users (37years. v.41years, $p=0.2$). There were 33/38 clinicians who responded to the online survey. Clinicians felt equally confident at delivering daily PrEP as EBD-PrEP (Likert scores=4.4/5 v 4.2/5, $p=0.2$). However, potential barriers identified to providing EBD-PrEP by clinicians were; assessing which MSM would be suitable for using EBD-PrEP, having access to appropriate information for patients to support their understanding of using EBD PrEP; and clinician knowledge and belief in the efficacy of EBD-PrEP.

Conclusion The uptake by MSM and clinician confidence in discussing EBD-PrEP appears to have increased since the start of the COVID-19 pandemic. Giving MSM greater choice in how PrEP is used will optimise its effect on reducing HIV transmission. More research is needed to support both MSM and clinicians to deliver EBD-PrEP.

P316 COULD NUMBER OF PARTNERS BE A RISK FOR ANTIMICROBIAL RESISTANCE? HIGHER MACROLIDE CONSUMPTION AMONGST A CORE GROUP OF PREP USERS

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Background A core group of men who have sex with men (MSM) may sustain the high sexually transmitted infection (STI) prevalence among HIV-PrEP users. Regular gonorrhea/chlamydia screening/treatment in this core group might reduce STI prevalence, but also augments antimicrobial use. Macrolides in particular affect the resistome and may enhance the spreading of antimicrobial resistance. Using data from a single-center randomized clinical trial in our clinic we aimed to assess if PrEP-users with multiple sexual partners used more macrolides than others.

Methods Between April 2019 and June 2020, 343 PrEP users participated in a trial that assessed if an antiseptic mouthwash could prevent bacterial STIs (NCT03881007). During 3-monthly study visits participants reported their number of casual partners and underwent gonorrhea/chlamydia screening/treatment at the oropharynx, anorectum and urethra. Macrolide use, expressed as defined daily doses per 1000 individuals per day (DID) was compared between individuals with maximum ten versus more partners per three months.

Results Participants (median age 40.0, IQR 32.0–48.0) contributed for 203.0 person-years. They had a median of 10.0 (IQR 5.6–20.0) partners per three months. Bacterial STI incidence (gonorrhea + chlamydia + syphilis) was 126.6 per 100 person-years. Overall macrolide use was 8.48 DID. Macrolide consumption correlated weakly with number of partners (spearman's rho 0.18, $p<0.001$). Half (48.5%) of the participants had more than ten partners per three months and accounted for 60.3% of bacterial STIs. At 10.39 DID their macrolide consumption was 1.62 times (95% CI 1.38 – 1.91) that of participants with less partners (6.42 DID) and three times (2.97, 95% CI 2.69–3.27) that of the 2019 general Belgian population (3.50 DID).

Conclusion PrEP users that undergo 3-monthly gonorrhea/chlamydia screening use a multitude of the macrolides used by the general population. Especially those with over ten 3-

monthly partners may be at risk to carry and spread antimicrobial resistance.

P317 USING THE HEALTHCARE-OP TOOL TO EVALUATE THE OVERALL COST OF INTRODUCING AN ONLINE SERVICE FOR STI AND HIV SELF-SAMPLING

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Background Online services for STI and HIV self-sampling are increasingly being adopted by sexual health services (SHSs). Exploring the impact on overall cost of introducing a new service can be challenging. We developed a simple costing tool (Healthcare-OP) for use by clinicians and managers to support business case preparation for introducing a new service. Healthcare-OP was used to examine the impact on overall cost for the introduction of an online STI and HIV self-sampling service for asymptomatic clients attending our SHS.

Methods Client care-pathways were categorised into 16 types based on clinic workflow and estimated duration of consultation. Each pathway was broken down into discrete 'processes,' which were costed based on healthcare professional time and costs of tests/consumables. The probability of clients entering each care-pathway and transitioning between 'processes' in Healthcare-OP was estimated using 12 months electronic patient record data. Costs were derived from national pay scales and literature. The model did not include costs which remain the same before and after the introduction of online self-sampling service (e.g. diagnostic costs when the service is provided in-house). When the diagnostic tests are provided externally via a commercial provider, we assumed that only 30% or 50% of the test costs (marginal costs) could be released by microbiology.

Results The average weekly staff cost for managing 227 male and 237 female clients was £3104 and £3075, respectively. 50% of 76 male and 78 female asymptomatic clients using the online self-sampling services resulted in: a weekly cost saving of £261 and £49 respectively when provided in-house, and ranged from a weekly cost saving of £103 to an additional £241 for male pathways and an additional £126–£479 for female pathways when provided externally.

Conclusions The introduction of online-based self-sampling for asymptomatic patients may reduce the overall cost when provided in-house but not externally.

P318 FREQUENT DETECTION OF SHIGELLA IN MSM ALSO IN THE ABSENCE OF CLINICAL SYMPTOMS

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Introduction Shigellosis can present as a severe infection, including bloody diarrhea. About 22% of reported shigellosis

cases in the Netherlands occur in men who have sex with men (MSM). Not all infections result in clinical symptoms and not all persons with clinical symptoms are diagnosed. We performed a study among MSM visiting the STI clinic in Amsterdam to assess the prevalence of Shigella.

