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.

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, 2 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 – 0.25, 0.25, 1 µg/mL, respectively) or current GISP alert definitions (CRO, CFX, AZI ≥ =0.125, 0.25, 2 µg/mL, respectively).

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.