Engaging young, black men who have sex with men in HIV testing using social network strategies: opportunities and challenges

Theo B Braden¹ & Ryan P Westergaard^{*,2}

“Social network strategies appear to be a promising component in a comprehensive package of public health interventions that could start to turn the tide on the epidemic...”

Men who have sex with men (MSM) continue to account for the majority of new infections with HIV in the USA. While the estimated HIV incidence among MSM has changed little in the past two decades, a substantially increased proportion of new infections are among gay and bisexual men who are young and black. Black MSM comprised 55% of the HIV infections diagnosed among MSM aged 15–29 years, while only 12% of the general population is black [1].

The wide disparity in HIV risk among black MSM in the USA is a complex issue involving poverty, access to healthcare, stigma and homophobia [2]. Prior research has shown that despite having higher HIV prevalence, black MSM do not engage in riskier sexual or drug – using than other MSM [3–6]. Epidemiologic evidence suggests the higher burden of HIV among black MSM is linked to at least two factors. First, black MSM are less likely to be aware of their positive HIV status than nonblack MSM [7]. Those unaware of their status

go untreated and therefore have nonsuppressed viral loads, making them infectious to their sex partners [8]. Second, the sexual networks of black MSM tend to be assortative, or primarily comprised of other black MSM [9]. The probability of being exposed to HIV increases, if sexual partners are drawn from high HIV prevalence populations; more so when high-risk individuals like black MSM lack awareness of their HIV status.

For the above reasons, efforts to reduce the high prevalence of HIV among black MSM must include effective interventions that increase HIV testing. The US Centers for Disease Control and Prevention (CDC) have recommended that MSM at risk for HIV should undergo screening at least annually [10]. However, results from the National HIV Behavioral Surveillance System showed that 30% of high-risk black MSM recruited in 20 US cities had not been tested in the past year, and found cases of previously undiagnosed HIV infection even among those who reported

KEYWORDS

• African–American • health disparities • HIV • HIV testing • social networks

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¹Department of Counseling Psychology, University of Wisconsin School of Education, Madison, WI 53706, USA

²Department of Medicine, University of Wisconsin School of Medicine and Public Health, 1685 Highland Ave, MFCB 5220, Madison, WI 53705, USA

*Author for correspondence: Tel.: +1 608 265 7927; Fax: +1 608 263 4464; rpw@medicine.wisc.edu

they were tested in the prior year [11]. The sub-optimal level of adherence to this recommendation underscores the urgent need for effective interventions to expand HIV screening among high-risk groups.

Social network strategies for HIV testing, also referred to as simply ‘social network testing,’ have shown promise as an effective strategy for identifying individuals with undiagnosed HIV infection [12]. This strategy typically consists of enlisting and training HIV-positive or high-risk HIV-negative individuals to become ‘network recruiters,’ who then encourage individuals in their social and sexual networks (e.g., ‘network associates’) to undergo HIV testing. In some cases, staff members at prevention agencies build and cultivate relationships with recruiters and offer ongoing support and assistance as they engage network associates in HIV testing and prevention programs [13]. The rationale underlying social networks testing is to leverage the influence of peers as opinion leaders in low HIV-testing networks, thereby changing social norms around HIV testing [14].

Experience with social network testing to date has suggested it is highly effective at identifying black MSM unaware of their status. Fuqua *et al.* found that 23% of the black MSM testing positive for HIV under their social networks testing study in San Francisco, were unaware of their infection [15]. In this study, seropositive black MSM were significantly more likely to be older, not have health insurance, not have been tested for HIV in the past 12 months and to have used injection drugs in the last 6 months. Halkitis *et al.* compared the effectiveness social networks testing to other testing strategies among a sample of black MSM, and found that the rate of HIV-positive detection was significantly higher for social networks strategy (19%) than mobile van (0.7–5.6%) and alternative venue testing (6.3%) [16]. The same study found that black MSM referred under the social networks strategy reported more unprotected receptive and insertive anal sex within the last 6 months.

