

other men who have sex with men (MSM). In BC, all syphilis cases and partner notification (PN) are managed centrally. We describe trends in PN outcomes from 2010–2013.

Methods We conducted chart reviews on a random sample ($n = 350$) representing 33% (350/1054) of all IS cases among MSM in BC from 2010–2013. We described trends in number of anonymous and notifiable partners, proportions notified and tested, and test outcomes.

Results The 350 cases (44% primary/secondary, 56% early latent) reported 1942 partners; 1131 (58%, range 46–67%) partners were notifiable. From 2010–2013, the number of partners per case increased (average 5 to 8; 6% to 16% reported ≥ 10 partners). Of the 1131 notifiable partners, 936 (83%) were notified: 638 (56%) by the case, 252 (22%) by a healthcare provider (HCP), and 46 (4%) by other means (e.g., referred to another jurisdiction). From 2010–2013, the proportion of case-notified partners was stable while the proportion of HCP-notified partners decreased (43% to 19%). Of the 936 partners notified, 287 (31%) were known to be tested (21% [133/638] of case-notified and 54% [135/252] of HCP-notified partners). Of these, 62 (22%) partners tested positive and were treated. From 2010–2013, the proportion of partners known to be tested decreased, primarily due to a decrease among case-notified partners (46% to 15%).

Conclusion Overall 83% of notifiable partners were notified. Challenges to PN among MSM in BC include anonymous partners, the increasing number of partners to be notified, and documentation of outcomes for case-notified partners. While self-notification appears to be preferred by many MSM, partner testing may be lower in this group. Strategies to encourage partner testing (whether case or HCP-notified) are needed and may be best focused on MSM with more partners.

Disclosure of interest statement The BC Centre for Disease Control is a provincial public health agency which has a responsibility for surveillance of communicable diseases, including HIV and sexually transmitted infections. No external funding was received for this study. All authors have no conflicts of interest.

P04.07 "SUMMER LOVING": AN ANALYSIS OF SEASONAL DIFFERENCES IN SEXUAL BEHAVIOUR AND SEXUALLY TRANSMISSIBLE INFECTIONS

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Introduction Public health campaigns must be timed to target their audience at times of highest risk. To date no study has correlated seasonal differences in sexual behaviour with those in sexually transmissible infection (STI) positivity; and no seasonal study has been conducted in the southern hemisphere.

Our study aimed to describe seasonal differences in sexual behaviour and correlate this with STI positivity.

Methods This was a cross-sectional study of individuals attending the Melbourne Sexual Health Centre (MSHC) over a 9 year period from 2006–2014 inclusive. We conducted separate analyses for women, men who have sex with men (MSM) and men who have sex with women (MSW). Seasonal patterns of sexual behaviour (partner numbers, condom use and injecting drug use), and STI positivity were examined in all groups. STI with a high symptomatic rate and short incubation period were selected for the analysis: gonorrhoea, primary herpes simplex virus

(HSV) infections, non-gonococcal urethritis (NGU) (men only), and pelvic inflammatory disease (PID) (women only).

Results All groups reported a significantly higher number of partners in summer compared to winter (women $P < 0.001$; MSW $P < 0.001$; MSM $P = 0.004$).

MSW reported less consistent condom use in summer ($P = 0.016$); a similar but non-significant trend was observed in MSM and women.

The urethral gonorrhoea positivity among MSM was significantly higher in summer compared to winter ($P = 0.017$). Similarly, the NGU positivity among MSW was the highest in summer ($P = 0.009$).

In women PID diagnoses climbed over summer to peak in autumn, which then dropped to a low in winter ($P = 0.025$).

The other STIs did not show statistically significant seasonal differences.

Conclusion Our study describes a peak in sexual partner number and STI positivity in summer. This seasonal difference must inform the timing of public health campaigns, as these are likely to be maximally effective in spring and summer.

Disclosure of interest statement None.

P04.08 SEX PARTNER MEETING VENUES AND HIV TRANSMISSION RISK FACTORS AMONG NEWLY DIAGNOSED HIV-INFECTED URBAN MSM: IMPLICATIONS FOR TARGETED CONTROL STRATEGIES

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Background Men who have sex with men (MSM) experience over half of US HIV infections. Control strategies, including identifying venues with ongoing transmission, are needed. Surveillance efforts traditionally focus on place, rather than internet venues and may miss other high risk populations. The objective of this study was to determine if there were significant differences in HIV-transmission related risk factors including viral load by sex partner meeting venue among newly diagnosed HIV-infected MSM.

Methods Public health surveillance data of newly diagnosed MSM between January 2011 and July 2014 ($N = 280$) was utilised. Data included reported past-year sex partner meeting venues and transmission risk factors including viral load collected between October 2012 and July 2014.

Results Eighty-four percent of subjects were Black and 48% were ≤ 24 years-old; 39% reported meeting partners at place only venues (bar/club/park/street), 34% internet only venues (website/mobile-app), and 26% both venue types. Significant differences among the three groups of individuals included differences in reports of sex under the influence of alcohol, numbers of sex partners and chlamydia co-infection at time of HIV diagnosis; individuals reporting both venue types had higher reports in all three characteristics compared to individuals reporting place only and venue only. Individuals reporting both venue types had significantly lower geometric mean viral load (copies/

mL) at diagnosis (2,574) than those reporting internet (6,275) or place (11,745) only venues.

