Prison needle exchange: Review of the evidence

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Background

In a report prepared by the Federal/Provincial/Territorial (FPT) Advisory Committee on Population Health, the FPT Committee on Alcohol and Other Drug Issues, the FPT Advisory Committee on AIDS, and the FPT Heads of Corrections Working Group on HIV/AIDS for the meeting of Ministers of Health (St. John's, Newfoundland, September 2001), it was concluded that "The public health and social impacts of injection drug use in Canada are extensive, complex and devastating. The enormous costs and other health, social, and economic consequences are growing daily." In its recent report entitled "The Costs of Substance Abuse in Canada 2002", the Canadian Centre on Substance Abuse (CCSA) estimates that morbidity, mortality and economic costs associated with illicit drug use in Canada total $8.2 billion.

The linkage between injection drug use and blood borne infections is a major concern. Use of injection drugs represents a major risk factor for acquiring HIV, hepatitis viruses and other communicable pathogens. In Canada, injection drug use is a significant problem both within and outside of prisons. It is estimated that up to 125,000 people in this country inject drugs and many of the drug users pass through correctional facilities each year. The CCSA indicates that more than half a million criminal charges filed in Canada in 2002 were attributed to illicit drugs. In the 1995 Correctional Service Canada (CSC) national inmate survey, 11 percent of the 4,285 participating federal inmates self-reported injecting drugs in prison.

The prevalence of hepatitis C in Canadian federal penitentiaries (17%-40%) are estimated to be 20 to 50 times higher than among the general Canadian population (0.8%), while HIV rates are 5 to 40 times higher (1%-8% vs. 0.2%). Blood borne virus (BBV) prevalence is disproportionately higher among injection drug users. Inmates can and do engage in high-risk behaviours while incarcerated (injecting drugs, unprotected sexual activities, tattooing/ body piercing, etc.) that contribute to BBV transmission. Hepatitis C prevalence is greater than hepatitis B and HIV. Much of the evidence reviewed links BBV transmission to correctional environments and the myriad specific risk factors that exist within them.

While overall injecting frequency in prison is likely reduced (due to increased surveillance and reduced access), the risk of BBV transmission/acquisition associated with each injection is far greater than in community settings. The scarcity of paraphernalia fosters contaminated equipment sharing networks far wider than those formed outside of prison. The large sharing networks and high BBV prevalence increase the probability of spreading BBVs in the prison setting.

Everyday, inmates are released back into Canadian communities as potential vehicles for the spread of BBVs. The CSC indicates that in 2003/04 a total of 3,082 inmates were released to the community without restriction (statutory release), 4,106 inmates were paroled, and 828 inmates were in the community on unescorted temporary absences.

Before considering the evidence for needle exchange programs in the prison setting, let us look at the situation of needle exchange programs in the community (i.e. outside of prisons). There is a long history of such community needle exchange programs in Canada. Community needle exchange programs are offered by numerous health and social service organizations providing comprehensive health, treatment and prevention resources with important referral networks to other health and social services. Organizations providing needle exchange in Canada include public health units, hospitals, AIDS service organizations, community health agencies, medical clinics, homeless shelters, mental health agencies, community drop-in centres and some pharmacies. Currently there are more than 200 needle exchange programs in rural and urban areas across Canada. Studies have shown that community needle exchange programs neither increase nor encourage the initiation of injection drug use. On the contrary, they reduce needle sharing and HIV transmission while increasing the likelihood of linking hard-to-reach injection drug users to prevention, drug treatment, and other health/social services.

The Public Health Agency of Canada (PHAC) recognizes that harm reduction interventions such as needle exchange programs do not represent a complete solution to drug use issues, but should be part of a continuum of comprehensive and integrated responses (including abstinence) that also include investments in prevention, treatment and enforcement measures where appropriate and beneficial.

