infection for testing antibiotics that utilize free time above MIC as the pharmacokinetic (PK) driver to predict efficacy. We further established the mouse model for antibiotic testing by defining the in vivo efficacy of ciprofloxacin (CIP), an antibiotic that uses the free area under the curve over MIC (fAUC/MIC).

Methods Lower genital tract infection with Ng strain FA1090 was established in female mice using published methods for two days, after which increasing oral doses of CIP (or controls) were administered (n = 10–20 mice/group) and infection was quantified for 8 days. Plasma drug levels from uninfected mice were measured after administration of similar doses of CIP, and PK parameters (modeled using WinNonlin software) were correlated with observed efficacy.

Results Single oral doses ranging from 5 to 60 mg/kg CIP showed significant activity against strain FA1090, with the highest doses (15, 30, and 60 mg/kg) clearing 100% of infections within 8 days; these correspond to predicted fAUC/MICs of 66–264. The 60 mg/kg dose cleared infection in all mice within 48 h, which we defined previously as the endpoint in the model that best correlates with in vivo exposures required for successful CRO/CFX treatment regimens.

Conclusion The gonorrhea mouse model shows a dose-dependent response for CIP against a CIP8 strain with a dose of 60 mg/kg required to clear infection in 48 hrs. PK modeling suggests that achieving exposures necessary for effective treatment of CIPR strains (MIC ≥1 µg/ml) would be challenging. These data that establish PK/PD correlations for CIP - with a fAUC/MIC driver- further strengthens the usefulness of this mouse model to test novel antimicrobial compounds against gonorrhea.

Disclosure No significant relationships.

P691 WIDESPREAD USE OF HIGH-DOSE CEFTRIAXONE THERAPY FOR UNCOMPlicated GONORRHEA WITHOUT REPORTED CEFTRIAXONE TREATMENT FAILURE

1Yan Han*, 2Yueping Yin, 3Shaochun Chen, 4Jun Liu. 1National Center for STD Control, Chinese Center for Disease Control and Prevention, Institute of Dermatology, Chinese Academy of Medical Sciences and Peking Union Medical College, Reference Laboratory, Nanjing, China; 2National Center for STD Control, China CDC Institute of Dermatology Chinese Academy of Medical Sciences and Peking Union Medical College, Reference Lab, Nanjing, China; 3National Center for STD Control, Chinese Center for Disease Control and Prevention, Nanjing, China; 4Massachusetts General Hospital, Harvard Medical School, Cambridge, USA

Background Antimicrobial resistance (AMR) to N. gonorrhoeae has emerged for each of the antibiotics following their introduction into clinical practice recommended as first-line therapies. To improve rational and effective clinical antibiotic treatment, we analyzed the prescription patterns of antibiotics and its therapeutic effect in the treatment of uncomplicated gonorrhea in China.

Methods We obtained data from a follow-up multicenter-surveillance program. Multinomial logistic regression analyses were conducted to explore the associations between demographic/clinical variables with the levels of sensitivity to ceftriaxone and prescription of high-dose ceftriaxone.

Results In this study, 1686 patients infected with N. gonorrhoeae were recruited in a surveillance network during the period of 1 January 2013 through 31 December 2017 in 7 hospitals distributed in 5 provinces. The prevalence of isolates with decreased susceptibility to ceftriaxone was 9.8% (131/1333), fluctuating between 5.6%–12.1%. Injectable ceftriaxone was chosen as the first-line treatment among 83.1% patients, and most of them (72.7%, 1018/1401) received more than 1000 mg dosage. Patients who were infected with gonorrhea or infected with other STDs before (AOR 1.611 95%CI [1.103–2.352]; AOR 2.329 95%CI [1.553–3.494]) or who used already antibiotics for this infection (AOR 1.597, 95%CI [1.04–2.452]) were associated with higher prescribed ceftriaxone dosage prescribed. All of the patients recruited in this study were cured regardless of the isolates’ susceptibility to ceftriaxone or the dosage of ceftriaxone they received.

Conclusion No ceftriaxone failure treatment for uncomplicated gonorrhea were reported in China, however, high-dose ceftriaxone were widely used in China, its impacts needs further studies.

Disclosure No significant relationships.
Conclusions: 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 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.

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