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Bathhouse distribution of HIV self-testing kits reaches diverse, high-risk population

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ABSTRACT

We distributed free OraQuick In-home HIV Test[®] kits to men at a gay bathhouse. Men were systematically selected to receive a coupon, which could be redeemed that night for an HIV self-testing kit. Those offered the coupon were asked to take an 11-item survey. About 181 men received coupons, of whom 92 (51%) accepted the coupon, and 61 (66%) men redeemed the coupon. Those who redeemed test kits and completed a survey ($n = 53$) were more ethnically diverse ($\chi^2 = 100.69$, $p < .01$) than those receiving the coupon. More than half had not tested in the past 6 months (50%) or never tested (7%). Importantly, men who had never tested or who last tested more than 6 months ago were among those most likely to take the free test kit. We found bathhouse distribution could reach a population of men who have sex with men most in need of improved access to HIV testing. Future studies should consider means of improved follow-up and linkage to care for those who test positive.

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KEYWORDS

HIV self-test; men who have sex with men; gay bathhouse

Introduction

The U.S. Centers for Disease Control and Prevention (CDC) recommends that sexually active men who have sex with men (MSM) test for HIV every 3 to 6 months (CDC, 2011). Gay bathhouses have been identified as a venue where a high proportion of non-testers can be found (Binson, Woods, Pollack, & Sheon, 2005). Evaluations of bathhouse-based HIV testing programs have shown them to successfully reach high-risk populations and to identify HIV-positive MSM in numbers comparable to or higher than in clinics where MSM test (e.g., Daskalakis et al., 2009; Huebner et al., 2010; Mayer et al., 2012). Still, these programs operate only a few hours a week at best and can only reach a limited number of men per hour of operation, depending on staff capacity. Thus, providing HIV self-testing (HIVST) kits in these venues could expand testing uptake among high-risk MSM who are most likely to benefit from them. We implemented a pilot HIVST distribution program, providing free OraQuick In-home HIV Test[®] kits to men at a gay bathhouse, to determine whether the program could reach those who never tested or who are infrequent testers and to characterize the testing behavior of those who accepted self-test kits.

Method

HIVST kits were distributed at a bathhouse in the San Francisco Bay Area during six Friday and Saturday night shifts that included regularly scheduled counselor-conducted HIV testing offered by a local clinic. In order to characterize and reach a representative sample of patrons, we aimed to enumerate all those entering the club over a 3-hour shift and then systematically select participants to receive a coupon to redeem a single HIVST kit. To achieve this, the recruiter stood near the entryway (where patrons both entered and exited the venue) in such a way that he could unobtrusively observe the comings and goings of patrons and conduct enumeration and select and approach patrons to offer them a coupon. The recruiter enumerated all entries/exits (depending on the shift) and recorded the estimated age and race/ethnicity of each selected client. An additional team member worked just a few feet away in the testing area with the clinic testing team, where he could assist with enumeration as needed and distribute the HIVST kits or refer a client to counselor-conducted testing if he desired. The six recruiters were diverse in age/race/ethnicity and had past experience conducting study recruitment in the bathhouse.

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The first two nights patrons received HIVST coupons at entry to the club, however it was determined that selection at exit would be more productive and thus the final four shifts included enumeration, selection, and approach with coupons at exit. During each shift, every man entering/exiting was counted and participants were selected if they were the first to enter/exit in the pre-determined time interval of 5 minutes. Intervals were expanded or reduced depending on the actual flow of patrons during the shift (e.g., if a high number of coupons were given out in the first hour, we lengthened the interval to try to distribute about 10 kits per shift; if a low number, then we shortened to 3 minutes).

Recruiters approached each selected client, telling him that he had been selected at random to receive a coupon for a free HIVST kit, which could be redeemed at the bathhouse that night. A selected individual was not asked any questions about testing needs; if he stated that he did not need an HIVST kit (e.g., HIV-positive, on pre-exposure prophylactic (PrEP)), the recruiter would encourage him to take the coupon and pick up the test kit for a friend who might use it. The coupon could be used only to redeem a single test kit and only on the night the coupon was accepted. Each coupon was numerically coded and this coupon number was recorded by the recruiter on a recruitment data sheet along with the estimated age and race. Those who presented the coupon were asked to complete an 11-item survey about testing history, HIV status and other demographic characteristics. The coupon code was recorded for every man who stopped by to redeem a self-test kit, regardless of whether he agreed to take the survey. The self-testing kit included information about where to get confirmatory testing and how to email their test kit experience to investigators.

The study design and all research materials were reviewed and approved by the Institutional Review Board of the University of California San Francisco.

The basic demographics were summarized for those who completed the survey, as well as for those the enumeration team recorded an estimated age and race/ethnicity. The measure of difference between the estimated age and reported age from the survey was calculated using Pearson Correlation Coefficient and an unordered independent samples *t*-test. The measure of difference between the estimated ethnicity and reported ethnicity was determined using a chi-square test for independence. All analysis was performed using Stata 13 (2013. *Stata Statistical Software: Release 13*. College Station, TX: StataCorp LP).

