

The Free Condom Initiative: Promoting Condom Availability and Use in New York City

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SYNOPSIS

In 2005, the New York City Department of Health and Mental Hygiene (DOHMH) made free condoms available to organizations through a Web-based ordering system. In 2006, we interviewed managers and patrons about free condom availability, acquisition, and use in venues where people at high risk for human immunodeficiency virus congregate. DOHMH condom distribution increased from 5.8 million in 2004 to 17.3 million in 2006. Overall, managers reported making condoms available at 76% (309/409) of high-priority venues, but only at 40% of gay bars. Among patrons who saw free condoms, 80% (280/351) reported taking them; 73% (205/280) of those who reported taking them also reported using them. A simple, Web-based ordering system dramatically increased condom distribution. In the venues we sampled, the majority of patrons acquired and used free condoms when available and visible, suggesting that increasing free condom availability may increase use. Special efforts are needed to ensure availability at gay bars.

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New York City (NYC) has the largest epidemic of human immunodeficiency virus (HIV) in the U.S., with nearly 100,000 people living with the virus.¹ Condoms are a practical, efficacious, and cost-effective means to reduce the transmission of HIV and other sexually transmitted diseases (STDs).²⁻⁶ Distribution and social marketing of condoms have been estimated to save millions of dollars because of infections averted.⁷

The NYC Department of Health and Mental Hygiene (DOHMH) has distributed condoms in limited quantities since 1971 through its STD clinics, and later through acquired immunodeficiency syndrome (AIDS) service organizations and groups working with injection drug users. Until 2005, orders could be placed exclusively by phone or fax during DOHMH business hours. In a 2004 NYC survey, 30% of men with two or more recent partners reported no condom use at their last sexual encounter.⁸ In response to this finding and to a comprehensive set of recommendations made by a high-level panel of local HIV experts,⁹ in June 2005 the DOHMH expanded condom distribution to a wide range of groups under the rubric of the Free Condom Initiative, with the goal of increasing use. Specifically, the aims of the Free Condom Initiative were to (1) increase the number of condoms distributed, (2) broaden the distribution of condoms to a wide array of locations and organization types, (3) assure the visibility of condoms in participating sites, and (4) increase condom acquisition and use. Any NYC-based organization could order condoms without charge through a website or by calling 311, a public telephone number for information about NYC services.

After one year, we evaluated the Free Condom Initiative to determine the effectiveness of Web-based ordering as a condom distribution mechanism by assessing both the availability of free condoms and patrons' acquisition and use of these condoms. This article reports the results of our evaluation of the Free Condom Initiative and lessons learned.

METHODS

Marketing, ordering, and distribution

Under the Free Condom Initiative, DOHMH advertised the website address, www.nycondom.org, by e-mail to hundreds of health and social service organizations, such as homeless shelters; group homes; public and private hospitals and health centers; and community, youth, and senior centers, including AIDS service organizations, organizations working with minority populations, and organizations serving men who have sex with men. Staff from these organizations could order as frequently as necessary. Condoms were shipped directly

from the manufacturer to the ordering organization for delivery within 10 days of order placement. Though individual NYC residents could not order online, the website directed them to the city's health clinics, where free condoms were available to the public.

In addition to Web-based ordering, this initiative provided unlimited access to free condoms for individuals at DOHMH STD clinics and in buildings managed by DOHMH. In an effort to reach minority populations, DOHMH staff marketed, delivered, and restocked boxes of 1,000 condoms to small businesses such as beauty parlors, nail salons, and small hotels and motels in neighborhoods with high rates of HIV where district public health offices are located (i.e., South Bronx, Central Brooklyn, and East and Central Harlem). Lastly, two community-based organizations (CBOs) funded by DOHMH distributed condoms to small businesses and to the public through street outreach. Condom distribution for these specific programs was tracked separately but is included in the numbers reported in this article.

