

Rate of new positive tests among gay and bisexual and other men who have sex with men (MSM) using varying estimates of population size in British Columbia, 1986 - 2012

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Background

One of the challenges of estimating the rate of new positive HIV tests among gay and bisexual and other MSM is that it is difficult to get a true count of the underlying population. We therefore explored how varying estimates of the underlying population can be used when true population estimates are unknown.

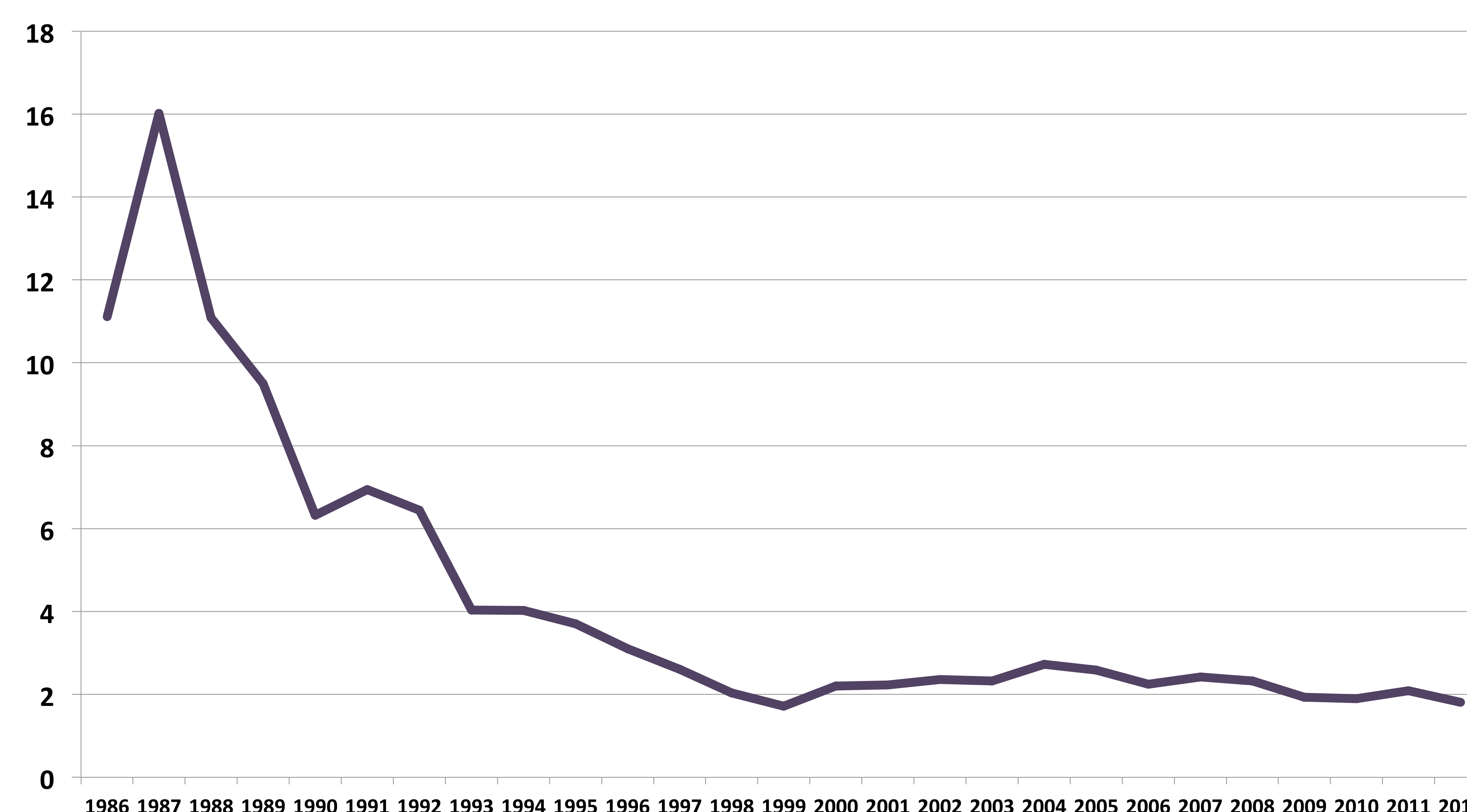
Methods

- This demographic study examined the impact of varying estimates of population size on the rate of new positive tests among gay and bisexual and other MSM in British Columbia (BC) from 1986 to 2012.
- Estimates of the population came from nationally representative surveys conducted by the United States (US) Centers for Disease Control (CDC).
- Based on these surveys, CDC estimated that gay and bisexual and other MSM comprised 4% of the US male population (range: 2.8% - 5.3%).
- Estimates of the gay and bisexual and other MSM population in BC were obtained by applying CDC's range of estimates to estimates of the BC male population age 15 years and over.
- The numbers of new HIV cases were obtained from annual reports published by the BC Centre for Disease Control. Rates of new positive cases were calculated by dividing the number of new HIV-positive cases by the estimated population. Rates were expressed as cases per 1,000 gay and bisexual and other MSM.

