

## Inside and Out:

*Changing the Course of the HIV Prevention, Engagement and Care Cascade for Current and Former Prisoners*

### Key Messages

- **The Issue:** People who are in contact with the correctional system have higher rates of HIV than the general population. HIV rates are higher among incarcerated women than men, and highest among Indigenous women.
- **Prevention:** The most significant risk factor for HIV (and hepatitis C) for current and former prisoners is injection drug use, reinforcing the need for effective prevention programs that target people who use substances. Effective prevention interventions address the underlying drivers (including social determinants of health) of HIV infection, such as addictions, mental health issues, transitioning into the community, homelessness and economic stability. Strategies for successful interventions include addressing a multitude of issues, multiple sessions, gender-specific components, and post-release follow-up.
- **Testing:** Correctional facilities may be an ideal setting to diagnose HIV infections and engage people who test positive in care. However, all prisoners do not currently take advantage of voluntary testing programs. A variety of strategies can help increase HIV testing in correctional facilities, including using rapid tests, making testing routine (i.e., opt-out) and offering services in ways that protect prisoner confidentiality.
- **Care and Treatment:** Prisoners with HIV who receive effective consistent treatment can achieve good health outcomes. However, treatment interruptions are common. Some are due to structural barriers, such as lack of access to certain medications in prison and challenges maintaining treatment plans when prisoners are transferred from one facility to another. Some are caused by prisoners' decision to discontinue treatment, often because of concerns about confidentiality and stigma. Effective interventions to improve adherence to HIV treatment address structural issues as well as prisoner confidentiality.
- **Care Transitions:** The time immediately after release from prison is critical for the health of people with HIV. It is essential that they be linked to care and other support services in the community. Effective interventions to improve care transitions use strategies of discharge planning and pre- and post-release case management that address broader determinants of health such as substance use, housing, food security and linkages to health care services. The key gaps for people with HIV who move from prison to the community are mental health services and stable housing.

Inmates in correctional facilities experience higher rates of infectious diseases — including HIV, hepatitis C, and tuberculosis — than the general population. Many enter the correctional system already infected, others can be exposed or infected while incarcerated. Because correctional facilities are closed settings, it can be challenging to prevent the spread of infectious diseases and to manage the health of people who are infected.

## Background

People who are incarcerated — in Canada and elsewhere — experience higher rates of HIV than the general population. According to Correctional Service Canada, HIV prevalence among people in federal penitentiaries was 1.24% in 2012 (3) — which means that almost two of every 100 federal prisoners (about 1 in 80) are infected. Preliminary 2012 surveillance data from Correctional Services Canada of newly diagnosed HIV infections reports a diagnostic yield of 2.4 HIV-positive tests per 100,000 tests administered.

