

## **AN EPIDEMIOLOGICAL INVESTIGATION INTO AN INCREASE IN GONORRHOEA CASES IN NSW, 2016-2017**

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**Background:** Gonorrhoea notification rates increased by 116% across all Australian jurisdictions from 2009-2015, with NSW gonorrhoea notification rates increasing by 207% over the same period. In 2016, the gonorrhoea notification rate continued to increase, reaching 90 per 100,000 population. This increasing trend continued into 2017 when the number of gonorrhoea cases notifications in January was 48% higher compared to December 2016. An epidemiological investigation into the increase was conducted.

**Methods:** Gonorrhoea notifications with diagnosis dates from 1 October to 31 December 2016 were compared to those with diagnosis dates from 1 January to 31 March 2017. Case demographics, symptom profile and site of infection were compared. Proportional increases were calculated and tested for statistical significance using Pearson's chi-square. The gonorrhoea test positivity ratio per 100 notifications was calculated by dividing the number of gonorrhoea notifications by the number of gonorrhoea tests performed in 15 NSW laboratories.

**Results:** The majority of cases were male (82% in 2016 and 83% in 2017). The highest proportion (22%) of cases occurred in the 25-29 years age group across both time periods. There was an overall increase in genitourinary, throat and rectal infections (41%, 69% and 70% respectively), however only an increase in throat and rectal infections among men were statistically significant ( $p < 0.01$ ,  $p < 0.03$  respectively). The gonorrhoea test positivity ratio increased from 2.6 to 3.4 notifications per 100 tests.

**Conclusion:** The increase in the gonorrhoea test positivity ratio and the greater increase in throat and rectal infections relative to the increase in genitourinary infections suggests that the increase in gonorrhoea notifications was likely due to targeted screening of gay and bisexual men (GBM) at high risk of sexually transmissible infections (STIs). Further investigation is required to determine the impact of PrEP on STIs in GBM in NSW.