0.49(0.30–0.80), p = 0.004, respectively], while those with a concurrent STI [1.69(1.15–2.49), p = 0.007], and those presenting with multiple infection sites [2.54(1.62–4.00), p < 0.001] were more likely to be culture-confirmed.

Conclusion Not all NAAT-positive attendees were culture-confirmed, but this may be because culture was either unsuccessful or not routinely performed among asymptomatic attendees. All NAAT-positive patients should be cultured before treatment, as routine culture confirmation is essential to ensure representative monitoring of trends in antimicrobial resistance to inform decisions regarding treatment guidelines for gonorrhoea.

P3.285 DIAGNOSTIC AND TREATMENT UNCERTAINTIES: EPIDEMIOLOGICAL RISK FACTORS FOR NAAT POSITIVE BUT CULTURE NEGATIVE GONORRHOEA CASES IN STOCKHOLM, SWEDEN

doi:10.1136/sextrans-2013-051184.0741

R Vyth, A Leval, B Eriksson, M Hergens. *Dept. of Communicable Disease Control and Prevention, Stockholm County, Stockholm, Sweden*

Background The advent of gene amplification testing methods for Neisseria gonorrhoea has lead to a higher prevalence of gonorrhoea testing in the population. Various methods for Nucleic Acid Amplification Tests (NAAT) are used, often with high specificity. The sensitivity of culture is substantially lower than NAAT. Before treatment is initiated, antibiotic sensitivity of the isolate should be determined using culture-based methods. A considerable proportion of cases positive with NAAT cannot be verified by culture and hence it is not possible to verify the diagnosis or determine antibiotic sensitivity. Uncertainty in diagnostics and treatment of NAAT positive, culture negative gonorrhoea may lead to psycho-social and physical complications and continued transmission. To improve diagnostic and treatment accuracy for gonorrhoea, the objective of this study was to examine epidemiological risk-factors for NAAT positive but culture negative cases.

Methods The study included all men and women in Stockholm having at least one positive gonorrhoea NAAT test with follow-up cultures taken during the period January 1, 2011-June 30, 2012. The total number of eligible cases during this period was 938. Data on sex, age, mode of transmission, symptoms, Chlamydia trachomatis co-infection and NAAT lab method were collected. Outcome was defined as positive NAAT but negative follow-up culture. Descriptive statistics and cross-tabulations with chi-squared tests were performed.

Results In total, 19% of NAAT positive cases had no positive cultures (N = 174). Diagnostic certainty was greater among men than women. Ten-percent of men and 37% of women with positive NAAT had negative cultures. Three laboratory NAAT methods were used with differences in subsequent negative culture proportions found among these methods.

Conclusion Women have an increased risk for incorrect diagnosis and/or treatment of gonorrhoea. Improved gonorrhoea testing practises are necessary to avoid systematic misdiagnoses and inappropriate treatments.

P3.286 WITHDRAWN BY AUTHOR

P3.287 COMPARISON OF ANTIMICROBIAL SUSCEPTIBILITY OF *NEISSERIA GONORRHOEAE* ISOLATES OBTAINED FROM THE PHARYNX, RECTUM AND URETHRA IN MEN WHO HAVE SEX WITH MEN

doi:10.1136/sextrans-2013-051184.0742

[1]**S Kidd**, [2]L Asbel, [3]T Baldwin, [4]B Gratzer, [5]R P Kerani, [6]P Pathela, [1]K Pettus, [7]O O Soge, [8]A Stirland, [1]H Weinstock. *[1]Centers for Disease Control and Prevention, Atlanta, GA, United States; [2]Philadelphia Department of Public Health, Philadelphia, PA, United States; [3]Texas Department of State Health Services, Laboratory Services Section, Austin, TX, United States; [4]Howard Brown Health Center, Chicago, IL, United States; [5]University of Washington and Public Health – Seattle and King County, Seattle, WA, United States; [6]New York City Department of Health and Mental Hygiene, New York City, NY, United States; [7]Neisseria Reference Laboratory, Harborview Medical Center, Seattle, WA, United States; [8]Los Angeles County Department of Public Health, Los Angeles, CA, United States*

Background The emergence of cephalosporin resistance in *Neisseria gonorrhoeae* threatens gonorrhoea control programmes worldwide. Data on gonococcal antimicrobial susceptibility in the United States come from the Gonococcal Isolate Surveillance Project, which monitors susceptibility in male urethral isolates. Little is known about the susceptibility of isolates obtained from extra-genital sites. We sought to describe and compare antimicrobial susceptibility patterns of pharyngeal, rectal, and urethral gonococcal isolates obtained from men who have sex with men (MSM) at selected sentinel surveillance sites.

