agar dilution as described by the Clinical Laboratory Standards Institute. Molecular genotyping was determined using *N. gonorrhoeae* multi-antigen sequence typing (NG-MAST).

Results In 2016–2017, NML received 8,300 *N. gonorrhoeae* isolates; 668 of the isolates were associated with multiple infection sites from a total of 307 cases. Of the 307 cases, 92.8% (n=285) had isolates with similar AMR profiles and the same NG-MAST ST. Twenty-two cases (7.2%) with isolates originating from multiple infection sites were found to have different AMR profiles and different STs. Of the 134 cases with throat and rectal isolates, 3.7% (5/134) had isolates with different STs. Of the 144 cases with both urogenital and rectal isolates, 6.3% (9/144) of isolates had different STs. Of the 132 cases with both urogenital and throat isolates, 9.9% (13/132) had different STs. Three cases had all three infections sites (throat, rectal and urogenital), each with different AMR profiles and different ST types.

Conclusion The majority of gonococcal cases with isolates from multiple infection sites have the same AMR profile and ST indicating a single infection. Approximately 7% of gonococcal cases with multiple infection site isolates were found to have very different AMR profiles and sequences types which may have implications in test-of-cure strategies, treatment failure investigations and surveillance programs.

Disclosure No significant relationships.

P632 REGIONAL DIFFERENCES IN GONORRHOEA ANTIMICROBIAL RESISTANCE PATTERNS IN THE NETHERLANDS

[1]Maartje Visser*, [2]Hannelore Götz, [3]Alje Van Dam, [1]Birgit Van Benthem. *[1]National Institute for Public Health and the Environment (RIVM), Epidemiology and Surveillance, Centre for Infectious Diseases Control, Bilthoven, Netherlands; [2]Municipal Public Health Service Rotterdam Rijnmond, Public Health/Sexual Health, Rotterdam, Netherlands; [3]Municipal Public Health Service Amsterdam, Public Health Laboratory, Amsterdam, Netherlands*

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Background The Gonococcal Resistance to Antibiotics Surveillance (GRAS) programme was established in the Netherlands to monitor gonorrhoea resistance patterns. Until now, GRAS data were only analysed and presented on a national level. This study aims to gain insight into regional differences and the representativeness of GRAS.

Methods 18 STI clinics participate in GRAS and monitor resistance to azithromycin, ciprofloxacin, cefotaxime and ceftriaxone by performing culture and susceptibility testing with Etest for gonorrhoea patients. To describe differences in antimicrobial resistance levels between STI clinic regions, data from 2013–2017 was used. Antimicrobial resistance was defined based on EUCAST breakpoints. For azithromycin and ciprofloxacin, variables associated with resistance in univariate analyses were added to a multilevel logistic regression model containing a random intercept for region. We calculated the proportional change in variance (PCV) to assess to what extend regional variance in antibiotic resistance was explained by these variables. We included patient characteristics (e.g. sex, age, ethnicity, anatomical location of infection) and laboratory characteristics (sample method and selective culture medium).

Results In 2013–2017, almost 9,000 susceptibility tests were performed. Resistance to azithromycin was 11.6% (varying between regions from 2.0%–41.5%), ciprofloxacin 29.4% (12.8%–61.1%), cefotaxime 2.0% (0.0%–4.2%) and ceftriaxone 0.0%. The PCV after adding patient characteristics to the model was 73.8% for ciprofloxacin, but for azithromycin −17.8%. For laboratory characteristics, these were 32.8% and 36.6%. Adding both patient and laboratory characteristics explained 78.6% of regional variance for ciprofloxacin, and 15.5% for azithromycin.

Conclusion Regional variations in antimicrobial resistance are reported, and need to be taken into account when interpreting national surveillance data. Further research is needed to determine the cause of these regional differences, including an evaluation of regional laboratory practices. Especially for azithromycin, as regional variance could not be explained by population characteristics.

Disclosure No significant relationships.

