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-7scheme and 78 STs using the hr-MLST-6scheme. Cluster analysis using hr-MLST-6data 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-6scheme is considered more suitable to study the epidemiology and transmission of Ct in various populations.
Disclosure of interest statement This work was funded by the Public Health Service of Amsterdam, the Netherlands. None of the authors report a conflict of interest.

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

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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.
Disclosure of interest statement *Chlamydia trachomatis* laboratory sentinel is funded by German Federal ministry of health. No conflicts of interest.

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

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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:

Women: 574,679 (114,936 cases, 459,743 controls (279,905 only negative tests, 179,838 never tested)), contributing 1,807,618 tests and 20,912 reproductive outcomes;

Men: 325,337 (65,068 cases, 260,269 controls) contributing 291,655 tests and 9,698 reproductive outcomes.

Conclusion This large, rich dataset including long term follow up of a nationally representative sample of men and women from Denmark is a step forward in addressing some of the outstanding questions about the population impact of chlamydia screening.

P08.38 COST-EFFECTIVENESS OF CHLAMYDIA TESTING IN SCOTLAND

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Background Scottish chlamydia testing guidelines target symptomatic and high-risk asymptomatic individuals. Recent publications, indicating a low risk of progression to serious chlamydia-related outcomes, particularly tubal factor infertility (TFI), question the validity of high levels of opportunistic testing especially among asymptomatic individuals.

Aim (s)/objectives To examine cost-effectiveness of current chlamydia testing to prevent TFI among those aged 15–24 in Scotland using cost per Quality-Adjusted Life Years (QALYs) gained and to consider alternative testing strategies.

Methods A compartmental deterministic model of chlamydia infection in those aged 15–24 in Scotland was developed to examine the impact of testing coverage and partner notification (PN) on number and cost of TFI cases prevented. Cost-effectiveness calculations were informed by best estimates of the QALYs lost due to TFI.

Results At 16.8% baseline testing coverage (laboratory data), 4.4% prevalence (NATSAL-3) and assumed PN rate of 0.4, the total testing cost is £5.4 million. This is estimated to prevent 258 TFI cases each year in young women. The cost per QALY gained is £40,034 compared with no testing, using a mid-range health state utility value (HSUV) for TFI (0.76 (±0.24)) and PID (0.9 (±0.22)). A 50% reduction in current testing would result in higher chlamydia prevalence and 84 more TFI cases.

Discussion/conclusion Current chlamydia testing activities in Scotland do not appear cost-effective. However, the model is sensitive to several parameters, particularly the HSUV and there are uncertainties in the current testing costs and progression to serious sequelae. There appears potential to improve chlamydia testing cost-effectiveness by increasing PN.

P09 - Bacterial and other curable STI

P09.01 COST-EFFECTIVENESS OF TESTING FOR *TRICHOMONAS VAGINALIS* IN GENITOURINARY MEDICINE CLINICS AND PRIMARY CARE IN ENGLAND USING APTIMA TV NAAT

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Background Laboratory tests for *Trichomonas vaginalis* (TV) using culture and microscopy in current practice have low sensitivity. However new, highly sensitive PCR-based nucleic acid amplification tests (TV NAATs) have been approved e.g. Aptima TV NAAT. It is not known how to optimally deploy these new tests.

Objectives To assess the cost-effectiveness of new TV NAAT tests for the diagnosis of TV infection in women attending genitourinary medicine (GUM) and primary care clinics in England. To inform decision-making about who should be offered TV testing.

Methods We analysed data from TV tests in residual chlamydia/gonorrhoea samples from 9,000 women. We conducted notes review in GUM clinics to understand current management. We calculated the cost of testing for TV and the cost per additional case detected.

Results The cost of TV test as a new standalone test is £15.19, or £7.62 as an add-on to chlamydia/gonorrhoea NAAT tests. Microscopy/wet prep costs £7.93. Current testing detected only 9/50 GUM and 15/126 primary care cases identified using TV NAAT tests. The crude cost of adding TV to all chlamydia/gonorrhoea NAAT tests and removing microscopy, is £291 per additional case (£139 per symptomatic and £496 per asymptomatic). The cost-effectiveness is sensitive to the underlying positivity (decreases within increasing positivity) and the differences between the amount and sensitivity of current testing practice.

Discussion/conclusion TV NAAT tests detected many more infections than current testing practice. If TV NAAT is added to current chlamydia/gonorrhoea testing in English GUM clinics, this would translate to an increase from 6,000 TV cases to 23,400 cases annually. The implications are that testing symptomatic women in GUM and possibly primary care for TV would be beneficial as positivity is similar to chlamydia in these groups. For asymptomatic women a more targeted approach may be more appropriate according to local demographics.

Disclosure of interest statement Hologic provided the tests for the Aptima TV NAAT research study and have sponsored the authors to present this data at ISSTDR.