

**Introduction** Despite intensive efforts *Chlamydia trachomatis* (Ct) remains the most common bacterial sexually transmitted infection worldwide. Therefore, to gain more insight into the epidemiology and transmission of Ct, multilocus sequence typing (MLST) schemes have been developed. However, there is no consensus regarding the use of an MLST scheme for epidemiological studies. Therefore, the objective of this study was to investigate the clustering of Ct strains using two MLST schemes with differing discriminatory capacities.

**Methods** We selected and tested samples from Ct infected men having sex with man (MSM) and heterosexual women using two existing MLST schemes. One MLST scheme was based on 6 highly variable targets in the chlamydial genome, also referred to as high-resolution MLST (hr-MLST-6) and the other scheme was based on 7 housekeeping genes (MLST-7). For this study, the existing MLST-7 scheme was modified to a nested PCR enabling to test clinical samples. Sequences obtained from both MLST schemes were analysed for cluster analysis and phylogenetic relationships.

**Results** Full profiles were obtained for 175 samples; 84 (48%) were from MSM and 91 (52%) from heterosexuals. We detected 32 sequence types (STs) using the MLST-7 scheme and 78 STs using the hr-MLST-6 scheme. Cluster analysis using hr-MLST-6 data showed segregation between isolates from MSM and heterosexuals. However, cluster analysis using the MLST-7 data did not show this segregation between isolates from MSM and heterosexuals.

**Conclusion** The MLST-7 scheme was not able to discern closely related Ct strains over a small time-frame confirming that it is more suitable for evolutionary studies. For short-term cluster analysis the hr-MLST-6 scheme is considered more suitable to study the epidemiology and transmission of Ct in various populations.

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#### P08.36 CHLAMYDIA TRACHOMATIS INFECTION IN WOMEN IN GERMANY, 2008–2014

S Dudareva-Vizule, K Jansen\*, K Haar, A Sailer, A Hofmann, O Hamouda, V Bremer. Department for Infectious Disease Epidemiology, Robert Koch Institute, Berlin, Germany

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**Background** *Chlamydia trachomatis* (CT) infections are not reportable in Germany and limited data on CT-prevalence among women is available. In 2008 an opportunistic CT-screening programme for women <25 years (OCS) was introduced. We assessed positivity rate of CT-infection among women and coverage of the OCS in order to develop recommendations for prevention.

**Methods** In September 2010 voluntary laboratory-based sentinel surveillance system was implemented and is collecting retrospective (from 2008) and prospective data on CT-tests together with information on age and test reason (TR). We calculated positivity rates (PR) by age-group and TR over years. We used Chi2 and two-sample t-test, accordingly. We estimated coverage of OCS by extrapolating the proportion of CT-tests attributable to OCS to the respective German population.

**Results** As of 10.04.2015 data from 24 laboratories were available for analysis. Overall 93% (3,440,131) of all tests (3,701,288) were among women. Among those 24% were

attributable to OCS, 36% to screening in pregnancy, 25% to diagnostic testing, and in 15% the TR was unknown. The coverage of OCS increased over time from 8% in 2008 to 11% in 2009, and 12% in 2014.

PR was highest in age-groups 15–19 (6.75%) and 20–24 (5.93%) years compared to age-groups <15 (3.38%), 25–29 (3.26%), and ≥30 (1.42%) years, p-value <0.001. PR gradually decreased from 2008 to 2014 in age-groups 15–19 (7.44% to 6.51%) and 20–24 (6.64% to 5.71%) years, p-value <0.001.

**Conclusion** The proportion of young women testing positive for CT is high despite gradual but slight decrease in PR among 15–24 years old women. OCS coverage in Germany is low and did not increase substantially in the last years. OCS should be promoted among the target population and physicians. Awareness campaigns for young women should be implemented. Respective regulations should be expanded and remuneration for counselling to physicians for OCS offered.

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#### P08.37 EPIDEMIOLOGICAL TRENDS IN CHLAMYDIA TESTING IN DENMARK 1991 TO 2011 AND FORMATION OF A RETROSPECTIVE, POPULATION-BASED COHORT: THE DANISH CHLAMYDIA STUDY

<sup>1</sup>KME Turner\*, <sup>2</sup>M Frølund, <sup>3</sup>B Davies, <sup>4</sup>T Benfield, <sup>2</sup>S Rasmussen, <sup>3</sup>H Ward, <sup>5</sup>MT May, <sup>4</sup>H Westh, and the Danish Chlamydia Study Group (Andersen BS, Bangsbo J, Christiansen CB, Dessau RBC, Hoffman S, Kjaeldgaard P, Jensen JS, Jensen TG, Lomborg S, Møller JK, Jensen TE, Nørskov-Lauritsen N, Panum I, Dzajic E, Rasmussen B). <sup>1</sup>School of Veterinary Science, University of Bristol, Langford, Bristol, BS40 5DU; <sup>2</sup>State Serum Institute, Denmark; <sup>3</sup>Department of Infectious Disease Epidemiology, Imperial College London, UK, W2 1PG; <sup>4</sup>Hvidovre Hospital, Copenhagen, Denmark; <sup>5</sup>School of Social & Community Medicine, University of Bristol, Bristol, UK, BS8 2PS

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**Background** Despite widespread, sustained testing for chlamydia in high income countries, there remain questions about the population impact of chlamydia screening. We analyse the epidemiological trends in chlamydia testing and chlamydia diagnoses in Denmark (1991 to 2011) and describe cases and controls for The Danish Chlamydia Study.

**Methods** We describe the Danish Chlamydia Study; a unique database of individuals involving linkage of administrative health data, chlamydia tests and hospital records. We analyse trends in testing and diagnosed incidence of chlamydia and selected reproductive outcomes in men and women in Denmark. The laboratory dataset contained 4,150,498 test records from 1,348,058 individuals (1/1/1991 to 2/11/2011). Cases: individuals with a positive chlamydia diagnosis; controls: age and gender matched, selected from Danish population register. The proportion ever tested and test positivity were calculated by age, gender and calendar year.

**Results** The cleaned laboratory dataset (1 confirmed test result per person, per day) consists of 3,298,104 test records with 264,410 (8%) positive chlamydia diagnoses. 1,277,463 individuals were tested (346,235 men and 904,587 women). Nearly all women and almost half of men in Denmark have been tested for chlamydia by age 30. Most individuals had only negative tests: 80% of men and 86% of women. Test coverage has increased and been sustained since 2008 but there has been no decline in positivity over time.

Individuals included in the Danish Chlamydia Study dataset: