Rural and Remote Health www.rrh.org.au
James Cook University ISSN 1445-6354

Review Article

Health outcomes and healthcare access experiences of incarcerated and recently released women in rural areas: a scoping review

AUTHORS

Clare Heggie[1] MA, PhD Candidate * [https://orcid.org/0009-0009-5440-7811]

Chloë Fuller[2] BA [https://orcid.org/0009-0006-6955-365X]

Alex Goudreau[3,4] MLIS, Health Sciences Librarian [https://orcid.org/0000-0001-9411-1438]

Martha Paynter[5] RN, PhD, Assistant Professor [https://orcid.org/0000-0002-4194-8776]

CORRESPONDENCE

*Ms Clare Heggie

AFFILIATIONS

[1] Department of Interdisciplinary Studies, University of New Brunswick, Fredericton, NB, Canada

[2] Department of Psychology, Saint Mary's University, Halifax, NS , Canada

[3] University of New Brunswick Libraries, University of New Brunswick, Saint John, Canada

[4] The University of New Brunswick (UNB), Saint John Collaboration for Evidence-Informed Healthcare: A JBI Centre of Excellence, Canada

[5] Faculty of Nursing, University of New Brunswick, Fredericton, NB, Canada

PUBLISHED

30 April 2025 Volume 25 Issue 2

HISTORY

RECEIVED: 3 December 2024

REVISED: 7 March 2025

ACCEPTED: 8 March 2025

CITATION

Heggie C, Fuller C, Goudreau A, Paynter M. Health outcomes and healthcare access experiences of incarcerated and recently released women in rural areas: a scoping review. Rural and Remote Health 2025; 25: 9618. https://doi.org/10.22605/RRH9618

Abstract

Introduction: The goal of this scoping review was to identify and synthesize what is known about the health outcomes and healthcare access experiences of women who are currently incarcerated or recently released from prison/jail in rural areas.

Methods: We followed the Joanna Briggs Institute methodology for scoping reviews. The population of interest was adult women or gender-diverse people who are either currently incarcerated or had been released in the prior year. The concepts of interest were

health outcomes and health access experiences. The context was rural institutions of incarceration and rural communities in the post-incarceration period.
Results: We identified 48 relevant studies conducted in the US, Australia and England, published between 2001 and 2024. Ten studies took place in a rural community up to 1 year post-incarceration, and the remaining 38 took place in a rural prison or jail. The most common outcomes of interest were those related to substance use.
Conclusion: Women in rural institutions of incarceration experience a general lack of healthcare options and availability, and may have elevated needs related to substance use. Women released into rural communities face barriers to accessing care, often relying on relationships to facilitate access to health care and social services, in lieu of the clinical and transitional services available in urban areas. Gaps in research include evidence on health outcomes not related to substance use, and experiences accessing primary care both while incarcerated and after release.

Keywords

Australia, health access experiences, health outcomes, prison, scoping review, England, US, women.

Introduction

Women are a fast-growing prison population in prisons in North America and globally[1-3]. Women experiencing incarceration have complex health histories, including high rates of childhood abuse and mental illness, prior experiences of sexualized violence, post-traumatic stress disorder and substance use disorder[4-8].While incarcerated, women may experience a number of barriers to accessing both primary and specialty health care. Barriers may include a lack of health assessment and planning on admission, limited and/or highly fragmented onsite services, mistrust of health professionals, and a lack of gender-specific services[9-12].

When women are released from prison, evidence suggests they face barriers to timely access to primary health care, substance use disorder support and treatment, and mental health services[13-15]. Studies conducted in Canada, Australia and the US have identified high rates of emergency department use among women post-incarceration, suggesting an unmet need for primary care[16-19]. Barriers to accessing health care post-incarceration include the lack of consideration of health in discharge planning, interruption to medical coverage, stigma and discrimination by community-based health professionals, and low health literacy[20-22]. Barriers to accessing health care in the re-entry period are further entrenched by unmet material needs including housing and food, and challenges to reconnect with children and access parenting supports[23-27]. To meet these needs, women navigate a complex web of systems, including income assistance, child protection, transitional housing, parole boards and other criminal-legal apparatuses, and community-based services. This process of complex systems navigation after incarceration has been referred to as a 'full time occupation' that exacerbates poverty through emotional and time burdens[28]. Timely linkage to health care during the prison-to-community transition period can reduce risk of parole or probation violations, reducing reincarceration and decreasing emergency department and acute care visits[29-32].

In the US, the majority of both state prisons and county jails are located in census-designated areas with a population of less than 10,000, and the majority of newly constructed prisons and jails are being built in rural areas[33]. The growth of rural jails has garnered particular attention. While incarceration rates in US state prisons are declining over time, rates of incarceration in jails is increasing, and this growth is driven by incarceration in rural counties[34]. In rural county jails, women are incarcerated at a rate of 169 per 100,000, compared to 78 per 100,000 in urban counties[35]. Rates of rural and urban incarceration are not known in Canada; however, 52 of the total 170 institutions designated to incarcerate people across the country are located in census-designated areas with populations of less than 10,000[36].

Incarceration in a rural jail or prison may create unique barriers to healthcare access. Access to offsite health care is contingent on availability of medical transport resources and escort personnel, and may become more challenging as distances to care increase. In most cases, rural institutions of incarceration are located significantly further from non-prison-based essential clinical services when compared to urban institutions, and geospatial studies conducted in Canada and the US have identified distance-related barriers to accessing mental health and abortion services while incarcerated[37-39]. People re-entering into a rural community following incarceration face geography-related challenges to accessing housing, employment, transportation and health care, and stigma and discrimination may be amplified in small communities[40,41]. The challenges of both rural incarceration and rural re-entry may be experienced differently by women and gender-diverse people, who have unique healthcare and social service needs, including needs for sexual and reproductive health care and access to childcare and parenting supports.

The goal of this review was to identify what is known about the health outcomes and health experiences of women and gender-diverse people who are currently incarcerated or recently released from prison/jail into rural areas.

Methods

Inclusion criteria

Participants

This review included published peer-reviewed studies with participants who met the following criteria: adults (18 years or older), women or gender-diverse people who are either currently incarcerated or are up to 1 year post-incarceration. We included articles that included other participants in their sample (eg male) if the authors presented stratified results for women or gender-diverse people.

Concept

The concepts of interest were health outcomes and health access experiences. Due to the lack of existing reviews on this topic, a wide definition of health was used, including mental health, physical health, sexual and reproductive health, substance use, and chronic disease and infection. We excluded articles that only measured recidivism or criminal-legal outcomes.

Context

The context was rural prisons or jails and rural communities in the post-incarceration period. As there are multiple definitions of rurality depending on jurisdiction, and this review had an international scope, we included articles that self-reported their study area as rural. We excluded articles that collected demographic participant data on rural residence, but did not present any stratified results related to rural residence or rurality.

Types of sources

We included studies published in peer-reviewed journals and dissertations available in English or French, with a full-text version available in databases and/or institutional holdings. We excluded conference abstracts, systematic and scoping reviews, and program descriptions. We also excluded grey literature sources such as government or organization reports, as this review aimed to only identify peer-reviewed evidence sources and we were not able to identify if grey literature sources had undergone peer review.

Search strategy

The search strategy for this review was designed to locate published peer-reviewed materials. The search was developed using multiple steps by a Joanna Briggs Institute (JBI)-trained librarian (AG). The librarian collected relevant search terms from related published reviews[32,42,43] and used MEDLINE (Ovid) to analyse the words contained in the titles, abstracts, and subject descriptors of relevant studies shared by the team. AG then tested all the identified terms in MEDLINE (Ovid) in a variety of combinations to ensure the search strategy reflected the scope of available research. For example, in MEDLINE keywords for trans women and/or trans men were not necessary to include – these did not return unique results as relevant records were already captured using subject descriptors or other keywords; however, these terms were tested and included in other databases. AG prepared a draft search strategy, which was reviewed by the team, and a second JBI-trained librarian used the Peer Review of Electronic Search Strategies (PRESS) guidelines to provide a peer review[44]. No changes were recommended from these reviews.

AG adapted and ran the searches in eight databases on 1 March 2024. All databases were searched from inception to present, with no limits applied to the results. MEDLINE (Ovid), Embase (Elsevier), CINAHL with Full-Text (EBSCOhost), APA PsycINFO (EBSCOhost), SocINDEX (EBSCOhost), and Academic Search Premier (EBSCOhost) databases were searched individually. Multi-database searching was used to simultaneously search Criminal Justice Abstracts (EBSCOhost) and Women's Studies International (EBSCOhost) on the same EBSCOhost platform with any duplicate records automatically removed, leaving the record with the highest relevance ranking score. Multi-database searching was used in this instance as neither database has subject descriptors and the keyword searches would have been the same. EBSCOhost databases were searched on the EBSCOhost Research Databases interface. A total of 4924 studies were imported for screening. After removal of duplicates, 2835 studies were included for title and abstract screening. See Supplementary table 1 for the full search strategies for all databases.

Study selection

Following the search, all identified citations were uploaded into Covidence on 4 March 2024 and additional duplicates were removed. Titles and abstracts were then screened by two independent reviewers (CH, CF) for assessment against the inclusion criteria. Titles and abstracts that met the inclusion criteria were retrieved in full and assessed by the two independent reviewers using the inclusion criteria. After screening, 2701 studies were deemed irrelevant, and 134 studies were moved to full-text review. A third reviewer (MP) was available to resolve conflicts. Full-text studies that did not meet the inclusion criteria were excluded. After full-text review, 86 studies were deemed irrelevant, and 48 studies were extracted. Reasons for study exclusion were recorded, and included inappropriate study design, population, outcomes or setting, and the study not being available. Screening was completed between March and July 2024. See the PRISMA (Preferred Reporting Items for Systematic reviews and Meta-Analyses) diagram in Supplementary figure 1.

