempts, FOI HQ 18004, 4 July 2018. Response to Freedom of Information Request. Available at: https://www.sps.gov.uk/FreedomofInformation/FOI-5988.aspx [Accessed 9.02.2022]

Scottish Prison Service (2019a). Prison Survey 2019. Available at: https://www.sps.gov.uk/Corporate/Publications/Publications.aspx [Accessed 9.02.2022]

Scottish Prison Service (2019b). Self harm incidents, FOI HQ 18297, 18 March 2019. Response to Freedom of Information Request. Available at:

https://www.sps.gov.uk/FreedomofInformation/FOI-6363.aspx [Accessed 9.02.2022]

Scottish Prison Service (2016). Unlocking our potential: a value proposition. Available at: https://www.sps.gov.uk/Corporate/Publications/Publication-4733.aspx [Accessed 19.02.2022]

Scottish Public Health Observatory (2010). Dimensions of Diversity: Population differences and health improvement opportunities. https://www.scotpho.org.uk/media/1210/scotpho100126_diversity_report.pdf [Accessed 9.03.2022]

Senior, J., Birmingham, L., Harty, M. A., Hassan, L., Hayes, A. J., Kendall, K., ... & Shaw, J. (2013). Identification and management of prisoners with severe psychiatric illness by specialist mental health services. *Psychological Medicine*, *43*(7), 1511-1520. https://doi.org/10.1017/s0033291712002073

Singleton, N., Gatward, R., & Meltzer, H. (1998). *Psychiatric morbidity among prisoners in England and Wales*. London: Stationery Office.

Slade, K., & Forrester, A. (2013). Measuring IPDE-SQ personality disorder prevalence in pre-sentence and early-stage prison populations, with sub-type estimates. *International Journal of Law and Psychiatry*, *36*(3-4), 207-212. https://doi.org/10.1016/j.ijlp.2013.04.018

Stewart, D. (2008). Drug use and perceived treatment need among newly sentenced prisoners in England and Wales. *Addiction, 104*, 243-247. https://doi.org/10.1111/j.1360-0443.2008.02439.x

Talbot, J. (2008). Prisoners' voices: No One Knows report and final recommendations. Prison Reform Trust. Available at: https://prisonreformtrust.org.uk/publication/no-one-knows-prisoners-voices/ [Accessed 15.09.2022]

Tyler, N., Miles, H. L., Karadag, B., & Rogers, G. (2019). An updated picture of the mental health needs of male and female prisoners in the UK: prevalence, comorbidity, and gender differences. *Social Psychiatry and Psychiatric Epidemiology*, *54*(9), 1143-1152. https://doi.org/10.1007/s00127-019-01690-1

Underwood, L., McCarthy, J., Chaplin, E., Forrester, A., Mills, R., & Murphy, D. (2016). Autism spectrum disorder traits among prisoners. *Advances in Autism*, *2*(3), 106-117. https://doi.org/10.1108/AIA-11-2015-0023

Williams, W. H., Mewse, A. J., Tonks, J., Mills, S., Burgess, C. N., & Cordan, G. (2010). Traumatic brain injury in a prison population: prevalence and risk for re-offending. *Brain Injury*, *24*(10), 1184-1188. https://doi.org/10.3109/02699052.2010.495697

Young, S., González, R. A., Mullens, H., Mutch, L., Malet-Lambert, I., & Gudjonsson, G. H. (2018). Neurodevelopmental disorders in prison inmates:

comorbidity and combined associations with psychiatric symptoms and behavioural disturbance. *Psychiatry Research*, *261*, 109- 115. https://doi.org/10.1016/j.psychres.2017.12.036

Appendices

Appendix A. Prevalence of current or recent mental health problems in samples of people in prison in the UK (expanded)

