

# Use of awareness raising campaigns to expand HIV testing: experiences in the Bronx, NY and Washington, DC (HPTN 065 study)

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## Abstract

**Purpose** – Awareness raising campaigns have been used to promote HIV prevention messages, including the expansion of HIV testing, but initiating such campaigns de novo can be costly. Both the Bronx, New York and Washington, DC have significant local HIV epidemics and a history of efforts to scale-up HIV testing. To build on prior HIV testing campaigns and create new messages based on consultation with diverse stakeholders, a partnership with a community-based clinical trial to enhance HIV testing and treatment was established. The purpose of this paper is to describe the history of HIV testing campaigns in the two jurisdictions, the awareness raising conducted in collaboration with the HIV Prevention Trials Network (HPTN) study (HPTN 065) and provide evidence of its effect in these two communities.

**Design/methodology/approach** – The foundation of prior campaigns allowed for expansion of social mobilization efforts to specific priority populations (gay men and other men who have sex with men), the most severely affected groups in both communities, and to expand the efforts to include clinical settings. New compelling and acceptable messages were shaped through engagement with community members and based on input from focus groups with target populations in each city.

**Findings** – By engaging the target population in the development of new messaging, HPTN 065 study successfully built on campaigns that were already underway in both jurisdictions and was able to use those messages and platforms to further normalize HIV testing.

**Practical implications** – Modifying and adapting existing messages saved time and resources, which can be important factors to consider in settings with limited resources or high media purchasing costs.

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**Originality/value** – Efforts of this kind may ultimately help to decrease HIV transmission in large urban settings.

**Keywords** HIV testing, Awareness raising campaign, HPTN 065

**Paper type** Technical paper

**Introduction**

Of the approximately 1.2 million adults and adolescents living with HIV in the United States (US), it is estimated that 13.3% are unaware of their infection (Centers for Disease Control and Prevention [CDC], 2016). The primary goal of HIV testing is to reduce the proportion of individuals unaware of their HIV positive status and to link those who are HIV-positive to HIV care and antiretroviral treatment (ART) services with the ultimate goal of sustained viral suppression. Timely and sustained viral load suppression can reduce morbidity and mortality among those on treatment (Gardner *et al.*, 2011; Kitahata *et al.*, 2009; Ulett *et al.*, 2009) and nearly eliminates the likelihood of secondary transmission (Cohen *et al.*, 2011). A disproportionate percentage of HIV transmissions (49% in the US) are from individuals unaware of their status (Hall *et al.*, 2012). Once aware, most HIV-positive individuals voluntarily reduce behaviors that could lead to sexual transmission, at least in the short term (Marks *et al.*, 2006). It also allows HIV-positive individuals to access care, initiate ART and achieve viral suppression, which is of benefit for their own health and decreases risk of HIV transmission to others (Cohen *et al.*, 2011; Lundgren, *et al.*, 2015). HIV testing also creates an opportunity to discuss preventive interventions for individuals who test HIV negative, including pre-exposure prophylaxis for prevention of HIV acquisition. Thus, HIV testing allows both HIV-positive and -negative persons to optimize their own health as well as to prevent transmission to others.

Both the Bronx, NY and Washington, DC in the US had significant local HIV epidemics and a history of large-scale HIV testing campaigns (Table 1). In 2011 at the time of initiation of the study described below, 1.8% and 2.4% of Bronx, NY and Washington, DC residents, respectively, were diagnosed with HIV (23,748 and 15,056 individuals, respectively) with new diagnoses disproportionately among gay men and other men who have sex with men (MSM); Black and Latino communities; and those living in neighborhoods with higher poverty rates (District of Columbia Department of Health (DC DOH), 2012a, 2012b; New York City Department of Health and Mental Hygiene (NYC DOHMH), 2012). Testing campaigns at that time such as “The Bronx Knows” (Bauman *et al.*, 2013; Myers *et al.*, 2012; NYC DOHMH, 2011) and “Ask for the Test” (Castel *et al.*, 2012; CDC, 2010; Greenberg *et al.*, 2009) included information on importance of and how to get an HIV test with options for a free test.

	Bronx, NY	Washington, DC
Estimated total population	1,382,480 (NYC DOHMH, 2012)	617,996 (DC DOH, 2012a, 2012b)
Number diagnosed and living with HIV/AIDS, 2011	23,748 (NYC DOHMH, 2012)	15,056 (DC DOH, 2012a, 2012b)
% diagnosed and living with HIV/AIDS, 2011	1.7% (NYC DOHMH, 2012)	2.4% (DC DOH, 2012a, 2012b)
Expanded HIV Testing campaign prior to HPTN	“The Bronx Knows” (Myers <i>et al.</i> , 2012; Bauman <i>et al.</i> , 2013; NYC DOH, 2011)	“Come Together DC–Get Screened for HIV” “Ask for the Test” (Castel <i>et al.</i> , 2012; CDC, 2010; Greenberg <i>et al.</i> , 2009)

**Table 1.**  
Context of HPTN  
065: Bronx, NY and  
Washington, DC

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Due to the magnitude of the HIV epidemic in the Bronx, NY and Washington, DC, these two communities were chosen for the HIV Prevention Trials Network (HPTN) study, HPTN 065. HPTN 065 was a study to assess the feasibility of a community-level HIV test, link to care, plus treat strategy (TLC-Plus) in the US (Gamble *et al.*, 2017). In this paper, we describe the enhancement of awareness raising campaigns to promote HIV testing in the Bronx, NY and Washington, DC and provide evidence of its effect on these two communities.