Data extraction

Data were extracted from articles included in the review using a spreadsheet data extraction tool adapted by the reviews from the JBI extraction template developed by Pollock et al[45]. For each article, the following information was extracted: author, year of publication, journal name, study title, funding source, location of study, study aim, study design, date data were collected, population, sample size, number of women in sample, sample characteristics (median age; race/ethnicity; incarceration status; if recently released, when; other relevant demographics), study setting (eg county jail, state prison), health concept of interest, intervention (if any), outcomes, results, and results and/or conclusions specific to rurality. Each study was classified as set in a rural institution of incarceration, rural community in a transitional period, or rural community under community supervision. Each study was also classified by overarching health topic domain (eg mental health, physical health, substance use, reproductive health). For qualitative studies, relevant participant quotes were extracted. Extraction was completed in August 2024.

Ethics approval

This study was exempt from ethics approval as a scoping review.

Results

Study characteristics

The 48 included studies were published between 2001 and 2024, and reported on data collected between 1987 and 2021. The majority (46) of studies were conducted in the US, with one study conducted in Australia and one study conducted in England. See Table 1 for details of included studies.

Ten studies took place in a rural community up to 1 year post-incarceration[46-55], and the remaining 38 took place in a rural institution of incarceration: 30 were conducted in county jails[56-85], and eight were conducted in state prisons[86-93]. Sample sizes ranged from eight[49] to 3800[58]. Among studies that took place in a rural community up to 1 year post-release, populations of focus included previously incarcerated adults[47,50], previously incarcerated women and adults with a history of drug use[46,48,51-55], and adults living with a mental illness[49]. Among studies that took place in a rural institution of incarceration setting,

populations of focus included incarcerated women and/or adults broadly[57-59,61,63-67,71,78,80,83-93] and incarcerated women and/or adults who use drugs[60,62,68-70,72-77,79,81,82]. Among the 14 studies that included both men and women, the proportion of women in the sample ranged from 16.1%[56] to 50%[49,54]. Thirty-four studies only included women. No studies included any trans, non-binary or gender-diverse individuals. The median age of samples ranged from 28.4[83] to 36.5[54]. Thirty-five studies used quantitative methodologies. Nine studies used qualitative study designs and four used mixed-methods designs.

Outcomes: Rural community setting

Substance use

Six studies focused on substance use related outcomes in the period after incarceration[46,48]. Two studies examined factors associated with overdose in the 12 months following release. In rural Kentucky, Calvert et al found that women who reported greater difficulty accessing health services in general were more likely to use drugs following release from incarceration[46]. In a study spanning 10 rural areas in 10 states across the US, Hoover et al found that recent incarceration was associated with recent overdose and recent treatment, but was not associated with recent medication use or naloxone receipt and/or use, highlighting gaps in harm-reduction services in rural prisons and jails[48]. Two qualitative studies explored barriers and facilitators to accessing substance use services post-incarceration. Both Moore et al and Staton et al reported disparities in service availability between rural and urban areas, and a lack of public transport and childcare support[51,54]. Two studies examined protective health-related factors for avoiding re-incarceration. Staton et al found drug abstinence, healthcare utilization, and positive relationships were associated with avoiding re-incarceration[53]. Surratt et al found the presence of a regular healthcare source was the sole significant predictor of remaining arrest-free within the 3-month follow-up period, and that injection and illicit buprenorphine use were significant risk factors for re-incarceration[55].

HIV and hepatitis C virus

One study examined HIV risk factors post-incarceration. Staton et al examined the delivery of an enhanced, individualized intervention for HIV risk reduction in rural populations. They found an observable decrease in HIV risk factors, suggesting potential value in rural-specific interventions[53].

Healthcare access broadly

Two studies examined health care access broadly. Dickson et al examined the impact of the US *Affordable Care Act* on rural, substance-involved women in Kentucky who were released into the community after incarceration, finding that public healthcare coverage results in greater self-reported health service access[47]. Love et al conducted a prospective cohort study among a cohort of adults released from prisons in Queensland to examine associations between remoteness and area disadvantage and rate of subsequent hospitalisation. They identified the highest crude incidence rates of hospitalization to be among people living in remote and disadvantaged areas. Being Indigenous and female was also positively associated with hospitalization[50].

Mental health

One qualitative study explored mental health outcomes in the post-incarceration period. Langley and McEwen aimed to describe barriers and facilitators to accessing mental health services for adults with mental illness transitioning from a rural jail to a rural community in Arizona. Barriers to accessing care included limited treatment options available in the community, not having transportation to access mental health service, costs of medications and office visits, conflicts with probation policies, and available hours for treatment providers[49].

Outcomes: Institutions of incarceration in rural settings

Substance use

Sixteen studies focused on health outcomes related to substance use. Three studies profiled substance use patterns among women incarcerated in rural prisons or jails, identifying high rates of polysubstance use (opioids and benzodiazepines)[57]; high rates of prescription medication abuse and misuse;[84] and high co-occurrence of mental health and substance use disorders[92]. Two studies examined correlates and predictors of substance use. Tillson et al found that age of initiation of drug use was significantly correlated with high-risk drug use[81]. Otis et al examined the relationship between victimization and substance use in sexual minority (defined by the authors as bisexual, gay/lesbian, and/or questioning) and heterosexual women in a rural Appalachian jail[65]. Sexual minority women were younger than heterosexual women at the age of onset for intravenous drug use and at the time they first reported excessive drinking, and were more likely to report having experienced opioid poisoning/overdose.

Five articles explored and profiled substance use treatment access and utilization. In comparative studies, Lo and Stephens, and Staton-Tindall et al, found that while women incarcerated in rural jails and urban jails had similar perceived needs for treatment, women in rural jails had significantly lower rates of service utilization when compared to women in urban jails[63,71]. Staton et al qualitatively examined factors related to use of health, mental health, and drug user treatment, and identified that prior victimization and living in a rural area were major barriers to accessing health services[70]. Snell-Rood et al qualitatively examined incarcerated women's perceptions of the role of family, community, and intimate relationships in plans to decrease substance use upon community re-entry into a rural community[68]. Participants identified a lack of social networks and options for housing, transportation, and recovery support beyond existing family networks, citing complicated feelings as family networks were often involved in past substance use. Bailey et al evaluated medications for an opioid use disorder (MOUD) program in rural jails, identifying the potential for jails to provide access to MOUD in rural areas where community availability is limited[56].

Six articles examined patterns of substance use patterns, risk factors and correlates in one sample of rural incarcerated women in Kentucky[73-77,82]. Across all six articles, findings indicate high rates of drug misuse, primarily through injection, significant interactions between having male sexual partners who use drugs and engaging in risky drug use, and self-reported apathy towards

the risk of hepatitis C virus (HCV) despite high HCV knowledge. Studies also found that the severity of drug use is a predictor of longer periods of incarceration in rural areas.

HIV and hepatitis C virus

Six articles examined HIV- or HCV-related outcomes. Hammett and Drachman-Jones conducted a secondary data analysis of correctional health records in the Southern US, finding that southern women in rural jails in the US have high rates of HIV/AIDS, and that this is exacerbated for Black women[87]. In Arkansas, Milberg et al found that clients referred to HIV care from the prison system are delayed entry into care for a median of 102 days compared to 25 days for those not in prison[90].

Four studies examined HIV/HCV risk factors. Peteet et al found that sexual minority women were more likely to engage in high-risk drug use than non-sexual minority women, and suggested that rural lesbian and gay women may face distinctive challenges to accessing protective factors[66]. Staton-Tindall et al found that mental health symptoms significantly correlated with severity of high-risk drug use and sexual activity[72]. Strickland et al identified an association between HCV reactivity and unsterile needle use, longer incarceration history, and limited healthcare access prior to entering custody[79]. In a pilot trial of a rural-adapted HIV prevention intervention, Staton et al found that adapted interventions should consider the unique risk factors of rural women, including living in extreme poverty, experiences of victimization and violence, and the influences of social networks and male partners on decision-making[78]. All four of these studies were conducted in Kentucky.

Healthcare access broadly

Four studies focused on healthcare access broadly. Two studies qualitatively examined perceived needs of incarcerated rural women returning to rural communities: both Beichner et al and Kellett et al identified the importance of contextual rural factors such as a lack of local employment and reliable transportation in understanding women's ability to access health services upon release[86,88]. Both studies highlighted how the high prevalence of substance use in rural communities conflicted with the need to rely on family and personal relationships to meet basic needs in lieu of formal services, as many familial and personal networks were also using substances.

Lund et al conducted a survey of currently incarcerated women in a rural Midwest jail in the US to identify discharge needs. The most common health problems reported were dental problems, visual problems, asthma, depression, obesity, obsessive compulsive disorder, and panic attacks. Housing was of less concern when compared to urban samples, but finding health care and accessing substance use services was a high concern[89].

St Cyr et al qualitatively examined women's experiences of intimate partner violence in relation to racial, socioeconomic, and health inequities post-incarceration in New Mexico. They described the experience of returning to rural areas with a 'dearth of safe places' such as shelters or subsidized housing, resulting in structural vulnerabilities that compounded existing health problems[91].

Mental health

Ten articles focused on outcomes related to mental health. Both Comartin et al and Nelson et al compared the mental health needs and service use among women jailed in rural counties to urban women and both rural and urban men, finding that while women incarcerated in rural jails were less likely to have a jail-identified mental illness, they were more likely to screen for having a serious mental illness, suggesting an under-identification of mental illness in rural facilities[58,64]. Four articles presented descriptive results from cross-sectional surveys, clinical interviews, or research administered questionnaires. Crick et al reported that 93.2% of women in their sample reported mental health issues and Kane et al reported that 70% of the women in their sample were in the clinical range for mental health problems[59,61]. Singer et al found that 59% of all adults in their sample reported multiple mental health conditions and 63% reported co-occurring mental health conditions and substance use disorders; they did not present gender disaggregated results[67]. Taylor et al reported that 69% of women in their study sample charged with violent offense met the criteria for post-traumatic stress disorder[80]. Two studies qualitatively examined the mental health experience of women incarcerated in rural prisons or jails. In a study in Kentucky, Snell-Rood et al found that the social and structural conditions of rural women's lives made them vulnerable to poor mental health. These conditions included the challenges of navigating stigma and discrimination by both medical and justice systems, and community members[68]. In a study of both men and women incarcerated in rural Pennsylvania, Ward and Merlo found that access to mental health services was challenged by health insurance, transportation, and structural issues such as the ability to pay outstanding fines[85]. Willging et al interviewed women scheduled for release from state prison to a rural community within 6 months[93]. Women identified structural, geographic, and institutional barriers to accessing both mental health and substance use treatment in rural communities following incarceration, and described inadequate discharge planning that may not take into consideration the lack of local resources and transportation women would face during re-entry.

