

Growing Crises of HIV/AIDS, Hepatitis C, and Chronic Mental Illnesses Among Prison Populations in Canada: Implications for Policy Prescriptions With a Special Focus on Aboriginal Inmates

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Abstract

Human Immunodeficiency Virus (HIV), Hepatitis C Virus (HCV) infections, and mental disorders are diseases that run rampant in Canadian correctional facilities. Prisoners, particularly Aboriginal inmates, bear a disproportionate burden of these diseases as compared to the general Canadian population. The current response by the prison authorities to curb the prevalence of HIV, HCV, and mental illnesses among prisoners is insufficient, despite many interventions already in place. To effectively address this crisis, I recommend bridging the gap between current harm reduction measures in policy and in practice; implementing prison based needle exchange programs; officially permitting tattooing in prisons; building adequate drug interdiction strategies; implementing better addiction treatment services; and implementing evidence-based mental health improvement models for inmates with both severe and milder forms of mental illnesses. In light of the epidemiological reality of prison environments and complex links between viral infections and mental disorders, I additionally recommend implementing an integrated policy facilitating cohesive education, prevention, care, and treatment for these conditions simultaneously. Since Aboriginal inmates are most vulnerable to HIV, HCV, and mental illnesses, I also recommend giving additional attention to Aboriginal-specific culturally sensitive interventions.

Keywords: Canadian public policy, prison populations, Aboriginal inmates, HIV/AIDs, Hepatitis C, mental illness

Introduction

Canadian correctional facilities are an epicenter for infectious and chronic diseases. In contrast to the general Canadian population, prisoner populations have alarmingly high

prevalence rates of Human Immunodeficiency Virus (HIV) and Hepatitis C Virus (HCV) infections. The prevalence of HIV and HCV infections in the general Canadian population is estimated to be only 0.13 percent and 0.8 percent, respectively (Thomas 2005, 5-6). In contrast, 1.72 percent and 30.2 percent of inmates at federal prisons, and up to 4.4 percent and 20.5 percent of inmates at provincial prisons, are known to be infected with HIV and HCV, respectively (Calzavara et al. 2007, 257; PHAC 2012; Poulin et al. 2007, 255).

In addition to HIV and HCV infections, inmates in Canadian correctional facilities suffer from a higher prevalence of mental illnesses as compared to the general population. On average, 7.0 to 8.0 percent of Canadian women and 4.5 to 6.8 percent of Canadian men have reported poor mental health (GSC 2006, 3). In contrast, 31 percent of female inmates and 15 percent of male inmates have reported emotional and mental health disorders at the time of intake (36). Nonetheless, these numbers may largely underestimate the occurrence of mental health issues among the general as well as prison populations in Canada. This is because many individuals may be unwilling to admit that they suffer from mental disorders due to the social stigma associated with poor mental health (42), and the subjective nature of self-reported mental health.

Major depression, general anxiety disorder, psychosocial dysfunction, schizophrenia, antisocial personality disorder, alcohol dependence, and drug dependence account for the most prevalent chronic mental illnesses among federal inmates in Canada (GSC 2006, 35-36). The majority of inmates with mental illness suffer from more than one mental disorder simultaneously. Over 90 percent of prisoners diagnosed with mood, anxiety, or psychological disorder have at least one other mental illness, most commonly substance abuse (36). Similarly, 50 percent of inmates with substance abuse problems also suffer from other mental disorders (36).

Aboriginal people are vastly over-represented among federal and provincial prisoner populations. Although Aboriginal people account for only 4 percent of the Canadian population, they constitute 23 percent of Canada's federal prison inmate population and up to 60 percent of provincial inmate populations (Sapers 2012, 35; Rudin 2013, 12). Aboriginal prisoners bear a significantly higher burden of HIV and HCV infections, as well as mental disorders, as compared to non-Aboriginal prisoners (GSC 2006, 164; PHAC 2010, 11). On average, 92 percent of Aboriginal inmates have substance-use problems (PHAC 2010, 40). Mental disorders, including anxiety and major depression, are known to enhance the frequency of substance use, as well as unsafe drug intake strategies, such as sharing contaminated needles (CCSA 2010, 14-26). This can increase the opportunities for transmission of blood-borne pathogens, including HIV and HCV, among Aboriginal prisoners. Thus, disproportionately poor mental health of Aboriginal inmates may be interconnected with substantially higher prevalence rates of HIV and HCV infections among them in Canadian correctional facilities.

Despite HIV and HCV infections, drug abuse, and poor mental health, current policies remain insufficient to address the crises of these infectious and chronic illnesses in Canadian prisons. In light of the issues facing current policies, it is imperative to consider major changes in programs and interventions that target prevention and control of these diseases among the general prison population, as well as Aboriginal inmates. The aim of this paper is to highlight the key risk factors contributing towards high prevalence of HIV, HCV, and mental illnesses among Canadian prisoners, as well as to explore the complex connections between poor mental health, high-risk behaviours, and acquisition of HIV/HCV infections, particularly among Aboriginal inmates. This paper will also highlight the general and Aboriginal-specific strategies currently in place to curb the rates of these infectious and chronic illnesses in Canadian prisons. I will further discuss the limitations of current policies and provide general and Aboriginal-specific recommendations to reduce the prevalence of mental illnesses, high risk behaviours, and HIV/HCV infections among prisoners in Canadian correctional facilities.