### Methodology

Awareness raising campaigns are a frequently used strategy in global health to advance health behaviors and outcomes. They are an external process that begins and ends with a focus population (Carins and Rundle-Thiele, 2013). Evidence of effectiveness in achieving these health goals has been demonstrated with regards to HIV (Firestone, 2017). Awareness raising campaigns have been used both in the US and elsewhere as a component of a comprehensive approach to promote HIV testing. The approach involves the application of commercial marketing tools and principles to the design, implementation and evaluation of health promotion and behavior change programs (French *et al.*, 2010). Ideally, awareness raising campaigns result in the dissemination of well-defined behaviorally-focused messages to large audiences repeatedly, in an incidental manner and at a low cost per person (Abroms and Maibach, 2008; Wakefield *et al.*, 2010). Over the course of the US HIV epidemic various campaigns for HIV testing and prevention have been used, with increasing use of effective methods (Myhre and Flora, 2000; Noar *et al.*, 2009) with some evidence of benefit (Wakefield *et al.*, 2010). Community mobilization has also been used as a key component of successful expanded HIV testing campaigns on its own (Sweat *et al.*, 2011) and in combination with awareness raising campaigns, including those conducted in the Bronx, a large borough of NYC and in Washington, DC (Castel *et al.*, 2012; Myers *et al.*, 2012).

While awareness raising campaigns will be the term used to describe the activities encompassed in the Bronx, NY and Washington, DC projects, both jurisdictions applied core social marketing theory and benchmark criteria in constructing their campaigns (Andreasan, 2002; National Social Marketing Centre, 2012). Awareness raising campaigns following social marketing theory address complex, often socially controversial behaviors (in this instance HIV and sexual health), with delayed and distant benefits to audiences who often do not recognize they have a problem, to which they are not always seeking a solution (Smith, 2006). With regard to that characterization, the campaigns clearly identified increased HIV testing as the health factor for change. Both emphasized engagement with populations of MSM in the formative development to meet the customer orientation criteria. Health behavior model theory (Rosentock, 1974) underpinned the campaigns by identifying the perceived susceptibility of a population with a higher risk of HIV, perceived severity of not knowing one's status, perceived benefits related to further prevention opportunities and perceived barriers through reassurance and support (Glanz, 2002). These approaches contributed to a building of confidence to know your HIV status and, specifically, to get tested. The campaigns were also informed by self determination theory (Deci and Ryan, 2008) of motivational factors to competence and life goals and competence motivational theory (Harter, 1978) incorporating components of effective actions (e.g. HIV testing) and internalized reward (e.g. knowing one's status). The campaigns relied on insights from prior testing initiatives in the jurisdictions and attaching benefit to the action of getting tested. The exchange criteria factors in the campaigns by appealing to individual benefits to know status as an individual's ownership of their health status. The campaigns had a mixed approach to the competitive criteria. Focusing on MSM was a distinct feature of both campaigns in appreciation of the impact of the epidemic on this population. While the

recommendation for HIV testing among the general population was for annual testing, one campaign emphasized testing twice annually for the MSM-focused campaign and the other had a message of everybody needs an HIV test but had images of men who could be seen as a couple (Figure 2). These messages aimed to draw attention from MSM, and also had an implicit message as to eschew stigmatization, which has been a criticism of social marketing (Kubacki and Szablewska, 2017). The campaigns in both cities also avoided perceived negative consequences of testing or alternatives to testing that could unintentionally dissuade a person from accessing testing or knowing his status or stigmatizing a focus population for not getting tested. Methods or marketing mix was integral to the campaign. The approach required the application of the “four P’s”. The campaigns covered product (HIV testing), price (free or covered by insurance), place (clinical- or community-based settings) and promotion (prioritized outlets to reach focus populations of gay/bisexual men) (Petty and Cacioppo, 1986).

The campaigns recognized the value of social advertising, in particular peer affiliations (e.g. images of gay men) promoting HIV testing. This approach has demonstrated efficacy in reflecting peer population affinity characteristics inclusion of social cues (Bakshy, 2012). In implementation, community-based partners leveraged promotional materials in communicating benefits of testing directly to the focus population. The campaigns also incorporated the conceptual principles of a disciplined process with research and planning, segmented focus audiences, employing recognizable cultural elements combined with qualitative and quantitative data approaches and a responsive process based on regular engagement with customer audiences and evaluation (Walsh *et al.*, 1993).