Evaluation of the Free Condom Initiative

Ordering organizations. We recorded the number of condoms ordered along with the organization name and type, postal ZIP code, telephone number, and the date and time of order. In June 2006, we randomly sampled 10% (59/594) of the organizations that ordered condoms online during the first six months of 2006. We conducted a short telephone interview to assess customer satisfaction with the Web-based service. An organization was contacted up to five times by telephone before being substituted by the next organization on the list.

Venue managers. Between mid-July and the end of September 2006, we conducted a survey to determine if the Web-based distribution resulted in free condoms reaching patrons in high-risk venues and assess if these condoms were being used. We conducted this operational evaluation as the first of a series of periodic surveys measuring the effectiveness of our Web-based condom distribution. The evaluation did not intend to measure citywide changes in condom use, as such an outcome evaluation would follow with results from the DOHMH's annual citywide telephone survey.

As part of the Free Condom Initiative's program planning, we presumed that condom ordering organizations would make condoms available in their offices and service centers. We also assumed that a subset of AIDS service organizations would distribute condoms via outreach (e.g., to men in gay bars).

To examine availability, we selected five venue types

where people at high risk of having or acquiring HIV may congregate: gay bars, homeless shelters run by NYC's Department of Homeless Services, New York State-licensed syringe exchange programs (SEPs), methadone clinics, and DOHMH-funded HIV/AIDS programs. We attempted to identify all gay bars in NYC's five boroughs. We defined a gay bar as a bar that catered to men who identify as homosexual, or a bar that had a regularly occurring night that catered to homosexual men. We identified gay bars through local newspapers, print media, and websites. For homeless shelters, SEPs, methadone clinics, and DOHMH-funded HIV/AIDS programs, we identified sites using lists provided by city and state agencies that fund or administer these programs in NYC.

To detect a 15% change in condom distribution in subsequent surveys, we estimated that we would need to interview 190 managers in each venue type. Because this number was larger than the absolute number of sites in each category, we aimed to interview managers at all identified venues ($n=516$), including 156 gay bars, 122 homeless shelters, 74 methadone clinics, 146 DOHMH-funded HIV/AIDS programs, and all 12 New York State-licensed SEPs, plus six additional outreach sites. Trained DOHMH field staff visited each site and conducted interviews in person. The highest-ranking staff person present at the time of the visit was approached to be interviewed at each site; for the purposes of our evaluation, we referred to this person as the "venue manager." We asked managers if their establishment provided free male condoms and, if so, how they obtained their condoms (i.e., through commercial purchase, free online ordering through DOHMH, or delivery by another organization) and how they distributed them.

Venue patrons. To detect a 15% change in condom distribution reported by patrons in subsequent surveys, we estimated that we would need to conduct 190 patron interviews in each venue type. We combined the SEPs and methadone clinics in our sample size calculations because of the small number of SEPs. We used two-stage cluster sampling to select a representative population of venue patrons at high risk for having or acquiring HIV. We clustered venues first by venue type (i.e., gay bar, homeless shelter, methadone clinic, or SEP) and then by geographic region (i.e., four high HIV-prevalence areas, as well as each of NYC's five boroughs). Venues approached for patron interviews were randomly selected from these clusters. To minimize bias at the individual level, we interviewed 10 patrons per site, using a systematic sampling approach (i.e., every fifth patron was approached until 10 patrons were reached; when the sample was small, all of the

patrons present were interviewed or every other person was interviewed). To obtain the requisite geographic distribution, we targeted 27 gay bars, 27 shelters, 10 SEPs, and 18 methadone clinics. Sites were randomly replaced if they had ceased business operations or if the manager refused to allow patron interviews. No patrons were selected from DOHMH-funded HIV/AIDS programs because these were found to have too few clients present at their venues at any one time to achieve the target number of patrons per venue in a reasonable time frame. Because SEPs were not geographically dispersed, we selected 10 sites with a high volume of clients. Participants received a \$15 gift certificate as compensation for their time.

To examine whether patron awareness, acquisition, and use of condoms differed by venue type, we created multivariate logistic models, accounted for the two-stage cluster sampling design (venue's geographic location and venue type), and adjusted for sex, age, and race/ethnicity. We created a logistic regression model for each of the three outcomes: knowing condoms were available, acquiring condoms, and using condoms acquired at the venue. The models included patron interviews and were then limited to patron interviews at venues where managers reported the availability of condoms. We also compared managers' and patrons' reports of condom availability using Chi-square tests.

