

## Epidemiology poster session 1: STI trends

**P1-S1.01 TRENDS IN CHLAMYDIA AND GONORRHOEA POSITIVITY AMONG HETEROSEXUAL MEN AND MEN WHO HAVE SEX WITH MEN (MSM) ATTENDING A LARGE URBAN SEXUAL HEALTH SERVICE IN AUSTRALIA, 2002–2009**

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**Background** Notifications for Sexually transmitted infections cannot be used to measure changing incidence or prevalence of infection if a substantial proportion of infections are asymptomatic and screening rates are low. This analysis aimed to determine whether chlamydia positivity among heterosexual men and chlamydia and gonorrhoea positivity among men who have sex with men (MSM) have changed over time after adjusting for sexual risk.

**Methods** Computerised records for men attending a large sexual health clinic between 2002 and 2009 were analysed. Urethral chlamydia positivity in all men, and anal chlamydia and anal and pharyngeal gonorrhoea positivity in MSM was calculated. Logistic regression was used to assess change in positivity over time adjusting for demographic, clinical, and sexual behavioural risk factors. Testing data from the Victorian Infectious Diseases Reference Laboratory (VIDRL) was also included to supplement the MSHC data.

**Results** 17769 heterosexual men and 8328 MSM tested for chlamydia and 7133 MSM tested for gonorrhoea between 2002 and 2009. In heterosexual men, 7.37% (95% CI 6.99 to 7.77) were chlamydia positive with positivity increasing by 4% per year (OR 1.04, 95% CI 1.01 to 1.07) in multivariate analysis. In MSM, 3.70% (95% CI 3.30 to 4.14) had a urethral chlamydia infection and 5.36% (95% CI 4.82 to 5.96) had an anal chlamydia infection, but positivity did not change over time. In MSM, 3.05% (95% CI 2.63 to 3.53) tested positive for anal gonorrhoea and 1.83% (95% CI 1.53 to 2.18) for pharyngeal gonorrhoea. Univariate analysis found anal gonorrhoea positivity had decreased (OR 0.93; 95% CI 0.87 to 1.00), but after multivariate analysis adjusting for sexual risk there was no change. Urethral gonorrhoea cases in MSM as a percentage of all MSM tested for gonorrhoea also fell ( $p < 0.001$ ). The gonorrhoea and chlamydia infection rates in MSM from VIDRL supported our clinic findings showing significant declines in anal and pharyngeal gonorrhoea infections over time and a less marked, but also significant, decline in anal chlamydia; however only univariate analysis was possible.

**Conclusions** These data suggest that chlamydia prevalence in heterosexual men is rising and chlamydia and gonorrhoea prevalence among MSM is stable or declining. High STI testing rates among MSM in Australia may explain differences in STI trends between MSM and heterosexual men.

**P1-S1.02 ASSESSING HETEROGENEITY IN THE INCIDENCE OF CHLAMYDIA AND GONORRHOEA IN AN URBAN CANADIAN SETTING—A POPULATION-BASED ANALYSIS**

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**Introduction** A combination of increased testing and improved testing modalities has contributed to substantially higher incidences of chlamydia (CT) and gonorrhoea (GC) infections globally. Previous

studies have noted the differing epidemiological profiles of CT and GC, resulting in different public health prevention and intervention strategies. Using a population-based perspective, this study describes recent trends, and assesses inequalities in the geographic distribution of CT and GC in a Canadian city.

**Methods** Analyses included all laboratory-confirmed cases of CT and GC among residents of the Winnipeg Health Region from 1996 to 2008. Annual CT and GC incidence rates were directly age-standardised to the 2000 Winnipeg Health Region population. Adjusted rate ratios (ARR) for the effect of age and gender, and 95% 95% CI, were estimated by negative binomial regression models. Generalised estimating equations (GEE) were used to correct for clustering within neighbourhood areas ( $n=25$ ). Inequalities in the neighbourhood area distribution of annual CT and GC rates were measured by the Gini coefficient, with 95% CI estimated by bootstrapped samples. For regression and Gini analyses, cases were grouped into 10–19, 20–29 and 30+ age groups.

**Results** The age-adjusted incidence of CT increased from 198/100 000 in 1996 to 513/100 000 in 2008. During this same time period, GC increased from 62/100 000 to 89/100 000, with a peak of 133/100 000 in 2006. For females, and compared to those aged 30 or over, equally high rates of CT were observed in those 10–19 (ARR 24.2; 95% CI 18.7 to 31.4,  $p < 0.0001$ ) and 20–29 years (ARR 24.4; 95% CI 18.8–31.7,  $p < 0.0001$ ). For males, differences in rates were observed in those aged 10–19 (ARR 5.3; 95% CI 4.1 to 6.9,  $p < 0.0001$ ) and 20–29 (ARR 10.5; 95% CI 8.2 to 13.5,  $p < 0.0001$ ) years. A similar pattern was detected for GC infections. Inequality by neighbourhood area, as measured by Gini coefficients decreased over time for CT infections, regardless of age group. For GC infections, increases were observed in those 30 years or older, for both males and females.

**Conclusion** Since 1996, the distribution of CT incidence is suggestive of a generalised spread; while for GC the distribution has narrowed in those aged 30 or over, suggestive of concentration among core populations within this age group. CT and GC continue to display differing and dynamic epidemiological profiles.

**P1-S1.03 UNDISCOVERED BURDEN OF STIs IN RUSSIA: CURRENT SYSTEM SHORTCOMINGS**

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**Background** At the moment the major source of statistical data on STIs in Russia is the system of dermatovenerologic clinics (DVC). In accordance with Russian legislation DVCs perform periodic screening of economically active population for asymptomatic STIs disclosure and recording. We need to underline that microscopy for *Trichomonas vaginalis* and *Neisseria gonorrhoeae* is the only method involved in this screening. PCR is not approved for the program which means that there is no control over *Chlamydia trachomatis* burden. Thereby, this study was set to evaluate the screening efficacy in terms of one DVC in Moscow, Russia.

**Methods** This study included asymptomatic women aged 16–45 invited for periodic screening. In the DVC Gram stained smear microscopy for TV and GC was used in accordance with regulatory documents. In addition to the standard process a swab for multiplex PCR analysis (GC/CT/TV/MG) was obtained from each participant. All positive results were confirmed with monoplex PCR assays.

**Results** According to the official statistical report the overall quantity of people screened in this particular DVC throughout the year 2010 was 16231. In this study samples from 1125 (6.95%) of them