infectious status for some discrepant samples. It is likely that 10–12 instances can be attributed to false culture readings, and 3–5 to false NAAT results. Self-limited infections were noted more frequently among younger macaques. Friable tissue was noted more frequently among older animals. Four of the five animals that were re-challenged with TV developed infection.

Conclusions The NAAT gave fewer false results, when we had the luxury of a timeline of serial samples to refer to for determining test accuracy. Similar infection rates were observed in both age cohorts. Older animals had a greater incidence of cervicovaginal irritation evidenced primarily by friability in this study, and younger animals tended to self-clear *T. vaginalis* infection faster than older animals. Finally, TV re-infection is possible in the macaque model.

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P08.09 TRENDS IN CHLAMYDIA AND GONORRHOEA TESTING AND POSITIVITY IN WESTERN AUSTRALIAN WOMEN, 1998–2013

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Introduction Annual genital chlamydia and gonorrhoea notifications have been rising in Australia. This study investigated changes in the patterns of chlamydia and gonorrhoea testing and positivity among women of reproductive age.

Methods A cohort of women born between 1970 and 1995 residing in Western Australia (WA) was determined from birth registrations and the current electoral roll and probabilistically linked with pathology records from one large laboratory providing services in Perth and parts of regional WA. All chlamydia and gonorrhoea tests conducted from 1998–2013 that linked to the cohort were examined.

Results There were 380,242 women included, with 99,134 (26%) having at least one chlamydia test and 82,064 (22%) at least one gonorrhoea test. Annually, the proportion of chlamydia tests in women aged 15–24 increased from 1.5% in 1998 to 8.7% in 2013 and among women aged ≥25 from 1.1% to 4.4%. Concurrent gonorrhoea testing also increased over this period from 52.7% to 81.7% of all chlamydia tests; a trend observed across all age groups. The percentage of positive chlamydia tests increased in those aged 15–24 (5.9% in 1998 to 8.2% in 2013) but not in those aged ≥25 (3.9% and 2.5% respectively). The proportion of positive gonorrhoea tests decreased from 1.4% to 0.4%, this decrease was observed across all age groups.

Conclusion The proportion of chlamydia tests among women of reproductive age in WA increased over time and chlamydia positivity increased among women aged 15–24. Gonorrhoea positivity decreased however, this coincided with an increase in concurrent gonorrhoea testing.

Disclosure of interest statement The authors have no conflicts of interest to declare

P08.10 *CHLAMYDIA TRACHOMATIS* INFECTION IN SAMOAN WOMEN: PREVALENCE AND RISK FACTORS

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Introduction Knowledge about genital *Chlamydia trachomatis* (CT) infection in the Pacific is limited to studies of antenatal women. We approached studying CT infection in Samoan women by using a maternal and family health focus, investigating both CT and infertility amongst women exposed to pregnancy risk.

Methods Women having unprotected intercourse aged 18–29 years were recruited from 41 Samoan villages. They were answered a behavioural questionnaire and provided a urine sample for CT testing by nucleic acid amplification. Associations between CT infection and possible risk factors were explored using logistic regression.

Results 239 women were recruited; 86 (36.0%; weighted estimate: 41.9%; 95% CI: 33.4–50.5%) were positive for CT infection. Being single (OR 1.92; 95% CI, 1.02–3.63) and having two or more lifetime sexual partners (OR 3.02; 95% CI, 1.19–7.67) were both associated with CT infection. However, a very high prevalence was still seen in those reporting only one lifetime partner (27.6%). Participants who had a previous pregnancy were less likely to be positive (OR 0.49; 95% CI, 0.27–0.87). Although a slightly higher proportion of women aged 18–24 were positive than those aged 25–29, age was not significantly associated with infection.

Conclusion Whilst this sample may be considered high risk, use of barrier protection in Samoa has previously been found to be extremely uncommon and women had reported relatively few partners within the current study. Therefore, this study confirms findings from World Health Organization antenatal surveys: the prevalence of CT infection in Samoan women is likely to be very high. Studies with further assessment of the impact of CT on pelvic inflammatory disease and infertility, studies including men and strategies for sustainable control are needed.

Disclosure of interest statement This study was funded by The New Zealand Aid Programme and The University of Otago. The Secretariat of the Pacific Community provided the Chlamydia test kits for free. No pharmaceutical grants were received in the development of this study.

P08.11 *CHLAMYDIA TRACHOMATIS* INCIDENCE FROM SELF-REPORTS AND SEROLOGY BY AGE-PERIOD, SEX AND PARTNER NUMBERS IN A BIRTH COHORT

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Background Better understanding of the epidemiology of *Chlamydia trachomatis* (CT) would assist in prevention and control,

but is hindered by asymptomatic infections and analyses based on people tested for clinical reasons that could differ by age and gender. If improved serological detection of CT infection were available, epidemiological studies could more confidently estimate past exposure. We have explored CT incidence by age period in a cohort study, using a combination of a recently characterised serological assay (with higher sensitivity and high persistence) and self-reports.