Reproductive health

Two studies focused on reproductive health outcomes. Ely et al examined lifetime use rates of various types of contraception among women in a rural Appalachian jail, finding that while 96% of respondents reported any lifetime use of contraceptives, 69% of respondents reported non-use of contraceptives within the previous 6 months[60]. In another Appalachian study, Linn et al developed profiles of reproductive risk factors and protective factors of Appalachian women who had a history of drug use and involvement with the criminal justice system, finding that having a male partner with a history of injection drug use increased reproductive risk factors[62].

Discussion

This scoping review aimed to identify what is known about the health outcomes and experiences of women who are incarcerated in a rural prison or jail, or are living in a rural community in the post-incarceration period. The 48 included studies examine health outcomes related to substance use, mental health, HIV/HCV, reproductive health, and health access broadly. Women incarcerated in rural prisons and jails have high rates of mental

health and substance use disorders, and face challenges accessing services at the same rates as women in urban prisons and jails. Upon release, barriers to health care include inadequate discharge planning, limited transportation and childcare, a lack of rural healthcare providers, and a lack of non-clinical support networks and organizations to facilitate access to housing and other material needs.

Several studies identified the heightened importance of relational networks in supporting women in rural communities both during and after incarceration. In lieu of formal services, support organizations, and reliable transportation, women relied on community members, family and interpersonal networks to facilitate access to health care and to meet essential material needs. In some cases, relying on these personal relationships created vulnerabilities. Rural women attempting to avoid drug use after release felt limited when their close social networks included people who used drugs. Rural women with experiences of violent victimization risked returning to unsafe living situations in order to have housing. At the same time, caring for family members and maintaining positive community and interpersonal relationships was reported as a strategy to manage health and avoid drug use, particularly maintaining relationships with children. There is existing evidence that family and relational networks among rural people facilitate access to substance use treatment and social services[94,95]. While there is a large body of research on incarcerated women's contact with family and children[96-100], research on family support during community re-entry focuses on men[101-104]. Future research should engage families in order to better understand how relational networks can facilitate access to health care during the re-entry period.

A total of 20 of the 48 included studies focused on outcomes related to substance abuse, and four additional studies focused on HIV risk factors related to drug use. There was little research on reproductive health, and no studies focusing on primary care. Most health care in prisons is primary care, yet little is known about the governance, delivery and experience of primary care in institutions of incarceration[105]. Research with both providers and currently incarcerated adults has identified numerous barriers to adequate care, including breaches of confidentiality, difficulty accessing medication, perceptions or beliefs that prison-based health professionals were less qualified than community-based health professionals, poor health record maintenance and information technology, and difficulty retaining and training staff[106-109]. Primary care utilization after release from incarceration can facilitate access to mental health and substance treatment, and reduce hospitalization and emergency department usage[30,110,111]. Multiple included studies highlighted the lack of substance use and mental health treatment options in rural communities as a barrier to care both while incarcerated and post-incarceration. Integrating treatment for substance use and mental health into primary care in rural and under-serviced areas could remove logistical barriers to care[112-116]. In order to understand the intersections of gender, incarceration, and geography in accessing primary care, further research is needed on the experiences of women accessing primary care in rural institutions of incarceration and rural communities post-incarceration.

All but two included studies were conducted in the US, and over half of the included studies were conducted in the Appalachian region of the US. While useful, the context of incarceration in the US may not analogous to that of other jurisdictions. A total of 30 of the 46 included studies conducted in the US were conducted in a county jail. The county jail system is unique to the US, and facilities are operated by regional law enforcement authorities such as a sheriff or police chief[117]. Implications for healthcare governance may not be applicable to other contexts, such as Canada's provincial and federal prison systems, and Australia's state prison system. Other reported US-specific barriers to care such as insurance coverage and prohibitive co-pays may also not be applicable to other contexts with universal or tiered healthcare systems.

Over half of the included studies had samples that included mostly or entirely White people, in sharp contrast to racialized differences in rates of incarceration US-wide[118]. While other studies did report racially diverse samples, further research is needed on the intersectional barriers to accessing care that may be experienced by racialized women and gender-diverse people in rural prisons, jails, and communities. Further research is also needed on the experiences of queer, trans, and non-binary women and gender-diverse people in rural prisons, jails, and communities. Two studies identified that sexual minority women in rural areas were more likely to experience violent victimization compared to heterosexual women, and that gender norms and religious beliefs may contribute to increased stigmatization in rural areas[65,66]. No studies reported any trans or non-binary participants. This review identified only one study that explicitly examined outcomes in remote areas[50]. Women in remote institutions of incarceration or remote communities may face unique health outcomes and healthcare access experiences.

Limitations

This review has several limitations. We only included articles available in full text in English or French, and therefore excluded research published outside of English- or French-speaking settings. We excluded grey literature sources such as government or organization reports. It is possible that including grey literature in our search strategy would have resulted in more geographically diverse evidence sources. Although we endeavoured to use generous search terms with regards to rurality, the search terms chosen may have been limiting given the multiple definitions and understandings of rurality.

Conclusion

This scoping review aimed to identify what is known about the health outcomes and experiences of women and gender-diverse people incarcerated in a rural institution of incarceration and/or recently released from an institution of incarceration into a rural community. The predominant outcomes among the studies include rates, patterns and correlates of substance use and engagement with substance use treatment such as MOUD. The results of this review demonstrate complex health histories with regards to substance use, mental health, and victimization, high unmet health service needs, and socio-spatial barriers to meeting material needs and accessing essential health care upon release from prison or jail. Further research is needed to identify healthcare needs not related to substance use, explore the role of family and community networks facilitating access to health care, and to understand the experiences of accessing primary care in rural institutions of incarceration and rural community settings post-incarceration.

Table 1: Details of included studies for review (*n*=48)

First author (year)	Jurisdiction	Custodial setting	Theme	Aim	Participants	Method(s)	Outcomes	Results
Bailey (2023)[56]	US (Western Massachusetts)	County jail	Substance use	Evaluate the implementation and outcomes of a MOUD program offered in two county jails.	347 incarcerated adults with opioid use disorder	Cohort study	Use of MOUD while incarcerated; use of MOUD at intake (self-reported and verified via urinalysis and prescription monitoring); demographics	Approximately half of participants were being treated with MOUD at jail entry. After jail entry, approximately 65% of individuals were receiving some type of MOUD, with marked increases during incarceration in use of methadone and buprenorphine. Approximately one quarter of individuals were initiated on MOUD while in jail.
Beichner (2014)[86]	US (Midwest)	State correctional facility	Access broadly	Understand how re-entry for mothers varies from urban to rural communities.	17 incarcerated mothers participating in family programming who lived in a rural community prior to incarceration	Mixed-methods (interviews and institutional record review)	Sentence; prior criminal history, demographic information; open-ended questions about experiences before and during incarceration	Rural women faced considerable relational vulnerabilities including addictions, intimate partner violence, and unstable familial relationships, which punctuated every aspect of their lives. These vulnerabilities, coupled with lengthy sentences, make re-engaging the mothering role difficult.
Bunting (2022)[57]	US (Kentucky)	County jail	Substance use	Identify the patterns of polysubstance use of rural Appalachian justice-involved women.	339 adult women incarcerated in rural jails	Cohort study	Substance use in the 6 months prior to incarceration (self-reported at baseline) and post-release (self-reported at 6- and 12-month follow-up); reincarceration, self-reported at 6 and 12 months post-release	Three latent classes were identified: High polysubstance/injection drug use (36.3% baseline), opioid/benzo (benzodiazepine) involved polysubstance use (57.3% baseline), and low use (6.4% baseline). Polysubstance use classes were characterized by use of opioids and benzodiazepines; the high polysubstance/injection drug use class was distinct in co-use and injection use of methamphetamine.
Calvert (2021)[46]	US (Kentucky)	County jail	Substance use	Examine health-related factors associated with opioid relapse among women re-entering the community in rural Appalachia.	342 rural women with a history of drug use during incarceration	Cohort study	Demographics; substance use patterns; mental health; physical health; barriers to healthcare service access; self-reported opioid use	Fifty-five percent of participants reported relapse to opioids during the 12-month follow-up period. Compared to those who did not use opioids during this time, women who relapsed reported poorer mental and physical health, and encountered more barriers to needed health services.
Comartin (2021)[58]	US (Michigan)	County jail	Mental health	Compare behavioral health needs and mental health service use among women jailed in rural counties to urban women, rural men, and urban men.	3800 men and women incarcerated in county jails	Screening assessment	Demographics, behavioral health needs, mental health service use, length of stay	Compared to urban women (17.9%, *n*=677), rural men (18.2%, *n*=690), and urban men (56.1%; *n*=2132), rural women (7.6%, *n*=288) had significantly higher odds of serious mental illness and co-occurring mental health and substance use disorders. Rural women were nearly 30 times more likely to receive jail-based mental health services, but were severely under-identified compared to their gender/geographical counterparts.

