

The background of the page is a photograph of a prison cell. It shows vertical metal bars in the foreground and a door with a padlock in the middle ground. The lighting is somewhat dim, and the overall tone is somber and institutional.

Incarceration and Sexually Transmitted and Blood-borne Diseases

Sexually transmitted and blood-borne infection (STBBI) rates have been increasing across Canada, particularly for hepatitis C (HCV), gonorrhea, and syphilis, including the highest rates of congenital syphilis ever reported (1). STBBI transmission is influenced by social, structural, and environmental factors (2), and these infections are increasingly associated with substance use, inadequate housing, and a history of incarceration.

Correctional facilities are important settings for preventive and protective healthcare services to support incarcerated people (3,4). However, opportunities to detect and manage STBBIs in correctional facilities are often missed, despite the prevalence of STBBI in incarcerated people. In 2010, Flanigan et al. noted that incarceration is often neglected as a component of HIV prevention for high-risk communities (5). Since that time, various others have emphasized the value of STBBI testing and management in correctional facilities, and expressed concern that these opportunities to interrupt transmission are not being used (6–9).

Providing STBBI care in corrections is important not just for the health of incarcerated individuals, but also the health of the communities to which incarcerated individuals return. High rates of incarceration and inmate turnover likely perpetuate the transmission of STBBIs in communities, especially when the average sentence is relatively short (10–15). As such, policies and practices that provide STBBI prevention, testing, and care services in incarceration facilities, as well as continuity of medical care after release, can significantly reduce STBBI prevalence and improve public health.

The purpose of this paper is to provide an overview of incarceration and STBBIs, and to provide evidence that correctional facilities in Canada are an essential setting for STBBI care. It includes a summary of risks and factors affecting transmission, and illustrates how movement between facilities and communities is an important factor in STBBI transmission. Note that data collection in correctional environments has historically relied on a binary view of gender as male or female. Until late 2017, this reflected federal corrections policy in Canada, which assigned incarcerated people to male or female facilities based on their anatomical sex or the gender on their identification documents. However, since 2017, federally incarcerated people have been able to be placed in an institution of their preference. Where possible, this document will include information on the experiences of nonbinary and transgendered people. Data collection has also shown that there are significant differences in patterns of incarceration and STBBI vulnerability for cisgender male and cisgender female incarcerated persons. This document will outline these differences, while recognizing that this is an incomplete and limited picture of gender.

Summary of conditions of incarceration

Incarceration involves movement and confinement of individuals outside of their communities as penalty for offenses committed against the laws and policy systems of their jurisdiction. Correctional facilities are governed by technical documents outlining minimum standards for the provision of basic needs and services (4,16,17). Conditions are dependant on the security status of the offender, but most inmates reside in congregate environments which encourage movement and interaction in common areas (16). Double bunking, the housing of two or more inmates in a

space designed for one, is intended to be a temporary measure used only during times of population pressure. However, it is a common practice in Canada, particularly in Provincial and Territorial (P/T) correctional facilities prone to overcrowding (18–20). Congregate environments, and correctional facilities in particular, are significant arenas for infection transmission.

For more information see the first paper of this series, Corrections and correctional facilities as a public health setting in Canada.

Corrections in Canada

In 2017-18 in Canada, average total actual-in counts in custody in P/T correctional services were: 24,657.7 (39% sentenced, 60% remanded, and 1% other statuses), with an average incarceration rate of 83.16 per 100,000 people; and 94,904 in community supervision, with a probation rate of 309.69 per 100,000 people (21). 85% of individuals who were in custody in Canada were men (22), 54% were between the ages of 20 to 34 (23), and 30% of all custodial admissions identified as Aboriginal (24). Of 199,016 male custodial releases, 99,585 served their term in one month or less, and 21,967 served their term in one to three months. Of 35,210 female custodial releases, 20,121 served their term within in one month or less (25).

¹ Corrections and correctional facilities as a public health setting in Canada <https://nccid.ca/publications/corrections-in-canada/>

² Probation rates are not available for all provinces and territories.

³ "Aboriginal" is the identifier used by Statistics Canada at the time of data collection.

