AC model for Australian men aged 15–29, and 1.9x higher in women. Neither model agreed perfectly with the empirical prevalence estimates; the LW model tended to be closer in younger age-categories and the AC model closer in older age-categories. The AC model was closer to empirical estimates in men than women.

Conclusion Substantial differences were observed between chlamydia prevalence estimates produced by the two models. These findings have important implications for researchers, policymakers and healthcare professionals, as estimation methods must be robust before they are used to inform public health policy, e.g. assessing the impact of chlamydia-control interventions. Health care systems and associated surveillance systems vary by country, and work to understand the reasons for the models' differences is planned, including applying the models to English data, in collaboration with the Universities of Bern, New South Wales, and Otago.

Disclosure No significant relationships.

P460 ASSESSMENT OF TUBAL FACTOR INFERTILITY ATTRIBUTABLE TO CHLAMYDIA WITH PGP3 SEROLOGY

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10.1136/sextrans-2019-sti.542

Background Our recent case-control study explored the *Chlamydia trachomatis* population attributable fraction (PAF) for tubal factor infertility (TFI) using an elementary body enzyme-linked immunosorbent serological assay (EB-ELISA) or a commercially available (Medac) major outer membrane protein ELISA to measure prior chlamydial infection. We examined data from this study using a Pgp3 enhanced ELISA (Pgp3).

Methods In this study of women with TFI by hysterosalpingogram (cases) and non-TFI infertility (controls) in two U.S. infertility clinics, we assessed anti-*C. trachomatis* seropositivity by Pgp3. We then assessed the association between chlamydia seropositivity and TFI using adjusted odds ratios (aOR) along with 95% confidence intervals (CI) stratified by race. Finally, the adjusted chlamydia TFI PAF (aPAF) and 95% CI based on the Pgp3 assay were estimated.

Results All black (n=107) and 618 of 620 non-black women had Pgp3 results. Seropositivity frequency by Pgp3 was 66% (95% CI 52–80%) for black cases, 72% (60–83%) for black controls, 26% (19–33%) for non-black cases, and 15% (12–18%) for non-black controls. Pgp3 was not associated with TFI among black women (aOR 1.1 [95% CI 0.4–3.3]). Among non-black women, Pgp3 seropositivity was associated with TFI (aOR 1.8 [95% CI 1.1–3.0]) adjusting for clinic, age, income, trichomonas, and endometriosis. Using Pgp3 and adjusting for the same variables, chlamydia TFI aPAF was 12% (95% CI 1–22%) in non-black women.

Conclusion Among non-black women, Pgp3 ELISA seropositivity was associated with TFI. Assays to estimate chlamydia TFI PAF merit further investigation, especially in black women. Chlamydial TFI may be prevented in all women by early identification and treatment of chlamydia.

Disclosure No significant relationships.

P461 BACTERIAL LOAD OF CHLAMYDIA IN THE OROPHARYNX AND SALIVA AMONG GAY AND BISEXUAL MEN WITH UNTREATED OROPHARYNGEAL CHLAMYDIA

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10.1136/sextrans-2019-sti.543

Background Previous studies have found that saliva can carry infectious gonorrhoea, which has led to the hypothesis that saliva could play an important role in gonorrhoea transmission. However, no study has examined the role of saliva in chlamydia transmission. The aim of this study was to determine whether *Chlamydia trachomatis* could be detected in saliva and to determine if the infection is specific to an anatomical site; oropharynx or tonsils.

Methods Men who have sex with men (MSM) who tested positive for oropharyngeal chlamydia at Melbourne Sexual Health Centre, who had no antibiotics in the past 4 weeks, and returned for treatment within 14 days between August 2017 and August 2018 were invited to participate. On the day of treatment, throat swabs were taken by clinicians at the tonsillar fossae and another at the posterior oropharynx. A saliva sample was also collected. All samples were tested for Chlamydia by nucleic acid amplification tests. The sample adequacy and bacterial load of *Chlamydia trachomatis* were assessed by quantitative PCR.

Results Forty-two MSM were included with a median age of 28 (Interquartile range [IQR]:25–33). The majority of men (76.2%; n=32) tested positive at both the tonsils and the oropharynx, followed by 9.5% (n=4) positive at the oropharynx only, and 4.8% (n=2) positive at the tonsils only. Chlamydia was detected in saliva in two-thirds of men (68.0%; n=29). The median bacterial load of chlamydia was 446 copies/ml (IQR: 204-1390 copies/ml) in saliva, 1230 copies/ml (IQR: 538–18200 copies/ml) from the tonsils and1660 copies/ml (IQR: 456–22400 copies/ml) at the oropharynx. The chlamydia loads did not differ between the tonsils and the oropharynx (p=0.865).

Conclusion Chlamydia can be detected in saliva in most of oropharyngeal chlamydia cases among MSM. Sampling both the tonsils and oropharynx is important for optimal detection of oropharyngeal chlamydia.

