P509 USE OF INTERNET/MOBILE DATING APPS TO FIND SEX PARTNERS AMONG A NATIONALLY REPRESENTATIVE SAMPLE OF MEN WHO HAVE SEX WITH MEN

[1]Rachel Kachur*, [2]Casey Copen, [3]Frank Strona, [4]Bruce Furness, [5]Kyle Bernstein, [2]Matthew Hogben. [1]Centers for Disease Control and Prevention, Division of STD Prevention, Brookhaven, USA; [2]Centers for Disease Control and Prevention, Division of STD Prevention, Atlanta, USA; [3]Centers for Disease Control and Prevention, Division of STD Prevention, San Francisco, USA; [4]Centers for Disease Control and Prevention, Division of STD Prevention, Washington DC, USA; [5]Centers for Disease Control and Prevention, Atlanta, USA

Background Associations between online sex seeking and increased risk for STDs and HIV among men who have sex with men (MSM) typically rely on convenience samples. We examined the prevalence of internet and mobile app use for finding sex partners among a nationally representative sample of MSM.

Methods We analyzed 2011–2017 data from the National Survey of Family Growth, a nationally representative sample of the civilian, non-institutionalized US population (15–44 years). The analytic sample was comprised of males who reported one or more same-sex partners in the past year. We also assessed associations between online sex-seeking and STD risk, sexual health service use, and condom use.

Results Of 13,320 male respondents, 442 (3.0%) reported sex with a man in the past year, of whom 227 (53.7%) had met a partner online. Between MSM who met partners online and those who did not, we found no differences by age, education, race/ethnicity or socioeconomic status. MSM with online partners were more likely to identify as gay (69.5% vs 49.4%, p <0.02). They also reported more sex partners overall (M = 3.1 versus 1.6, p <0.0001), and more insertive (33.1% versus 15.4%, p <0.006) and receptive (46.3% versus 8.5%, p <0.0001) anal sex partners, in the past year. They were also more likely to receive sexual risk assessments (56.0% versus 40.4%, p <0.02), STD testing (57.4% versus 35.3%, p =0.0002) and STD treatment (17.8% versus 8.7%, p <0.02) in the past year. We found no differences in condom use.

Conclusion MSM who report using online sources to find sex partners are more likely than other MSM to report behaviors that increase risk for STD/HIV, but are also more likely to engage in behaviors that may mitigate risk, such as STD testing.

Disclosure No significant relationships.

P510 CHEMSEX AMONG MEN WHO HAVE SEX WITH MEN IN A MIXED URBAN-NON-URBAN AREA AND ASSOCIATIONS WITH SEXUALLY TRANSMITTED INFECTIONS

Ymke Evers, Geneviève Van Liere, Christian Hoebe*, Nicole Dukers-Muijrers. Public Health Service South Limburg, Maastricht University Medical Center (MUMC), Sexual Health, Infectious Diseases and Environmental Health, Medical Microbiology, Care and Public Health Research Institute (CAPHRI), Heerlen, Netherlands

Background The intentional use of drugs to have sex – chemsex – among men who have sex with men might contribute to the high STI prevalence in this group. Limited data is available on chemsex outside major cities in Europe. The current study investigated the use of a wide variety of drugs during sex in a mixed urban-non-urban area in the Netherlands and their associations with STI.

Methods At two Dutch STI clinics, 350 MSM were recruited and 250 MSM completed an online questionnaire in 2018. Questionnaire data were linked to clients' most recent STI laboratory test results. Chemsex was defined as using cocaine, crystal meth, designer drugs, GHB/GBL, ketamine, speed, or XTC/MDMA during sex in the preceding six months. The use of other drugs was also assessed. Determinants (any drug use, chemsex, specific drugs, number of drugs, combining, and frequency) potentially associated with STI were assessed using multivariable logistic regression analyses adjusting for sociodemographic characteristics and sexual history.

Results Chemsex was reported by 35% (95%CI: 29–41) of the 250 participants. XTC/MDMA (27%; 68/250) and GHB/GBL (26%; 64/250) were the most used drugs. STI positivity was 33% (29/87) in MSM engaging in chemsex and 12% (12/163) in MSM not engaging in chemsex (p<0.001). Half of MSM engaging in chemsex (45/87) used three of more different chemsex drugs; STI positivity in this group was 44% (20/45). The only factor independently associated with STI was the use of three or more chemsex drugs (aOR: 4.13, 95% CI:1.77–9.62).

