

**P3.429 DOES SEXUAL BEHAVIOUR IN MEN WHO HAVE SEX WITH MEN (MSM) CORRELATE WITH THEIR PERCEIVED RISK OF HIV TRANSMISSION?**

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**Background** MSM account for an increasing number of new HIV diagnoses in the UK, with 23% having recently acquired infections. This is largely due to high risk sexual behaviour and lower risk perception. To explore this, we evaluated the sexual behaviour of our MSM cohort and correlated this to their perceived risk of HIV acquisition.

**Methods** HIV negative MSM attending a large sexual health centre were invited to complete an anonymous questionnaire. Information regarding demographics, sexual behaviour in terms of partner number, condom use, type of sexual activity, awareness of partner's HIV status etc was collected. A risk score was calculated and then correlated with their perceived risk of HIV.

**Results** We present preliminary data on 64 MSM. 78% of respondents were White British, 63% aged between 16 and 35 years. 52% of MSM had 2–5 partners, 19% 5–10 and 8% over 10 partners. Only 42% of MSM report consistent use of condoms for receptive anal sex. A large proportion reported using alcohol before sex; only 11% reported drug use. 65% reported unprotected anal sex with 0–1 partners and 32% with between 2–5 partners. Only 15% always discussed HIV status before sex, but more (38%) discussed condom use. Perceived risk of HIV: 34% thought it was low, 59% moderate and only 7% perceived themselves at high risk. Actual risk of HIV: According to the weighted scores 56% had low risk, 42% moderate and 2% high risk of HIV acquisition. Correlation: There is concordance between actual and perceived risk in 55% of respondents. Majority who had low risk perceived themselves as having moderate or high risk of acquisition.

**Conclusion** Evaluating MSM at high risk of HIV acquisition will help identify who would benefit most from behavioural intervention. Full report and statistics will be provided for the conference.

**P3.430\* DOXYCYCLINE PROPHYLAXIS FOR SYPHILIS IN A PERSISTENTLY HIGH RISK HIV INFECTED POPULATION**

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**Background** Syphilis infections increase spread of HIV. This pilot study investigated the feasibility of conducting a large, randomised trial to determine whether prophylactic doxycycline can reduce incident syphilis among HIV+ men who have sex with men having two or more syphilis infections since HIV diagnosis.

**Methods** Thirty subjects from the L.A. Gay & Lesbian Center were randomised to doxycycline 100 mg daily (Doxy) or Contingency Management (CM). Behavioral and biomedical measurements were taken at baseline, 12, 24, 36 and 48 weeks. Binomial Random Effects Logistic Regression Models assessed changes in behavioural measurements and analysed STI contraction at follow-up visits. Fisher Exact Tests compared dropout rates. Given small sample size, an alpha level of 0.1 was chosen.

**Results** Study retention did not differ significantly between groups: 12 and 11 subjects in the Doxy and CM groups, respectively, completed the 48 week study (Fisher Exact p-value = 1.0). On intent-to-treat basis 12 (80%), 11 (73.3%) and 11 (73.3%) subjects had detectable doxycycline levels at 12, 24, and 36 weeks, respectively. New STIs for Doxy vs. CM groups during 9 month on-drug study portion were: syphilis 2 vs. 6, Neisseria gonorrhoea

1 vs. 2, Chlamydia trachomatis 1 vs.3. CM subjects reported more condom use than Doxy subjects (p = 0.09), however CM group subjects had 3.47 greater odds (p-value = 0.037; CI: 1.09 – 11.03) for a new STI compared to Doxy group subjects. Behavioral outcomes for drug use (p = 0.91), anonymous partners (p = 0.45), and number of regular partners (p = 0.14) were not significantly different.

**Conclusion** No safety concerns were associated with daily administration of doxycycline. High retention and drug adherence rates suggest this high risk population will participate in an effectiveness study using doxycycline to reduce syphilis incidence. Efficacy of doxycycline in decreasing incidence of STIs in this pilot study further justifies a definitive study.