Risk Factors Contributing to the High Prevalence of HIV, HCV, and Mental Illnesses in Canadian Prisons

Inmates engage in a variety of high-risk behaviours while incarcerated, including sharing needles during injection drug use (IDU), unsafe sex, unsafe tattooing practices, as well as self-inflicted injury. IDU is the main route of exposure to HIV and HCV among Aboriginal inmates (PHAC 2010, 20-28). These viruses are transmitted through direct blood to blood contact; sharing syringes contaminated with infected blood provide excellent opportunities for viral spread. In fact, a substantially higher proportion of injection drug users (IDUs) in prisons (80 percent) share injection drug equipment than IDUs in the outside community (15 percent; Thomas 2005, 4-5; Elliot 2007, 262; Jürgens, Ball, and Verster 2009, 58; PHAC 2006, 73-74). IDU is disproportionately high among Aboriginal inmates; thus, they are more vulnerable to acquiring HIV and HCV infections in prisons. In fact, 58.8 percent of HIV cases among Aboriginal individuals occur due to IDU (Barlow 2009, 15) compared to only 14 percent of HIV cases among the general Canadian population (PHAC 2010, 24). The need for sharing non-sterile injection equipment between large numbers of inmates arises mainly due to the scarcity of sterile needles in prisons, as well as reluctance to seek needle-decontaminating agents, such as bleach, due to the stigma and punitive consequences of drug use.

Unsafe sexual practices is the second leading cause of HIV and HCV infections among Aboriginal inmates. Although condoms, dental dams, and water-based lubricants are available in most Canadian prisons, access to these provisions is usually limited due to lack of anonymity (Rehman et al. 2008, 67; CAAN 2006, 7). Due to the fear of repercussions from the prison staff, inmates are reluctant to seek safer sex measures and thus often engage in unsafe sexual practices.

Tattooing, although prohibited, remains a fairly popular social activity among inmates. Tattoos can be used to cover the track marks for injections, making it a common practice among IDUs in prisons (PHAC 2004, 143). However, most prisons lack licensed tattooists, equipment sterilization techniques, and availability of clean needles. A significant proportion of inmates report sharing tattooing equipment in order to escape detection and punishment (Kondro 2007, 307-8; Poulin 2007, 254; Rehman et al. 2008, 60, 68). Sharing of contaminated equipment can significantly increase the risk of HIV and HCV transmission.

Self-mutilation is another important risk factor associated with HIV and HCV infections in prisons. Inmates often share “sharps” and other implements to cut their skin (Rehman et al. 2008, 68), which makes them more susceptible to acquiring these infections. Self-inflicted injuries are often used to alleviate depression resulting from poor mental health. Correctional Service of Canada (CSC) estimates that 45 percent of all self-injury incidents in prisons are attributable to Aboriginal offenders (Sapers 2012, 8).

In addition, poor mental health is associated with high incidence of substance abuse and unsafe sex practices. Many inmates start using drugs in prisons as a means to release tension and to cope with the overcrowded and violent atmosphere in prisons (Jürgens, Ball, and Verster 2009, 58). Thus, the prison environment itself can increase depression and lead to the development of mental illnesses among inmates. Individuals experiencing poor mental health often resort to drugs in an attempt to self-medicate and alleviate emotional pain, bad memories, guilt, shame, anxiety, and terror (CCSA 2010, 13-23). Drug abuse can further lead to stress and trauma, producing a self-perpetuating cycle of deteriorating mental health and substance abuse. Substance-use issues including IDU are further associated with inconsistent condom use. In fact, a study of IDUs in Regina, the vast majority (87.2 percent) of whom were Aboriginal, depicted that 68 percent of males and 70 percent of females did not use condoms with regular sexual partners (PHAC 2010, 43). This suggests that mental disorders may enhance unsafe drug injecting and sexual practices, contributing to transmission of HIV and HCV. Thus, poor mental health plays an important role in the high prevalence of HIV and HCV infections among Aboriginal prisoner populations.

