

# **SUSTAINED, LOW PREVALENCE OF UNDIAGNOSED HIV AMONG GAY AND BISEXUAL MEN IN SYDNEY, NEW SOUTH WALES (NSW) COINCIDENT WITH INCREASED TESTING AND PREP USE: RESULTS FROM REPEATED, BIO-BEHAVIOURAL STUDIES 2014-2018.**

Keen P<sup>1</sup>, Lee E<sup>2,3</sup>, Grulich AE<sup>1</sup>, Bavinton BR<sup>1</sup>, Stoové M<sup>4</sup>, Guy R<sup>1</sup>, Duck T<sup>5</sup>, Prestage G<sup>1</sup>, Holt M<sup>2</sup> on behalf of the NSW HIV Prevention Partnership Project.

<sup>1</sup> The Kirby Institute, UNSW Sydney, Sydney, NSW, Australia

<sup>2</sup> Centre for Social Research in Health, UNSW Sydney, Sydney, NSW, Australia

<sup>3</sup> Centre for Economic Impacts of Genomic Medicine, Macquarie University, Sydney, NSW, Australia

<sup>4</sup> The Burnet Institute, Melbourne, Victoria, Australia

<sup>5</sup> New South Males Ministry of Health, Sydney, Australia

**Background:** Gay and bisexual men (GBM) with undiagnosed HIV contribute disproportionately to HIV transmission in Australia. Between 2012 and 2018, HIV strategies in NSW focused on intensifying HIV testing, treatment and prevention. Bio-behavioural surveillance was conducted to evaluate the impact of the strategies in reducing undiagnosed HIV.

**Methods:** In 2014 and 2018 we recruited men at gay venues and events in Sydney. Participants completed a self-administered survey and provided an oral fluid sample for HIV testing. We calculated the prevalence of HIV and undiagnosed infection and assessed changes in behaviour (self-reported in the previous 6 months). Two sample tests of proportion were used to compare prevalence estimates. Chi-square tests were used to assess changes between 2014 and 2018.

**Results:** In 2014, 944 men were recruited; 65 men tested HIV-positive (6.9%, 95% confidence interval [CI] 5.3-8.5%), of whom 7 were previously undiagnosed (10.8%, 95% CI 3.2-18.3%). In 2018, 890 men were recruited; 49 men were HIV-positive (5.5%, 95% CI 4.0-7.0%) and 4 were undiagnosed (8.2%, 95% CI 0.5-15.8%). Among men who believed they were HIV-negative or untested the proportion with undiagnosed HIV infection was 0.8% in 2014 and 0.4% in 2018 ( $p=0.41$ ). Between 2014 and 2018, men reporting more than 10 recent casual partners increased from 22.3% to 27.7% ( $p<.01$ ), recent condomless anal intercourse with casual partners increased from 23.9% to 37.3% ( $p<.001$ ) and self-reported STI diagnoses increased from 14.4% to 27.5% ( $p<.001$ ). Recent HIV testing and PrEP use increased from 49.6% to 56.3% ( $p<.01$ ) and 2.0% to 21.0% ( $p<.001$ ), respectively.

**Conclusion:** Undiagnosed HIV remains low (and may be falling) among GBM in NSW, despite increasing partner numbers, condomless sex and STIs. Increases in HIV testing and PrEP use may have assisted in sustaining a low level of undiagnosed HIV. This is likely to have contributed to recent declines in state-wide HIV notifications among GBM.

**Disclosure statement** The Kirby Institute and Centre for Social Research in Health are supported by the Australian Government Department of Health. The COUNT study was funded by a National Health and Medical Research Council Project grant (GNT1044749) in 2014 and a Partnership Project grant (GNT1092852) in 2018. No pharmaceutical grants were received for this study.