throat symptoms and simultaneous pharyngeal chlamydia and urethral and rectal gonorrhoea. We excluded repeat testers within 3 months of treatment including test of cure samples from the analysis.

Results A total of 6613 MSM attended for pharyngeal testing and 383/6613 (5.8%) had a confirmed positive pharyngeal gonorrhoea NAAT. Pharyngeal gonorrhoea culture samples were taken in 270/383 (70%) and 73/270 (27%) were culture positive with available antimicrobial sensitivities. Only 7/73 (10%) had a fully sensitive organism. 28 (7%, 95% CI=5.11–10.36) reported throat symptoms at presentation. Overall, the presence of pharyngeal symptoms was not associated with positive gonorrhoea cultures (OR=1.9, CI=0.78–4.62, $p=0.2$), pharyngeal chlamydia (OR=1.6, CI=0.19–13.32, $p=0.7$), HIV status (OR=1.1, CI=0.47–2.57, $p=0.8$), or age [$p=0.3$].

Conclusions Pharyngeal gonorrhoea is usually asymptomatic and culture sensitivity is poor. Increasing effort is required to increase pharyngeal gonorrhoea culture testing and sensitivity, including ensuring clinical staff are using optimal sampling techniques and reliable transport of gonorrhoea culture samples to testing laboratories to maintain gonorrhoea AMR surveillance.

P034 PRIMARY SYPHILIS PRESENTATION CHARACTERISTICS AND SEROLOGICAL RESPONSE, IS THERE STILL MORE TO LEARN?

¹D Trotman*, ¹C Fitzpatrick, ¹J Devlin, ¹Z Buss, ¹L Parkes, ¹D Williams, ^{1,2}D Richardson. ¹Brighton and Sussex University Hospitals NHS Trust, UK; ²Brighton and Sussex Medical School, UK

10.1136/sextrans-2021-sti.181

Background Rates of infectious syphilis has significantly increased in men who have sex with men (MSM). Recent data has shown that primary syphilis does not always present with painless genital lesions. Our aim was to describe the clinical characteristics, serological response and management of primary syphilis in HIV-positive and negative MSM.

Methods We reviewed the microbiological and demographic data of MSM presenting with primary syphilis between January 2016 – March 2020 in our clinic-based population in Brighton, UK.

Results There were 111 cases of primary syphilis in MSM, the median age was 46 years (IQR=37–53 years) and 40 (36%) were living with HIV. 56/111 (50%) of MSM presented with painful lesions and 14% with extra-genital lesions. Extra-genital lesions were significantly more likely to be painful than genital lesions (OR 4.72; 95%, CI1.25–17.83, $p=0.02$). Overall, serology had a sensitivity of 80% (57/71) compared with *Treponema pallidum* PCR. Serology was more sensitive in MSM with no previous syphilis (OR= 3.38, 95%CI1.002–11.43, $p<0.05$). There were no differences in the characteristics, serological response or management between HIV positive and negative MSM.

Conclusion Fifty percent of MSM with primary syphilis presented with painful lesions; extra-genital lesions are more likely to be painful than genital lesions and serology is sensitive in 80% of MSM, and there were no differences between HIV positive and negative MSM. Understanding the characteristics of primary syphilis will underpin public health campaigns.

P035 THE SENSITIVITY AND ASSOCIATED FEATURES OF CULTURE POSITIVE RECTAL GONORRHOEA IN MEN WHO HAVE SEX WITH MEN

¹D Trotman*, ¹J Devlin, ¹Z Buss, ¹R Fortescue-Talwar, ¹C Fitzpatrick, ¹D Williams, ^{1,2}D Richardson. ¹Brighton and Sussex University Hospitals NHS Trust, Brighton and Hove, UK; ²Brighton and Sussex Medical School, Brighton and Hove, UK

10.1136/sextrans-2021-sti.182

Background Rectal *Neisseria gonorrhoea* is an important sexually transmitted infection in men who have sex with men (MSM). The past decade has seen and increasing rates of rectal gonorrhoea and antimicrobial resistant (AMR) gonorrhoea associated with recreational drug use, geo-spatial mobile phone dating apps and HIV risk reduction strategies including undetectable = untransmissible (U=U) and HIV pre-exposure prophylaxis (PrEP). Our aims were to review the microbiological findings and clinical characteristics of MSM with rectal gonorrhoea.

Methods A cross sectional study between January 2018–December 2019 to characterise the clinical and laboratory features of MSM with rectal gonorrhoea from our large clinic population of MSM attending the sexual health clinic in Brighton, UK.