Moreover, HIV and HCV infections can worsen the mental health of prisoners. In addition to the stress that the diagnosis of HIV and HCV brings, Aboriginal inmates affected by these diseases are often discriminated against, stigmatized, and isolated from others, which can lead to major depression. Anti-HIV and anti-HCV regimens are also known to have negative side-effects, including depression, anxiety, and mood disorders (Andriote and Roy 2012, 1; Nelligan, Indest, and Hauser 2008, 314). In addition, approximately 60 percent of HIV positive individuals experience neurocognitive deficits (Kranick and Nath 2012, 1320; Ghafouri et al. 2006, 2). Since HIV weakens the immune system, there is also an increased risk of acquiring opportunistic viral, fungal, and parasitic infections that strike the nervous system (Smith,

Smirniotopoulos, and Rushing 2008, 2040-54; Ghafouri et al. 2006, 2). Similarly, neurocognitive deficits are also associated with HCV infection. In advanced stages of liver cirrhosis, accumulation of neurotoxic substances can lead to hepatic encephalopathy, which negatively affects thinking and memory (Nelligan et al. 2008, 313). Thus, disproportionately higher prevalence of HIV, HCV, and mental illnesses among Aboriginal inmates are intricately linked.

Responding to HIV and HCV Infections and Mental Illness in Canadian Prisons

HIV and HCV Control and Prevention Strategies in Canadian Prisons

In order to curb the rates of HIV and HCV infections among prisoner populations in Canada, qualified health care staff and peer inmates educate fellow prisoners regarding the biology of each infection and modes of HIV and HCV transmission, including risks of sharing injection drug and tattooing equipment and unsafe sexual practices (Betteridge and Dias 2007, 58). CSC-funded programs and community organizations also disseminate information on harm reduction and safer sex strategies through HIV and HCV workshops in prisons (59). Voluntary HIV and HCV testing is available across Canadian correctional facilities, with pre-and post-test counselling (26). Prison health care staff also advises inmates with a history of high-risk behaviours to get tested for HIV and HCV infections (28). Specific sexual health nurses are designated to perform these tests; the results of the tests are anonymous, are not reported to the health care staff, and are kept confidential between the nurse and the prisoner (31).

Safer sex measures – condoms, dental dams, and lubricants – are required by policy to be available to inmates in order to reduce the transmission of HIV and HCV in prisons. CSC's mandate states that access to these measures should be discreetly available to inmates at a minimum of three locations inside the facility, as well as in all private family visiting units (Betteridge and Dias 2007, 38). Some jurisdictions, such as Manitoba provincial prisons, also offer release kits for prisoners. These kits contain condoms, lubricant, information on safer sex, and phone numbers for local health services and Aboriginal organizations (40). This is an inexpensive and effective strategy to help non-Aboriginal as well as Aboriginal prisoners protect their sexual health after release from incarceration.

CSC's bleach distribution policy inside prisons is an important harm reduction measure against the transmission of HIV and HCV through IDU and tattooing. Specific staff personnel are appointed by the warden to coordinate bleach distribution to inmates in a confidential and non-discriminatory manner (Betteridge and Dias 2007, 43). Full-strength household bleach is available to prisoners with education on disinfecting injecting, tattooing, and piercing equipment (43). Small containers of bleach are also provided in a health kit given to inmates upon entry and release (42). A few federal prisons in Québec also provide inmates with tattooing kits containing bleach, gloves, alcohol swabs, topical antibiotic ointment, and an empty container for preparing ink or cleaning equipment (46). These kits are provided only upon request.

As part of their drug interdiction strategy to prevent IDU and thus transmission of HIV and HCV in prisons, CSC performs monthly urine testing on 5 percent of inmates at federal prisons to detect illicit drug use (MacPherson 2004). However, most provincial prisons do not carry out random urine testing for illicit drugs. They perform urine testing only when there are reasonable and probable grounds to believe that a prisoner has consumed an illicit substance or as a requirement for admittance into drug treatment programs (Betteridge and Dias 2007, 57). Other drug interdiction strategies include the use of metal detectors, ion scanners, drug detection dogs, and random cell searches by the prison staff (PSC 2010).

Drug addiction treatments, such as Methadone Maintenance Therapy (MMT) – methadone is a narcotic medication used to treat opiate addiction – are also becoming more common in Canadian prisons. The majority of prisons allow inmates to continue MMT during the course of their detention if they were already receiving this therapy in the community. However, only a few facilities permit inmates to initiate methadone use while imprisoned (CHLN 2012, 19-20; Betteridge and Dias 2007, 49-50). MMT is often accompanied by interventions such as drug screening, education on substance abuse, and addiction counselling (Betteridge and Dias 2007, 51-52).

In addition to the above described initiatives, some efforts have been made to develop culturally sensitive strategies to meet the needs of Aboriginal offenders. Peer HIV and HCV programming is available to Aboriginal inmates in federal prisons through the Circle of Knowledge Keepers (Betteridge and Dias 2007, 90). Knowledge Keepers fulfill the role of traditional storytellers, empowering Aboriginal prisoners to adopt healthy and safe lifestyle choices. This includes organizing workshops and activities to create awareness about HIV and HCV infections, transmission, and harm reduction strategies (90). Some also play key roles in ensuring that safer sex measures are consistently available to all Aboriginal inmates. In addition, Aboriginal organizations, such as All Nations Hope, have been contracted by CSC in some jurisdictions to train Aboriginal prisoners as peer Knowledge Keepers (92). Some provinces also offer Aboriginal-specific HIV and HCV education through local Aboriginal organizations (95). Occasionally, Aboriginal community organizations run traditional activities in prisons to aid inmates deal with illness; common activities include talking and healing circles with the Elders, smudging, and traditional Aboriginal crafting workshops (97).

