Results 1001 women were included and tested for HPV of whom 584 (58%) were DEIA positive. Of the positive samples 472 (81%) could be typed by LiPA25. HR-HPV types were detected in 303 (30%) of all samples. HPV type 52 was the most prevalent genotype (n = 79; 8%). Of the HR-HPV, 46 (15%) had only HR-HPV types 16 and/or 18, covered by available vaccines. Adjusted for age the following independent associations with HR-HPV were found; ≥ 2 recent partners (OR = 1.5, 95% CI = 1.1–2.2), Chlamydia trachomatis co-infection (OR = 2.3, 95% CI = 1.5–3.5) and ethnic group (OR = 2.1, 95% CI = 1.4–3.1 for Creole; OR = 2.0, 95% CI = 1.2–3.3 for Maroon; OR = 2.8, 95% CI = 1.8–4.4 for Mixed race compared to Hindustani).

Conclusions HR-HPV 52 is the most prevalent type in Suriname and HR-HPV is not equally distributed among ethnic groups. 85% of HR-HPV infections involve types that are not covered by the 2 currently available vaccines against cervical cancer. These data provide a basis for possible shifts in HPV genotype prevalence following vaccination.

P3.051 PRE-VACCINATION PREVALENCE OF INFECTIONS WITH 25 LOW-RISK HUMAN PAPILLOMAVIRUS (HPV) TYPES AMONG 1000 SLOVENIAN WOMEN SCREENED FOR CERVICAL CANCER IN 2010

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Background Our objective was to estimate pre-vaccination prevalence of cervical infections with 25 non-high-risk human papillomavirus (HPV) types, referred to as low-risk HPV (LR-HPV) types, regardless of and without the coexistence of high-risk HPV (HR-HPV) types among Slovenian women 20–64 years old screened for cervical cancer.

Methods 1000 cervical specimens randomly selected from 4455 specimens collected in the Slovenian HPV prevalence survey with a nationally wide coverage in 2010 were tested with Linear Array HPV Genotyping Test.

Results Prevalence of cervical infections with any of the 25 LR-HPV types was 10.0% (95% CI: 8.1%–11.9%) and with exclusively LR-HPV types 4.5% (95% CI: 3.2%–5.8%). Prevalence of infections with any LR-HPV types among women with normal cytology was 8.8%, with atypical squamous cells of undetermined significance (ASC-US) 30.4%, with low grade squamous intraepithelial lesions (LSIL) 60.0%, and with high grade squamous intraepithelial lesions (HSIL) 7.7%. LR-HPV types without coexisting HR-HPV types were found in 4.0% of women with normal cytology, 26.1% with ASC-US, 6.7% with LSIL, and none with HSIL. Infections with exclusively HPV 6 or HPV 11 were not found.

Conclusions LR-HPV type cervical infections without coexisting HR-HPV infections were common among Slovenian women screened for cervical cancer with ASC-US, while rare in those with pathological cytology result. With respect to organised cervical cancer screening programme in Slovenia our results suggest that HR-HPV testing based triage that complements the follow-up cytology in the Slovenian cancer screening programme since 2010, will contribute to some reduction in the Slovenian NCCSP follow-up burden, especially among women with ASC-US and some decrease in related patient anxiety.

P3.052 FREQUENCY OF MULTIPLE HPV GENOTYPES IN WOMEN FROM VOJVODINA, SERBIA

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Background Persistent infection with high-risk (HR) human papillomavirus (HPV) types is necessary for cervical cancer development. The risk is much higher for women infected with multiple genotypes of the human papillomavirus (HPV). The aim of this study was to evaluate the frequency of single and multiple HPV infection in relation to age and results of Pap smear cytology.

Methods From January to December 2012, frequency of HR HPV was analysed among 398 women from Vojvodina. In determination of the presence HPV DNA commercial HR HPV Real-TM kit (Sacace Biotechnologies, Italy) were applied. PCR was performed and products were detected using ABI 7500 Real-Time PCR instrument.

Results The overall prevalence of HPV infection among studied women was 61.3%. Single HPV genotypes were found in 150 (65.3%) and multiple genotypes in 94 (34.7%) of 244 HPV DNA positive samples. The most frequent genotype was HPV 16, followed by HPV 31, 51.52 and 18. Proportion of multiple HPV infection decreased significantly according to age and severity from 48.9% in women under 30 years of age, 39.7% in women from 30 to 40 years of age, 21.3% in women older than 40. Among all women with normal cytology multiple HPV infections were found in (22.4%), (34.9%) among women with ASCUS cytology, (17.0%) in LSIL cytology and (17.9%) in HSIL cytology.