STBBI transmission in correctional facilities

People who are incarcerated have high rates of infectious diseases, including STBBIs, compared to general populations (26–33). A 2012 systematic review and meta-analysis of the world-wide prevalence of STBBIs in incarcerated persons yielded prevalence estimates for men and women respectively of: 5.75% and 12.31% for chlamydia, 1.4% and 5.73% for gonorrhea, and 2.45% and 6.10% for syphilis (31). In a systematic review and meta-analysis of global epidemiology from 2005-2015, prevalence of HIV, HCV, Hepatitis B (HBV), and tuberculosis was higher in prison populations than in the general population, particularly for people who inject drugs (PWID) (34). The authors concluded this was likely due to the criminalisation of drug use; they modelled the contribution of repeat incarcerations to HIV incidence in PWID, and found that a reduction in incarceration was the most effective way to reduce the incidence of HIV, followed by the introduction of prison-based and post release opioid agonist therapy (OAT), and post-release HIV treatment retention (34). The authors stated, “evidence-based treatment for drug dependence and infectious diseases is rare or non-existent”; they also noted that there is a lack of data to inform programming and interventions (34). Another systematic review and meta-analysis of HIV, HCV, and HBV prevalence among key populations in prisons worldwide found PWID had 6 times the prevalence of

HIV, 8 times the prevalence of HCV, and twice the prevalence of HBV compared with non-injecting prisoner populations (33). The authors concluded that, “prevention programs specific to key populations are important, particularly for populations that are criminalized and/or may cycle in and out of prison” (33). A systematic review and analysis of incarceration history and risk of HIV and HCV in PWID by Stone et al. in 2018 found that recent incarceration increased the risk of HIV and HCV by 81% and 64% respectively, in comparison to the general population who did not inject drugs (35). Poteat et al. completed a comprehensive literature search of incarceration and transgender populations from 1992 to 2017. They identified limited data as a challenge (particularly for transgender men), but noted high incarceration rates and high HIV rates among incarcerated transgender people. Transgender people also experience high rates of violent victimization, including rape, while incarcerated, which may further increase their risk (36,37).

A 2004 Canadian study compared STBBI rates reported after admission to federal corrections to rates in the general population: chlamydia rates were 400 vs. 192/100,000, gonorrhea rates were 80 vs. 28/100,000, and syphilis rates were 80 vs. 5/100,000 people, respectively (38). In a voluntary and anonymous cross-sectional prevalence study



of HIV and HCV infections conducted among people admitted to 13 remand facilities across Ontario between February 1, 2003, and June 20, 2004, the prevalence of HIV infection among 1877 participants was 2.1% in men, and 1.8% in women (compared to 0.08% in the general population). The prevalence of HCV infection was 15.9% among men, and 30.2% among women (compared to 0.18% in the general population). For incarcerated men and women who injected drugs, the prevalence of

HCV infection was 54.7% (39). Kouyoumdjian et al. estimate that about 17.2% of those in provincial and territorial custody and 17.8% of those in federal custody have chronic hepatitis C infection (40). A 2004 to 2014-15 Quebec study of HIV and HCV prevalence in people who use drugs found there were significantly fewer incarcerated people who injected drugs in 2014-15 compared to 2003, but that while prevalence of infections decreased in women, it did not change for PWID (32).

Factors that contribute to increased opportunity for STBBI transmission

Individual and/or structural risk

Weihe et al's retrospective cohort study in Marion County, Indiana, which looked at STBBIs in the 1-year period after incarceration from 2000-2008, concluded that recently incarcerated and released offenders had high rates of HIV and STBBIs compared to non-offenders (42). Various factors increase STBBI risk in correctional environments, from personal experiences of loneliness and displacement to structural risks within and outside the correctional environment. Incarceration interrupts social, familial, and romantic relationships; these effects may extend after incarceration and contribute to greater likelihood of risky behaviours (42,43). People on parole or in supervision "may be more likely to engage in relationships with risky sex partners. For example, high rates of relationship dissolution, difficulties finding housing or employment on release, and relapse to drug use may encourage some ex-inmates to engage in sexual relationships in

