013.5 COMPARING MSM USING EVENT-DRIVEN PREP TO THOSE USING DAILY PREP – DATA FROM TWO EUROPEAN PREP DEMONSTRATION PROJECTS

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Background Daily and event-driven PrEP are both efficacious in preventing HIV infection. However, event-driven PrEP (edPrEP) is less well understood, in particular when provided as an alternative to daily PrEP. We studied regimen preferences and switches, and sexually transmitted infection (STI) incidence.

Methods We pooled data from the Dutch (AMPrEP) and the Belgian (Be-PrEP-ared) PrEP demonstration projects. In both projects, participants could choose between daily and event-driven PrEP (edPrEP) at 3-monthly study visits, when they were also screened for STIs including hepatitis C virus (HCV) infection. We assessed the proportion choosing each regimen, and the determinants of choosing edPrEP at baseline. Additionally, we compared the incidence rates (IRs) of HCV, syphilis, and chlamydia or gonorrhoea between regimens using Poisson regression.

Results The pooled dataset consisted of data of 571 men who have sex with men (n=374 AMPrEP; n=197 Be-PrEP-ared), of whom 148 (25.9%) chose edPrEP at baseline. Older participants (adjusted odds ratio (aOR)=1.38 per 10 year increase, 95% confidence interval (CI)=1.15–1.64) and those unemployed (aOR=1.68, 95%CI=1.03–1.75) were more likely to choose edPrEP at baseline. Median follow up was 26 months [interquartile range 21–27]. 381 participants (68.3%) never switched between PrEP regimens, 96 (17.2%) switched once, and 81 (14.5%) more than once. After 28 months, 23.5% used edPrEP. IR of HCV and syphilis did not differ between regimens, but the IR of chlamydia/gonorrhoea was higher among daily users (adjusted incidence rate ratio=1.61, 95% CI=1.35–1.94).

Conclusion A quarter of participants chose edPrEP at baseline and at 28 months this proportion was similar. The frequent switching suggests that participants adapt their PrEP regimen to their changing needs. Although the IR of HCV and syphilis were similar in both regimens, the lower incidence of chlamydia and gonorrhoea among edPrEP users may suggest that less frequent STI testing of this group could be considered.

013.6 DETERMINANTS OF PREP UPTAKE, INTENTION AND AWARENESS IN THE NETHERLANDS: A SOCIO-SPATIAL ANALYSIS

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Background Since its formal introduction in 2019, PrEP uptake in the Netherlands is growing, but remains at suboptimal levels. Hence, the analysis of determinants is paramount. Given the initial focus of PrEP provision among men-who-have-sex-with-men (MSM) via a demonstration project, AmPrEP in Amsterdam, and pharmacies in the main urban areas (so called ‘Randstad’, entailing Amsterdam, Utrecht, Leiden, The Hague and Rotterdam), investigating regional discrepancies is necessary. We seek to unravel regional differences jointly with known predictors of PrEP use, intention and awareness.

Method This cross-sectional study included 3,232 HIV-negative Dutch MSM recruited via the EMIS survey in late 2017. Prevalence and standardized prevalence ratio (SPR) of PrEP use, awareness and intention were measured on a regional level (Randstad vs. the rest of the country). Multi-level logistic modeling was conducted to identify the association of PrEP use with PrEP awareness and intention, sociodemographic, behavioral, psychological/cognitive determinants, and random effects from regional differences.

Results MSM from Randstad used more PrEP (SPR=1.4 vs. 0.7) compared to the rest of the country, but there were minor differences for awareness and intention. The regional distinction was estimated to explain 4.6% of the PrEP use variance (adjusted ICC=0.046). Greater influence from intention to use (OR=4.5, 95%CI 2.0–10.1) and knowledge of PrEP (OR=7.0, 95%CI 4.1–12.0), while limited influence from the awareness of PrEP was observed (OR=0.4, 95%CI 0.04–4.4). Lower education (OR=0.4, 95%CI 0.2–0.9) was negatively associated with PrEP use, however, no significant difference was found between middle and high education (OR=1.2, 95%CI 0.7–2.0).

Conclusion We showed that regional differences – MSM in non-urban regions – and with a low educational background account for lower PrEP use and intention. Based on these findings more fine-tuned PrEP access with a focus on non-urban regions can be implemented, and tailored campaigns increasing intention/use can be conducted among target populations.

LGBTQ populations – MSM

014.1 BEHAVIOUR OR IDENTITY? DIFFERENCES IN HIV TESTING BY SEXUAL IDENTITY AMONG MSM IN HIGH-INCOME COUNTRIES: AN INDIVIDUAL PARTICIPANT DATA META-ANALYSIS

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Background HIV testing guidelines recommend MSM test at least annually. However, heterosexual- and bisexual-identifying MSM (heterosexual-MSM; bisexual-MSM) may be less likely to test for HIV than gay-identifying MSM (gay-MSM). We hypothesised that differences in HIV testing may reflect

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