P1-S6.31 HIV INTERTEST INTERVAL AMONG MSM IN KING COUNTY, WASHINGTON

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[1]D Katz, [2]J Dombrowski, [2]S Buskin, [2]M Golden, [2]J Stekler. *[1]University of Washington, Seattle, USA; [2]Public Health, & King County, Seattle, USA*

Background HIV testing remains one of the most effective HIV prevention interventions because most persons newly diagnosed with HIV alter their behaviours to reduce the risk of transmission to others. We examined temporal trends and correlates of the frequency of HIV testing among men who have sex with men (MSM) in King County, WA.

Methods We evaluated electronic medical records of MSM testing for HIV at the Public Health—Seattle & King County (PHSKC) STD Clinic. The intertest interval (ITI) was defined as the number of days between the last reported HIV test and the current visit. ITIs ≤30 days were not considered to be new tests. Correlates of the ITI were determined using Wilcoxon rank-sum tests, Spearman's correlation coefficients, and median regression.

Results Between 1 January 2003 and 7 December 2010, there were 13 637 HIV testing visits among MSM who reported a prior negative HIV test or did not know their status. These men reported a median ITI of 215 days (range: 31–8536; IQR: 124–409); 10 567 (77%) reported an ITI consistent with at least annual testing (<15 months) and 1693 (12%) reported no HIV test in the last 2 years. The median ITI decreased from 229 days in 2003 to 198 days in 2010 ($p<0.001$). Having sex with men only (vs men and women; $p<0.0001$), ≥10 male sex partners ($p<0.0001$), unprotected anal intercourse with a male partner of unknown or positive HIV status ($p<0.0001$), methamphetamine use ($p=0.018$), and poppers use ($p<0.0001$) in the last year were all associated with shorter ITIs, as were decreasing age ($p<0.0001$) and ever having been diagnosed with syphilis, gonorrhoea, or chlamydial infection ($p<0.0001$). Race, ethnicity, and injection drug use were not associated with ITI. In multivariate analyses, decreasing age, later visit year, sex with men only, ≥10 male sex partners in the last year, and history of bacterial STI remained associated with shorter ITIs ($p<0.001$ for all). The median ITI was longer in the 337 men (2.5%) newly diagnosed with HIV compared to those who tested HIV-negative (279 vs 213 days, respectively; $p<0.0001$).

Conclusions From 2003 to 2010, the median ITI among MSM attending the PHSKC STD Clinic was 215 days, and this has decreased over time. Encouragingly, MSM at highest risk for HIV acquisition have even shorter ITIs, although those newly diagnosed with HIV continue to have longer ITIs. Further efforts are needed to reduce the time that HIV-infected persons are unaware of their status.

P1-S6.32 OPTIMISING CLINICAL SYSTEMS TO INCREASE HIV/STI TESTING IN GAY MEN: THE ETEST PROJECT

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[1]F Drummond, [2]L Lewis, [3]C Bourne, [4]V Ramanathan, [5]J Hocking, [2]H Wand, [1]B Donovan, [1]J Kaldor, [1]R Guy. *[1]University of New South Wales, Australia; [2]National Centre in HIV Epidemiology and Clinical Research, Sydney, Australia; [3]Sydney Sexual Health Centre, Australia; [4]Central Sydney GP Network, Australia; [5]Centre for Women's Health, Gender and Society, Australia*

Background Despite HIV/STI testing rates being high (~60%) on an annual basis in gay men in Australia, the proportion of "high risk" gay men having two or more HIV/STI tests per year, as specified in clinical guidelines, appears quite low (20%). Mathematical modelling predicts that increasing the frequency of HIV/STI testing among gay men with high numbers of sexual partners to 3–6 monthly would effectively stop the HIV and syphilis epidemics over a ten year period. We developed a multi-faceted intervention package based on information technology which aims to increase STI/HIV testing in high-risk men gay men. We describe the process and outcomes of the development stage of the intervention.