Conclusion This study shows that chemsex is prevalent among MSM visiting the STI clinic outside major cities in the Netherlands, suggesting that health services in both urban and non-urban areas should be aware of and informed on chemsex. MSM who used multiple drugs are at particular risk for STI, indicating a special need for STI prevention and care in this group.

Disclosure No significant relationships.

P511 SURVEILLANCE OF LYMPHOGRANULOMA VENEREUM AMONG MEN WHO HAVE SEX WITH MEN ATTENDING STI CLINICS IN ALBERTA, CANADA, 2018

[1]Jennifer Gratrix, [1]John Niruban, [2]Alberto Severini, [2]Jennifer Beirnes, [3]Prenilla Naidu, [4]Angel Chu, [5]Ameeta Singh, [1]Petra Smyczek*. [1]Alberta Health Services, Centralized STI Services, Edmonton, Canada; [2]Public Health Agency of Canada, National Microbiology Laboratory, Winnipeg, Canada; [3]Provincial Laboratory for Public Health, Edmonton, Canada; [4]Alberta Health Services, Calgary STI Clinic, Calgary, Canada; [5]University of Alberta, Internal Medicine, Edmonton, Canada

Background Lymphogranuloma venereum (LGV) is a sexually transmitted infection (STI) caused by *Chlamydia trachomatis* (CT) biovars L1-3, which has been increasingly reported among men who have sex with men (MSM). Our study aimed to establish a surveillance system among MSM attending STI clinics in Alberta, Canada to determine prevalence and characteristics of cases.

Methods CT NAAT (Genprobe Aptima COMBO 2® Assay) positive specimens from all anatomical sites among MSM attending three STI clinics between May to November 2018 had real-time PCR and DNA sequencing for LGV. Demographic, clinical, and sexual behaviours of cases were extracted from the provincial reporting database. Clinic-stratified analysis was performed to identify differences in sample characteristics using Chi-square or Fisher's exact test.

Results A total of 340 specimens from 299 CT cases were tested for LGV. CT cases were reported from Calgary (52.8%; n=158), Edmonton (46.2%; n=138), and Fort McMurray (1.0%; n=3). There were no significant differences in

ethnicity, sexual partner type, anonymous partners, sex outside Alberta, or symptoms; however, cases from Calgary were significantly older than cases from Edmonton (median age: 34 years, IQR: 28–42 vs 29 years, IQR: 25–36, p=0.001) and more cases were co-infected with HIV (20.5% vs 10.0%; p=0.008). Anatomical site was similarly distributed between clinics with specimens from the rectum (61.2%; n=208), urine (26.2%; n=96) and pharynx (10.6%; n=36). LGV sequencing was feasible on 336 specimens. The LGV positivity rate was 1.2% (n=4; 95% CI 0.2–2.4); three rectal LGV cases (1 asymptomatic) and one asymptomatic pharyngeal LGV case were detected, of which two were HIV-positive.

Conclusion LGV was rare in our MSM population; however, one pharyngeal and one asymptomatic case were found. If untreated, these cases could serve as a reservoir and play an important role in transmission.

Disclosure No significant relationships.

QUANTIFYING SEXUAL MIXING BY HIV STATUS AND PRE-EXPOSURE PROPHYLAXIS (PREP) USE AMONG MEN WHO HAVE SEX (MSM) WITH MEN

[1]Linwei Wang, [1]Nasheed Moqueet, [2]Gilles Lambert, [3]Daniel Grace, [4]Ricky Rodrigues, [5]Joseph Cox, [6]Nathan Lachowsky, [4]Syed Noor, [7]Heather Armstrong, [1]Darrell Tan, [1]Ann Burchell, [1]Huiting Ma, [1]Jesse Knight*, [8]Stefan Baral, [4]Trevor Hart, [9]David Moore, [10]Sharmistha Mishra. [1]Li Ka Shing Knowledge Institute, St. Michael's Hospital, Centre for Urban Health Solutions, Toronto, Canada; [2]National Institute of Public Health of Quebec, Montreal, Canada; [3]University of Toronto, Dalla Lana School of Public Health, Toronto, Canada; [4]Ryerson University, Toronto, Canada; [5]McGill University, Montreal, Canada; [6]University of Victoria, School of Public Health and Social Policy, Victoria, Canada; [7]University of British Columbia, Vancouver, Canada; [8]Johns Hopkins University, Baltimore, USA; [9]BC Centre for Excellence in HIV/AIDS, Vancouver, Canada; [10]St. Michael's Hospital, Centre for Urban Health Solutions, Toronto, Canada

Background Existing measures of preferential partner selection do not account for attribute-concordance by chance. We quantified network-level sexual mixing by HIV status and PrEP use using a balancing partnership approach.

