

HIV Testing by Black MSM in Toronto: Identifying Targets to Improve Testing

SAGE Open
 April-June 2014: 1-9
 © The Author(s) 2014
 DOI: 10.1177/2158244014529776
 sgo.sagepub.com


Clemon George¹, Lydia Makoroka², Sean B. Rourke³, Barry D. Adam⁴, Robert S. Remis³, Winston Husbands², and Stanley E. Read³

Abstract

Surveillance data suggest that Black men who have sex with men (MSM) in Canada contribute to a higher than expected percentage of new HIV diagnoses. HIV testing is an important part of the HIV reduction strategy in Canada and the Public Health Agency of Canada recommends HIV testing as a component of periodic routine medical care. A cross-sectional survey was conducted among Black MSM in Toronto to determine the factors associated with HIV testing. One hundred sixty-five men were recruited and completed a self-administrative questionnaire. The majority of men identified as gay/homosexual. Lifetime history of HIV testing was reported at 85%, of whom 50% had tested within the last 6 months. Self-reported HIV seroprevalence was 24%. In logistic regression, variables associated with ever testing for HIV were "having friends or family with HIV" and "regularly attending religious services." Although HIV testing appears to be common among Black MSM in Canada, young Canadian-born men were less likely to test. This observation highlights the need to examine place of birth when tailoring health interventions for Black MSM.

Keywords

HIV testing, Black ethnicity, men who have sex with men, Canada

Introduction

HIV testing is an effective strategy for reducing the spread of HIV in a community. Testing acts as a gateway to counseling for behavior change and therapeutic interventions (Cohen et al., 2011; Cohen, McCauley, & Gamble, 2012). At the individual level, early detection reduces the probability of secondary transmission as knowing one's HIV status is often associated with reduction in numbers of sex partners and increased condom use (Steward et al., 2009). However, little information exists on factors affecting Black MSM HIV testing behavior in Toronto, Canada.

Surveillance data suggest that Black men who have sex with men (MSM) in Canada contribute to a higher than expected percentage of new HIV diagnoses (Public Health Agency of Canada, 2013). Based on data from the HIV Laboratory Enhancement program of Ontario Public Health, among MSM diagnosed with HIV, the proportion of Black men with reactive tests increased from 8.9% in 2009-2010 to 13.7% in 2011-2012 ($p = .009$; Laboratory Enhancement Program, 2013). However, Black men account for 3.9% of the Ontario population (Statistics Canada, 2008). In Ontario, the majority of the HIV-positive Black MSM are from Toronto (Remis, 2012). In the United States, when the data are stratified by age, young Black MSM continue to have higher rates of HIV compared with White or Latino MSM. It is reported that age at first sex, sexual abuse during

childhood, and older sex partners augment HIV infection risk among Black MSM (Millett, Peterson, Flores, Hart, et al., 2012).

Black men in the Greater Toronto area (GTA) are mostly immigrants from the Caribbean and Africa but include a significant number of second (or greater) generation Blacks and indigenous Black settlers (Milan & Tran, 2004). In the 2011 Canadian census, 53.1% of Blacks were immigrants and 43.2% were Canadian-born, of which 8.9% were of third generation or greater (Chui & Flanders, 2013). According to theories of acculturation (Dolezal, Carballo-Diequez, Nieves-Rosa, & Diaz, 2000; Ratti, Bakeman, & Peterson, 2000), the determinants of risk may not be the same for Black immigrants and Black indigenous groups (Gadon, Chierici, & Rios, 2001; Hoffman et al., 2008; Johnson, Hu, & Dean, 2010) with immigrants having less access to health care.

¹University of Ontario Institute of Technology, Oshawa, Ontario, Canada

²AIDS Committee of Toronto, Toronto, Ontario, Canada

³University of Toronto, Toronto, Ontario, Canada

⁴University of Windsor, Windsor, Ontario, Canada

Corresponding Author:

Clemon George, University of Ontario Institute of Technology, Faculty of Health Sciences, 2000 Simcoe Street North, UA 3000, Oshawa, Ontario L1H 7K4, Canada.

Email: clemon.george@uoit.ca

While the underlying determinants of new HIV infections (seroconversion) in Canadian Blacks may be different from those of Black MSM in the United States, information from the United States suggests that the epidemic among U.S. Black MSM may be fueled by racial disparities in access to health care, as well as social and economic barriers, making prevention and adoption of prevention services more difficult. Also, a higher prevalence of HIV within the sexual network; unawareness of HIV status particularly among young Black MSM; experiences of stigma, homophobia, and other discrimination; undiagnosed and untreated sexually transmitted infections (STIs) contributing to rapid progression of HIV infection, sexual relationship with older partners, and unprotected anal sex appear to be contributing factors (Centers for Disease Control and Prevention, 2013; Crepaz, Hart, & Marks, 2004; Fenton, 2007; Millett, Peterson, Flores, Hart, et al., 2012; Oster et al., 2011). In a meta-analysis of disparities and risk of HIV infection for Black MSM in Canada, the United States, and United Kingdom, Millett, Peterson, Flores, Hart, et al., (2012) showed that Black MSM in Canada were just as likely as White MSM to test HIV-positive and to engage in high-risk sexual behaviors, but were less likely to use drugs or have a high income. Among Black men in the African diaspora, including Canada, it is postulated that social and structural barriers including insufficient funding, ill-informed policies, and pervasive stigma and discrimination for MSM may be associated with high HIV prevalence (Millett, Jeffries, et al., 2012). In Canada, while there are no comprehensive studies exploring the reasons for increasing HIV transmission among Black MSM, research in other health domains shows that Blacks and other minority populations in Canada often experience poorer health outcomes due to social and economic factors such as higher rates of unemployment and lower socio-economic conditions, compared with other Canadians (Rodney & Copeland, 2009).