Conclusions MSM meeting sex partners at both venue types may be at greater risk for HIV transmission based on number of sex partners, sex under influence of alcohol, and chlamydia infection. Lower viral load may suggest later diagnosis which increases transmission risk. Exploring this population may improve control strategies.

P04.09 ASSOCIATION OF GENDER OF SEXUAL PARTNERS WITH WOMEN'S SEXUALLY TRANSMITTED INFECTION RISK

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Background Previous data suggest that women who have sex with women and men (WSWM) have the highest STI risk compared to other female sexual behaviour groups. We compared risk behaviours and STI rates among women who have sex with women (WSW), WSWM, women with a single male partner (WSM), and women with multiple male partners. We hypothesised a continuum of STI risk with WSW having the lowest risk, followed by WSM with one partner, WSM with multiple partners, and WSWM.

Methods A secondary analysis of data from two studies of African American women evaluated at a Birmingham, Alabama STD clinic was performed. One study included exclusive WSW (n = 78) and WSWM (n = 85) during the preceding year while the other evaluated WSM (n = 91 with one male partner and n = 78 with multiple male partners) during this timeframe. All participants completed a questionnaire and were tested for STIs.

Results Groups did not differ by education, employment status, or recent alcohol/drug use. WSWM and WSM with multiple partners were more likely to report prior incarceration, transactional sex, and new/casual partner (s) within the past month. Rates of chlamydia and gonorrhoea were significantly different across groups with WSM more likely to have chlamydia and WSWM and WSM more likely to have gonorrhoea. In contrast, WSW and WSWM were more likely to have trichomoniasis than WSM. With the exception of WSW (25%), HSV-2 seroprevalence was high (>50%) among all groups. WSWM and WSM with multiple partners were more likely to report condom use at their last sexual encounter than WSM with single male partners and WSW.

Conclusion Among women attending an STD clinic, STIs were common in all groups however prevalence appears to vary in association with partner gender and number. Even in STD clinics, partner gender and number are important factors to consider in sexual health counselling.

Disclosure of interest statement Funding for original research was received from a Development Award from the American Sexually Transmitted Disease Association. No pharmaceutical grants were received in the development of this study.

P04.10 THE LINK BETWEEN POPULATION SEXUAL BEHAVIOUR AND HIV PREVALENCE IN SUB-SAHARAN AFRICA

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Introduction The patterns of sexual partnering and structure of sexual networks should shape HIV transmission in human populations. We examined the empirical association between population casual-sex behaviour and HIV prevalence, and the empirical associations between different measures of casual-sex behaviour.

Methods An ecologic study design was applied to the nationally-representative data of the Demographic and Health Surveys in 25 countries in sub-Saharan Africa. Spearman rank correlation was used to assess the association between HIV prevalence and means and variances of the number of casual-sex partners. Spearman rank correlation was also used to assess the associations between the different means, different variances, and means and variances of the number of casual-sex partners.

Results Correlations between HIV prevalence and means and variances of the number of casual-sex partners were positive, but small and statistically insignificant. The majority of correlations across means and variances of the number of casual-sex partners were positive, large, and statistically significant. However, all correlations between the means, as well as variances, and the variance of unmarried females were weak and statistically insignificant. Population casual-sex behaviour was not predictive of HIV prevalence across these African countries. Nevertheless, the strong correlations across means and variances suggest that self-reported sexual data are self-consistent and may convey credible information.

Conclusion Self-reported population sexual behaviour was not found predictive of HIV prevalence, but appears inherently self-consistent and with valid information content. Unmarried female behaviour seems puzzling, but could be playing an influential role in HIV transmission patterns.

Disclosure of interest statement No pharmaceutical grants were received in the development of this study.

P04.11 ESTIMATION OF NON-CO-HABITING SEX PARTNERING IN SUB-SAHARAN AFRICA

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Introduction Understanding the patterns of sexual partnering and structure of sexual networks is essential for understanding the epidemiological dynamics of sexually transmitted infections (STI) in human populations. This study aimed to develop an analytical understanding of non-cohabiting sex partnering in sub-Saharan Africa (SSA) by utilising nationally-representative sexual behaviour data.

Methods A non-homogenous Poisson stochastic process model was used to describe the dynamics of non-cohabiting sex. The model was applied to 25 countries in SSA and was fitted to Demographic and Health Survey (DHS) data. The country-specific means and variances of the distributions of number of non-cohabiting partners were estimated.

Results The model showed robust fits to the empirical distributions stratified by country, marital status and sex. The median across all country-specific means was highest for unmarried males at 0.574 non-cohabiting partners over the last 12 months, followed by that of unmarried females at 0.337, married males at 0.192, and married females at 0.038. The median of variances was highest for unmarried males at 0.127, followed by married males at 0.057, unmarried females at 0.003, and married females at 0.000. The largest variability in means across countries was