While azithromycin is the most used treatment, microbiological treatment failure in rectal CT is common and its drivers remain unclear.

**Methods** This study is part of a prospective multicentre cohort study (FemCure). Current analyses included 112 women clinically-diagnosed (by nucleic acid amplification test [NAAT]) with rectal and vaginal CT, who not vomited and denied rectal and vaginal unprotected sex. Four weeks after azithromycin treatment (1g single dose) participants self-collected vaginal and rectal samples. Samples were tested for CT-DNA (NAAT) and viable CT-load (viability polymerase chain reaction [V-PCR]). We evaluated two endpoints: (1) failure by NAAT-positivity and (2) failure by V-PCR-positivity. Enrolment-risk-factors associated with failure were assessed using multivariable logistic regression; i.e., age, education, migratory-background, previous CT, NAAT Cq-value [marker CT-DNA load], culture, viable CT [V-PCR positive], viable load [log10 copies/ml], vaginal CT.

**Results** (1) Failure by NAAT (21.4%; 24/112) was independently associated with both rectal and vaginal NAAT Cq-values; both aOR: 0.8 per unit decrease in the NAAT Cq-value (95% CI 0.7–0.9, p<0.01). Of the 49 women with a rectal and vaginal Cq-value ≥36 at clinic-diagnosis (43.8% of patients), 8.1% had rectal failure, compared to 31.7% when having Cq-values ≤36 (p<0.01). (2) Failure by V-PCR (16.1%;18/112) was independently associated with the rectal viable load; aOR: 1.7 per log10 copies/ml increase (95%CI 1.3–2.3). Of the 47 (42.0%) women without a viable rectal CT at diagnosis, 4.3% had failure, compared to 24.6% when having viable rectal CT at diagnosis (p<0.01). Vaginal failure by NAAT was 7.1% (8/112); failure by V-PCR was 2.7% (3/112).

**Conclusion** In an outpatient clinical setting, azithromycin rectal CT microbiological treatment failure was common and associated with higher pre-treatment (viable) loads. The lower azithromycin treatment failure in patients with NAAT Cq-values≥36 or non-viable rectal CT might result in different treatment choices.

**Disclosure** No significant relationships.

### CHLAMYDIA-SCREENING FOR WOMEN UNDER THE AGE OF 25 YEARS IN GERMANY – HOW ARE WE DOING?

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**Background** An opportunistic screening program for *Chlamydia trachomatis* (CT) was introduced in Germany in 2008, targeting sexually active women under the age of 25. The program suffers from low coverage (~12%) and its impact on the epidemiology of CT in the German setting remains unclear. As CT is not notified in Germany, we used alternative data sources to describe CT-epidemiology in the context of the screening program.

**Methods** Urine-PCR results from two population-based, nationwide health surveys of adults (DEGS, 2008–2011, subsample=2,364) and minors (KiGGS-Wave 2, 2014–2017, subsample=619) were analyzed. Weighted CT-prevalences were estimated for adults. Prevalence estimation for age-subgroups and adolescents was not possible due to high coefficients of variation, instead unweighted CT-positivity proportions were calculated in an explorative analysis. Data from a CT laboratory sentinel system were used to obtain the number of screening tests performed and the proportion of positive results by age and year.

**Results** The weighted prevalence of CT in the general German population aged 18-44 was estimated at 1.2% (95% confidence interval (95%CI): 0.6%–2.2%) among women and 1.9% (95%CI: 1.2%–3.0%) among men. The highest unweighted CT-positive proportions were found in the younger age groups in both women (18–24y: 2.4%, 95%CI 1.1%–5.0%; 25–34y: 4.3%, 95%CI 0.7%–3.3%) and men (18–24y: 2.0%, 95%CI 0.9%–4.4%; 25–34y: 2.9%, 95%CI 1.6%–5.2%). Among 15- to 17-year-old girls, an unweighted CT-positive proportion of 6.2% (95%CI 2.9%–12.6%) was found. Sentinel data from 2014–2016 (467,474 screening-tests of 15–24 year-old women) showed positive-result proportions of 3.4% (95%CI 3.1%–3.7%), 6.1% (95%CI 5.9%–6.4%) and 3.9% (95%CI 3.7%–4.0%) among 15-, 19- and 24-year-olds, respectively.

**Conclusion** The German screening program seems to correctly target the women most at risk and may thus prevent cases of CT-sequelae. However, through its low coverage and the exclusion of men, who serve as a reservoir for the infection, the program is not likely to reduce CT-prevalence effectively.

**Disclosure** No significant relationships.

### HIGH PREVALENCE OF EXTRAGENITAL CHLAMYDIA TRACHOMATIS (CT) IN HETEROSEXUAL WOMEN: VALIDATION OF POOLED SAMPLES

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**Background** Studies have shown high rates of concurrent rectal CT in women with urogenital infection. Extra-genital STI testing in women is not routine, and would be cost-prohibitive for all women. Pooling of samples from different anatomical sites is an effective method of testing for bacterial STIs, however is most commonly used in men who have sex with men. Before implementing pooled sampling within our services we performed a small validation comparing triple site sampling with pooled sampling for detection of CT and *Neisseria gonorrhoea* (NG) in women <25 years.

**Methods** This validation was performed at a level 3 genito-urinary medicine clinic in London from January – March 2018. Patients were both symptomatic and asymptomatic. Samples were taken by either clinician or patient. All samples were tested using Aptima Combo 2 nucleic acid amplification tests.

**Results** 99 cisgender women were included with a median age of 22. 56 women (57%) had symptoms that could indicate an acute STI. None reported rectal symptoms 19 patients tested positive for CT at any site (19% prevalence), Genital only (2) rectal only (7) pharynx only (1) genital + rectal (6) triple site (3). Pooled sampling detected CT RNA in 18/19 patients (95%) and was equivocal in 1/19 patients (sensitivity 95% specificity 100%).

**Conclusion** We demonstrated high prevalence of extra-genital CT infection in women. 2/19 had genital infection alone; genital sampling would miss 8/19 (42%) of CT infection. In this small evaluation, pooled sampling has been shown to be sensitive and specific for detection of CT. 16/19 women (84%)
had rectal CT. Our study is limited by size and inconsistent documentation of receptive anal sex, however evidence shows this to be a poor predictor of rectal CT infection. We limited our sample to a high prevalence population so our results may not be generalizable to lower prevalence groups.

Disclosure No significant relationships.

Factors Associated with Anorectal Chlamydia or Gonorrhoea Test Positivity in Women – A Systematic Review and Meta-analysis

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Background There has been considerable discussion about anorectal Chlamydia trachomatis (CT) in women, but little about anorectal Neisseria gonorrhoeae (NG). This systematic review and meta-analysis investigates whether anorectal CT in women is associated with detection at other sites (urogenital, oropharyngeal) or anal intercourse and compares this with anorectal NG in the same populations.

Methods Electronic databases EMBASE, MEDLINE and PUBMED were searched for English-language studies published to October 2018 using the search terms: (“Chlamydia” OR “Chlamydia trachomatis”) AND (“anal” OR “rect” OR “anorectal”) OR (“extra-genital” OR “multi-site”). Studies were included if anorectal NG data were available. The primary outcomes, CT and NG positivity, were measured as the proportion of those tested who were test positive. Prevalence ratios (PR) were calculated for the association of anorectal CT or NG with detection at other sites or anal intercourse. Random effects meta-analyses were used to calculate summary estimates; heterogeneity was investigated using meta-regression.

Results 25 studies were eligible. Anorectal CT positivity ranged from 0% to 17.5% with a summary estimate of 8.2% (95% CI: 7.2, 9.2; I^2=86.4%). Anorectal NG positivity ranged from 0% to 17.0% with a summary estimate of 2.2% (95% CI: 1.6, 2.8; I^2=92.6%). The association between urogenital and anorectal positivity was stronger for NG than CT (PR=82.2 [95% CI: 50.0, 140.9; I^2=80.4%], PR=29.7 [95% CI 23.8, 37.1; I^2=64.6%], respectively). Anal intercourse was associated with anorectal NG (PR=4.3; 95% CI: 2.18, 8.55; I^2=0.0%) but not anorectal CT (PR=1.0; 95% CI: 0.71, 1.4; I^2=0.0%).

Conclusion Discussion in the literature has focused on anorectal CT in women. This review found that although anorectal CT is more common, anorectal NG is more strongly associated with anal intercourse, urogenital, and oropharyngeal detection. Longitudinal data are required to further understanding of the etiology of anorectal STIs and to inform whether anorectal screening is needed in women.

Disclosure No significant relationships.