Correctional healing lodges are culturally appropriate alternative justice models specifically designed to meet the needs of Aboriginal offenders and divert them away from incarceration. At these healing lodges, Aboriginal values, traditions, and spiritual beliefs are used to design services and programs for offenders. Since incarceration itself is a key risk factor for acquiring HIV and HCV among Aboriginal IDUs, admission of these offenders at correctional healing lodges has the potential to greatly reduce this risk. In addition, high-risk behaviours, particularly IDU and tattooing, are not as common in these healing lodges in comparison to

Canadian prisons (Barlow 2009, 22). Since confidentiality is protected, safer sex measures and harm reduction strategies are much more easily adopted by the inmates at healing lodges (23, 44). Traditional activities and treatments to manage the symptoms of HIV and HCV are also supported at the lodges (CAAN 2006, 19). Moreover, the healing lodges address the negative impacts of colonialism, assimilation, and residential schools on Aboriginal physical, emotional, mental, and spiritual health (21-26). As a result, re-connection of the offenders with their communities, families, heritage, language, and traditional ways constitutes an important part of the healing process. This can empower the offenders to move away from social stressors, substance abuse, and incarceration, thereby reducing their vulnerability to infectious and chronic diseases.

Strategies to Treat and Prevent Mental Illness in Canadian Prisons

The majority of offenders enter the correctional facilities with existing mental illnesses and disorders. As a result, detection and treatment of mental disorders constitutes a key part of the *Mental Health Strategy for Corrections in Canada*. The key elements that this policy focuses on include mental health promotion, screening and assessment, treatment, services and support, staff education, and partnerships with community mental health services to ensure a continuum of care for the inmates after release (OMCSCS 2012, 20). The mental health of inmates is assessed upon intake and is continuously monitored by designated personnel (Livingston 2009, 16). A specialized mental illness screening tool, called the Computerized Mental Health Intake Screening System (CoMHISS), is also under development in some federal prisons to administer psychological tests to the consenting offenders (Service 2010). Inmates with mental disorders are referred to a qualified mental health professional for a comprehensive assessment to understand the nature and severity of their mental illness. Psychotropic medications to treat mental illnesses are disseminated under the supervision of licensed health care professionals (Livingston 2009, 24). Psychotherapeutic interventions including cognitive behavioural therapy exist, but are not as readily available in prison settings (25). CSC also operates five psychiatric service units or regional treatment centers (RTCs) for inmates with serious mental health problems who cannot be housed with the general offender population (SCPSNS 2010, 9; Livingston 2009, 25). The goal of RTCs is to stabilize the mental health of inmates so that they can return to the general prison population (SCPSNS 2010, 10). In addition, community programs are identified to provide mental health services and support to the inmates after their release from prisons (Livingston 2009, 84). Improving mental health of inmates is crucial, as it will improve individual health outcomes, leading to safer communities inside and outside of Canadian prisons.

Issues Facing Current Policies to Limit HIV, HCV, and Mental Illness in Canadian Prisons: Recommendations for Future Policies

Gaps Between Policy and Practice of Harm Reduction Strategies in Prisons

There are myriad issues facing current HIV, HCV, and mental illness control and prevention policies in Canadian correctional facilities. Although harm reduction policies, such as safer sex measures, have been implemented across correctional facilities in Canada, access to these measures varies considerably between facilities, and some prisons still lack these provisions in practice. According to one survey, condoms were not available in provincial prisons in New Brunswick, Prince Edward Island, and Nunavut (Betteridge and Dias 2007, 37; CHLN 2012, 10). In some prisons, inmates had to rely on the prison staff to gain access to safer sex provisions; however, the policy mandates discreet access to condoms, lubricants, and dental dams in all Canadian prisons (Betteridge and Dias 2007, 38). Issues with the distribution, quality, and provision of instructions for dental dams have also been reported (Betteridge and Dias 2007, 37; Rehman et al. 2008, 67).

The provision of bleach is another area exhibiting variability in availability and accessibility in Canadian prisons. In a study of female inmates at federal and provincial prisons across Canada, 70 percent of female IDUs expressed major concerns regarding access to bleach. Inmates had to request prison or healthcare staff to gain access to bleach, which often resulted in breaches of confidentiality. The quality of bleach was also questionable at several institutions as it had been excessively diluted, and thus, may no longer be as effective at killing pathogens, particularly HIV and HCV (Rehman et al. 2008, 67). In addition, numerous studies depict that more than half of inmates do not practice proper disinfection procedures using bleach due to a lack of knowledge regarding its use (Betteridge and Dias 2007, 41). Thus, many gaps exist between harm reduction strategies in policy and in practice in Canadian prisons.

