gonorrhoea at 2 weeks – adjusted risk difference −6.4% (95% CI −10.4%, −2.4%). Pre-specified sensitivity analyses supported this result. Clearance at the genital site was 98% and 94%, at pharynx 96% and 80% and at rectum 98% and 90%. The frequency of side effects was similar between treatment groups.

Conclusion Gentamicin is not non-inferior to ceftriaxone for the treatment of gonorrhoea.

LB1.6 *NEISSERIA MENINGITIDIS* CARRIAGE AMONG MEN WHO HAVE SEX WITH MEN – NEW YORK CITY, 2016–2017

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Introduction There have been recent U.S. outbreaks of *N. meningitidis* (Nm) serogroup C among men who have sex with men (MSM). From 1/2012-6/2015, 1/3 of U.S. cases in MSM were from New York City (NYC); 65% were HIV+. Little is known about Nm carriage among MSM and potential sexual transmission of Nm.

Methods We conducted a carriage study among a sample of MSM and transgender female patients at 2 NYC sexual health clinics (6/2016-2/2017). Clinicians collected oropharyngeal (OP), rectal, and urethral specimens for Nm culture and STD testing. We matched test results with patient self-administered questionnaire data on antibiotic use, meningococcal vaccine history, and sexual risk behaviours (past 30 days), and data extracted from clinic medical records and the NYC STD registry (past 3 months). We calculated carriage prevalence by serogroup (slide agglutination) and anatomic site; examined Nm-gonorrhoea (GC) co-infection; and assessed associations between patient characteristics and carriage at any site using logistic regression.

Results Of 636 study patients, 146 (23%; 95% CI 20%–26%) were Nm carriers. Serogroup distribution of OP carriage (22.4%; 142/633) was: 59% non-groupable, 37% B, 1.4% C, 0.7% W, 1.4% Y. Of OP Nm carriers, 20 (14%) were OP GC-positive. Urethral (0.5%; 3/626) and anal (1%; 6/626) carriage prevalence were low. Any-site carriage was associated with: kissing (OR 3.2; 95% CI 1.1–9.3), performing oral sex (OR 2.0; 95% CI 1.1–3.6), attending bars/clubs (OR 1.6; 95% CI 1.1–2.6), and antibiotic use (OR 0.2; 95% CI 0.1–0.5); and not associated with HIV status, STD history, or vaccine status. In multivariable analyses, only antibiotic use was associated with carriage.

Conclusion Nm carriage in our large patient sample did not match Nm outbreak patterns (e.g., paucity of serogroup C, no link with HIV). The OP carriage rate was similar to that in prior studies, but with higher serogroup B. Low prevalence of urethral and rectal Nm carriage and lack of association with STD risk factors suggests that sexual transmission of Nm might be uncommon in this population.

LB1.7 AUSTRALIAN NATIONAL SURVEILLANCE OF JUVENILE ONSET RECURRENT RESPIRATORY PAPILLOMATOSIS: DECLINING INCIDENCE POST QUADRIVALENT HPV VACCINATION

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Introduction To estimate and monitor national incidence of Juvenile onset Recurrent Respiratory Papillomatosis (JoRRP) in Australia following the extensive quadrivalent HPV vaccine catch up program (females aged 12–26 years in 2007–2009, which included women of child bearing age) and to assess demographics and risk factors of incident cases.

Methods The Australian Paediatric Surveillance Unit (APSU) undertakes surveillance of rare paediatric diseases by contacting practitioners monthly to report cases. We utilised this well established methodology to undertake prospective population based surveillance of JoRRP by enrolment in APSU of paediatric ENT surgeons, designing a JoRRP case reporting form, and offering clinicians HPV typing of incident cases. Surveillance commenced Oct 2011 and we report here findings for the five-year period to end 2016.

Results Using Australian Bureau of Statistics population estimates for children 0–15 years, the average annual incidence rate over the period was 0.12 per 1 00 000. The largest number of cases was reported in the first year, with a decreasing frequency each year thereafter. The rate declined from 0.3 per 1 00 000 in 2012 to 0.04 per 1 00 000 in 2016. Among incident cases, no mothers had been vaccinated prior to pregnancy, 20% had a past history of genital warts, 60% of cases were male, and 60% were first born. The majority were born by vaginal delivery. Four incident cases were genotyped; all were positive for HPV6 (n=1) or HPV11 (n=3).

Conclusion To our knowledge this is the first report internationally documenting a decline in JoRRP incidence in a population of children following the introduction of a quadrivalent HPV vaccination program.

Support: *I Professor Suzanne Garland, have received Grants to my institution from Commonwealth Department of Health for HPV genoprevalance surveillance post vaccination, Merck and GSK (GlaxoSmithKline) to perform phase 3 clinical vaccine trials: Merck to evaluate HPV in RRP post vaccination programme, CSL for HPV in cervical cancer study, and VCA (Victoria Cancer Agency) for a study on effectiveness of public health HPV vaccine study plus a study on associations of early onset cancers. I have received speaking fees from MSD and SPMSD for work performed in my personal time. Merck paid for travel and accommodation to present at HPV Advisory board meetings.*

Systems Biology and Novel Technologies For Molecular Analysis and Diagnosis

P1.01 EVALUATION OF A NEW HOME-BASED SELF-VAGINAL COLLECTION DEVICE FOR DETECTION OF *CHLAMYDIA TRACHOMATIS* AND *NEISSERIA GONORRHOEAE*

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Introduction Self vaginal sampling is a new collection approach for detection of Sexually Transmitted Infections and is able to guarantee privacy and comfort during the collection. The aim of the study was to evaluate usability, vaginal cells collection efficiency and ability to preserve nucleic acids stability of a new self vaginal flocked swab (FLOQSwab^{TM}, Copan) developed for home collection.