While space limits a full examination of other HIV related awareness programs, there is evidence from mixed analysis that HIV testing campaigns can improve behavioral outcomes (Olawepo, 2018). Overall, 38% of studies did indicate improved testing rates among populations, including among MSM. HIV testing increased among MSM in Toronto and Ottawa by 20% to 23% following exposure to campaign messages (Adam, 2016). The Canadian campaign development was similar to the campaigns described in this paper using a commercial marketing agency and population-focused engagement. The Tu Amigo Pepe Campaign in Seattle, WA used the integrated behavioral health model as its theoretical framework, which resulted in increased HIV testing rates outcomes regarding intention, experiential attitude, instrumental attitude, self-efficacy and norms toward HIV testing (Solorio *et al.*, 2016). There is a commonality among the studies that there is inconsistent application of theories and social marketing criteria, however, there remains potential for impactful behavioral outcomes (Wei, 2011).

### **Development of enhanced awareness raising for HIV testing**

In both the Bronx, NY and Washington, DC, the HPTN 065 study funded enhancement of ongoing awareness raising campaigns and supported message refinement to address gaps identified in each jurisdiction in terms of HIV testing (El-Sadr and Branson, 2010). This included development of new materials with stakeholder input and for material dissemination. In both jurisdictions, the HPTN 065 study built on a history of leadership in HIV testing and associated awareness raising campaigns.

One of the gaps that the departments of health in both jurisdictions [NYC Department of Health and Mental Hygiene (NYC DOHMH) and the District of Columbia Department of Health (DC DOH)] identified and that both partners in this study sought to address was the lack of HIV testing campaign materials focused on MSM and bisexual men of color, the latter comprising the populations at highest risk of HIV acquisition in both jurisdictions (DC DOH, 2012a, 2012b; NYC DOHMH, 2013). Another area identified, specifically in the Bronx,

NY, was the need for further development of materials in response to a change in New York State (NYS) law that mandated the offer of routine HIV testing in most health care settings (NYS) (Figure 1). The overall study budget allocated \$229,530 to each city for media buys over three years or \$76,520 per year in each city. Below we describe the history of awareness raising in the two jurisdictions that was expanded upon and the development and implementation of the HPTN 065-related social mobilization expansion.

As the purpose of the awareness raising campaigns described here was the social product of HIV testing, the campaigns in the Bronx NY and Washington DC applied health behavior change theories to its approach. The campaigns sought to redefine social norms on HIV testing behavior. In the Bronx, the messaging intended to contextual HIV testing among population groups: “Any Body Can Get HIV; Man or woman, gay or straight, young or old, everybody needs an HIV test.” That message was complemented by a change in New York City’s HIV testing law that indicated that health care providers were required to offer HIV testing. The new social norm is to say yes to providers when offered the HIV test. Washington, DC promoted the norm of HIV testing twice per year for gay/bisexual men or MSM. The use of the annual seasons to schedule testing reflected self-efficacy and planned

<p><b>Enhancement to HIV Testing Awareness Raising Campaigns in Bronx, New York</b></p> <ul style="list-style-type: none"><li>• <u>Existing awareness raising campaigns</u><ul style="list-style-type: none"><li>○ <i>The Bronx Knows</i>- citywide campaign to promote HIV testing in the Bronx</li><li>○ <i>Say Yes to the Test</i> – citywide clinic-based campaign to promote routine HIV testing</li></ul></li><li>• <u>Enhancements (2 stages):</u><ul style="list-style-type: none"><li>○ <i>The Bronx Knows</i> enhancement: Creation and dissemination of materials that featured men of color, to help reach young black and Latino men who have sex with men (MSM) at risk for HIV</li><li>○ <i>Say Yes to the Test</i> enhancement: Rebranding and increased distribution of campaign materials, to support routine HIV testing</li></ul></li><li>• <u>Campaign materials and placement:</u><ul style="list-style-type: none"><li>○ <i>The Bronx Knows</i> enhancement: posters at MSM-friendly venues, online banner ads on MSM-friendly websites and dating applications, and ads in MSM-friendly publications</li><li>○ <i>Say Yes to the Test</i> enhancement: posters, easels with palm cards and Action Kits; all distributed to Bronx healthcare providers</li></ul></li><li>• <u>Evaluation strategy:</u><ul style="list-style-type: none"><li>○ <i>The Bronx Knows</i> enhancement: process data (e.g. number of impressions) and data from NYC Community Health Survey and the National HIV Behavioral Surveillance (NHBS) survey among MSM</li><li>○ <i>Say Yes to the Test</i>: process data and survey at Bronx clinical sites</li></ul></li></ul>
<p><b>Enhancement to HIV Testing Awareness Raising Campaign in Washington, DC</b></p> <ul style="list-style-type: none"><li>• <u>Existing awareness raising campaign</u><ul style="list-style-type: none"><li>○ <i>Ask for the Test</i>- citywide campaign to promote HIV testing in Washington, DC</li></ul></li><li>• <u>Enhancement:</u><ul style="list-style-type: none"><li>○ Creation and dissemination of materials that featured men of color and emphasized frequent testing, using a new tagline “Do it in the Snow, Do it in the Sun.”</li></ul></li><li>• <u>Campaign materials and locations:</u><ul style="list-style-type: none"><li>○ Metro bus advertising, online banner ads on MSM-friendly websites and dating applications, and ads in MSM-friendly publications, radio ads, distribution of materials (e.g., reminder cards, water bottles) at MSM-friendly venues</li></ul></li><li>• <u>Evaluation strategy:</u><ul style="list-style-type: none"><li>○ Process data (e.g. number of impressions)</li><li>○ Data from the National HIV Behavioral Surveillance (NHBS) survey among MSM</li><li>○ Evaluation survey of Washington DC residents, oversampled for MSM</li></ul></li></ul>