In order to bridge the gaps between harm reduction measures, particularly safer sex provisions and bleach, in policy and in practice, I recommend that:

- (i) Without any further delay, condoms, lubricants, dental dams, and full strength bleach should be made available in a confidential manner, without having to ask the staff, in all federal and provincial correctional facilities across Canada.
- (ii) These provisions should be accompanied by instructions written in plain language with pictorial representations regarding their proper use and disposal.
- (iii) Specific external personnel should be assigned to monitor the adherence to CSC policies within each institution.
- (iv) In case of any breach of confidentiality on part of the prison staff, strict consequences, including fines and suspension, should be imposed.

Lack of Prison Needle-Exchange Programs

The Canadian government has a statutory obligation to provide inmates in correctional facilities with essential health care, equivalent to that available in the community. However, many inequities exist between community-based and prison-based HIV and HCV prevention and control strategies. This is clearly evident in the lack of needle and syringe exchange programs in Canadian prisons, as these provisions are widely available in the outside community. The Canadian government has consistently refused to implement needle-exchange programs in prisons due to its zero-tolerance policy towards drug use in correctional facilities (Elliot 2007, 263). It is imperative to implement such programs even in the presence of needle decontamination techniques, such as bleach, which are not always effective due to prisoners not following the correct disinfecting procedures (Betteridge and Dias 2007).

Access to sterile injection equipment has been demonstrated to be one of the most important strategies to prevent HIV and HCV transmission among IDUs. Syringe exchange reduces sharing of contaminated needles between IDUs, thus decreasing the risk of HIV and HCV transmission. In Saskatchewan, needle exchange programs have led to a decrease in HIV and HCV transmission by one third (LTSC 2008, vi). Distributing sterile needles has been shown to reduce the total cost of health care services required to treat HIV and HCV; in some provinces, these health care costs have been reduced by about four million dollars annually (vi). Prison needle-exchange programs (PNEPs), whereby IDUs can obtain sterile needles free of charge in exchange for used ones, have been implemented in numerous jurisdictions worldwide including Switzerland, Germany, Spain, Scotland, and Armenia (Kerr and Jürgens 2004, 3; Dolan, Rutter, and Wodak 2003, 154). In these jurisdictions, PNEPs have significantly reduced needle-sharing among IDU inmates, did not lead to increased IDU among them, and did not threaten prison safety and security (Kerr and Jürgens 2004, 3; Dolan et al. 2003, 154-58). In fact, PNEPs were found to increase the uptake of health care services, addiction treatment, and voluntary HIV and HCV testing. They were also associated with a decrease in HIV seroprevalence by up to 6 percent (Kerr and Jürgens 2004, 2). Accordingly, PNEPs may prove to be very useful tools in preventing HIV and HCV transmission among IDUs in Canadian prisons.

In order to effectively address the high prevalence of HIV and HCV as a result of IDU in Canadian prisons, I recommend that:

- (i) Without further delay, a pilot needle-exchange project should be started in selected provincial and federal prisons across Canada. The framework of this pilot project can be modeled based on PNEPs that have been successfully implemented in other countries (see Lines et al. 2006, 52). Most importantly, designated inmates should be trained in disseminating clean needles and HIV prevention support to their peers. Recruitment of peer outreach workers will ensure maintenance of confidentiality and trust, and thus increased uptake of exchange services. Inmates should have 24-hour access to exchange services. Instead of providing sterile needles alone in exchange for used ones, harm

reduction kits that contain a syringe and a sterile needle in a hard plastic transparent case, distilled water, and alcohol swabs, should be distributed. The exchange sites should be supervised by designated medical staff members. Correctional staff members should also be trained to operate the exchange sites and carry out supervision duties when outreach workers or medical staff members are unavailable.

- (ii) This pilot project should be evaluated for its efficacy in reducing HIV and HCV incidence as well as its cost effectiveness. After the evaluation period is over, an evidence-based decision should be made regarding whether or not to implement Prison Needle-Exchange Programs across all Canadian correctional facilities.
- (iii) The zero-tolerance policy towards drug use in Canadian prisons should be amended to recognize that if inmates are found engaging in drug use, they should have easy and discreet access to sterile needles in exchange for used ones. It should also be recognized that this provision does not condone illegal drug use and does not undermine abstinence-based programs.

Lack of Safe Tattooing Services in Canadian Prisons

As compared to the outside community, there is a lack of safer tattooing practices in prisons. Although prohibited, tattooing is a fairly common practice among inmates. Since there is a lack of sterile tattooing equipment, particularly needles and ink inside Canadian prisons, the risk of HIV and HCV transmission is significantly increased. In 2006, a safer tattooing pilot project was implemented across six Canadian prisons (Betteridge and Dias 2007, 42). Even though a draft evaluation of the program demonstrated its ability to reduce harm associated with unsafe tattooing practices in prisons, the program was shut down before completion and release of the final evaluation due to several implementation issues (Nakef 2006). For instance, unavailability of trained tattooists at several pilot sites lead to a delay in tattooing services and lengthy waitlists; as a result, inmates continued to receive illicit tattoos (sec. 3.0). However, this pilot project was determined to be cost effective according to Correctional Service of Canada because a significant amount of money would have been saved in health care costs even if a single site prevented as few as four HIV/HCV infections per year (Elliot 2007, 263; Nakef 2006, sec. 3.0). Nonetheless, there remains a lack of safe tattooing programs in Canadian prisons to date.