exchange for housing or money" (44). These dynamics can be magnified by the sex ratio in the communities to which incarcerated individuals return; ex-offenders in seven counties that had a low sex ratio (more female than male residents) and high incarceration rates were particularly vulnerable to sexual activity and partner characteristics that put them at higher risk for HIV or other STBBIs (44). The authors theorized that high incarceration rates within specific populations contribute to both low sex ratios and high STBBI rates. They further suggest that interventions to decrease incarceration rates and increase treatment of problematic substance use would reduce risk of STBBIs (44). Knittel et al. validated this concept with an agent-based model, examining the impact of male incarceration on sexual partnership among 20-25 year old heterosexual male and female urban residents. They concluded that, "at rates of incarceration similar to those observed for

urban African American men, incarceration can cause an increase in the number of partners at the community level” (45).

Incarceration “leads to economic vulnerability, cumulative disadvantage, and limited access to educational opportunities and social and risk reduction services” (33); this experience of cumulative disadvantage is mirrored in the disproportionate rates of STBBIs in female offenders. In Weihe et al’s study, female offenders had higher rates of STBBIs than male offenders, although in the county in general male non-offenders had higher rates of STBBIs than female non-offenders (42). A systematic literature review by Erickson et al. had similar findings for HIV specifically: female offenders had worse outcomes than male offenders after incarceration for HIV viral suppression, ART adherence, and engagement in care, although their outcomes in prison were similar (46). A study of cross-sectional data from 290 women in three Kansas City jails found that half of the women lived in the urban core; these women were three times as likely to report a history of trading sex for money, drugs, or life necessities as women who lived elsewhere in the city. The study also showed that poor health outcomes for incarcerated women were correlated with the neighbourhoods where they lived (47); another review of literature found that the SAVA syndemic - associations and interactions between epidemics of gender-based violence, substance use, and STBBIs - is highly prevalent among impoverished urban women in the United States of America (48). Trauma amongst those who have experienced gender-based violence can trigger high risk sexual behaviours and substance use disorders; substance use can

in turn increase the risk of both experiencing gender-based violence and acquiring STBBIs. Initial findings suggest that between 20% and 57% of women who use drugs have experienced intimate partner violence in the past year; they are also significantly more likely than women in the general population to experience sexual assault from non-intimate partners (49). Forced sex and coercive sex work are correlated with inconsistent condom use and sexually transmitted infections; this relationship is particularly prominent among female sex workers, who may be coerced into sex work by intimate partners to get money for drugs (49). This is also relevant for MTF transgender individuals, who are at risk of drug use, gender-based violence, and STBBIs, and who may engage in sex work due to their extreme marginalization (41).

Recent scholarship by authors such as Brömdal et al. (37) and Poteat et al. (36), has sought to describe the lived realities of transgender people as they pertain to STBBIs in correctional facilities. However, data are lacking, and further research is needed to accurately describe both incarceration rates and the impacts of incarceration on STBBI prevention, transmission, and treatment for non-binary and transgender populations (33,36). Initial research suggests that the risk of both incarceration and STBBIs is high for transgender people (36,37,41), in part because they are at high risk of sexual violence while incarcerated (37), which is an important indication of the need for further study.

⁴ This same study noted that there were minimal reported data on STBBI prevalence in sex workers or transgender women

Harm reduction

STBBI risk in correctional facilities is increased by the low availability of harm reduction services for sexual health, tattooing, and substance use. In 2019, Sander et al. noted that although people who use and inject drugs constitute a large portion of the prison population, harm reduction continues to be extremely limited in prison settings (50). A study of adherence to international HCV recommendations in 25 European countries showed that 36% of countries identified prisoners as a high-risk population target for HCV testing/screening, 84% provided HCV treatment in prisons, 8% had needle

syringe programs available in prisons in all parts of the country, and 44% provided opioid substitution in prisons in all parts of the country (51). Canada is no exception, despite evidence supporting the value of harm reduction inside and outside of correctional facilities (52). In 2018, Correctional Service of Canada (CSC) began a prison needle exchange program in federal institutions to prevent the sharing of needles among inmates and reduce the spread of infectious diseases (53). Evaluation reports of this initiative are not yet available on the CSC website.

