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Marketing the HIV Test to MSM: Ethnic Differences in Preferred Venues and Sources

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Abstract

Lack of awareness of HIV status is associated with an increased likelihood of HIV transmission. We surveyed 633 men who have sex with men (MSM) from diverse ethnic groups recruited from a variety of community venues in a U.S. Midwestern city with rising HIV infection rates. Our first aim was to describe patterns of sexual risk, annual HIV testing frequency, and venues where information about HIV and HIV testing could be disseminated to inner-city MSM. Our second aim was to identify preferred sources to receive information about HIV testing and determine whether these preferences differed by ethnic background. Results indicated that despite similar proportions of high–sexual risk behaviors, compared with African American and Latino MSM, smaller proportions of non-Hispanic White MSM had received an HIV test in the last 12 months. Despite ethnic differences in health care access, a physician's office was the most common HIV testing site. Overall, a majority conveyed a preference to see advertisements in mainstream media outlets. However, when preferences were stratified by ethnicity, African American MSM were the least likely to prefer receiving information from mainstream media and conveyed a stronger preference to receive information from authority figures than non-Hispanic White and Hispanic MSM.

Keywords

marketing HIV testing; ethnic preferences; MSM

INTRODUCTION

HIV continues to disproportionately affect men who have sex with men (MSM). Of the estimated 56,000 Americans who contract HIV each year, approximately half are MSM (Centers for Disease Control and Prevention [CDC], 2009). However, MSM of color bear the greatest disease burden. HIV affects MSM of color at 2 to 4 times the rate of White MSM, and recent estimates indicate that HIV rates continue to increase. For example, a 93% increase in HIV diagnosis in MSM of color was detected in 33 U.S. states, among these Wisconsin (CDC, 2011b). However, it is important to note that racial and ethnic disparities in HIV infection rates are not the result of differences in sexual risk behaviors (Hallfors, Iritani, Miller, & Bauer, 2007; Mustanski, Johnson, & Garofalo, 2010) but rather the result

of the social and environmental forces that shape the context in which vulnerable populations live (Aral, Adimora, & Fenton, 2008).

In addition to disparities in rates of HIV infection, there are marked disparities in HIV testing rates. Studies suggest that one out of six MSM has never been tested for HIV (MacKellar et al., 2011), and Latino and African American MSM are far less likely to be aware of their HIV status and less likely to test at least yearly (CDC, 2011a). Consequently, ethnic minorities are more likely to be diagnosed at a later stage of the disease (CDC, 2009) and fare worse in health outcomes after an HIV diagnosis, including faster disease progression and increased infectivity. One study revealed that within 3 years of an initial HIV diagnosis, rapid disease progression from HIV to AIDS occurred more often in African American and Hispanic than non-Hispanic White MSM (Hall, Byers, Ling, & Espinoza, 2007).

Knowledge of HIV status improves health outcomes and has behavioral benefits in terms of risk reduction. For example, individuals who become aware of their HIV status soon after infection can be referred to receive treatment and services, thereby preventing disease progression, morbidity, and mortality. Furthermore, research suggests that awareness of HIV-positive serostatus leads to a decrease in onward transmission because of a reduction in sexual risk behaviors (Marks, Crepaz, Senterfitt, & Janssen, 2005; Weinhardt, 2005; Weinhardt, Carey, Johnson, & Bickham, 1999).

Public health efforts to curtail rising rates of HIV infection have culminated in a test and treat (TNT) initiative. The TNT initiative was influenced by mathematical models suggesting that increasing the number of individuals who are aware of their HIV-positive status and effectively treating them with highly active antiretroviral therapy could significantly reduce the number of new HIV infections (Granich, Gilks, Dye, De Cock, & Williams, 2009). However, these models assume that individuals who are at highest risk of infection will be spontaneously affected by the TNT. We contend that to be affected by the TNT, vulnerable populations will first need to be aware of the need to test and, second, be motivated to seek HIV testing.