**Figure 1.**  
Summary of HPTN  
065 Enhancements of  
Ongoing Awareness  
Raising Campaigns in  
the Bronx and  
Washington, DC

behavior theory ([Hornik and Yanovitzky, 2003](#); [Evans, 2006](#)). These applied theoretical constructs guided and resulted in stronger evaluative outcomes for the campaigns.

*History of expanded HIV testing and awareness raising programs in the Bronx, New York and Washington, DC*

As early as 2005–2006, both departments of health began broadly expanding their HIV testing programs. In NYC, a 2005 report by the Mayor’s NYC Commission on HIV/AIDS called for expand(ed) HIV testing to increase the proportion of HIV-positive New Yorkers who know their status as one of its top-line recommendations (Report of the NYC Commission on HIV/AIDS, 2005). The City began funding expanded testing sites including at clinical facilities and non-clinical locations. In 2007, Bronx community leaders approached the NYC DOHMH to explore the prospect of a borough-wide community mobilization initiative to scale up HIV screening. Following a year-long capacity-building process The Bronx Knows Initiative was launched on June 27, 2008 (National HIV Testing Day). The goals of The Bronx Knows Initiative were:

- To ensure that all Bronx residents who had never had an HIV test were screened for HIV over three years.
- To identify Bronx residents with undiagnosed HIV infection.
- To link HIV-positive individuals to high quality care and supportive services. In addition, residents with ongoing risk for HIV acquisition were encouraged to test at least annually.

By the end of the three-year initiative, more than 75 organizations had participated including seven of eight Bronx hospitals, 39 community health clinics and 20 of the borough’s largest community-based organizations (CBOs); other participants included colleges/universities, faith-based institutions, local commercial establishments and community boards. Overall, 607,570 HIV tests were conducted, 1,731 individuals (0.3%) were newly diagnosed as HIV-infected by self-report and more than three-quarters of these individuals, according to reporting partners, had linked to HIV primary care ([NYC DOHMH, 2011](#)).

The Bronx Knows Initiative included extensive awareness raising as part of its community mobilization strategy. The initiative sought to normalize both the offer and uptake of HIV testing for all Bronx residents. The NYC DOHMH, with input from a steering committee of Bronx community partners, developed messaging for both health providers and local residents. Messaging to health providers used a peer-delivered format. Well-respected local primary care and emergency department clinicians agreed to produce public service announcements (PSAs) for the initiative in English and Spanish, with messages such as “I test all of my patients for HIV, and so should you.” From 2010 to and 2011, health department staff also conducted public health detailing to internal medicine and family practice medical practices in the Bronx to promote the offer of HIV tests according to CDC recommendations. Artwork aimed at residents used the original tag line “Everybody Needs to Know.” With the subheading: “Man, woman, gay or straight, you’ve gotta get tested for HIV. Found early, it’s treatable. Ignore it, and it’s deadly” ([Figure 2](#)). The ads contained options for how to obtain information on testing site locations (call 311 or a website), including those with HIV tests available free of charge. Ads were featured on billboards in the Bronx and dominated ad space in the Yankee Stadium subway station.

A parallel effort for expanded HIV testing took place in Washington, DC. In 2005, renewed attention to HIV was prompted by surveillance data which suggested that the rate



**Figure 2.**  
Awareness Raising  
Campaigns from  
“The Bronx Knows”  
and DC DOH (prior to  
HPTN 065)

of newly reported HIV cases was higher than in other comparable US cities (136.4 per 100,000 people) based on critical investigative report by a watchdog organization called DC Appleseed (DC HIV/AIDS Epidemiology Annual Report, 2007; Greenberg *et al.*, 2009). The DC Mayor declared HIV to be his top public health priority. In June 2006, the DC DOH launched a citywide rapid HIV screening campaign called “Come Together DC—Get Screened for HIV” (Castel *et al.*, 2012). The community was involved at the outset including government leaders, clinics and hospitals, faith-based leaders and multiple other stakeholders (Martin, 2010). City officials called stakeholders in for a meeting with physicians. In addition to local philanthropists, the city involved the corporate sector. The campaign had three goals:

- (1) To reinvigorate the city’s response and engage the entire community to stop the spread of HIV.
- (2) To routinize HIV screening in both clinical and non-clinical settings.
- (3) To reduce HIV transmission through linkage to care, treatment and encouragement of healthy decisions.