**P3.431 IMPACT OF SOCIAL MARKETING TO PROMOTE AWARENESS OF "EARLY" HIV TESTING IN ADDITION TO POOLED NUCLEIC ACID AMPLIFICATION TESTING IN MEN WHO HAVE SEX WITH MEN IN VANCOUVER, BRITISH COLUMBIA**

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**Background** The contribution of acute HIV infection (AHI) to transmission is widely recognised. Increasing AHI diagnosis capacity can enhance HIV prevention through subsequent behaviour change or intervention. We examined the impact of targeted pooled NAAT and social marketing to increase AHI diagnosis among men who have sex with men (MSM) in Vancouver, British Columbia.

**Methods** We implemented pooled NAAT following negative 3<sup>rd</sup> generation EIA testing for males ≥ 19 years in six clinics accessed by MSM, accompanied by two social marketing campaigns developed in partnership with a community-based gay men's health organisation (campaigns emphasised availability of "early" testing for AHI and promoted early testing following potential exposure or new relationship). We compared test volume and diagnosis rates for pre-(April 2006-March 2009) and post-pooling (April 2009-March 2012) periods, and calculated diagnostic rate and yield, RNA copy number, time to results and cost per diagnosis.

**Results** Post-pooling, the AHI diagnosis rate increased from 1.0 to 1.84 per 1,000 tests; quarterly AHI diagnosis rates increased significantly. Of 217 new HIV diagnoses post-pooling, 54 (24.9%) were AHI (25 detected by pooled NAAT only) for an increased diagnostic yield of 11.5%. AHI detected by pooled NAAT had higher median RNA copies ( $7.77 \times 10^5$  copies/mL) and similar time to result (median 7 days) compared to AHI detected through 3<sup>rd</sup> generation EIA ( $4.96 \times 10^5$  copies/mL; median 6 days). The incremental cost per AHI diagnosis through pooled NAAT was \$9,124 CDN.

**Conclusions** Few studies have assessed the contribution of social marketing in enhancing capacity for AHI diagnosis. Our study suggests that targeted implementation of pooled NAAT at clinics accessed by MSM accompanied by local social marketing campaigns is effective at increasing AHI diagnoses, and is likely cost-saving.

**P3.432 TRENDS IN RISK BEHAVIOR AND HIV AND SYPHILIS INFECTION AMONG MSM WHO ATTEND IN STI CLINICS IN GUATEMALA**

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**Background** Men who have sex with men (MSM) have one of the highest HIV prevalence rates of any high risk population in Central America. Since 2007, the Sentinel Surveillance and Control of Sexually Transmitted Infections (VICITS) strategy has been implemented in two public health clinics targeting MSM in Guatemala City. This combination prevention strategy provides diagnosis and treatment of STIs, HIV testing, condom distribution, and educational activities.

**Method** From 2007 to 2012, MSM were recruited through the Internet or by community-based organisation staff to attend two VICITS clinics in Guatemala City. Clinic attendees were asked demographic and behavioural information and tested for HIV and syphilis. Variables included in trend analysis included HIV and syphilis test results and condom use with casual partner in the past month. All analyses were performed using Stata 9.0.

**Results** A total of 433 MSM attended VICITS clinics from 2007 to 2012. HIV prevalence was 10.3% from 2009–2010 ( $n = 117$ , 95% CI: 5.4–17.2) and 11.7% from 2011–2012 ( $n = 179$ , 95% CI: 7.4–17.4). Syphilis prevalence was 6.6% from 2009–2010 ( $n = 106$ , 95% CI: 2.7–13.1) and 5.9% from 2011–2012 ( $n = 153$ , 95% CI: 2.7–10.9). Consistent condom use with a casual partner in the last month was 61.9% ( $n = 56$ , 95% CI: 49.1–74.7) from 2009–2010 and 62.7% ( $n = 72$ , 95% CI: 51.7–73.8) from 2011–2012. No significant changes in attendance from 2007 to 2012 were noted at both clinics.

**Discussion** No changes in HIV and syphilis prevalence among MSM attending VICITS clinics in Guatemala City were observed. Consistent condom use should be emphasised in casual relationships. Routine monitoring of sentinel surveillance data allows for timely feedback of HIV prevention services and provides key information for early HIV diagnosis, as an intervention that has shown evidence of effectiveness programme.

**P3.433 COST-EFFECTIVENESS OF ENHANCED SYPHILIS SCREENING AMONG HIV-POSITIVE MEN WHO HAVE SEX WITH MEN**

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**Background** Syphilis co-infection has increased substantially among HIV-positive men who have sex with men (MSM). Screening rates in this population remain below recommended guidelines for screening frequency. We evaluated the cost-effectiveness of increasing the frequency and coverage of screening to recommended levels in HIV-positive MSM receiving HIV care.

