Methods We retrospectively reviewed the clinical records of 20 ocular syphilis patients presenting to Shanghai Clinical Center who completed CSF examination during the period from Jan 2011 to Nov 2012. Chief complaint, demographic data, syphilis serology, HIV serology and CSF examination results were collected. Factors that influenced the abnormal CSF results were explored.

Results The interval between ocular disease onset and the first visit at our hospital ranged from 2 weeks to 20 years (median 4 months). The mean age was 52.4 years, 14 patients were male and 6 were female. All patients tested negative for HIV infection. Median serum TRUST titer was 1:16 (ranged from 1 to 512). 14 (70%) of the 20 patients had abnormal CSF (elevated WBC or protein levels or reactive VDRL results). Of which, 11(55%) had elevated WBC cells, 11 (55%) had elevated protein level, 8 (40%) had reactive VDRL results. Patients with higher serum TRUST titer (≥ 8) were more likely to have an abnormal CSF results.

Conclusion Unlike most of the ocular syphilis reports in recent years, the co-infection of syphilis and HIV was less commonly observed in China. Most (70%) of these HIV-Negative patients had an elevated CSF WBC or protein level even with a moderate serum TRUST titer. Reactive CSF VDRL rate is not very high in our study.

P2.194 QUALITY IMPROVEMENT: COTRIM PROPHYLAXIS IN HIV POSITIVE ADULTS ON ANTIRETROVIRAL TREATMENT

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Background At "Centre de Santé de Cerca-La-Source", a health clinic in rural Haiti, it was remarked that despite best efforts a number of patients with low CD4 counts and on ART have not been given access to cotrimoxazole prophylaxis. This in turn leads to increased vulnerability to opportunistic infections potentially raising the morbidity and mortality rates in the area.

Methods The tools and methodology of Quality Improvement in HIV care were used to quantify the problem. A prospective interventional study was put in place for a 6 month period: Apr-Sept 2012. During the 3 semesters prior, the percentage of patients receiving the prophylaxis was: 47%, 46%, 46% (Oct 2010–Mar 2011, Apr 2011–Sept 2011, and Oct 2011–Mar 2012 respectively). This project aimed to reach 90%. The assigned team through brainstorming techniques and a modified Ishikawa diagram identified causes and two main interventions dubbed: validation and synchronisation.

Results Measurement was taken after full synchronisation between EMR (Electronic Medical Record) with the pharmacy data and patient hardcopy files, all done after each intervention within a period of two weeks past each. From the 1st intervention: an increase of 14.84% of the indicator and after the second increase of 19%, leading finally to 83.23%. Final evaluation of the indicator at the end of the period after continued application of the interventions showed 93.55%, a little over the targeted 90% objective.

Conclusion This lead to greater care in verification of data integrity within our system. Patient care is automatically improved once there is betterment of a system in place to monitor what has been done and what needs to be done. Furthermore, prophylaxis reduces the mortality rate and the probability of ailments that will require hospitalisation of the patients. In a resource limited system, the discordance between EMR and reality can be quite enormous.

P2.195 A CASE SERIES OF TENOFOVIR INDUCED NEPHROTOXICITY

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Introduction Tenofovir (TDF) is a commonly used nucleotide reverse transcriptase inhibitor, effective in the management of

HIV-positive individuals and chronic Hepatitis B infection. We report two cases that highlight the rare but significant nephrotoxic adverse effects of TDF on mitochondrial-rich proximal renal tubular cells, causing acute and chronic kidney impairment. We also show that removal of TDF results in partial improvement of the renal dysfunction.

Case reports The first case describes a patient with long standing HIV who develops Fanconi syndrome, nephrogenic diabetes insipidus, acute tubular necrosis and tubulointerstitial nephritis, three years after TDF initiation. The second case reports a patient who developed acute severe kidney injury, requiring management with emergency haemodialysis, two weeks after TDF was initiated. In both cases renal biopsy showed extensive tubular injury and histology consistent with TDF induced renal injury. Both individuals had improved renal function following TDF cessation, but ongoing chronic kidney disease.