Domain	Condition	Study	Sample screened	Assessment measure	Prevalence (%)
Substance use	Drug use disorder	Hassan et al 2011	3079 mixed sample, convicted and remand	*Not reported*	67
		Tyler et al 2019	469 mixed sample, convicted and remand	Severity of Dependence Scale (dependence only)	35
		Bebbington et al 2017	368 mixed sample, convicted and remand	*Not reported* (dependence only)	57
	Alcohol use disorder	Hassan et al 2011	3079 men and women, convicted	Alcohol Use Disorders Identification Test (AUDIT)	52
		Newbury-Birch et al 2009	715 mixed sample, convicted, remand and probation	AUDIT	66
		Tyler et al 2019	469 mixed sample, convicted and remand	AUDIT- Primary Care	56
		Newbury-Birch et al 2015	411 mixed sample, young offenders	AUDIT	81
		Bebbington et al 2017	368 mixed sample, convicted and remand	Severity of Alcohol Dependence Questionnaire (dependence only)	33
		MacAskill et al 2011	259 men, convicted and remand	AUDIT	73

Domain	Condition	Study	Sample screened	Assessment measure	Prevalence (%)
		Jones & Hoffman, 2006	155 mixed sample, convicted and remand	Comprehensive Addictions and Psychological Evaluation	48
		Graham et al 2012	96 men, remand	AUDIT	73
Psychotic disorders	Schizophrenia	Senior et al 2013	3482 mixed sample, convicted and remand	Schedule for Affective Disorders and Schizophrenia (SADS)	1
		Kingston et al 2011	121 men aged 50+ years, convicted	Geriatric Mental Sate Examination (GMS)	2
	Any psychosis	Senior et al 2013	3482 mixed sample, convicted and remand	SADS	4
		Hassan et al 2011	3079 mixed sample, convicted	SADS	10
		Jarett et al 2012	750 men aged 21-40, convicted and remand	Comprehensive Assessment of At-Risk Mental States	3
		Tyler et al 2019	469 mixed sample, convicted and remand	Millon Clinical Multiaxial Inventory - III (MCMI-III)	18
		Bebbington et al 2017	368 mixed sample, convicted and remand	Schedule for Clinical Assessment in Neuropsychiatry (SCAN)	12
Affective disorders	Depressive episode	Bebbington et al 2017	368 mixed sample, convicted and remand	SCAN	2
	Depressive disorder	Senior et al 2013	3482 mixed sample, convicted and remand	SADS	19
		Hassan et al 2011	3079 mixed sample, convicted	SADS	32

Domain	Condition	Study	Sample screened	Assessment measure	Prevalence (%)
		Tyler et al 2019	469 mixed sample, convicted and remand	MCMI-III	25
		Bebbington et al 2017	368 mixed sample, convicted and remand	Clinical Interview Schedule- Revised (CIS-R)	54
		Murdoch et al 2008	121 men aged 55+ years, convicted	Geriatric Depression Scale (GDS)	51
		Kingston et al 2011	121 men aged 50+ years, convicted	GMS	43
		O'Hara et al 2016	100 men aged 60-81, convicted and remand	GDS-15	55
Neurotic, stress-related and somatoform disorders	Anxiety	Tyler et al 2019	469 mixed sample, convicted and remand	MCMI-III	36
		Bebbington et al 2017	368 mixed sample, convicted and remand	CIS-R	10
	Phobia	Bebbington et al 2017	368 mixed sample, convicted and remand	CIS-R	11
	Panic disorder	Bebbington et al 2017	368 mixed sample, convicted and remand	CIS-R	6
	Post-traumatic stress disorder	Tyler et al 2019	469 mixed sample, convicted and remand	MCMI-III	16
		Bebbington et al 2017	368 mixed sample, convicted and remand	Posttraumatic Stress Diagnostic Scale	8
		Facer-Irwin et al 2021	221 women, convicted	International Trauma Questionnaire (ITQ)– PTSD ITQ – Complex PTSD	8 17

Domain	Condition	Study	Sample screened	Assessment measure	Prevalence (%)
	Somatoform disorder	Tyler et al 2019	469 mixed sample, convicted and remand	MCMI-III	8
Eating disorder	Eating disorder	Tyler et al 2019	469 mixed sample, convicted and remand	SCOFF Questionnaire	20
Personality disorder	Personality disorder (any)	Tyler et al 2019	469 mixed sample, convicted and remand	MCMI-III	55
		Bebbington et al 2017	368 mixed sample, convicted and remand	Structured Clinical Interview for DSM-IV Axis II Personality Disorders (SCID-II)	34
		Slade and Forrester 2013	283 men, convicted and remand	International Personality Disorder Examination – Screening Questionnaire	77
Neurodevelopmental disorders	Intellectual disability	Hassiotis et al 2011	3142 mixed sample, convicted and remand	Quick Test	4
		Murphy et al 2017	2429 men, legal status not specified	Learning Disability Screening Questionnaire (LDSQ)	7
		Young et al 2018	392 men, convicted and remand	LDSQ	9
		McCarthy et al 2015	240 men, convicted and remand	LDSQ & Quick Test	10
		Herrington 2009	185 men aged 18-21, convicted and remand	Kaufman Brief Intelligence Test, 2nd edition & Vineland Adaptive Behaviour Scales, 2nd edition	0