Over the last decade, multiple reports by FPT governments and non-governmental organizations have proposed piloting Prison Needle Exchange Program (PNEPs), making available sterile injection equipment in Canada's federal penitentiaries as a means of preventing infectious disease transmission/acquisition in the federal prison setting. At the request of Correctional Service Canada (CSC) PHAC signed a Memorandum of Understanding (MOU with CSC) to :

- Provide scientific, medical and technical advice on the effectiveness/adverse outcomes of PNEPs from a public health perspective in the control and management of infectious diseases;
- Provide a comprehensive scientific analysis of available published and unpublished information on the effectiveness/adverse outcomes of PNEPs on relevant health and programs outcomes as well as other factors affecting the success of PNEPs; and,
- Provide an analysis of the potential risks and benefits of PNEPs in Canadian correctional settings, including a comparative analysis of the range of interventions.

Specific activities included:
- Site visits to three penitentiaries in the Kingston (ON) area (Millhaven, Bath and Pittsburgh Institutions);
- More than 200 documents (published and un-published) written by international medical, scientific, technical and policy experts were reviewed;
- Study tours of prisons in Germany and Spain where PNEPs are operational, as well as visits to community-based organizations and with various government officials in both countries;
- In February 2006, the PHAC hosted a meeting of domestic and international experts to discuss gaps and identify additional data that may be available and should be

considered. Participants were invited to present and discuss evidence garnered through their own professional experience focused on four specific subject areas (themes): the impact of PNEPs on blood borne virus incidence rates; evidence of behaviour change; issues of safety and security; and evaluation of existing programs (including needle exchange programs in community-based settings), including discussion of existing outcome and success indicators.

Site visits to Bath, Millhaven and Pittsburgh Institutions: highlights

In an effort to provide PHAC officials an opportunity to observe the range of health services and harm reduction interventions, and to engage prison staff with respect to safety and security concerns, drug-use culture, and the socio-demographic profile of offenders incarcerated in Canadian federal correctional facilities, the CSC organized site visits to three penitentiaries in the Kingston, Ontario area: Bath Institution, a medium security facility housing 420 inmates; Millhaven, a reception centre for maximum, medium and minimum security offenders who are awaiting security classification and placement where nearly 1,300 inmates are processed each year, and where 450 inmates reside at any given time; and, Pittsburgh Institution, a minimum security facility housing approximately 200 inmates.

Soon after admission at all three institutions, inmates are interviewed to establish medical and mental health histories, a risk factor assessment is undertaken, an orientation to the available range of health services and harm reduction programs is provided, and all inmates are offered (voluntary) testing for tuberculosis (TB), HIV, STIs, hepatitis A, B and C. Generally, testing uptake is nearly 100% for TB and about 40% for viral hepatitis.

The existing range of harm reduction interventions at all three facilities includes methadone maintenance treatment, condom and bleach provision, and peer health/counselling programs. Pittsburgh offers intensive [drug-free] support units, and Bath is one of the safer tattooing practices initiative pilot sites. Staff (health and security) attitudes toward the provision of harm reduction services are generally positive and accepting but are prefaced with certain cautions that warrant specific consideration:

- Wardens (prison management) and correctional officers must be part of the design and decision-making processes associated with the introduction of any harm reduction program;
- Relationships between management, staff and labour unions must be collaborative and conducive to ongoing dialogue and deliberation;
- Commitment to specific resource allocations (time and human) must be carefully considered early in the design process (to facilitate appropriate education and counselling for staff and inmates); and
- Discharge planning is key to the success of any harm reduction program offered in a correctional facility – careful consideration must be paid to the continuum of available community-based services and resources available to inmates post-release.

PNEP International evidence review (literature review, study tours, expert meeting)

PNEPs have been introduced in over 50 prisons in 7 countries – Switzerland, Germany, Spain, Moldova, Kyrgyzstan, Belarus and Iran. Initiation of pilot PNEPs in the Ukraine is being explored. Formal evaluations were only completed in Switzerland, Germany and Spain.

Switzerland

Within Swiss prisons where PNEPs are ongoing, the current body of evidence suggests that since the introduction of PNEP:

- The number of inmates participating in PNEPs and referred to addiction treatment programs increased;
- Needle sharing decreased;
- No BBV seroconversion;
- Inmates report a greater understanding of the risks associated with injection drug use and a subsequent 'shift in risky behaviours' is observed;
- That injection drug use did not increase;
- The presence of PNEP did not encourage inmates to initiate injection;
- The number of overdose-related deaths decreased;
- The number of inmates presenting at health services with injection site abscesses decreased;
- There is no evidence of an "underground" market for drugs or drug-use paraphernalia; and
- Inmates do not use needles or syringes provided through the PNEPs as weapons.