Methods We assessed the antimicrobial susceptibility of pharyngeal, rectal, and urethral gonococcal isolates collected from MSM at five sexually transmitted disease clinics throughout the United States. Minimum inhibitory concentrations (MICs) were determined by agar dilution at two regional laboratories, and elevated MICs were confirmed at the Centers for Disease Control and Prevention.

Results During December 2011-August 2012, a total of 85 pharyngeal, 99 rectal, and 315 urethral isolates from MSM were submitted. The proportion of isolates with an elevated cephalosporin or azithromycin MIC did not significantly differ by anatomic site: 1.2% of pharyngeal, 3.0% of rectal, and 3.2% of urethral isolates had an elevated cefixime MIC (≥ 0.25 μg/mL) (p = 0.79); 5.9% of pharyngeal, 7.1% of rectal, and 8.3% of urethral isolates had an elevated cefpodoxime MIC (≥ 0.25 μg/mL) (p = 0.86); 1.2% of pharyngeal, 2.0% of rectal, and 4.1% of urethral isolates had an elevated ceftriaxone MIC (≥ 0.125 μg/mL) (p = 0.47); and 2.4% of pharyngeal, 1.0% of rectal, and 1.6% of urethral isolates had an elevated azithromycin MIC (≥ 2.0 μg/mL) (p = 0.91).

Conclusion Among MSM, the proportion of urethral isolates with an elevated cephalosporin or azithromycin MIC was similar to that of pharyngeal and rectal isolates. These findings suggest that, at the population level, gonococcal antimicrobial susceptibility surveillance based on urethral isolates from MSM adequately represents antimicrobial susceptibility of *N. gonorrhoeae* circulating among MSM.

P3.288 ANTIMICROBIAL SUSCEPTIBILITY AND MOLECULAR EPIDEMIOLOGIC CLUSTERS OF *NEISSERIA GONORRHOEAE* STRAINS IN 2007 AND 2012 IN NANJING, CHINA

doi:10.1136/sextrans-2013-051184.0743

[1]**S Chen**, [1]Y Yin, [1]X Chen, [1]X Dai, [1]R Yu, [1]Y Han, [2]M Unemo. *[1]National Center for STD Control, China CDC, and the Chinese Academy of Medical Sciences & Peking Uni, Nanjing, China; [2]WHO Collaborating Centre for Gonorrhoea and Other STIs, Department of Laboratory Medicine, Microbiology, Örebro University Hospital, Örebro, Sweden*

Background Gonorrhoea is the most prevalent bacterial sexually transmitted infection globally. It is of grave concern that *Neisseria gonorrhoeae* has developed resistance to mainly all antimicrobials introduced for treatment. China is located in the WHO Western Pacific Region (WPR), where most gonococcal antimicrobial resistance (AMR) has originated. However, the information regarding AMR and particularly molecular epidemiology of *N. gonorrhoeae* strains in China is highly limited. This study investigated the AMR and molecular epidemiologic clusters of *N. gonorrhoeae* in 2007 and 2012 in Nanjing, China.

Methods A total of 204 and 82 *N. gonorrhoeae* isolates were collected in 2007 and 2012, respectively, in Nanjing, China. The

susceptibility to ceftriaxone, spectinomycin, ciprofloxacin and tetracycline were tested using agar dilution method, according to the recommendations from CLSI. NG-MAST was performed for molecular epidemiology and full-length *porB* sequences were used for phylogenetic analysis.