Between July 2006 and September 2007, the DC DOH received results for 38,586 individuals tested through the initiative (Castel *et al.*, 2012). Of these, 662 (1.7%) individuals received a

preliminary positive result and those who tested preliminary positive were 40% more likely than those individuals who had tested within the prior year, to report that this was their first-ever HIV test, suggesting that the campaign may have been instrumental in helping to identify undiagnosed persons.

Early HIV-related awareness raising in Washington, DC used a call to action that was intended to drive patient/client demand for screening. Adopting a technique frequently used by the pharmaceutical industry to drive consumer demand (e.g. Ask for the purple pill), the materials featured members of highly impacted demographic groups holding a large sign with the call to action: "Ask for the Test," with the subhead: "DC Takes on HIV" (Figure 2). These ads also contained options for how to obtain information on testing site locations (call 311, website or text for information), including those with HIV tests available free of charge. Ads were featured at transportation hubs (including airports) and billboards. Like The Bronx Knows Initiative, "Ask for the Test," became highly recognizable throughout the DC area, embodying its own type of local, HIV testing brand.

#### *HPTN 065 study enhancement of awareness raising efforts in the Bronx*

The first stage of the Bronx HPTN 065 study awareness raising campaign prioritized young black and Latino MSM. This approach followed the theoretical social marketing principle of research and planning to segment, identify and understand the focus audience. In the fall of 2009, the HPTN 065 study Community Advisory Group (CAG) provided early feedback on the types of messages and advertisements that would appeal specifically to young MSM of color. CAG members suggested developing bolder images and taglines that acknowledged casual sex encounters among MSM. The advertising agency that had previously worked with NYC DOHMH updated "The Bronx Knows" artwork accordingly and presented multiple options to the CAG and NYC DOHMH for consideration and approval. The reactions were mixed with some in favor of the bold nature of the new design options and others voicing concern that the new messages focused too heavily on sex and not enough on health promotion. Based on this feedback, the advertising agency revised these concepts, producing a final version that ultimately remained closely aligned to "The Bronx Knows" creative treatments with a focus on the prioritized population identified. The final version showed two men of color standing next to one another with the same taglines from an updated "The Bronx Knows" brand: "Any Body Can Get HIV: Man or woman, gay or straight, young or old and Every Body Needs an HIV Test" (Figure 3).

The dissemination plan for these products was carefully considered. Choices that were excluded included use of billboards, radio and television, largely due to the fact that such approaches are not able to effectively and efficiently reach the population of interest: Bronx MSM of color. The decision was made to focus mainly on MSM-friendly venues and publications that reach NYC MSM in general. This approach included displaying posters at MSM-friendly venues and purchasing print and online banner ads including three-month ad buys from Google Adwords, MSM online dating sites (e.g. Manhunt and D-list) and Next Magazine (a print and online magazine for NYC gay men).

In early 2012, the Bronx HPTN 065 study awareness raising campaign changed its emphasis, to support the mandate of the 2010 amendments to the NYS HIV testing law. This new legislation mandated the offer of an HIV test to all persons aged 13–64 years in most hospital settings, including emergency departments, inpatient units and outpatient primary care venues [Chapter 308 of the Laws of 2010 (NYS, 2012)]. The law became effective on September 1, 2010; however, regulations were not released by NYS until February 2012. The shift in awareness raising to emphasize the new state-wide mandate aligned with HPTN 065 study goals to broadly expand HIV screening and to counteract anecdotal reports that

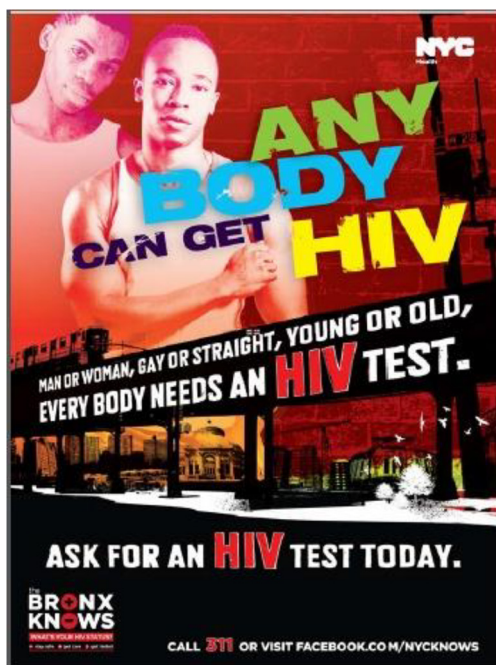
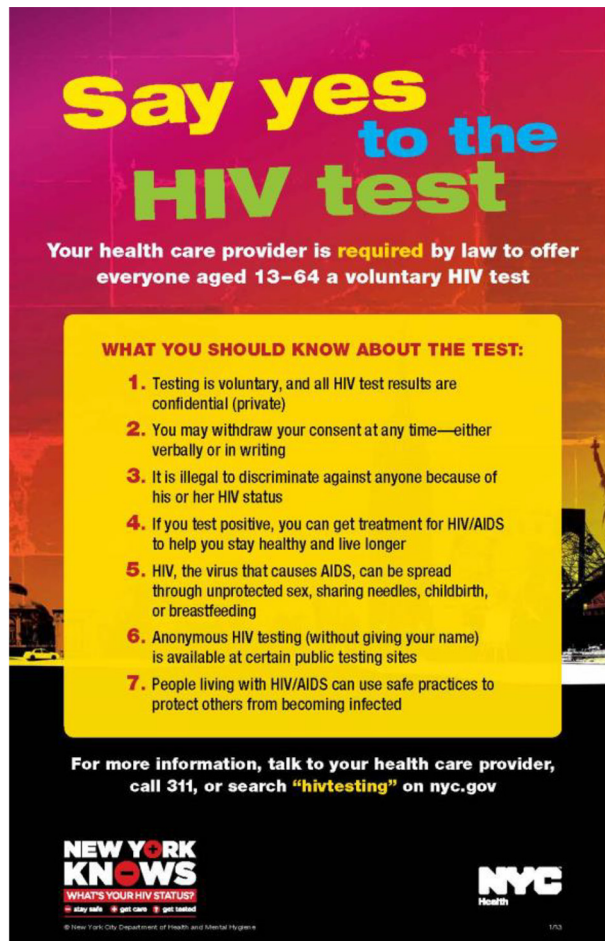


