treatment within 30 days to determine if there was evidence in the claims record that the CDC recommended treatment was provided.

**Results** 4,972 patients were identified as having gonorrhea only. Of this group, 77% were male, and 70% were 15–35 years of age. Additionally among this group, 35% had evidence of receiving the CDC recommended combination therapy for gonorrhea, 26% had evidence of receiving 250 mg ceftriaxone without evidence of receiving 1g azithromycin, and 16% had evidence of receiving 1g azithromycin without ceftriaxone. A separate group of 24,044 patients were identified as having chlamydia only. Among this group, 40% were male, and 88% were 15–35 years of age. Additionally among this group, 65% had evidence of receiving a CDC-recommended chlamydia treatment, and 11% also had evidence of receiving 250 mg ceftriaxone.

**Conclusion** There is variation in claims data regarding the treatment regimens administered for gonorrhea and chlamydia treatment. Further studies are needed to evaluate treatment claims data against medical record reviews.

**Disclosure** No significant relationships.

## P492 PREDICTING CHLAMYDIA REINFECTION IN AFRICAN AMERICAN WOMEN USING IMMUNOGENETIC DETERMINANTS IN A BAYESIAN MODEL

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10.1136/sextrans-2019-sti.574

**Background** African Americans have the highest rates of *Chlamydia trachomatis* (CT) infection in the U.S., nearly six-fold higher than Caucasians. Even after controlling for sociodemographic factors, African American women have higher CT infection rates, suggesting immunogenetic factors could influence infection risk. The primary objective of this study is to develop a Bayesian model to predict CT reinfection in African American women.

**Methods** We are using data from a study cohort of CT-infected women who were enrolled when they returned to a STD clinic in Birmingham, AL, USA, for treatment of a positive screening urogenital CT nucleic acid amplification test. They had repeat urogenital CT NAAT performed at enrollment and 3- and 6-month follow-up visits. We modeled the probability of CT reinfection within 6 months after treatment using conditional logistic regression in a Bayesian framework and weakly informative priors. Primary predictors of interest were immunogenetic risk factors specified by the presence of at least one HLA-DQB1*06 allele and absence of a CT-specific $CD4^+$ IFN-γ response. Additional predictors evaluated include the modifying effects of unprotected sex and concomitant bacterial vaginosis (BV).

**Results** To date, we have evaluated 75 participants for whom complete data were available. Modeling both HLA-DQB1*06 and a CT-specific $CD4^+$ IFN-γ response performed best for expected predictive accuracy of CT reinfection within 6 months after treatment. Under this model, the probability of reinfection for those with a CT-specific $CD4^+$ IFN-γ response and no HLA-DQB1*06 alleles was 23.1% (95% CI: 7.6%–47.5%), whereas probability of reinfection for those without a CT-specific $CD4^+$ IFN-γ response and at least one HLA-DQB1*06 allele was 75.0% (95% CI: 52.5%–89.1%).

**Conclusion** Our model evaluating immunogenetic factors predicting CT reinfection demonstrated that presence of an HLA-DQB1*06 allele and absence of a CT-specific $CD4^+$ IFN-γ response may be a significant predictor in African American women.

**Disclosure** No significant relationships.

## P493 DETERMINATION OF *CHLAMYDIA TRACHOMATIS* ORGANISM LOAD IN MEN WITH NON-GONOCOCCAL URETHRITIS (NGU)

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10.1136/sextrans-2019-sti.575

**Background** The ability to quantify the organism load of *Chlamydia trachomatis* (CT) using a commercial assay could expand insights from epidemiological studies. This approach can be applied to routine diagnostic testing, and multiple specimen types. Approximate CT organism load was determined in urine from men with NGU, with and without co-infections, by comparing the results from each positive sample to a set of CT standards using the Abbott Real*time* *m*2000 (*m*2000) platform.

**Methods** Urine specimens, collected from men participating in the Idiopathic Urethritis Men's Project (IUMP), were tested on the *m*2000 for CT. Additional testing included *Neisseria gonorrhoeae*, *Mycoplasma genitalium*, *Trichomonas vaginalis*, and *Ureaplasma urealyticum*. Standards were prepared by diluting CT elementary bodies (EB) into the collection device at six concentrations. CT organism load was determined by comparing the instrument generated delta cycle (DC) value from each CT positive urine to the standard curve. Calculated means were compared by t-test ($p<0.05$).

**Results** Two hundred and six men were tested for CT and 83 (40.3%) were positive. The DC values for 81/83 (97.3%) CT positive samples fell within the range of the standard curve. The mean DC value was 12.15 (range 0.19–16.96) which equated to a mean CT organism load of $1.4\times10^6$ EB/ml urine (range $2.22\times10^2$-$9.97\times10^6$). There was no difference between the mean organism load in specimens from men who did and did not have co-infections with other STIs, $2.04\times10^6$ versus $1.38\times10^6$ EB/ml, ($p\geq0.05$).

**Conclusion** CT load determination can be performed on urine specimens using the *m*2000. This could facilitate straightforward load determination in settings where routine testing is performed. In men with NGU, the CT organism load is high and no difference in CT load was observed in men with CT mono-infections and men co-infected with CT and other STIs.

**Disclosure** No significant relationships.