Methods We systematically reviewed English-language studies reporting on CT screening programmes in educational settings (school/college/university) published between 2005 and 2011. We classified programmes into groups on the basis of screening strategies and report the median testing rate (number invited/screened) and CT positivity from studies where data were available.

Results We identified 28 studies describing 32 screening programmes in America/Canada (n = 13), Europe (n = 8), Australia/New Zealand (n = 7) and Asia (n = 4). Most targeted both male and female students (71%). Programs were in secondary schools (n = 14), post-secondary schools (n = 16) and both secondary and post-secondary schools (n = 2). Across all programmes, 55369 tests were conducted. The highest testing rates were in programmes involving screening students in class rooms (four programmes), opportunistic screening of students undergoing routine health examinations (six programmes), and opportunistic screening of students visiting school-based health centres for other reasons (six programmes), with median testing rates of 66%, 54% and 46% respectively. Lower testing rates were found in programmes involving screening in other school locations e.g. canteen/study stall (four programmes) with a median testing rate of 30%. The median CT positivity was 4.7% (range:1.3–18.1%); 4.1% in males, 5.8% females.

Conclusion The review demonstrated that education facilities can be used for CT screening. Testing programmes were established in a range of educational facilities, in a variety of countries, and accessed large numbers of males and females. The CT positivity supports educational institutions as a setting to conduct screening. Targeting students in classrooms and opportunistic screening at school clinics and routine health examinations appears to achieve high testing rates in the school setting.

P3.367 SERO-PREVALENCE OF SEXUALLY TRANSMITTED DISEASE (HIV, SYPHILIS, HEPATITIS-B AND HEPATITIS-C) IN VOLUNTEER DONORS OF GAOL INMATES AND STUDENT COMMUNITY IN PUNJAB PROVINCE OF PAKISTAN

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Objective Cohort studies of prisoner and student community volunteer blood donors recruited in 2007–2012 in 30 gaols and 30 educational institutes of Punjab province. In Punjab, there are 32 prisoners gaol that are nearly three times overcrowded with 62500 prisoners (undertrial, convict and condemned prisoners). A number of studies indicate that even in prisons of developed countries prevalence of transmission of sexually transmitted infections and HIV is high.

Methods Ten thousand-5000 each from jail and educational institutes) apparently healthy donors were assessed for the sero-prevalence of human immunodeficiency virus (HIV), hepatitis B virus (HBV), hepatitis C virus (HCV) and syphilis (RPR) using a commercially available Enzyme Linked Immunosorbent Assay (ELISA)-based kit. Information was obtained for risk factors using structured questionnaire.

Results Out of the 5,000 samples screened in each community, 337 (6.74%) in student community and 1424 (28.48%) in prisoner community were sero-positive. Subjects aged 15–45 years recorded 2.20% HBV, 4.12% HCV, 0.42% RPR and no HIV positivity in students while in prisons 5.28% HBV, 12.32% HCV, 0.18% HIV and 10.70% RPR positivity was recorded. Subjects aged 15–25 years are more HBV positive (2.51%) and (7.94%) while subjects aged 25–35 years were more HCV positive (4.88%) and (14.18%) in student and prisoner community respectively. Unfortunately, sero-prevalence rate is high in prisoner community as compared to student community.

Conclusion Overcrowding, poor hygienic and close living conditions stake prisoners at a very high risk for acquisition of sexually

transmitted infections as compare to student community. Public awareness and vaccination programme should be improved in the community on urgent basis.

P3.368 STD CLINIC PATIENTS' PREFERENCES FOR HIV PREVENTION STRATEGIES

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Background More information is needed to understand how the newer HIV prevention methods should be positioned and which mix of prevention methods should be offered and promoted within the at risk populations. This study sought to obtain data about the preferences for effective biomedical interventions by individuals from the diverse ethnic and racial backgrounds that comprise the STD clinic populations in Miami

Methods A cross sectional survey was used to assess knowledge and preference of traditional (condoms) and new biomedical methods to prevent HIV (Circumcision -C-, Pre-exposure prophylaxis -PreP and microbicides -M) in STD clinic patients. After an initial assessment, the study coordinator provided basic simple descriptions of three new methods of HIV prevention by pamphlets and/or recorded video. The relative preference for each of all the prevention strategies was re-assessed information was provided.

