

Enhancing uptake of the Canadian prison needle exchange program: Interim findings from the NEXUS type 1 hybrid implementation trial

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Background: Prison needle exchange programs (PNEP) reduce sharing of injection equipment and transmission of HIV and other bloodborne viruses. Canada is one of 10 countries with PNEPs and the only country mandating a security risk assessment prior to participation. This requirement, alongside other structural barriers, contribute to low uptake (~10%) among people who inject drugs in prison.

Methods: NEXUS is an ongoing type 1 hybrid effectiveness-implementation, non-randomised stepped-wedge cluster trial evaluating a bundled implementation strategy (NIATx) to increase PNEP uptake. Nine federal prisons were assigned to three sequences, activated at six-month intervals. NIATx tools (e.g., rapid cycle testing, data-driven feedback and audit) were tailored to site-specific barriers to improve access over 24 months. The primary outcome is PNEP uptake (participation rate among the total prison population). This interim analysis describes early operational outcomes, promising practices, and implementation barriers in sequence 1 prisons after 10 months of implementation (to December 2025).

Results: Implementation activities focused on increasing awareness and streamlining access to PNEP. Sites reported increased PNEP applications following introduction of structured information delivery at key touchpoints (e.g., intake, urine drug screening for opioid agonist therapy) and a shift from passive to active communication. Workflow standardisation (e.g., nursing admission form prompts) supported more consistent offering of the program. Sites also simplified approval processes by reducing the number of required approvers, decreasing wait times (mean 15 days [range: 10-17] at baseline; 4 days [1-7] in December 2025). PNEP uptake improved in one prison (12% to 24%). However, security protocols continued to limit participation, with incidents (e.g., missing syringes) triggering immediate program removal of participants.

Conclusion: Interim findings suggest NIATx strategies are feasible within carceral settings and can reduce process delays and increase program visibility. Early signals

of increased uptake are promising, though persistent structural and security-related barriers may limit overall impact.

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