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**

HS Harbison*, EL Austin, EW Hook, CM Muzny. *Division of Infectious Diseases, University of Alabama at Birmingham*

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**

[1,2,3]R Omori*, [2,3,4]L Abu-Raddad. *[1]Hokkaido University; [2]Weill Cornell Medical College – Qatar; [3]Weill Cornell Medical College; [4]Fred Hutchinson Cancer Research Center*

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-COHABITING SEX PARTNERING IN SUB-SAHARAN AFRICA**

[1,2,3]R Omori*, [2]H Chemaitelly, [2,3,4]L Abu-Raddad. *[1]Hokkaido University; [2]Weill Cornell Medical College – Qatar; [3]Weill Cornell Medical College; [4]Fred Hutchinson Cancer Research Center*

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