



AN EVIDENCE BRIEF

NEEDLE AND SYRINGE EXCHANGE PROGRAMS



University
of Victoria

Canadian Institute for
Substance Use Research



Purpose

This series provides plain language introductions to the evidence supporting critical substance use services and supports, including treatment and harm reduction programs that meet the needs of people who use drugs.

Objectives

- To promote evidence related to essential substance use services.
- To guide decision makers in making policies related to substance use services and supports.

About Co/Lab

Co/Lab is a collaborative network for research and knowledge exchange that aims to promote health and health equity for people who use drugs (including alcohol, other licit, and illicit drugs). Co/Lab activities are guided by collaborations with people who use drugs, families, health care providers, researchers and policy makers, and are focused on generating practical evidence that can be used to enhance substance use services and supporting policies.

This initiative has been made possible through a financial contribution from Health Canada. The views expressed herein do not necessarily represent the views of Health Canada.

The views expressed in this brief are solely those of the authors.

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Suggested Citation

KG. Card, B. Pauly, M. Gagnon, B. Wallace, K. Urbanoski (2019) “An Evidence Brief: Needle and Syringe Exchange Programs.” Canadian Institute for Substance Use Research.





Summary

Needle and Syringe Exchange Programs (NEPs) provide people who inject drugs with the equipment they need to avoid acquiring and/or transmitting blood-borne infections such as HIV and Hepatitis C. NEPs are known to have high needle return rates (>90%). When there are adequate numbers of such services, they can reduce the number of improperly discarded syringes in public and community spaces. Many early NEPs placed restrictions on exchanges (such as requiring 1-for-1 exchanges), but it has been shown that these strategies reduce the effectiveness of NEPs and put communities at elevated risks for harm. Needle stick injuries are not only rare, but carry a low risk of viral transmission. Restricting needle exchanges through policy is an outdated and ineffective practice for addressing substance use in communities. More effective methods for meeting the needs of people who use drugs while maintaining public safety include provisions for adequate NEP services; support for peer-led, community-based programming; installation of needle collection boxes in public spaces and at pharmacies; and promotion of public education campaigns about what to do if discarded needles are encountered (e.g., call needle disposal team; handling procedures).

Background

Needle and Syringe Exchange Programs (NEPs) are programs in which sterile needles, syringes, and other injection paraphernalia are distributed to and recovered from people who inject drugs (e.g., cocaine, heroin, amphetamines, pharmaceutical opioids, and anabolic steroids). These programs are cost-effective and low-threshold methods to reduce the spread of blood-borne diseases, including Hepatitis B, Hepatitis C, and HIV by reducing syringe borrowing and syringe lending.¹ For example, the implementation of an NEPs in New York was associated with a 41% decline in HIV incidence and a 27% decline in Hepatitis C incidence.² An additional benefit is fewer discarded syringes in the community.³

When incorporated as part of a comprehensive harm reduction strategy, NEPs can build reciprocity and relationships between healthcare providers and people who inject drugs – leading to overall improvements in the health and wellbeing of these individuals, entry into substance use treatment programs, and reduced injection.⁴⁻⁹ These considerations make NEPs part of an overall fiscally responsible public health strategy.

Problem Statement

Decision makers sometimes assume that NEPs increase risk to communities by increasing the number of improperly disposed needles. Evidence has shown this assumption to be mistaken. We summarize the relevant evidence below.

Evidence Base

Benefits on NEPs

Studies evaluating the impact of NEPs on improper syringe disposal show that cities without NEPs have significantly higher rates of improperly disposed syringes.³ In a systematic review of 26 articles summarizing research conducted on NEPs, the average needle return rate was found to be 90%, with some regions seeing as much as 112% of needles returned – suggesting that needle exchange programs are not the primary sources of improperly discarded needles and that they are in fact a solution to this problem.¹⁰ Furthermore, due to the fragility of Hepatitis and HIV viral strains, transmission from discarded needles has been shown to be extremely rare.^{11,12} No reported cases of HIV acquisition have been reported, and in the case of exposure, prophylactic measures are available to prevent HIV, Hepatitis B, and Hepatitis C infection.¹³⁻¹⁶ For instance, one study estimated that the potential risk for HIV acquisition from a discarded needle is at most 1 in 4,000 – though in reality the risk is considerably lower, especially when considering advancements in

treatment and the relatively rare occurrence of these exposures.¹⁵ Nevertheless, there continues to be significant public interest in ensuring needles are disposed of safely.

Impact of Restrictions on NEPs

Despite the benefits of NEPs on reducing the number of improperly discarded needles, distribution restrictions are often proposed to address this problem. However, there is no evidence to suggest that distribution restrictions (for instance, through the closing of NEPs, or requiring 1:1 exchanges) reduce the improper disposal of needles. Conversely, distribution restrictions are known to result in an overall reduction in the number of sterile needles in circulation and impose increased risks for people who use drugs. They introduce new risks by requiring individuals to carry a large number of needles between exchanges or in absence of clean needles to re-use needles.^{17,18} Bluthenthal et al. demonstrated that HIV risk is three times higher among those with restricted access to syringes compared to those with adequate access through a non-restrictive program.¹⁹ Clearly, policies that restrict access to sterile needles are potentially very costly policies, being associated with less effective harm reduction and poorer health outcomes.

Recommendations

Based on existing evidence and best practices,^{20,21} cost-effectiveness considerations, and the context of high rates of overdose in Canada, limiting the availability and effectiveness of NEPs for people who use drugs is not a wise policy. Decision makers should instead evaluate whether they have developed a sufficiently comprehensive harm reduction plan to ensure proper distribution and retrieval. Comprehensive needle distribution programs have been implemented in many jurisdictions (e.g., Ontario)²² to ensure adequate coverage and facilitate the proper disposal of needles and syringes. Based on these models, we recommend that:^{22,23,24}

- decision-makers develop relationships with community members who use drugs, public health coalitions, and harm reduction researchers in order to build trust and facilitate community-based, peer-led outreach, education, and needle recovery;
- needle disposal boxes be made available in restrooms, parks, and other areas where people may safely discard of needles;
- pharmacy take back programs allow individuals to return needles to either their source origin or to a different origin;
- school-based curriculums and advertising campaigns provide education to the general public on what to do if they encounter a discarded needle; and
- hazardous waste disposal personnel be made available by email or hotline to retrieve discarded syringes identified by community members.



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