

Sex differences in sexually transmitted and bloodborne infections among people incarcerated in Quebec provincial prisons

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Background: Incarcerated individuals are disproportionately affected by sexually transmitted and bloodborne infections (STBBIs) and studies suggest that incarcerated females have a higher prevalence of STBBIs compared with incarcerated males. As Canadian data are lacking, we aimed to determine the prevalence of six STBBIs (HIV, hepatitis B virus (HBV), hepatitis C virus (HCV), chlamydia, gonorrhea and syphilis), stratified by sex, among people in Quebec provincial prisons.

Methods: Convenience sampling of adults (age ≥ 18) in five provincial prisons in Quebec (three male and two female), where individuals are sentenced for <2 years, was undertaken. Participants were offered self- or peer-collected dried blood spot (DBS) testing for HIV and HCV antibodies (and HCV RNA if positive), hepatitis B surface antigen (HBsAg), and *Treponema pallidum* enzyme immunoassay (EIA; syphilis antibody). PCR testing was conducted on urine samples for *Chlamydia trachomatis* (chlamydia) and *Neisseria gonorrhoea* (gonorrhea). Test results were stratified by sex.

Results: From October 7, 2024–April 17, 2026, 1,039 participants were recruited (722 males (69%) and 317 (31%) females, median age: 37 years). 71/264 (27%) females and 84/547 (15%) males reported a history of injection drug use (data not yet available for all participants). 8% (87/1,039) self-collected their DBS. Among females, the prevalence of STBBIs was HIV: 0.9% (n=3/317); HBsAg: 0.6% (n=2/317); HCV antibodies: 12.6% (n=40/317); HCV RNA: 2.8% (n=9/317); chlamydia: 2.2% (n=7/317); gonorrhea: 1.3% (n=4/317); and syphilis: 6.3% (n=20/317). Among males, the corresponding estimates were HIV: 0.6% (n=4/722); HBsAg: 0.6% (n=4/722); HCV antibodies: 5.1% (n=37/722); HCV RNA: 1.1% (n=8/722); chlamydia: 2.1% (n=15/722); gonorrhea: 0.4% (n=3/722); and syphilis: 4.2% (n=30/722).

Conclusion: Females in Quebec provincial prisons had a higher prevalence of most STBBIs compared to males, underscoring the importance of gender-informed public health planning to meet Canada's STBI elimination goals.

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