Domain	Condition	Study	Sample screened	Assessment measure	Prevalence (%)
		Hayes et al 2007	140 mixed sample, convicted and remand	Wechsler Adult Intelligence Scale, 3rd edition & Vineland Adaptive Behaviour Scales	3
	Attention deficit hyperactivity disorder (ADHD)	Young et al 2018	392 men, convicted and remand	Diagnostic Interview for ADHD in Adults– 2.0 (DIVA 2.0)	25
		McCarthy et al 2015	240 men, convicted and remand	Adult ADHD Self-Report Scale (ASRS) & DIVA	23
		Howitt & Thomson 2015	322 male young offenders, convicted and remand	ASRS & Wender-Utah Rating Scales	38
		Farooq et al 2016	69 women, convicted and remand	Berkley Current and Child Symptom Scales	41
	Autism spectrum disorder	Young et al 2018	392 men, convicted and remand	Autism Quotient (AQ)	9
		Underwood et al 2016	240 men, convicted and remand	AQ, Autism Diagnostic Observation Schedule (ADOS) & Autism	2
		Robinson et al 2012	127 mixed sample, convicted and remand	AQ	6
Traumatic brain injury	Traumatic brain injury	McMillan et al 2019	4,374 mixed sample, convicted and remand	ICD codes relating to TBI	24
		Williams et al 2010	196 men, convicted and remand	Self-report questionnaire	60
		McMillan et al 2021	109 women, convicted and remand	Ohio State Traumatic Brain Injury Identification Method	78

Domain	Condition	Study	Sample screened	Assessment measure	Prevalence (%)
		O'Rourke et al 2018	29 women, legal status not stated	Brain Injury Screening Index	79
Dementia	Dementia	Forsyth et al 2020	869 mixed sample aged 50+ years, convicted and remand	Montreal Cognitive Assessment + Addenbrooke's Cognitive Examination III	7
		Kingston et al 2011	121 mixed sample aged 50+ years, convicted and remand	GMS	2

* Substance use disorder includes abuse and dependence. Indicates the study was conducted in a Scottish prison. ADHD = Attention deficit hyperactivity disorder; AQ = Autism Quotient; AUDIT = Alcohol Use Disorders Identification Test; CAAPE = Comprehensive Addictions and Psychological Evaluation; DIVA = Diagnostic Interview for ADHD in Adults; GDS = Geriatric Depression Scale; GMS = Geriatric Mental State Examination; ITQ = International Trauma Questionnaire; MBU = Mother and Baby Unit; MCMI-III = Millon Clinical Multiaxial Inventory – III; SADS = Schedule for Affective Disorders and Schizophrenia; SCAN = Schedule for Clinical Assessment in Neuropsychiatry; SCID-II = Structured Clinical Interview for DSM-IV Axis II Personality Disorders

Appendix B. Mental health service provision in Scottish prisons

Prison	NHS Board	Population	Residents	Nurses MH/SU/LD (WTE)	Residents per 1.0 WTE nurse (any type)	Mental health (MH) nurses (WTE)	Residents per 1.0 WTE MH nurse	AHPs (WTE)	Residents per 1.0 WTE AHP
Barlinnie	NHS Greater Glasgow & Clyde	Adult males with sentences less than four years & national top end for those with life sentences	1408	13	108	5	282	0	--
Edinburgh	NHS Lothian	Adult men and women	909	10	91	10	91	2	455
Low Moss	NHS Greater Glasgow & Clyde	Adult men	814	4.6	177	4.6	177	0	--
Addiewell	NHS Lothian	Adult men; learning prison	779	12.8	61	12.8	61	0	--
Glenochil	NHS Forth Valley	Adult men	727	4	182	4	182	0.4	1817
Perth	NHS Tayside	Adult men	697	10.8	65	5.8	120	1.4	498
Kilmarnock	NHS Ayrshire & Arran	Adult men	593	8	74	6	99	2.5	237
Shotts	NHS Lanarkshire	Adult men	543	4	136	4	136	0	--
Polmont	NHS Forth Valley	Young male offenders	469	5.8	81	5.8	81	1.2	391
Grampian	NHS Grampian	Young offenders and adults; men and women	454	5	91	5	91	1.5	303
Greenock	NHS Greater Glasgow & Clyde	Adult men and women	211	4	53	4	53	0	--
Dumfries	NHS Dumfries & Galloway	Adult men	194	2	97	2	97	0	--