The DOHMH Institutional Review Board reviewed the project and deemed it to be exempt research because the evaluation was for a public service program. The requirement for written consent was waived.

RESULTS

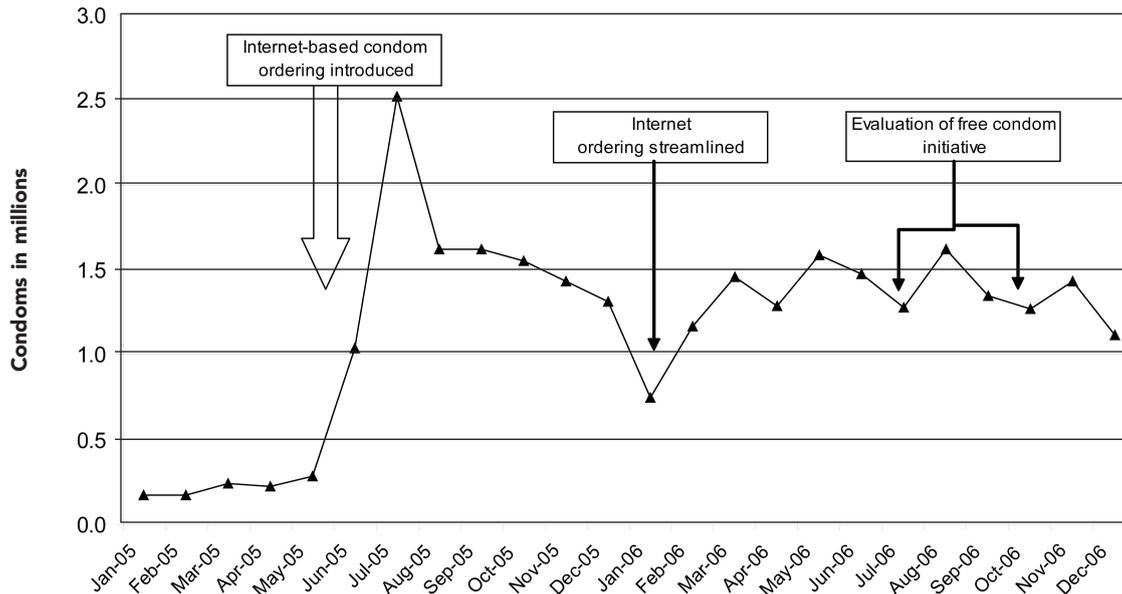
Condom ordering

With the introduction of a Web-based ordering system, DOHMH increased distribution of free condoms from 5.8 million in 2004 to 17.3 million in 2006 (Figure 1). The total cost of the Free Condom Initiative was \$1.59 million in 2006: \$350,500 for DOHMH staff salaries, transportation, and office costs; \$350,000 for two contracted organizations to distribute condoms in high-risk areas; \$639,500 for the condoms, condom bowls, and shipment; and \$250,500 for developing the Web-based condom ordering system.

Ordering organizations

In 2006, 877 organizations ordered condoms online, including health and social service organizations (59%), private businesses (clubs and party organizers ordered directly online, whereas nail salons, hair salons, barber shops, liquor stores, motels, and hotels were provided with condoms by DOHMH staff and two

Figure 1. Increase in number of condoms distributed following the expansion in June 2005 of the New York City Department of Health and Mental Hygiene Free Condom Initiative



CBOs) (21%), and DOHMH clinics (20%). Organizations in all five NYC boroughs placed orders, with the highest number of condoms going to areas with the highest HIV prevalence (Figure 2). More than 2.5 million condoms (nearly 15% of 17.3 million) were ordered via the Internet after 5 p.m. and before 9 a.m. The two CBOs contracted by DOHMH to distribute condoms dispensed 1.3 million condoms (8% of 17.3 million) in two high-prevalence areas.

For our customer satisfaction phone survey, we attempted to call 89 people and completed interviews with 61 of them (69%). Of all responders, 95% thought that the website was easy or very easy to use and 87% reported that condoms arrived within 10 days of placing an order, as promised by the website.

Venue managers. Of the 516 sites in which we attempted interviews, 20 had closed down, 33 were not the right venue type (e.g., straight bar rather than gay bar), and 11 were duplicate sites (e.g., same gay party in different locations). We were unable to contact managers at 18 sites. Twenty-five (6%) managers refused to participate, of which 11 were from gay bars, eight from methadone clinics, five from homeless shelters, and one from a DOHMH-funded site. Manager response rates ranged from 82% (gay bars) to 100% (SEPs). Overall, we interviewed 409 managers (90%) from 452 eligible sites.

Managers reported making free condoms available

in 76% (309/409) of venues: 94% of SEPs, 88% of DOHMH-funded HIV/AIDS programs, 85% of methadone clinics, and 78% of homeless shelters, but only 40% of gay bars.

Managers obtained free condoms as follows: 79% of DOHMH-funded HIV/AIDS programs and 71% of SEPs ordered their condoms online from DOHMH, compared with only 38% of methadone clinics, 13% of homeless shelters, and 6% of gay bars. Homeless shelters relied largely on obtaining condoms that had been ordered by the central office of the Department of Homeless Services (44%), or on outreach by CBOs (28%). Gay bars primarily depended on CBOs to periodically drop off a box of condoms at their locations and/or handouts by outreach workers (78%).

Venue patrons. We interviewed 740 patrons in 75 sites. The patron response rate was 86% in the 60 sites where we captured response rate data. In our sampling of venues for patron interviews, we met the target number of sites for gay bars (27) and SEPs (10). We also interviewed patrons in 23 shelters (85% of target) and 15 methadone clinics (83% of target). Because gay bars were heavily concentrated in mid- and lower Manhattan, we were able to sample gay bars only from five of nine geographic areas (i.e., Bronx, Brooklyn, Manhattan, Chelsea Clinton, and Queens). We interviewed at least 10 patrons in 95% of all sites permitting patron interviews.

Of interviewed patrons, 65% were male. Patrons identified as black (32%), Hispanic (33%), white (28%), and Asian or Pacific Islander (4%). Patrons were mostly U.S. born (83%), 15% were aged 18 to 24 years, more than half (53%) were aged 25 to 44 years, and 32% were older than age 45.

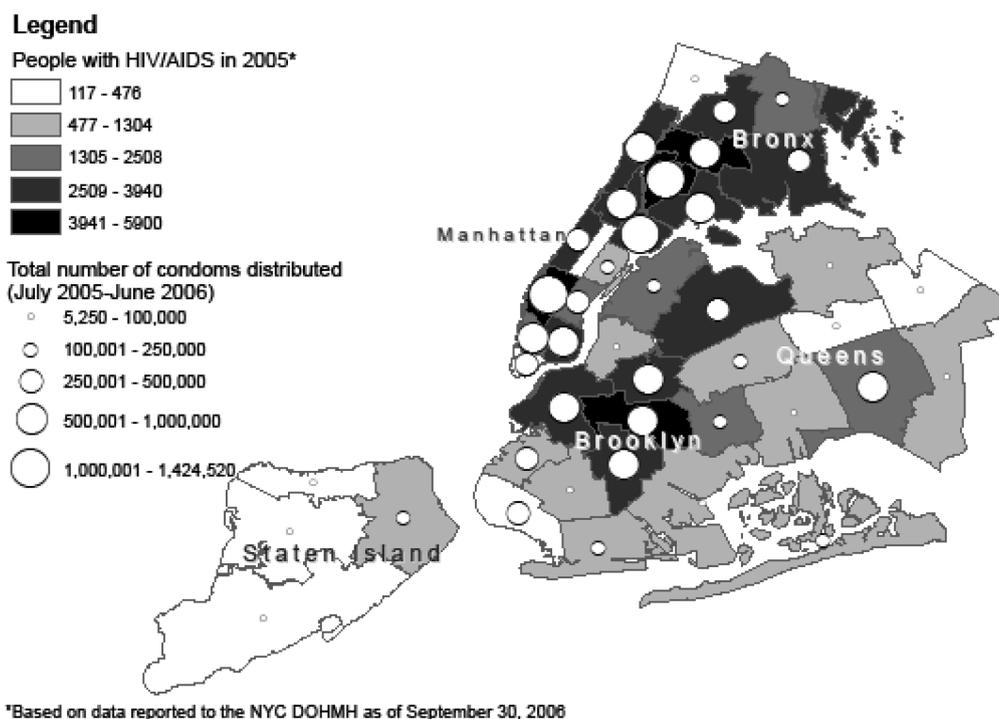
Overall, regardless of managers' report of availability, 53% of patrons (391/740) reported the availability of condoms. When we restricted our analysis of patron interviews to the 56 venues where managers reported distributing condoms, we found that 64% of patrons (351/547) reported seeing condoms (Table 1). Patrons at gay bars were significantly more likely to see condoms if managers said they made them available compared with venues in which managers said they were not available (31% vs. 10%, $p < 0.0001$). Patrons in venues where managers reported condom availability agreed with managers most frequently in SEPs (97%) and methadone clinics (84%) and less frequently in homeless shelters (57%) and gay bars (31%).

Among patrons who saw free condoms in venues where managers reported making them available, 80% (280/351) reported taking them. Seventy-three

percent (205/280) of those who acquired condoms, or 58% of all patrons who saw free condoms, reported using them (Table 1). The findings were similar when we looked at patrons in all venues, regardless of the manager's reporting of availability—78% (305/391) acquired condoms and 73% (222/305) of those who acquired them used the condoms.

The results from our adjusted multiple logistic regression model are shown in Table 2. After adjusting for sex, age, and race/ethnicity, we found that patrons from homeless shelters, methadone clinics, and SEPs were significantly more likely to see condoms where managers said they were available compared with patrons at gay bars. Only patrons from SEPs were significantly more likely to take condoms compared with patrons at gay bars (adjusted odds ratio = 3.6, 95% confidence interval 1.27, 10.18). Patrons from all venues were equally likely to use the condoms they acquired. We initially included the venue's geographic location (i.e., borough) in our analysis, but we dropped it from the final model because we found that geographic location had no significant effects for any of the outcomes ($p > 0.05$).

Figure 2. Distribution of condoms by New York City neighborhood from July 2005 to June 2006



HIV/AIDS = human immunodeficiency virus/acquired immunodeficiency syndrome
 NYC DOHMH = New York City Department of Health and Mental Hygiene

Table 1. Patron-reported condom availability, acquisition, and use in venues where managers reported supplying condoms, New York City Department of Health and Mental Hygiene Free Condom Initiative, July–September 2006

Venue type	Patrons interviewed ^a	Patrons said condoms available		Patrons said condoms available and acquired condoms		Patrons acquired and used condoms	
	N	N	Percent	N	Percent	N	Percent
Gay bars	136	42	31	31	74	24	77
Homeless shelters	175	99	57	72	73	39	54
Methadone clinics	140	117	84	92	79	69	75
SEPs	96	93	97	85	91	73	86
Total	547	351	64	280	80	205	73

^aA total of 740 patrons were interviewed, but only 547 patrons were in locations where managers reported providing condoms.

SEP = syringe exchange program

DISCUSSION

Through the Free Condom Initiative, we greatly increased the number of condoms distributed to high-priority sites in NYC, and our surveys suggested that when patrons saw the condoms, a majority of people obtained and used them. We documented availability of condoms in all venue types sampled, with highest availability in SEPs, methadone clinics, and homeless shelters, and lowest availability in gay bars.

In 2006, the first full calendar year of the program, requests for condoms increased 300% compared with 2004, the year before the initiative began. We believe this increase was primarily because of the Web-based ordering system: the website URL was easy to remember, orders could be placed at any time of day, and shipments arrived on time. Most other evaluations of free condom distribution programs cited in the literature targeted specific populations (such as female sex workers,^{10–13} men who have sex with men,^{14,15} and young people in school¹⁶) in a limited number of locations (such as public STD clinics, jails, military barracks, or streets). Several of these programs distributed condoms through peer educators, outreach workers, or social marketing programs where minimal fees are charged for condoms. Like other programs, our free condoms also reached jail inmates, bathhouse patrons, and adolescents through school health clinics. We know of no other descriptions of Web-based free condom ordering systems used to reach a broad range of individuals through the participation of social, health, and business organizations.

A wide range of organizations participated, and this was essential to the extensive free distribution of condoms. Social service and health-care organizations, which had been targeted by the initiative, placed the

majority of online orders. Some participating organizations (e.g., SEPs and DOHMH-funded HIV/AIDS programs) had contractual obligations to provide condoms to their clients. Many organizations also saw HIV prevention as part of their core mission and were, therefore, already primed to order condoms. Our initiative's responsiveness to any organization that wished to participate may have led to condom acquisition by individuals who did not access health or social programs.

Our finding that most gay bars did not distribute condoms may be because they were not directly targeted by the Free Condom Initiative and because AIDS service organizations' distribution to these sites was inconsistent. Enlisting the participation of gay-bar managers will likely require improved marketing of the initiative to them, as well as strategies that do not require their active participation (e.g., supplying them through a regular and reliable outside organization). Our experience contracting for condom distribution has shown that CBOs were well placed to distribute to small businesses and residents in high HIV-prevalence neighborhoods, as the CBOs possess community linkages and incorporate condom education within distribution activities. However, these organizations required substantial oversight. Since the evaluation was conducted, our experience with a private company has shown reliable condom distribution to sites that are part of the company's existing network. DOHMH has since contracted a private company to expand distribution of condoms to gay bars.

Published studies suggest that one factor strongly associated with condom use is whether the participant has a condom with him or her at the time of interview.^{17,18} Our study found that condom acquisition was limited by patrons' awareness of condom availability. In

SEPs and methadone clinics, both places with long traditions of harm reduction, condoms were easily visible to patrons. In homeless shelters and gay bars, however, patrons often reported no condom availability, despite managers' reports that they were available. Some possible explanations include: (1) condom location with low visibility (e.g., in an office drawer instead of on top of a desk), (2) barriers to acquisition (e.g., in some venues, patrons had to take part in a workshop to acquire a condom), and (3) an inconsistent condom supply. It is also likely that bar managers were less motivated than service venue managers to make condoms regularly available or visible, as condom availability is not perceived to be gay bars' core business. In addition, studies have found that signs encouraging condom use placed near the free condoms increased condom acquisition by 47% in gay bars.¹⁹ Alerting patrons to the availability of condoms and encouraging acquisition appear to increase condom acquisition.

A systematic review of the literature on the impact of interventions promoting condom use in Asia and Africa showed large increases in condom use among

sex workers and clients, but less for individuals in casual relationships and young people.²⁰ Our data indicated that among the patrons who saw condoms, a majority (58%) reported acquiring and using them. Although clients in certain locations (e.g., SEPs) demonstrated greater receptivity to acquiring condoms, clients in all venue types surveyed were willing to both acquire and use condoms when they saw them. We found that venue location did not affect the likelihood of seeing, taking, or acquiring condoms, probably because the venue types we selected attract patrons who are more similar to one another, compared with similarities or differences associated with geographic location.

The fact that the condoms were free also likely encouraged acquisition and use. A number of studies have found that free condoms are both acquired and used by patrons in settings as diverse as prisons,²¹ motel rooms,²² commercial sex venues,²³ and public sex environments.¹⁴ Data from Louisiana demonstrated that the introduction of a \$0.25 fee per condom to previously freely distributed condoms dramatically reduced acquisition.²⁴ Although concern about wastage of free

Table 2. Patron-reported condom availability, acquisition, and use in venues where managers reported supplying condoms, adjusted for sex, age, race/ethnicity, and venue cluster sampling, New York City Department of Health and Mental Hygiene Free Condom Initiative, July–September 2006