P633 LOW GONORRHOEA ANTIMICROBIAL RESISTANCE AND CULTURE POSITIVITY RATES IN GENERAL PRACTICE: A PILOT STUDY

[1]Maartje Visser*, [2]Mireille Van Westreenen, [3]Jan Van Bergen, [4]Birgit Van Benthem. *[1]National Institute for Public Health and the Environment (RIVM), Centre for Infectious Disease Control, Bilthoven, Netherlands; [2]Erasmus Medical Center, Department of Medical Microbiology and Infectious Diseases, Rotterdam, Netherlands; [3]Amsterdam UMC, Location AMC, Department of General Practice, Division Clinical Methods and Public Health, Amsterdam, Netherlands; [4]National Institute for Public Health and the Environment (RIVM), Epidemiology and Surveillance, Centre for Infectious Diseases Control, Bilthoven, Netherlands*

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Background In the Netherlands, the gonorrhoea resistance to antimicrobials surveillance (GRAS) programme is carried out at STI clinics, which provide care for high-risk populations. However, half of gonorrhoea infections are diagnosed in general practice (GP). We performed a pilot study to explore expanding GRAS to the GP population using laboratory-based surveillance. Additionally, antimicrobial resistance patterns of GP and STI clinic patients were compared.

Methods Three laboratories from different regions were included, which all perform gonorrhoea diagnostics for GPs and STI clinics and used eSwab for patient sampling. Additional culturing for all GP patients with gonorrhoea took place from February to July 2018. After positive PCR-NAAT test, residual eSwab material was used for culture. In positive cultures, susceptibility testing was performed for azithromycin, ciprofloxacin, cefotaxime and ceftriaxone using Etest.

Results During the study period, 484 samples were put in culture. 16.5% of cultures were positive (n=80). Antimicrobial resistance levels were low, with 2.6% resistance to azithromycin, 21.5% to ciprofloxacin and 0.0% to cefotaxime and ceftriaxone. Resistance levels in STI clinic GRAS data (first half of 2018) were 19.2% for azithromycin, 31.5% for ciprofloxacin, 1.9% for cefotaxime and 0.0% for ceftriaxone.

Conclusion Culture positivity rates for GP patients were low, probably due to long transportation times and awaiting PCR test results. Positivity rates might be improved by making changes in sampling and/or transportation methods, but that would require involvement of GPs and patients instead of keeping the surveillance lab-based. Resistance levels appeared to be much lower at the GP than at STI clinics, indicating that resistance might emerge first in more high-risk populations that visit the STI clinics. It is important to consider all potentially relevant patient populations when establishing a surveillance programme. Based on the findings from this study the current GRAS programme will not be extended to the GP population.

Disclosure No significant relationships.

P634 SURVEILLANCE FOR DISSEMINATED GONOCOCCAL INFECTIONS, ACTIVE BACTERIAL CORE SURVEILLANCE (ABCS) – UNITED STATES, 2015–2018

[1]Emily Weston*, [2]Mirasol Apostol, [3]Ashley Moore, [4]Amy Tunali, [4]Monica Farley, [5]Samera Sharpe, [5]Audrey Jeanine Mclean, [6]Kimberly Workowski, [5]Elizabeth Torrone, [5]Hillard Weinstock. *[1]US Centers for Disease Control and Prevention, Division of Sexually Transmitted Diseases, Atlanta, USA; [2]California Emerging Infections Program, Oakland, USA; [3]Georgia Department of Public Health, Atlanta, USA; [4]Georgia Emerging Infections Program, Emory University School of Medicine, Atlanta, USA; [5]US Centers for Disease Control and Prevention, Division of STD Prevention, Atlanta, USA; [6]US Centers for Disease Control and Prevention, Division of STD Prevention, Emory University Department of Medicine, Atlanta, USA*

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Background Disseminated gonococcal infections (DGI) are uncommon; occurring in an estimated 0.5–3% of *Neisseria gonorrhoeae* (GC) cases. DGI surveillance is limited and case reports are often analyzed retrospectively or in case clusters. We describe the population-level burden of laboratory culture confirmed DGI using an established surveillance infrastructure, the Active Bacterial Core surveillance (ABCs) system of CDC's Emerging Infections Program.