HIV Testing

HIV testing is an important part of the HIV reduction strategy in Canada. The Public Health Agency of Canada recommends that discussion of HIV testing be a component of periodic routine medical care. Early detection enables health care providers to provide prevention counseling, monitor HIV status and progression, provide treatment options, and reduce the risk of opportunistic diseases (Catchpole et al., 2000; Girardi, Sabin, & Monforte, 2007). Furthermore, it has been shown that early treatment greatly reduces the transmission of HIV among serodiscordant heterosexual couples (Cohen et al., 2011). In fact, the Joint United Nations Programme on HIV/AIDS (UNAIDS) recently updated its HIV treatment guidelines to support the use of antiretroviral treatment for those with a CD4 count of 500 or less, compared with previous recommendations of less than 350 (Friedman, 2013), a strategy that can only be implemented through testing. Knowing one's status may also empower

persons to modify their sexual practices such as increasing condom use, reducing numbers of sexual partners, and increasing communication about sexual risk (Castilla et al., 2002; Leaity et al., 2000; Scott-Sheldon et al., 2011; Steward et al., 2009).

Several factors contribute to HIV testing uptake among MSM, including ease of access to services, a sense of trust established within the health care system, and type of HIV testing offered (Fenton, 2007; Girardi et al., 2007; Millett, Peterson, Wolitski, & Stall, 2006). For example, testing done as part of a routine clinical examination has the potential of reducing the stigma and concerns around confidentiality that often form barriers to HIV testing (Bokhour, Solomon, Knapp, Asch, & Gifford, 2009). Also, knowledge of and access to other available testing options in Ontario, such as anonymous testing sites, is unknown. Ontario provincial data shows disproportionately high and increasing HIV reactive positive test results among Black MSM ("Laboratory Enhancement Program," 2013) which supports the need to know more about Black MSM HIV testing patterns, behaviors, barriers and facilitators to HIV testing. This study explores the correlates of HIV testing and associated factors among Black MSM in the GTA.

Method

This study is based on the quantitative data from a larger project aimed at understanding risks and resiliencies related to HIV among Black MSM in the GTA. The study utilized both a survey and in-depth interviews and has already been described elsewhere (George et al., 2012). For the quantitative aspect of the study, we used a cross-sectional survey design targeting MSM 18 years and above who self-identified as Black and who had anal sex with another man within the last 12 months. As the language of the study was English, only men who understood English were recruited. Men completed a self-administered questionnaire.

Sampling and Recruitment

This was the first quantitative study of an exclusive sample of Black MSM living in the GTA. The research team held consultations with members of a community advisory committee (CAC), and others who were experienced in research with Black MSM. The CAC has been described elsewhere but briefly, it was composed of eight men who were knowledgeable about African, Caribbean, and Black gay communities in the GTA through voluntary and professional affiliations. The CAC's terms of reference outlined its responsibilities, accountability, and schedule of meetings. The CAC role included advising the research team on recruitment, data analysis, and interpretation and ensuring that the study was culturally relevant (George et al. 2012).

Prior research that included Black MSM often aggregated Black MSM data with those of other minority groups or simply left them out of analyses due to small sample sizes. As

such, we were not able to calculate a sample size for the survey based on previous data. Based on suggestions by the CAC and feedback from a biostatistician, a sample size of 140 Black MSM, plus 10% oversampling for possible incomplete questionnaires, was chosen. We recruited men in two phases between June 2007 and January 2008. Phase 1 involved recruiting at the Toronto Pride event in June 2007. A team of volunteers (male/female/youth/older/Black/non-Black) approached men as they strolled along Church Street, the main location of the Pride community events. Volunteers were equipped with a poster of the study, questionnaires, and a clipboard, and invited men who appeared to be of Black ethnicity to participate in the study. Individuals were informed about the study, shown the poster, and if they agreed to participate, then directed to the study tent, set up as a polling station, where they could complete the study. The study coordinator or investigators then described the study, consented participants and asked whether they had questions and were still interested in completing the questionnaire. Participants were screened for age. On completion, the participant placed the questionnaire in an envelope and was asked to seal it. He was then given an honorarium of Can\$20 and information on HIV testing (testing clinics locations, operation), prevention, treatment, and care services in the GTA. Testing was not offered as part of the study protocol. It is not possible to determine rates of refusal as some men took the promotional material and later contacted the study coordinator to complete the questionnaire, and others came back later during the day. Recruitment was stopped at about 50% of the target sample size, as our goal was to also include recruitment of Black MSM who would not patronize gay events.

Phase II of our recruitment strategy targeted locations frequented by Black MSM who may not have participated in public gay events. At each location, recruiters carried a poster of the study to verify that the questionnaire was not previously completed elsewhere. The study was also promoted at various health and social service events and on a Toronto AIDS services website. Some participants who had seen the promotional materials emailed or telephoned the study coordinator to arrange to complete a questionnaire. The questionnaire took approximately 30 min to complete. Research Ethics Board approval was obtained from the University of Ontario Institute of Technology, the University of Toronto, and the University of Windsor.