Prison	NHS Board	Population	Residents	Nurses MH/SU/LD (WTE)	Residents per 1.0 WTE nurse (any type)	Mental health (MH) nurses (WTE)	Residents per 1.0 WTE MH nurse	AHPs (WTE)	Residents per 1.0 WTE AHP
Castle Huntly	NHS Tayside	Adult men Open prison	185	0.2	925	0.2	927	0.2	925
Inverness	NHS Highland	Young adults and adults; men and women	116	2.6	45	2.6	45	0	--
Cornton Vale	NHS Forth Valley	Young adults and adults; women	97	3.8	26	3.8	25	0.4	243

Mental health service provision in Scottish prisons (continued)

Prison	NHS Board	Population	Residents	Psychiatry per week (sessions)	Residents per 1 psychiatry session	Clinical Psychology per week (sessions)[7]	Residents per 1 Clin. Psy. session	Vacancies
Barlinnie	NHS Greater Glasgow & Clyde	Adult men with sentences less than four years & national top end for those with life sentences	1408	4	352	26	54	
Edinburgh	NHS Lothian	Adult men and women	909	2	455	20	45	MH nurses
Low Moss	NHS Greater Glasgow & Clyde	Adult men	814	3	271	28	29	
Addiewell	NHS Lothian	Adult men; learning prison	779	2.25	346	20	39	
Glenochil	NHS Forth Valley	Adult men	727	3	242	6	121	MH nurses
Perth	NHS Tayside	Adult men	697	5	139	10	70	MH nurses

[7] The clinical psychology input reported in this table excludes posts funded by Action 15 (The Scottish Government, 2017) as this funding is time-limited. Through Action 15 there are an additional 2 sessions in HMP Grampian (for neuropsychology and older adult service) and 18 sessions in HMP Shotts.

Prison	NHS Board	Population	Residents	Psychiatry per week (sessions)	Residents per 1 psychiatry session	Clinical Psychology per week (sessions)[7]	Residents per 1 Clin. Psy. session	Vacancies
Kilmarnock	NHS Ayrshire & Arran	Adult men	593	4	148	10	59	MH nurses
Shotts	NHS Lanarkshire	Adult men	543	5	109	5	109	Occupational therapy
Polmont	NHS Forth Valley	Young male offenders	469	3	156	8	59	MH nurses
Grampian	NHS Grampian	Young offenders and adults; men and women	454	2	227	23[8]	20	Psychiatry
Greenock	NHS Greater Glasgow & Clyde	Adult men and women	211	1	211	7	30	
Dumfries	NHS Dumfries & Galloway	Adult men	194	0.5	389	0	--	
Castle Huntly	NHS Tayside	Adult men Open prison	185	0.25	741	0	--	
Inverness	NHS Highland	Young adults and adults; men and women	116	1	116	0	--	
Cornton Vale	NHS Forth Valley	Young adults and adults; women	97	3	32	1	97	MH nurses

[8] The clinical psychology service at HMP Grampian is comprised of neuropsychological, older adult, adult mental health and substance use input.

Appendix C. Technical detail on quantitative modelling

Logistic regression was used to estimate the mental health needs of the prison population through modelling the mental health needs of the non-prison Scottish population. This occurred in a two-step process.