Crick (2024)[59]	US (Southeast)	County jail	Mental health	Explore the effects of adverse childhood experiences on the co-occurring disorders of mental health and substance use in people in rural jails.	166 men and women incarcerated in rural jails	Cross-sectional survey	Co-occurring disorders; adverse childhood experiences, demographics	There is a significant association between adverse childhood experiences and co-occurring mental health and substance use disorders.
Dickson (2018)[47]	US (Kentucky)	Community post-release	Access broadly	Examine the impact of the *Affordable Care Act* on rural, substance-involved women in rural Appalachian Kentucky who are released into the community after incarceration.	371 women released from incarceration in the previous 3 months	Baseline and follow-up questionnaires	Demographics; release date; healthcare coverage; self-reported health problem and self-reported health service/usual place of care	Analyses indicated that women released after *Affordable Care Act* implementation were more likely than those released pre-implementation to be insured. A multivariate logistic regression model showed that being insured was significantly related to having a usual healthcare source during community re-entry.
Ely (2020)[60]	US (Appalachia)	County jail	Reproductive health	Examine lifetime use rates of various types of contraception, and contraceptive use within the 6 months prior to incarceration, among rural Appalachian women who are incarcerated in a rural jail.	400 incarcerated women who used drugs prior to incarceration	Cross-sectional survey	Contraceptive use; condom use; relationship control scale; decision-making dominance	The majority (96.5%) of respondents reported lifetime use of contraceptives, and most (70.5%) had a history of using multiple methods, with male condoms, oral contraceptive pills, and contraceptive injections being the most commonly used methods. Almost 69% of respondents reported non-use of contraceptives within the previous 6 months, despite high rates of involvement in risky, intimate male partnerships prior to incarceration.
Hammett (2006)[87]	US (national)	State prison	HIV	Explore the relationships between incarceration and emerging increases in HIV and STIs in the rural south.	Secondary analysis of correctional data (total record number not reported)	Secondary correctional data analysis	Prevalence, diagnosis, and reporting of HIV/AIDS and STIs; incarceration rate	Data reviewed suggests low-income Black women with HIV/AIDS and STIs are incarcerated at higher rates in Southern US states than in other regions of the US.
Hoover (2023)[48]	US (10 states)	Community post-release	Substance use	Characterize associations between recent incarceration, overdose, and substance use disorder treatment access among rural people who use drugs.	2935 people who use drugs in rural areas and were incarcerated within the previous 6 months	Cross-sectional survey	Demographics; drug use behaviors; overdose history; treatment history; involvement with the criminal legal system; housing status; health insurance status; arrest history; community supervision history; naloxone ownership	Recent incarceration was associated with past-6-month overdose (AOR 1.38; 95%CI 1.12–1.70) and recent substance use disorder treatment (AOR 1.62; 95%CI 1.36–1.93) but not recent MOUD (AOR 1.03; 95%CI 0.82–1.28) or currently carrying naloxone (AOR 1.02; 95%CI 0.86–1.21).
Kane (2002)[61]	US (Maryland)	County jail	Mental health	Identify the physical and mental health needs of incarcerated women in rural jails.	30 incarcerated women	Cross-sectional health assessment and screening	Demographics; brief symptom inventory; multidimensional scale of perceived social support; physical examination; standard history intake	Sixty-three percent of the women reported drug problems and 80% reported alcohol problems, while 84% reported physical or sexual abuse. Serious health problems were identified, including AIDS, STIs, and delirium tremens. Scores on the Global Severity Index of the Brief Symptom Inventory showed that 70% of the women were in the clinical range for mental health problems.

Kellett (2011)[88]	US (Southwestern state)	State prison	Access broadly	Clarify how ideologies of individual choice clash with contextual factors within rural communities during the re-entry process.	99 incarcerated women pending release in a rural community	Semi-structured interviews	Demographics; previous home experiences and personal relationships; social support after release from prison; physical and mental health and substance use; prior incarceration experience(s); preparation for re-entry into rural communities; and perception of community resources	Incarcerated women identified several barriers, including inadequate access to resources, policies limiting eligibility for public entitlement programs, insufficient education and employment opportunities, substance-using family members, and social stigma.
Langley (2023)[49]	US (Arizona)	Community post-release	Mental health	Describe the facilitators and inhibitors of accessing healthcare services for adults with mental illness transitioning from a rural jail to a rural community.	8 adults living with a mental illness who were incarcerated in the past 12 months	Semi-structured interviews	Open-ended questions about facilitators and inhibitors of situational and health illness transition	Barriers to accessing mental health care included limited treatment options available in the community, not having transportation to access mental health service, costs of medications and office visits, conflicts with probation policies, and available hours for treatment providers.
Linn (2020)[62]	US (Appalachia)	County jail	Reproductive health	Develop profiles of risk and protective factors of Appalachian women who have a history of drug use and involvement with the criminal justice system.	400 incarcerated women who use drugs	Secondary latent class analysis	Demographics; general health screening; condom use; pap testing; mammograms; STI history; sex exchange history; partner ever injected drugs or ever incarcerated; drug use history; reasons for not using birth control	All profiles reported low levels of condom use, reproductive and physical health screens, and STI history. The higher risk class had main male partners with histories of injection drug use and incarceration.
Lo (2002)[63]	US (Ohio)	County jail	Substance use	Examine factors shaping arrestees%u2019 perceived needs for substance abuse treatment.	103 incarcerated male and females	Interview-administered survey	Demographics; situation-related factors; current drug dependence diagnoses; past treatment experience; jail rurality; perceived need for treatment	A significantly higher percentage of arrestees at the urban jails than the rural ones reported having past treatment experiences. The perceived needs for substance abuse treatment were largely identical for both rural and urban arrestees, with the exception that arrestees in urban counties were significantly more likely than those in rural counties to report perceiving personal needs for cocaine treatment.
Love (2017)[50]	Australia (Queensland)	Community post-release	Access broadly	Examine the association between remoteness and area disadvantage, and the rate of subsequent hospitalization, in a cohort of adults released from prisons in Queensland.	1267 incarcerated adults within 6 weeks of expected release	Prospective cohort study	Demographic; expected residence upon release; physical health and mental health screening; nicotine dependence screening; patient activation measure; perceived social support; lifetime injection drug use; Index of Remoteness and Index of Socioeconomic Disadvantage; hospitalization after release from prison	Over a median of 934 days of follow-up, 1199 hospitalisations occurred over a total of 3091 person-years of follow-up. The highest crude incidence rates occurred among people living in areas characterized by remoteness and area disadvantage. Being Indigenous, being older, being female, having a high level of nicotine dependence, having been hospitalized prior to incarceration, and having poorer physical health were positively associated with hospitalization after release from prison.

Lund (2002)[89]	US (Western state)	State prison	Access broadly	Identify specific discharge needs of women prior to prison release in a rural community.	23 currently incarcerated women set to be released into a rural community within 12 months	Mixed-methods (interview and survey)	Demographics; concerns upon prison release; healthcare use	The most common health problems reported were dental problems, visual problems, asthma, depression, obesity, obsessive compulsive disorder, and panic attacks.
Milberg (2001)[90]	US (Arkansas)	State prison	HIV	Examine which factors are associated with delays in seeking care in a predominantly rural, economically poor area of Arkansas.	HIV positive and accessing care in rural clinic	Medical records review	Demographics; time in days from the date of first HIV-positive test to entry into primary care; referral from prison	Clients referred from the prison system delayed entry into care for a median of 102 days versus 25 for those not in prison.
Moore (2011)[51]	England	Community post-release	Access broadly	Explore the views and experiences of females with criminal justice involvement with problem drug/alcohol use living in rural areas.	18 women with drug and/or alcohol use who were incarcerated within the previous 12 months	Interview	Open-ended questions about service access	There is a concentration of services in larger towns, with smaller towns having limited provision and villages having no provision at all. This disparity of services for women following incarceration is exacerbated by a significant lack of public transport and childcare support.
Nelson (2023)[64]	US (Michigan)	County jail	Mental health	Determine if rural and urban jail populations have similar behavioral health characteristics, mental health needs, and criminogenic risk factors.	3797 incarcerated adults	Correctional centre administered screening	Demographics; prior mental health treatment; substance misuse; serious mental illness screening	Rural communities were significantly less likely to identify individuals as having a serious mental illness than urban communities, although rural jails had significantly higher proportions of individuals who met criteria for serious mental illness compared to those in urban jails. Rural jails had a significantly higher proportion with housing insecurity and a significantly higher proportion of substance misuse.
Otis (2016)[65]	US (Kentucky)	County jail	Substance use	Examine the relationship among victimization experience, substance use, and substance-use-related problems in a sample of women in a rural Appalachian jail.	400 incarcerated women	Computer-assisted interview	Demographic; sexuality; violent victimization; substance use	Compared to heterosexual women, sexual minority women were more likely to have a lifetime history of weapon, physical, and sexual assault, and were younger at the time of their first violent victimization, and at the age of onset for intravenous drug use.
Peteet (2018)[66]	US (Kentucky)	County jail	HIV	Examine the extent to which both HIV knowledge and HCV knowledge were related to risky sex behaviors and risky drug behaviors.	400 incarcerated women	Secondary analysis of randomized controlled trial baseline survey data	Risky drug and sex behaviors; HIV knowledge; HCV knowledge constructs; demographics	Sexual minority women and those with less HIV knowledge were more likely to engage in high-risk sexual behaviors.
Singer (2023)[67]	US (Southeast)	County jail	Mental health	Examine the associations between specific mental health conditions, substance use disorders, and jail re-admission among adults from four rural jails.	675 incarcerated adults	Interview-administered questionnaire	Demographics; diagnostic indications of substance use disorder or mental health condition; jail admission in 12 months preceding interview	Rural jail populations are likely to present mental health conditions, especially major depression and PTSD, at higher rates than those found in national estimates.

