



HHS Public Access

Author manuscript

J Acquir Immune Defic Syndr. Author manuscript; available in PMC 2018 April 17.

Published in final edited form as:

J Acquir Immune Defic Syndr. 2017 January 01; 74(1): 56–59. doi:10.1097/QAI.0000000000001165.

The Right People, Right Places, and Right Practices: Disparities in PrEP access among African American Men, Women and MSM in the Deep South

LATESHA ELOPRE, MD, KACHINA KUDROFF, MPH, ANDREW O. WESTFALL, MS, EDGAR T. OVERTON, MD, and MICHAEL J. MUGAVERO, MD

Division of Infectious Diseases, Department of Medicine, University of Alabama at Birmingham, Birmingham AL

Abstract

Disproportionate rates of HIV are observed in Black women and men, especially in the Southern U.S. We observed limited uptake of PrEP services in our Southern community among these groups, particularly Black MSM relative to new HIV cases in Birmingham, AL; 18% accessed PrEP services compared to 50% of new HIV cases. Further research is needed to understand PrEP access and uptake in high-risk populations.

Keywords

HIV; Pre-exposure Prophylaxis; Uptake

INTRODUCTION

More than thirty years into the HIV epidemic, advances in antiretroviral therapy and public health initiatives have turned a universally fatal illness into a manageable, chronic disease.^{1–3} Despite these advances, HIV infection rates are rising among racial and sexual minority groups. Although men who have sex with men (MSM) account for only 2–3% of the United States (U.S.) population, MSM represent 62% of incident HIV infections in 2011.⁴ Most of these infections occur in young, Black MSM with recent CDC data forecasting 1 in 2 Black MSM will be infected with HIV in their lifetime.⁵ This health disparity is most pronounced in the Southern U.S. where the epidemic is expanding, especially in minority populations.⁶ Biomedical interventions, such as pre-exposure prophylaxis (PrEP) have proven efficacious in decreasing the risk of acquiring HIV by up to 92% with high adherence.^{7–9} Despite the FDA approval of daily oral Truvada® for HIV PrEP and the release of guidelines for utilization by the CDC, reported uptake has been slow and uneven among MSM populations.¹⁰ We conducted a retrospective analysis of a university-affiliated PrEP Clinic in Birmingham, AL aimed toward understanding what types of individuals are accessing PrEP services, with particular interest in use among Black men, women, and MSM. During the

Corresponding Author: Latesha Elope, ZRB 206, 1720 2nd Ave South, Birmingham, AL 35294., Phone: (205) 975-2457, Fax: (205) 934-5155, lelope@uabmc.edu.

Conflicts of interests. There are no conflicts of interest.

study period, this single clinic was the only location in Birmingham providing PrEP as part of comprehensive HIV prevention services.

METHODS

Study design, setting and sample

We conducted a retrospective analysis of data collected from a cohort of patients presenting to a single university-based PrEP clinic, located within a Ryan White HIV Clinic that also provides HIV testing services, to be screened for initiation of PrEP. We then compared demographics of PrEP clinic attendees to demographics for new HIV cases in Jefferson County (consisting of the Birmingham, Hoover metropolitan area), to evaluate the concordance of early PrEP uptake relative to groups at greatest HIV risk. The PrEP clinic operates two half days out of the week and functions as an interdisciplinary practice providing clinical care, social work services and prevention education. Clinic sessions include of a group educational session, lab work, and a provider visit with self-administered surveys evaluating adherence, sexual risks, mental health and substance abuse. In order to be enrolled in PrEP services, clients must either have insurance or qualify for financial assistance provided by the university. Referral for the clinic was primarily through organizations that provide HIV testing, including HIV Clinics, the local Health Department and Community Based Organizations and was not targeted towards high risk populations. All patients interested in PrEP services presenting to the clinic, completed a screening visit to confirm HIV risk, perform baseline HIV and STI testing and complete a behavioral questionnaire. We included data from patients at least 18 years of age who were screened for PrEP services between March 2014 (when the clinic opened) to February 2016. Variables were compiled from the UAB 1917 PrEP clinic electronic medical record and aggregate demographics for new HIV cases occurring in Jefferson County in 2014, the most recent surveillance data available for the state, were retrieved from the Alabama Department of Public Health (ADPH) HIV Surveillance System. Independent variables that could be compared across both databases included: gender, race, sexual behavior, and age classified dichotomously as adolescent (< 25 years of age) and adult (≥ 25 years of age). Age cut-offs reflected reporting of HIV among youths by the ADPH, as well as CDC, HIV surveillance report.^{6, 11}