Step 1: The first step in this process was the estimation of the likelihood of having a mental health need based on individual demographics. The Scottish Health Survey 2019 was used as it includes a nationally representative sample of individuals, both with and without mental health needs. Cases corresponding to individuals aged 16 years or older were retained for analysis. The following regression model was estimated using maximum likelihood estimation:

$$has\_mental\_health\_need = \beta_0 + \beta_1 female_i + \beta_2 ethnic\_minority_i + \beta_3 age_i + \beta_4 deprivation_i + \varepsilon_i$$

where:

- i represents each individual in the dataset,
- $has\_mental\_health\_need$ is a nominal dummy variable which takes the value of 0 if the individual does not have a mental health need and 1 if they do. A dummy variable was created for each of the five mental health needs modelled. The value of 1 was used according to the following criteria: the individual (1) reported having a long-term mental health condition; (2) reported a history of deliberate self-harm or attempted suicide; (3) scored 8 or higher on the AUDIT indicating hazardous or harmful drinking; (4) reported two or more symptoms of depression in the previous week on the CIS-R depression section; (5) reported two or more symptoms of anxiety in the previous week on the CIS-R anxiety section,
- $female$ is a nominal dummy variable which takes the value of 1 if the individual is female and 0 if the individual is male,
- $ethnic\_minority$ is a nominal dummy variable which takes on the value of 0 if the individual reported being white and 1 if the individual reported being from a ethnic minority group.[9]
- age is an ordinal dummy variable indicating the individuals age in years according to specified bands: 16-20; 21-30; 31-40; 41-50; 51-60; 61-70; and over 70.
- $deprivation$ is a dummy variable which takes on the value of 1 if the individual's SIMD is from the two most deprived quintiles, and a value of 0 if not.
- $\varepsilon_i$represents the error term corresponding to variance unaccounted for by the above predictor terms.

[9] Due to differences in how ethnicity is coded in the Scottish Health Survey and the PR2 system it was not possible to expand ethnicity predictor variable into additional categories.

After estimating the equation the probability of having each of the five mental health needs was predicted for each individual in the SHeS 2019 sample.

Step 2: In the second step, the individual likelihood estimates derived from the SHeS 2019 sample were applied to every individual in Scotland's prison population, recreated using the PR2 extract. While the PR2 system does not hold information on the SIMD of the communities from which individuals come into prison, people in prison in Scotland are most likely to come from the bottom two SIMD quintiles (Scottish Public Health Observatory, 2010). Therefore in applying the likelihood estimates to the prison population, likelihood estimates corresponding to being in the bottom two SIMD quintiles were applied to the PR2 extracts.

After deriving probabilities for every individual based on age, gender, ethnicity, probabilities were then summed across different prison population subgroups to yield the proportion of the prison population by gender, age group, legal status as well as the prison population as a whole who are likely to have a mental health need.

Likelihood Ratio Chi-Square (x^2) was significant for each model indicating improvement over the null model in each case.

- Long-term mental health condition: $x^2(9) = 178.35$, $p < .001$
- History of deliberate self-harm or suicide attempt: $x^2(9) = 54.24$, $p < .001$
- Alcohol use disorder: $x^2(9) = 309.57$, $p < .001$
- Symptoms of anxiety: $x^2(9) = 27.98$, $p = .001$
- Symptoms of depression: $x^2(9) = 31.178$, $p < .001$

Appendix D. Prevalence estimates (%) with 95% confidence intervals derived from modelling for prison population subgroups