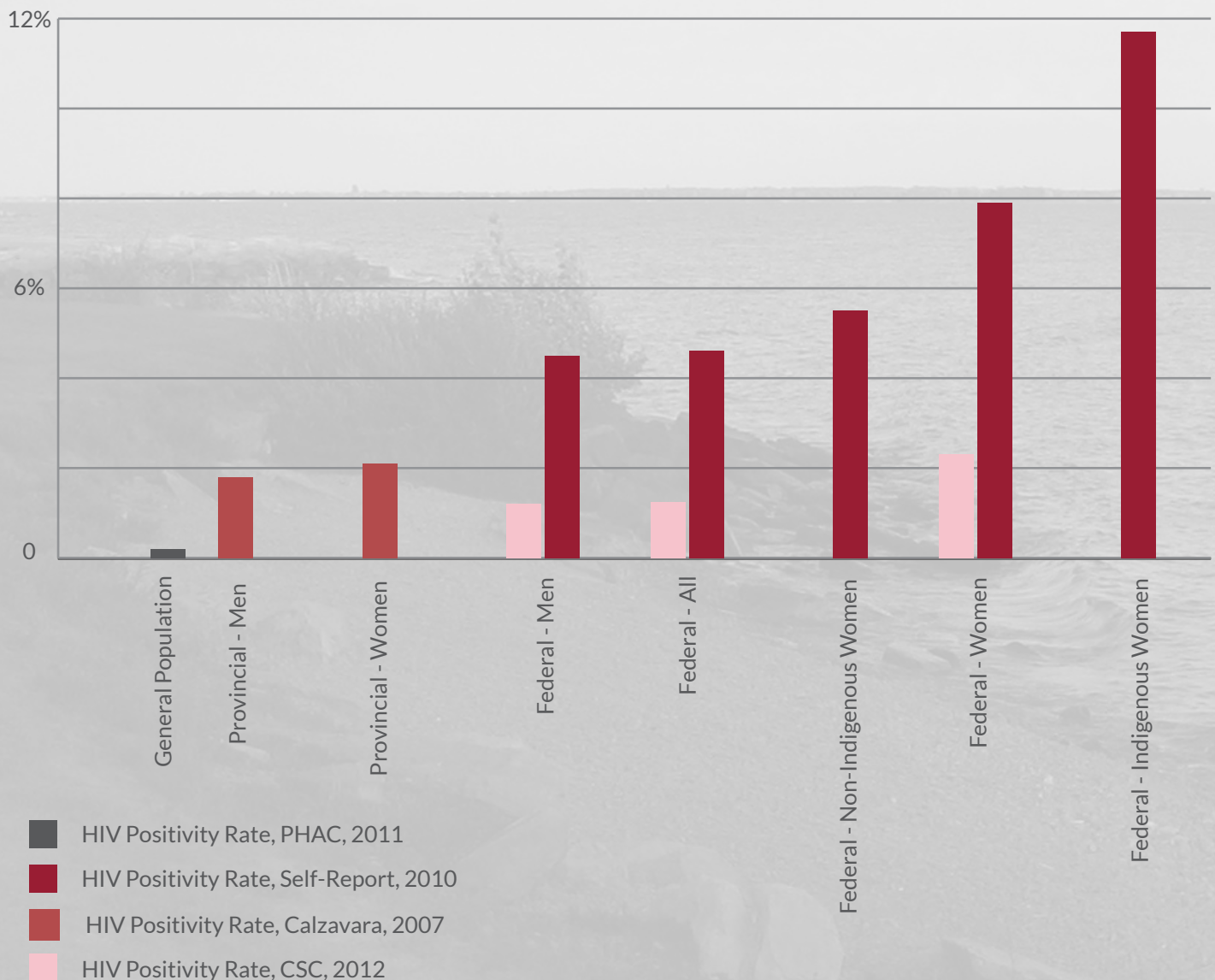
The situation is worse for incarcerated women than men — with almost two of every 100 women infected (2.3%) compared to fewer than two in 100 men (1.2%) (3). We see the same trend in Ontario facilities: a 2007 study

found higher rates of HIV in women (2.1%) than men (1.8%) (4).

According to self-reported data from prisoners in the federal system (5), about five in 100 prisoners (4.6%) reported having HIV — including about eight of every 100 incarcerated women (7.9%) and almost five of every 100 men (4.5%) (5). Reported rates of HIV were almost two times higher among Indigenous women (11.7%) than in non-Indigenous women (5.5%) (5).

These rates are much higher than the 0.2% prevalence of HIV in the general population at the end of 2011 (6).

## HIV Prevalence in Provincial and Federal Correctional Facilities



## HIV Risks among People who are Incarcerated

HIV is both a sexually transmitted and a blood borne infection. The virus can spread during unprotected sex with a person who has HIV and by sharing needles and other drug or tattooing equipment with someone who is infected.