In order to eliminate the transmission of HIV and HCV as a result of unsafe tattooing practices in Canadian prisons, I recommend that:

- (i) Tattooing should be officially permitted in Canadian prisons as it is in the outside community.
- (ii) Without further delay, safe tattooing projects should be started across all Canadian correctional facilities. Two tattooing parlors should be implemented per prison in order to minimize the number of waitlisted individuals. A larger number of inmate tattooists should be trained in delivering safe tattooing services to ensure that the parlors can

operate uninterrupted. Additional inmates should be trained to carry out other tattoo room duties, such as dealing with customers, inventory, and decontamination of equipment. Supervisory duties should be distributed a sufficient number of staff members to ensure ongoing accessibility to the program.

Inadequate Drug Interdiction Strategies in Canadian Prisons

An important component of drug interdiction in prisons is random urinalysis performed monthly. Consequences of a positive urine test include increased security, decreased contact with family, and not getting released on parole (Betteridge and Dias 2007, 49). Thus, the ultimate focus of drug interdiction strategies is to discipline the inmates through punishment, and not refer them to addiction treatment services. In order to escape the punitive consequences of drug detection through urine testing, inmates may start injecting drugs, such as heroin, cocaine, and other opiates, whose metabolic byproducts are not secreted in urine (Betteridge and Dias 2007, 57). Not only does this increase the risk of HIV and HCV transmission, but also leads to underestimation of substance use in prisons and creates missed opportunities for early substance abuse detection and timely treatment. Drug interdiction strategies are also usually aimed at inmates only. However, in many instances the prison staff is responsible for smuggling drugs into the facilities (Hon Chu and Peddle 2010, 19). Therefore, despite the prohibition of drug use in prisons, drugs make their way into these institutions.

In order to curb the use of illicit drugs in prisons, I recommend that:

- (i) Random searches of the prison staff by designated personnel should constitute an important part of the drug interdiction strategy in all Canadian correctional facilities. In the event that the prison staff is suspected of or caught smuggling in drugs, strict consequences, including permanent dismissal, should be imposed.
- (ii) Random urine testing of inmates for detection of illicit drugs should only be performed under reasonable and probable grounds.
- (iii) Mandatory drug testing through blood analysis should be implemented to evaluate the proportion of inmates consuming all types of illicit drugs. Mandatory tests should be performed regularly on randomly chosen inmates. Those who test positive should be referred to substance use counselling and treatment services rather than facing punitive consequences.

Insufficient Treatments for Drug Addiction in Prisons

MMT is the only type of addiction treatment available in Canadian prisons, and is often only available to those inmates who were receiving this therapy in the community. The majority of correctional facilities remain reluctant to allow prisoners to initiate MMT while incarcerated. As a result, many IDUs remain untreated for their opiate addiction problems. In other jurisdictions, such as in European prisons, buprenorphine has been implemented in addition to

methadone to treat opiate addiction (CHLN 2008, 5); Canadian inmates could also benefit from this treatment. In addition, the waiting lists for prison-based MMT are quite lengthy (Betteridge and Dias 2007, 108). As a result, many inmates do not get a chance to begin MMT early in their sentence, which disrupts the continuum of treatment as offenders transition from their community to prisons.

MMT is not effective against all types of drug addictions, as withdrawal from different types of drugs produces variable side effects and thus requires different types of treatments. For instance, a major side effect of withdrawal from opioids such as heroin, morphine, and codeine includes intense cravings, which can be reduced by methadone. However, the side effects of withdrawal from stimulants such as amphetamines, cocaine, and Ritalin include not only intense cravings, but also major depression, anxiety, and acute psychosis. These side effects cannot be treated by methadone and require anti-psychotic drugs, strategies to relieve stress, as well as strong social support (Mayo Clinic 2011).

In order to effectively treat drug addiction problems in prisons, I recommend that:

- (i) A wider variety of drug treatments should be made available to inmates in order to address different types of drugs used. Opiate substitution therapy should include treatment with buprenorphine as needed, in addition to methadone.
- (ii) Inmates should be allowed to initiate MMT in all Canadian prisons while incarcerated even if they were not receiving MMT prior to their incarceration.
- (iii) A minimum of two addiction treatment facilities should be implemented per prison in order to reduce the length of waiting lists.
- (iv) A variety of personalized behavioural therapies should be used in conjunction with medications to modify attitudes and behaviours related to drug abuse.
- (v) Strategies for relieving stress without consuming drugs, such as yoga, meditation, exercise, music, dance, and art should be widely implemented. This will require increased contribution from community associations, including volunteering to provide these services in prisons.