Results Thirty five participants are reported in this interim analysis; 55% were female; 58% were African American; 25% were Hispanic and 12% were Haitians. Most of the participants were not aware of the efficacy of C (68%), PreP (77%) or M (79%) in decreasing the risk of acquiring HIV infection. At baseline, participants described as their preferred method to prevent HIV the use of male condoms (77%) and had marginal preference for the newer methods C (3%), M (6%) and PreP (3%). After the information about the new methods was provided, most of the participants reported to be aware of these methods (80%) and although male condoms was still the first choice for most of the participants (46%) a higher percentage of participants preferred M (20%) and PreP (14%).

Conclusions STD clinic patients who participated in this study had very limited knowledge about the new biomedical strategies to prevent HIV infection. A brief informational session can increase their willingness to use the newer HIV preventive strategies.

P3.369 ACCEPTABILITY OF HPV TETRAVALENT VACCINE AMONG MALES ATTENDING THE STD CLINIC OF MILAN - THE IMPORTANCE OF THE COSTS FOR PATIENTS

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Background HPV infection is usually transmitted by sexual contact and represent the most prevalent sexually transmitted infection all over the world. The clinical spectrum of HPV infection varies from the asymptomatic status to benign genital lesions to the development of virus associated tumours. There is no direct antiviral drug for HPV and all available therapies are aimed to the destruction of lesions or to the enhancement of the immune response.

In recent year a vaccine for prevention of infection has been developed and used for the vaccination of young adolescent girls and later of young women. The quadrivalent vaccine directed against HPV types 6, 11, 16 and 18 has shown efficacy on the incidence of genital warts not only in the vaccinated population but also in the male population of comparable age. Further researches

have demonstrated the efficacy of HPV quadrivalent vaccine also for men in preventing external genital warts.

The situation of availability and reimbursability of HPV vaccine is different among countries. In Italy vaccination is free of charge for girls aged 12–14 years and is available at a special prize (about 50€ per shot) for women up to 45. Men should pay the whole some of about 200€ per shot.

Methods We present the result of a questionnaire on the acceptability of Tetravalent vaccine among male population attending the STD Centre of Milan, particularly focused on the price patient could afford for the vaccine

Conclusion Our study demonstrated that the price of the vaccine greatly affect the acceptability. At a social price of 50€ per shot only a low percentage of patient would undergo the vaccination.

P3.370 DAILY ORAL EMTRICITABINE/TENOFOVIR PRE-EXPOSURE PROPHYLAXIS AND PREVENTION OF HSV-2 ACQUISITION AMONG HETEROSEXUAL MEN AND WOMEN

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Background Daily oral and pericoital tenofovir-based antiretroviral pre-exposure prophylaxis (PrEP), reduced risk of HIV-1 acquisition in trials among high risk populations; oral emtricitabine(FTC)/tenofovir (TDF) received a label indication for HIV-1 prevention. Peri-coital dosing of 1% tenofovir gel also reduced the risk of acquisition of herpes simplex virus type 2 (HSV-2), by 51%. Tenofovir has anti-HSV-2 activity *in vitro*, although the EC90 is high. We conducted a randomised, placebo-controlled trial of daily oral TDF and FTC/TDF as PrEP among 4747 HIV-1 uninfected partners in of heterosexual serodiscordant partnerships from Kenya and Uganda (the Partners PrEP Study) and demonstrated FTC/TDF reduced HIV-1 acquisition by 75%. We performed a secondary analysis of HSV-2 acquisition among initially HSV-2 seronegative participants.

Methods We tested archived sera from baseline for HSV-2 by EIA (Focus) and HSV-2 Western blot. Among initially HSV-2 seronegative participants, HSV-2 seroconversion was assessed at the last study visit prior to unblinding the placebo arm in July 2011.

Results 528 participants on FTC/TDF (35%) and 481 participants on placebo (32%) were HSV-2 seronegative at baseline. Eighty-nine post-randomization HSV-2 seroconversions were observed: 37 among those assigned FTC/TDF (incidence 4.4/100 person-years) and 52 among those assigned placebo (incidence 6.6/100 person-years). Compared to placebo, FTC/TDF reduced HSV-2 acquisition by 35% (95% CI 1 to 58, $p = 0.05$). Anti-HSV-2 effects trended towards protection for both men and women. Case-cohort analysis of plasma tenofovir levels to determine efficacy by drug exposure and subgroup analysis by HSV-2 status of the HIV-1 infected partner are underway.

