Race and Age Disparities in HIV Incidence and Prevalence Among MSM in Atlanta, GA

Eli S. Rosenberg1, Patrick S. Sullivan1, Colleen F. Kelley1, Travis H. Sanchez1, Nicole Luisi1, Carlos del Rio3, Laura F. Salazar4, Paula F. Frew5, John L. Peterson6

1Epidemiology, Emory University Rollins School of Public Health, Atlanta, GA, United States, 2Infectious Diseases, Emory University School of Medicine, Atlanta, GA, United States, 3Hubert Department of Global Health, Emory University Rollins School of Public Health, Atlanta, GA, United States, 4Institute of Public Health, Georgia State University, Atlanta, GA, United States, 5Medicine, Emory University School of Medicine, Atlanta, GA, United States, 6Psychology, Georgia State University, Atlanta, GA, United States

Background: HIV prevalence and incidence race disparities exist among US men who have sex with men (MSM); individual-level risk factors do not explain these differences.

Methodology: InvolveMENt is a longitudinal cohort of black (BMSM) and white (WMSM) HIV-negative MSM aged 18-39, recruited via venue time-space sampling. Eligible men reported any sex with a man in the previous 3 months. Every 3-6 months, participants were tested for HIV/STI and completed CASI surveys of individual- and sexual dyad-level risk behaviors. Race- and age-specific HIV and STI prevalence, prevalence-ratios (PR), incidence rates and incidence-density ratios (IDR) were estimated with exact 95% confidence intervals (CI). Age-scaled Cox proportional hazards estimated time-independent and -dependent mediators of disparate HIV incidence.

Results: 803 MSM (454B, 349W) were enrolled: 197 BMSM and 46 WMSM were HIV-positive at baseline. Except for 18-19 year olds, BMSM had higher HIV prevalence than WMSM (BMSM: 34% at 25 years, 45% by 30 years, 60% ≥30 years). In 755 person-years (PY) of followup, 23 incident HIV infections were diagnosed (19 BMSM, 4 WMSM). Among participants < 25 years, HIV incidence for BMSM was 9.6% and 0% for WMSM (RR undefined but > 2.1 (95% CI: [2.1, +∞]). Among participants ≥25 years, HIV incidence was nonsignificantly higher for BMSM (3.4%) than WMSM (1.2%; IDR = 2.8 (CI: [0.7, 13.1]). Similar significant disparities were found for urethral gonorrhea, rectal chlamydia, rectal gonorrhea, and syphilis incidence. Results from a change-in-hazard approach found that the racial disparity in HIV incidence was explained by poverty and partner race, but not employment, insertive vs. receptive sex roles, drug use, and time-dependent homelessness, arrest, anal intercourse, and known serodiscordant partners (unadjusted HR: 5.4, CI: [1.8, 16.6]; adjusted HR: 1.4, CI: [0.4, 5.5]).

Conclusions: Relative to WMSM, BMSM in Atlanta experience substantially higher HIV and STI incidence. Nearly 1 in 10 black MSM under age 25 is infected with HIV annually. Observed incidence levels are consistent with large observed prevalence disparities and highlight the 18-24 year period as critical for prevention, and that educational and other prevention services need to start before 18. It is critical to identify mechanisms, such as choice of sexual partners and access to clinical and prevention services, through which poverty shapes other risks. In a setting where partner pool risk is a driver of disparities, it is also important to maximize care and treatment for HIV-positive MSM to reduce transmission potential.