Inadequate Treatments for Mental Illnesses in Prisons

Although many efforts have been made to improve the mental health of inmates in Canadian correctional facilities, current interventions remain insufficient for effectively dealing with high prevalence of mental illnesses in a prison setting. This is because the capacity of correctional institutions to respond to and treat mental illnesses is largely reserved for the most serious cases, particularly for inmates with severe mental disorders requiring intensive care and treatment at RTCs (SCPSNS 2010, 10). Thus, a majority of the common, but less severe, mental health issues receive limited medical attention and remain untreated. In addition, there is insufficient space at RTCs to accommodate all inmates with serious mental health issues; thus, offenders are released from RTCs too soon and relapse into mental health crises very quickly (SCPSNS 2010, 10). There is also much variability in the availability of mental health services

across all Canadian prisons. For instance, RTCs are only available at five federal prisons in Canada (SCPSNS 2010, 9). Other interventions, including cognitive behavioural therapy and CoMHSS, have not been implemented widely. Thus, current strategies do not adequately cater to the mental health needs of prison populations; yet, improvement of mental health of inmates is a crucial step in reducing the prevalence of high-risk behaviours, particularly IDU, associated with HIV and HCV transmission.

In order to address mental disorders in a prison setting adequately, I recommend that:

- (i) Evidence-based models, such as cognitive behavioural therapy and CoMHSS, should be implemented at all prisons across Canada.
- (ii) RTCs should be expanded to cover more federal, provincial, and territorial prisons.
- (iii) Funding should be increased for RTCs in order to allow accommodation of all inmates with serious mental health disorders.
- (iv) More attention should be given to detection and treatment of less severe mental illnesses among inmates.

The Epidemiological Reality in Prisons: Need for Integrated Infectious and Chronic Disease Policies

Inmates at Canadian correctional facilities bear a disproportionate burden of HIV, HCV, IDU, and mental illnesses. HIV and HCV infections in prisons are increasingly becoming diseases related to substance abuse, which in turn is increasingly being influenced by poor mental health status of inmates. Thus, mental health disorders, high-risk behaviours associated with injection drug use, and high prevalence of HIV/HCV infections among IDUs in Canadian prisons share complex links. Despite this interdependency, there is a sheer lack of integrated prison policies addressing these issues and interactions between them simultaneously. For HIV and HCV infected inmates, there is a lack of focus on improving mental health. Within mental illness therapies and treatments, there is a lack an emphasis on HIV and HCV education. Finally, improvement of mental health is not a core area of focus in drug addiction treatments. As a result, inmates are generally devoid of integrated treatments for concurrent disorders.

In order to concomitantly address infectious and chronic diseases, particularly poor mental health, drug abuse, as well as HIV and HCV infections among inmates in Canadian correctional facilities, I recommend that:

- (i) Interventions to curb the rates of these conditions be integrated together. This may include integration of HIV, HCV, IDU, and mental health education, prevention programming, as well as treatment regimens.

The Needs of Specific Prison Populations, Particularly Aboriginal Inmates

Although the aforementioned policy prescriptions will benefit both Aboriginal and non-Aboriginal inmates, Aboriginal prison populations require additional culturally-appropriate interventions. Currently, only a few programs, particularly correctional healing lodges and the Circle of Knowledge Keepers, exist in Canadian prisons that meet the HIV and HCV prevention as well as harm-reduction needs of Aboriginal inmates. However, these programs remain largely under-funded (Betteridge and Dias 2007, 61, 92), and are thus inconsistently implemented across Canadian correctional facilities. Aboriginal community organizations occasionally run educational workshops and traditional health promotion practices in prisons; however, they are often not welcomed by the prison staff due to a lack of respect and appreciation for Aboriginal cultural and traditional values on part of the staff (95-96). These organizations also lack funding to continue their programming in prisons (96).

To address the needs of Aboriginal inmates, I recommend that:

- (i) Best existing practices, including correctional healing lodges and the Circle of Knowledge Keepers, should be readily implemented in all federal, provincial, and territorial prisons.
- (ii) CSC and Health Canada should increase funding for Aboriginal-specific educational, prevention, and restorative justice programs.
- (iii) Aboriginal-specific programs should be prepared in concert with and delivered through the Elders. Implementation of best programs requires strengthening the partnerships between the Elders and western health care professionals.
- (iv) Successful implementation of Aboriginal programming requires better training of health care workers and prison staff in Aboriginal history so that feelings of empathy, respect, and trust can be established. This type of cultural sensitivity training should be rigorously implemented throughout employment in the correctional facilities.