Population subgroup	Number	Long-term mental health condition	History of self-harm	Alcohol use disorder	Anxiety	Depression
Gender						
Male	7238	15.3 (11.9 – 19.6)	16.9 (10.1 – 27.2)	30.6 (25.4 – 36.6)	15.7 (9.4 – 25.4)	18.0 (10.7 – 28.8)
Female	269	19.9 (15.9 – 24.7)	20.3 (12.7 – 31.0)	14.7 (11.7 – 18.4)	20.1 (13.7 – 32.1)	17.1 (10.4 – 27.1)
Legal status						
Remand	2222	15.8 (12.1 – 20.3)	18.4 (10.8 – 29.6)	31.0 (25.7 – 37.2)	16.5 (9.8 – 26.8)	17.6 (10.3 – 29.0)
Convicted	5285	15.4 (12.0 – 19.6)	16.3 (9.8 – 26.4)	29.6 (24.6 – 35.3)	15.7 (9.5 – 25.1)	18.0 (10.9 – 28.6)
Age (years)						
< 21	203	16.2 (11.2 – 23.1)	21.9 (10.6 – 39.8)	35.2 (27.4 – 44.2)	24.8 (13.0 – 42.5)	15.0 (6.0 – 33.1)
21-30	1983	17.1 (13.2 – 22.0)	24.8 (15.5 – 37.3)	34.7 (28.9 – 41.4)	17.2 (10.3 – 27.7)	17.3 (9.9 – 28.6)
31-40	2690	14.5 (11.2 – 18.6)	16.1 (9.5 – 26.1)	32.7 (27.4 – 38.7)	16.4 (10.0 – 26.0)	15.3 (8.8 – 25.3)
41-50	1453	17.6 (13.9 – 21.9)	12.6 (6.9 – 22.0)	26.6 (21.8 – 32.1)	14.3 (8.4 – 23.5)	24.0 (15.3 – 35.8)
51-60	785	15.2 (12.2 – 18.8)	12.8 (7.7 – 20.8)	22.1 (18.2 – 26.5)	14.4 (9.1 – 22.3)	22.0 (14.6 – 31.8)
61-70	279	9.0 (6.8 – 11.8)	7.9 (4.2 – 14.4)	17.4 (13.9 – 21.6)	11.6 (7.0 – 18.8)	10.6 (6.0 – 18.2)
> 70	114	4.1 (2.8 – 6.0)	3.4 (1.3 – 8.5)	6.2 (4.3 – 9.0)	9.9 (5.7 – 17.0)	10.1 (5.5 – 18.0)

Appendix E. Qualitative methodology

Qualitative semi-structured interviews were conducted to address the corporate element of the health needs assessment through representation of the views of a range of professional stakeholders, and individuals with experience of prison and mental health needs and their carers.

The perspective of stakeholders with remits which afforded scope for implementation of recommendations or were concerned with shaping or monitoring HMP services were sought. Representatives from SPS with strategic, health, justice, and governance remits were interviewed alongside representatives providing third sector, legislative, and welfare oversight. Six executive and senior level stakeholders were interviewed.

The operational perspective was sought from among SPS and NHS staff based within prisons and who had caring roles and responsibilities. Representation was obtained from establishments across the four prison monitoring regions, including sites that housed, female, older offenders, and remanded individuals. Nine operational staff (7 NHS and 2 SPS) were interviewed.

Interviews were originally planned with five community-based individuals with experience of prison and mental health needs and their carers. Contributions from a group of individuals transferred from prison to the high secure State Hospital for treatment was also planned. The needs assessment's Research Advisory Group requested that 10 additional interviews be conducted with remanded and sentenced individuals resident within prisons. The continuing COVID-19 pandemic greatly affected both access to and engagement with community and prison-based individuals. Six interviews and a 'peer listening' exercise (group of three individuals) were conducted with people with lived experience of prison and mental health needs and their carers.

The topic guides were informed by issues highlighted by published reports concerning mental health within prisons and developed with input from the Research Advisory Group and Lived Experience Panel. The broadest topic guide for stakeholders explored; population needs and the extent to which they were being met; the reception process; medication and its delivery; the remand environment; attitudes towards the seeking of mental health support; service integration; lessons learned from the response to COVID-19; drug culture and mental health needs; how specific groups are supported; liberation; barriers to implementing recommendations; and observed service improvements.

In light of the pandemic all interviews were conducted and recorded using Microsoft Teams. Following transcription, the researcher added any additional notes and imported the document to NVivo 12 Pro for thematic analysis as outlined by Braun and Clarke (2006).

social research

The views expressed in this report are those of the researcher and do not necessarily represent those of the Scottish Government or Scottish Ministers.

This document is also available from our website at www.gov.scot.
ISBN: 978-1-80435-744-6

The Scottish Government
St Andrew's House
Edinburgh
EH1 3DG

Produced for
the Scottish Government
by APS Group Scotland
PPDAS1101962 (09/22)
Published by
the Scottish Government,
September 2022

GSR
GOVERNMENT SOCIAL RESEARCH
Social Science in Government

Social Research series
ISSN 2045-6964
ISBN 978-1-80435-744-6

Web Publication
www.gov.scot/socialresearch

PPDAS1101962 (09/22)