Snell-Rood (2016)[69]	US (Kentucky)	County jail	Substance use	Examine incarcerated women's perceptions of the role of their family, community, and intimate relationships in their plans to decrease their substance abuse upon community re-entry.	20 incarcerated women who use drugs	Secondary analysis of clinical sessions	Perceptions of the role of family, community, and intimate relationships in plans to decrease their substance abuse	Key themes included the need to prepare for unsupportive relationships upon their return, the critical assessment of how relationships were involved in their drug use, and the use of positive relationships to motivate their desire to reduce drug use.
Snell-Rood (2019)[68]	US (Kentucky)	County jail	Mental health	Examine the first-person narratives of rural women to identify their perspectives on the co-occurrence of substance use and mental health symptoms.	24 incarcerated women who use drugs	Secondary analysis of transcripts from motivational interviewing intervention sessions	Co-occurrence of substance use and mental health conditions	Key themes were identified: the social and structural conditions of women%u2019s lives that made them vulnerable to poor mental health and substance use, women%u2019s experiences of feelings as dangerous and the desire to escape them through substance use, the struggles that women identified in understanding themselves in the wake of substance use, and the challenges of navigating stigma exerted by medical and justice systems, community members, and themselves. Because few women in this setting identified with a clinical mental health diagnosis, mental health was described through 'emotions' or 'feelings' in place of symptoms, while acknowledging the deep pain and 'clinical relevance' in women's experiences.
Staton (2001)[70]	US (Kentucky)	County jail	Substance use	Identify specific factors related to use of health, mental health, and drug user treatment as well as the impact of victimization on seeking services.	51 incarcerated women who use drugs	Focus groups	Open-ended questions about health and social services and victimization	Drug use, victimization, and living in a rural area were barriers to accessing health services.
Staton (2015)[72]	US (Kentucky)	County jail	HIV	Examine dual HIV risk behavior by three different mental health problems (depression, anxiety, and PTSD) among drug-using women in rural jails.	136 incarcerated women who use drugs	Computer-assisted interview	Demographics; incarceration history; substance use; mental health; HIV risk behaviors	Nearly 80% of women self-reported symptoms of depression, and mental health significantly correlated with severity of certain types of drug use, as well as risky sexual activity.
Staton (2017)[75]	US (Kentucky)	County jail	Substance use	Identify to what extent relationship power varies among women who inject drugs as a function of having an injecting partner.	199 incarcerated women who inject drugs	Computer-assisted questionnaire	Demographics; self-reported risky partnership; self-reported injection drug use; relationship power	Approximately three-quarters (76%) reported having a recent main male sexual partner with a history of injection drug use. Having a risky partner independently increased the likelihood of women reporting shared injection practices.
Staton (2018)[76]	US (Kentucky)	County jail	Substance use	Understand the contextual and health correlates of injection drug use among women living in rural Appalachia.	400 incarcerated women who use drugs	Computer-assisted questionnaire	Demographics; injection status; social/familial drug use context; health and mental health; parenting	75.3% of the selected sample reported lifetime injection of drugs. Contextual factors included drug use severity, more male sex partners, and having injecting partners.

Staton (2018)[52]	US (Kentucky)	County jail	HIV	Examines the delivery of a prevention education-focused HIV risk reduction intervention and an enhanced, individualized intervention for risk reduction in rural jails to target high-risk rural women who use drugs.	400 incarcerated women who use drugs	Randomized controlled trial	Demographics; HIV risk behaviors during community re-entry	Decreases in HIV risk behaviors were observed at follow-up across conditions. Participants in the intervention group showed non-significant reductions in outcomes compared to the standard care group.
Staton (2018)[74]	US (Kentucky)	County jail	Substance use	Examine the relationship between drug use and incarceration among rural Appalachian women, as well as the potential role of contextual factors including home environment, risky partner relationships, and mental health.	400 incarcerated women who use drugs	Computer-assisted questionnaire	Demographics; drug use; incarceration history; high-risk home environment; partner relationships; mental health	Of the women randomly selected and screened, 97% met criteria for substance use intervention. Significant factors associated with incarceration history included age, education, custody status, male sex partners and drug use.
Staton (2019)[53]	US (Kentucky)	County jail	Access broadly	Examine re-entry protective factors for women who transition from county jails to rural Appalachian communities.	284 incarcerated women who use drugs	Computer-assisted questionnaire	Demographics; drug use and treatment; health and service utilization; housing and living environment; peer criminality; self-efficacy and satisfaction; custody status	Staying out of jail was associated with being older, having a job, not using drugs, stable housing, receiving health treatment, and having prosocial peers.
Staton (2021)[77]	US (Kentucky)	County jail	Substance use	Assess specific risk factors of the drug–crime relationship for rural women to better understand other risk behaviors including injection drug use and drug use history, extent of criminal involvement, and risky partner relationships.	400 incarcerated women who use drugs	Computer-assisted questionnaire	Demographics; criminal history; self-reported drug use and risky relationship variables	Analysis identified five distinct profiles of rural women based on involvement of criminal activities as a function of drug use severity. Results suggest that among criminally involved rural women, severity of drug use is a critical factor in the criminal career.
Staton (2022)[78]	US (Kentucky)	County jail	HIV	Provide a descriptive overview of indicators of feasibility and acceptability of an adapted version of the National Institute on Drug Abuse Standard HIV prevention intervention for delivery using Facebook.	60 incarcerated women	Randomized controlled trial	Demographics; intervention initiation; intervention engagement; time of engagement; facebook interaction; HIV/HCV knowledge	The feasibility of the approach was supported through study enrollment of the target population who reported regular Facebook use and HIV risk behaviors including drug use and sex. Acceptability of the intervention was demonstrated through enrollment in the study intervention, engagement in the intervention through Facebook, and indicators of HIV/HCV knowledge.
Staton (2023)[54]	US (Kentucky)	Community post-release	Substance use	Assess facilitating factors and barriers for MOUD use among justice-involved individuals in one rural Appalachian community.	10 adults on community supervision who use illicit opioids	Interviews	Facilitators and/or barriers to opioid treatment using medications	Key themes included properties associated with the medication, accessibility to treatment provider, readiness to change, physical dependence, and criminal justice involvement.

Staton-Tindall (2007)[71]	US (Kentucky)	County jail	Substance use	Profile the health, mental health, substance use, and service utilization among rural and urban incarcerated women.	100 incarcerated women	Interviewer-administered questionnaire	Health and mental health problems; substance use; service utilization; demographics	Health and mental health problems and substance use did not differ significantly among rural and urban women prisoners, but urban women reported more health service utilization.
Staton-Tindall (2015)[73]	US (Kentucky)	County jail	Substance use	Describe drug use, health consequences of drug use including HCV, and service availability among a high-risk sample of women from rural Appalachia serving time in jails.	22 incarcerated women who use drugs	Focus groups	Open-ended questions about women's drug use, health behaviors, and perceptions of service availability	Drug misuse wa prevalent in the sample, and women in this sample were unconcerned about the long-term consequences of HCV infection.
St Cyr (2021)[91]	US (New Mexico)	State prison	Intimate partner violence	Examine women's intimate partner violence experiences in relation to racial, socioeconomic, and health inequities in rural New Mexico.	99 incarcerated women	Survey and interviews	Demographics; socioeconomic status; drug and alcohol use; mental health; trauma history; recent intimate partner violence; trauma history questionnaire; composite abuse scale; open-ended questions on preparation for re-entry and perceptions of community resources.	Interviews identified experiences of abuse, struggles with mental health and substance use, poverty, and discrimination, which both compounded women's vulnerability to intimate partner violence and limited their options upon returning home from prison.
Strickland (2018)[79]	US (Kentucky)	County jail	HCV	Examine the drug use and criminal justice factors related to HCV antibody reactivity among rural women in the US recruited from local jails.	277 incarcerated women with a history of injection drug use	Interview-administered questionnaire and HCV testing	Demographics; health and drug questionnaire; HCV antibody testing	The majority of women tested were reactive to the HCV antibody. Reactivity was associated with unsterile needle use, earlier age of first arrest, and longer incarceration history.
Surratt (2018)[55]	US (Kentucky)	County jail	Substance use	Examine patterns of buprenorphine use and uptake of health services as correlates for re-arrest within 3 months of release among opioid-involved women in Appalachian Kentucky.	172 incarcerated women who use opioids and illicit buprenorphine	Interview-administered questionnaire	Demographics; substance use; adverse drug consequences; service availability; reported service uses	Significant risk factors for re-arrest included number of days high, injection use, number of illicit buprenorphine days, and withdrawal symptoms in the follow-up period. The sole protective factor was having a regular source of health care at follow-up.
Taylor (2021)[80]	US (North Carolina)	County jail	Mental health	Examine the associations between post-traumatic stress disorder, panic disorder and alcohol use disorder disorders among females charged with violent offenses.	167 incarcerated women	Clinical interview	Comprehensive Addiction and Psychological Evaluation; sentencing information from record review	Over half of the sample met criteria individually for PTSD, panic disorder or alcohol use disorder.
Tillson (2017)[81]	US (Kentucky)	County jail	Substance use	Examine the unique contributions of age of first arrest, age of initiation of sex, and age of first drug use to adult high-risk behaviors.	358 incarcerated women who use drugs	Interviewer-administered questionnaire	Demographics; timing of first sex, drug use, and arrest	Ages of initiation were all positively and significantly correlated, and each independently increased the likelihood of several risky behaviors in adulthood.