Prison-based health care services do not adequately meet the needs of Aboriginal inmates. There is a major lack of physicians with expertise in dealing with Aboriginal-specific health issues, particularly mental illnesses (Betteridge and Dias 2007, 90). The western health care system heavily emphasizes objectification of the patients, and conceptual separation of the mind from the body in order to treat symptoms of illness (Heller et al. 2006). On the other hand, traditional Aboriginal approaches towards treatment of any illness are holistic; this system considers the relationship between the mind, the body, and the spirit, and places emphasis on social context of healing. Such health care practices are rarely implemented by the western system (Vukic et al. 2011, 68-69). Since the health services available in prisons are westernized, there is a lack of trust between Aboriginal patients and the health care professionals (PHAC 2010, 45). This lack of trust partly stems from the horrible experiences of Aboriginal people with the western health care system during the colonization era (PHAC 2010, 55). As a result,

Aboriginal inmates remain reluctant to seek help from a system which is responsible for their poor mental, emotional, and spiritual health to begin with.

In order to provide better health care services tailored to the needs of Aboriginal people, I recommend that:

- (i) Culturally appropriate programs such as therapeutic communities and traditional healing practices including sharing circles and sweat lodges should be widely implemented across all Canadian prisons. These programs will not only aid in improving their physical, but also mental and spiritual health.
- (ii) Traditional immune system boosting and cleansing treatments, such as the use of milk thistle, should be recognized.
- (iii) More psychologists with expertise in dealing with mental health issues specific to Aboriginal prisoners should be hired immediately. At minimum, there should be two psychologists with such expertise in every Canadian correctional facility.
- (iv) Health care professionals should be given rigorous cultural-sensitivity training.

The principles of the Canadian criminal justice system and those of the traditional Aboriginal models of justice largely contradict one another. For instance, the Aboriginal principles of justice revolve around the process of healing, that is, to repair the harmful results of an offense (AJIC 2013a, sec. 2). In contrast, the Canadian justice system places greater emphasis on retribution and relatively little focus on alternative restorative models of justice. A clash of these two contradicting principles of justice leads to over-policing of Aboriginal populations. Consequently, Aboriginal offenders continue to be over-represented among the incarcerated population, which constantly keeps them in contact with the high-risk environments of Canadian prisons. Thus, the Canadian penal system itself puts Aboriginal offenders at a greater risk of developing infectious and chronic illnesses. Unfortunately, current policies lack emphasis on diversion of Aboriginal offenders away from incarceration.

The key to reducing the over-representation of Aboriginal people with HIV, HCV, and mental illness cases may lie in diverting them away from incarceration. Therefore, I recommend that:

- (i) Funding should be increased to implement alternative models of justice for Aboriginal inmates, such as sentencing circles correctional healing lodges, drug courts, and mental illness courts.
- (ii) Aboriginal employment in the justice system should be increased as they are currently under-represented (AJIC 2013b, sec. 1). This requires attainment of higher levels of education among Aboriginal populations. The Aboriginal communities should have increased control over their own educational systems. The curriculum at Aboriginal as well as public schools and post-secondary institutions should be changed to include Aboriginal-specific content and learning styles.

Conclusion

Overall, due to numerous limitations of current interventions targeting the prevention and control of HIV, HCV, drug abuse, and mental illness in Canadian prisons, inmates remain disproportionately affected by these conditions in comparison to the general population. There remain major gaps in the prevention and control strategies recommended by current policies and how they are used in practice. Surprisingly, access to harm reduction measures including condoms and bleach is still quite limited in many Canadian prisons. This can increase the opportunities for HIV/HCV transmission resulting from high risk behaviours including unsafe sex and injection drug use. There also remains an inequitable access to health services inside Canadian prisons in comparison to the outside community. This is evident in the lack of needle exchange programs and safe tattooing services inside prisons; the use of contaminated needles and other equipment can facilitate the spread of HIV and HCV during injection drug use and tattooing activities. Moreover, poor mental health of inmates strongly influences the occurrence of high risk behaviours, thereby increasing the risk of acquiring HIV and HCV infections. In turn, the biology of these infections, as well as the side effects of the treatments, can worsen the mental health of individuals. Unfortunately, the majority of mental health issues among inmates receive limited medical attention and remain untreated. Despite the interdependency between mental illnesses, high risk behaviours, and HIV/HCV infections, there remains a lack of integrated interventions addressing these concurrent disorders. Furthermore, current prison policies do not adequately cater to the needs of Aboriginal inmates, as is evident in the lack of culturally appropriate disease prevention and treatment programs, as well as traditional models of criminal justice.

Thus, without further delay, current policies need to be amended and new interventions need to be implemented. The key interventions to address the growing crisis of HIV and HCV infections in Canadian prisons include ensuring discrete and uninterrupted access to harm reduction measures, developing prison needle exchange programs, and permitting safe tattooing practices inside prisons. In light of the epidemiological reality of prison environments and complex links between HIV/HCV infections, mental disorders, and high-risk behaviours associated with substance abuse, a comprehensive policy should be implemented to facilitate integrated education, prevention, care, and treatment for these conditions simultaneously. Since Aboriginal inmates are most vulnerable to HIV, HCV, drug abuse, and mental illnesses, Aboriginal-specific interventions should be developed, including a major focus on traditional medical practices, traditional justice models, and diversion of this population away from incarceration.

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