Methods The intervention will be conducted over 2 years at 10–15 general practice clinics which see a high case load of gay men. These clinics provide both general healthcare and specialist sexual health and HIV management. All of these clinics utilise different patient management systems. We engaged a software company to develop a program adaptable to multiple clinic systems which aims to increase clinic efficiency and enhance sexual health testing. The process was undertaken over 12-month period in 2010 and involved extensive consultation with clinicians, stakeholders and information technology specialists.

Results The program has now been developed and has four key elements: (i) passive prompts to remind clinicians when the next HIV/STI test is due based on the patient's risk assessment profile, testing guidelines and clinic record of past testing; (ii) SMS-based recalls which are automatically sent to patients when HIV/STI testing is overdue; (iii) a sexual health resource tool bar on the computer desktop of primary care providers to provide partner notification websites, up-to-date education brochures and referral systems that support collaboration between providers; and (iv) a reporting enhancement which allows practice staff to look at their data for the achievement of best practice and data quality targets. Further details of the system and functionality will be provided in the poster.

Conclusion The program is the first clinical intervention we are aware of that addresses a range of important barriers to HIV/STI testing in a single information technology program. The system is currently being rolled out into the 10–15 clinics in Sydney and the impact of this intervention will be assessed by measuring the change in HIV/STI testing rates before-and-after the program. Interviews will also be conducted with clinicians and practice managers before and after the intervention to assess barriers to testing and acceptability and transferability of the intervention.

P1-S6.33 MONITORING CHLAMYDIA TESTING AND POSITIVITY IN THE USA USING DATA FROM A LARGE COMMERCIAL LABORATORY CORPORATION, 2008–2010

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[1]K Hoover, [1]G Tao, [2]M Nye, [2]B Body, [1]C Kent. *[1]CDC, Atlanta, USA; [2]Laboratory Corporation of America, USA*

Background Guidelines recommend chlamydia screening of sexually active young women. Screening rates have increased over the past 10 years, but remain low. Current data used to monitor chlamydia testing trends and positivity rates have limitations, for example, national surveys provide representative data but are cross sectional and use small sample sizes, so longitudinal and subgroup analyses are not possible. To monitor trends more effectively, we solicited chlamydia testing data from commercial laboratories to obtain a representative sample of the US market.

Methods Demographic characteristics of persons tested, their geographic location, assay types, specimen sources, and test positivity by sex, age, and insurance type were assessed for all chlamydia

testing performed by this laboratory corporation during June 2008–July 2010.

Results The dataset contained 3.26 million specimen records. Among those tested, 86.2% were women, 41.0% were aged 15–24 years, 73.5% had commercial insurance, 21.8% had Medicaid insurance, and 56.6% resided in the South. The most frequently used type of chlamydia test was a nucleic acid amplification test (77.5%). Among women, 59.7% of specimens were cervical, 21.1% vaginal, and 18.8% urine. Overall, 4.0% of tests were positive. Positivity rates were highest in persons aged 15–19 years, and higher in men than women for all age groups. Rates also were higher in women with Medicaid insurance than women with private insurance.

Conclusions Systematically collected laboratory data can fill a critical gap in monitoring US chlamydia testing and positivity trends. These data are more representative of the US population by geographic distribution and insurance type than other data sources. The analysis of laboratory testing data might be useful for national surveillance that would not be dependent on provider or health department reporting. Our findings underscore the importance of screening young women for chlamydia, especially adolescents in whom screening rates are low. Men had higher positivity rates probably because they sought treatment for symptoms or were referred by an infected partner. Further analysis is needed to assess if testing of persons older than 25 years was according to guidelines, such as pregnant women, at-risk persons, or symptomatic persons.

P1-S6.34 EVALUATION OF RISK-SCORE ALGORITHMS FOR THE DETECTION OF HIV INFECTION AND SYPHILIS IN NORTH CAROLINA COUNTY JAILS

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[1]L A Sampson, [2]W C Miller, [1]P A Leone. *[1]NC Division of Public Health, Raleigh, USA; [2]University of North Carolina, Chapel Hill, USA*

Background In North Carolina, the funding environment for jail screening has shifted from a syphilis-centred model to one based on integrating HIV and STI testing. We developed and evaluated risk score algorithms for HIV screening with and without the addition of syphilis screening in North Carolina county jails.