Results

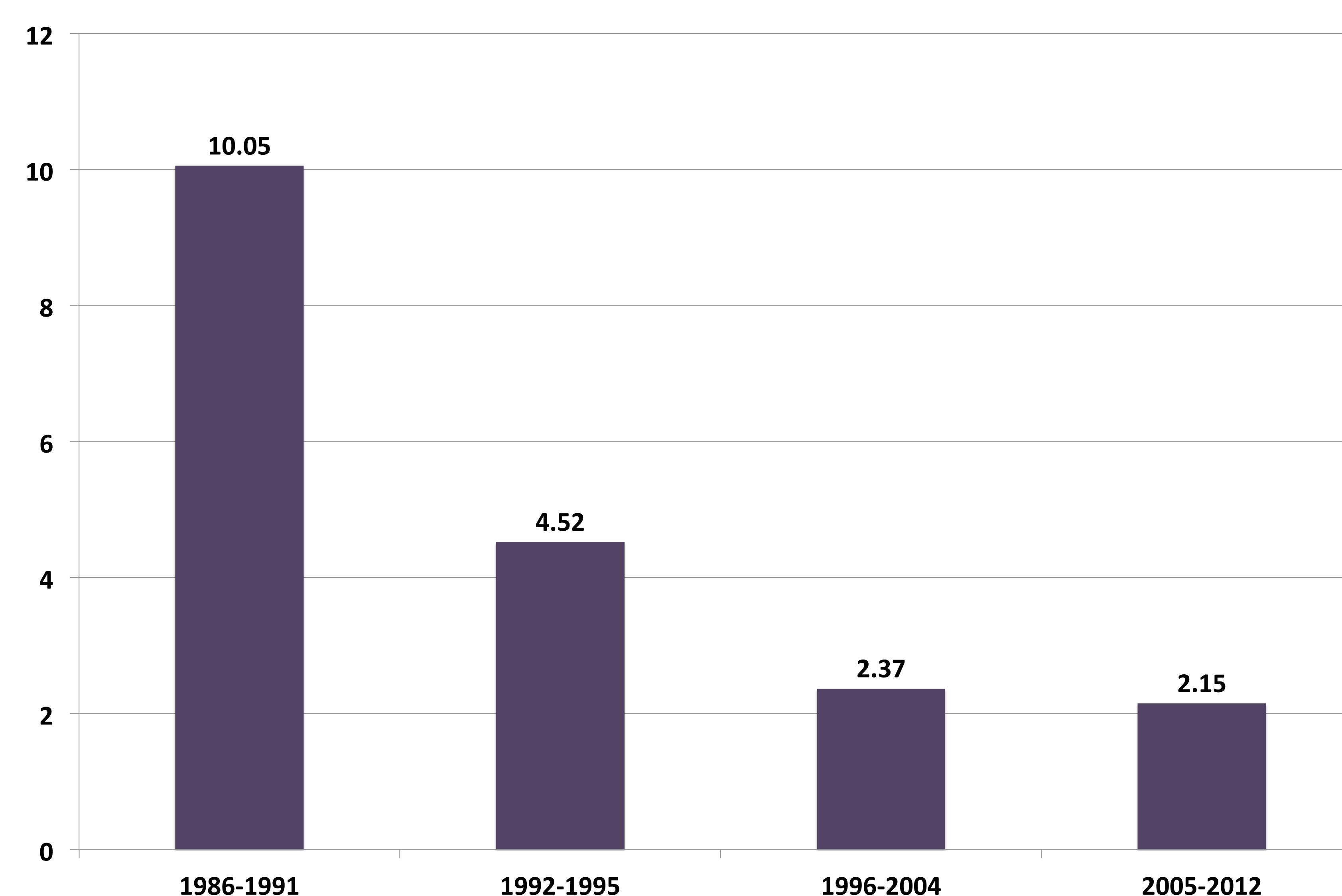
- Based on US CDC low and high estimates, we demonstrated the number of gay and bisexual and other MSM ranged from 57,637 and 115,274 in BC in 2012.
- The rate of new positive tests in that year was estimated to range from 1.2 to 2.6 per 1,000 gay and bisexual and other MSM. Rates peaked in 1987 (11.4 – 22.9) and reached a nadir in 1999 (1.2 – 2.4).
- In 2004 the rate peaked again (2.0 – 3.9) and has since stabilized or decreased slightly.
- **Figures 1** and **2** highlight the changes in rates by year or period based on the assumption that gay and bisexual and other MSM represent 4% of the BC population.

Figure 1. Rates of new positive tests among MSM (per 1,000 population)*



*Assuming 4% of male population aged 15 years and over are MSM

Figure 2. Rates of new positive tests by period (per 1,000 population)*



*Assuming 4% of male population aged 15 years and over are MSM

Conclusions

Our work demonstrates the value of using population ranges to estimate prevalence in the gay and bisexual and other MSM population.