Germany

In Germany, in some instances the decision to pilot PNEP was imposed and 'buy-in' of partners was not secured in advance. Analysis of Germany's PNEPs reveals:

- The paucity of many baseline indicators for PNEP evaluation purposes;
- Significant reliance on anecdotal accounts of success, failure and/or design and implementation shortcomings;
- The evaluation process did not have sufficient rigour;
- The sporadic participation of inmates, and the equally sporadic PNEP delivery elements;
- The reduction of needle sharing;
- That injection drug use did not increase; and
- Inmates do not use needles or syringes provided through the PNEPs as weapons.

Spain

In Spain (since 1989) specific health programs have been introduced in prisons with the intent to create an equal standard of health care within prisons to that which exists in the community. The first PNEP was introduced at Basauri Prison in 1997 and by the end of 2004, 33 prisons were offering PNEPs. The Subdirectorate General for Prison Health made the provision of PNEPs mandatory requiring implementation in all Spanish prisons.

Spain's routine evaluation framework delineates specific indicators including: level of knowledge and acceptance of PNEPs within prisons; drug consumption data; drug-use practice data (e.g., number/percentage of inmates sharing syringes); etc. Surveys are

administered (inmates and staff) every six months. While PNEP implementation in some Spanish prisons was met with some resistance initially, inmate/staff attitudes shifted to full acceptance, and:

- Needle sharing was decreased;
- There was no increase in injection drug use;
- The number of inmates referred to drug treatment programs (including drug-free programs) increased;
- There was no increase in needle-stick injuries or illegal needle seizures; and
- PNEP needles/syringes were not used as weapons against staff or inmates.
- Hepatitis C seroconversion rates in Spanish prisons overall decreased from 5.1% to 2.0% between 2000 and 2004. Similarly the HIV seroconversion rate decreased from 0.6% to 0.2%. However, BBV seroconversion trend comparison between prisons with PNEP and prisons without are not available.

Conclusions

Preamble: At the request of Correctional Service Canada (CSC) PHAC signed a Memorandum of Understanding (MOU) with the CSC to provide scientific and technical advice to CSC on potential risks and benefits of prison needle exchange programs (PNEPs). Main conclusions are as follows:

- Definitive data concerning the impact of PNEPs on BBV incidence do not exist.
- Evidence of behaviour change following PNEP implementation in a number of international prisons reflect these commonalities:
  - PNEPs do not lead to increased injection drug use;
  - Needle-sharing practices decrease in prisons where PNEPs are offered;
  - Referrals to drug-treatment programs increase in prisons where PNEPs are offered;
  - Health care interventions related to injection-site abscesses decrease in prisons where PNEPs are offered; and
  - The number of overdose-related health care interventions and deaths decrease in prisons where PNEPs are offered.

- With respect to issues of safety and security, the current body of evidence indicates that:
  - PNEP syringes/needles are not used as weapons;
  - PNEPs do not result in increased altercations, whether between inmates or by inmates against prison staff;
  - PNEPs do not result in increased cases of needle-stick injuries;
  - PNEPs do not result in increased seizures of illegal drugs or drug-using paraphernalia;
  - PNEPs do not result in increased cases of drug-use;
  - PNEPs do not result in increased injection drug-use initiation during incarceration; and
  - Prison staff attitudes and readiness to accept PNEPs shifted from fear and resentment to acknowledgement that PNEPs represent an important and necessary addition to a range of harm reduction services and health and safety interventions – many staff advocate strongly to safeguard the ongoing support and delivery of the programs.

Limitations common to all PNEP evaluations include: small sample sizes, relatively short follow-up timeframes, inconsistent BBV screening uptake, and the absence of comparison groups. Evaluation studies were based primarily on before-and-after comparisons. A comparison of outcomes with a control group without access to PNEP would provide valuable data on the true effectiveness of PNEP.