The main risk factors for high rates of HIV infection among people who have contact with the correctional system are:

- **Injection drug use both inside and outside correctional settings.** The use of unsterilized or previously used equipment for drug injection is common among people who are incarcerated (7) and a highly efficient way to transmit HIV and hepatitis C.
- **Unsafe sexual practices and tattooing.** Although the risk from these activities is less significant, they may also contribute to HIV infections among people in correctional facilities (8). The risk of sexual transmission of HIV is higher when a person has another sexually transmitted infection.

The risk of HIV is also affected by social determinants of health such as early childhood trauma, mental health issues, addiction, stigma/marginalization, poverty and unstable housing.

HIV is now highly treatable; people who are diagnosed early in the course of infection, who receive and adhere to effective antiretroviral treatment, and who achieve a suppressed viral load have good health outcomes and can live a near-normal lifespan. Timely, consistent treatment is critical for the health of people living with HIV. By suppressing the virus, treatment also has a secondary benefit: it can reduce the risk of transmitting the virus.

In 2013 The World Health Organization, the United Nations Office on Drugs and Crime, the United Nations Development Program, UN AIDS and the International Labour Organization have identified a comprehensive package of 15 interventions for HIV prevention, treatment and care in prison:

1. Information, education and communication
2. Condom programmes
3. Prevention of sexual violence
4. Drug dependence treatment, including opioid substitution therapy
5. Needle and syringe programmes
6. Prevention of transmission through medical or dental services
7. Prevention of transmission through tattooing, piercing and other forms of skin penetration
8. Post-exposure prophylaxis
9. HIV testing and counselling
10. HIV treatment, care and support
11. Prevention, diagnosis and treatment of tuberculosis
12. Prevention of mother-to-child transmission of HIV
13. Prevention and treatment of sexually transmitted infections
14. Vaccination, diagnosis and treatment of viral hepatitis
15. Protection of staff from occupational hazards

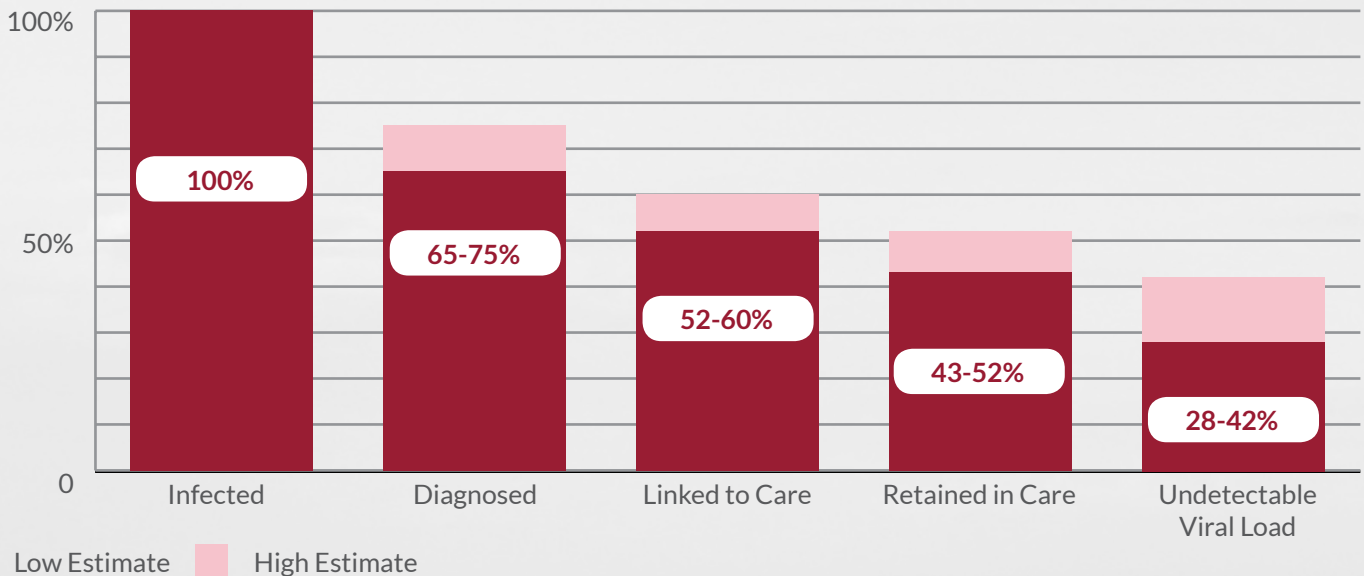
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## The HIV Prevention, Engagement and Treatment Cascade

