We defined people with AZM-RS gonorrhea as those with ≥ 1 gonococcal isolate demonstrating a minimum inhibitory concentration of AZM $\geq 2.0\mu\text{g/mL}$. We used inverse variance weighting to account for heterogeneity in sample size across jurisdictions to estimate pooled AZM-RS prevalences and 95% confidence intervals.

Results Across eight sites, 8,859 people (4,521 MSM, 758 women, and 3,580 MSW) provided at least one isolate for susceptibility testing; 1,052 people (10.4% [95% CI: 6.4%–14.4%]) had gonorrhea demonstrating AZM-RS. AZM-RS prevalence was markedly high among MSM (15.1% [95% CI: 10.2%–20.0%]), and lower yet elevated among women and MSW combined (5.3% [95% CI: 2.9%–7.7%]). Among MSM with AZM-RS gonorrhea, 16.2% (95% CI: 10.9%–21.4%) reported having 3+ sexual partners in the last 2–3 months and 16.7% (95% CI: 12.6%–20.9%) reported previous gonococcal infections. Among women/MSW with AZM-RS, 6.2% (95% CI: 3.7%–8.7%) reported 3+ recent sexual partners, and 4.8% (95% CI: 2.4%–7.3%) reported previous gonococcal infections.

Conclusions AZM-RS prevalence among women/MSW was lower than among MSM but still elevated, and a lower proportion of women/MSW reported multiple recent sexual partners and previous gonococcal infections. These data highlight differences in the epidemiology of reduced gonococcal susceptibility and the need to tailor resistant gonorrhea control approaches to affected populations.

009.6 TYPING OUTER MEMBRANE VESICLE PROTEINS OF NEISSERIA GONORRHOEA PROVIDES INSIGHT INTO ANTIMICROBIAL RESISTANCE

¹A Unitt*, ¹C Rodrigues, ¹J Bray, ¹K Jolley, ²C Tang, ¹M Maiden, ¹O Harrison. ¹The Maiden Lab, University of Oxford, Oxford, UK; ²The Tang Lab, University of Oxford, Oxford, UK

10.1136/sextrans-2021-sti.103

Background Outer membrane vesicles (OMVs) are known to be produced in significant quantities during gonococcal infection, however, their role remains mostly unknown. In this study, the diversity of gonococcal OMV proteins and their association with antimicrobial resistance (AMR) was investigated using computational methods.

Methods Omics-based approaches were employed through the PubMLST.org/neisseria database to analyse a selection of 26 proteins, including 23 identified in *N. gonorrhoeae* OMVs by Deo et al.(2018). These proteins were annotated across 4884 isolates from 58 countries and formed into an OMV peptide typing scheme. This facilitated the cataloguing of OMV protein diversity across the gonococcal population by the identification of OMV sequence types (OMV STs). The association of OMV STs with sequence typing schemes that categorise the core genome (Ng cg_400) and AMR (NG STAR) was then assessed, primarily using the Cramer's V statistic.

Results 2120 unique gonococcal OMV STs were identified. High levels of association were found between these OMV STs and both the core genome (OMV ST vs Ng cg_400: Cramer's V = 1.00) and AMR (OMV ST vs NG STAR ST: Cramer's V = 0.967). This is consistent the potential involvement of OMVs in the generation of AMR in *N. gonorrhoeae*.

Conclusion These results suggest that OMVs are more significantly involved in antimicrobial resistance in *N. gonorrhoeae* than previously thought, providing a new avenue for research

that could inform future efforts to limit AMR evolution and treat resistant infections. Additionally, the study demonstrates the role that population-level Omics-based approaches can play in improving our understanding of sexually transmitted infections. This applies not only to AMR, but also to other traits such as transmissibility or virulence.