	Patrons said condoms available		Patrons said condoms available and acquired condoms		Patrons acquired and used condoms	
	AOR	95% CI	AOR	95% CI	AOR	95% CI
Venue type						
Gay bar	Ref.		Ref.		Ref.	
Homeless shelter	2.02	1.07, 3.83	0.75	0.29, 1.93	0.46	0.14, 1.45
Methadone clinic	8.12	4.16, 15.86	1.08	0.44, 2.65	1.04	0.34, 3.14
SEP	53.10	15.13, 186.28	3.60	1.27, 10.18	2.02	0.64, 6.42
Sex						
Female	Ref.		Ref.		Ref.	
Male	0.68	0.40, 1.16	1.01	0.53, 1.92	1.94	1.02, 3.68
Age range (in years)						
18–29	Ref.		Ref.		Ref.	
30–39	1.49	0.82, 2.71	2.10	0.83, 5.31	1.52	0.59, 3.97
40–49	1.32	0.74, 2.36	1.02	0.47, 2.25	0.96	0.41, 2.28
50–59	2.15	1.03, 4.49	2.30	0.88, 6.00	1.24	0.49, 3.15
≥60	4.27	1.11, 16.46	0.55	0.17, 1.83	1.94	0.28, 13.40
Race/ethnicity						
White	Ref.		Ref.		Ref.	
Black	1.43	0.78, 2.63	1.89	0.82, 4.35	1.91	0.78, 4.67
Hispanic	1.77	0.99, 3.16	1.03	0.49, 2.18	2.19	0.94, 5.11
Other	2.42	1.00, 5.86	0.80	0.22, 2.92	3.04	0.55, 16.70

AOR = adjusted odds ratio
 CI = confidence interval
 Ref. = reference group
 SEP = syringe exchange program

condoms has been noted,²⁵ a concerted five-week study in South Africa found that people who picked up free condoms in health clinics used them in 81% of their sex acts.²⁶ We believe that providing the condoms for free increased organizational participation and patron acquisition of condoms in NYC.

Limitations

Our evaluation had several limitations. First, patrons and managers in SEPs and methadone clinics may have been more prone than others to answer affirmatively to condom availability because SEPs were contractually obligated to make them available. It is also possible that patrons' preexisting level of interest in free condoms may have influenced whether they noticed available condoms.

Second, managers and patrons who responded to our survey may have differed from those who refused to participate, resulting in overreporting of condom availability. This was particularly likely in gay bars, where managers who refused (11% of eligible sites) appeared not to display or stock free condoms based on the survey workers' observations (data not presented). On the other hand, it is possible that we underreported condom availability at some participating gay bars, because managers who did not place the condom orders themselves, or depended on a third party to deliver them, may not have known that condoms were available at their premises.

Third, we did not ask about partnership type (e.g., primary or casual, paying or nonpaying client) when asking about condom use in our survey, a factor shown to have significant influence on condom use at last sexual encounter.²⁰ Fourth, we conducted all interviews in English. Although we did not receive any feedback from our interviewers that some people selected for interview were unable to conduct the interview because they were non-English speakers, language may have resulted in patron selection bias. Lastly, this survey aimed only to measure the impact of the distribution mechanism in reaching patrons in high-risk venues. Future analyses, including those from DOHMH's citywide telephone survey, may shed light on whether the substantial increase in the number of condoms distributed has led to increases in reported condom use citywide.

CONCLUSIONS

Other health departments can utilize lessons learned from the NYC Free Condom Initiative and its evaluation, particularly the following: (1) Providing condoms for free led to condom acquisition and use. (2) A

Web-based ordering system can provide an inexpensive means for large-scale condom distribution, especially in cities with extensive networks of social and health-care service organizations. (3) Distributing free condoms to social and health service organizations requires little more than an e-mail advertising their availability. Distributing to gay bars or other businesses may require more advertising and delivery of condoms by a paid contractor. (4) Guidance on keeping condoms stocked and prominently displayed, or otherwise communicating to patrons that condoms are available, appears to be important to facilitate patrons' awareness of condom availability.

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