**Methods** We developed a Markov cohort model to evaluate the cost-effectiveness of enhanced syphilis screening in a cohort of HIV-positive MSM with baseline characteristics (including current screening coverage) reflective of men enrolled in an observational cohort study of individuals receiving medical care for HIV in Ontario, Canada. We compared usual care (50% of the population screened annually) to enhanced screening (100% screened every 3 months). Model parameters were from the health literature and the observational cohort database. Both strategies incorporated a treponemal screening test followed by a confirmatory non-treponemal test; test characteristics varied at each stage of syphilis infection. Outcomes were quality-adjusted life years (QALYs), lifetime costs (2011 Canadian dollars), and incremental cost-effectiveness ratios. The model used the perspective of a public health care payer and a lifetime time horizon, with a base case discount rate of 5% applied to future costs and outcomes.

**Results** Compared to usual care, enhanced screening increased quality-adjusted life expectancy by 0.016 QALYs and decreased costs by \$1437 per person. Enhanced screening remained the

preferred strategy when the incidence of syphilis was above 0.5 per 100 person-years. Findings were robust in wide-ranging deterministic sensitivity analyses, including assumptions around reduced adherence to screening recommendations. In probabilistic sensitivity analysis, the probability that enhanced screening was cost-effective exceeded 85%, assuming a willingness-to-pay of up to \$50,000 per QALY.

**Conclusions** Our model suggests that in populations with moderate to high rates of syphilis acquisition, enhanced syphilis screening alongside HIV medical care has the potential to improve health and save costs.

**P3.434 WITHDRAWN BY AUTHOR**

**P3.435 OPT-OUT RECTAL SCREENING FOR CHLAMYDIA AND GONORRHEA IN YOUNG MEN WHO HAVE SEX WITH MEN (YMSM)**

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**Objective** In the United States, almost 20% of new HIV infections in 2010 occurred in young MSM (YMSM) aged 13–24 years old. YMSM also have high rates of other sexually transmitted infections (STIs). STIs can facilitate HIV transmission and acquisition, and indicate unsafe sexual behaviour that might be conducive to HIV transmission. CDC recommends risk-based rectal chlamydia and gonorrhoea screening of MSM who report receptive anal intercourse (RAI), to protect their health and prevent HIV transmission. However, screening rates have been low. Opt-out screening of all YMSM during clinical encounters might be an effective approach to STI screening.

**Methods** We used a cohort decision analysis model to compare two screening algorithms of YMSM aged 18–24 years: (1) risk-based screening of YMSM who report RAI, and (2) screening YMSM unless they opt-out. Based on published data, we assumed that 61% of YMSM disclosed same-sex behaviour to providers and that 67% of YMSM had RAI. Among YMSM who had RAI, 16% underwent risk-based rectal screening for chlamydia and/or gonorrhoea, and the prevalence of infection was 12%. Outcomes included the number of rectal infections identified and number of tests required to identify one infection.

**Results** Among 1000 YMSM, opt-out screening identified 59% of infections versus 16% with risk-based screening. Opt-out screening required 10.4 tests to identify one infection versus 8.4 with risk-based screening. Both screening approaches missed 39% of infections because providers were unaware that patients were MSM.

**Conclusions** Although opt-out screening required two additional tests to identify one case, it identified 3.7 times more infections. Increased diagnosis and treatment of STIs can lead to decreased STI prevalence and HIV transmission, facilitate provider interventions for at-risk youth, and increase patient awareness of the risks associated with unsafe sexual practises. Increased awareness of patients' sexual behaviour among providers is needed to provide optimal care.

**P3.436 IMPROVING STRATEGIES IN IDENTIFYING TRANSGENDER WOMEN CLIENTS TOWARDS DATA DISAGGREGATION IN THE PHILIPPINE INTEGRATED HIV BEHAVIOURAL AND SEROLOGICAL SURVEILLANCE (IHBS)**

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Since 2007, the Philippine Integrated HIV Behavioral and Serological Surveillance (IHBS) still lump the transgender (TG) women population with men having sex with men (MSM), which is a