Measures

The survey solicited information on socio-demographic status, relationship status, substance use, sexual practices, affinity/affiliation with gay networks, and Black networks, general health, depressive symptomatology (using the Centre for Epidemiologic Study Scale Depression short version 10; Lee & Chokkanathan, 2008), awareness of HIV prevention campaigns and HIV testing. HIV testing history and status

were assessed by the following questions: Have you ever been tested for HIV (The virus that causes AIDS)? When was your most recent HIV test? What was the result of your most recent HIV test? Where did you go for your most recent HIV test? Respondents could state "I was tested outside of Canada" or choose from several options within Canada. For participants who had never been tested, we solicited information on barriers to testing. We also asked participants to indicate whether they had disclosed their HIV status to someone. As religion is said to be important in the lives of Blacks (Pattillo-McCoy, 1998; Valera & Taylor, 2011; Ward, 2005; Woodyard, Peterson, & Stokes, 2000), we asked about attendance at religious services and other involvement in religious organizations.

Analysis

All data analyses were conducted using SPSS. Standard descriptive statistics were examined using frequency distribution. Separate analyses were conducted for lifetime HIV testing and for HIV testing in the last 6 months. We used logistic regression models to determine factors associated with HIV testing (lifetime; 6 month). We first examined the relationship between the outcome variable and demographic and other variables using chi-square, Fisher Exact tests, and/or ANOVA. Covariates showing an association with the outcome variable were then assessed for correlation using Pearson correlation to avoid collinearity in logistic regression modeling. Age, a continuous variable, was later categorized to best fit the data. Multivariable analyses were conducted using binary step-wise logistic regression and odds ratios (ORs) and 95% confidence intervals (CIs) are reported. The following covariates were entered into a model: age, education, place of birth, circumcision status, religious service attendance, having friends/family who died from HIV and HIV testing. The data for 168 men were used in the analyses as four participants were under 18 years.

Results

Demographics and Other Characteristics

Table 1 summarizes the demographic and social characteristics of the men in the survey. The mean age of participants was 33 years (median = 31 years) and ranged from 18 years to 61 years. Participants' place of birth was evenly divided between the Caribbean (33.7%), Canada (30.1%), and Africa (24.5%). A majority (78.0%) of participants described themselves as single. One third never attended religious services.

Self-reported HIV testing and HIV prevalence. A majority of men 144/165 (87.0%) reported previous testing for HIV. Of these men, 110 (76.4%) reported that they were HIV negative and 34 (23.6%) reported that they were HIV-positive. Characteristics of testers compared with non-testers and proportion of testers are shown in Table 2. A higher proportion

Table 1. Demographic and Social Characteristics of the Participants $n = 168$.

Characteristics	Frequency	%
Age group (years)		
≤29	66	42.9
30+	88	57.1
Sexual orientation		
Gay/homosexual	90	58.4
Bisexual	43	27.9
Straight/heterosexual	13	8.4
Queer/other	8	5.2
Residence in GTA (years)		
<2	30	18.8
2-4	21	13.1
5-9	17	10.6
10+	73	45.6
Live outside GTA	19	11.9
Geographical birth place		
Canada	49	30.1
Africa	40	24.5
Caribbean	55	33.7
Other	19	11.7
Education		
< high school	28	16.7
Completed high school	14	8.3
Some college/university	50	29.8
Completed College/university	50	29.8
Grad./professional	26	15.4
Income (annual household in Can\$)		
<10,000	38	23.8
10,000-19,999	26	16.3
20,000-29,999	19	11.9
30,000-39,999	23	14.4
40,000-49,999	17	10.6
50,000-59,999	14	8.8
60,000 or more	23	14.4
Relationship status		
Single	125	77.6
Married or common law	18	11.2
Divorced or separated	7	4.4
Other	11	6.8
Attends religious services		
Never	47	30.5
Once or twice/year	51	33.1
Weekly/monthly	56	36.4

Note. GTA = Greater Toronto Area (or Toronto as is otherwise known).

of men born in Canada were not tested (21.6%) compared with those who were born in Africa (7.0%) or the Caribbean (7.0%) which was significant ($p = .04$). In chi-square testing, age > 21 years, having college or university education, being born outside of Canada, having sex with another Black man in the past year (data not shown), not being circumcised, being raised in a Christian background, attending religious services, having friends or family members living with or

dying from HIV, were significantly associated with HIV testing ($p \leq .05$) as shown in Table 2. Figure 1 also illustrates that there was a general proportional increase in testing with increasing age. Younger men were less likely to test for HIV than older men. For example, there were 6/21 (28.6%) non-tester aged 18 to 21 years, 5/45 (11.1%) non-testers 22 to 29 years, 7/76 (9.2%) non-testers 30 to 49, and 0/12 non-testers more than 50 years.

Recent testing. Of the 144 men who had “ever” tested for HIV, 71 (49.3.0%) had tested within the last 6 months, 16.0% within 7 to 11 months, 20.0% within 1 to 2 years, 10.0% within 3 to 4 years ago, and the remaining had tested more than 4 years ago. Variables significantly associated with HIV testing within the last 6 months were: having friends or family living with HIV; having friends or family dying from HIV; and being more than 21 years of age (see Table 2).