Results All (100%) isolates were resistant to ciprofloxacin, tetracycline, and 41.6% produced β-lactamase. According to the CLSI breakpoints, all (100%) isolates were susceptible to spectinomycin (S < = 32 μg/ml) and 99.7% to ceftriaxone (S≤ 0.25 μg/ml). However, using the European breakpoints 5.2% of the isolates were resistant to ceftriaxone (EUCAST, S≤ 0.125 μg/ml). The most prevalent NG-MAST clusters in 2007 included ST568 (n = 13), ST270 (n = 9), ST421 (n = 7), and ST2288 (n = 5). The most prevalent clusters in 2012 included ST1053 (n = 4), ST2318 (n = 4), ST5990 (n = 4), and ST1614 (n = 4). Isolates with identical or phylogenetically similar STs had similar MICs of ceftriaxone. Many novel STs were identified.

Conclusion Ceftriaxone and spectinomycin can continuously be recommended for treatment of gonorrhoea in Nanjing, China. The different molecular epidemiologic clusters in 2007 and 2012 indicate fluctuations in the sexual networks in Nanjing. The identified correlations between NG-MAST STs and MICs of antimicrobials suggest that NG-MAST can supplement the AMR surveillance in China, which needs to be further strengthened.

P3.289 MIC CREEP TO CEFTRIAXONE AND LOW LEVELS OF RESISTANCE TO AZITHROMYCIN IN 7 COUNTRIES FROM SOUTH AMERICA AND THE CARIBBEAN

doi:10.1136/sextrans-2013-051184.0744

The Gonococcal Antimicrobial Susceptibility Program (GASP) Network in Latin Americathe Caribbea, [1]P Araya, [2]G Borthagaray, [3]P Galarza, [4]A Llop, [5]D Payares, [6]O M Sanabria, [7]S D Thakur, [8]M E Trigoso, [9]**J R Dillon**. *[1]Instituto de Salud Publica de Chile, Santiago, Chile; [2]Faculdad de Quimica, Universidad de la Republica, Montevideo, Uruguay; [3]Centro Nacional de Referencia en ITS INEI-ANLIS "Dr Carlos Malbran", Buenos Aires, Argentina; [4]Instituto de Medicina Tropical "Pedro Kouri", Ministerio Salud Publica, Habana, Cuba; [5]Instituto Nacional de Higiene "Rafael Rangel", Caracas, Venezuela; [6]Instituto Nacional de Salud, Bogota, Colombia; [7]GASP-LAC Coordintating Centre, University of Saskatchewan, Saskatoon, SK, Canada; [8]Centro Departamental de Vigilancia, Informacion y Referencia, CDVIR, La Paz, Bolivia, Plurinational State of; [9]University of Saskatchewan, Saskatoon, SK, Canada*

Background The World Health Organization (WHO) issued an international action plan in 2012 to mitigate the health impact of antimicrobial resistant *Neisseria gonorrhoeae* isolates. A key strategy is to strengthen international surveillance of gonococcal antimicrobial susceptibility. The Gonococcal Antimicrobial Surveillance Program (GASP) in Latin America and Caribbean (LAC) has reported on AMR trends from 1990. The present study presents regional trends in antimicrobial susceptibility between 2010 and 2011.

Methods Seven countries reported using either agar dilution (CLSI), Etest or disc diffusion assays to determine antimicrobial susceptibility. Countries were asked to report MIC data and categories of susceptibility.

Results Seven countries tested 1019 isolates of *N. gonorrhoeae* in 2010 and 1216 isolates in 2011 to ceftriaxone, penicillin, tetracycline and ciprofloxacin (n = 7); azithromycin (n = 4) and spectinomycin (n = 3). Several countries reported a 2-fold increase in MIC_{50} to ceftriaxone (from 0.004 to 0.008 μg/mL) between 2010 and 2011 and 12 isolates with ceftriaxone MICs 0.125- ≥ 0.25 μg/ml were reported in 2011. All isolates were susceptible to spectinomycin. Resistance to azithromycin increased slightly from 1. 0% (6/612) to 1.7% (20/1169) while resistance to ciprofloxacin decreased from 42.1% (429/1019) to 36.2% (439/1214) of isolates tested between 2010 and 2011. Resistance to penicillin increased from 31% (310/1016) in 2010 to 35% (428/1216) in 2011 while the percentage of isolates resistant to tetracycline was stable (2010 – 21.8%, 187/858; 2011 – 22.6%, 275/1216).