Discussion Nephrotoxicity has been demonstrated in 17–22% of TDF-treated patients and occurs due to TDF accumulation in cell membrane transporters within proximal tubular cells, where it targets the mitochondria. TDF-related nephrotoxicity presents in a number of ways including proximal tubular dysfunction, acute and chronic kidney injury and a partial or complete Fanconi syndrome. Histological findings most commonly show proximal tubular injury. TDF specific histology is related to prominent eosinophilic intracytoplasmic inclusions, representing giant mitochondria.

Conclusion TDF is a popular choice of antiretroviral therapy due to its efficacy, low side effect profile and use in monotherapy regimes. These cases highlight the potentially life-threatening complications of TDF-related nephrotoxicity. It also shows the importance of renal function monitoring and the withdrawal of TDF to prevent chronic renal impairment.

P2.196 COMPARATIVE DETECTION OF CHLAMYDIA TRACHOMATIS IN CLINICAL SPECIMENS OBTAINED FROM GENITAL AND EXTRAGENITAL SITES

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Background Diagnosis of urogenital Chlamydia infection can be a challenging task in some cases due to difficulties in detection of the pathogen at the anatomical sites of humans. The goal of this study was to compare the efficiency of detection of *C. trachomatis* in samples obtained from different anatomical sites of patients.

Methods Clinical specimens from both genital (urethra, cervix) and extragenital sites (pharynx, conjunctive) were collected from patients with either urogenital (Group 1, n = 7) or extragenital Chlamydia infection (Group 2, n = 2). Presence of Chlamydia in these samples was determined by PCR with primers to the *C. trachomatis* cryptic plasmid genes, as well as by commercial direct fluorescent test (DFT) and dot-ELISA.

Results Among Group 1 patients, 85.7% urethral & cervical, 75% conjunctive and 50% pharyngeal samples were positive in PCR. Notably, DNA isolated from specimens of one individual showed negative result to Chlamydia at anatomical site, yet displayed a positive reaction in samples taken from both extragenital sites. Moreover, 100% of samples obtained from all different sites reacted positively in dot-ELISA for each patient. Six out of seven patients were positive for Chlamydia by DFT assay in samples acquired from the genital site (urethral & cervical scrapes). Group 2 patients gave 100% positive response in PCR tests with DNA from genital and at least from one of the extragenital sites.

Conclusions We found that in patients with urogenital Chlamydia infection positive reactions could be detected with high frequency at extragenital sites by both PCR and antibody-based assays. Thus, testing clinical specimens obtained from extragenital sites can facilitate detection of Chlamydia, resulting in a significant increase of the efficiency of laboratory diagnosis of Chlamydia for Public Health.

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P.03 - Epidemiology and Prevention Sciences Track

P3.001 PATTERNS OF RECENT ALCOHOL AND MARIJUANA USE AS PREDICTORS OF CONDOM USE, PREGNANCY AND SEXUALLY TRANSMITTED INFECTIONS DURING 18-MONTHS OF FOLLOW-UP AMONG AFRICAN-AMERICAN FEMALE ADOLESCENTS

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Background Few, if any, studies have differentiated patterns of alcohol and marijuana use as predictors of sexual risk among adolescents. The objective was to compare recent use of alcohol and marijuana (A+M), alcohol only (AO) and marijuana only (MO) as predictors of condom use, pregnancy and sexually transmitted infections (STIs) during 18 months of follow-up among African-American female adolescents.

Methods The analytic sample included 213 African-American females (14–20 years) assigned to the control arm of an HIV prevention trial. Participants completed audio computer-assisted self-interviews at baseline and every 6 months for 18 months. At each assessment, a pregnancy test was conducted and specimens were collected and assayed for *Trichomonas vaginalis*, *Chlamydia trachomatis* and *Neisseria gonorrhoeae* using DNA amplification. Generalized estimating equations compared proportion condom-protected sex acts in the past 3 months, pregnancy and STI acquisition during follow-up among participants who in the 90 days prior to baseline assessment reported using A+M, AO and MO but no other illegal substances. Multivariable models controlled for group differences at baseline and corresponding baseline measure of the outcome.