HIV is both a preventable and treatable infection. To reduce the harm caused by the virus, the focus of health programs is now on changing the course of the prevention, engagement and treatment cascade. The HIV treatment cascade is a model to identify unmet service needs as well as identify measurable targets for the health care system (9).

### Ontario HIV Treatment Cascade

This model is based on data available in 2014 and has since been updated.



Right now, too many people are still becoming infected with HIV – many of whom do not know they are infected. Even when they are diagnosed, some people with HIV are not connected to or engaged in consistent care, or they fall out of care. As a result, only a proportion of people with HIV are receiving timely, effective care and have a suppressed viral load.

Access to timely prevention, testing and care services can be an issue for people within correctional facilities. It is also an issue as they move from the facilities back into their communities. Current and former prisoners also face unique challenges – such as housing instability, untreated mental health issues, and alcohol and substance misuse (4;7) – that may keep them from engaging in both HIV prevention and treatment.

How can we change the course of the cascade for current and former prisoners? All prisoners should have the knowledge, skills and supports to protect themselves from HIV and other infections. Prisoners living with HIV should have access to high quality care in prison and, when they leave prison, in the community. That care should be for their HIV and for any other co-morbidities, including mental health and addictions.

While HIV prevention and treatment interventions have been developed for people in correctional facilities, implementing these programs in closed settings, such as prisons, can be challenging.

For example:

- Provincial facilities, which have *high turnover rates*, face challenges reaching the large number of people who go through their facility with timely prevention, testing and treatment programs (10).
- Some *prisoners perceive HIV-related services as stigmatizing* and do not want to be associated with them.
- Space and facility issues in correctional facilities may result in *breaches of confidentiality* for people accessing HIV-related services.
- Prisoners may have a *general distrust of prison staff* and health care teams.

This paper highlights a number of effective, evidence-based interventions that might be able to be adapted and applied in correctional facilities in Ontario. It is based on a review of the literature that focused specifically on different aspects of the HIV cascade: prevention, testing, adherence to treatment and transitions to care in the community.

Most of the interventions were developed and tested in the United States. We did not find any interventions for Indigenous prisoners in the peer reviewed literature.

## I. Preventing HIV

Because men and women are typically incarcerated in different facilities, prevention interventions for people in prison are usually gender specific. Here are five tested HIV prevention interventions: two for men, one for women and two for substance using populations.

### Interventions for Men

*REAL MEN*, (11) is an intervention designed to reduce drug use, risky sexual risk behaviours and criminal activity among 16 to 18 year old males leaving New York City jails. It is an intensive 30-hour intervention that starts in prison and continues after release. Components include: educational sessions on staying healthy, jail-based discharge planning activities and community-based educational activities, such as linkage to health and social support services. One year after implementation, participants of REAL MEN had significantly reduced substance dependence and spent 29 fewer days in jail compared to those in a comparison group (11).

*Project START* (1) is an intervention with young male prisoners (ages 18 to 29). The six-session intervention begins with two sessions inside a correctional facility and continues with four sessions after the person is released from prison. Pre-release sessions last approximately 60 to 90 minutes and cover topics including risk-reduction planning and community re-entry needs assessments addressing issues such as housing, employment and relationships. Post-release sessions are from 30 to 60 minutes in length and include discussions on community reentry plans and facilitators and barriers to implementing risk-reduction strategies. The young men who received the project START intervention reported fewer sexual risk behaviours than those who received a single-session control intervention (measured 24 weeks post intervention) (1).