Methods During 2017–2018, prospective surveillance was conducted among residents in three ABCs areas (3-counties in the Bay Area in California (CA), the 20-county Atlanta metropolitan area in Georgia [GA-MSA], and Georgia outside of the 20-county metropolitan area [GA-DPH]); retrospective surveillance was conducted during 2015–2016 in CA and GA-MSA. A DGI case was defined as isolation of GC from a normally sterile site; a case report form was completed for each case. Isolates collected during prospective surveillance underwent antimicrobial susceptibility testing (AST).

Results During 2015–2018, 53 DGI cases were identified (12 in CA, 6 in GA-DPH, and 41 in GA-MSA) for an overall rate of 0.11 cases per 100,000 population (0.08 per 100,000 in CA, 0.06 in GA-DPH, 0.16 in GA-MSA). DGI cases accounted for 0.06% of all reported cases of GC in the three surveillance areas. Most DGI cases were male (60%), aged 15–29 years (34%) or $\geq$ 45 years (34%), and were Black, non-Hispanic (58%). Clinical presentation was bacteremia (23%) or monoarticular septic arthritis (26%); 11% were immunocompromised. Of the 37 cases identified during 2017–2018, 18 viable isolates had AST completed. All were susceptible to Azithromycin, Ceftriaxone, and Cefixime; 6 (33%) were Penicillin and/or Ciprofloxacin resistant.

Conclusion DGI is an infrequent complication of GC. The ABCs infrastructure is a viable platform for DGI surveillance. As GC can quickly develop antimicrobial resistance, continued surveillance, including monitoring trends in antimicrobial susceptibility of DGI isolates and molecular epidemiology, could help inform DGI treatment recommendations.

Disclosure No significant relationships.

P635 THE ENHANCED GONOCOCCAL ANTIMICROBIAL SURVEILLANCE PROGRAM (EGASP) IN THE PHILIPPINES, 2018

[1]Emily Weston*, [2]Mark Angelo Amoroso, [2]Noel Palapayon, [2]Genesis Samonte, [3]Celia Carlos, [1]Cau Pham, [4]Teodora Wi. *[1]US Centers for Disease Control and Prevention, Division of STD Prevention, Atlanta, USA; [2]Philippines Department of Health, National HIV/AIDS and STI Surveillance and Strategic Information Unit, Epidemiology Bureau, Manila, Philippines; [3]Philippines Department of Health, Research Institute of Tropical Medicine, Manila, Philippines; [4]World Health Organization, Department of Reproductive Health and Research, Geneva, Switzerland*

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Background In July 2018, the Philippines Department of Health, the Centers for Disease Control and Prevention and World Health Organization implemented the Enhanced Gonococcal Antimicrobial Surveillance Program (EGASP). The Philippines is the second country to implement EGASP to monitor antimicrobial susceptibility trends of *Neisseria gonorrhoeae* (GC).

Methods Men with urethral discharge were enrolled at 4 participating sentinel clinics in Metro Manila. Symptomatic men had demographic and clinical data collected; two urethral swabs were collected for gram stain and culture. All positive cultures had antimicrobial susceptibility testing (AST) performed by 2 participating reference laboratories to determine minimum inhibitory concentrations for Cefixime, Ceftriaxone, Azithromycin, and Gentamicin using E-test.

Results From July – September 2018, 92 specimens were collected from symptomatic men; 61 (66%) were culture confirmed and all GC isolates had AST. Among 60 men with at least one GC infection, 32 (53%) were classified as men who have sex with women only, 15 (25%) as men who have sex with men and 13 (22%) were men who have sex with men and women. The median age of men was 24 years (range 15–52 years), 12 (20%) had antibiotic use in the last 2 weeks, 4 (7%) had travel in the last 30 days, and 43 (72%) received combination therapy of Ceftriaxone (250 mg, 500 mg or 1 g) or Cefixime 400 mg PLUS Doxycycline 100 mg or Azithromycin 1 g. Only 6 (10%) did not have treatment documented. No isolates had elevated MICs to the antimicrobials tested.

Conclusion We report on the first months of data from EGASP Philippines demonstrating the feasibility of collecting standardized and systematic epidemiological and laboratory data. All isolates were susceptible to all tested antimicrobials. Continued surveillance is critical to monitor for emerging resistance and to inform local and regional treatment recommendations.

Disclosure No significant relationships.