Introduction Since 2000, hepatitis C virus (HCV) has emerged as a sexually transmitted infection among men who have sex with men (MSM). Although the reported HCV epidemic has largely been confined to HIV infected MSM, spread to HIV negative MSM might have gone unnoticed.
Methods HIV negative MSM at high risk for acquiring HIV who enrolled in the Amsterdam Pre-Exposure Prophylaxis (AMPrEP) demonstration project at the Public Health Service of Amsterdam were tested for the presence of HCV antibodies and HCV RNA. If positive for HCV RNA, part of the HCV NS5B gene (709 bp) was sequenced. Maximum likelihood phylogenies (GTR substitution model) were constructed to compare HCV sequences from HIV negative AMPrEP participants, Dutch HIV positive MSM with acute or chronic HCV infection (n=246; period 2000–2015) and Dutch risk groups other than MSM (n=153; period 2000–2015). Bootstrap values>70% define robust phylogenetic clusters.
Results By June 2016, all 376 HIV negative MSM had been enrolled in AMPrEP; 18 (4.8%, 95% CI 2.8%–7.5%) were positive for anti-HCV or HCV-RNA at baseline. Of those, 15/18 (83%) had detectable HCV-RNA, including one without detectable anti-HCV. HCV genotyping showed genotype 1a (73%), 4d (20%) and 2b (7%). Of the 15 participants with HCV RNA, 13 (87%) were part of 6 robust MSM-specific HCV clades containing MSM with and without HIV. This included 9/11 HIV negative MSM infected with HCV-1a (Figure 1), and all 4 MSM infected with HCV-4d and HCV-2b. Four out of 17 (24%) HCV positive participants reported injecting drugs in the 3 months preceding PrEP start, compared to 11/354 (3.1%) among HCV negative participants.
Conclusion The HCV prevalence of 4.8% among HIV-negative MSM eligible for PrEP was higher than the prevalence around 1% previously observed among Dutch HIV negative MSM attending an STI clinic and not on PrEP. HCV-mono-infected MSM were infected with the same MSM-specific HCV strains circulating among HCV/HIV co-infected MSM, suggesting spread from HIV positive to high-risk HIV negative MSM. Routine HCV testing should be offered to MSM at high risk for HIV and included in PrEP guidelines.

O01.5 ORIGIN AND PREDICTORS OF EARLY REPEAT INFECTIONS AMONG HIV NEGATIVE WOMEN WITH *TRICHOMONAS VAGINALIS* RECEIVING A 2 G DOSE OF METRONIDAZOLE

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Introduction A recent meta-analysis demonstrated superiority of multi-dose metronidazole (MTZ) over the CDC and WHO recommended 2 g dose for the treatment of *T. vaginalis* (TV). Another study among HIV+ women with TV found higher test-of-cure (TOC)+ rates among women who had asymptomatic bacterial vaginosis (BV) than those without BV. The purpose of this study was to measure the TOC TV+ rate and to examine if the presence of BV influenced that rate.
Methods HIV-/TV+ women treated with 2 g oral directly observed MTZ and who completed their TOC visit 3–12 weeks post treatment were included. Women were tested for TV using NAAT and surveyed via computer at baseline and TOC. Nugent scores≥7, calculated from vaginal gram stain, were considered BV+. MTZ susceptibility testing was performed on TOC TV+ specimens.
Results Of 227 TV+ women included baseline the mean age was 31.3 (S.D. 9.9), 95.2% were African American, 39.3% had multiple male partners in the prior 3 months, 32.3% regularly smoked, 19.4% were binge drinkers, 48.9% had BV and 5.4% had yeast on the gram stain. At TOC, 19.8% were NAAT TV+. Of the 45 TOC-TV+ women, 44 provided sexual exposure information and 10/44 (24.4%) reported sexual re-exposure to baseline partner or sexual exposure to a new partner. Two of 26 (7.7%) TOC+ specimens that underwent susceptibility testing had low to moderate MTZ resistance (50–100 ug/ml). There were no differences in TOC NAAT+ rates by BV, sexual re-exposure to a baseline partner, sexual exposure to a new partner, regular smoking, binge drinking, or by the presence of yeast (p>0.22).
Conclusion TOC NAAT+ rate after 2 g MTZ dose was high (19.8%) and isolates from these women were susceptible to MTZ (94.3%). Most TOC+ women (75.6%) reported no sexual exposure/re-exposure during follow-up suggesting that most cases were treatment failures. Selected behavioural factors and BV did not did not appear to influence TV treatment. The 2 g MTZ dose for TV recommended by CDC and WHO, should be reevaluated in light of more sensitive NAAT.

O01.6 EVALUATING CHLAMYDIA TRENDS IN THE UNITED STATES 2000–2015 USING A PAIR FORMATION TRANSMISSION MODEL

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Introduction In the United States reported cases of chlamydia have increased since reporting began, due in part to increased screening. However, the implication of these trends for the population prevalence remains unclear. We aimed to understand and reconcile the epidemiological trends, and examine counterfactuals.
Methods We developed a deterministic heterosexual pair formation model to simulate chlamydia epidemiology in the US heterosexual population aged 15-54y. The pair formation model accounts explicitly for sexual partnership dynamics, such as re-infection within the partnership, and the model is stratified by age, risk and relationship type (long-term v. casual). We used a Bayesian approach to calibrate model parameters (including time-varying screening, reporting and test sensitivity) to age- and sex-specific national case report rates from 2000–2015 (ages 15-54y), lab-measured population prevalence estimates from NHANES 1999–2014 (15-39y), and sexual behaviour data from the Youth Risk Behaviour Survey (15-18y).
Results Model estimates were able to reproduce both chlamydia prevalence and reported case rates. Results indicate an increase in chlamydia screening in women.