Testing location, motivation for testing, and general health. Almost half (49.0%) of the participants had been tested at their family doctor’s office and 10 persons (6.9%), 9 of whom had immigrated less than 2 years before the study, reported testing outside Canada. Only two participants had been tested at a hospital. Those who reported being HIV-positive most often disclosed their status to close friends (data not shown).

Participants who had not been tested ($n = 21$) were asked to identify the reasons for not being tested. The most frequent reasons were believing that they were at low risk ($n = 6$, 28.6%) and always having safe sex ($n = 5$, 23.8%).

Self-reported STIs in the last 12 months were chlamydia 4%, gonorrhea 3%, genital warts 3%, hepatitis C, 2.5%, syphilis 1.6%, and genital herpes 1.6%. We combined the reported STIs into one group to test the association between having any STI and testing but there was no significant association (data not shown). For general health (DeSalvo et al., 2006; Simon, De Boer, Joung, Bosma, & Mackenbach, 2005), two thirds of the sample reported excellent or very good general health. However, there was no association between rating health as “excellent–good” and HIV testing (data not shown). We tested for associations between any unprotected anal sex with a casual partner and HIV testing, but this also did not show any association (data not shown).

Multivariable analysis. In the logistic regression analysis “knowing people living with HIV/AIDS” was not entered due to collinearity with “having friends/family dying from HIV/AIDS.” In one model, to test for lifetime HIV testing, “having friends or family with HIV” (OR = 4.2, 95% CI = [1.3, 12.9]) and “regularly attending religious services” (OR = 4.0, 95% CI = [1.4, 11.6]) were associated with ever testing for HIV. With regard to testing for HIV in the past 6 months, only age more than 21 years was associated with testing when controlling for other variables (OR = 2.3; 95% CI = [1.1, 4.5]).

Table 2. Characteristics of Men Who Tested for HIV Versus Those Who Did Not Test (*N* = 168).

Characteristics of testers vs. non-testers (lifetime)						
Variable	Not tested	%	Tested	%	Proportion Tested	<i>p</i> value (test/not tested)
Age (years)						
≤29	11	61.1	55	40.4	83.3	.080
30+	7	38.9	81	59.6	92.0	
≤21	6	33.3	15	11.0	71.4	.020
>21	12	66.7	121	89.0	90.9	
Education						
≤ high school	13	61.9	28	19.4	68.3	<.001
College or more	8	38.1	116	80.6	93.5	
Birthplace						
In Canada	11	57.9	37	26.1	77.1	.004
Outside Canada	8	42.1	105	73.9	92.9	
Circumcision						
No	6	28.6	74	51.4	92.5	.051
Yes	15	71.4	70	48.6	82.4	
Religion (raised)						
Christian	11	57.9	117	84.8	91.4	.009
Other	8	42.1	21	15.2	72.4	
Attends religious service						
Never/once year	10	55.6	37	27.2	77.1	.014
More than once a year	8	44.4	99	72.8	92.5	
Friends died/AIDS						
No	17	81.0	68	46.8	80.0	.003
Yes	4	19.0	75	53.2	94.9	
Know People living with HIV						
No	13	65.0	51	36.2	79.7	.014
Yes	7	35.0	90	63.8	92.8	
Characteristics testers vs. non-testers (6 months or less) ^a						
	Not recent		Recent			
Age (years)						
≤29	33	50.8	22	31.4	40.0	.017
30+	32	49.2	48	68.6	60.0	
≤21	11	16.9	4	5.7	26.7	.035
>21	54	83.1	66	94.3	55.5	
Friends died/AIDS						
No	40	50.8	28	36.6	41.2	.009
Yes	29	42.0	45	63.4	60.8	
Know People living with HIV						
No	31	44.9	20	28.2	39.2	.030
Yes	38	51.4	51	71.8	57.3	
Sex with White MSM						
No	25	48.1	39	66.1	60.9	.042
Yes	27	51.9	20	33.9	42.6	

Note. *N* may not add up to 168 due to missing values. Friend died/AIDS—having family or friends dying with HIV. Know people living with HIV—having a friend or family member living with HIV.

^a *N* may not add up to 144 due to missing values.