Healthcare in corrections

Incarcerated people, and particularly those who inject drugs, are often described as “difficult to reach” in community; however, incarcerated people use healthcare more than the general population, both while in prison and after release (40,54–57). A 2010 study in Ontario showed that the rates of all types of health care utilization were significantly higher both in prison and after release from prison (n = 48,861) compared to the general population (n=195,444) (55). Despite high rates of health care utilization, a survey of 65 people incarcerated in provincial correctional facilities in 2010 showed that many offenders felt they could not get the healthcare they needed while incarcerated, and 44% were dissatisfied with their care (54). In this study, female offenders particularly identified poorer health status than men, and while both women and men detailed frequent use of health services within correctional facilities, women

(72%) used services more than men (63%) (54). A health status review in Ontario provided evidence that incarcerated people have poorer health outcomes than the general population, including mortality in custody, mental health diagnoses, substance use, and communicable diseases including STBBIs (58). The review noted a lack of data on mortality after release, chronic diseases, injury, reproductive health, and health care access and quality (58). International minimum standards specify that inmates should have the same access to healthcare as they would within their community (17). Flanigan et al. argue that the well being and health of families, neighborhoods, and communities depend on the health of inmates within correctional facilities, further stating that “the health of inmates needs to be viewed as a shared responsibility between the judicial system as well as community health and public health

systems” (26). There are successful examples of health care provision in correctional facilities, even those that are overcrowded and have frequent movement in and out of facilities. Flanigan et al. cite several examples of effective protocols in US jail settings for screening for STBBIs, as well as substance use disorders, mental illness, and suicide risk (1). A lack of comprehensive health services may contribute to infectious disease transmission. Delays in medical care due to security procedures (27), in addition to interrupted testing, contact notification, prevention, and treatment due to displacement or movement, can all increase transmission of infections (27). Other factors contributing to transmission include a lack of timely follow-up

for positive results, and poor record-keeping and communication between correctional facilities and community healthcare settings during arrest, incarceration, or release. The provision of healthcare in correctional facilities creates opportunities to support incarcerated people and contribute to the health of their families and communities. To take advantage of these opportunities, policies and practices that improve access, coordination, and timeliness of care within correctional facilities need to be examined. Given the poor health of incarcerated individuals, interventions that provide support navigating health care and other basic services in the community on release should also be considered (59,60).

Movement in and out of Facilities

As described above, most inmates in Canada are in a correctional facility for a short time, quickly returning to their families and communities (25). Potter suggests that time, and flow in and through correctional facilities, affect who public health interventions can reach (4). Transitions in and out of incarceration can interrupt necessary STBBI services for the individual and increase community transmission. Evidence shows that communities with higher incarceration rates have high STBBI rates (2,10–15). High rates of incarceration and inmate turnover likely perpetuate infectious disease transmission in communities. In a study of 100 counties in North Carolina in 1999, moderately strong correlations were found between high rates of gonorrhea, chlamydia, and teenage pregnancies in communities with high rates of incarceration (10,15). In 2007, the same methodology was used in a study

of a North Carolina city; it found that census tract rates of incarceration were consistently associated with increasing gonorrhea rates in the subsequent year. An increase in the percentage of census tract person-time spent in prison from 2.0% to 2.5% corresponded to a gonorrhea rate increase of 7.1 cases per 100,000 person-years (14). In Chicago, higher rates of gonorrhea and chlamydia were associated with high homicide rates compared to other adjacent neighborhoods (11). Additionally, an ecological analysis in San Francisco in 2010 found a positive association between incarceration rates and chlamydia incidence in young women under age 25 (12). Using 2011–2016 national and county level data across the US, jail and prison incarceration rates were associated with a rate increase of 10.13 per 100 000 and 8.22 per 100 000 of chlamydia and a 2.47 per 100 000 and 4.40 per 100 000 rate increase of gonorrhea incidence, respectively (13).