Results

Among the eligible population of 509 men either entering or exiting during one of the six study shifts, 181 were

systematically selected to receive coupons; 92 (51%) accepted the coupon. Although not asked, reasons volunteered for declining the coupon included being HIV-positive, on PrEP, or having recently tested. Sixty-one (66%) men stopped by to redeem the coupon during shift hours; 53 men completed the survey and 54 kits were distributed (or 30% of the selected men).

There were no significant differences between recruitment at entry vs. exit.

Estimated mean age of the enumerated population was 42.6; reported age of the men retrieving kits was 40.4. Age reported in the survey was highly correlated with the recruiters' estimates of age (Pearson Correlation Coefficient = 0.8, $p < .01$). While age did not differ between those taking kits and those entering the club (Table 1), those who took the survey were significantly more ethnically diverse ($\chi^2 = 100.69$, $p < .01$) than those approached with the coupon, indicating higher HIVST uptake among proportionally more Black/Latino MSM than white. In fact 43% of men retrieving kits were Black/Latino, while 32% of enumerated men were Black/Latino.

More than half of those who completed the survey reported they had not tested in the past 6 months (50%) or never tested previously (7%). A small proportion of those who took the kit were HIV-positive

Table 1. Characteristics of MSM enumerated and retrieving HIV self-testing kits.

Characteristic	Men offered coupon ^a		Men retrieving kit ^b		Measure of difference
	<i>n</i> = 181	%	<i>n</i> = 49	%	
Race					$\chi^2 = 100.69$ $p < .01$
African American/Black	18	9.9	2	4.5	
Hispanic/Latino	39	21.5	15	34.1	
White/Caucasian	84	46.4	13	29.6	
Asian/Pacific Islander	37	20.4	8	18.2	
Mixed race	0	0.0	6	13.6	
Age					$t = 0.52$ $p = 0.61$
21–30	43	23.9	12	31.6	
31–50	96	53.3	17	44.7	
50+	41	22.8	9	23.7	
Sexual identity:					
Gay			32	72.7	
Queer			2	4.5	
Homosexual			1	2.3	
Bisexual			9	20.5	
Ever HIV tested:			45/48	93.8	
Ever self-tested:			5/43	11.6	
When last tested:					
<6 months ago			19	44.2	
6–12 months ago			13	30.2	
1–3 years ago			6	14.0	
>3 years ago			5	11.6	
On PrEP:			4/41	9.8	
Result of last test:					
HIV positive			5	11.6	
HIV negative			38	88.4	

^aMajority of race/age data estimated by recruiters.

^bNumbers (*n*) may vary depending on missing survey responses and skip patterns.

(10%), most of whom reported being on anti-retroviral therapy (80%). Among negative men who took the test kit, 9% reported being on PrEP.

Three men (5%) emailed a brief response about their test kit experience, reporting only their negative test result.

Discussion

The proof of concept from this study can best be seen by the proportion of those reached with HIVST who were outside the range of recent testing recommended by the CDC, including three men who had never tested previously. Thus, use of self-testing kits in this type of high-risk MSM venue is likely both to be well received by the population and to reach those who would most likely benefit from the opportunity to receive this product (i.e., men from minority backgrounds and men who have not recently tested).

Further research is needed to determine the best means of distribution of self-test kits in these environments to optimize getting tests to men most in need. There may be lessons in the introduction of other forms of STI and HIV testing in bathhouses (Binson, Blea, Cotten, Kant, & Woods, 2005; Mayer et al., 2012; Woods et al., 2008), which have had similar success reaching at risk populations. However, unlike any of these programs, this new technology places the testing and results off site, which may appeal to a broader population. Other reports of HIVST distribution in bathhouses, which include distribution through vending machines or by request at the front desk, have found similar uptake of kits (McGrath, 2015; Swanson, 2015), nevertheless these approaches faced greater obstacles in characterizing those taking the kits and evaluating their use.

These data are from a small pilot study to distribute HIVST kits. The population cannot be fully characterized in terms of demographics and behaviors as demographic characteristics were estimated. Additionally, because anonymity was a key component of this exploratory pilot study in a space where anonymity is valued, identifiers were not collected and follow-up information was sparse. While this problem is not unique to distribution in a bathhouse, future research efforts will need to assess follow-up and linkage to care and will need to devise innovative means to gather such information and facilitate referrals, such as incentivizing follow-up.

Given the urgent need to increase HIV testing uptake and frequency among MSM, distribution of HIVST in areas where high-risk MSM congregate represents a feasible and acceptable opportunity to improve early detection and ultimately early entry into care, a critical step to stemming further transmission. This study provides additional evidence that HIVST may be optimal to reach populations in need of facilitated access to testing.

Disclosure statement

No potential conflict of interest was reported by the authors.

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