

# Retrospective Review of Rates of Sexually Transmitted and Blood-Borne Infection Testing in Provincial Corrections Facilities in Newfoundland and Labrador

## Objective

To determine the rate of sexually transmitted and blood-borne infection (STBBI) testing and prevalence of hepatitis C virus (HCV), hepatitis B virus (HBV), human immunodeficiency virus (HIV), and syphilis in provincial correctional facilities in Newfoundland and Labrador (NL).

## Practice Points

1. STBBIs are disproportionately prevalent among people who are incarcerated (PWA). Up to 38% of PWA have been exposed to HCV and more than 10% of PWA are living with HIV, although prevalence estimates are biased by low rates of testing and incomplete surveillance.
2. In Canada, federal correctional facilities house incarcerated people with sentences of a minimum of two years. Comparatively, provincial facilities house people who are incarcerated with sentences shorter than two years and some low-risk federally sentenced individuals. These provincial facilities are lagging in screening, testing, and treatment. In addition, treatment and harm reduction services are seldom offered at these facilities.

## Methods (C. Whitten, A. Turner, B. Howell, B. Sparkes, R. Ricciardelli, P. Daley)

This retrospective cohort study collected the identification of all admissions records in provincial correctional facilities in NL between 1 Jul 2020 and 31 Jun 2021, using the Provincial Corrections Offender Maintenance System database. Admissions to Her Majesty's Penitentiary (HMP), Bishop's Falls Correctional Centre (BFCC), NL Correctional Centre for Women (NLCCW), West Coast Correctional Centre (WCCC), and Labrador Correctional Centre (LCC) were included. Admissions to provincial detention centres were excluded. Records were linked with STBBI results, when available, within the electronic medical record (Meditech) using demographics. STBBI test results searched included HCV antibody (HCVAb), HCV RNA, HIV serology, syphilis serology, HBV surface antigen (HBSAg), and HBV surface antibody (HBSAb). Testing rates, STBBI positivity rates, and univariate analysis of predictors for STBBI testing were completed.

## Results

- STBBI test results were available for 72 (4.5%) admissions. No admission had complete testing for all STBBIs. HCVAb, HIV, and HBSAg were the most commonly tested across all facilities (4.2%).
- Facility testing rates ranged from 1.9% (BFCC) to 11.2% (NLCCW). In HMP, HBSAg testing was completed at the highest rate (3.0%). At BFCC, all tests except for the HCV RNA test were completed at the same rate (1.9%). In NLCCW, WCCC, and LCC, HCV antibody, HIV, and HBSAg tests were all completed at the highest rates (10.1%, 8.3%, and 5.3% respectively for each facility). HCV RNA and HBSAb were the least commonly tested across all facilities.
- Of those who had STBBI test results (n=72), 37.5% (n=27) tested positive. HCVAb prevalence was 31.3% (n=21). The majority (76.2%; n=16) of those who were HCVAb positive received HCV RNA testing and 88.8% (n=11) were positive for HCV RNA. The results also showed that of those receiving STBBI testing, 1.8% tested positive for syphilis and 1.5% tested positive for HIV. No HBSAg was detected (0%), and 52.0% of those tested had protective HBSAb levels.

**Table 1. Patient Demographics, Testing Rates and Results by Facility (n=1,611)**

Number (%) of Participants						
Characteristics	All Facilities n=1,611	HMP n=1,009	BFCC n=107	NLCCW n=89	WCCC n=181	LCC n=225
Females	97 (6.0%)	3 (0.3%)	3 (2.8%)	89 (100%)	1 (0.5%)	1 (0.4%)
Males	1,514 (94.0%)	1,006 (99.7%)	104 (97.2%)	0 (0%)	180 (99.4%)	224 (99.6%)
Mean Age (SD)	37.85 (11.12)	37.85 (10.97)	42.97 (14.81)	36.69 (9.29)	37.59 (10.57)	33.76 (9.54)
Any STBBI						
Tested	72 (4.5%)	33 (3.3%)	2 (1.9%)	10 (11.2%)	15 (8.3%)	12 (5.8%)
Positive	27 (37.5%)	14 (42.4%)	0 (0.0%)	7 (70%)	6 (40%)	0 (0%)

- Age was not a significant predictor of testing.
- Sex was a significant predictor of testing, with males being less likely to be tested than females.
- Rates of testing at institutions were significantly different from each other. HMP was associated with lower likelihood of testing while NLCCW and WCCC were associated with an increased likelihood of testing.

**Table 2. Univariate Analysis of Predictors for STBBI Testing**

	Direction of Association	OR	Lower CI	Upper CI	P value
Age	Not associated				0.496
Sex	Males less likely to be tested than females	0.415	0.207	0.835	0.004
HMP	Less likely to be tested at this facility than other facilities	0.488	0.304	0.785	0.003
BFCC	Not associated	0.390	0.094	1.613	0.178
NLCCW	More likely to be tested at this facility than other facilities	2.98	1.465	6.034	0.001
WCCC	More likely to be tested at this facility than other facilities	2.18	1.205	3.931	0.008
LCC	Not associated	1.25	0.658	2.351	0.501

## Conclusions

1. Provincial correctional facilities in NL had low STBBI testing rates and a high prevalence of STBBIs among those tested, especially for HCV.
2. Reasons for low rate of STBBI testing are unknown. One explanation may be stigma, which can result in avoidance of testing or disclosure. Adopting a harm reduction approach to minimize risk and destigmatize STBBIs could increase testing and disclosure and improve STBBI control.
3. Opt-out STBBI testing, accessible treatment within corrections facilities, and high quality harm reduction methods for PWAI are recommended.
4. To achieve the World Health Organization’s goal of HCV elimination by 2030, PWAI and STBBIs must be awarded necessary attention, including adequate funding.
5. Increased resources dedicated to HCV elimination, such as accessible harm reduction methods, will likely decrease the prevalence rates of other STBBIs.