Results There were 12,186 MSM attendances during the study period, of which 379/12186 (3.1%, CI=2.8–3.4) had a positive rectal gonorrhoea NAAT. The median age was 34 (IQR= 27–34), 103/379 (27%) were HIV positive and 72/379 (19%) also had rectal Chlamydia. HIV positive MSM with rectal gonorrhoea were significantly older than HIV negative MSM ($p=0.001$). 73/379 (19%, 95%CI= 15.6 to 23.5) presented with ano-rectal symptoms. Gonorrhoea culture was performed in 291/379 (77%) overall and was positive in 190/291(65%); MSM with symptomatic gonorrhoea were more likely to be culture positive than asymptomatic MSM (OR= 8.04, CI 3.34–19.35, $p>0.0001$). There were no differences in age or HIV status between MSM with symptomatic versus asymptomatic mono or dual (Chlamydia) infections.

Conclusion Most MSM with rectal gonorrhoea are asymptomatic and asymptomatic MSM are significantly less likely to have gonorrhoea cultures taken and have a positive culture than symptomatic MSM. Measures are needed to ensure that all MSM (including asymptomatic) with rectal gonorrhoea have cultures taken prior to treatment to maintain adequate surveillance of AMR to prevent the urgent threat of multidrug resistance to gonorrhoea in MSM.

P036 ESTIMATING THE PREVALENCE OF ZOLIFLODACIN RESISTANCE MUTATIONS AMONG A GLOBAL DATABASE OF NEISSERIA GONORRHOEA WHOLE GENOME SEQUENCES

¹E Lin*, ²P Adamson, ³S Ha, ^{2,4}J Klausner. ¹David Geffen School of Medicine At UCLA, Los Angeles, USA; ²Division of Infectious Diseases, David Geffen School of Medicine at UCLA, Los Angeles, USA; ³Department of Integrative Biology and Physiology, UCLA, Los Angeles, USA; ⁴Department of Epidemiology, Fielding School of Public Health, UCLA, Los Angeles, USA

10.1136/sextrans-2021-sti.183

Background Zoliflodacin is a novel antibiotic currently being evaluated in the treatment of uncomplicated *N. gonorrhoeae* infections. Three amino acid alterations have been associated

with resistance to zoliflodacin, all located in the *gyrB* gene: D429N, K450N, and K450T. To determine the prevalence of those mutations within *N. gonorrhoeae* whole genome sequences, we searched PathogenWatch, an online global database for genomic surveillance.

Methods We downloaded all available *N. gonorrhoeae* genomes from PathogenWatch (<https://pathogen.watch/>) on November 17th, 2020. The *gyrB* and *gyrA* gene sequences were obtained from the EzBioCloud database. We used the *N. gonorrhoeae* FA 1090 genome as our reference, and the wild-type *gyrA* sequence was included in our search as a control. BLAST (2.2.26+) was used to query each of the two genes to the reference genomes with a 60% identity/length threshold value. Biopython BLAST IO package was used to parse the result, and subsequent DNA translation to protein was conducted. The counts of the mutations of interest were measured using in-house python code, which generates the counts of different amino acids with given position value. Some fragmented genes were manually validated after the protein alignment using MUSCLE (3.8.31).

Results In total, 12,943 *N. gonorrhoeae* genomes were searched. No sequences contained the D429N, K450N, or K450T mutations in *gyrB*. One sequence was identified with a D429V mutation, a mutation previously unreported but similar to D429N. In total, 5395 sequences harbored the *gyrA* S91F mutation, while 5392 (99.9%) of those sequences were correctly identified by PathogenWatch. The three *gyrA* sequences with discrepancies were confirmed manually.

Conclusion Of the 12,943 publicly available *N. gonorrhoeae* genomes on the PathogenWatch database, none were found to harbor mutations in *gyrB* known to be associated with zoliflodacin resistance. When zoliflodacin becomes clinically available, resistance due to known mutations in *gyrB* is likely to be rare.

P037

HIV TRANSMISSION AND PREVIOUS PREP AWARENESS AND USE IN MEN WHO HAVE SEX WITH MEN (MSM)

¹C Norcross*, ^{1,2}D Richardson. ¹Brighton and Sussex University Hospitals NHS Trust, Brighton, UK; ²Brighton and Sussex Medical School, Brighton, UK

10.1136/sextrans-2021-sti.184

Background HIV Pre-Exposure Prophylaxis (PrEP) has been available to men who have sex with men (MSM) via clinical trials or self-funding (online) in the UK since 2017. Despite its effectiveness and availability, we are still observing HIV transmission in MSM. This study aimed to assess prior awareness, prior usage and reasons for non-uptake of PrEP in MSM newly diagnosed with HIV.