Statistical analyses

We summarized demographics and risk behavior (i.e. sexual behavior) using frequencies and percentages. Race was categorized into Black, White and Other, with other designating Hispanic and Asian persons given small numbers (n = 8 for the PrEP Clinic and n = 5 for ADPH). Intake forms for all persons screened for PrEP services at the clinic contain questions to assess risk behavior. Sexual behavior on this intake form was defined by sex and self-reported same- or opposite- sex sexual behaviors (i.e. men who have sex with men [MSM], men who have sex with women [MSW] and women who have sex with men [WSM]). These categories were mutually exclusive and men reporting any same sex behaviors were categorized as MSM. Chi-square tests were done to compare variables using SAS 9.4 (Cary, NC). This study was approved by the University of Alabama (UAB) Institutional Review Board.

RESULTS

Between March 2014 and February 2016, 120 patients were screened for PrEP services at the clinic. Of those, 84% were male, 80% were MSM, and 44% of those who presented were in serodiscordant relationships. The majority of persons screened reported condomless sex (n = 103) and were referred by a partner (34%). Seventy-nine percent of persons screened reported having health insurance. (Table 1) Thirty-two (27%) were Black and only 18% (n = 22) were Black MSM. Young Black MSM (classified as being Black and < 25 years of age at time of screening) represented 8% (n=9) of patients screened at the PrEP clinic. For Jefferson County, AL in 2014, 159 new diagnoses of HIV were reported. One hundred and twenty-five incident cases (79%) were Black, and 133 (84%) were male. While 99 cases (62%) occurred in MSM, 80 (50%) were among Black MSM. Of new cases among Black MSM infected, over a third (n = 30, 38%) were youths.

When evaluating demographic characteristics of PrEP Clinic attendees compared to new HIV cases in Jefferson County, no statistically significant differences were seen by gender and age. However, there were statistically significant differences when comparing the following variables: sexual behavior, race, race × sexual behavior, and when evaluating services provided to young, Black MSM. Overall, the PrEP Clinic screened a smaller percentage of Black patients (27% patients screened compared to 79% new cases), Black MSM (18% patients screened compared to 50% new cases), Black MSW (2% patients screened compared to 15% new cases), Black women (7% patients screened compared to 13% new cases) and young. Of persons screened, only 63 are currently engaged in care of which 58% are White and 80% are MSM (data not shown).

Black MSM (8% patients screened compared to 19% new cases). (Table 2) No significant interactions were found between race and sexual behavior.

DISCUSSION

Biomedical preventions strategies, such as PrEP, are crucial to reduce new HIV infections in populations most at risk. Indeed, the National HIV/AIDS Strategy: Updated to 2020 highlights the importance of addressing the right people, in the right places, with the right practices. However, our data indicate that patients initially accessing PrEP clinic services are not necessarily the populations most greatly impacted by the HIV epidemic in our community. Currently, the Birmingham-Hoover metropolitan area has the highest HIV infection rates for the state of Alabama. While most infections are occurring in Black populations, particularly Black MSM, the majority of patients screened for PrEP services at the clinic were White MSM. Some research suggests that uptake of PrEP by MSM has been slow, but our results indicate that in Alabama uptake has been scarce among Black women, men and Black MSM.^{10, 12} Demonstration projects to improve uptake of PrEP have begun to address potential factors contributing to low uptake, including: lack of knowledge among potential eligible clients and healthcare workers, structural barriers and concerns about adherence.¹³⁻¹⁸ The current study highlights the need for more demonstration projects in Southern communities, because if similar patterns for PrEP uptake are seen in other

Southern states exacerbation of HIV health disparities may be seen in this region of the country.

In this retrospective analysis, we focused on persons screened for PrEP services to identify populations with access and likely knowledge of PrEP in the community. Our results demonstrate low PrEP uptake among Black MSM in Birmingham. The reason for poor uptake of PrEP services among Black MSM in our community is unknown, but the relatively high uptake of PrEP services among White MSM demonstrates health disparities. Understanding factors that facilitate uptake in this group may conversely elucidate barriers for Black MSM.