Disclosure No significant relationships.

P462 RE-TESTING FOR CHLAMYDIA IN THE NATIONAL CHLAMYDIA SCREENING PROGRAMME IN BRISTOL, ENGLAND: AN ANALYSIS OF SURVEILLANCE DATA

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10.1136/sextrans-2019-sti.544

Background England's National Chlamydia Screening Programme (NCSP) recommends that sexually active people <25

years test for *Chlamydia trachomatis* annually and on change of sexual partner. Since 2013, NCSP has also recommended re-testing three months after testing positive. We used a detailed dataset to investigate characteristics associated with repeated chlamydia testing.

Methods We used surveillance data of community-based chlamydia testing (excluding online testing and specialist sexual health services) among men and women aged 15–24 years in the Bristol area, January 2011-December 2017. Repeat-testing was defined as returning for further testing within the Bristol area, at least 42 days after initially testing. Initial tests <3 months from December 2017 were excluded. We used logistic regression to compare odds of repeat-testing by initial test result, testing service, residence, initial test result and sexual risk behaviour, adjusted for age and whether the 2013 guidance was operating.

Results 14.11% (n=76,758) of women and 7.81% (n=28,038) of men repeat-tested within the study period. Of those with a positive result, 31.21% (n=5,104) of women and 14.88% (n=2,386) of men repeat-tested. Repeat-testing was associated with positive initial tests (Females: Adjusted Odds Ratio 1.90, 95% Confidence Interval 1.76–2.05; Males: 1.98, 1.71–2.27), having ≥2 sexual partners in the last year (1.17, 1.11–1.23; 1.15, 1.02–1.31), having a new sexual partner in the last 3 months (1.31, 1.24–1.38; 1.55, 1.36–1.77), living in the city of Bristol (1.68, 1.57–1.80; 1.43, 1.25–1.65) and testing through Contraception and Sexual Health clinics, which can treat uncomplicated infections, rather than other settings (1.34, 1.28–1.41; 1.37, 1.23–1.53).

Conclusion It was encouraging that initial positive tests and riskier sexual behaviour, which mean individuals are more likely to be infected, were associated with re-testing. However, we observed low uptake of re-testing with disparities by residence and testing service. These results will inform strategies to increase the uptake of re-testing within the Bristol area.

Disclosure No significant relationships.

P463 PARTICIPATION AND RETENTION OF WOMEN IN A PROSPECTIVE MULTICENTER STUDY ON *CHLAMYDIA TRACHOMATIS* INFECTIONS (FEMCURE)

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10.1136/sextrans-2019-sti.545

Background The participation of women in prospective sexual health research is key to understanding mechanisms of their health, and best practices need to be shared. We here evaluate participation, retention, and associated factors, of women in a multicenter prospective cohort (FemCure) providing insights in internal and external validity of this prospective study.

Methods *Chlamydia trachomatis* (CT) infected adult women, negative for HIV, syphilis and *Neisseria gonorrhoeae* were eligible to be pre-selected and included at three sexually transmitted infection (STI) clinics in The Netherlands (2016–2017). The planned follow-up for participants was 3 months with 2-weekly rectal and vaginal CT self-sampling and online questionnaires at home and at the clinic. We aimed to optimize participation by simultaneously implementing a mix of strategies (e.g. research in an existing clinical infrastructure, incentives, easy data collection, text message reminders). We calculated proportions of women pre-selected, included and retained (completed follow-up). Associations with non-pre-selection, non-inclusion and non-retention (attrition) were assessed (using logistic and Cox regression).

Results Of 4916 women attending the clinics, 1763 (35.9%) were pre-selected, of whom 560 (31.8%) were included. Study site, non-Western migration background, high education, and no STI history were associated with non-pre-selection and non-inclusion. Self-reported reasons for non-inclusion were: unable to attend clinic, language-barriers, or too much expected effort. Retention was 76.3% (n=427). Attrition was 10.71/100 person-months (95% confidence-interval 9.97, 12.69). Women who withdrew felt incapable or unwilling to invest more time. Attrition was associated with young age and low education. Retained women expressed a high study satisfaction.

Conclusion In an outpatient clinical setting, it proved feasible to include and retain women in an intensive prospective cohort with moderate (3 months) follow-up time. External validity may be limited as the study population was not representative (sampling-bias), but this need not affect internal validity. Selective attrition however (potential selection-bias) should be accounted for when interpreting the study-results.

Disclosure No significant relationships.

P464 TREATMENT FAILURE IN RECTAL *CHLAMYDIA TRACHOMATIS* AZITHROMYCIN TREATED WOMEN DRIVEN BY HIGH VIABLE BACTERIAL LOAD (FEMCURE)

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10.1136/sextrans-2019-sti.546

Background Rectal infections with *Chlamydia trachomatis* (CT) are prevalent in women visiting a STI outpatient clinic.