Individual and Network Drivers of Racial Disparities Among YMSM

Brian Mustanski, PhD1,2; Ethan Morgan, PhD1,2; Rich D’Aquila1; Michelle Birkett1,2; Patrick Janulis1,2; Gregory Phillips Il1,2; & Michael E. Newcomb, PhD1,2

1 Northwestern University Feinberg School of Medicine; 2 Northwestern Institute for Sexual and Gender Minority Health & Wellbeing

brian@northwestern.edu

INTRODUCTION

• There is a marked racial disparity observed in HIV infections in the U.S. with black MSM (BMSM) experiencing the greatest burden.1,2

• In 2014, two-thirds of all new HIV diagnoses in the U.S. occurred among MSM with BMSM (30%) accounting for the majority of these diagnoses followed by Hispanic MSM (17%) and white MSM (WMSM; 15%).1,3

• From 2010 to 2014, the CDC reported differential trends in HIV diagnoses by race/ethnicity: WSMW saw an 11% decline, BMSM experienced a 1% increase, and Hispanic MSM saw a 14% increase in the rate of new HIV diagnoses.1

• Awareness of infection, however, followed a reverse trend with 90% of WMSM, 75% of Hispanic MSM, and 67% of BMSM being aware of their HIV infection.2

• Individual sexual behaviors have failed to explain the observed racial disparity in HIV acquisition.

• To increase understanding of potential drivers in these disparities, we assessed differences across individual and network domains.

METHODS

• Data were collected as part of RADAR, an ongoing longitudinal cohort study of YMSM living in the Chicago metropolitan area.

• Participants were recruited using a multiple cohort, accelerated longitudinal design.

• Participants were between 16 and 29 years of age, assigned male at birth, and had a sexual encounter with a man in the previous year or identified as gay, bisexual or transgender.

• Egocentric interviews were conducted to gather information regarding the respondents’ relationship with their alters, persons with whom they previously had social, sexual, or substance use relationships.

• Data and measures were collected across 5 domains:
  – Social behavior
  – Mental health, stigma, substance use, and sexual risk taking behaviors
  – Biological
  – HIV testing, rectal gonorrhea and chlamydia testing
  – Structural

• Experiences of violence and trauma, living in a high disadvantaged neighborhood, access to prevention and treatment services

• Partner-level
  – Sexual partner demographics were captured, such as age, race, sexual orientation, strength of relationship, and HIV status

• Network-level
  – Relationships between network members

RESULTS

• Participant demographics included (N=1015): – 344 (33.9%) identified as black, 304 (30.0%) identified as Hispanic, 252 (24.8%) identified as white, and 115 (11.3%) identified as other – 112 (11.2%) were 16-17 years old, 455 (45.2%) were 18-20 years old, 329 (32.4%) were 21-24 years old, and 115 (11.3%) were 25-29 – 705 (69.5%) identified as homosexual, 216 (21.3%) as bisexual, and 93 (9.2%) as a different category

• Compared to White an Hispanic MSM, BMSM had a higher prevalence of both HIV (32%; p<0.001) and rectal STIs (26.5%; p=0.011)

• Young BMSM, compared to other young MSM (Table 1): – Lower rates of participation in sexual risk practices (p<0.001), a greater number of lifetime HIV tests (p<0.001), but were less likely to achieve viral suppression (p=0.01) – Greater levels of stigma (p<0.001), victimization (p=0.04), trauma (p<0.001), and childhood sexual abuse (p=0.001)

• Young WMSM, compared to other young MSM: – Higher rates of depression (p<0.001) and highest rates of alcohol (p<0.001)

• In network analyses, young BMSM reported (Table 2): – A greater number of sexual partners identifying as non-male and non-gay and more HIV-positive sexual partners (p<0.001) – Had stronger relationship ties (p<0.001) and greater homophily with sexual partners (p<0.001)

• Significant differences existed across network characteristics: – YBMSM had the lowest transitivity (p=0.002), the highest density (p<0.001), and the highest concurrency of YMSM alters (p<0.001)

DISCUSSION

• YBMSM do not report higher rates of HIV risk behaviors than YWMSM and young Hispanic MSM.

• YBMSM do report more HIV-positive sexual partners, more concurrent sexual partners, and have more homogeneous sexual networks.

• Importantly, YBMSM are significantly less likely to have viral suppression when HIV-infected, suggesting they may be more likely to transmit the virus through their sexual networks.

• These results support that network factors drive racial disparities in HIV acquisition and suggest structural interventions may be useful to reduce disparities.

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