Mixed results have been reported as to why HIV health disparities are present for Black MSM, but most studies suggest that structural barriers and cultural factors likely play a role.^{19, 20} These factors are likely intersectional, with overlapping challenges faced by Black MSM face due to poverty, racism, homophobia (external and internalized) and stigma.^{20–25} Also, higher perceptions of HIV risks have been shown to correlate with uptake and adherence to PrEP.^{26, 27} However, self-perceived risk of HIV infection may be lower among some MSM populations.²⁸ Cultural factors for Black MSM living in the Southern U.S. are also likely unique, requiring further specialization in prevention interventions to increase awareness of PrEP and other HIV prevention services for Black MSM. Stigma associated with HIV-infection, PrEP, race or sexual practices may be exacerbated in Southern communities leading to delayed uptake of HIV prevention services. Furthermore, structural barriers like lack of insurance and transportation need to be taken in to account in many Southern states like Alabama, where Medicaid has not been expanded. Understanding utilization of healthcare services by Black MSM must be comprehensive, factoring in individual, as well as geography-specific environmental barriers. Research to better understand the contributions of these factors is urgently needed to inform interventions aimed at enhancing uptake and utilization of PrEP and other biomedical and behavioral prevention services among disproportionately impacted communities.

Interestingly racial disparities, while most pronounced for Black MSM, were also present for Black women and the subpopulation of young, Black MSM. Unfortunately, in Alabama, which is the 6th poorest state in the nation with one of the largest income gaps, structural barriers are likely similar for minority populations across the state.²⁹ However, Black women likely face unique individual barriers contributing to marginalization and decreased uptake of HIV prevention services, which would warrant further investigation in this population. Young, Black MSM currently have the highest HIV infection rates in the country.⁶ Upon review of the literature, no previous research studies were found evaluating barriers for uptake of PrEP among this population, particularly in the Deep South. Adolescents likely have different perspectives regarding HIV risk and perceptions of stigma. It is likely that prevention messaging will require specificity to reach this high risk population. Perceived and actual structural barriers for different groups will likely vary and require a targeted approach to be effective. At our clinic, targeted messaging was not used to promote the clinic, which may have contributed to the health disparity found in the number of Black persons screened for services. Also, the financial requirements for PrEP services

likely created a significant structural barrier in Alabama, which is currently budgeted to cut \$85 million dollars to Medicaid.^{30, 31}

Promotion of PrEP awareness, access and acceptance among Southern, Black women, men and MSM faces several challenges, which includes understanding preferences for PrEP in the population and increasing awareness through culturally appropriate targeted messaging and, likely, community-based support systems.^{32–34} Our study had several limitations. As this is a cross-sectional analysis of retrospective data, no causality can be established from our results. This study was also done at a university based PrEP clinic in the Southeastern United States. This limits its generalizability to other clinics. However, the HIV epidemic is currently affecting this part of the United States most severely, and this study may provide some insight into this high risk population and region.

In summary, if the country is to reach its 2020 goal of rarely seeing new HIV infections, further research is urgently needed to address uptake and utilization of PrEP among Black MSM in the South by investigating behavioral interventions in combination with biomedical prevention tools to reach the right people, in the right places with the right practices.

Acknowledgments

The authors would like to thank all of the clinicians, social workers and patients at the 1917 PrEP Clinic. We thank Chuck Rogers and Kenya Dillard at ADPH for assistance in accessing aggregate HIV surveillance data.

Financial Support. Latesha Elopre is currently funded through the 2T32AI05069-11A1. Michael Mugavero is funded through an R01 AI103661 evaluating the efficacy of a behavioral intervention on antiretroviral therapy adherence.

References

1. Samji H, Cescon A, Hogg RS, et al. Closing the gap: increases in life expectancy among treated HIV-positive individuals in the United States and Canada. *PloS one*. 2013; 8(12):e81355. [PubMed: 24367482]
2. Centers for Disease Control and Prevention. CDC fact sheet: HIV and AIDS among gay and bisexual men. 2011. Available from: www.cdc.gov/hiv/group/msm/. Accessed May 4, 2016
3. Purcell D, Johnson C, Lansky A, et al. Calculating HIV and syphilis rates for risk groups: estimating the national population size of men who have sex with men. *National STD Prevention Conference*. 2010:8–11.
4. Hall HI, An Q, Tang T, et al. Prevalence of Diagnosed and Undiagnosed HIV Infection—United States, 2008–2012. *MMWR Morb Mortal Wkly Rep*. 2015; 64(24):657–662. [PubMed: 26110835]
5. Centers for Disease Control and Prevention. Lifetime Risk of HIV Diagnosis in the United States. www.cdc.gov/nchstp/newsroom/2016/croi-press-release-risk.html. Accessed February 3, 2016
6. Centers for Disease Control and Prevention. HIV Surveillance Report. 2014; 26 <http://www.cdc.gov/hiv/library/reports/surveillance/>. Published November 2015. Accessed March 3, 2015.
7. Grant RM, Lama JR, Anderson PL, et al. Preexposure chemoprophylaxis for HIV prevention in men who have sex with men. *New England Journal of Medicine*. 2010; 363(27):2587–2599. [PubMed: 21091279]
8. McCormack S, Dunn DT, Desai M, et al. Pre-exposure prophylaxis to prevent the acquisition of HIV-1 infection (PROUD): effectiveness results from the pilot phase of a pragmatic open-label randomised trial. *The Lancet*. 2016; 387(10013):53–60.
9. Molina J-M, Capitant C, Spire B, et al. On demand PrEP with oral TDF-FTC in MSM: results of the ANRS Ipergay trial. *Conference on retroviruses and opportunistic infections*. 2015:23–26.

