volume of 50 µL of semen could be chosen for the diagnostic of these bacteria with Aptima assays. In ESwab medium, the LODs of CT, NG and MG were equivalent (between 1 and 10 IFU, CFU or CCU/mL) whatever the volume of ESwab added in the APTIMA[®] specimen transfer tubes. A volume of 200 µL of ESwab allowed performing several different Aptima assays and the LOD of bacteria remained low whatever the storage conditions.

Conclusion Aptima Combo 2 for CT/NG and Aptima *Mycoplasma genitalium* assays can be used to detect these three sexually transmitted pathogens in semen and in clinical specimens preserved in ESwab medium.

Disclosure No significant relationships.

P600 MYCOPLASMA GENITALIUM POSITIVITY RATES IN THE US

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Background *Mycoplasma genitalium* (MG) has been associated with nongonococcal urethritis among men and cervicitis among women. Infection with MG has been linked to increase risk of HIV infection and potentially with adverse reproductive health outcomes. We currently have limited data regarding the positivity rates for this organism in different locations in the U.S. Typically, chlamydia, gonorrhea and trichomonas rates are highest in the Deep South compared to other regions of the country, but we do not know if this is the case for MG. We took advantage of a multi-site, MG-focused clinical study being conducted in the US to assess the positivity rates, a reflection of prevalence from a convenience sample, at different collection sites.

Methods Symptomatic men and women were recruited from 8 sites in the US. Sites were located in the Deep South (Alabama, Louisiana, Mississippi, and Texas) and other regions (California, Connecticut, Indiana, and Maryland). Participants reporting dysuria, abnormal discharge, genital itching/pain, pelvic pain, or pain/bleeding during intercourse were considered symptomatic. MG status was determined by a combination of results from MG assays since.

Results 24/173 (13.9%) men and 21/219 (11.0%) women were MG-infected. The positivity rates were 13/129 (10.1%) and 11/44 (25.0%) for men recruited in the Deep South and other regions, respectively ($p=0.013$). Among women the rates were 21/184 (11.4%) and 3/35 (8.57%) ($p=0.624$).

Conclusion While the sample size is small since the study is ongoing, it is interesting to note that the majority of participants have been enrolled in Deep South and these positivity estimates are likely fairly robust. This is an important lesson given the disparity in described MG rates around the world. Rates have been reported to be high among symptomatic men in Western Europe and Australia, but lower in other settings. Investigation into the causes for differential distribution may be important to designing appropriate control strategies.

Disclosure No significant relationships.

P601

MACROLIDE AND FLUOROQUINOLONE RESISTANCE-ASSOCIATED MUTATIONS IN MYCOPLASMA GENITALIUM: A SYSTEMATIC REVIEW AND META-ANALYSIS

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Background Treatment for *Mycoplasma genitalium* is becoming increasingly complicated by antimicrobial resistance. We summarised published global data on the prevalence of macrolide and fluoroquinolone resistance-associated mutations in *M. genitalium* and examined trends over time.

Methods We searched PubMed, EMBASE and Medline until December 31, 2017. We included studies that reported the percentage of key mutations associated with macrolide resistance (23S rRNA gene: A2071C/G/T; A2072C/G/T) and/or fluoroquinolone failure (*parC* gene: S83R/I; D87N/Y) among *M. genitalium* positive specimens. Data were extracted by geographic region, collection year, sex, and risk group (men who have sex with men [MSM] or heterosexual). Summary estimates (95% confidence intervals [CI]) were calculated using random-effects meta-analyses. Subgroup and meta-regression analyses were conducted to assess heterogeneity.

Results 47 studies met the inclusion criteria reporting resistance-associated mutations for macrolides ($n=45$) and fluoroquinolones ($n=18$). Global prevalence of macrolide resistance mutations increased from 4.9% [95% CI 0.0–15.7%] before 2009, to 46.3% [30.7–62.2%] in 2016–17 (p -trend=0.001). This increase was greatest in the Western Pacific region (Australia in particular) where prevalence increased from 12.6% [2.6–26.9%] to 69.2% [60.7–77.1%] (p -trend<0.001). Prevalence of macrolide resistance-associated mutations was also higher among MSM (72.3% [58.6–84.5%]) than heterosexual men (37.3% [25.8–49.6%]) ($p<0.001$). Global prevalence of fluoroquinolone resistance mutations was 6.3% [4.2–8.9%] with no changes over time or by risk group, but regional variations were present with highest prevalence in the Western Pacific region (14.9% [9.7–20.9%]) and North America (11.2% [2.9–23.3%]), and lowest in Europe (2.8% [1.7–4.1%]). Dual class resistance mutation prevalence was 2.5% [1.1–4.2%] with no change over time or by risk group. Regional variations were similar to those for fluoroquinolone resistance mutations.

Conclusion Resistance to recommended first and second line treatments for *M. genitalium* is a growing public health problem. Global surveillance and antimicrobial resistance-guided therapies are needed to inform more effective regional strategies for the control and treatment of *M. genitalium*.

Disclosure No significant relationships.