Methods Data were from *Engage*, a cross-sectional survey of MSM ≥ 16 year-old in three Canadian cities (2017–2018). MSM with ≥ 1 anal/oral sex partners in the past six months (P6M) reported their own and partners' HIV status and PrEP use. After stratifying by respondents' HIV status (positive/negative/unknown) and P6M PrEP use (yes/no), we compared observed seroconcordance to that expected by chance among P6M-partnerships with known-status. Within HIV negative-concordant recent partnerships, we compared observed concordance in PrEP use at last sex to chance. Concordance by chance is calculated under proportionate-mixing assumption, which means the distribution of partnerships by partners' attributes equals that by respondents' attributes as a result of partnership balancing. We used chi-squared tests for all comparisons.

Results Of the 22,102 P6M-partnerships reported by 1881 respondents (17.0%, 74.5% and 8.5% HIV-positive, negative and unknown, respectively), 60.2% comprised partners' of known-status. 64.3% of HIV-positive respondents' partnerships were HIV-positive (vs chance 24.6%, p<0.001). HIV-negative or status-unknown respondents had higher proportions of HIV-negative partners (87.0% and 87.5%, respectively, vs chance 75.4%, p<0.001). HIV-negative respondents on PrEP had a higher proportion of HIV-positive partners than those not on PrEP (20.6% vs 8.4%; p<0.001). HIV-negative respondents on PrEP had a higher proportion of HIV-negative partners on PrEP (55.8% vs 34.7%); those not on PrEP had a higher proportion of HIV-negative partners not on PrEP (78.6% vs 65.3%), than chance (p<0.001).

Conclusion Network-level serosorting and PrEP matching were evident after accounting for distribution of partnerships by chance. PrEP-mediated changes to mixing, such as less serosorting among MSM on PrEP, may indirectly influence the population-level HIV prevention impact of PrEP and should be included in the monitoring and evaluation of PrEP roll-out.

Disclosure No significant relationships.

CONVECTION MIXING AND THE SOCIAL GEOGRAPHY OF PARTNER SELECTION AMONG SEXUAL MINORITY MEN IN TORONTO, CANADA

[1]Dionne Gesink*, [2]Travis Salway, [3]Lauren Kimura, [4]James Connell, [5]Michael Widener, [6]Olivier Ferlatte. [1]University of Toronto, Dalla Lana School of Public Health, Toronto, Canada; [2]BC Centre for Disease Control, Vancouver, Canada; [3]University of Toronto, Dalla Lana School of Public Health, Toronto, Canada; [4]University of British Columbia, School of Population and Public Health, Vancouver, Canada; [5]University of Toronto, Geography, Toronto, Canada; [6]BC Centre for Substance Use, Vancouver, Canada

Background The geographic distribution of sexually transmitted infections (STI) reflects the underlying social process of sexual partner selection. Our purpose was to explore the social geography of sexual partner selection among sexual minority men and use the results to develop a mid-level theory of urban-non-urban mixing patterns between sexual partners.

Methods This integrated mixed methods study involved in-depth interviews with 31 sexual minority men who lived, worked, or socialized in Toronto, Canada, during June and July 2016. We asked participants to describe how they found sexual partners and to reconstruct their egocentric sexual networks for the previous three months. Interviews were conducted iteratively and until theoretical saturation. A social constructionist approach to grounded theory was used to analyze the qualitative data. Egocentric maps were analyzed to determine and describe movement and mixing patterns between sexual partners.

Results Geography influenced the social process of partner selection in three important ways: (1) participants expressed a desire to travel the shortest distance possible to meet or hook up with partners ("geographic proximity"); (2) the density of sexual minority men in a participant's community directly impacted participants social and sexual isolation, and thus how often they had sex ("degree of geosexual isolation"); and 3) geosexual isolation directly impacted the distance a participant was willing to search, and travel, to meet or hook up with partners, thus influencing the sexual mixing pattern ("convection mixing"). The geography of partner selection was also impacted by changes in sexual minority men use of space ("changing use of space").