10. Kirby T, Thornber-Dunwell M. Uptake of PrEP for HIV slow among MSM. *The Lancet*. 2014; 383(9915):399–400.
11. Centers for Disease Control and Prevention. HIV Among Youth. www.cdc.gov/hiv/group/age/youth/. Published April 2016. Accessed July 29, 2016
12. Krakower DS, Mimiaga MJ, Rosenberger JG, et al. Limited awareness and low immediate uptake of pre-exposure prophylaxis among men who have sex with men using an internet social networking site. *PLoS one*. 2012; 7(3):e33119. [PubMed: 22470438]
13. Saberi P, Gamarel KE, Neilands TB, et al. Ambiguity, ambivalence, and apprehensions of taking HIV-1 pre-exposure prophylaxis among male couples in San Francisco: a mixed methods study. *PLoS one*. 2012; 7(11):e50061. [PubMed: 23166819]
14. Horberg M, Raymond B. Financial Policy Issues for HIV Pre-Exposure Prophylaxis. *American journal of preventive medicine*. 2013; 44(1):S125–S128. [PubMed: 23253752]
15. Tellalian D, Maznavi K, Bredeek UF, et al. Pre-exposure prophylaxis (PrEP) for HIV infection: results of a survey of HIV healthcare providers evaluating their knowledge, attitudes, and prescribing practices. *AIDS patient care and STDs*. 2013; 27(10):553–559. [PubMed: 24053478]
16. Van der Straten A, Van Damme L, Haberer JE, et al. Unraveling the divergent results of pre-exposure prophylaxis trials for HIV prevention. *Aids*. 2012; 26(7):F13–F19. [PubMed: 22333749]
17. Cohen SE, Vittinghoff E, Bacon O, et al. High interest in preexposure prophylaxis among men who have sex with men at risk for HIV infection: baseline data from the US PrEP Demonstration Project. *Journal of acquired immune deficiency syndromes (1999)*. 2015; 68(4):439–448. [PubMed: 25501614]
18. Grant RM, Anderson PL, McMahan V, et al. Uptake of pre-exposure prophylaxis, sexual practices, and HIV incidence in men and transgender women who have sex with men: a cohort study. *The Lancet infectious diseases*. 2014; 14(9):820–829. [PubMed: 25065857]
19. Millett GA, Peterson JL, Flores SA, et al. Comparisons of disparities and risks of HIV infection in black and other men who have sex with men in Canada, UK, and USA: a meta-analysis. *The Lancet*. 2012; 380(9839):341–348.
20. Maulsby C, Millett G, Lindsey K, et al. HIV among black men who have sex with men (MSM) in the United States: a review of the literature. *AIDS and Behavior*. 2014; 18(1):10–25. [PubMed: 23620241]
21. Sullivan PS, Hamouda O, Delpech V, et al. Reemergence of the HIV epidemic among men who have sex with men in North America, Western Europe, and Australia, 1996–2005. *Annals of epidemiology*. 2009; 19(6):423–431. [PubMed: 19460672]
22. Oster AM, Wiegand RE, Sienean C, et al. Understanding disparities in HIV infection between black and white MSM in the United States. *Aids*. 2011; 25(8):1103–1112. [PubMed: 21505305]
23. Millett GA, Flores SA, Peterson JL, et al. Explaining disparities in HIV infection among black and white men who have sex with men: a meta-analysis of HIV risk behaviors. *Aids*. 2007; 21(15):2083–2091. [PubMed: 17885299]
24. Brooks RA, Etzel MA, Hinojos E, et al. Preventing HIV among Latino and African American gay and bisexual men in a context of HIV-related stigma, discrimination, and homophobia: perspectives of providers. *AIDS Patient Care & STDs*. 2005; 19(11):737–744. [PubMed: 16283834]
25. Herrick AL, Stall R, Chmiel JS, et al. It gets better: resolution of internalized homophobia over time and associations with positive health outcomes among MSM. *AIDS and Behavior*. 2013; 17(4):1423–1430. [PubMed: 23283578]
26. Golub SA, Gamarel KE, Rendina HJ, et al. From efficacy to effectiveness: facilitators and barriers to PrEP acceptability and motivations for adherence among MSM and transgender women in New York City. *AIDS patient care and STDs*. 2013; 27(4):248–254. [PubMed: 23565928]
27. Corneli A, Wang M, Agot K, et al. Perception of HIV risk and adherence to a daily, investigational pill for HIV prevention in FEM-PrEP. *JAIDS Journal of Acquired Immune Deficiency Syndromes*. 2014; 67(5):555–563. [PubMed: 25393942]
28. Whiteside YO, Harris T, Scanlon C, et al. Self-perceived risk of HIV infection and attitudes about preexposure prophylaxis among sexually transmitted disease clinic attendees in South Carolina. *AIDS patient care and STDs*. 2011; 25(6):365–370. [PubMed: 21470046]

