be more beneficial. Further research is required to confirm predictions, and to improve the precision of key estimates. The cost-effectiveness of screening should be re-evaluated using these estimates.

Disclosure of interest statement This study was funded by the Medical Research Council grant G0801947. No pharmaceutical grants were received in the development of this study. PH has received funding from Cepheid directly and indirectly for lecturing on point of care testing and undertaking research on the cost effectiveness of their CT/NG assay. Has also received payment from Atlas Genetics for an article in the Parliamentary Review on the benefits of point of care technology in improving the cost effectiveness of sexual health services. Has also received an honorarium from Hologic for an education talk on STI diagnostics.

O15.6 IMPACT OF THE LNG-IUS ON CERVICAL PERSISTENCE OF *CHLAMYDIA TRACHOMATIS* AND VAGINAL MICROBIOTA IN A BABOON MODEL

[1]ER Liechty, [1]IL Bergin, [2]CM Bassis, [3]D Chai, [4]W LeBar, [2]VB Young, [5]JD Bell*. *[1]University of Michigan, Unit for Laboratory Animal Medicine; [2]University of Michigan, Department of Internal Medicine, Division of Infectious Diseases; [3]Institute for Primate Research; [5]University of Michigan, Department of Obstetrics and Gynecology; [4]University of Michigan, Department of Pathology*

10.1136/sextrans-2015-052270.164

Introduction Alterations in vaginal microbiota associated with intrauterine contraception may impact host susceptibility to sexually transmitted infection. We evaluated the effect of the levonorgestrel intrauterine system (LNG-IUS) on cervical persistence of *Chlamydia trachomatis* (CT) in a baboon model and whether CT persistence was correlated with vaginal microbial community structure.

Methods 20 wild caught female olive baboons (*Papio abubis*) were randomly assigned to receive either LNG-IUS and CT inoculation (n = 8), LNG-IUS and sham inoculum (n = 2), CT inoculation alone (n = 8), or sham inoculation (n = 2). Animals were acclimated to the LNG-IUS for 24 weeks after which animals were cervically inoculated once weekly for 5 weeks. Vaginal swabs were collected weekly for microbiome analysis by 16S rRNA-encoding gene sequence analysis. Presence of CT in the cervical epithelium was confirmed with weekly nucleic acid amplification testing (NAAT) and culture.

Results Use of the LNG-IUS was significantly associated with positive CT culture (p = 0.04) but not NAAT (p = 0.07). Median time to cervical clearance of CT as detected by NAAT was 12.5 days (range 5–16) for LNG-IUS animals in comparison to 7 days (range 3–10) for non-implanted animals (p = 0.14). Similarly, median time to cervical clearance of CT by culture was 12 days (range 5–15) for LNG-IUS animals and 5 days (range 1–10) for non-implanted animals (p = 0.05). We did not detect significant within group differences between vaginal microbial community structure at baseline and following LNG-IUS insertion, CT inoculation, or LNG-IUS and CT in combination.

Conclusions Use of the LNG-IUS was associated with a trend towards cervical persistence of CT in a baboon model. However, this persistence is not explained by alterations in vaginal microbial communities.

Disclosure of interest statement The authors have no disclosures to report.

O16 - HPV vaccination: hits and misses

O16.1 THE RAPID AND NEAR ELIMINATION OF HUMAN PAPILLOMAVIRUS (HPV) TYPE 6, 11, 16 AND 18 AMONG YOUNG HIGH-RISK WOMEN WITHIN THREE YEARS OF THE NATIONAL HPV VACCINATION PROGRAMME IN AUSTRALIA: FINDINGS FROM A 10-YEAR CROSS-SECTIONAL STUDY

[1,2]EPF Chow*, [3,4]JA Danielewski, [1]G Fehler, [3,4,5]SN Tabrizi, [6]MG Law, [1,2]CS Bradshaw, [3,4,5]SM Garland, [1,2]MY Chen, [1,2]CK Fairley. *[1]Melbourne Sexual Health Centre, Alfred Health, Melbourne, Australia; [2]Central Clinical School, Faculty of Medicine, Nursing and Health Sciences, Monash University, Melbourne, VIC, Australia; [3]Department of Microbiology and Infectious Diseases, The Royal Women's Hospital, Parkville, VIC, Australia; [4]Murdoch Childrens Research Institute, Parkville, VIC, Australia; [5]Department of Obstetrics Gynaecology, University of Melbourne, Parkville, VIC, Australia; [6]The Kirby Institute, UNSW Australia, Sydney, NSW, Australia*

10.1136/sextrans-2015-052270.165

Introduction The national quadrivalent human papillomavirus (HPV) vaccination programme was launched in Australia in April 2007. The aim of this study was to explore the proportion of vaccine targeted HPV genotypes contained in the quadrivalent (4vHPV) and the nine-valent (9vHPV) vaccines detected among young women diagnosed with *Chlamydia trachomatis*.

Methods Women ≤25 years attending Melbourne Sexual Health Centre from 1-July-2004 to 30-June-2014 and diagnosed with chlamydia were included in the analysis. Detection of HPV genotypes was performed on stored cervical or high vaginal samples. The proportions of women who had 4vHPV types (6/11/16/18) and the other five types within the 9vHPV grouping (31/33/45/52/58 alone) excluding 4vHPV types were calculated for each Australian financial year and stratified by age and vaccine eligibility. The proportions of HPV types among unvaccinated women in the post-vaccination period were also calculated to assess herd protection.

Results A total of 1,202 women were included in this study. The proportion of samples with 4vHPV types dramatically decreased among Australian-born ≤25 year old females over the 10 year period (6/11 decreased from 16% to 2% [p_{trend} <0.001]; 16/18 decreased from 30% to 4% [p_{trend} <0.001]). In women ≤21 years old, HPV 6/11 remained at zero and HPV16/18 were detected in <5% of samples for all years after 2008/2009. A significant decline in 4vHPV types in unvaccinated Australian-born women was also observed, from 41.3% to 18.5% in the pre- and post-vaccination eligible periods respectively ($p = 0.031$), but no decline was seen in the other five types within the 9vHPV grouping (22.5% vs. 25.9%; $p = 0.805$).

Conclusion Coverage achieved using the 3-dose vaccine was sufficient to largely eradicate 4vHPV types in Australian born women ≤21 years old, within three years of the introduction of the national HPV vaccination program. A strong herd protection was observed among women, with a significant decline in the proportion of 4vHPV in unvaccinated women.

Disclosure of interest statement EPFC has received a conference sponsorship from CSL Biotherapies. CKF has received honoraria from CSL Biotherapies and Merck and research funding from CSL Biotherapies. CKF owns shares in CSL Biotherapies the manufacturer for Gardasil. SNT and SMG are investigators on a national prevalence study of cervical cancer tissue that is receiving unrestricted funding from bioCSL, supplier of HPV vaccine in Australia. SMG has received grant support from CSL and GlaxoSmithKline, and lecture fees from Merck, GSK and Sanofi