Improving the Transition to Community

Individuals returning to community need social support, healthcare, housing, and employment (61). However, incarceration can be a significant barrier to obtaining housing (which determines access to other social services) and employment (62,63). Personal support networks can be negatively affected by incarceration, and substance use is common on release (42,61). Research has shown the promise of an integrated community health delivery system that links service providers and corrections organizations in a coordinated and accountable system, as Smith et al describe for justice-involved women (62). Semi-structured interviews with formerly incarcerated individuals in Milwaukee found that participants themselves wanted formal coordination between correctional services and healthcare services in community; they also wanted clinics to

provide social services and mental health supports as well as medical services, and to be welcoming (Walsh-Felz et al. 2019). The Connecticut Building Bridges Community Re-entry Initiative (CRI), a strength-based case management and intervention model for men leaving incarceration, focused on creating a continuum of support for employment, housing, mental health and other health care, and substance use. Each participant had a case manager, who worked with them to identify risks and develop a re-entry plan, provided support services, and coordinated community services. “[C]ase managers provided or arranged vocational counseling, assisted with housing and finances, facilitated access to health care, connected men to community supports, and coordinated substance abuse treatment. ... Case managers also coordinated mental health and medical treatment in the

community” (61). 65% of participants were retained in the program 18 months after re-entry into the community: it helped the majority of men to realize goals related to housing; nearly half of the men who used substances received treatment; and more than one third of participants secured employment

(61). The program was most successful at meeting immediate needs, but less successful at health promotion and prevention; the authors suggest a prevention science framework for education, planning, and service delivery during the transition to community (61).

Considerations for Specific Sexually Transmitted and Blood-borne Diseases

HIV

Incarceration rates likely affect the prevalence of HIV within communities. Incarcerated people living with HIV are less likely to be virally suppressed (65–68) and therefore are more likely to transmit the virus, particularly in high prevalence settings. Although current treatment advances, early detection, and adherence to treatment regimens can together provide HIV positive people a normal, healthy lifespan, HIV in incarcerated people is associated with poor outcomes. Incarceration, and the conditions leading to incarceration, may be a barrier to HIV treatment adherence and its associated positive outcomes.

In a study of 1,746 individuals (101 incarcerated and 1645 non-incarcerated) who started HIV treatment between 1997 and 2002 in BC, a history of incarceration within 12 months of initiating HIV treatment independently increased the odds of non-adherence (68). A history of injection drug use was also associated with non-adherence, though longer incarceration periods decreased these odds (53). A BC observational

study of cis and trans women living with HIV found 41% viral suppression amongst 292 participants at baseline; among those who were incarcerated during the study (n=50, 17%), 8% were suppressed at all study visits, 66% were suppressed intermittently, and 26% were unsuppressed at all study visits (69). The authors concluded that while we often see incarceration as a missed opportunity for engagement in HIV or STBBI care, incarceration may itself be associated with interruptions in, and/or difficulty adhering to, HIV treatment (69). A systematic review of the gendered implications of incarceration on HIV outcomes illustrated that, though there were no clear sex differences in HIV outcomes during periods of incarceration, studies reporting post-incarceration outcomes demonstrated women were less likely to be virally suppressed, less likely to achieve optimal HIV treatment adherence, and less likely to be engaged in care (46). In addition, retrospective data from 2008-2011 from 9 US states showed that 6 months post-release, women were significantly less likely than men to experience optimal HIV treatment

outcomes, including retention in care (50% vs 63%), antiretroviral therapy prescription (39% vs 58%) or optimal antiretroviral therapy adherence (28% vs 44%), and virological suppression (18% vs 30%) (70).

A retrospective chart review of patients who attended an HIV Outreach Clinic at a Canadian remand center between 2007 and 2011 found a 23% increase in outpatient engagement, improved virological suppression during incarceration (55.2 to 70.7%), improved HIV treatment adherence following incarceration (55.2 to 70.7%), and sustained treatment one-year post-incarceration (70.4 %). These findings validate the utility of HIV care in correctional facilities, even for short-term incarceration (though retention into community care did not significantly improve following incarceration) (66). A study of all-cause mortality from 2007-14 reported that among 1,350 incarcerated people living with HIV in Connecticut, 14% died during a median 5.2 years after release (71). The mortality rate was 6.97 and 8.47 times higher than the general US and state populations respectively, and the main reported causes of death were HIV/AIDS (46%), drug overdose (15%), liver-related disease (10%), cardiovascular disease (9%), and accidental injury or suicide (8%) (71). The authors noted that protective factors for time to death were being of black race, having health insurance, having a long period of re-incarceration, and having an increasing proportion of re-incarcerations in which HIV treatments were prescribed (71). In a study from Connecticut, the proportion of HIV infected individuals with viral suppression decreased significantly from 52% on release to 31% at re-incarceration; of HIV infected inmates that attained viral suppression during incarceration, only 51% retained