Both REAL MEN and Project START emphasize the importance of discharge planning that addresses linkages to social support services when designing HIV prevention programs for prison populations entering the community (1).

### Interventions for Women

Women who are incarcerated have high rates of HIV, so it is important to develop prevention interventions tailored to meet their needs (12). A systematic review (12) on women-specific prison-based HIV interventions found that gender-specific interventions were most successful and that women benefitted from interventions that focused on relationships and interactions with other people.

*Project POWER*, which was implemented among women who were serving short prison sentences (13), consisted of eight 90-minute sessions completed over eight weeks, with one in-prison booster session and three post-release booster calls. Intervention content included empowerment, social support, gender and power in relationships, and basic reproductive health information. The results from this study were descriptive and did not provide specific information on the intervention's effectiveness (13).

### Interventions that Address Substance Use

Given the prevalence of substance use among current and former prisoners (4;7), a number of interventions addressing the issue have been developed and tested for this population.

*Project MORE*, an intervention (14) conducted from 2002 to 2006, provided a comprehensive program for former prisoners that included case management, treatment, outpatient services, outreach, and HIV and substance use education. At 6 and 12 months post-intervention, drug-using clients reported significant reductions in alcohol, crack/cocaine and heroin use, fewer sex partners and less participation in crime. Those who completed the program had fewer days in jail than those who did not finish the full program (14).

*Methadone maintenance treatment* provided in prison has been shown to be feasible and effective in improving access to methadone treatment and decreasing relapse opioid use after release from prison (15). Prisoners who used heroin or other opioids benefit from methadone maintenance treatment either prior to or at the time of release from prison. Those who received treatment before their release were more likely to receive post-release treatment within fewer days after being released from prison. At six months, participants also reported less heroin, other opiate and injection drug use. Higher methadone doses were associated with more use of community methadone treatment programs after discharge (15).

A very recent systematic review summarized and appraised the literature on HIV prevention for adults involved with the criminal justice system (2). The review included 37 trials and identified a number of interventions that may reduce the risk of HIV. It highlighted 15 interventions that demonstrated reduced self-reported sexual and injection drug use practices compared to controls — eight of which were delivered in prison settings before people were released.

### Effective programs for men:

- pre-release methadone maintenance treatment
- peer-led individual or group format HIV education programs
- motivational interviewing

### Effective interventions for women/mixed groups:

- psychological programs such as peer-developed DVDs
- a therapeutic community for drug-using women
- health educational programs delivered by health educators

### Effective interventions that took place outside of prison:

- case management
- individual or group format HIV education delivered by peers or health educators
- services integrating HIV prevention with medical check-ups or intimate partner violence interventions
- treatment of drug misuse disorders in both primary care and specialized settings (2)

## II. Testing

Under Correctional Service Canada protocols, everyone entering the federal correctional system should be offered HIV testing. However, only 57.8% of people who entered the federal penitentiary system in 2008 agreed to be tested for HIV. Although that proportion is much higher than the 24.3% of the general population who tested in the same year (16), it still indicates that almost half of people entering federal prisons do not participate in testing programs. According to self-reported data, more than 70% of men and 80% of women in federal prisons reported being tested for HIV and/or hepatitis C (HCV) during their federal sentence. Compared to men, women were likely to be more consistently tested over time. Among Indigenous people, men tested less than women (5).

The most commonly reported reasons that federal prisoners gave for not being tested were:

- *not being offered the test* (which may indicate a gap between policy and practice)
- *not perceiving oneself at risk*
- *lack of confidentiality in prison settings*
- *fear of discrimination by staff* (5).

Here are four HIV testing interventions in prison that have proved to be effective in increasing testing rates among prisoners.

*Voluntary routine testing programs* increase testing rates. A county prison in Massachusetts compared offering routine, voluntary HIV testing program with providing testing only upon request by a physician or patient (17). Of the 1,004 prisoners offered routine testing, 73% accepted, compared to 18% who were tested by request. (17).