Figure 3.  
Awareness Raising  
Campaigns for MSM  
during HPTN 065 in  
Bronx, NY and  
Washington, DC

health providers were reluctant to offer the HIV test to all of their patients because they either did not perceive them to be at risk for HIV or feared that their patients would respond negatively to the offer.

The NYC DOHMH had already been receiving positive feedback from clinical providers regarding its “Say Yes to the HIV Test” poster that had been co-branded with the NY State Health Department. The poster informed patients about the 2010 mandated HIV test offer and provided the points of information about HIV and testing still required by law before a patient could consent (orally or in writing) to an HIV test in the State. Additional funding from the HPTN 065 study allowed these posters to be redesigned to align with the colorful (and now familiar) “The Bronx Knows” artwork (Figure 4). Additional funding also allowed for the production of dispenser easels with palm cards using the “Say Yes” tagline. NYC DOHMH ‘HIV Testing Action Kits’ for Bronx healthcare providers were updated using the branded artwork and tagline. These “Action Kits” contained clinical tools, provider resources and patient education materials to assist clinicians with expanding routine HIV



**Figure 4.**  
Awareness Raising  
Campaign to Promote  
New HIV Testing  
Law, Bronx, NY

screening in their practices. All three types of materials (the “Say Yes” posters, easels with palm cards and HIV Testing Action Kits) were distributed to Bronx healthcare providers throughout the summer of 2013.

#### *HPTN 065 study enhancement of awareness raising efforts in Washington, DC*

The DC DOH used the “Ask for the Test” campaign as the starting point for new messaging, as that tagline had already been established and was widely recognized. To support this approach, the study team worked with the same vendor that DC DOH had used to create the “Ask for the Test” brand. DC DOH identified the new twice-a-year testing recommendation as the key call to action for this new MSM campaign. The Health Department and HPTN 065 study team also sought to ensure that all MSM were reached, including non-gay-identified MSM, as the National HIV Behavioral Health Survey (NHBS) study had indicated that as many as 15% of the men did not identify themselves as homosexual (DC DOH, 2009). In previous focus group discussions with MSM, DC DOH staff took note that many African-American men reported not being fully open about their sexuality for fear of stigma. The question was how to be clear in the messaging that the connection between men implied sex without hyper-sexual images or messages that would deter attention by the focus audience. Therefore, DC DOH decided that the new creative effort would not reference gay men or be explicitly sexual. The theory constructs were blended in this approach to both define the audience while appreciating its particular cultural norms to promote effectiveness. In addition, DC DOH staff determined, based on multiple focus group discussions, that to draw attention, the creative treatment had to feature attractive men and have a playful message and also include images that included people and not inanimate objects.

The design firm developed three concepts for the HPTN 065 study awareness raising campaign, all with the key characteristics described above. All three included the same call to action “Ask for an HIV test twice a year,” but with different taglines: *We Interrupt This Ad For An Update*, *A Good Idea Just Got Doubled* and *Do it in the Snow, Do it in the Sun*. The third of these concepts was chosen, and the principal creative material included men featured twice, once attired for the winter and once for the summer. The color schemes evoked the original “Ask for the Test” campaign from DC Takes on HIV, and the creative treatment featured the “Ask for the Test” sign used in the earlier ads with the addition of an “x2” added on top (Figure 3).

During the three years of the expanded HIV testing component of HPTN 065, the dissemination strategy for the DC artwork used mixed outlets specific to MSM with those that reached a more general population to capture non-gay identified men. Placements included both traditional print and internet advertising. The outreach materials consisted of reminder cards (business card sized) and branded water bottles. Outlets that serve MSM included social networking web sites popular among MSM (e.g. Adam4Adam, Manhunt, D-list), gay-friendly and general print (e.g. Washington Blade, DC Agenda, Metro Weekly) and distribution of collateral materials at gay men’s events and venues. Metro bus advertising included both neighborhoods frequented by gay men and by the general population. Several media outlets covered both gay and non-gay identified men, including Metro buses, radio, print (Washington Informer) and Facebook.

