

RAPIDLY DECLINING HIV INCIDENCE IN MELBOURNE, AUSTRALIA (2014-2017): A NEW METHOD OF RETROSPECTIVELY DETERMINING INCIDENCE RATE IN MEN WHO HAVE SEX WITH MEN UNDERGOING REPEAT TESTING.

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Background:

We aimed to measure the HIV incidence rate in men who have sex with men (MSM) attending Melbourne Sexual Health Centre (MSHC).

Methods:

Testing history, clinical, laboratory and behavioural and were extracted from the record of all MSM presenting for HIV testing from 2014 to 2017, with a previous negative and no previous positive test. For each test, we calculated the *exposure interval* as the period from the previous negative test to the current test. When this crossed different years, the proportion of the exposure interval that fell in each year was assigned to that year. For each positive test, we calculated a *seroconversion interval* based on the *exposure interval* and the Western blot result. When part of the seroconversion interval fell in different years, we assigned the proportion of each case which fell in each year to that year. The incidence rate in each year is the sum of all cases assigned to that year divided to the sum of all exposure intervals assigned to that year. Multivariate Poisson regression analysis was performed to assess factors associated with HIV incidence rates.

Results:

We included 41,626 negative and 205 positive HIV tests in 13,441 MSM. The incidence rate was 0.96/100 person years (PY) (95%CI 0.74-1.25) in 2014 and by 2017 had fallen to 0.48/100PY (95%CI 0.27-0.83). Exposure during 2017 was associated with a reduced incidence rate (aIRR 0.52, p=.011). Increased incidence rates were associated with being in Australia four years or less (adjusted incidence rate ratio (aIRR) 2.17, p<.001), Asian-born (aIRR 2.37, p<.001), a diagnosis of syphilis (aIRR 3.17, p<.001) or anorectal gonorrhoea (aIRR 3.36, p<.001) and reporting more than 10 sexual partners in the past three months (aIRR 1.91, p=.001)

Conclusion:

HIV incidence rates in MSM attending MSHC have fallen rapidly. Country of birth, arrival history, sexually transmitted infections and partner numbers are associated with an increased incidence rate.

Disclosure of Interest Statement:

All authors declare no potential conflicts of interest.