Methods Sexual health and behaviour information was collected from a cohort of initially 1,037 participants born in Dunedin, New Zealand in 1972/3, at regular intervals up to age 38. Sera drawn at ages 26, 32 and 38 were tested for antibodies to CT-specific Pgp3 antigen using a double-antigen sandwich enzyme-linked immunosorbent assay. CT incidence was examined by gender, age and number of partners.

Results By age 38, 31.5% (146/464) women and 21.8% (102/469) men had been seropositive and/or self-reported CT infection. More occurred before age 26 than in the 12-year period 26–38 years, the difference being more marked in women than men. In all age periods the risk of acquiring CT increased with number of partners. Once the age-period specific incidence rates were adjusted for the number of partners there was no relationship between CT risk and age period. Overall the partner number adjusted risk was lower in men, although this may reflect that men are less likely to seroconvert than women.

Conclusions CT infection was very common amongst this cohort by age 38. Adjusted analyses showed a major risk factor was number of partners, with no interaction by age-period. The increased risk in men must be interpreted cautiously due to the known difference in serological responses between men and women.

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P08.12 INSIGHTS INTO *CHLAMYDIA TRACHOMATIS* CUMULATIVE INCIDENCE IN THE CONTEXT OF WIDESPREAD OPPORTUNISTIC CHLAMYDIA SCREENING IN ENGLAND: SEROPREVALENCE STUDY USING SERA FROM A NATIONALLY-REPRESENTATIVE HOUSEHOLD SURVEY

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Introduction The National Chlamydia Screening Programme (NCSP) was nationally implemented in England in 2008. The programme recommends that sexually-active under-25 year-olds are tested for chlamydia annually and on change of partner with the aim of interrupting transmission and preventing complications. We undertook a seroprevalence study to explore the impact of chlamydia screening on the cumulative incidence of infection up to 2012.

Methods Anonymised sera from participants in the Health Survey for England (HSE), a series of nationally-representative household surveys, were tested for anti-chlamydia antibodies using an ELISA based on the *Chlamydia trachomatis*-specific antigen Pgp3. Factors associated with seropositivity among 16–44 year-olds in 2010 and 2012 (years when sexual behaviour questions were included) were investigated using logistic regression. Seroprevalence trends were investigated for 1994–2012.

Results In 2010/2012, Pgp3 seroprevalence was 24% (95% CI: 22%–27%) in women and 14% (12%–16%) in men. Seroprevalence increased with age to 34% (28%–40%) in 30–34 year-old women and 20% (15%–27%) in 35–39 year-old men, and with numbers of lifetime sexual partners (17% with 1–4 partners versus 43% in those with ≥10 in women; 6% vs. 27% in men). 78% of seropositive 16–24 year-old women did not report a previous chlamydia diagnosis. Among 16–24 year-old women, there was no significant trend in seroprevalence over time and no difference in age-specific seroprevalence between birth cohorts exposed to different levels of chlamydia screening.

Conclusion In 2010–12, at least one third of women had been exposed to chlamydia by age 30–34. Most of those with evidence of previous infection did not report a previous diagnosis, presenting consequent risks of transmission and complications. A decrease in cumulative incidence among young adults following the implementation of the NCSP has not yet been demonstrated. Additional years of screening may be needed to have a measurable effect on cumulative incidence. Continued monitoring of seroprevalence is required.

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P08.13 WHAT CAN PROBABILITY SURVEYS TELL US ABOUT CHANGES IN CHLAMYDIA PREVALENCE IN BRITAIN? EVIDENCE FROM THE NATIONAL SURVEYS OF SEXUAL ATTITUDES AND LIFESTYLES (NATSAL)

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Introduction The National Surveys of Sexual Attitudes and Lifestyles (Natsal) estimated the prevalence of *Chlamydia trachomatis* (chlamydia) among the sexually-experienced British population in 1999–2001 (Natsal-2) and 2010–12 (Natsal-3). Chlamydia testing among young adults increased substantially between these years, partly due to the introduction of the English National Chlamydia Screening Programme, which achieved national implementation in 2008. We explored what these data might tell us about changing chlamydia prevalence among young adults over the last decade.

Methods We compared estimated chlamydia prevalence among sexually-experienced 18–24 year old men and women between Natsal-2 (n = 680) and Natsal-3 (n = 1,511). We carried out a sensitivity analysis which accounted for differences in the accuracy of the urine collection procedure and assay used in Natsal-2 (standard universal tube for urine collection; ligase chain reaction) and Natsal-3 (FirstBurst urine collection device; AptimaCombo2).

Results There was no significant difference between the chlamydia prevalence estimates for 18 to 24 year olds in Natsal-3 vs Natsal-2: for men, 2.6% (95% CI: 1.7%–4.0%) vs 2.9% (1.3%–6.3%); OR: 0.91 (0.36–2.27); for women, 3.2% (2.2%–4.6%) vs 3.1% (1.8%–5.2%); OR 1.04 (0.53–2.01). The test-adjusted