Conclusions Third generation cephalosporins and spectinomycin continue to be viable options for the treatment of gonorrhoea in the countries reporting. Low percentages of resistance to azithromycin continue to be reported. There has been a steady decline in capacity for *N. gonorrhoeae* diagnosis and antimicrobial susceptibility testing in the region. The implementation of the WHO action plan to control the spread and impact of antimicrobial resistance in *N. gonorrhoeae* is an urgent priority.

P3.290 HIGH RATES OF CHLAMYDIA POSITIVITY IN ABORIGINAL AND TORRES STRAIT ISLANDER PEOPLE ATTENDING AUSTRALIAN SEXUAL HEALTH SERVICES; THE AUSTRALIAN COLLABORATION FOR CHLAMYDIA ENHANCED SENTINEL SURVEILLANCE (ACCESS)

doi:10.1136/sextrans-2013-051184.0745

[1,2,3]**C C O'Connor**, [1]H Ali, [1]R Guy, [4,5]C K Fairley, [4,5]M Y Chen, [6]L Marshall, [1]J Kaldor, [7]M Hellard, [1,8]B Donovan, [1,9]J Ward. *[1]Kirby Institute, The University of New South UK, Sydney, Australia; [2]RPA Sexual Health, Sydney Local Health District, Sydney, Australia; [3]Central Clinical School, Sydney University, Sydney, Australia; [4]School of Population Health, University of Melbourne, Melbourne, Australia; [5]Melbourne Sexual Health Centre, Melbourne, Australia; [6]Fremantle Hospital, Fremantle, Australia; [7]Centre for Population Health, Macfarlane Burnett Institute for Medical Research and Public Health, Melbourne, Australia; [8]Sydney Sexual Health Centre, Sydney Hospital, Sydney, Australia; [9]Baker Institute, Alice Springs, Australia*

Introduction Australia has a widely dispersed network of public sexual health services that see large numbers of people at risk of genital *Chlamydia trachomatis* infection. ACCESS was established to monitor chlamydia testing and positivity rates nationally and to assist the interpretation of chlamydia diagnoses reported through passive surveillance. We report on chlamydia testing and positivity in Aboriginal and Torres Strait Islander (hereafter Aboriginal) people attending 18 sexual health services participating in ACCESS between 2006 and 2011.

Methods Using line-listed data, we analysed Aboriginal status reporting, testing rates based on first visits and chlamydia positivity in those tested. Outcomes were stratified by age group, sex, and year of attendance and were compared with non-Indigenous clients using a chi-square test and multivariate logistic regression ($p < 0.05$).

Results From 2006 to 2011, 7,103 (4.2%) Aboriginal people and 161,626 (95.8%) non-Indigenous people attended participating sexual health services for an initial visit. Of the Aboriginal people 5,280 (74%) were tested for chlamydia. The positivity rates in Aboriginal people were 17.0% in women (23.3% in 15–19 year olds and 18.9% in 20–24 year olds) and 17.3% in men (20.2% in 15–19 year olds and 24.3% in 20–24 year olds). There were increasing trends seen in chlamydia positivity in Aboriginal and Torres Strait Islander females and non-Indigenous males and females between 2006 and 2011 (p-trend < 0.01). On multivariate analysis, positivity was associated with younger age, being heterosexual and living in Queensland in both Aboriginal men and women. In addition, in Aboriginal men, positivity was associated with not living in a remote area, and not having sex overseas; and in Aboriginal women, it was associated with attending in 2010 or 2011.

Conclusion The high Chlamydia positivity rates and increases over time highlight the need for enhanced prevention and screening programmes in Aboriginal people in Australia.

P3.291 ASSOCIATIONS OF CHLAMYDIA TRACHOMATIS INFECTION IN MEN AND WOMEN WITH GENITAL DISCHARGE SYNDROMES IN JOHANNESBURG, SOUTH AFRICA

doi:10.1136/sextrans-2013-051184.0746

F Radebe, C Ricketts, V Kekana, A Vezi, I Basson, P Magooa, N Bhojraj-Sewpershad, G de Gita, V Maseko, D A Lewis. *National Institute for Communicable Diseases (NHLS), Sandringham, South Africa*