Victor (2022)[82]	US (Kentucky)	County jail	Substance use	Examine the relationship between drug use and violence victimization among incarcerated women in Appalachian Kentucky.	400 incarcerated women who use drugs	Interviewer-administered questionnaire	Demographics; substance use scale; violent victimization scale; transactional sex; illegal activities for money	The data yielded three statistically significant discriminant models. The psychopharmacological group showed the greatest prevalence of violent victimization.
Ward (2016)[85]	US (Pennsylvania)	County jail	Mental health	Identify and understand re-entry issues in rural areas from the perspective of multiple actors in the criminal justice system.	287 incarcerated adults	Interviews and survey	Demographics; perceived challenges scale; open-ended questions about resources their agency provides to assist in inmates' re-integration, area-specific challenges associated with re-entry, and factors that contribute to successful re-entry	Interviews identified that structural issues (eg employment, housing, ability to pay fines) were the main barriers to re-entry. Various themes emerged relating to mental health issues including health insurance, medication, transportation, and co-occurrence with substance abuse.
Wenzel (2021)[83]	US (Virginia)	County jail	Reproductive health	Examine contraceptive needs among women incarcerated at a rural Appalachian jail.	95 incarcerated women	Cross-sectional survey	Demographics; use of healthcare providers before jail; pregnancy history; menopause history; sterilization statuses; male sexual partners; contraception use and unmet need	Fifty-eight percent of prior pregnancies on which women provided intention information were unintended, with 74% of respondents reporting at least one such pregnancy. Ninety-four percent of women reported vaginal intercourse during the 3 months before jail, and 46% of those who did not want to get pregnant reported consistent contraceptive use. Condoms and withdrawal were the most common methods used. Forty percent of women were eligible for emergency contraception. Most (78%) participants anticipated sex with a man within 6 months of release, and most (63%) did not want to become pregnant within a year of release. Almost half (47%) expressed interest in receiving birth control while in jail.
Willging (2013)[92]	US (New Mexico)	State prison	Substance use	Identify community re-entry needs by examining mental illness, substance dependence, and other correlates of reincarceration in an ethnically diverse, rural population of women prisoners.	98 incarcerated women	Cross-sectional survey	Demographics; assessed the women for current mental disorders, substance dependence in the year before incarceration, and lifetime exposure to traumatic events (Trauma Health Questionnaire)	Eighty-five percent screened positive for substance dependence, 50% for current mental disorders, and 46% for both.

Willging (2016)[93]	US (New Mexico)	State prison	Mental health	Examine the return of women prisoners to underserved rural communities.	99 incarcerated women	Interviews and focus groups	Open-ended questions about general views of and experiences with re-entry, social support provision, expectations of post-release challenges and opportunities, mental health and substance use issues and treatment needs, availability of community-based resources, and recommendations to facilitate the transition process	Interviews identified that contextual factors linked to gender, socioeconomic status, and rural context acted as barriers to successful re-entry outcomes.
Wunsch (2007)[84]	US (Virginia)	County jail	Substance use	Describe abuse of prescription medications in Southwest Virginia.	135 incarcerated adults	Secondary analysis of medical records	Demographics; Addiction Severity Index	Compared to non-users, oxycodone users were younger, more likely to be female, and more likely to abuse benzodiazepines, methadone, cocaine, and heroin.

AOR, adjusted odds ratio. CI, confidence interval. HCV, hepatitis C virus. MOUD, medications for opioid use disorder. PTSD, post-traumatic stress disorder

Funding

The first author is supported by a Vanier Canada Graduate Scholarship.

Conflicts of interest

The authors have no conflicts of interest to report.

References

1 Kajstura A, Sawyer A. *Women's mass incarceration: the whole pie 2024.* Available: web link (Accessed 7 October 2024).

2 Department of Justice Canada. *State of the criminal justice system: focus on women.* 2021. Available: web link (Accessed 7 October 2024).

3 Kajstura A. *States of women's incarceration: the global context 2018.* 2018. Available: web link (Accessed 7 October 2024).

4 Bodkin C, Pivnick L, Bondy SJ, Ziegler C, Elwood Martin R, Jernigan C, et al. History of childhood abuse in populations incarcerated in Canada: A systematic review and meta-analysis. *American Journal of Public Health* 2019; **109(3):** e1-e11. DOI link

5 Karlsson ME, Zielinski MJ. Sexual victimization and mental illness prevalence rates among incarcerated women: A literature review. *Trauma Violence, & Abuse* 2020; **21(2):** 326-349. DOI link

6 Baranyi G, Cassidy M, Fazel S, Priebe S, Mundt AP. Prevalence of posttraumatic stress disorder in prisoners. *Epidemiological Reviews* 2018; **40(1):** 134-145. DOI link

7 Gormley R, Lin SY, Carter A, Nicholson V, Webster K, Elwood Martin R, et al. Social determinants of health and retention in HIV care among recently incarcerated women living with HIV in Canada. *AIDS and Behavior* 2020; **24(4):** 1212-1225. DOI link

8 Kouyoumdjian FG, McIsaac KE, Liauw J, Green S, Karachiwalla F, Siu W,et al. A systematic review of randomized controlled trials of interventions to improve the health of persons during imprisonment and in the year after release. *American Journal of Public Health* 2015; **105(4):** e13-e33. DOI link

9 Ahmed R, Angel C, Martel R, Pyne D, Keenan L. Access to healthcare services during incarceration among female inmates. *International Journal of Prison Health* 2016; **12(4):** 204-215. DOI link

10 Besney JD, Angel C, Pyne D, Martell R, Keenan L, Ahmed R. Addressing women's unmet health care needs in a Canadian remand center: Catalyst for improved health? *Journal of Correctional Health Care* 2018; **24(3):** 276-294. DOI link

11 Liauw J, Jurgutis J, Nouvet E, Dineley B, Kearney H, Reaka N, et al. Reproductive healthcare in prison: A qualitative study of women's experiences and perspectives in Ontario, Canada. *PLoS ONE* 2021; **16(5):** e0251853. DOI link

12 Bright AM, Higgins A, Grealish A. Women's experiences of prison-based mental healthcare: a systematic review of qualitative literature. *International Journal of Prison Health* **19(2):** 181-198. DOI link

13 Fahmy N, Kouyoumdjian FG, Berkowitz J, Fahmy S, Neves CM, Hwang SW, et al. Access to primary care for persons recently released from prison. *Annals of Family Medicine* 2018; **16(6):** 549-551. DOI link

14 Edwards L, Jamieson SK, Bowman J, Chang S, Newton J, Sullivan E. A systematic review of post-release programs for women exiting prison with substance-use disorders: assessing current programs and weighing the evidence. *Health Justice* 2022; **10(1):** 1. DOI link

15 Stanton AE, Kako P, Sawin KJ. Mental health issues of women after release from jail and prison: A systematic review. *Issues in Mental Health Nursing* 2016; **37(5):** 299-331. DOI link

16 Eswaran V, Raven MC, Wang RC, Cawley C, Izenberg JM, Kanzaria HK. Understanding the association between frequent emergency department use and jail incarceration: A cross-sectional analysis. *Academic Emergency Medicine* 2022; **29(5):** 606-614. DOI link

17 Tuinema J, Orkin AM, Cheng SY, Fung K, Kouyoumdjian FG. Emergency department use in people who experience

imprisonment in Ontario, Canada. *Canadian Journal of Emergency Medicine* 2020; **22(2):** 232-240. DOI link

18 Frank JW, Andrews CM, Green TC, Samuels AM, Trinh TT, Friedmann PD. Emergency department utilization among recently released prisoners: a retrospective cohort study. *BMC Emergency Medicine* 2013; **13:** 16. DOI link

19 Butler A, Love AD, Young JT, Kinner SA. Frequent attendance to the emergency department after release from prison: a prospective data linkage study. *Journal of Behavioral Health Service Research* 2020; **47(4):** 544-559. DOI link

20 Mohammad S, Bahrani A, Kim M, Nowotny KM. Barriers and facilitators to health during prison reentry to Miami, FL. *PLoS ONE* 2023; **18(10):** e0285411. DOI link

21 Hoffman KA, Thompson E, Gaeta Gazzola M, Oberleitner LMS, Eller A, Madden LM, et al. 'Just fighting for my life to stay alive': a qualitative investigation of barriers and facilitators to community re-entry among people with opioid use disorder and incarceration histories. *Addict Science & Clinical Practice* 2023; **18(1):** 16. DOI link

22 Hu C, Jurgutis J, Edwards D, O'Shea T, Regenstreif L, Bodkin C, et al. 'When you first walk out the gates…where do [you] go?': Barriers and opportunities to achieving continuity of health care at the time of release from a provincial jail in Ontario. *PLoS ONE* 2020; **15(4):** e0231211. DOI link

23 Gibbs D, Stockings E, Larney S, Bromberg DJ, Shakeshaft A, Farnbach S. The impact of supported accommodation on health and criminal justice outcomes of people released from prison: a systematic literature review. *Harm Reduction Journal* 2023; **20(1):** 91. DOI link

24 Wang EA, Zhu GA, Evans L, Carroll-Scott A, Desai R, Fiellin LE. A pilot study examining food insecurity and HIV risk behaviors among individuals recently released from prison. *AIDS Education and Prevention* 2013; **25(2):** 112-123. DOI link

25 Al Abosy J, Grossman A, Dong KR. Determinants and consequences of food and nutrition insecurity in justice-impacted populations. *Current Nutrition Reports* 2022; **11(3):** 407-415. DOI link

26 Paynter M, Heggie C, Matheson L, Rillie C, Beals D, Bray M. Maternal incarceration in a provincial prison in Canada: A qualitative study. *Journal of Advanced Nursing* 2022; **78(7):** 2123-2138. DOI link

27 Paynter M, Martin-Misener R, Iftene A, Tomblin-Murphy G. A qualitative case study of pregnancy and early parenting in Canada's federal prisons for women. *PLoS ONE* 2023; **18(12):** e0294961. DOI link

28 Halushka JM. The runaround: punishment, welfare, and poverty survival after prison. *Social Problems* 2020; **67(2):** 233-250. DOI link

29 Wang EA, Lin HJ, Aminawung JA, Busch SH, Gallagher C, Maurer K, et al. Propensity-matched study of enhanced primary care on contact with the criminal justice system among individuals recently released from prison to New Haven. *BMJ Open* 2019; **9(5):** e028097. DOI link

30 Wang EA, Hong CS, Shavit S, Sanders R, Kessell E, Kushel MB. Engaging individuals recently released from prison into primary care: a randomized trial. *American Journal of Public Health* 2012; **102(9):** e22-e29. DOI link

31 Shavit S, Aminawung JA, Birnbaum N, Greenberg S, Berthold T, Fishman A, et al. Transitions Clinic Network: challenges and lessons in primary care for people released from prison. *Health Affairs (Millwood)* 2017; **36(6):** 1006-1015. DOI link

32 Paynter M, Heggie C, Low C, McKibbon S, Martin-Misener R. Community-based models of health care for women, trans and nonbinary people released from prisons: An international scoping review with implications for Canada. *Journal of Clinical Nursing* 2023; **32(13-14):** 3277-3294. DOI link

33 Porter R, Voorheis JL, Sabol W. *Correctional facility and inmate locations: urban and rural status patterns.* 2017. Available: web link (Accessed 5 November 2024).