Results Of 182 (85%) participants with follow-up data, 43% (n = 79) reported recent use of A+M, 39% (n = 71) AO and 17% (n = 32) MO. No group differences in retention or proportion condom-protected sex acts during follow-up were observed. There were no significant differences in STI acquisition or pregnancy among MO and AO users. Relative to AO users, A+M users were more likely to become pregnant (AOR: 2.5, 95% CI: 1.2, 5.3). Relative to MO users, A+M users were more likely to acquire an STI (AOR: 2.5, 95% CI: 1.0, 6.2) and become pregnant (AOR: 3.7, 95% CI: 1.1, 12.3).

Conclusion STI/HIV and pregnancy prevention programmes serving African-American female adolescents may benefit by intensifying services for recent A+M users and addressing the role of substance use on sexual risk.

P3.002 DETECTION OF HUMAN PAPILLOMAVIRUS (HPV) INFECTION IN ANAL SAMPLES IN RUSSIAN MEN WHO HAVE SEX WITH WOMEN (MSW)

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Background HPV has been found in the anal canal of heterosexual men (MSWs) but knowledge on anal HPV epidemiology among MSWs is still limited.

Methods In total, B-globin positive anal samples from 350 Russian MSWs (age 18–58 years, sex debut 9–23 years, 1–700 life-time sex partners) attending a urology unit of a STI clinic and HIV+ patients from a city infection hospital were collected in St. Petersburg. HPV testing and genotyping for 13 oncogenic and 23 non-oncogenic HPV types was conducted with a reference method from the WHO HPV LabNet global reference laboratory, using a proficient Luminex assay.

Results Overall HPV prevalence (including oncogenic and non-oncogenic types) was 17.1%, 15.2% in HIV- compared to 40.7% in HIV+ Russian MSW (p = 0.0022). HPV 16 infection was most common (5.4%) followed by HPV 51 (2.0%), HPV 45, (1.7%) and 87 (1.7%). Age, number of sexual partners, and age at sexual debut were not associated with HPV infection.

Conclusion HPV infection is common in anal samples of Russian MSWs. HPV prevalence is higher among men who were HIV-positive.

P3.003 HETEROSEXUAL ANAL INTERCOURSE AMONG YOUTH: A SYSTEMATIC REVIEW AND METAANALYSIS

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Background Anal intercourse (AI) is a risk factor of HIV/HPV infection and anal cancer. However, heterosexual AI practises are ill-understood. Our objective was to understand the level and heterogeneity in AI among heterosexual youth

Methods We conducted a systematic review and meta-analysis. PubMed was searched for studies reporting heterosexual AI among the general population with a mean age < 25 years published 1975–2012. Meta-analysis and meta-regression were used where appropriate to summarise estimates and test whether continent, survey year, mean age and interview method explained variation in AI prevalence among sexually active and all youth.

Results 110 eligible studies were identified from North America (n = 75), Europe (14), Africa (13), Latin America (4) and Asia (4). Studies of AI prevalence over lifetime (n = 66) and 3 months (n = 16) only are reported here. Both lifetime and three-month AI prevalence estimates were too heterogeneous to pool (I² > 90%).

Lifetime AI prevalence was 0.2%–55.7% and 0.0%–38.8% in sexually active and all youth, respectively. AI among all youth increased significantly (p ≤ 0.05) with mean age. Among sexually active youth, interview method explained 12% and 47% of variation in AI prevalence in male/mixed gender samples, respectively. Higher prevalence was reported using more confidential methods. Lifetime prevalence increased significantly with survey year among all gender groups in Europe, but not elsewhere.

Three-month AI prevalence was 5.1%–52.6% and 1.3%–22.7% in sexually active and all youth, respectively. Among all youth, mean age explained 76% and 80% of variation in female and mixed AI prevalence, respectively. Three-month prevalence increased significantly with survey year in sexually active female samples (all from North America).

Conclusion AI is common among all young heterosexual populations, with prevalence increasing in Europe and possibly among females in North America. It could therefore become an increasingly important determinant of HIV and HPV transmission.

P3.004 STANDARD SYMPTOM- AND SEXUAL HISTORY-BASED TESTING MISSES OVER HALF OF ANORECTAL STD IN WOMEN VISITING THE STD CLINIC

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