Methods All MSM who were diagnosed with HIV at this sexual health clinic between January 2017 and September 2020 were identified and their clinical records examined for information on previous clinic attendances; PrEP discussion with a clinician and PrEP use prior to HIV diagnosis.

Results 59 MSM were diagnosed with HIV during the study period, with a median age of 42 [IQR=31.0–50.4]. 24 (41%) had attended the sexual health clinic between the time PrEP became available and HIV diagnosis. 24 (41%) had a concurrent bacterial STI at HIV diagnosis and 23 (39%) reported recreational drug use prior to HIV diagnosis, with 4 (7%) reporting intravenous drug use. 16 (27%) had prior awareness

of PrEP. Of these, 1 MSM had used PrEP inconsistently due to concern about stigma and low self-perceived HIV risk, 5 were unable to access PrEP due to insufficient clinical trial spaces or barriers to self-funding, 2 cited no specific reason for non-uptake and 8 were found to be HIV positive at date of first PrEP discussion.

Conclusion The majority of MSM diagnosed with HIV had poor prior PrEP awareness. Access to PrEP was poor despite evidence of risk taking behaviour such as bacterial STIs and drug use. Barriers to uptake included lack of places in clinical trials, difficulty self-funding, low perceived risk and stigma. PrEP is now freely accessible in the UK, but continued efforts are needed to increase awareness and accessibility to further reduce HIV transmission.

P038

PREVALENCE OF SYPHILIS IN PEOPLE LIVING WITH HIV/AIDS IN THE AMERICAS: A SYSTEMATIC REVIEW AND META-ANALYSIS OF PREVALENCE STUDIES

^{1,2,3}J Garcia Luna*, ⁴L Aguirre Martinez, ²A Smith, ²D Bennett, ¹M Amorátegui Quintero, ¹D Rebellon Sanchez, ¹S Silva Peña, ⁵D Giron Ceron, ¹A Del Castillo Pinto, ⁴D Vinuesa, ⁶J Llanos Torres, ⁴J Zuñiga Gaitan, ⁴P Certuche Trochez, ⁴I Martínez Hurtado, ⁷A Guerra Saavedra, ⁴N Sanchez Muriel. ¹Centro Internacional de Entrenamiento e Investigaciones Médicas, Cali, Colombia; ²Nuffield Department of Population Health, University of Oxford, Oxford, UK; ³Universidad Icesi, Cali, Colombia; ⁴School of medicine, Universidad del Valle, Cali, Colombia; ⁵Department of biological sciences, Simon Fraser University, Canada; ⁶School of medicine, Universidad Icesi, Cali, Colombia; ⁷Universidad Libre, Cali, Colombia

10.1136/sextrans-2021-sti.185

Background Syphilis remains a public health threat, particularly in People Living with HIV/AIDS (PLWHA), due to its potential complications. The prevalence of syphilis in PLWHA in the Americas is not well characterised. Therefore, the aim of this systematic review and meta-analysis was to estimate the prevalence of syphilis in this population and to investigate sources of variation in these prevalences (PROSPERO CRD42020189246).

Methods PubMed, Embase, LILACS and Web of Science were searched for studies reporting the prevalence point of Likely Exposure to *Treponema Pallidum* (LETP) by treponemal tests or Likely Current Syphilis Infection (LCSI) by the combination of treponemal and non-treponemal tests, in a broadly representative sample of PLWHA in the Americas. Published studies with less than 200 PLWHA, languages other than Spanish or English, and conference abstracts were excluded. A standardised data extraction form was used. A random-effects meta-analysis was performed to obtain the pooled prevalence of LETP and LCSI with their corresponding 95% prediction intervals (95%PI). Heterogeneity was investigated by a priori defined subpopulations diagnostic algorithm and geographical region. Heterogeneity was assessed via the Cochran's Q test and I² statistic, while Egger's test was used to assess for publication bias.

Results 25,848 records were identified, of which 49 unique studies with 67 prevalence points were included. The pooled prevalence in the Americas was 16.4% (95%PI 2.3–49.3) for LETP, and 7.2% (95%PI 0.01–25.15) for LCSI, with high heterogeneity (I² >75%, p-value <0.001). The prevalence of LETP was higher in men who have sex with men (MSM), while the prevalence of LCSI was higher in Latin America. There was no evidence of publication bias (Egger p-value >0.5).