#### **Process and outcome measures of the enhanced awareness raising campaigns**

Direct causation between awareness raising campaigns and specific health outcomes are notoriously difficult to prove. Below we describe process indicators that help assess the extent of message dissemination as well as population-based HIV testing estimates and surveys among the priority populations (Figure 1, evaluation strategies).

*Assessment of enhanced awareness raising in the Bronx, New York*

In the first iteration of the HPTN 065 campaign reaching Bronx MSM of color placement resulted in more than 2,050,000 tracked impressions from three months of online banner ads and two months of print magazine ads, resulting in an approximate cost of \$0.06 per impression. Impressions from Manhunt.com and Dlist.com were 550,000 and 100,000, respectively. There were an estimated 1.3 million impressions from the print and online versions of Next Magazine, combined. In addition, more than 200 campaign posters were displayed at 10 MSM-friendly venues in the Bronx and 13 HPTN 065 Bronx testing sites throughout the summer and fall of 2011. During the remaining two years of the study, 44,000 palm cards (with easels), as well as posters and action kits promoting HIV testing as a standard of care for providers and patients alike, were distributed to staff at approximately one-third of all Bronx healthcare networks and three-quarters of all Bronx hospitals.

Data from the NHBS among MSM suggested that testing among Bronx MSM was already high at 93.4% and 95.6% in 2008 and 2011, respectively (NHBS, 2014). This testing rate is far higher than the estimates derived from NYC's Community Health Survey (NYC DOHMH, 2014) for all Bronx males (70% and 75% in 2008 and 2011, respectively). Data from NHBS can also be used to estimate percent of those who are HIV positive but unaware of their HIV-positive status. Data from 2008 and 2011 NHBS surveys suggested a reduction in the percentage of Bronx MSM unaware of their HIV positive status from 48.4% in 2008 to 23.8% in 2011. This difference approached statistical significance ( $p = 0.07$ ).

NYC DOHMH staff also interviewed 169 visitors of four Bronx clinic sites that had "Say Yes to the Test" posters displayed in their waiting rooms and examination rooms. Overall, 75% (123/169) of survey respondents correctly identified the main message of the poster (to "get tested" or "Say Yes to the HIV test"). Over half of respondents (59%,  $n = 100$ ) reported that the poster provided them with information about HIV and/or HIV testing that they previously did not know. Of those who recalled seeing the posters in the clinic for any period of time, 54% (49/90) indicated that seeing the poster made them more likely to want to get an HIV test. When survey respondents were shown the poster during the survey (active recall), 64% (108/169) reported that seeing the poster made them more likely to want to get an HIV test (B.Tsoi, personal communication, January 10, 2017).

*Assessment of enhanced awareness raising in Washington, DC*

Throughout the HPTN 065 study campaign, DC used multiple media platforms that reached MSM-identified and non-MSM identified audiences. For the duration of the campaign and in relation to the MSM oriented awareness raising efforts, DC recorded 2,118,000 impressions among internet and print media. This resulted in an approximate cost of \$0.03 per impression. The campaign placed ads on social networking internet sites, including Manhunt (596,000 impressions) and DList (44,853 impressions). The print outlets included the Washington Blade (750,000), Metro Weekly (216,750) and DC Agenda (300,000). The campaign employed a firm called Poster Giant to place posters in 100 locations that were MSM-focused businesses (restaurants, gyms, clothing stores) and "wild posters" (billboards or other display areas) in MSM-focused neighborhoods. The number of impressions for this approach was 10,000. The campaign also produced promotional materials with the testing message that engaged community-based organizations to disseminate in outreach activities. The community partners integrated the materials into their core testing promotion distributing 20,000 appointment reminder cards and 5,000 water bottles at program sites, Pride events, and at MSM-focused establishments.

With respect to HIV testing overall, there was already a high reported rate of HIV testing among MSM in Washington, DC. Using NHBS data, in 2008, 95.6% of MSM reported that they were ever tested. In 2011, 97.0% of men reported ever tested. Though testing rates were unchanged, there was a significant reduction in the percentage of men who were HIV positive but unaware of their HIV positive status. Compared to the NHBS MSM cycle in 2008 where 40% of participants testing HIV positive reported being unaware of their HIV status, 23% reported being unaware in the MSM cycle in 2011 ([DC DOH, 2012a, 2012b](#)).

DC DOH also commissioned an evaluation of its awareness raising program to determine the effectiveness of its programs. The study conducted telephone (landline and mobile) interviews with 810 DC residents. To evaluate the HPTN component of the program, the study oversampled gay- and non-gay-identified men who had sex with men ( $n = 201$ ). Overall, 36% of gay men interviewed had seen the campaign materials. The study posed questions on whether or not the campaign had an impact on behavior. Respondents indicated that after seeing the campaign, 30% indicated that they obtained more information about HIV, 19% got tested for sexually transmitted infections and 16% got tested for HIV.