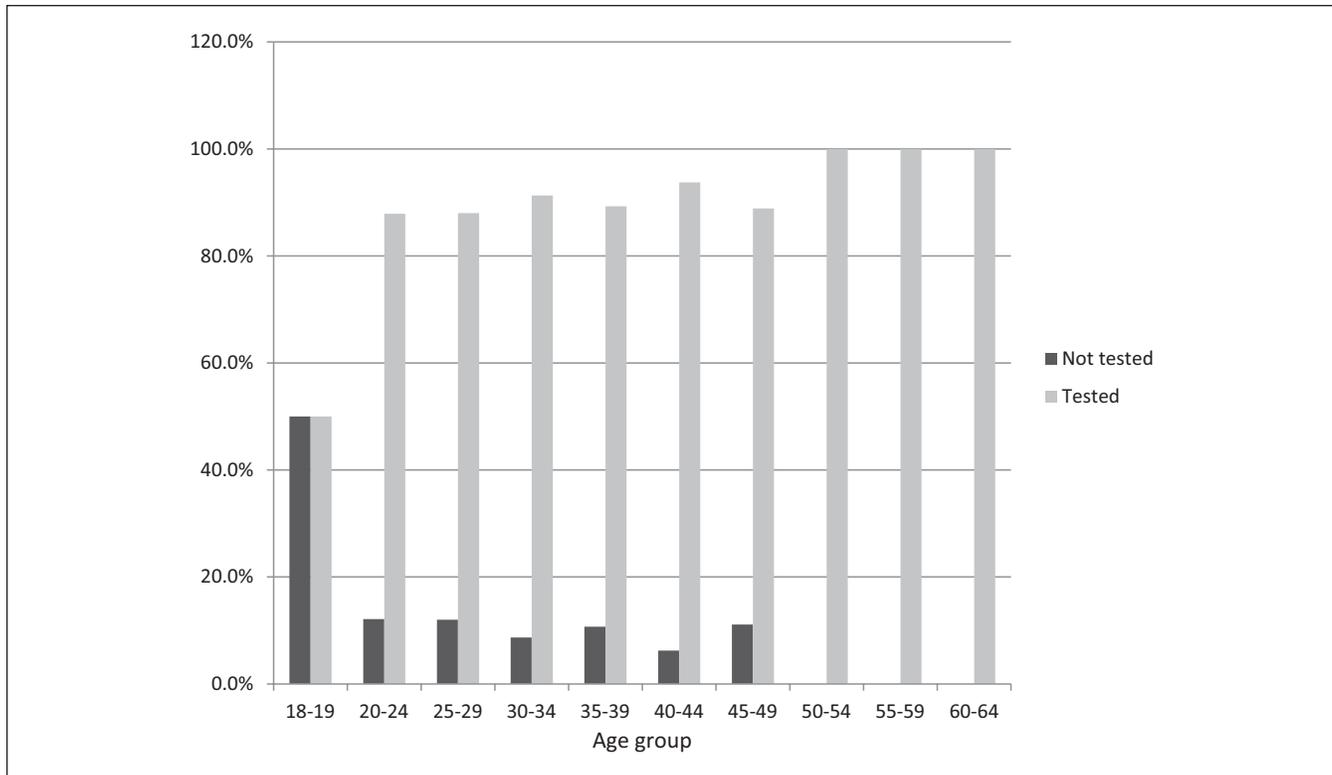


Figure 1. Proportion of study participants ever testing for HIV by age group.

Discussion

The results of this study indicate that there should be targeted HIV testing promotion for young Canadian-born Black MSM. Black MSM who did not test for HIV were young men (≤ 21 years), who were born in Canada and typically did not have a family member or friend with HIV. The results showing that age as an indicator for HIV testing is similar to that obtained in another Ontario study involving Black MSM whereby as age increased, testing also increased (Liu, Remis, Myers, & Husbands, 2009).

The results showing that the younger non-testers were less likely to report knowing someone within their social network living with or dying from HIV is not surprising. Most of these men would have become sexually active after the initial ravage of HIV among MSM in North America. In the early years of the epidemic, HIV had a much more serious health impact on infected individuals often leading to un-wellness and death. As the use of highly active antiretroviral therapy has become the norm for treating HIV, most people with HIV can live outside public scrutiny (Smit et al., 2012). Most people living with HIV can continue with their normal activities including full-time employment, and maintain a sense of wellness (Cain et al., 2014). There is still stigma associated with HIV within gay communities and elsewhere which contributes to living outside public view, wherever possible.

Studies in the United Kingdom and the United States show that African and Caribbean-born people differ in their

risks and health outcomes (which may be related to their socialization) compared with Blacks born in these two countries (Anderson et al., 2008; Dougan, Elford, Sinka, Fenton, & Evans, 2005; Fenton et al., 2005; Hoffman et al., 2008; Johnson et al., 2010). For example, Hoffman et al.'s (2008) study comparing West Indian (Caribbean) men and women to African American men and women with regard to partner notification for STIs showed that the West Indian-born were not as likely to notify their regular partners that they had an STI as U.S.-born Blacks. Also, West Indians had lower scores on measures assessing condom use, had less favorable attitudes toward using condoms with their regular partners and were less likely to intend to always use condoms with these partners in the future than U.S.-born Blacks (Hoffman et al., 2008).

Our results showing that non-testers were not connected to religious communities are similar to other studies showing an important association between belonging to religious communities and adopting HIV risk reduction behaviors (Foster, Arnold, Rebchook, & Kegeles, 2011; Wilson, Wittlin, Munoz-Laboy, & Parker, 2011; Wingood, Simpson-Robinson, Braxton, & Raiford, 2011). As a greater proportion of our non-testers were born in Canada, they may not have similar affinity to religious communities as more recent African or the Caribbean immigrants (Chivallon, 2001; Genrich & Brathwaite, 2005). While the church may still have a role in influencing HIV testing uptake within certain

populations (Stokes & Peterson, 1998; Wingood et al., 2011; Woodyard et al., 2000), it may not be a natural starting point for young Black MSM as these men are less likely to be connected to religious communities.

Targeting Young MSM for HIV Testing

Most of the young men in the study were recruited at public events such as Gay Pride. Therefore, public events and community spaces may present opportunities to reach out to non-testers. In our study, young men who were born in Canada were more likely to be non-testers compared with those born elsewhere ($p = .02$). Place of birth is an important proxy that may help differentiate the socialization process of individuals and their possible risk trajectory. As physician offices were frequently identified for testing, making HIV testing a routine part of medical visits and presenting youth-friendly environments may support increased testing (Tao & Irwin, 2008).

