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Advancing gay and bisexual men's sexual health

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Prevalence of HIV and sexually transmitted and bloodborne infections (STBBI), and related preventive and risk behaviours, among gay, bisexual and other men who have sex with men (GBM) in Montreal, Toronto and Vancouver. Results from the Engage Study

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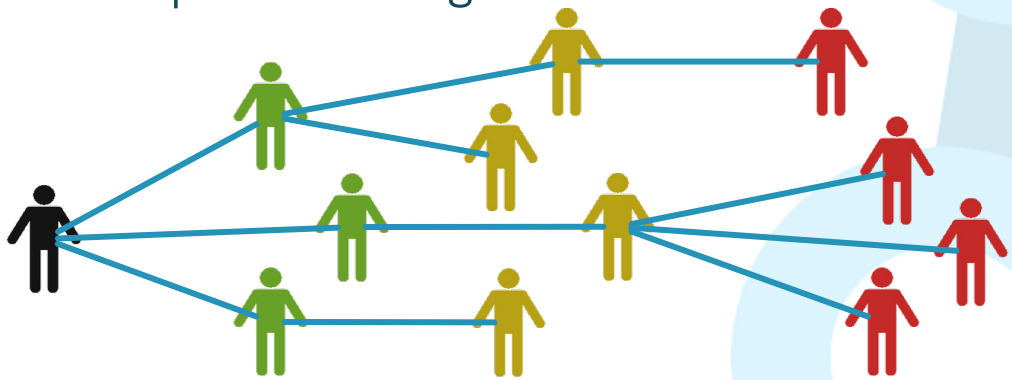
Introduction

- The last national Canadian biobehavioural surveillance study of gay, bisexual, and other men who have sex with men (GBM), M-Track, was in 2010 (Public Health Agency of Canada [PHAC], 2011)
  - Since that multi-city surveillance study, most biobehavioural Canadian studies focused on GBM have not incorporated cross-city comparisons
- Half of reported HIV diagnoses continue to be among GBM in Canada (Bourgeois et al., 2017)
- Similarly, diagnoses of other STBBIs, such as syphilis, chlamydia, gonorrhea, and hepatitis C virus (HCV) remain common among GBM, with GBM comprising the majority of syphilis cases (PHAC, 2019)
- Provincial differences in STBBI policies and programs (e.g., costs of PrEP) may result in differences in STBBI prevalence and related behaviours among urban Canadian GBM
- The absence of recent STBBI biobehavioural surveillance also limits the ability of policy makers to determine the policies and programs that would have the greatest impact on STBBI control in the three most populous cities in Canada
- This study's objective is to present the baseline descriptive statistics on STBBI prevalence and related behaviours as per the UNAIDS indicators for Global AIDS Monitoring (2017) for a study of GBM in the three largest cities of Canada

Methods: The Engage Study

- Mixed-Method longitudinal cohort study conducted in Vancouver, Toronto, and Montreal
- Recruited cis- and transgender men who were 16 years of age or older; reported having sex with another man in the past 6 months
- Data collected using Respondent-Driven Sampling (RDS).
- This study presents baseline data:
  - N = 2,449 (V = 753, T = 517, M = 1179)
  - Recruitment period: February 2017 – August 2019



- Engage combines data from computer-assisted self-interviewing (CASI) and the detection of HIV and other selected STBBIs using biological samples.
  - Participants provide a venous blood sample permitting serological testing for HIV, hepatitis C virus (HCV), hepatitis B virus (HBV) and syphilis
  - Study participants also provided urine, pharyngeal swabs, and rectal swabs for gonorrhea and chlamydia
- For this analysis, we calculated crude point estimates and RDS-adjusted local population-based estimates with 95% confidence intervals (CI) for demographic characteristics, STBBI prevalence, test results and STBBI preventive and risk behaviours
- We also examined differences in the RDS-adjusted estimates using non-parametric tests considering unequal variance and sample size across cities

Results

- **HIV Prevalence:** HIV prevalence was lower in Montreal (14.2%) than in Toronto (22.2%) or Vancouver (20.4%).
- **History of Syphilis Infection:** Lifetime history of syphilis infection was high and similar across cities (14–16%)
- **Detected Gonorrhea:** Vancouver GBM had a lower prevalence of prevalent gonorrhoea at any anatomic site (2.1%) than did Toronto (9.1%, $p < .001$) or Montreal GBM (5.5%).
- **Chlamydia:** Prevalence ranged between 3.1% – 5.8%, and Vancouver GBM had a higher prevalence of detected chlamydia at any site (5.8%) than Montreal GBM (3.1%).
- **Prior HIV Testing:** Vancouver had more HIV-negative participants (18.6%) who reported never being HIV tested compared with Toronto (12.9%) or Montreal (11.5%).
- **Prior STBBI Testing:** Both Montreal (74.9%) and Vancouver (78.8%) had higher proportions of men who had tested for an STBBI (besides HIV) in the past six months compared with Toronto (67.4%).
- **PrEP Use:** Vancouver had a higher proportion of HIV-negative men who used Pre-Exposure Prophylaxis (PrEP) in the past six months (18.9%) than Toronto (11.1%) or Montreal (9.6%).
- **Any Serodiscordant Condomless Anal Sex (SDCAS):** Toronto GBM reported a lower proportion of any SDCAS at least once in the past six months (36.9%) than Montreal GBM (42.5%, $p = .03$). However, we did not see any difference between Montreal and Vancouver GBM (42.5% vs. 40.1%) or between Toronto and Vancouver GBM (36.9% vs. 40.1%).

Note. All differences between cities were statistically significant at $P < .05$. SDCAS includes all SDCAS acts and does not account for use of TasP or PrEP

Conclusion

- In this first cross-city biobehavioural comparison of GBM in Canada in over ten years, we found differences in HIV and other STBBI prevalence, and in related preventive and risk behaviours.
  - HIV prevalence was significantly lower (14.2%) in Montreal than in Toronto (22.2%) or Vancouver (20.4%).
- Our findings are consistent with a widely recognized resurgence of syphilis among GBM from 2004–2015 (and perhaps since 2015) in many Western countries (Abara et al., 2016).
  - The 13-18% of GBM who had never been tested for an STBBI other than HIV, combined with this sample's prevalence of prior syphilis, suggests the need for increased efforts to reach GBM for STBBI-related health services beyond HIV.
- Limitations:
  - While these data may approximate a probabilistic sample because they have been adjusted for the RDS recruitment, the data are not adjusted for other factors such as sociodemographic differences, which could affect STBBI comparisons across cities.
  - These factors (e.g., age, race) may explain STBBI-related differences across the three samples.
- Given that GBM continue to comprise nearly 60% of Canadian HIV incidence (PHAC, 2019) and ongoing STBBI infections among GBM (e.g., Abara et al., 2016), it is essential to scale up both PrEP and STBBI testing in order to impact ongoing HIV and STBBI transmission among Canadian GBM.

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