viral suppression after re-incarceration (72). For 54% of re-incarcerations, individuals had a viral load higher than 1500 copies per mL on admission from the community (72). These findings illustrate the gap in linkage to care at the time of release to the community, and the potential for community transmission that this gap creates.

An observational study of previously incarcerated people living with HIV (PLWH) found frequent use of emergency departments for healthcare, a practice that is often associated with homelessness, mental illness, and substance use; the study highlighted the importance of addressing these factors after prisoners are released to an often destabilizing environment (73). A 2010 retrospective review of 330 PLWH released from provincial prison, compared to control groups of PLWH not released from prison, HIV-negative people released from prison, and HIV-negative persons not released from prison, found that people with HIV released from provincial prison had higher rates of primary care use, unscheduled emergency department visits, and hospital admissions at 30, 90 and 365 days after release (74). Finally, a survey of the medical directors of the fifty state prisons and forty of the largest jails in the United States found that many (approximately 80%) had room to improve to meet recommendations by the CDC regarding in-facility HIV testing and management, and coordination of post-release treatment (75). There are no current Canadian standards for HIV prevention and care in correctional facilities.

HCV

Approximately one in nine people with chronic hepatitis in Canada will spend time in a correctional facility each year (40). Incarceration provides an opportunity to identify and cure HCV infections, and yet evidence shows that incarcerated people are less likely than others to receive treatment (76–78). The document blueprint to inform hepatitis C elimination efforts in Canada outlines issues with access, even in jurisdictions that have low barrier policies to make HCV treatment available for incarcerated people. Challenges include: a lack of confidentiality in prison settings, stigma among prisoners and staff (including healthcare staff), short periods of incarceration, interruption of provincial drug benefit programs during incarceration, and poor follow-up when transferred or upon release (79). A review of the literature of mathematical modeling of HCV prevention strategies provides support for the use of

micro-elimination strategies that prioritize incarcerated individuals and injecting-network partners (77). In a study examining the cost of HCV treatment vs. hospital admission for untreated HCV infection, multivariable modeling showed that HCV infection was associated with a 73% increase in the odds of 30-day readmission compared to patients without HCV infection. In subgroups with no liver disease, HCV infection was still associated with a 72% increased risk of 30-day readmission (78). The authors found HCV was associated with a 6% increase in cost per hospitalization episode, which, given average hospitalization rates of inmates with HCV and average US HCV treatment costs in 2013, could account for 3 courses of treatment at that time (78). Reaching people in correctional facilities with HCV prevention and curative treatment could make a significant contribution to eliminating HCV transmission and reducing healthcare costs.

Other STBBIs

Most STBBIs are asymptomatic, which contributes to infection transmission. In a high prevalence environment for communicable disease, early identification and management (including identification and notification of contacts) are essential for interrupting transmission. STBBIs such as trichomonas, chlamydia, gonorrhea, and mycoplasma genitalia infections all have negative sequelae, particularly for women, and increase the risk for HIV infection (80), thereby further increasing transmission risks in correctional environments. In a study looking at medical records from the Dallas County Jail and community HIV clinics in 2010

to 2013 to determine the testing frequency and results for gonorrhea, chlamydia, syphilis, and hepatitis B virus (HBV) among PLWH, it was found that testing for gonorrhea and chlamydia was low, particularly in the jail, which was attributed to testing protocols favoring serological testing (81). Yet, high proportions of PLWH tested positive for syphilis and HBV infection in both settings (81). Antimicrobial resistance to treatment of gonorrhea and other organisms could also have significance in the correctional environment.