Methods 80 donors (age 18 to 45) performed a double self-vaginal sampling (n=160) using: a certified flocked self-vaginal point of care collection (POC) device as a reference method (Copan); a new home-based self-vaginal flocked swab by following the kit instructions. Patients received a questionnaire to assess the usability of the new device. Home-based and POC self-vaginal swabs have been processed using Xpert CT/NG assay (Cepheid). The threshold cycle value (Ct) of a human genomic target (sample adequacy control), Ct of pathogens (*Chlamydia trachomatis* CT and *Neisseria gonorrhoeae* GC2 and GC4) and extraction and amplification control (*Bacillus globigii* spores) were considered to compare performance between the two devices. To evaluate the stability of the nucleic acids at time 0 and after 4 weeks of storage at +4 ° C and +30 ° C, 54 negative home collected self vaginal flocked samples have been inoculated with a suspension of CT and GC ATCC (VR880-43069) at 1 and 10xLOD of molecular assay.

Results 100% of overall agreement was obtained comparing the results between the two devices: 77/80 negative and 3/80 *Chlamydia trachomatis* positive patients were detected. No failure results have been observed. The survey reported a better appreciated home-based self vaginal collection (80%) with respect to the POC sampling. After 4 weeks of storage at 4°C and at 30°C all 54 spiked samples have been correctly detected.

Conclusion the new home-based self vaginal device has shown the same performance of the reference swab, demonstrating an efficient recovery of vaginal cells, stability of CT and GC nucleic acids up to 4 weeks at 4°C and +30°C and excellent acceptability by women.

P1.02 PRODUCTION OF POLYCLONALS ANTIBODIES AGAINST *GARDNERELLA VAGINALIS*

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Introduction Bacterial Vaginosis (BV) is the most frequent vaginal infection. It is characterised by a decrease in the number of Lactobacilli and an increse of anaerobic bacteria. *Gardnerella vaginalis* is the main etiological agent, this bacteria has multiple virulence factors such as the production of biofilm, sialidase and vaginolysin, which can cause the degradation of cervical mucus, adhesion and lysis of epithelial cells. The production of antibodies against this microorganism will allow understanding their role in the development of BV.

Methods Three New Zealand rabbits were immunised for 8 weeks using as antigen the strain ATCC 14018 of G. vaginalis and the complete and incomplete Freund's adjuvants. The immune response was evaluated at weeks 0, 4th and 7th by indirect ELISA. At the 8th week the rabbits were sacrificed and blood serum was obtained, purification was performed using the Protein A antibody purification kit (Sigma). For the characterisation of the policlonal antibody we perform Indirect ELISA, Dot Blot, Western Blot and inhibition of haemagglutination.

Results Two polyclonal antibodies agains *G. vaginalis* were obtained. The first was obtained from Rabbit 1 (A.ka. Gv1) and the second one is a Pool (Gv2) from the serum of rabbits 2 and 3. Both antibodies recognise the strain ATCC 14018 of *G. vaginalis* at titers greater than 1: 2000 and proteins with molecular weights of approximately 38, 50, 65, 75 and 90 kDa, in addition the antibodies are capable of inhibiting lysis of vaginolysin.

Conclusion The produced antibodies will be use to study the pathogenesis of *Gardnerella vaginalis* during the development of BV.

P1.03 CHARACTERISATION OF IMMUNOGLOBULIN A/G RESPONSES DURING 3 DOSES OF THE HUMAN PAPILLOMAVIRUS-16/18 AS04-ADJUVANTED VACCINE

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Introduction Individuals receiving the human papillomavirus (HPV) vaccine develop high levels of circulating neutralising antibodies. However, data about antibody responses in the cervix are limited.

Methods This study was designed to describe the course of IgA/IgG responses in cervical secretions and in serum after intramuscular administration of the HPV16/18 AS04-adjuvant vaccine. An enzyme linked immunosorbent assay for detection of IgA and IgG anti–HPVVLP was developed for this purpose.

Results Immunoglobulin G seroconversion after the second dose was observed in 100% of the participants and remained 1 month after the third dose. Regarding IgG reactivity in cervical secretions, conversion was observed in 85% of women after the final dose. Immunoglobulin A seroconversion was observed in 76.7% of women after the third dose. Lower levels of IgA were detected in the cervical mucus (28.3%) and decreased to 23.3% after the last dose. Comparing local and systemic IgG responses, positivity in both serum and cervical samples was observed in 85%, whereas in 15% only, the serum was IgG antibody positive. A weak agreement between local and systemic IgA responses was observed. Only 18.3% of participants were local and systemic IgA positive, 58.4% were positive only in serum, 5% were positive only in the