34 Kang-Brown J, Subramanian R. *Out of sight: the growth of jails in rural America.* 2017. Available: web link (Accessed 5 November 2024).

35 Wang L. Rise in jail deaths is especially troubling as jail populations become more rural and more female. *Prison Policy Initiative* 2021. Available: web link (Accessed 5 November 2024).

36 Heggie C, MacRae T. *Geographical distribution, remoteness, and proximity to health care of carceral facilities in Canada.* Paper presented at Academic Consortium on Criminal Justice & Health Conference, Austin, Texas, 15–17 March 2025.

37 Tully T, Inglis M. A comparison between rural and urban jail proximities to inpatient mental health care in New York State. *Journal of Correctional Health Care* 2022; **28(1):** 12-21. DOI link

38 Gips J, Psoter KJ, Sufrin C. Does distance decrease healthcare options for pregnant, incarcerated people? Mapping the distance between abortion providers and prisons. *Contraception* 2020; **101(4):** 266-272. DOI link

39 Paynter M, Heggie C. Distance between institutions of incarceration and procedural abortion facilities in Canada. *Contraception* 2023; **124:** 110079. DOI link

40 Wodahl EJ. The challenges of prisoner reentry from a rural perspective. *Western Criminology Review* 2006; **7(2):** 32-47.

41 Ward K. Perceptions of offender reentry challenges: prior research. In: K Ward (Ed.). *Rural Jail Reentry.* New York: Routledge, 2017.

42 Paynter M, Heggie C, McKibbon S, Martin-Misener R, Iftene A, Murphy GT. Sexual and reproductive health outcomes among incarcerated women in Canada: a scoping review. *Canadian Journal of Nursing Research* 2022; **54(1):** 72-86. DOI link

43 Paynter M, Pinzón Hernández P, Heggie C, McKibbon S, Munro S. Abortion and contraception for incarcerated people: A scoping review. *PLoS ONE* 2023; **18(3):** e0281481. DOI link

44 McGowan J, Sampson M, Salzwedel DM, Cogo E, Foerster V, Lefebvre C. PRESS Peer Review of Electronic Search Strategies: 2015 guideline statement. *Journal of Clinical Epidemiology* 2016; **75:** 40-46. DOI link

45 Pollock D, Peters MDJ, Khalil H, McInerney P, Alexander L, Tricco AC, et al. Recommendations for the extraction, analysis, and presentation of results in scoping reviews. *JBI Evidence Synthesis* 2023; **21(3):** 520-532. DOI link

46 Calvert JM, Dickson MF, Tillson M, Pike E, Staton M. Rural re-entry and opioid use: Identifying health-related predictors of relapse among formerly incarcerated women in Appalachia. *Journal of Appalachian Health* 2021; **3(3):** 22-35. DOI link

47 Dickson MF, Staton M, Tillson M, Leukefeld C, Webster JM, Oser CB. The Affordable Care Act and changes in insurance coverage and source of health care among high-risk rural, substance-using, female offenders transitioning to the community. *Journal of Health Care for the Poor and Underserved* 2018; **29(3):** 843-863. DOI link

48 Hoover DB, Korthuis PT, Waddell EN, Foot C, Conway C, Crane HM, et al. Recent incarceration, substance use, overdose, and service use among people who use drugs in rural communities. *JAMA Network Open* 2023; **6(11):** e2342222. DOI link

49 Langley CA, McEwen MM. Transitions from jail to rural community for adults with mental illness. *Public Health Nursing* 2023; **40(3):** 353-359. DOI link

50 Love AD, Kinner SA, Young JT. Social environment and hospitalisation after release from prison: A prospective cohort study. *International Journal of Environmental Research and Public Health* 2017; **14(11):** 1406. DOI link

51 Moore S. Providing drug and alcohol services to female offenders: exploring gender and geographical barriers. *Drugs and Alcohol Today* 2011; **11(3):** 130-136. DOI link

52 Staton M, Strickland JC, Webster JM, Leukefeld C, Oser C, Pike E. HIV prevention in rural Appalachian jails: Implications for re-entry risk reduction among women who use drugs. *AIDS and Behavior* 2018; **22(12):** 4009-4018. DOI link

53 Staton M, Dickson M, Tillson M, Webster M, Leukefeld C. Staying out: reentry protective factors among rural women offfenders. *Women & Criminal Justice* 2019; **29(6):** 368-384. DOI link

54 Staton M, Pike E, Tillson M, Lofwall MR. Facilitating factors and barriers for use of medications to treat opioid use disorder (MOUD) among justice-involved individuals in rural Appalachia. *Journal of Community Psychology* 2024; **52(8):** 997-1014. DOI link

55 Surratt HL, Staton M, Leukefeld CG, Oser CB, Webster JM. Patterns of buprenorphine use and risk for re-arrest among highly vulnerable opioid-involved women released from jails in rural Appalachia. *Journal of Addictive Diseases* 2018; **37(1-2):** 1-4. DOI link

56 Bailey A, Senthilkumar R, Evans EA. Correlates and patterns in use of medications to treat opioid use disorder in jail. *Journal of Addiction Medicine* 2023; **17(5):** 568-573. DOI link

57 Bunting AM, Dickson M, Staton M. Polysubstance use and re-incarceration in the 12-months after release from jail: a latent transition analysis of rural Appalachian women. *American Journal of Drug and Alcohol Abuse* 2022; **48(3):** 356-366. DOI link

58 Comartin EB, Burgess-Proctor A, Harrison J, Kubiak S. Gender, geography, and justice: Behavioral health needs and mental health service use among women in rural jails. *Criminal Justice and Behavior* 2021; **48(9):** 1229-1242. DOI link

59 Crick SN, Crittenden CA, Policastro CN, Garland TS, Dierenfeldt R. Adverse childhood experiences and co-occurring disorders: is there a relationship among ACEs, mental health issues, and substance use among inmates? *Journal of Drug Issues* 2024; **54(3):** 476-497. DOI link

60 Ely GE, Linn BK, Staton M, Hales TW, Agbemenu K, Maguin E. Contraceptive use in Appalachian women who use drugs and were recruited from rural jails. *Social Work in Health Care* 2020; **59(6):** 365-386. DOI link

61 Kane M, DiBartolo M. Complex physical and mental health needs of rural incarcerated women. *Issues in Mental Health Nursing* 2002; **23(3):** 209-229. DOI link

62 Linn BK, Ely GE, Staton M. Latent profiles of health and reproductive risk and protective factors among women in Appalachia. *Journal of Social Work Practice in the Addictions* 2020; **20(2):** 155-167. DOI link

63 Lo CC, Stephens RC. Arrestees' perceived needs for substance-specific treatment: exploring urban-rural differences. *American Journal of Drug and Alcohol Abuse* 2002; **28(4):** 623-642. DOI link

64 Nelson V, Victor G, Comartin E, Zaller N, Kubiak S. Assessing rural-urban differences in screening for mental health needs among individuals in county jails. *International Journal of Offender Therapy and Comparative Criminology* 2023; **69(5):** 559-571. DOI link

65 Otis MD, Oser CB, Staton-Tindall M. Violent victimization and substance dependency: Comparing rural incarcerated heterosexual and sexual minority women. *Journal of Social Work Practice in the Addictions* 2016; **16(1-2):** 176-201. DOI link

66 Peteet B, Staton M, Miller-Roenigk B, Carle A, Oser C. Rural incarcerated women: HIV/HCV knowledge and correlates of risky behavior. *Health Education & Behavior* 2018; **45(6):** 977-986. DOI link

67 Singer AJ, Kopak AM, Hoffmann NG. Mental health conditions, substance use disorders, and jail readmission in four rural counties. *International Journal of Offender Therapy and Comparative Criminology* 2023; **23 July.** DOI link

68 Snell-Rood C, Staton M, Kheibari A. Rural women's first-person perspectives on the role of mental health in substance use. *Rural & Remote Health* 2019; **19(4):** 5279. DOI link

69 Snell-Rood C, Staton-Tindall M, Victor G. Incarcerated women's relationship-based strategies to avoid drug use after community re-entry. *Women & Health* 2016; **56(7):** 843-858. DOI link

70 Staton M, Leukefeld C, Logan TK. Health service utilization and victimization among incarcerated female substance users. *Substance Use & Misuse* 2001; **36(6-7):** 701-716. DOI link

71 Staton-Tindall M, Duvall JL, Leukefeld C, Oser CB. Health, mental health, substance use, and service utilization among rural and urban incarcerated women. *Women's Health Issues* 2007; **17(4):** 183-192. DOI link

72 Staton-Tindall M, Harp KLH, Minieri A, Oser C, Webster JM, Havens J, et al. An exploratory study of mental health and HIV risk behavior among drug-using rural women in jail. *Psychiatric Rehabilitation Journal* 2015; **38(1):** 45-54. DOI link

73 Staton-Tindall M, Webster JM, Oser CB, Havens JR, Leukefeld CG. Drug use, hepatitis C, and service availability: perspectives of incarcerated rural women. *Social Work in Public Health* 2015; **30(4):** 385-396. DOI link

74 Staton M, Ciciurkaite G, Oser C, Tillson M, Leukefeld C, Webster JM, et al. Drug use and incarceration among rural Appalachian women: findings from a jail sample. *Substance Use & Misuse* 2018; **53(6):** 931-941. DOI link

75 Staton M, Strickland JC, Tillson M, Leukefeld C, Webster JM, Oser CB. Partner relationships and injection sharing practices among rural Appalachian women. *Women's Health Issues* 2017; **27(6):** 652-659. DOI link

76 Staton M, Ciciurkaite G, Havens J, Tillson M, Leukefeld C, Webster M et al. Correlates of injection drug use among rural Appalachian women. *Journal of Rural Health* 2018; **34(1):** 31-41. DOI link

77 Staton M, Bunting AM, Pike E, Stevens-Watkins D. A latent profile analysis of rural women who use drugs and commit crimes. *Journal of Rural Social Sciences* 2021; **36(1):** 1.