Access to health care services, such as having a regular primary care physician (Fernandez, Perrino, Royal, Ghany, & Bowen, 2002; Petroll et al., 2008) and having previous experience with disease prevention (Glasman, Weinhardt, DiFranceisco, & Hackl, 2010), influences the likelihood of obtaining an HIV test. Ethnic minority status is related to determinants of access to health care services, such as poverty (Hogben & Leichter, 2008). Furthermore, sociological factors such as homophobia and discrimination alongside psychological ones such as uncertainty of an HIV diagnosis interact with system wide forces such as confidentiality of test results hindering vulnerable populations' motivation to obtain an HIV test (Lorenz et al., 2011; MacKellar et al., 2011; Spielberg, Kurth, Gorbach, & Goldbaum, 2001; Vermund & Wilson, 2002). Moreover, research suggests that factors such as testing venues and recruitment strategies play an important role in motivating individuals to obtain an HIV test (Halkitis et al., 2011). Thus, public health initiatives alone may not benefit those most in need and may unintentionally widen the racial and ethnic disparities in infection rates because individuals who already have access to services will be the ones most likely to

be affected by TNT initiatives. Specifically, for public health initiatives to effectively reach the most vulnerable populations, we first need to understand how to reach these populations and best motivate them to act on public health recommendations.

A powerful motivator of adoption of preventive health behaviors is access to information (Fisher & Fisher, 2000). Unequal access to health information heavily contributes to perpetuate health disparities (Chang, Bakken, & Brown, 2004). The sources and venues from which HIV prevention information is received is associated with demographic factors, including ethnicity (MacKellar et al., 2011). However, to our knowledge, research studies assessing ethnic differences in preferred sources of information about HIV are few and dated. Furthermore, past research has assessed actual sources of information rather than preferred sources. For example, Cunningham, Davidson, Nakazono, and Andersen (1999) documented that compared with non-Hispanic Whites, African Americans were more likely to receive HIV-related preventive information from religious organizations. More recent research suggests that the likelihood of receiving information from sources such as the mass media increases among individuals with reduced access to health care services (Glasman, Weinhardt, & Hackl, 2011). Understanding individuals' preferred sources of information among different racial and ethnic groups is essential to ensure that information is channeled appropriately. Disseminating health information through more appropriate sources to reach vulnerable populations may lead to a greater and more sustainable effect on health outcomes.

To curb existing racial and ethnic disparities in HIV infection and testing rates, it is necessary to understand the influence of race and ethnicity on preferences for health information sources other than the mass media, such as social networks and authority figures. Promoting HIV testing using sources not preferred or accessed by racial and ethnic minorities may have the unintended consequence of exacerbating disparities (Hawkins, Gustafson, Chewning, Bosworth, & Day, 1987). The overall goal of our study was to document best strategies to promote regular HIV testing by seeking the input of MSM of diverse ethnicities. Promoting regular HIV testing through preferred sources may motivate HIV testing and hence help ameliorate disparities in HIV disease.

Our study was conducted in a U.S. city characterized by large ethnic health disparities, high unemployment rates (e.g., 50% of the African American population is currently unemployed), and a marked increase in HIV rates. The first aim of our study was to describe patterns of sexual risk and annual HIV testing frequency. Our second aim was to identify individuals' preferred sources from which to receive information about HIV testing and whether these sources differed by ethnic background.

METHOD

Participants

Participants were a convenience sample of 633 MSM who took part in a cross-sectional survey. Approximately, 19% self-reported to be African American, 13% Hispanic, and 68% non-Hispanic White. Table 1 presents other demographic characteristics stratified by ethnic group. As Table 1 shows, compared with African American and Hispanic MSM, a larger

proportion of non-Hispanic White MSM reported having a college degree and having medical insurance. Furthermore, a larger proportion of African American MSM reported being unemployed than Hispanic and non-Hispanic White MSM.