Chlamydia epidemiology

010.1 INCIDENT UROGENITAL AND ANORECTAL CHLAMYDIA TRACHOMATIS IN WOMEN: THE ROLE OF SEXUAL EXPOSURE AND AUTO-INOCULATION; A MULTICENTRE OBSERVATIONAL STUDY (FEMCURE)

^{1,2}N Dukers-Muijers*, ^{3,4}M Schim van der Loeff, ⁵P Wolffs, ^{3,6}S Bruisten, ^{7,8,9}H Götz, ³T Heijman, ^{3,6}H Zondag, ⁵M Lucchesi, ^{3,9,10}H de Vries, ^{1,5,11}C Hoebe. ¹Department of Sexual Health, Infectious Diseases, and Environmental Health, South Limburg Public Health Service, Heerlen, The Netherlands; ²Department of Health Promotion, Care and Public Health Research Institute (CAPHRI), Maastricht University Medical Center (MUMC+), Maastricht, The Netherlands; ³Department of Infectious Diseases, Public Health Service of Amsterdam (GGD Amsterdam), Amsterdam, The Netherlands; ⁴Department of Internal Medicine, Amsterdam Infection and Immunity Institute (AI), Amsterdam University Medical Center (UMC), Amsterdam, The Netherlands; ⁵Department of Medical Microbiology, Care and Public Health Research Institute (CAPHRI), Maastricht University Medical Center (MUMC+), Maastricht, The Netherlands; ⁶Department of Medical Microbiology, Amsterdam Infection and Immunity Institute (AI), Amsterdam University Medical Center (UMC), Amsterdam, The Netherlands; ⁷Department of Public Health, Erasmus MC—University Medical Center Rotterdam, Rotterdam, The Netherlands; ⁸Department Infectious Disease Control, Municipal Public Health Service Rotterdam-Rijnmond (GGD Rotterdam-Rijnmond), Rotterdam, The Netherlands; ⁹National Institute of Public Health and the Environment (RIVM), Epidemiology and Surveillance Unit, Centre for Infectious Disease Control, Bilthoven, The Netherlands; ¹⁰Amsterdam UMC, University of Amsterdam, department of dermatology, Amsterdam Institute for Infection and Immunity (AI), location Academic Medical Centre, Amsterdam, The Netherlands; ¹¹Department of Social Medicine, Care and Public Health Research Institute (CAPHRI), Maastricht University Medical Center (MUMC+), Maastricht, The Netherlands

10.1136/sextrans-2021-sti.104

Background Anorectal infections with Chlamydia trachomatis (CT) are prevalent in women visiting STI-clinics. In women, azithromycin treatment in anorectal chlamydia is unsuccessful in about 20%, with the potential of subsequent re-infection of the vagina through autoinoculation. We evaluated the risk for incident urogenital CT, by exposure from the own anorectal site and exposure by sex; and similarly evaluated risks for incident anorectal CT.

Methods Prospective multicenter cohort study, FemCure. At 4, 6, 8, 10, and 12 weeks after azithromycin or doxycycline CT treatment, women self-collected anorectal and urogenital swabs for CT-DNA testing. We calculated the proportion with incident CT, at week 6–12, by 2-week time-periods. Compared to no exposure (A), risk of incident urogenital CT was estimated for sexual exposure (B), anorectal CT exposure (C), and both exposures (D), adjusted for confounders by adjusted odds ratios (OR) and 95% confidence intervals (CI). We similarly assessed incident anorectal CT.

Results Data comprised 385 participants contributing 1540 two-week periods.

Urogenital incidence was 3.3% (47/1428) [95%CI: 2.4–4.4]; 0.7% (A), 1.9% (B), 13.9% (C), and 25.4 (D). ORs were: 2.7 [95%CI:0.9–8.6] (B), 21.8 [95%CI:6.7–70.7] (C), 49.7 [95%CI:15.4–160.4] (D).

Anorectal incidence was 2.9% (39/1343) [95%CI:1.8–3.6]; 1.3% (A), 1.3% (B), 27.8% (C), and 36.7% (D). ORs were: