

circulating STIs within the population. To substantiate such proposition, more information is needed on (1) whether the characteristics of those single infected patients differ from the repeat infected patients and (2) the proportion of patients who were not retested.

**Methods** Laboratory data from all CT/NG tests by the STI clinic, general practitioners or hospital physicians between 2011–2016 of patients aged 15–64 years were obtained (24,051 tests: 2,317 CT positive, 405 NG positive). The outcome ‘repeatedly infected’ was defined as patients with  $\geq 2$  CT or  $\geq 2$ NG infections. Chi-square tests were used to compare characteristics of repeatedly infected versus single infected patients, for CT and NG separately.

**Results** Patients with repeat CT-infections 12%(215/1,845) were more often women, HIV positive, NG positive, diagnosed at the STI clinic or hospital compared to the GP, had  $\geq 1$  sex partner, reported urogenital symptoms, proctitis and oropharyngeal symptoms ( $p < 0.05$ ). Of the patients with a single CT infection, 50%(814/1,630) was not retested. Patients with repeat NG-infections 13%(38/296) were more often men, older ( $\geq 25$  years), living in non- and modest urban areas, HIV positive, diagnosed at the STI clinic or hospital and reporting oropharyngeal symptoms ( $P < 0.05$ ). Of the patients with a single NG infection, 27%(69/258) was not retested.

**Conclusion** Patients with repeat CT/NG infections differed from patients with a single infection. Also, characteristics of repeatedly infected patients differed between CT and NG. Indeed, patients with repeat CT or NG infections have impact on STI transmission. However, 27–50% of CT/NG positive patients were not retested. Probably those patients also have impact on circulating STIs, as reinfections are common. Focus should be on infected patients who do not retest or even not test at all as they enable ongoing transmission.

**Disclosure** No significant relationships.

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#### WOMEN VISITING GENERAL PRACTITIONERS HAVE HIGHER *CHLAMYDIA TRACHOMATIS* BACTERIAL LOADS THAN WOMEN VISITING THE STI CLINIC

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**Background** The bacterial load of *Chlamydia trachomatis* (CT) infected individuals may indicate the likelihood of further transmission and development of sequelae. For the first time, we compared the urogenital CT-load of men and women diagnosed by general practitioners (GPs), hospital physicians and the STI clinic.

**Methods** All urogenital nucleic acid amplification tests (NAAT) CT-positive samples ( $n = 3,588$ ) from the Maastricht Medical Microbiology Laboratory were included in the analyses (2012–2016). The cycle quantification (Cq)-value of the NAAT was used as an inversely proportional measure for CT-load (Cq-values and CT/ml values were highly correlated, Pearson’s  $r = 0.8$ ). Multivariable linear regression analyses

were used to compare urogenital Cq-values between STI care providers (GPs, hospital physicians, STI clinic) and assess potential associated demographic- and coinfection determinants, stratified by sex. Adjusted mean differences of Cq-values are presented using betas (B) and 95% confidence intervals (95%CI).

**Results** Urogenital Cq-values were similar in men visiting the GPs (B:0.2;95%CI:  $-0.3$  to  $0.7$ ) and hospital physicians (B:0.4;95%CI:  $-0.8$  to  $1.6$ ) compared to the STI clinic. Women visiting the GP had significantly lower urogenital Cq-values (B: $-1.0$ ;95%CI:  $-1.6$  to  $-0.3$ ) compared to the STI clinic. Women visiting the hospital had higher urogenital Cq-values (B:1.1;95%CI:  $0.2$ – $2.0$ ) compared to the STI clinic. Among women visiting the STI clinic, urogenital Cq-values were lower in women with concurrent anorectal CT (B:  $-3.1$ ;95%CI:  $-3.8$  to  $-2.3$ ) compared to anorectal CT-negative women.

**Conclusion** Male patients visiting different STI care providers had similar CT-loads. The higher CT load of women visiting the GP compared to STI clinic women could be indicative for higher transmission potential and sequelae. Women visiting hospital physicians had lower CT loads likely due to time of diagnosis. Notably, STI clinic women with concurrent anorectal CT had substantially higher urogenital CT-loads. This finding indicates a missed opportunity in GP and hospital physician patient management, as they rarely test anorectally, while anorectal CT is common among women.

**Disclosure** No significant relationships.

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#### A LOWER GENITAL *CHLAMYDIA TRACHOMATIS* BACTERIAL LOAD IS ASSOCIATED WITH COINFECTIONS WITH *NEISSERIA GONORRHOEAE* AND HIV

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**Background** The bacterial load of *Chlamydia trachomatis* (CT) infected individuals may indicate the likelihood of further transmission and development of sequelae. This is the first and largest study to date providing results of a complete overview of the bacterial CT-load of genital and extra-genital samples and its associations with *Neisseria gonorrhoeae* (NG) infection and HIV.

**Methods** All genital ( $n = 2,067$  vaginal swabs;  $n = 1,793$  urines), anorectal ( $n = 828$ ) and oropharyngeal ( $n = 61$ ) nucleic acid amplification test (NAAT) CT-positive samples from the Maastricht Medical Microbiology Laboratory were included in analyses (2012–2016). The NAAT cycle quantification (Cq)-value was used as an inversely proportional measure for CT-load (Cq-values and CT/ml values were highly correlated for vaginal swabs; Pearson’s  $r = 0.9$ , and moderately correlated for urine in men; Pearson’s  $r = 0.6$ ;  $p < 0.001$ ). Mean Cq-values were compared between anatomic locations and coinfections with HIV and NG. Mean Cq-values are presented and tested using ANOVA and independent T-tests stratified for sex. Only statistically significant associations ( $p < 0.05$ ) are presented.

**Results** In men, Cq-values were higher in oropharyngeal swabs and anorectal swabs compared to urine (35.9 and 33.9 vs

32.7;  $p < 0.01$ ). Men with urogenital NG had higher urine Cq values than men without urogenital NG (33.9 vs 32.6;  $p < 0.01$ ). Cq values were higher in urines of HIV positive men compared to HIV negative men (33.9 vs 32.7;  $p < 0.01$ ). In women, Cq-values were higher in oropharyngeal swabs and anorectal swabs compared to vaginal swabs (36.7 and 33.9 vs 30.8;  $p < 0.001$ ). Cq-values were higher in vaginal swabs of HIV positive women compared to HIV negative women (35.1 vs 31.0;  $p = < 0.01$ ).

**Conclusion** Vaginal swabs and urine samples had much lower Cq values, i.e. higher CT loads, compared to oropharyngeal swabs which could have impact on transmission potential and sequelae. We hypothesize that high risk populations, such as HIV and NG positive patients, likely have repeat CT infections leading to partial immunity and therefore lower CT loads.

**Disclosure** No significant relationships.

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#### THE IMPACT OF *CHLAMYDIA TRACHOMATIS* NAAT DETECTION PROBABILITY ON TEST-OF-CURE RESULTS

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**Background** In spite of excellent analytical sensitivity, NAAT assays for *Chlamydia trachomatis* (CT) do not have a 100% detection probability (DP), especially at low concentrations of CT. This might especially impact test results after treatment, when CT concentrations are expected to be very low. The aim of this study was to use repeat testing to investigate the CT DP after treatment.

**Methods** As part of the FemCure study, women with vaginal or rectal CT infection were followed for 12 weeks after treatment. Single NAAT testing (Cobas 4800 CT/NG) of vaginal and rectal swabs at 1, 2, 4, 6, 8, 10 and 12 weeks after treatment was performed. For this project after initial NAAT, a selection of 63 swabs (29 vaginal and 34 rectal) was tested 4 additional times using again the COBAS 4800 CT/NG assay. DP was defined as the percentage of positive detections/5 repeat tests.

**Results** A selection of 47 follow-up swabs which tested CT negative with initial NAAT were investigated. Overall, 70% of swabs remained negative in all repeat samples (DP=0%). However,  $\geq 10\%$  of swabs showed a DP  $\geq 60\%$  in spite of the initial negative NAAT. The results were independent of sampling site (vaginal or rectal) and follow-up time-point during the study and included 15 swabs taken at 4–8 weeks (time-points sometimes used for test-of-cure). Additionally, 16 positive swabs prior to subsequent negative testing were also investigated. Results showed a DP of 100% in  $\sim 30\%$  of samples confirming initial NAAT, but showed also a DP  $\leq 40\%$  in  $\sim 25\%$  of samples.

**Conclusion** It is important to be aware of limitations in NAAT inherent DP, especially at low CT concentrations found after treatment. Further research will combine current data with CT viability testing which will potentially shed more light on the clinical relevance of NAAT testing below 100% DP.

**Disclosure** No significant relationships.

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#### PREDICTORS OF LOSS-TO-FOLLOW-UP AMONG HIV INFECTED MSM ON TREATMENT AT A (TRUSTED) COMMUNITY HEALTH CENTRE IN LAGOS, NIGERIA

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**Background** Antiretroviral Therapy (ART) has been shown to reduce transmission of HIV and HIV-related morbidity and mortality. Despite improved and highly successful coverage with ART, HIV programmes around the world have recorded appreciable rise in the numbers of clients who drop out of care at different points. The objective of this study was to determine the predictors of Lost-To-Follow-Up (LTFU) among HIV infected Men Who Have Sex with Men (MSM) on treatment at a (Trusted) Community Health Centre in Lagos, Nigeria.

**Methods** A descriptive cross-sectional study was conducted among clients who have been LTFU amongst MSM in HIV care at a (Trusted) Community Health Centre. Active clients on ART were separated from those LTFU, those transferred out and those who died using the PEPFAR software, Retention and Audit Determination Tool (RADET). The clinic folders of the LTFU clients was the source of sociodemographic information (age at start of ART, employment status, occupation etc) as well as clinical information such as staging, last clinic visit date. A semi-structured questionnaire adapted from literature was modified and administered via telephone or in person at any venue of participant's choice to all the selected participants. Data analysis was done using SPSS. Chi-square statistics was used to determine association between variables and binary logistic regression was used to determine the predictors of LTFU. The level of significance was placed at 5%.

**Results** The mean age of the cohort was  $25 \pm 5$  years. Of 150 patients identified, 108 (72%) patients were genuinely defined as LTFU as they were not enrolled for treatment anywhere else. Patients with low income, no children, suffered stigma and discrimination among family were at higher risk of LTFU. Travelled out of town, medication side effects were the most common reasons for LTFU.

**Conclusion** Many MSM on treatment were LTFU. Effective control measures targeting high-risk population should be implemented to improve retention and reduce LTFU.

**Disclosure** No significant relationships.

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#### POPULATION STRUCTURE OF LYMPHOGRANULOMA VENEREUM IN BELGIUM: SURVEILLANCE DATA FROM 2010 UNTIL 2017

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**Background** The number of *Chlamydia trachomatis* (CT) L genotypes/serovars or Lymphogranuloma venereum (LGV) is on the rise in Belgium, however the genetic diversity of the CT L genotypes in Belgium remained unknown. Our aim was