differences in sexual behaviour and the extent to which MSM engage with gay communities.

Methods We harmonised individual participant data (IPD) of 155,205 MSM not previously diagnosed with HIV (heterosexual-MSM: 900; bisexual-MSM: 20,409; gay-MSM: 133,896) from four cross-sectional behavioural surveys conducted in Western Europe (2010; n=94,294), Australia (2010–2017; n=46,965), New Zealand (2008, 2011, 2014; n=7,673), and Canada (2015; n=6,273). We conducted IPD meta-analysis using multilevel modified Poisson regression to calculate adjusted prevalence ratios (APRs) comparing heterosexual-MSM and bisexual-MSM with gay-MSM for reporting HIV testing (past year), stratified by reporting of behavioural indicators for more frequent testing (i.e., reporting condomless anal intercourse with non-steady partner(s) and/or >10 male partners in past year). We then examined the impact of gay community engagement.

Results Overall, testing was more common among gay-MSM (52.4%) than bisexual-MSM (38.5%, APR=0.75 (95%-CI:0.70–0.80)) and heterosexual-MSM (29.6%, APR=0.60 (95%-CI:0.51–0.71)). More gay- and bisexual-MSM reported behavioural indicators for testing than heterosexual-MSM (45.8% and 43.3% vs 36.3%, respectively) but this did not explain testing disparities, with similar differences in testing observed when focusing on these 'higher risk' groups (gay-MSM: 61.7%; bisexual-MSM: 44.9%, APR=0.76 (95% CI:0.72–0.80); heterosexual-MSM: 35.9%, APR=0.66 (95% CI:0.55–0.78)). Gay community engagement was associated with an increased testing likelihood of up to 104% among heterosexual-MSM and 57% among bisexual-MSM.

Conclusion Differences in sexual behaviour do not fully explain testing disparities by sexual identity among MSM. In contrast, greater engagement with gay communities is linked to increased testing likelihood regardless of sexual identity. Capitalising on this knowledge for MSM whose lives do not intersect these communities is likely to be challenging, however further investigation is warranted.

014.2 PERSISTENT RACIAL AND ETHNIC DISPARITIES AMID DECLINING HIV INCIDENCE AMONG MEN WHO HAVE SEX WITH MEN, NEW YORK CITY, 2010–2018

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Background Despite declining HIV rates among men-who-have-sex-with-men (MSM) in the United States, certain subgroups continue to have disproportionately higher risk of acquiring HIV. MSM attending sexual health clinics (SHC) that provide comprehensive HIV prevention interventions (e.g., pre- and post-exposure prophylaxis) can serve as sentinel populations for tracking the epidemic.

Methods We matched eight annual cohorts of MSM with negative HIV-1 nucleic acid amplification tests at New York City SHCs (2010–2017) to the citywide HIV surveillance registry. We measured HIV incidence for each cohort by examining diagnoses within one year after last negative test. Among MSM who seroconverted, person-time was measured between SHC test date and HIV diagnosis date; other MSM were censored at 365 days of follow-up. We calculated: 1) annual incidence rates by race/ethnicity, age (<30 vs ≥30 years), and

recent STI diagnosis in SHC (chlamydia/gonorrhea/early syphilis in 3 months before SHC visit), 2) incidence trends (Cochrane-Armitage test p-values), and 3) age and race/ethnicity-specific incidence rate ratios for early (2010–2011) vs later (2016–2017) periods.

Results HIV incidence declined overall, from 2.8/100 person-years in 2010 (64 diagnoses/2,272 person-years) to 1.1/100 in 2017 (61 diagnoses/5,348 person-years) ($p<0.001$), and across all race/ethnicity, age, and STI subgroups. Incidence decreased among White MSM in both age groups but did not significantly change over time among older MSM of color. While incidence decreased over time among younger White MSM ($p<0.001$), younger Black MSM ($p=0.004$), and younger Latino MSM ($p=0.011$), the rate ratio for younger Black vs White MSM increased between early and later time periods, from 4.4 (95% CI, 2.5–8.0) to 8.3 (95% CI, 3.9–20.1).

Conclusions We observed promising decreases in overall HIV incidence among a key at-risk population. However, racial/ethnic disparities were exacerbated over time, highlighting the need to eliminate inequities by addressing persistent barriers to HIV biomedical prevention strategies for MSM of color.

014.3 HIGH INCIDENCE OF ANTIMICROBIAL USE AND OVERUSE IN CISGENDER MEN WHO HAVE SEX WITH MEN AT RISK OF BACTERIAL STIS

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Introduction Antimicrobial use may be driving antimicrobial resistance in bacterial STIs. We determined individual level incidence of antibiotic receipt and empiric antibiotic therapy in cisgender men who have sex with men (MSM) attending a sexual health clinic.

Methods We included all visits by cisgender MSM to the Public Health Seattle-King County Sexual Health Clinic between 2011–2018, using the number of MSM with ≥1 clinic visit annually as the denominator for incidence calculations. We enumerated the number of visits at which azithromycin, doxycycline, a penicillin drug, cephalosporins, fluoroquinolones, or any other systemic antibiotic was prescribed. We calculated the incidence of visits at which ≥1 antibiotic was prescribed and incidence of total distinct antibiotics prescribed; we also examined incidence of empiric therapy for exposure to *Neisseria gonorrhoeae* (NG) and/or *Chlamydia trachomatis* (CT) exposure and the incidence of overtreatment episodes, defined as empiric therapy in those later confirmed to not have either infection.