*Voluntary rapid HIV testing* increases testing rates among people who are incarcerated. Four American state health departments implemented voluntary rapid HIV testing in prisons (18). Prisoners either requested testing or were referred by medical staff. Those whose tests were reactive were offered confirmatory testing, treatment, and care and prevention services. Of the 33,211 prisoners who were tested, 99.9% received their test results, 1.3% had reactive tests and were confirmed (18). In another study (19) of *voluntary opt-out rapid HIV testing* in three urban jails located in Baltimore, Maryland, Philadelphia, Pennsylvania and the District of Columbia, testing rates among prisoners at each site increased up to seven-fold. At all three sites, prisoners who tested positive received care. Barriers to rapid testing included: early release of detainees, increased processing time of tests and adequate space for confidentiality (19).

A *computerized brief interviewing intervention* increased testing rates. When compared to usual education activities, a 20-minute, single session computerized brief negotiation interviewing intervention that covered topics such as injection drug use and sexual risk taking resulted in significantly higher rates of testing (20).

**Take Home Message:** When conducted in a confidential and timely way, opt-out, rapid HIV testing may be a feasible and effective alternative to providing routine HIV screening to prisoners.

### III. Adhering to Antiretroviral Therapy and Preventing Care Interruptions

According to Correctional Service Canada, in 2007, about 54.6% of prisoners with HIV started treatment while incarcerated (64.4% in 2008) (4). More recent 2012 data report that HIV treatment uptake is now approximately 85%, while average number of individuals on treatment per month has gradually increased over time to almost 160 (3). According to self-reported data, 53% of prisoners living with HIV received antiretroviral therapy in prison and 60% reported previous treatment interruptions (4). Reasons for treatment interruptions included:

- *temporary unavailability of medication at the institution*
- *prisoner transfer between institutions*
- *prisoners' own decisions to discontinue medications* (5).

Prisoners also face other issues accessing HIV treatment. For example, some prison facilities distribute medication in view of other prisoners. The lack of confidentiality may keep prisoners from revealing their HIV status and receiving care (21). In addition, logistical issues such as the difficulties correctional facilities experience retrieving a person's medical history, delays in receiving laboratory testing results and scarce access to HIV-specific services may keep people from receiving timely treatment/antiretroviral therapy (22).

Some research suggests that correctional facilities provide a unique opportunity to engage people with HIV in care and treatment, however the evidence is unclear (23;24). In an audit of HIV care in English prisons, investigators found that prisoners on antiretroviral therapy were less likely to achieve a suppressed or undetectable viral load than people with HIV in the community (68% versus 87%) (24).

Correctional facilities have tried different strategies to help prisoners adhere to treatment. For example, institutions compared the efficacy of directly observed therapy to self-administered antiretroviral medication among prisoners with HIV (25), and found no significant differences in adherence rates. Although prisoners who participated in the directly observed therapy arm had greater reductions in viral load, there was no significant difference in the proportion of participants in each arm who achieved viral suppression. These findings suggest that directly observed therapy programs in prisons may not improve adherence (25); however, the lack of confidentiality in distributing medication through directly observed therapy and prisoners' distrust of prison staff and health care teams may help explain why this intervention was not effective (23;25).

To ensure that prisoners living with HIV have consistent access to antiretroviral medication, correctional facilities should work to: avoid treatment interruptions caused by structural or systemic issues; and identify ways to distribute medications that respect inmates' confidentiality.

### IV. Transition from Prison to the Community

The time immediately after release from prison is critical for the health and well-being of people living with HIV. While prisoners with HIV may be able to adhere to treatment and achieve viral suppression within correctional facilities, their HIV care may be interrupted when they return to the community (26) because:

- *they are not immediately linked to health services*
- *they relapse into substance use*
- *the presence of mental illness*
- *lack of social supports*
- *housing instability*
- *lack of medical coverage* (27).