Conclusion In the present study, we observed a very high prevalence of multiple (22.4%) of HPV infection among women with normal cytology and (34.9%) in women with indeterminate Pap test, as ASCUS cytology. Sensitive and specific detection methods, as well as, real-time PCR genotyping HPV are required and helpful for triage of women with ASCUS cytology.

P3.053 IN WHICH CIRCUMSTANCES DOES HPV ENTER PARTNERSHIPS? A DYADIC-LEVEL ANALYSIS

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Background Understanding patterns of human papillomavirus (HPV) infection in partnerships is essential in exploring transmission of HPV in sexual networks. Risk factors for HPV infection have yet to be explored at the dyad level. We studied features that predict presence of HPV in a new sexual partnership.

Methods We analysed data from the HITCH Cohort Study of recently-formed couples. Women aged 18–24 attending university/college in Montreal, Canada and their male partners were recruited in 2006–10. Self-collected vaginal swabs and clinician-obtained swabs from the penis and scrotum were tested for DNA of 36 HPV types. We analysed baseline data from 479 couples. HPV in a partnership was defined as the presence of 1 or more HPV types in either or both partners. We used Poisson regression to calculate prevalence ratios with 95% confidence intervals for candidate risk factors.

Results Most women were unvaccinated (88%). 67% of partnerships harboured HPV. For 49% both partners were HPV+. Detection was associated with the combined total of the male's and female's lifetime partners; from 27.5% among couples who jointly had no more than 4 partners to 94.2% among couples with > 20. Couples reporting concurrent partners were 2.8 times (95% CI 1.7–4.5) more likely to have HPV compared to those with a 12-month gap since the last extra-dyadic partner but this effect disappeared after adjustment for number of partners. Couples who always or frequently used condoms with their previous partner(s) were 29% (95% CI 9–45%) less likely to have HPV after accounting for number of partners and gap length/concurrency.

Conclusions Number of extra-dyadic partners (past or concurrent) predicts the likelihood of HPV in a partnership. Condoms may have some impact on limiting spread of HPV, although protection

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was incomplete. Epidemiologic monitoring of HPV in sexual networks is needed, particularly in populations with suboptimal HPV vaccine coverage.

P3.054 IDENTIFICATION OF HPV VACCINE-GENOTYPES IN A FEMALE STI POPULATION GROUP

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Background and Objectives Women harbouring HPV genotypes are at risk to develop either genital warts or cervical dysplasia as a precursor of cervical carcinoma. Aim of the study was to evaluate the prevalence of HPV vaccine-genotypes in a female population group.

Materials and Methods Data were collected from 4230 female patients between February and July 2012. Material was either delivered or directly sampled and processed at the Outpatients' Centre for Diagnosis of Infectious Venero-Dermatological Diseases Vienna. Clinical diagnosis was assessed by the referring physician. Samples were collected and processed using Cytobrush DNAPAP Cervical Sampler and Papillo Check PCR.

Results Out of 1485 patients with "cervical dysplasia and cervical cancer precursors" (PAP III, IIID, IV and CIN I, II, III) 55.2% showed HPV high-risk positivity. Out of this group 35.6% were positive for HPV 16 and 18. Referring to vaccination cross-immunity HPV 31, 33, 45, and 52 were detected in 14.9%, 7.7%, 2.9% and 6.2% respectively.

In women with diagnosis "cervical dysplasia and cervical cancer precursors" an age-related distribution of different genotypes could be observed. HPV 16 and 18 were more often detected in young women (40%) and decreased with increasing age (24%). In contrast, HPV 45 and 56 were more often identified in older women (11.2% vs. 24%).

In specimens of individuals with genital warts HPV low-risk was detected significantly more often when samples were collected in the Outpatients' Centre than when taken by the referring physician (65.3% vs. 24.8%).

Conclusion HPV high-risk types 16 and 18 were detected especially in the group of young women. It can be considered that vaccination in our young female population would have prevented cervical dysplastic lesions in at least 35.6% of cases. In case of using the quadrivalent vaccine in our study cohort genital warts would have been prevented in 71.2% of cases.

