Conclusion Based on our E-test results, all of the baseline GC isolates appear to be susceptible to gentamicin. However, at one-week follow-up, ~11% continued to be infected with GC. Determining if these are treatment failures, re-infections or new infections is a challenge. Laboratory comparisons of matched isolates are planned to help categorize these concerning results. Study enrollment continues.

Disclosure No significant relationships.

P693 NEISSERIA GONORRHOAE IN-VITRO SUSCEPTIBILITIES TO CEFTRIAZONE, CEFIXIME AND AZITHROMYCIN IN GISP ISOLATES, 1987–2017

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Background *In-vitro* susceptibility distributions to antibiotics can evolve over time because of emerging resistance determinants. This can affect clinical drug efficacy and interpretation of laboratory susceptibility tests. In January 2019, the Clinical Laboratory Standards Institute (CLSI) analyzed *Neisseria gonorrhoeae* (Ng) susceptibility parameters for ceftriaxone (CRO), cefixime (CFX) and azithromycin (AZI) to review interpretive criteria for laboratory tests.

Methods GISP (Gonococcal Isolate Surveillance Project) is a United States national surveillance project at approximately 25 sentinel STD clinics, collecting about 5,000 yearly urethral isolates from symptomatic men. From 1987–2017, minimal inhibitory drug concentrations (MIC) of 164,506 isolates were determined by agar dilution using CLSI-recommended protocols. Susceptibility parameters were calculated with R software, and included mean MIC, 98.5% MIC indicating end of wild-type distribution, and percent isolates meeting 2019 CLSI susceptibility (S) criteria (CRO, CFX, AZI ≤ 0.25, 0.25, 1 µg/mL, respectively) or current GISP alert definitions (CRO, CFX, AZI ≥ 0.125, 0.25, 2 µg/mL, respectively).

Results Since 1987, only 5 isolates did not meet CRO S criteria. CRO alerts peaked at 1.05% in 1991. Mean MICs were highest in 2016 (0.013 µg/mL; 95% CI: 0.013–0.013), but compared to the mean MIC when GISP began (0.011 µg/mL; 95% CI: 0.010–0.011) the difference was less than a full drug dilution. Isolates not meeting CFX S criteria, 76 since 1987, were at a 0.17% peak in 1992, as were mean MICs. Isolates not meeting AZI S criteria were highest at 3.6% and 4.4% in 2016 and 2017, respectively, as were mean MICs.

Conclusion Ng CRO and CFX *in-vitro* susceptibilities have not uniformly decreased since GISP began, while most indicators suggest declining AZI *in-vitro* susceptibility. CLSI reviewed these data in conjunction with clinical, pharmacokinetic/dynamic and other international susceptibility data and kept steady (CRO, CFX) or established new (AZI) 2019 laboratory testing susceptibility criteria.

Disclosure No significant relationships.

P694 CASE-BASED ENHANCED GONORRHEA SURVEILLANCE, CHICAGO, IL, 2018

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Background In 2017, 11,730 gonorrhea (GC) cases were reported to Chicago Department of Public Health (CDPH), a 33% increase from 2015 (8,786 cases). CDPH conducted enhanced GC surveillance to identify factors that may inform interventions.

Methods A 33% random sample was selected for further investigation from lab-confirmed GC cases reported August - December 2018 (N=3,337), through Illinois National Electronic Disease Surveillance System. Enhanced surveillance data came from: (1) case telephone interviews, (2) provider case reports, and (3) web-based provider survey.

Results From October 2018 - February 2019, enhanced surveillance data was obtained from 459 cases (171 interviews, 399 provider reports; 111 with both), representing 68% of 672 cases with attempted contact, and 14% of all GC cases during the period. Survey respondents were representative of all reported cases: 68% male, median age 27 years, 53% Non-Hispanic Black, 22% Non-Hispanic White, 22% Hispanic. Prior GC infection was documented in 30% of cases, and was more prevalent among males (adjusted prevalence rate ratio [aPRR]= 1.90) and HIV infected persons (aPRR = 1.64). Adolescents and young adults (AYA; aged 13–24 years) comprised 47% of all reported GC cases. Compared to adults, AYA were less likely male (47% vs 80%, p<0.01), reported fewer sex partners, and less likely to have had syphilis testing (34% vs 46%, p=0.01), adequate GC treatment (78% vs 85%, p=0.09; 66% for female AYA), or PrEP awareness (52% vs 74%, p=0.02). Half (54%) of male AYA reported same sex partners. Provider case reports documented Expedited Partner Therapy in 2% of cases and 8% with referral to partner notification.

Conclusion Prior GC infection and HIV co-infection were prevalent, without discriminative factors, indicating innovative measures are needed. AYA differ substantially from adults in risk profile, and may have less complete case management. Age-specific and risk-targeted interventions are needed to optimally manage GC and interrupt transmission.

Disclosure No significant relationships.

P695 EPIDEMIOLOGY OF KEY STIS AMONG FEMALE SEX WORKERS IN THE MIDDLE EAST AND NORTH AFRICA: SYSTEMATIC REVIEW AND META-ANALYTICS

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Background This study characterizes the epidemiology of *Treponema pallidum* (syphilis), *Chlamydia trachomatis*, *Neisseria gonorrhoeae*, *Trichomonas vaginalis*, and herpes simplex virus