

Finding Harmony Between HIV Prevention & Sex Positivity; Exploring HIV Seroconversion among Gay Men in Vancouver

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Background

- Gay, bisexual and other men who have sex with men (herein “gay men”) report more recent and lifetime sexual partners, and participation in group and anonymous sex compared with women and heterosexual men.
- Relatedly, but certainly not only due to this, gay men are disproportionately affected by HIV, with a prevalence of 23% in Vancouver.
- Given new advances in and hopes to optimize antiretroviral treatment-based HIV prevention (e.g. pre-exposure prophylaxis), it is important to understand better which gay men are becoming infected with HIV.
- Research Questions: What is the rate of new HIV infection and factors associated with HIV seroconversion among gay men in Vancouver? How can we interpret and rectify these findings within a sex positive lens?**

Methods

Study Protocol & Participants:

- The Momentum Health Study is a prospective longitudinal cohort of gay men aged 16+ in Metro Vancouver recruited using respondent-driven sampling beginning February 2012. We used follow-up study visit data to August 31st, 2015. Study visits occurred every six months and included:
 1. Self-completed questionnaire on demographics, sex, substance use, attitudes;
 2. Nurse-administered sexual health check-ups with HIV testing; and
 3. Provincial administrative health data link to all HIV viral load and treatment data

Outcome & Explanatory Variables:

- Seroconvertors were participants who tested HIV-negative at baseline, and identified as HIV-positive through a later HIV test or administrative database.
- Explanatory factors include demographics (age, sexual identity, race/ethnicity, relationship status, country of birth), behavioural risk (condomless anal sex (CAS), injection drug use, crystal methamphetamine use, group sex, sex/escort work), risk assessments (self-perceived using a single item and the US CDC’s *HIV Incidence Risk Index for MSM* (HIRI-MSM), which ranges from 0-45 with a cutpoint of ≥ 10 used to recommend PrEP), and prevention-related factors (PEP and PrEP awareness, viral load sorting)

Statistical Analysis:

- We calculated HIV incidence rates overall, by age-group, and using HIRI-MSM.
- We examined factors associated with HIV seroconversion using univariable and multivariable Poisson regression (adjusted for follow-up time).

Results

- Of 497 MSM who tested HIV-negative at enrolment (mean follow-up time of 2.23 years), 82.7% were gay-identified, 74.5% White, and 40.9% aged ≤ 30 .
- Twelve HIV seroconversions were recorded, for an overall HIV incidence rate of 1.08 per 100 person-years (95% CI: 0.62-1.90). Notably, 8 of 12 HIV seroconversions were among those aged ≤ 30 , resulting in an HIV incidence rate of 1.80 per 100 person-years (95% CI: 0.90-3.62).
- HIV incidence rates for factors of interest are shown in **Figure 1**. HIV seroconversion was significantly associated with HIRI-MSM score >25 , past STI diagnosis, self-assessed high risk for HIV, crystal methamphetamine use, group sex, being born outside Canada, and condomless anal sex ($p < 0.05$ for all)

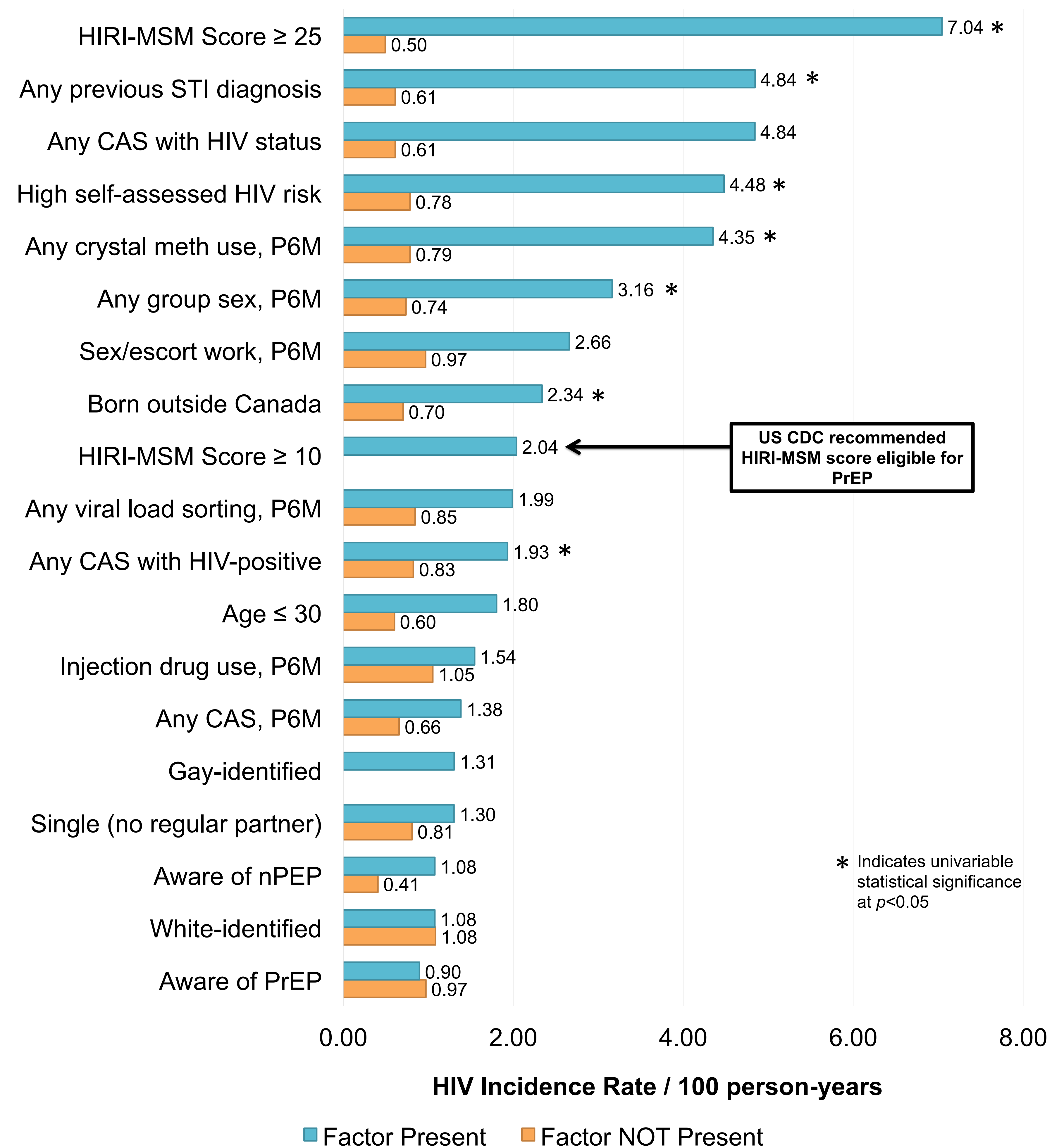


Figure 1. Comparison of HIV Incidence Rates Among Gay Men

Conclusions

- Gay men in Vancouver continue to experience a sustained high rate of HIV seroconversion, which was associated with numerous sexuality-related factors.
- Despite popular discourse surrounding the “end of HIV/AIDS” and “an AIDS-free generation”, current prevention efforts fall short for gay men.**
- Findings may help target combination HIV prevention towards gay men most likely to acquire HIV (e.g. HIV pre-exposure prophylaxis, substance use harm reduction).
- Public health is challenged to reconceptualise HIV prevention that is sex positive, stigma-free, affirming of diversity, yet still effective at reducing HIV transmission.**

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