P3.055 HERPES SIMPLEX TYPE 2 (HSV-2) INCIDENCE BY AGE AND SEX OVER FOUR AGE PERIODS TO AGE 38 YEARS IN A BIRTH COHORT

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Background Here we report direct measures of HSV-2 incidence over four age periods to age 38 in the Dunedin Multidisciplinary Health and Development Study, a long-running New Zealand birth cohort.

Methods Information on sexual behaviour and STIs was obtained at ages 21, 26, 32 and 38. Sera were collected at these ages and tested for HSV-2 antibodies using an indirect enzyme-linked immunosorbent assay. Incidence rates for four age periods (< 21, 21–26, 26–32 and 32–38) were calculated and compared by age and sex.

Results The seroprevalence of HSV-2 antibodies at age 38 was 14.0% (63/451) for men and 23.7% (107/451) for women (p = 0.001). The number becoming HSV-2 positive in each age period, and the associated incidence rate per 1000 person-years (95% CIs), are shown below.

The peak period of HSV-2 risk (after adjustment for number of sexual partners) was 21–26 for women, and 26–32 for men. It was significantly higher for women in the period 21–26.

Conclusion In this birth cohort HSV-2 is common, more so in women. The elevated risk for people in their twenties, that peaks later among men, is likely due to increasing prevalence among their partners. However, this did not result in continued increasing incidence into their thirties as would be expected. The most plausible explanation for the drop in incidence is that individuals' infectivity is decreasing with time, so that while prevalence among partners continues to rise, those with HSV-2 will on average have been infected for longer and be less infectious.

Abstract P3.055 Table 1

Incidence of HSV-2 infection per 1,000 person-years for (a) Men and (b) Women			
First coitus to 21	**Age 21–26**	**Age 26–32**	**Age 32–38**
Incidence	**Incidence**	**Incidence**	**Incidence**
(a) 6.8 (3.7, 12.2)	(a) 7.6 (4.6, 12.4)	(a) 14.1 (10.0, 19.9)	(a) 5.1(2.8, 9.2)
(b) 8.6 (5.1, 14.5)	(b) 19.1 (13.9, 26.3)	(b) 15.8 (11.1, 22.4)	(b) 6.8 (4.0, 11.8)

P3.056 PREVALENT HUMAN PAPILLOMAVIRUS IN TANZANIAN ADOLESCENT GIRLS WHO REPORT NOT HAVING PASSED SEXUAL DEBUT

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Objectives The HPV vaccine is recommended for girls prior to sexual debut since it is most effective if administered prior to HPV acquisition. Little research has been conducted in high HPV-prevalence countries regarding HPV infection in girls who report not having passed sexual debut.

We present the HPV prevalence in girls enrolled in a cohort study in Mwanza, Tanzania, who report not having passed sexual debut.

Methods Girls aged 15–16 years who had previously attended 82 randomly selected primary schools were enrolled and underwent a face-to-face interview on socio-demographic variables, sexual behaviour and intra-vaginal practises. A nurse-assisted self-administered vaginal swab was collected. Swabs were tested for 13 high-risk (HR) and 24 low-risk (LR) HPV genotypes using the Roche LINEAR ARRAY® HPV genotype test.

Results Of 1555 female primary school attenders, 1177 (76%) were located, of whom 801 were aged 15 or 16 years. Of these, 628 (78%) consented to eligibility screening and 480 girls who reported not having passed sexual debut were enrolled. B-globin negative results (to ensure sample quality) were excluded (N = 6).

HPV was detected in 40/474 (8.4%; 95% C-I: 5.9–11.0) girls. The most common genotype was HPV42, detected in 9/474 (1.9%; 95% CI: 0.9–3.7). HR genotypes were detected in 5.3% (95% CI: 3.5–7.8). Overall, 50% of girls with HPV had infection with > 1 genotype. In multivariate analysis, only intra-vaginal cleansing (practised by 21.0%) was associated with HPV detection (aOR = 3.16.95% CI: 1.46–6.85)

Conclusion In this cohort of adolescent Tanzanian girls, we found a high HPV prevalence prior to self-reported sexual debut, which was associated with intra-vaginal cleansing. This is likely to reflect under-reporting of sexual activity. However, vaginal HPV could be acquired during vaginal cleansing. Potential HPV transmission

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