

TRENDS IN INCIDENCE OF BACTERIAL SEXUALLY TRANSMITTED INFECTIONS AMONG GAY AND BISEXUAL MEN USING PREP IN AUSTRALIA

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Background:

Multiple PrEP studies suggest incidence of bacterial STIs among gay and bisexual men (GBM) increases following PrEP initiation. Regular, asymptomatic STI testing of PrEP users (Australian guidelines recommend three-monthly) may help suppress incidence longer-term. Using national sentinel surveillance data, we report trends in STI incidence among GBM PrEP-users.

Methods:

Retrospective patient data were extracted from 32 clinics. HIV-negative GBM with a PrEP prescription contributed person-time from their first subsequent STI test and were censored at their last test or six months after their last PrEP script (allowing for re-entry at PrEP re-initiation). Infection date was imputed as a random date between diagnosis and previous test. Using Poisson regression, we estimated half-yearly incidence and assessed trends (July 2016-December 2019) for chlamydia, gonorrhoea and syphilis, overall and stratified by anatomical site and age (</≥35 years). To address selection bias associated with different characteristics of GBM initiating PrEP over time, a closed-cohort analysis was conducted among GBM continuously using PrEP across the study period.

Results:

Among 17,250 PrEP-users contributing 24,823 person-years (median days between tests=84), chlamydia (51.3/100py–39.1/100py; $P<0.001$) and gonorrhoea (43.1/100py–32.8/100py; $P<0.001$) declined, whereas syphilis increased (6.4/100py–9.9/100py; $P<0.001$). Among 3,498 continuous-PrEP-users (10,538 person-years), declines were observed for chlamydia (54.0/100py–42.3/100py; $P<0.001$) and gonorrhoea (43.8/100py–34.9/100py; $P<0.001$); pharyngeal chlamydia ($P=0.116$) and urogenital gonorrhoea ($P=0.973$) were stable; and syphilis increased (6.8/100py–11.8/100py; $P<0.001$). Gonorrhoea and chlamydia incidence were greater among GBM <35 years, with declines most prominent among those ≥35 years. Syphilis did not differ by age.

Conclusion:

Representing the largest cohort analysis of STI incidence among PrEP-users reported internationally, findings suggest high incidence of some STIs among PrEP users may be attenuated over time. Frequent testing or changes in the risk profile of PrEP initiates over time may explain reductions. Risk-mitigation strategies may be needed for younger GBM and to curtail syphilis incidence.

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