The earliest and most extensive experience with social network testing described in the published literature comes from a CDC-supported demonstration project involving nine community-based organizations in seven US cities between October 2003 and September 2004 [12]. Lessons learned from this formative project included the high level of feasibility of enlisting both HIV-positive and HIV-negative

recruiters in social network testing programs. Recruiters who were aged 25–34 years, Hispanic and had history of injecting drugs were noted to be particularly proficient in recruiting network associates to the program. Network associates recruited by transgender persons and MSM were observed to have the highest prevalence of newly identified HIV infection. The overall prevalence of HIV among network associates was 5.7%, yet a much higher prevalence was observed among network associates who described themselves as transgender (20%) and among MSM who reported injection drug use (26%). By comparison, the typical positivity rate for HIV tests conducted at community-based organizations across the USA is approximately 1% [16]. This suggests that social network strategies may be a high-yield approach for engaging clients with a high burden of undiagnosed HIV infection who are difficult to reach using traditional screening approaches.

Social network testing is associated with several challenges that may limit its acceptance and ultimately its effectiveness. Stigma surrounding HIV and homosexuality in the black community might limit individuals’ willingness to engage in social network testing programs as recruiters or as network associates [17]. More than other racial and ethnic groups, black MSM may tend to view homosexuality as immoral, and may be less likely than nonblack MSM to disclose their sexual identity or behavior to close or casual associates [18]. In a social network analysis among black MSM in Baltimore, Tobin *et al.* observed discrepancies between generally positive attitudes reported toward discussing HIV testing with peers and a low level of evidence that such conversations ever take place, indicating a general reluctance to speak openly about sensitive issues such as sexual health and HIV prevention [19]. In these ways, cultural norms may pose real or perceived barriers to frank discussions about safer sex and HIV prevention.

While black MSM under 30 years as a group have the highest rate of HIV diagnosis in the USA; the HIV epidemic among older black MSM may also benefit from social network strategies. Older black MSM tend to be less likely to disclose HIV status or sexual orientation, and may harbor greater levels of stigma around MSM behavior than younger black MSM [15]. Because young black MSM often report engaging in sexual relationships with older black MSM, enhancing HIV detection by normalizing HIV

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testing behavior across all age groups may synergistically improve HIV surveillance and prevention among youth who face this highest lifetime risk of HIV [9].

The effectiveness of social networks testing in reducing HIV incidence among black MSM may be further limited by the degree to which those newly diagnosed are linked to care and adhere to treatment. In the idealized 'HIV care cascade,' individuals testing positive for HIV are quickly linked to a provider of medical care, are retained in care indefinitely thereafter and consistently adhere to antiretroviral treatment, resulting in full suppression of HIV viremia. When each of these steps is successfully navigated, people living with HIV have a very low risk of developing any HIV-related complications and rarely, if ever, transmit HIV to their sex partners [8,10]. Unfortunately, evidence suggests that young black MSM may be less successful at accomplishing numerous of these benchmarks. Newly diagnosed black MSM may fail to return for confirmation testing or linkage to care, and may encounter aware but untreated seropositive black MSM [15]. Other research has suggested lowers levels of antiviral adherence among seropositive black MSM [20]. Successful implementation of social network strategies must account for diverse factors potentially contributing to lower treatment adherence among black MSM: mistrust of public health establishments, perceived discrimination related to race, serostatus and sexual orientation, and fear of others finding out that they are HIV positive [2].

Social network strategies appear to be a promising component in a comprehensive package

of public health interventions that could start to turn the tide on the epidemic HIV among black MSM. While important achievements have been made in the field of HIV prevention globally, the epidemic of HIV among young, black MSM in the USA is worsening. In addition to addressing social and structural factors that create and perpetuate this critically important health disparity, we must develop, test and implement new strategies that deliver testing, prevention and treatment services to the highest risk communities. If implemented in ways that are responsive to the unique vulnerabilities and challenges faced by black, gay youth, social network strategies could have a large impact in reducing the future burden of HIV/AIDS that is presently disproportionately borne by gay and bisexual men in African-American communities.

Disclaimer

TB Braden and RP Westergaard had full access to all data in this editorial and take responsibility for the integrity of the data and the accuracy of synthesis of information.

Financial & competing interests disclosure

This work was supported by NIH grant numbers K23DA032306 and R25GM083252. The authors have no other relevant affiliations or financial involvement with any organization or entity with a financial interest in or financial conflict with the subject matter or materials discussed in the manuscript apart from those disclosed.

No writing assistance was utilized in the production of this manuscript.

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