Methods This study included 3610 inmates screened for both syphilis and HIV in two North Carolina jails, 2002–2005. We verified reactive syphilis tests against surveillance records to identify new syphilis cases. We created logistic regression models to predict two different outcomes: HIV only and HIV or syphilis. We created risk scores by rounding the β coefficients from the final models. Cut-offs were chosen based on testing 50% of the available inmate population. We calculated the sensitivity and specificity for each of the risk scores for three outcomes: HIV only, syphilis only, HIV or syphilis. Analyses were conducted using Stata.

Results The final model for the HIV-only outcome included sex, age, ever tested for HIV, and race/ethnicity. The lowest scoring individual type would be a heterosexual man, age 18–24, never tested for HIV, with a race/ethnicity in the referent group (total score=0). The highest scoring individual would be MSM, age 25 or older, previously tested for HIV, and of Hispanic or Black non-Hispanic race/ethnicity (total score=6). A risk score cutoff of three or above will lead to screening <50% of the available inmate population. The weighted risk scores from the HIV-only outcome model had better sensitivity for the detection of HIV (82.6, 95% CI 71.2—to 94.0) than the combined-outcome model (65.2 95% CI 50.9—to 79.5). If inmates are selected for screening based on the HIV model, the sensitivity for detection of new syphilis cases is also good (73.3, 95% CI 56.5—to 90.1) and is only slightly inferior to the HIV or syphilis model (80.0 95% CI 64.8—to 95.2).

Conclusions We believe that the screening algorithm will perform well in the county from which the sample was drawn. Generalisation to other communities in the Southern USA with similar demographics and rates of HIV and syphilis is also possible. More generally, we recommend targeting HIV jail screening efforts based on HIV data. In communities with incident syphilis infections, we recommend adding syphilis screening to the HIV protocol.

P1-S6.35 ONE FINGER STICK, TWO TESTS: INTEGRATING SYPHILIS AND HIV RAPID TESTS FOR ANTENATAL CARE AND REPRODUCTIVE HEALTH SERVICES

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M Valderrama, M Chiappe. *Universidad Peruana Cayetano Heredia, Lima, Peru*

Background Mother-to-Child Transmission of HIV and Congenital Syphilis are two important public health problems in many developing countries. In Peru, coverage of syphilis screening is suboptimal, test results can take weeks and a high proportion of women screened are not treated, much less their sex partners. The objective of this study was to demonstrate the feasibility of implementing syphilis and HIV rapid tests at antenatal care and reproductive health services and to measure its effect on coverage of maternal syphilis screening and treatment coverage.

Methods We trained midwives from 16 health centers, to offer syphilis rapid tests (Syphilis 3.0 BioLine) to women 16 to 55 years old receiving antenatal care (ANC) and seen at the delivery or miscarriage services, and to integrate it with HIV rapid tests already in place at the health network, but which were until then done from venous blood by laboratory technicians and with results given in 15 to 30 days.

Results 4497 women were screened, from January to November 2010. Prevalence of syphilis (RPR reactive, TPPA(+)) was 0.9% in ANC, 0.7% in delivery services and 1.9% at the miscarriage services. The prevalence of HIV by rapid test was 0.3%. The overall coverage for syphilis and HIV rapid tests was 93% during the study, compared to the 35% coverage of RPR testing reported for 2009 (Abstract P1-S6.35 figure 1). Previous coverage of HIV testing was not documented. Test results were given to 100% of women within 20 min of finger stick blood collection during the first contact with health providers, compared to a 27 days delay found in 2009. Treatment rates for syphilis also improved from 51% in 2009 to 93% in 2010. Whereas previously there was no system in place for registering partner treatment, our data shows that 59% of partners of positive women received treatment for syphilis during the study period. Key factors in the success of implementation in Callao-Peru; were ongoing training, monitoring, and supervision of health providers who performed the rapid tests.