Conclusions Among African heterosexual men and women, daily oral FTC/TDF PrEP modestly reduced the risk of HSV-2 infection in the context of a study population with high adherence and for whom high efficacy against HIV-1 acquisition was demonstrated. Potential protection against HSV-2 in addition to HIV-1 could increase the public health benefits of PrEP.

P3.371 REDUCTION IN HPV PREVALENCE AMONG YOUNG WOMEN FOLLOWING INTRODUCTION OF HPV VACCINE IN THE UNITED STATES AND ESTIMATED VACCINE EFFECTIVENESS

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Background Human papillomavirus (HPV) vaccination was introduced into the adolescent immunisation schedule in the United States in mid 2006. Vaccination is recommended for females at age 11 or 12 years and through age 26 if not previously vaccinated. Estimated 3-dose coverage was 32% among 13–17 year-olds in 2010.

Objectives To compare HPV prevalence among females in the first 4 years of the vaccine era (2007–2010) with the prevaccine era (2003–2006), and to determine vaccine effectiveness (VE).

Methods The National Health and Nutrition Examination Surveys (NHANES) are a series of cross sectional surveys, designed to be nationally representative of the civilian, non-institutionalised US population. HPV prevalence was determined in self-collected cervicovaginal swabs from females aged 14–59 years; 4150 in 2003–2006 and 4253 in 2007–2010. Type-specific HPV prevalence was determined by the Linear Array HPV Genotyping Assay. VE was estimated among sexually active 14–26 year-olds in 2007–2010.

Results Among females aged 14–19 years, vaccine type (VT) HPV prevalence decreased from 11.5% (95% CI = 9.2, 14.4) in 2003–2006 to 5.1% (95% CI = 3.8, 6.6) in 2007–2010; a 56% (95% CI = 37%, 69%) decline.

Prevalence did not differ between the two time periods in other age groups. History of vaccination was associated with lower VT HPV prevalence among sexually active 14–19 years-olds, 3.5% vs. 12.6% (aRR = 0.18; 95% CI, 0.7–0.48, estimated VE = 82%) and among 20–26 year-olds, 12.4% vs 21.3% (aRR = 0.46; 95% CI, 0.22–0.99, estimated VE = 54%). Our sample size was too small to evaluate effectiveness by number of doses.

Conclusions Within 4 years of vaccine introduction, there was a decrease in VT HPV prevalence in a nationally representative sample of females aged 14–19 years. As expected, VE was lower among those vaccinated at older ages. Ongoing monitoring will allow assessment of vaccine impact on prevalence, possible cross protection or type replacement.

P3.372 SYSTEMATIC REVIEW AND META-ANALYSIS OF L1-VLP-BASED HUMAN PAPILLOMAVIRUS VACCINE EFFICACY AGAINST ANOGENITAL PRE-CANCER IN WOMEN WITH EVIDENCE OF PRIOR HPV EXPOSURE

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Background It is unclear whether L1-VLP-based human papillomavirus (HPV) vaccines are efficacious in preventing anogenital pre-cancer in women with prior vaccine-type HPV exposure. Participants in the phase III efficacy trials were not excluded if infected at baseline (HPV-DNA and serology were performed in retrospect); the efficacy in this sub-group of vaccinees can be derived from published reports.

Methods A systematic review and meta-analysis was conducted to compare the efficacy of L1-VLP-based HPV vaccines with control (hepatitis A or placebo). Randomized-controlled trials (including post-RCT follow-on cohort studies) were identified from MEDLINE, Embase, Web of ScienceSM, PubMed, Cochrane (and quoted references). Three vaccines were evaluated: *Cervarix*TM containing HPV-16/18 VLPs (GSK), *Gardasil*[®] containing HPV-6/11/16/18 VLPs (Merck), and an HPV-16 monovalent vaccine (Merck Research Laboratories).

Results Three RCT reports and one post-RCT follow-on study met the eligibility criteria, comprising data from 13,339 women who were included in the vaccine studies but had evidence of HPV