29. Klass K. Report: Ala. sixth poorest state in the country. *Montgomery Advertiser*. 2015
30. Johnson, J. Planned Cuts to Medicaid will Hurst Us All. *AL.com*; www.al.com/opinion/index.ssf2016/04/planned_cuts_to_medicaid_will.html. Published Aptill 11, 2016. Accessed July 29, 2016
31. Moseley, B. House Cuts Meidcaid by 23 Percent. *Alabama Political Reporter*; www.alreporter.com/house-cuts-medicaid-by-23-percent/. Published July 29, 2016. Accessed July 29, 2016
32. Mansergh G, Koblin BA, Sullivan PS. Challenges for HIV pre-exposure prophylaxis among men who have sex with men in the United States. *PLoS Med*. 2012; 9(8):e1001286. [PubMed: 22927797]
33. HIV Prevention Trials Netwoerk Black Caucus Scientific Report 2014. Identifying Research Gaps For Black Men Who Have Sex With Men: A Way Forward.
34. Garcia J, Parker C, Parker RG, et al. “You’re really gonna kick us all out?” Sustaining safe spaces for community-based HIV prevention and control among Black men who have sex with men. *PLoS one*. 2015; 10(10):e0141326. [PubMed: 26492412]

Author Manuscript

Author Manuscript

Author Manuscript

Author Manuscript

Table 1

Baseline Characteristics of Patients Screened at PrEP Clinic

Characteristics	PrEP Clinic (N = 120) n (%)
Median Age, years (Q ₁ -Q ₃)	33 (26, 44)
Race	
Black	32 (27)
White	80 (67)
Other	8 (6)
Risk Factors^a	
MSM	96 (80)
Serodiscordant relationship	57 (48)
Multiple sexual partners	63 (53)
Exchange sex for money or drugs	3 (2)
Condomless Sex	104 (87)
Receptive anal sex	93 (78)
IVDU ^b	0
Sex while drunk or "high" ^c	55 (46)
Health Insurance	
Yes	95 (79)
No	25 (21)
Self-reported Motivation	
HIV positive partner	56 (47)
HIV prevention	64 (53)
Referred by^d	
Community Based Organization	7 (8)
Internet	16 (18)
Health Department	4 (4)
Partner	31 (34)
Healthcare Provider	19 (21)
Friends	14 (15)

^aClients could respond affirmatively and be included in more than one risk group category.

^bFrequency missing = 2

^cFrequency missing = 2

^dFrequency missing = 29

Table 2

Demographics of Patients Screened at PrEP Clinic compared to Incident HIV Cases in Jefferson County

Characteristic	PrEP Clinic (N = 120) n (%)	Jefferson County (N = 159) n (%)	p-value
Male Gender *	101 (84)	133 (84)	0.9
Sexual Behavior			0.0002
Men who have sex with men (MSM)	96 (80)	99 (62)	
Men who have sex with women (MSW)	5 (4)	34 (22)	
Women who have sex with men (WSM)	19 (16)	26 (16)	
Race			<0.0001
Black (B)	32 (27)	125 (79)	
White (W) and Other (O)	88 (67)	34 (16)	
Other (O) **	8 (6)	9 (5)	
Race*Sexual Behavior			<0.0001
BMSM	22 (18)	80 (50)	
BMSW	2 (2)	24 (15)	
BF	8 (7)	21 (13)	
WMSM	67 (56)	16 (10)	
WMSW	2 (2)	6 (4)	
WF	11 (9)	3 (2)	
OMSM	7 (5)	4 (3)	
OMSW	1 (1)	3 (2)	
OF	0 (0)	2 (1)	
Adolescent (< 25 years of age)	25 (22)	40 (25)	0.5
Young BMSM (< 25 years)	9 (8)	30 (19)	0.007

* Gender information collected by self-report.

** Other includes Hispanic and Asian ethnicity and race