Procedure

The survey consisted of questions focused specifically on sexual risk practices and HIV testing behaviors, including places where participants had received an HIV test, frequency of annual HIV testing, Internet sites where participants look for partners, and preferred sources to receive information about HIV testing. The survey was available in both Spanish and English and took 5 to 10 minutes to complete. Survey items were originally developed in English and were then translated into Spanish by a bilingual researcher. After this initial translation, another bilingual researcher independently back translated the Spanish version into English. The back-translated English version was then compared with the original English version and discrepancies were discussed until resolved (Brislin, 1980).

Participants were recruited face-to-face from diverse community venues, including bars, block parties, and gay community events. Research staff approached potential participants and asked them to answer a brief screening questionnaire to determine eligibility. Eligibility criteria included being 18 years of age or older, having had sex with at least one man in the prior year, and self-identifying as male. Individuals who met the eligibility requirements were invited to participate in the study, and were escorted to a semiprivate area where they completed the written survey. Study staff were available to answer questions or to read the survey to participants if they preferred. Study participants were compensated \$5.00 for their participation. The Medical College of Wisconsin Institutional Review Board approved the study protocol.

Measures

Demographic characteristics—Participants were asked to report their sexual orientation, age, education, insurance status, employment status, relationship status, the number of partners with whom they had sex in the prior 12 months, and whether they had a primary care doctor.

Annual HIV testing frequency—HIV annual testing frequency was assessed with the following “Yes” or “No” question: Have you had an HIV test in the past 12 months?

Places where participants received an HIV test—Participants were asked to select from a list of options (all that applied) the locations where they had received an HIV test in the prior 12 months. Options were doctor's office, emergency room, while staying in a hospital, STD (sexually transmitted disease) clinic, jail, bar, community setting, and public health department.

Internet sites where participants look for partners—To assess the Internet sites where participants look for partners, participants were asked to select from 10 options (all that applied) that included the most popular mainstream internet sites and sites that cater to MSM. An “other” option allowed participants to report additional Internet sites.

Preferred sources to receive information about HIV testing—To assess preferred sources to receive information about HIV testing, participants read the following question:

Health officials recommend men who have sex with men get tested for HIV every year. Which of the following routes of communication do you think would be the most effective ways to encourage gay men to get tested for HIV every year?

Participants were given 12 options (and asked to select the number one choice) in the categories of mainstream media (print advertising in national general interest and gay magazines, gay-focused web-sites, radio and TV advertisement), social network (gay friends and peers, family members, sex partners), and authority figures (doctors and public health officials). To assess whether preferences varied by ethnicity, three broad categories, mainstream media, social network, and authority figures, were used in our analysis.

RESULTS

In terms of HIV testing history, 78.3% of African American MSM, 77.6% of Hispanic MSM, and 48.9% of non-Hispanic White MSM reported having had an HIV test in the prior 12 months. Approximately, 14.2% of African American MSM, 7.1% of Hispanic MSM, and 10.5% of non-Hispanic White MSM reported being HIV positive. Regarding sexual risk, approximately 62% of African American MSM, 53% of Hispanic MSM, and 50% of non-Hispanic White MSM reported having more than two sexual partners in the prior 12 months. Regarding HIV testing venues, Table 2 presents percentages of the sample who received an HIV test in different venues in the prior 12 months. As Table 2 shows, the majority of African American MSM and non-Hispanic White MSM had received an HIV test in a physician's office in the prior 12 months and the next most frequently endorsed venues were a community venue or STD clinic.

The proportion of participants who reported mainstream Internet sites, such as Facebook, Myspace, and Craigslist, as places where they seek partners were 54.2% for African American MSM, 64.7% for Hispanic MSM, and 58% for non-Hispanic White MSM. Proportions who reported Internet sites that cater to MSM, such as Manhunt and Adam4adam, as places where they seek partners were 39.2% for African American MSM, 39% for Hispanic MSM, and 33.4% for non-Hispanic White MSM.