Syphilis is a complicated bacterial infection to identify and manage, particularly in

correctional environments with frequent population movement. Identification of acute versus treated infections is challenging, and follow up requires ongoing serological assessment for 1-2 years after infection depending on disease staging at diagnosis (82). Treatment requires two painful penicillin-based injections – done once for infections that are identified early, and weekly for three weeks for latent infections (greater than 1 year) or infections of unknown duration. Interruptions in treatment and serological follow-up can contribute to ongoing transmission and negative sequelae for the individual; these interruptions are significant in perpetuating current outbreaks of syphilis across Canada. Due to high rates of reinfection in populations, increased frequency in screening (every 3 months) has been an important intervention to identify repeat infections (83).

There is limited literature regarding syphilis infections in correctional facilities, despite the higher prevalence of these infections.

However, a 2007-08 syphilis outbreak investigation in a California men’s prison found that the outbreak was exacerbated by delays in: clinical management, case interviews, and reporting of infectious syphilis cases. Evaluation, quicker case management, and a universal offer of testing curbed the outbreak (84). After a 2016-17 California syphilis outbreak, an evaluation of routine syphilis screening in a Fresno jail found that, of 24,045 inmates (24.5% women; 75.5% men), 29.7% persons were screened for syphilis, 8.6% had a positive result indicating either new or treated infection (16.4% women; 6.4% men), and 3.3% were newly diagnosed with acute syphilis infection, as compared to the community surveillance system (6.9% women; 2.4% men). Of those who tested positive for syphilis, only 51.7% received adequate recommended treatment (59.4% women; 45.5% men) (85). STBBI services in correctional facilities provide an important opportunity to break the STBBI chain of transmission; however this opportunity is not always realized, as the above figures show.

Why is this important?

Correctional facility populations have a high prevalence of STBBIs due to social, structural, and environmental factors. Incarcerated individuals are separated from supportive relationships, and may engage in higher risk sexual behaviours and high-risk activities like injecting drugs. Limited access to harm reduction services and other preventative interventions can increase opportunities for transmission. Lack of, or delays in, STBBI testing and management are worsened by quick turnover times for incarcerated individuals in Canada, further

contributing to transmission in correctional facilities and the community. Short periods of incarceration, which are more prevalent for women, increase the need for quick and efficient public health services that break the chain of transmission. Structural policies and protocols determine access to efficient and timely testing, management, and follow up for STBBIs, including provision of healthcare during transitions, and assistance navigating healthcare and other relevant services once incarcerated individuals return to the community. Other factors, such as increasing

incarceration rates (25% in the last 20 years) (86) may contribute to increasing rates of STBBIs. In July 2020, the Canadian Association of Police Chiefs acknowledged this, and called on the federal government to decriminalize possession of illegal drugs

for personal use, further recommending that Canada's enforcement-based approach be replaced with a healthcare approach that diverts people from the criminal justice system (87).

What is needed to provide quality STBBI testing and care in correctional services?

There are currently no available standards, guidance, or recommendations for STBBI public health and healthcare in correctional environments in Canada. There is also a lack of publicly available data regarding people who are incarcerated in Canada, making it more difficult to develop evidence based interventions and policies. A supportive, evidence based approach to STBBI identification and treatment for incarcerated people, combined with structural policies to prevent incarceration, could decrease STBBI incidence and interrupt the cycle of incarceration and poor health outcomes. A structured program of reintegration that addresses barriers to successful community

transition, in particular ensuring basic subsistence needs are met and logistical barriers to healthcare are reduced, can contribute to decreasing the inequities described (63). Metrics to measure performance of STBBI management during incarceration and upon release would also help to identify gaps and improve outcomes in the Canadian context. What public health and related policies and standards of healthcare are necessary to support incarcerated people, their families, and communities? What are the components of successful public health interventions to reduce STBBIs in Canadian correctional facilities?



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Project #566

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Production of this document has been made possible through a financial contribution from the Public Health Agency of Canada through funding for the National Collaborating Centres for Public Health (NCCPH). The views expressed herein do not necessarily represent the views of the Agency. Information contained in the document may be cited provided that the source is mentioned.