Methods From March to June, 2020, Anal swab samples taken from MSM routinely visiting the STI clinic to detect Chlamydia trachomatis and Neisseria gonorrhoeae were additionally tested pseudonymously for the presence of Shigella by PCR on the ipaH gene. Consecutive samples from MSM who reported no diarrhea, or diarrhea during last month, or diarrhea at visit of clinic were included. Predefined minimal numbers of inclusion of these groups were 150, 100 and 50, respectively. During the same months the frequency of Shigella as assessed by PCR in routinely tested samples sent by general physicians was assessed.

Results We included samples from 214 MSM without diarrhea, 109 MSM who recently had diarrhea and 68 MSM who reported diarrhea at visit of the clinic. The total number of samples positive for Shigella was 13/389 (3.3%), of whom 6/212 (2.8%) had no diarrhea, 4/107 (3.7%) recently had diarrhea and 3/68 (4.4%) had diarrhea at clinic visit. Positive samples were more frequently found in persons using or recently having used PREP (10/152), compared to no PREP (2/163) or being HIV-positive (1/74) ($p=0.02$, chi square test). In comparison, only 11/774 (1.4%) routinely tested fecal samples sent by general physicians during the study period were positive for Shigella.

Conclusion Shigella infections without symptoms or with minor symptoms are relatively common in MSM. More detailed studies should focus on the risk of transmission from these persons to others, leading to symptomatic infections.

P319 PHARMACODYNAMICS OF CEFTRIAXONE, ERTAPENEM, FOSFOMYCIN AND GENTAMICIN IN NEISSERIA GONORRHOEA

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Introduction Due to ceftriaxone-resistance in Neisseria gonorrhoeae, the use of other antibiotics might become necessary for treatment. In the recently performed NABOGO trial, efficacy of ertapenem, gentamicin and phosphomycin was compared with ceftriaxone. In this in vitro study, the pharmacodynamics of these antibiotics were studied.

Methods The ceftriaxone-susceptible N. gonorrhoeae strain WHO-F, the ceftriaxone-resistant strain WHO-X and the clinical strain CS03307 were used. Standard MICs for study antibiotics were measured by e-tests. Using time-kill assays for each antibiotic and strain, time-kill curves were constructed by measuring bacterial growth rates at doubling antimicrobial concentrations. Maximal growth in the absence of antibiotics (ψ_{max}), minimal (negative) growth in the presence of antibiotics (ψ_{min}), and concentration of antibiotic resulting in stationary amounts of CFU/ml (zMIC) were calculated.

Results ψ_{max} values were between 0.5 and 0.85 and did not vary between strains. ψ_{min} values for ceftriaxone were -2.7 for the highly susceptible WHO-F strain (MIC= <0.002 mg/

l), but only -0.9 for CS03307 (MIC=0.012 mg/l), and -0.8 for the resistant WHO-X strain (MIC=1.5 mg/l). ψ_{min} values for ertapenem were -1.1 for WHO F (MIC≤0.002 mg/l), -0.9 for CS03307 (MIC=0.006 mg/l), and -0.5 for WHO-X (MIC=0.032 mg/l), reflecting slower bacterial killing than ceftriaxone. All strains were rapidly killed by gentamicin as shown by ψ_{min} values of -5 to -7 (range of MIC=1.5–3 mg/l). Phosphomycin ψ_{min} values were -1.7 for WHO-F (MIC=24 mg/l) and CS03307 (MIC=4 mg/l), but only -0.5 for WHO-X (MIC=12 mg/l). For ceftriaxone, zMICs were three- to sixfold lower than MICs, but for other antibiotics, zMICs were comparable to MICs.

Conclusion Compared to ceftriaxone, bacterial killing of ertapenem is less rapid and is affected in WHO-X despite low MIC. Given the differences observed between zMIC and MIC, ceftriaxone might not be completely ineffective in ceftriaxone-resistant strains, especially if given in higher and repeated dosages.

P320 SEXUAL BEHAVIOURS AND HERPES SIMPLEX VIRUS TYPE-2 INCIDENCE AND PREVALENCE AMONG ADOLESCENT GIRLS AND YOUNG WOMEN IN KWAZULU-NATAL, SOUTH AFRICA

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Background Adolescent girls and young women (AGYW) in rural KwaZulu-Natal, South Africa are disproportionately affected by herpes simplex virus type 2 (HSV-2) and HIV. As HSV-2 infection enhances the acquisition and transmission of HIV and other STIs, broader STI control requires understanding of HSV-2 predictors. We therefore assessed how HSV-2 incidence and prevalence were associated with sexual behaviours among AGYW in this region.

Methods We analysed data from a two-year (2017–2019) prospective cohort study among a random sample of 2184 AGYW aged 13–22 which was representative of the study population. Data were collected at baseline, 12 months and 24 months. We calculated HSV-2 prevalence at any study visit and incidence among those HSV-2 negative at baseline. We ran Poisson and logistic regressions to assess the association of sexual behaviours with both HSV-2 incidence and prevalence.

Results HSV-2 prevalence was 26.2% among the study population, and was strongly associated with having sexual debut before the age of 16 (adjusted odds ratio (aOR) 1.52, 95% confidence interval (CI) 1.06–2.17) and having two or more sexual partners in the past 12 months (aOR 3.64, 95% CI 1.39–9.50). 307 of 1,433 baseline HSV-2 seronegative AGYW seroconverted during follow-up (incidence rate 16.5/100 person years at risk, 95% CI 14.7–18.4). Self-reported lower age of sexual debut, one or more sexual partners and inconsistent condom use were bivariately associated with HSV-2 incidence. None of these self-reported sexual behaviour measures