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 prophlyaxis (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 precancer 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 Science℠, PubMed, Cochrane (and quoted references). Three vaccines were evaluated: *Cervarix*™ 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

infection at baseline. Efficacy data were synthesised using a DerSimonian and Laird weighted random-effect model. The mean odds ratio (OR) and 95% confidence interval (CI) for the association between *Cervarix™*, *Gardasil®* and HPV-16 monovalent vaccine and HPV-associated cervical intraepithelial neoplasia grade 3 or worse (CIN3+) was 0·90 (CI: 0·56, 1·44) and for the association between *Gardasil®* and HPV-associated vulval/vaginal intraepithelial neoplasia grades 2–3 (VIN2–3/VaIN2–3) OR 1·20 (CI: 0·07, 20·40).

Conclusion There was no evidence that the HPV vaccines are effective in preventing vaccine-type HPV-associated pre-cancer in women with evidence of prior HPV exposure in this analysis. However, these studies were not designed to investigate the efficacy in this group, so statistical power (sample size, follow-up period and event rate) was insufficient to detect a small effect size. Longer follow-up is also needed to detect possible prevention of re-infection.

P3.373 MALE CIRCUMCISION PREVALENCE, KNOWLEDGE, PERCEPTIONS, AND INTENT AMONG MEN IN BULAWAYO, ZIMBABWE: A CROSS-SECTIONAL STUDY

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Background Zimbabwe has a target to reach 80% voluntary medical male circumcision (VMMC) coverage among HIV-negative 15–29 year-old men by 2015. This is a central strategy in the nation's HIV response. Despite considerable recent investment, uptake has been slower than hoped. A cluster-randomised trial began in 2012 to assess the effectiveness of a sport-based VMMC demand-creation intervention.

Methods At baseline, 663 men aged 18–45 years (median age 24 years) on 47 local soccer teams (both social and professional) in Bulawayo completed a self-administered questionnaire on VMMC-related knowledge, perceptions and intent using touchscreen mobile phones. Linear and logistic regressions were used to assess differences by age, educational attainment, and study group, adjusting for team-level clustering.

Results 141 men (21.0%) reported being circumcised, the majority (80.6%) at a hospital or clinic and 24 (17.0%) within the last three months. Among the uncircumcised men, the majority (90.8%) knew that VMMC reduces HIV risk and thought that getting circumcised was a good idea (89.3%). About half (54.2%) correctly identified at least one local clinic providing VMMC services and 62.6% reported that they were planning to get circumcised. Among uncircumcised men, those with A-level/higher education had better VMMC knowledge (AOR = 3.15, 95% CI = 1.52–6.53), but were less likely to intend to become circumcised (AOR = 0.57, 95% CI = 0.37–0.89). Being circumcised was weakly associated with having A-Level/higher education (AOR = 1.52, 95% CI = 0.95–2.43). No differences were observed between study groups in reported circumcision status, age, education, VMMC knowledge, or VMMC intention.

Conclusion This study provides evidence that VMMC-related knowledge and intentions are high amongst uncircumcised, soccer-playing men in Bulawayo, though VMMC coverage remains far below 80%. Effective demand creation interventions are needed and should ensure uncircumcised men are aware of local sites offering VMMC services. Further research should investigate barriers to VMMC uptake among men in Bulawayo.

P3.374 TREATMENT FAILURE HAS IMPORTANT IMPLICATIONS FOR CHLAMYDIA TRANSMISSION AND THE EFFECTIVENESS OF SCREENING PROGRAMMES

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Background It is generally considered that current treatment regimens for chlamydia treatment are highly effective, achieving a cure rate of around 97%. Some recent studies, however, suggest that treatment failure may occur at a rate that is substantially higher than previously thought.

Methods We use a mathematical transmission model to estimate the population-level impact of treatment failure on chlamydia transmission and on the effectiveness of screening strategies in reducing chlamydia prevalence. We assume treatment failure rates ranging from 3% (baseline) to a maximum of 23% in the context of female-only and female-plus-male screening programmes where between 15% and 50% annual screening coverage is achieved. We examine the impact that increased treatment failure may have on prevalence and on the time and screening coverage required to achieve specific reductions in prevalence.

Results Based on sexual mixing patterns and health-seeking behaviour for young Australians, the model predicts that population prevalence would almost double, from ~4.5% to ~8%, if treatment failure increased from 3% to 23%. To compensate for higher assumed treatment failure, relative increases in screening coverage of between ~4% and ~16% will be required to achieve a reduction of 50% in chlamydia prevalence within 5 years under the treatment failure scenarios evaluated. The time required for screening to deliver equivalent reductions in prevalence as predicted under the baseline treatment failure rate is predicted to increase by between ~6% and ~35% (relatively) if the assumed treatment failure rate is increased to between 8% and 23%, depending on the screening strategy (female-only or female-plus-male) and the duration of screening (5 or 10 years).

Conclusion The rate of treatment failure may have a significant impact on the screening coverage and time required to achieve target reductions in chlamydia prevalence. This should be carefully considered when evaluating the potential effectiveness of proposed screening programmes.

P3.375 EFFECTIVE USE OF MOBILE PHONES IN HIV PREVENTION IN UGANDA

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Background Uganda currently has a population of about 7 million people who own mobile phones.

There is always a challenge of reaching out to big populations of people with HIV prevention services.

Mobile phone usage is sited as one of the effective tools in reducing costs and improving efficiency in reaching out to people who need HIV prevention services.

Program Description The Aids Support Organization (TASO) Uganda Limited, uses mobile phones to follow up their clients on HIV treatment, management and for planning psychosocial support visits to client's family.

Partnerships with Media Telecom companies to send bulk or group SMS massages like reminders of wedding meetings sent to very many different people at the same time and less costs.

Lessons learnt It's cost effective to use mobile phones to reach a big numbers of people in the community for HIV prevention

Conclusion Effective partnership with Telecom companies will improve on reaching out to mobile users in HIV prevention. TASO to continue using mobile phones to improve on their community programmes.