### Discussion

We provide an overview of the development and implementation of HIV testing awareness raising campaigns tailored to specific audiences in two US cities highly impacted by HIV, both of which served as intervention communities for the HPTN 065 study. The HPTN 065 study built on campaigns that were already underway in both jurisdictions and was able to use those messages and platforms to further normalize HIV testing based on social marketing theory. In both the Bronx, NY and Washington, DC, large-scale efforts that predated HPTN 065 provided taglines and creative concepts formed a platform on which to build new messages based on consultation with diverse stakeholders. This enabled efficiency with saving of time and resources, which is an important issue to consider in settings with limited resources or high media purchasing costs. In both jurisdictions, this allowed for a progression from marketing on a set of messages for the general population to marketing to specific, prioritized populations based on knowledge of the local HIV epidemiology. This type of expansion is a relatively common crossroads for public health organizations and one that should be guided by evidence-based literature.

The development and implementation of this effort also demonstrated the importance of engaging the prioritized population, including the racial/ethnic diversity within the population, in the development of messages and the evaluation of the comprehension, exposure and awareness of the campaign. In both the Bronx, NY and Washington, DC, the health departments obtained input from the community: the Community Advisory Group in New York and focus groups in Washington, DC. The inputs from these community groups and individuals helped shape compelling and acceptable messages reflecting theoretical strategies to build ownership among communities.

Process and outcome measures were used to evaluate the effects of the HPTN 065 awareness raising efforts. They both showed promising results, though the findings are subject to limitations and challenges. Few data exist regarding the degree of advertising spending required and/or media impressions needed to achieve specific increases in HIV testing rates. Awareness raising funding provided through this study were a small fraction of overall awareness raising budgets in both jurisdictions and substantially less than the typical cost of a large scale media campaign in these two media markets. Media campaigns in both NYC and DC are quite costly, which can

limit the number of locations, duration and type of media used for a particular marketing effort. Another limitation is that for the outcome measures for HIV testing rates and responses to each campaign were self-reported and, thus, subject to recall error and social desirability bias. Furthermore, it is difficult to attribute the effect on HIV testing to the awareness raising on HIV testing, as many other efforts to increase testing were occurring over the same time period.

Despite the limitations and challenges, the findings suggest that awareness raising expansion helped advance the HPTN 065 goal of expanding HIV testing by normalizing HIV screening in urban communities highly impacted by HIV. This is the key evidence of the impact of the awareness raising program on behavior change. Additionally, this program motivated a change within the health departments and their management decision-making relating to subsequent campaigns (Truong, V.D., 2014). The process elements of the campaigns guided the future development of awareness raising programs with more robust racially and ethnically diverse community and population engagement. The approaches used in these campaigns influenced the development toward a more sex positive message framework as evidenced by the multi-platform campaigns in New York City (“Be Sure. Play Sure. Stay Sure. Live Sure”; <https://www1.nyc.gov/site/doh/health/health-topics/hiv-besure-playsure-staysure.page>) and Washington, DC (“Sexual Being”; <https://sexualbeing.org/>).

The campaigns also prompt further research questions. In 2018, of new HIV diagnoses in the Bronx, 18% were considered late testing or concurrent with a Stage 3 (AIDS) status; the majority of these late diagnoses were among young people, African-American and Latino residents reflecting disparities seen in the epidemic overall (NYC DOHMH, 2019). Washington, DC had a similar rate at 16% late diagnoses as Stage 3 (DC DOH, 2019), with similar disparities by age, race, and ethnicity. The research could discern which messages were ineffective among late testers to have prompted earlier testing and whether other types of messages could be more effective. Another question is could tailoring messages for a select audience, in particular black and Latino MSM, result in stigmatizing the population and effectively reducing motivations for HIV testing. What is the balance between overemphasizing an audience and obtaining individual acceptance? Since these awareness raising campaigns, there has been the introduction of rapid point-of-care home test kit. Unlike a prior home test kit where the individual mailed a blood sample, the current test kit is an oral test with a preliminary result in approximately 20 min. A new research question is the viability of awareness raising campaigns for home-based testing. In 2018, both the Bronx and Washington, DC noted the highest proportion of new HIV diagnoses among young people ages 20–29 at 35.5% and 34.2%, respectively. There are research questions on youth-focused messages and mechanisms to advance testing among populations.

The lessons discussed here are very timely. In 2019, the federal government announced a new Ending the HIV Epidemic: A Plan for America. The initiative aims to reduce new HIV infections in the USA by 75% in five years and by 90% by 2030. The plan consists of four pillars of diagnose, treat, prevention and respond. The first pillar is to diagnose all people with HIV as early as possible. The CDC recently reported an estimate of 85.8% of all Americans with HIV are diagnosed in 2017 (Harris *et al.*, 2019). The study noted that young people had the lowest diagnosed proportion with the 13–24 year-old age group at 54.6% and the 25–34 year-old age group at 70.4%. Efforts of this kind may ultimately help to enhance outcomes among persons living with HIV, decrease HIV transmission over time, and effectively end the epidemic.

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