Results Here were 38,483 clinic visits by MSM, 14,577 (37.9%) of which resulted in ≥1 antibiotic prescribed (incidence rate [IR] 60.8/100 person-years) for a total of 21,472 distinct antibiotics prescribed (IR 89.6/100 person-years). Individual patients received an average of 0.90 distinct antibiotics annually; 8% received 3+ distinct antibiotics. Azithromycin was the most prescribed antibiotic (IR 42.7/100 person-years), followed by cephalosporins (IR 27.0/100 person-years). Empiric therapy for CT/NG was common (IR 13.4/100 person-years), most of which was overtreatment (IR 8.7/100

person-years). Of 12,675 CT/NG treatment episodes, 3,221 (25.4%) were empiric therapy in asymptomatic contacts, of which 2,076 (64.4%) were later confirmed to be negative for both infections.

Conclusions Antibiotic use and overtreatment are high in a population at elevated risk for antibiotic resistant infections; these results should prompt reexamination of indications for empiric antibiotic treatment, particularly among contacts to bacterial STIs, and the effects of empiric STI treatment on antimicrobial resistance.

014.4 ENTERIC AND SEXUALLY ACQUIRED PATHOGENS IN MEN WHO HAVE SEX WITH MEN WITH CLINICAL PROCTITIS

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Background Rectal infections are common in men who have sex with men (MSM) and may increase HIV risk. This study aimed to identify enteric and sexually acquired rectal pathogens, other than chlamydia and gonorrhoea, associated with symptomatic proctitis in MSM.

Methods Anorectal swab samples were obtained from MSM presenting with rectal symptoms and a clinical diagnosis of proctitis at the Melbourne Sexual Health Centre between January-2017 and March-2019. Samples that tested positive for *Neisseria gonorrhoeae* and *Chlamydia trachomatis* were excluded. As a comparison group, anorectal samples were also obtained from MSM not reporting symptoms of proctitis between November-2018 and February-2019. Samples from both groups were tested for 15 viral, bacterial and protozoal enteric pathogens including *Shigella* spp., *Treponema pallidum*, *Mycoplasma genitalium* and herpes simplex virus (HSV) using PCR.

Results Anorectal samples from 499 men with symptomatic proctitis and 506 asymptomatic men were analysed. Age, HIV status and PrEP use did not differ between men with proctitis and asymptomatic men. Among men with proctitis, 38% were HIV negative and taking HIV PrEP and 16% were HIV-positive. *T. pallidum* was more common in men with proctitis compared to asymptomatic men (3.6% vs 0%, risk difference [RD]=3.6%, 95%CI:2.0–5.2%). Most men with anorectal *T. pallidum* presented with painful anal primary infections. *Shigella* spp. was more common in men with proctitis (2.8% vs 1.0%, RD=1.8%, 95%CI:0.1–3.5%). Most men with *Shigella* did not report diarrhoea. *M. genitalium* was more common in men with proctitis (9.4% vs 5.1%, RD=4.3%, 95%CI:1.1–7.5%). HSV-1 (12.6% vs 2.6%, RD=10.1%; 95%CI:6.8–13.3%) and HSV-2 (8.8% vs 1.6%, RD=7.2%; 95%CI:4.5–10.0%) were more common in men with proctitis.

Conclusion Testing for *Shigella* and *T. pallidum* should be considered in MSM presenting with symptomatic proctitis. These data provide support for *M. genitalium* as a significant cause of proctitis.

014.5 TRAUMA AND CHEMSEX AS COPING AMONG GAY, BISEXUAL AND OTHER MEN WHO HAVE SEX WITH MEN IN SINGAPORE

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Background Sexualised substance use, or ‘chemsex’, has been identified as a major risk factor for HIV, as well as other mental health comorbidities among gay, bisexual and other men who have sex with men (GBMSM). While multiple studies have been conducted on the topic, few have explored the role of trauma as a risk factor for chemsex. This qualitative study investigates life histories of trauma, and proposes a biopsychosocial framework to better situate the factors driving chemsex among GBMSM.

Methods We conducted semi-structured in-depth interviews with 33 purposively-sampled GBMSM with a history of sexualised substance use in Singapore. Interview topics included participants’ experiences and life histories of chemsex, substance use, incarceration, trauma, as well as stories of resilience and ongoing recovery from chemsex. Interviews were audio-recorded, transcribed, coded, and analyzed using thematic analysis.

Results Participants described how chemsex was used as a coping mechanism to deal with emotional and situational ‘precipitants’, including dealing with loneliness and a low self-esteem, sexual shame and social anxiety, as well as general stressful situations. Participants also articulated how such precipitants were underpinned by experiences of biopsychosocial trauma, including those relating to HIV-related stigma, racism, sexual violence, death and loss, neglect, as well as internalised homophobia. Finally, participants illustrated how such trauma were in turn reinforced by several ‘preconditions’, including the accessibility of substances, emphasis on sexual capital, and lack of access to mainstream support structures in the gay male community, alongside general sociolegal barriers to accessing care.

Conclusions This study proposes the role of trauma and the preconditions underpinning them in driving chemsex among GBMSM in Singapore. Interventions that provide support for GBMSM recovering from chemsex should provide trauma-informed care to address the complex barriers to long-term recovery.

014.6 SOCIAL CAPITAL AND CHEMSEX INITIATION IN YOUNG GAY, BISEXUAL, AND OTHER MEN WHO HAVE SEX WITH MEN

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Background Young gay, bisexual, and other men who have sex with men (YMSM) are especially vulnerable to the risks associated with sexualized substance use, or ‘chemsex’.

Methods Results of this study were derived from baseline data of the Pink Carpet Y Cohort Study in Singapore, comprising a sample of 570 HIV-negative YMSM aged 18 to 25 years old. Latent class analysis was employed to identify classes with