Some research indicates that people recently released from prison into the community have worse HIV biological markers (e.g. viral loads, CD4 counts) than those still in prison (23), which means not only that their own health will suffer but they may be at greater risk of transmitting the virus (27). Transitional care programs are critical to improve the health of former prisoners with HIV and to reduce the risk of new infections (28). Here are three interventions that appear to be effective in helping with

care transitions between prison and community:

In New York City jails, Correctional Health Services engage prisoners in *discharge planning within 48 hours of admission*. Clients are asked about their post-release priorities (28). They are also asked about other factors that will affect their ability to maintain HIV treatment, including: housing, food security, clothing, primary care, and linkages to health insurance and community services. As a result of this intervention, between 2009 and 2011:

- *the annual number of people with HIV who had discharge plans increased from 2,218 to 2,519*
- *the proportion of people released from jails with discharge plans increased from 60% to 72%*
- *the number of people linked to primary care each year increased from 941 to 1,336* (28).

*EnhanceLink*, a US-based initiative, was funded in 20 jails in 10 communities across the country. It included near-universal HIV testing and linking people with HIV to community services post-release (29). Nearly all sites offered a variation of pre- and/or post-release case management sessions (22). All 10 sites reported they were able to link clients with HIV to treatment in the community; however only eight sites were able to provide clients with a bridging supply of medication when they were discharged from jail. After implementation, 82% of the 9,837 individuals offered transitional services accepted them (29). One of the communities that participated in *EnhanceLink* (in Rhode Island) surveyed former prisoners who had participated in the case management activities and found that they were linked to medical care as well as social support services such as food assistance and housing programs. However, they continued to experience unmet needs related to mental health services and stable housing (30).

While *case management strategies* are commonly used to help former prisoners who have HIV to transition to community care, there is some uncertainty about their effectiveness. In one US study, 46% of participants (prisoners being released) were met at the gate by a case manager upon their release and those who received this service were more likely to be treated for drug and alcohol use, and less likely to engage in unsafe sex (31). However, other studies on case management programs found little evidence that they improved antiretroviral adherence, medical care access or biological markers (22). More information is required to understand the factors that make case management services effective.

In general, the community linkage programs described in the literature lacked women-centred protocols. One reason for this gap may be that these programs are designed to focus on case management models (12) that

emphasize and evaluate impact in terms of retention, drug treatment and recidivism, rather than focusing on HIV-risk reduction through strategies of empowerment that are common to women-centred programming (12).

The evidence supports discharge planning for people with HIV being released from prison that addresses their social as well as their health care needs. Linking former prisoners to community services requires a collaborative effort among prison authorities, other parts of the criminal justice system, community health units and AIDS service organizations (32).

## Conclusions

Former and current prisoners with or at risk of HIV deserve high quality prevention and care services; however implementing these services within correctional facilities and between those facilities and the community is challenging. To change the course of the prevention, engagement and treatment cascade for current and former prisoners, correctional and health systems must work together to ensure consistent access to timely care and treatment, paying particular attention to coordinating resources and programs.

Based on a brief scan of the literature, interventions for former and current prisoners with HIV should:

- *Keep in mind the differences between provincial and federal programming* – such as length of stay and high turnover rates – to address gaps along the HIV cascade.
- *Include gender-specific components* for women, in addition to integrating treatment and addressing substance use in HIV prevention programming.
- *Expand the use of opt-out, rapid HIV testing methods to screen incoming prisoners.*
- Provide HIV testing and antiretroviral medication in ways that *protect prisoner confidentiality.*
- Address transitional care by including *discharge planning that is a collaborative effort between correctional services, community health units, and AIDS service organizations.*



### What We Did

We searched Medline using a combination of text terms (HIV) and [(prison\*) or (incarcerate\*) or (inmate\*) or (correctional) or (jail\*)]. The search was limited to articles published since 2004, and in English. Articles were selected to reflect the agenda of this meeting.

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