Conclusion

In spite of the finding that HIV testing appears to be a common overall practice among Black MSM in our study sample, it is very significant that younger Black MSM, most of whom were born in Canada, were the least likely to have tested. This is of particular concern as it is supported by the Public Health data which shows that the main increases in new cases of HIV infection are occurring in young people and in particular, young Black MSM.

It is noteworthy that in our study, of the common variables used in HIV research (e.g., injection drug use, high number of sexual partners), very few differentiated testers and non-testers. This observation may reflect a need to review whether we are measuring the right variables for this population. Using various outreach strategies to target spaces where young MSM frequent, may help encourage HIV testing in young Canadian Black MSM.

Limitations

This research studied a cross section of Black MSM. Even though we attempted to recruit Black MSM across the GTA, we recognize that we may have missed MSM who do not socialize at gay venues. Furthermore, the convenience sampling, lack of sampling frame, and the limited sample size reduces the ability to strongly generalize the results to all Black MSM in the GTA. Our study was exploratory and did not ask about the treatment status or options for those who were positive, which is important if we are to reduce the community prevalence of HIV.

Declaration of Conflicting Interests

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Funding

The author(s) disclosed receipt of the following financial support for the research, authorship, and/or publication of this article: The authors received financial support from the Ontario Ministry of Health and Long-Term Care and the Canadian Institutes for Health Research (CIHR CBR Grant no. 80004).

References

- Anderson, M., Elam, G., Gerver, S., Solarin, I., Fenton, K., & Easterbrook, P. (2008). HIV/AIDS-related stigma and discrimination: Accounts of HIV-positive Caribbean people in the United Kingdom. *Social Science & Medicine*, *67*, 790-798. doi:S0277-9536(08)00237-2 [pii] 10.1016/j.socscimed.2008.05.003
- Bokhour, B., Solomon, J., Knapp, H., Asch, S., & Gifford, A. (2009). Barriers and facilitators to routine HIV testing in VA primary care. *Journal of General Internal Medicine*, *24*, 1109-1114. doi:10.1007/s11606-009-1078-6
- Cain, R., Collins, E., Bereket, T., George, C., Jackson, R., Li, A., . . . Travers, R. (2014). Challenges to the involvement of people living with HIV in community-based HIV/AIDS organizations in Ontario, Canada. *AIDS Care*, *26*, 263-266. doi:10.1080/09540121.2013.803015
- Castilla, J., Sobrino, P., De La Fuente, L., Noguer, I., Guerra, L., & Parras, F. (2002). Late diagnosis of HIV infection in the era of highly active antiretroviral therapy: Consequences for AIDS incidence. *AIDS*, *16*, 1945-1951.
- Catchpole, M. A., McGarrigle, C. A., Rogers, P. A., Jordan, L. F., Mercey, D., & Gill, O. N. (2000). Serosurveillance of prevalence of undiagnosed HIV-1 infection in homosexual men with acute sexually transmitted infection. *British Medical Journal*, *321*, 1319-1320.
- Centers for Disease Control and Prevention. (2013, July 1). HIV prevention among Black/African American gay, bisexual, and other men who have sex with men: Highlights of activities of the Centers for Disease Control and Prevention. *Fact Sheet*. Retrieved from <http://www.cdc.gov/hiv/risk/raciaethnic/aa/brief/index.html#sup1>
- Chivallon, C. (2001). Religion as space for the expression of Caribbean identity in the United Kingdom. *Environment and Planning D*, *19*, 461-484.
- Chui, T., & Flanders, J. (2013). *Immigration and ethnic-cultural diversity in Canada National Household Survey, 2011*. Retrieved from <http://www12.statcan.gc.ca/nhs-enm/2011/as-sa/99-010-x/99-010-x2011001-eng.cfm>
- Cohen, M. S., Chen, Y. Q., McCauley, M., Gamble, T., Hosseinipour, M. C., Kumarasamy, N., . . . Fleming, T. R. (2011). Prevention of HIV-1 infection with early antiretroviral therapy. *The New England Journal of Medicine*, *365*, 493-505. doi:10.1056/NEJMoa1105243
- Cohen, M. S., McCauley, M., & Gamble, T. R. (2012). HIV treatment as prevention and HPTN 052. *Current Opinion in HIV and AIDS*, *7*, 99-105. doi:10.1097/COH.0b013e32834f5cf2
- Crepaz, N., Hart, T. A., & Marks, G. (2004). Highly active antiretroviral therapy and sexual risk behavior: A meta-analytic review. *Journal of the American Medical Association*, *292*, 224-236.
- DeSalvo, K., Fisher, W., Tran, K., Bloser, N., Merrill, W., & Peabody, J. (2006). Assessing measurement properties of two

- single-item general health measures. *Quality of Life Research*, 15, 191-201. doi:10.1007/s11136-005-0887-2
- Dolezal, C., Carballo-Diequez, A., Nieves-Rosa, L., & Diaz, F. (2000). Substance use and sexual risk behavior: Understanding their association among four ethnic groups of Latino men who have sex with men. *Journal of Substance Abuse*, 11, 323-336.
- Dougan, S., Elford, J., Sinka, K., Fenton, K. A., & Evans, B. G. (2005). Men who have sex with men who are born abroad and diagnosed with HIV in England and Wales: An epidemiological perspective. *International Journal of STD & AIDS*, 16, 618-621.
- Fenton, K. A. (2007). Changing epidemiology of HIV/AIDS in the United States: Implications for enhancing and promoting HIV testing strategies. *Clinical Infectious Diseases*, 45(Suppl. 4), S213-S220. doi:10.1086/522615
- Fenton, K. A., Mercer, C. H., McManus, S., Erens, B., Wellings, K., Macdowall, W., . . . Johnson, A. M. (2005). Ethnic variations in sexual behaviour in Great Britain and risk of sexually transmitted infections: A probability survey. *The Lancet*, 365, 1246-1255. doi:10.1016/s0140-6736(05)74813-3
- Foster, M. L., Arnold, E., Rebchook, G., & Kegeles, S. M. (2011). "It's my inner strength": Spirituality, religion and HIV in the lives of young African American men who have sex with men. *Culture, Health & Sexuality: An International Journal for Research, Intervention and Care*, 13, 1103-1117. doi:10.1080/13691058.2011.600460
- Friedman, L. Y. (2013). *HF applauds WHO decision to initiate HIV treatment earlier*. Retrieved from <http://www.webcitation.org/6G7mMx7ea>
- Gadon, M., Chierici, R. M., & Rios, P. (2001). Afro-American migrant farmworkers: A culture in isolation. *AIDS Care*, 13, 789-801. doi:10.1080/09540120120076986
- Genrich, G. L., & Brathwaite, B. A. (2005). Response of religious groups to HIV/AIDS as a sexually transmitted infection in Trinidad. *BMC Public Health*, 5, Article 121. doi:1471-2458-5-121 [pii]10.1186/1471-2458-5-121
- George, C., Adam, B. D., Read, S. E., Hubands, W. C., Remis, R. S., Makoroka, L., & Rourke, S. B. (2012). The MaBwana Black men's study: community and belonging in the lives of African, Caribbean and other Black gay men in Toronto. *Culture, Health & Sexuality*, 14, 549-562. doi:10.1080/13691058.2012.674158
- Girardi, E., Sabin, C. A., & Monforte, A. d' A. (2007). Late diagnosis of HIV infection: Epidemiological features, consequences and strategies to encourage earlier testing. *Journal of Acquired Immune Deficiency Syndromes*, 46, S3-S8. doi:10.1097/1001.qai.0000286597.0000257066.0000286592b.
- Hoffman, S., Beckford Jarrett, S. T., Kelvin, E. A., Wallace, S. A., Augenbraun, M., Hogben, M., . . . Wilson, T. E. (2008). HIV and sexually transmitted infection risk behaviors and beliefs among Black West Indian immigrants and US-born Blacks. *American Journal of Public Health*, 98, 2042-2050. doi:10.2105/ajph.2006.106443
- Johnson, A. S., Hu, X., & Dean, H. D. (2010). Epidemiologic differences between native-born and foreign-born black people diagnosed with HIV infection in 33 U.S. states, 2001-2007. *Public Health Reports*, 125(Suppl. 4), 61-69.
- Laboratory Enhancement Program. (2013). Retrieved from http://www.ohemu.utoronto.ca/doc/2013/LEP%20ethnicity_2009-2012.pdf
- Leaity, S., Sherr, L., Wells, H., Evans, A., Miller, R., Johnson, M., & Elford, J. (2000). Repeat HIV testing: High-risk behaviour or risk reduction strategy? *AIDS*, 14, 547-552.
- Lee, A. E. Y., & Chokkanathan, S. (2008). Factor structure of the 10-item CES-D scale among community dwelling older adults in Singapore. *International Journal of Geriatric Psychiatry*, 23, 592-597. doi:10.1002/gps.1944
- Liu, J., Remis, R. S., Myers, T., & Husbands, W. (2009). *Special report: Ethnicity analysis in the Lambda Survey of men who have sex with men, Ontario 2007*. Toronto Ontario, Canada: Dalla Lana School of Public Health, University of Toronto and AIDS Committee of Toronto.
- Milan, A., & Tran, K. (2004, Spring). Blacks in Canada: A long history (Catalogue No. 11-008). *Canadian Social Trends*. Retrieved from http://ccach.org/blacks_in_canada.pdf
- Millett, G. A., Jeffries, W. L., Peterson, J. L., Malebranche, D. J., Lane, T., Flores, S. A., . . . Heilig, C. M. (2012). HIV in men who have sex with men 5: Common roots: A contextual review of HIV epidemics in black men who have sex with men across the African diaspora. *The Lancet*, 380, 411-423.
- Millett, G. A., Peterson, J. L., Flores, S. A., Hart, T. A., Jeffries, W. L., IV, Wilson, P. A., . . . Remis, R. S. (2012). 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*, 380, 341-348. doi:10.1016/S0140-6736(12)60899-X
- Millett, G. A., Peterson, J. L., Wolitski, R. J., & Stall, R. (2006). Greater risk for HIV infection of black men who have sex with men: A critical literature review. *American Journal of Public Health*, 96, 1007-1019.
- Oster, A. M., Wiegand, R. E., Sionean, C., Miles, I. J., Thomas, P. E., Melendez-Morales, L., . . . Millett, G. A. (2011). Understanding disparities in HIV infection between black and white MSM in the United States. *AIDS*, 25, 1103-1112. doi:10.1097/QAD.0b013e3283471efa
- Pattillo-McCoy, M. (1998). Church culture as a strategy of action in the Black community. *American Sociological Review*, 63, 767-784.
- Public Health Agency of Canada. (2013). *HIV screening and testing guide*. Retrieved from http://www.catie.ca/sites/default/files/EN_HIV-Screening-Guide-2013.pdf
- Ratti, R., Bakeman, R., & Peterson, J. L. (2000). Correlates of high-risk sexual behaviour among Canadian men of South Asian and European origin who have sex with men. *AIDS Care*, 12, 193-202.
- Remis, R. (2012). Analysis of race/ethnicity, Laboratory Enhancement Program, 2009-2011 (Laboratory Enhancement Program). Toronto, Ontario, Canada: Dalla Lana School of Public Health, University of Toronto.
- Rodney, P., & Copeland, E. (2009). The health status of black Canadians: Do aggregated racial and ethnic variables hide health disparities? *J Health Care Poor Underserved*, 20, 817-823. doi:10.1353/hpu.0.0179
- Scott-Sheldon, L. A. J., Carey, M. P., Carey, K. B., Cain, D., Vermaak, R., Mthembu, J., . . . Kalichman, S. C. (2011). Impact of HIV testing on sexual health communication in South Africa. *Sexually Transmitted Infections*, 87, 242-247. doi:10.1136/sti.2010.045732
- Simon, J. G., De Boer, J. B., Joung, I. M. A., Bosma, H., & Mackenbach, J. P. (2005). How is your health in general? A

- qualitative study on self-assessed health. *The European Journal of Public Health*, 15, 200-208. doi:10.1093/eurpub/cki102
- Smit, P. J., Brady, M., Carter, M., Fernandes, R., Lamore, L., Meulbroek, M., . . . Thompson, M. (2012). HIV-related stigma within communities of gay men: A literature review. *AIDS Care*, 24, 405-412.
- Statistics Canada. (2008). *Canada's Ethnocultural Mosaic 2006 Census*. Ottawa, Ontario, Canada.
- Steward, W. T., Remien, R. H., Higgins, J. A., Dubrow, R., Pinkerton, S. D., Sikkema, K. J., . . . Morin, S. F. (2009). Behavior change following diagnosis with acute/early HIV infection—a move to serosorting with other HIV-infected individuals. The NIMH Multisite Acute HIV Infection Study: III. *AIDS and Behavior*, 13, 1054-1060. doi:10.1007/s10461-009-9582-6
- Stokes, J. P., & Peterson, J. L. (1998). Homophobia, self-esteem, and risk for HIV among African American men who have sex with men. *AIDS Education and Prevention*, 10, 278-292.
- Tao, G., & Irwin, K. L. (2008). Receipt of HIV and STD testing services during routine general medical or gynecological examinations: Variations by patient sexual risk behaviors. *Sexually Transmitted Diseases*, 35, 167-171.
- Valera, P., & Taylor, T. (2011). "Hating the sin but not the sinner": A study about heterosexism and religious experiences among black men. *Journal of Black Studies*, 42, 106-122.
- Ward, E. G. (2005). Homophobia, hypermasculinity and the US black church. *Culture, Health & Sexuality: An International Journal for Research, Intervention and Care*, 7, 493-504.
- Wilson, P. A., Wittlin, N. M., Munoz-Laboy, M., & Parker, R. (2011). Ideologies of Black churches in New York City and the public health crisis of HIV among Black men who have sex with men. *Global Public Health*, 6(Suppl. 2), S227-S242. doi:10.1080/17441692.2011.605068
- Wingood, G. M., Simpson-Robinson, L., Braxton, N. D., & Raiford, J. L. (2011). Design of a faith-based HIV intervention: Successful collaboration between a university and a church. *Health Promotion Practice*, 12, 823-831. doi:10.1177/1524839910372039
- Woodyard, J. L., Peterson, J. L., & Stokes, J. P. (2000). "Let us go into the house of the Lord": Participation in African American churches among young African American men who have sex with men. *Journal of Pastoral Care*, 54, 451-460.

Author Biographies

Clemon George is a social epidemiologist, Assistant Professor, University of Ontario Institute of Technology. His research interest is HIV risk factors among men who have sex with men, youth and African Caribbean people.

Lydia Makoroka is a research coordinator at the AIDS Committee of Toronto.

Sean B. Rourke is a Professor Department of Psychiatry, University of Toronto, Executive director, Ontario HIV Treatment Network and clinical neuropsychologist with expertise in the social, behavioural, mental health, population health/health services and neuropsychological aspects of HIV/AIDS.

Barry D. Adam is a Professor of Sociology at the University of Windsor, and Senior Scientist and Director of Prevention Research at the Ontario HIV Treatment Network. He has an extensive research record on the dynamics of domination and empowerment, LGBT studies, HIV prevention, and issues of living with HIV.

Robert S. Remis a Professor Epidemiology, Dalla Lana School of Public Health, University of Toronto. He helps monitor the HIV epidemic in Ontario under a mandate of the AIDS Bureau, Ontario Ministry of Health and Long-Term Care.

Winston Husbands is Director of Research and Program Development at the AIDS Committee of Toronto and a co-Chair of the African and Caribbean Council on HIV/AIDS in Ontario. His research focuses on HIV prevention for men who have sex with men, and HIV/AIDS support services.

Stanley E. Read is a consultant in Paediatric Infectious Diseases at Sickkids Hospital, Director of HIV/AIDS family Centre care program and Professor Emiritus University of Toronto