STI TRENDS IN A COHORT OF HIGH-RISK GAY AND BISEXUAL MEN BEFORE AND AFTER RAPID SCALE UP OF HIV PRE-EXPOSURE PROPHYLAXIS IN NEW SOUTH WALES, AUSTRALIA: THE EPIC-NSW STUDY

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Background:
EPIC-NSW study rapidly implemented HIV pre-exposure prophylaxis (PrEP) from 2016, and participants were recommended to be tested for sexually transmissible infections (STI) 3-monthly. This provided an opportunity to measure STI trends associated with PrEP access.

Methods:
We included high-risk HIV-negative GBM enrolled in EPIC-NSW between 1-March and 31-October-2016, with no recent PrEP use and ≥2 tests in the year prior to enrolment. We collected tests and diagnoses of chlamydia, gonorrhoea, and infectious syphilis in the year before and after enrolment, using the ACCESS system. Regression models were used to assess (i) change in trends in quarterly positivity associated with enrolment, (ii) any additional increase in positivity associated with enrolment, after adjusting for trend. We conducted sensitivity analyses adjusted for changes in testing frequency to reduce biases associated with case finding in participants with more frequent testing patterns after enrolment.

Results:
Analyses included 1,264 men. STI positivity ranged from 25.5% to 21.6% per quarter before enrolment, and 24.6% to 26.2% after enrolment. There was no difference in trends in quarterly positivity before and after enrolment for chlamydia, gonorrhoea, infectious syphilis; and by site of infection. There was no additional increase in STI positivity following enrolment after adjusting for trend, except for anorectal gonorrhoea (RR:2.04, 95%CI:1.03-4.02,p=0.040) which was followed by a decreasing trend after enrolment (-10.3%/quarter,95%CI:-18.2---1.7,p=0.020) and urethral chlamydia (RR:2.28,95%CI:1.09-4.8,p=0.028) which was followed by a marginal decreasing trend (-9.6%/quarter,95%CI:-18.5-0.2,p=0.054). Findings were similar when adjusting for changes in testing frequency.

Conclusions:
Our analysis suggests that in high-risk men who were testing frequently for STIs before PrEP there was no increasing trend in STI positivity after PrEP commencement. At enrolment there was an initial increase in urethral chlamydia and

anorectal gonorrhoea positivity, followed by declining trend. Findings highlight the importance of taking into account pre-existing epidemiology and testing patterns, when interpreting STI trends in the PrEP era.