78 Staton M, Dickson MF, Pike E, Young S. Feasibility of using Facebook for HIV prevention: Implications for translational research among justice-involved women who use drugs in rural Appalachia. *Journal of Clinical and Translation Science* 2022; **6(1):** e127. DOI link

79 Strickland JC, Staton M, Leukefeld CG, Oser CB, Webster JM. Hepatitis C antibody reactivity among high-risk rural women: opportunities for services and treatment in the criminal justice system. *International Journal of Prison Health* 2018; **14(2):** 89-100. DOI link

80 Taylor SL, Barrett AJ, Kopak AM, Hoffmann NG. Increased propensity for violence among female jail detainees with PTSD, panic disorder and alcohol use disorder. *Drugs and Alcohol Today* 2021; **21(4):** 325-333. DOI link

81 Tillson M, Strickland JC, Staton M. Age of first arrest, sex, and drug use as correlates of adult risk behaviors among rural women in jails. *Women & Criminal Justice* 2017; **27(5):** 287-301. DOI link

82 Victor GA, Staton M. Discriminant function analyses: Classifying drugs/violence victimization typologies among incarcerated rural women. *Journal of Interpersonal Violence* 2022; **37(1-2):** 889-911. DOI link

83 Wenzel SG, Zabielski B, Borowski S. Contraceptive needs among women recently incarcerated at a rural Appalachian jail. *Women's Health Reports (New Rochelle)* 2021; **2(1):** 263-272. DOI link

84 Wunsch MJ, Nakamoto K, Goswami A, Schnoll SH. Prescription drug abuse among prisoners in rural Southwestern Virginia. *Journal of Addictive Diseases* 2007; **26(4):** 15-22. DOI link

85 Ward KC, Merlo AV. Rural jail reentry and mental health: Identifying challenges for offenders and professionals. *The Prison Journal* 2016; **96(1):** 27-52. DOI link

86 Beichner D, Rabe-Hemp C. 'I don't want to go back to that town': Incarcerated mothers and their return home to rural communities. *Critical Criminology* 2014; **22:** 527-543. DOI link

87 Hammett TM, Drachman-Jones A. HIV/AIDS, sexually transmitted diseases, and incarceration among women: national and southern perspectives. *Sexually Transmitted Diseases* 2006; **33(7 Suppl.):** S17-S22. DOI link

88 Kellett NC, Willging CE. Pedagogy of individual choice and female inmate reentry in the U.S. Southwest. *International Journal of Law and Psychiatry* 2011; **34(4):** 256-263. DOI link

89 Lund R, Hyde R, Kempson D, Clarke P. Women's needs after release from prison to a rural community. *Journal of Correctional Health Care* 2002; **9(3):** 1 October. DOI link

90 Milberg J, Sharma R, Scott F, Conviser R, Marconi K, Parham D. Factors associated with delays in accessing HIV primary care in rural Arkansas. *AIDS Patient Care and STDS* 2001; **15(10):** 527-532. DOI link

91 St Cyr S, Jaramillo ET, Garrison L, Malcoe LH, Shamblen SR, Willging CE. Intimate partner violence and structural violence in the lives of incarcerated women: a mixed-method study in rural New Mexico. *International Journal of Environmental Research and Public Health* 2021; **18(12):** 6185. DOI link

92 Willging CE, Malcoe LH, St Cyr S, Zywiak WH, Lapham SC. Behavioral health and social correlates of reincarceration among Hispanic, Native American, and white rural women. *Psychiatric Services* 2013; **64(6):** 590-593. DOI link

93 Willging CE, Nicdao EG, Trott EM, Kellett NC. Structural inequality and social support for women prisoners released to rural communities. *Women & Criminal Justice* 2016; **26(2):** 145-164. DOI link

94 Mathias H, Jackson LA, Buxton JA, Dube A, Kiepek N, Martin F, et al. What features of drug treatment programs help, or not, with access? A qualitative study of the perspectives of family members and community-based organization staff in Atlantic Canada. *Substance Abuse Treatment, Prevention, and Policy* 2024; **19:** 20. DOI link

95 Seiling SB, Manoogian MM, Son S. 'I don't know how we would make it' - Social support in rural low-income families. In: J Baue, E Dolan (Eds). *Rural families and work.* New York: Springer, 2011; 157-183. DOI link

96 Folk JB, Stuewig J, Mashek D, Tangney JP, Grossmann J. Behind bars but connected to family: Evidence for the benefits of family contact during incarceration. *Journal of Family Psychology* 2019; **33(4):** 453-464. DOI link

97 Barrick K, Lattimore PK, Visher CA. Reentering women: The impact of social ties on long-term recidivism. *The Prison Journal* 2014; **94(3):** 279-304. DOI link

98 Poehlmann J, Dallaire D, Loper AB, Shear LD. Children's contact with their incarcerated parents: research findings and recommendations. *American Psychologist* 2010; **65(6):** 575-598. DOI link

99 Poehlmann J. Incarcerated mothers' contact with children, perceived family relationships, and depressive symptoms. *Journal of Family Psychology* 2005; **19(3):** 350-357. DOI link

100 Tuerk EH, Loper AB. Contact between incarcerated mothers and their children: Assessing parenting stress. *Journal of Offender Rehabilitation* 2006; **43(1):** 2-43. DOI link

101 Arditti JA, Parkman T. Young men's reentry after incarceration: A developmental paradox. *Family Relations: An Interdisciplinary Journal of Applied Family Studies* 2011; **60(2):** 205-220. DOI link

102 Grieb SM, Crawford A, Fields J, Smith H, Harris R, Matson P. 'The stress will kill you': prisoner reentry as experienced by family members and the urgent need for support services. *Journal of Health Care for the Poor and Underserved* 2014; **25(3):** 1183-1200. DOI link

103 Naser RL, La Vigne NG. Family support in the prisoner reentry process: Expectations and realities. *Journal of Offender Rehabilitation* 2006; **43(1):** 93-106. DOI link

104 Fahmy C. First weeks out: Social support stability and health among formerly incarcerated men. *Social Science & Medicine* 2021; **282:** 114141. DOI link

105 Groenewegen P, Dirkzwager A, van Dam A, Massalimova D, Sirdifield C, Smith L, et al. The health of detainees and the role of primary care: Position paper of the European Forum for Primary

Care. *Primary Health Care Research & Development* 2022; **23:** e29. DOI link

106 Plugge E, Douglas N, Fitzpatrick R. Patients, prisoners, or people? Women prisoners' experiences of primary care in prison: a qualitative study. *The British Journal of General Practice* 2008; **58(554):** 630-636. DOI link

107 Cornford CS, Mason J, Buchanan K, Reeves D, Kontopantelis E, Sibbald B, et al. A survey of primary and specialised health care provision to prisons in England and Wales. *Primary Health Care Research & Development* 2008; **9(2):** 126-135. DOI link

108 Anaraki S, Plugge E, Hill A. Delivering primary care in prison: the need to improve health information. *Informatics in Primary Care* 2003; **11(4):** 191-194. DOI link

109 Sheard L, Bellass S, McLintock K, Foy R, Canvin K. Understanding the organisational influences on the quality of and access to primary care in English prisons: a qualitative interview study. *British Journal of General Practice* 2023; **73(735):** e720-e727. DOI link

110 Young JT, Arnold-Reed D, Preen D, Bulsara M, Lennox N, Kinner SA. Early primary care physician contact and health service utilisation in a large sample of recently released ex-prisoners in Australia: prospective cohort study. *BMJ Open* 2015; **5(6):** e008021. DOI link

111 Cooper JA, Murphy S, Kirk R, O'Reilly D, Donnelly M. Data linkage studies of primary care utilisation after release from prison: a scoping review. *BMC Primary Care* 2024; **25(1):** 287. DOI link

112 Cole ES, DiDomenico E, Cochran G, Gordan AJ, Gellad WF, Pringle J, et al. The role of primary care in improving access to medication-assisted treatment for rural Medicaid enrollees with opioid use disorder. *Journal of General Internal Medicine* 2019; **34(6):** 936-943. DOI link

113 Bridges NC, Taber R, Foulds AL, Bear TM, Cloutier RM, McDonough BL, et al. Medications for opioid use disorder in rural primary care practices: Patient and provider experiences. *Journal of Substance Use and Addiction Treatment* 2023; **154:** 209133. DOI link

114 Ober AJ, Dopp AR, Clingan SE, Curtis ME, Lin C, Calhoun S, et al. Stakeholder perspectives on a telemedicine referral and coordination model to expand medication treatment for opioid use disorder in rural primary care clinics. *Journal of Substance Use and Addiction Treatment* 2024; **156:** 209194. DOI link

115 Ruud T, Aarre TF, Boeskov B, le Husevag PS, Klepp R, Kristiansen SA, et al. Satisfaction with primary care and mental health care among individuals with severe mental illness in a rural area: a seven-year follow-up study of a clinical cohort. *International Journal of Mental Health Systems* 2016; **10:** 33. DOI link

116 Jensen EJ, Mendenhall T, Futoransky C, Clark K. Family medicine physicians' perspectives regarding rural behavioral health care: Informing ideas for increasing access to high-quality services. *Journal of Behavioral Health Services & Research* 2021; **48(4):** 554-565. DOI link

117 Bureau of Justice Statistics. *Correctional institutions.* Available: web link (Accessed 5 November 2024).

118 Wagner P, Bertram W. What percent of the U.S. is incarcerated? (And other ways to measure mass incarceration). *Prison Policy Initiative* 2020. Available: web link (Accessed 5 November 2024).

Supplementary material is available on the live site https://www.rrh.org.au/journal/article/9618/#supplementary