analyses were performed to determine the association between the infections and clinical manisfestations.

Results The prevalence of *M. genitalium* infection at urethral, rectal and pharyngeal sites was 17.2% (95% CI: 13.4% to 21.0%), 11.8% (95% CI: 8.4% to 15.2%), and 13.5% (95% CI: 9.9% to 17.1%), respectively. C trachomatis was more commonly detected in rectum (16.0%, 95% CI: 12.2% to 19.8%) than in urethra (9.4%, 95% CI: 6.4% to 12.3%) and in pharynx (0.8%, 95% CI: 0.1% to 1.6%). Urethral *M. genitalium* infection was significantly associated with urethral discomfort in the past 3 months (AOR: 2.22, 95% CI: 1.09–4.52) and polymorphonuclear leucocyte (PMNL) counts per high-power microscope field (AOR: 2.40, 95% CI: 1.02–5.62). Rectal *M. genitalium* infection was independently associated with rectal discharge in the past 3 months (AOR: 6.06, 95% CI: 1.59–23.11). For C trachomatis infection, PMNL counts per high-power microscope field (AOR: 4.66, 95% CI: 1.80–12.07) and having receptive anal intercourse with a male in the past 3 months (AOR: 2.27, 95% CI: 1.14–4.54) were associated with urethral and rectal C trachomatis infection, respectively.

Conclusion High prevalence of *M. genitalium* infection was observed among MSM in China at urethral, rectal and pharyngeal sites. *M. genitalium* infection was significantly associated with urethral and rectal symptoms. C trachomatis was more commonly detected in rectum and more likely to be asymptomatic.

Disclosure of interest statement No potential conflicts of interest.

O03.4 WHAT EXPLAINS ANORECTAL CHLAMYDIA DETECTION IN WOMEN: IMPLICATIONS FOR CONTROL STRATEGIES

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10.1136/sextrans-2015-052270.94

Introduction Anorectal *Chlamydia trachomatis* (Ct) testing in women is not standard. In some countries, women are being tested based on reported anal intercourse. However, universal anorectal Ct testing in STI clinics revealed prevalences over 10%, irrespective of anal intercourse, and showing high co-occurrence with urogenital infections. To inform control strategies in women, this study explores different transmission mechanisms that can explain the high observed Ct prevalences using mathematical modelling.

Methods We developed a pair compartmental model of heterosexuals aged 15–29 years. To inform the model, data on anorectal and urogenital infections are used from heterosexual men and women attending STI clinics. In the model, women can have urogenital and anorectal infections, men only urogenital infections. At all sites, individuals can either be susceptible (S), infected (I) or recovered (R). All partnerships engage in vaginal intercourse, and a fraction of partnerships will also have anal intercourse. We developed models including different transmission mechanisms, e.g. transmission by anal sex and autoinoculation between anatomic sites, and explored which mechanisms or combinations thereof fit the observed data best.

Results Most models did fit to the observed prevalence of male and female urogenital Ct: 13.6% (95% CI: 10.7–17.2) and 13.0% (95% CI: 12.4–13.7), female anorectal Ct: 10.6% (95% CI: 8.0–13.9) and both sites: 9.9% (95% CI: 7.4–13.1). Models that assumed autoinoculation between anatomic sites fitted the data best, compared to models that focused on anal sex only. The model will be used to further determine the impact of testing strategies (i.e. universal irrespective of anal intercourse) and treatment strategies (i.e. azithromycin or doxycycline) on population prevalence.

Conclusions The results are suggestive of a Ct autoinoculation process between anatomic sites in women. This has potential consequences for future chlamydia control strategies including testing and treatment.

Disclosure of interest statement The National Institute of Public Health and the Environment is funded by the Ministry of Health, Welfare and Sport. The authors declare no conflict of interest.

O03.5 CLINICIAN-TAKEN EXTRA-GENITAL SAMPLES FOR GONORRHOEA AND CHLAMYDIA IN WOMEN COMPARED WITH SELF-TAKEN SAMPLES ANALYSED SEPARATELY AND SELF-TAKEN POOLED SAMPLES

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10.1136/sextrans-2015-052270.95

Background Extra-genital sampling (rectum and pharynx) using nucleic acid amplification tests is becoming increasingly important in women as vulvovaginal swabs (VVS) alone may miss infections. We compared clinician-taken extra-genital samples in women with self-taken samples analysed both separately and as pooled samples for accuracy and cost-effectiveness.

Methods Women attending a sexual health clinic were invited into a 'swab yourself' trial. Clinician and two self-samples (analysed separately and pooled) were taken from vulvovaginal, pharyngeal and rectal sites for gonorrhoea (NG) and chlamydia (CT) using AC2. Sampling order was randomised. Patient infected status was defined as at least two positive confirmed samples.

Results 402 women recruited January–March 2015. Overall prevalence: gonorrhoea 3.2% (rectal 2.7%, pharyngeal 1.5%), chlamydia 13.7% (rectal 12.9%, pharyngeal 3.2%). One NG case (7.7%) and 7 CT cases (12.7%) were VVS negative.

	Sensitivity	Specificity	PPV	NPV
NG Rectal Clinician	100%	100%	100%	100%
NG Rectal Self	100%	100%	100%	100%
NG Pharynx Clinician	83.3%	100%	100%	99.8%
NG Pharynx Self	100%	100%	100%	100%
NG Self Pooled	100%	100%	100%	100%
CT Rectal Clinician	98.1%	100%	100%	99.7%
CT Rectal Self	100%	99.7%	98.1%	100%
CT Pharynx Clinician	92.3%	99.7%	92.3%	99.7%
CT Pharynx Self	84.6%	100%	100%	99.5%
CT Self Pooled	98.2%	99.4%	96.4%	99.7%