To evaluate whether preferred sources from which to receive information about HIV testing varied by ethnicity, we conducted blocked logistic regression equations. To capture ethnic variation we created two dummy codes. The first code compared Hispanics with African Americans and non-Hispanic Whites. Thus, Hispanics were coded “1,” and both African Americans and non-Hispanic Whites were coded “0.” The second code compared African Americans with Hispanics and non-Hispanic Whites. Thus, African American participants were coded “1,” and both Hispanic and non-Hispanic Whites were coded “0.” In the first step of the equation, we entered whether participants had received a doctor's recommendation to get tested in the past and whether they had had an HIV test in the prior 12 months. We included these variables in the first step of the equation to assess whether ethnic background predicted preferences above and beyond other plausible predictors of

testing. Tables 3 and 4 present the results of the regression equations. Table 3 presents the results of preference to receive information through mass media sources. As Table 3 shows, when compared with Hispanic and non-Hispanic White MSM, African American MSM were the least likely to indicate a preference for mass media. Regarding preferences for receiving information through one's social network, ethnicity did not emerge as a significant predictor of this preference. Last, Table 4 shows the results of preferences to receive information from authority figures. As Table 4 indicates, when compared with Hispanic and non-Hispanic White MSM, African American MSM were more likely to prefer to receive information from authority figures.

DISCUSSION

In light of the health disparities in HIV infection and testing rates, which are compounded by inequalities in access to health information, we sought to identify the venues and sources through which information about HIV testing could be disseminated most effectively to populations at heightened risk of contracting HIV, such as MSM. More than half of our sample reported sex with multiple partners in the prior year, underscoring the need to aggressively scale up efforts to increase regular HIV testing in MSM populations living in inner-city environments with rising rates of HIV infection.

Among men in all ethnic groups, a physician's office was the most commonly reported location for HIV testing in the prior 12 months. Past research suggests that MSM prefer testing services that include nonjudgmental and gay-positive service providers and offer a high degree of confidentiality (Lorenc et al., 2011). In addition, providers who are aware of their patients' sexual orientation are more likely to make appropriate recommendations for HIV testing to MSM (Petroll & Mosack, 2011). This finding underscores the continued importance of training primary care providers in clinical settings to offer confidential routine HIV testing, in a nonjudgmental manner, to at risk populations and the importance of maintaining and increasing access to health care among vulnerable populations.

Notably, a smaller proportion of non-Hispanic White MSM than African American and Hispanic MSM had been tested in the prior 12 months, despite engaging in risk behaviors in similar proportion and having greater access to primary care doctors. This finding highlights the continued importance of training primary care providers to offer HIV testing as a standard of care to all populations (in accordance with CDC guidelines), regardless of provider-perceived risk or patient's race/ethnicity. One of the controversies with provider-based HIV testing to date has been subjective reliance on who appears to be "at risk" for HIV, resulting in missed testing opportunities. Similarly, none of non-Hispanic White participants identified prison as a setting where HIV testing had been performed compared with the two other ethnic groups. Once again, this finding may highlight the need to advocate for legislation for increased HIV testing, treatment, and prevention to all the prison population regardless of race/ethnicity. However, because we did not inquire about imprisonment history, it is impossible to discern whether this finding is the result of ethnic differences in incarceration rates or ethnic differences in testing rates.

Conversely, smaller proportions of participants reported receiving a test in a community venue or an STD clinic: African American MSM (21.7%), Hispanic MSM (22.4%), and non-Hispanic White MSM (13.9%). This finding suggests that such venues might offer additional access to testing in this population of men. Past research suggests that recruiting individuals to receive an HIV test via alternate venues such as community settings is less effective in detecting previously undiagnosed HIV-positive individuals compared with other recruitment venues such as social networks. Despite this, increasing testing outreach services at community venues has been shown to be effective at recruiting young MSM (Halkitis et al., 2011), who are less likely to test than older counterparts (MacKellar et al., 2011).

Interestingly, the majority of our participants indicated that they looked for partners in mainstream social networking Internet sites such as Facebook and MySpace, rather than in sites that specifically cater to MSM. This finding indicates the potential benefit of marketing HIV testing in mainstream internet social networking sites, rather than MSM-specific sites. Advertising HIV testing in mainstream sites may additionally contribute to normalizing HIV testing in vulnerable populations and serve as a reminder to reduce risky sexual behavior practices or initiate new relationships safely (Spielberg et al., 2001). Furthermore, advertising HIV testing in nonspecific MSM sites may be more acceptable than advertising in sites where promoting HIV testing is perceived as interfering with pleasure and sexual freedom (Lorenc et al., 2011).

Our second aim was to identify preferred sources to receive information about HIV testing and whether preferred sources differed by ethnic background. Our results appeared to suggest that our participants preferred to receive information through mainstream media sources. However, when we formally analyzed ethnic differences, we observed a lower preference for mainstream media sources and a greater preference to receive information from primary care doctors among African American MSM. A caveat is that we are unable to decipher if this finding is because of the high percentage of individuals who reported already receiving an HIV test in the office of a health care provider. However, no significant association was detected between having had a test in the office of a health care provider and preference to receive information from authority figures in African American MSM ($\chi^2 = .02$, df [degrees of freedom] = 1, $p = .87$). Past research on HIV testing preferences indicates that confidentiality of results is a highly valued attribute of the HIV testing process (Phillips, Maddala, & Johnson, 2002) and that perceived lack of confidentiality is a key deterrent of HIV testing, especially among vulnerable populations (Spielberg et al., 2001). A primary care doctor's office may be perceived as a testing site that offers a higher degree of respect and confidentiality compared with other sites such as a community STD clinic. Prior research with a largely heterosexual African American male population also found a strong preference for HIV testing in primary care physicians' offices (Petroll, et al., 2008). However, this post hoc explanation warrants further research.

Our research findings have implications for social marketing campaigns aimed at increasing HIV testing. Research suggests that public health campaigns that use the principles of social marketing have proven effective in reaching underserved populations at high risk of contracting HIV (Martinez-Donate et al., 2009) and contribute to normalize stigmatized

behaviors. However, formative research aimed at understanding appropriate sources is necessary to increase the likelihood that the target population will be exposed to the campaign (Plant et al., 2010). Thus, successful social marketing campaigns to increase awareness begin with the identification of the preferred venues or sources to receive information by target populations (Grier & Bryant, 2005). However, to date, significant resources are being spent in the use of mass media without an adequate understanding of whether ethnic differences exist in preference for communication sources. Our study, pending replication, may suggest that authority figures or health care providers may be a superior or equally effective route to provide information about HIV testing to African Americans than to other ethnic groups.

Our findings have implications for the marketing of the recently Food and Drug Administration–approved HIV home test kit, which provides individuals with one more testing option at their disposal. Prior research on preferred attributes of HIV testing methods indicates that individuals convey a strong preference for highly accurate, anonymous testing methods that yield instant results (Phillips et al., 2002). However, as with any other sexual health technology, the recently approved home test comes with accuracy, confidentiality, and timing of results trade-offs. Regarding accuracy, it is estimated that 1/12 tests will be false negatives compared with 1/5,000 false positives (CDC, 2008). The home test scores high on the potential for confidentiality and immediacy of results because it is a test that individuals can take in the confines of their homes that will provide results in 30 minutes or less. Health care providers may be in a particularly suited position to disseminate easy to understand information about the trade-offs of using diverse testing methods to encourage truly informed decision making regarding HIV testing. Informed decision making regarding HIV testing may be a more acceptable and more cost-effective counseling method than traditional pretest counseling (Spielberg et al., 2001).

This study has several limitations. First, the results are based on a sample of convenience. Although our sample size was large, participants were recruited exclusively from a metropolitan area. Second, recruitment venues included annual gay pride events, community events with primarily African American audiences, gay clubs with a majority Hispanic clientele, and other venues with diverse participants, such as block parties and drag shows. Thus, our results may not generalize to hard-to-reach, underserved individuals living in rural environments and those who may not publicly identify as gay. Future research should be conducted with a larger randomly selected sample. Pending support from future research, the findings of our study have important implications for the dissemination of health promotion messages aimed at populations at high risk of contracting HIV.

Regular HIV testing is an important prevention and treatment strategy. However, many high-risk vulnerable populations are not being reached. Our study revealed clear preferences to receive information about HIV testing among specific populations at risk for HIV. However, for future research, we advocate for the use of an experimental study designed to identify the most effective HIV testing marketing strategies for hard-to-reach vulnerable populations.

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TABLE 1

Demographic Variables Across Ethnic Group

Variable	Ethnic Group					
	Hispanic		Non-Hispanic White		African American	
	n	%	n	%	n	%
Sexual orientation						
Gay	71	83.5	404	92.2	91	75.8
Bisexual	10	11.8	24	5.5	23	19.2
Education						
High school only	36	43.0	93	21.2	59	49.0
College	48	56.0	345	78.8	61	51.0
Insurance status						
Insured	50	58.8	348	79.8	75	63.0
Uninsured	35	41.2	88	20.1	44	36.7
Employment status						
Employed	66	77.6	318	72.9	73	39.2
Unemployed	19	22.4	118	27.1	47	60.8
Primary care doctor						
Yes	56	65.9	333	76.0	85	70.8
No	24	30.0	103	23.5	29	25.4
Relationship status						
Single	47	55.3	203	46.3	81	67.5
Monogamous relationship	33	38.8	174	39.7	26	21.7
Nonmonogamous relationship	2	2.4	59	13.5	10	8.3
Number of partners						
0	7	8.2	56	12.8	12	10.0
1	31	36.5	157	35.8	30	25.9
2	14	16.5	70	16.0	26	21.7
3-5	19	22.4	72	16.4	27	22.5
>5	12	14.1	76	17.4	21	17.5

NOTE: Number of partners refers to number of new male sex partners in the last 12 months. Some percentages do not add to 100% because of missing data.

TABLE 2**HIV Testing Venue in the Prior 12 Months**

HIV Testing Venue	Ethnic Group		
	% Hispanic	% Non-Hispanic White	% African American
Physician's office	45.9	56.6	54.1
Community venue	7.1	7.3	12.5
STD clinic	15.3	6.6	9.2
ER/urgent care clinic	2.5	1.7	5.8
Jail	1.2	—	3.3

NOTE: HIV = human immunodeficiency virus; STD = sexually transmitted disease; ER = emergency room.

TABLE 3

Logistic Regression equation for Preference to Receive Information about the HIV test in Mainstream Media

Variable	B	SE	OR	95% CI	Wald Statistic	p
Tested prior 12 months	0.05	0.25	1.05	[0.63, 1.75]	0.04	.83
Doctor recommended HIV test	0.25	0.27	1.29	[0.75, 2.21]	0.87	.34
Hispanic	−0.14	0.35	0.86	[0.43, 1.72]	0.17	.67
African American	−0.88	0.34	0.41	[0.21, 0.81]	6.63	.01

NOTE: HIV = human immunodeficiency virus; OR = odds ratio; CI = confidence interval.

TABLE 4

Logistic Regression Equation for Preference to Receive Information About the HIV Test From Authority

<i>Variable</i>	<i>B</i>	<i>SE</i>	<i>OR</i>	<i>95% CI</i>	<i>Wald Statistic</i>	<i>p</i>
Tested prior 12 months	—0.13	0.34	0.87	[0.44, 1.72]	0.15	.69
Doctor recommended HIV test	—0.09	0.36	0.91	[0.44, 1.87]	0.06	.79
Hispanic	—0.05	0.44	0.90	[0.39, 2.25]	0.01	.90
African American	1.90	0.74	6.71	[1.54, 29.09]	6.47	.01

NOTE: HIV = human immunodeficiency virus; SE = standard error; OR = odds ratio; CI = confidence interval.