

The Internet as recruitment tool for HIV studies: Viable strategy for reaching at-risk Hispanic MSM in Miami?

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Abstract *Although use of the Internet as a vehicle for HIV/STI research is increasing, its viability to recruit at-risk populations such as Hispanic men who have sex with men (HMSM) to participate in community-based HIV studies is in its infancy. We report on the first 171 participants enrolled in an ongoing study exploring use of the Internet to recruit Hispanic men who have sex with men (HMSM) living in Miami-Dade County, Florida to participate in community-based studies. We report our initial success with chat-room recruitment and describe the sexual and drug use practices of the initial set of participants who were recruited through the Internet. In addition, we describe the formative work conducted to develop the Internet recruitment procedures we are testing. In two months, we spent 211 hours recruiting in chat-rooms and engaged 735 chatters. One hundred and seventy-six men came to our community sites; 172 (98%) were eligible and completed an audio computer-assisted self-interview. In the previous six months, 94.7% of participants had anal sex; 48.9% did not use condoms for anal sex or used them inconsistently; and 48.5% had used club drugs. Six-month use rates for individual drugs were: poppers (31.6%), cocaine (15.8%), ecstasy (14%) and crystal methamphetamines (11.7%). Use of club drugs was significantly associated with unprotected insertive and unprotected receptive anal sex. These initial findings point to the Internet's potential as a tool for recruiting at-risk Hispanic MSM for community studies.*

Introduction

In the US, the recent rise in HIV infections among men who have sex with men (MSM), many of whom are racial/ethnic minorities, has been attributed to many factors including: changes in perception of risk and consequences of HIV infection due to HAART, availability

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of post-exposure prophylaxis and viral load monitoring (Bamberger *et al.*, 1999; Chesney *et al.*, 1997; Diley *et al.*, 1997; Kalichman 1998; Kelly *et al.*, 1998; Remien & Smith, 2000; Vanable *et al.*, 2000; Waldo *et al.*, 2000); 'AIDS burnout' from years of exposure to prevention messages (Ostrow *et al.*, 2000); and increased popularity of 'barebacking' or intentional unsafe sex (Halkitis & Parsons, 2003). Because the Internet provides an anonymous and efficient vehicle through which to identify and screen potential sex partners, send messages and set up sexual encounters, the increasingly popular practice of sex seeking on the Internet could also be contributing to this rise in HIV infection (Benotsch *et al.*, 2002; Bull & McFarlane, 2000; Elford *et al.*, 2001; McFarlane *et al.*, 2000; Reitmeijer *et al.*, 2003).

There is growing evidence that having sex with partners identified through the Internet increases HIV risk, particularly in high HIV prevalence areas such as Miami-Dade County, Florida. Significant associations between Internet sex-seeking and high-risk sexual behavior have been reported (Benotsch *et al.*, 2002; Bull *et al.*, 2001; Elford *et al.*, 2001; Halkitis & Parsons, 2003; Kim *et al.*, 2001; Reitmeijer *et al.*, 2003; Tikkanen & Ross, 2003). Evidence of sexually transmitted infections (STI) acquired from Internet-identified sex partners exists. A syphilis outbreak in San Francisco was traced to a chat-room used predominantly by MSM (Klausner *et al.*, 2000). The first two cases of acute HIV infection acquired from Internet sex partners were recently reported (Tashima *et al.*, 2003).

The Internet can also be a vehicle for HIV/STI research; interest in this field is growing (DeGuzmann & Ross, 1999; Toomey & Rothenberg, 2000). Researchers have assessed the application of HIV education and counseling on the Internet (DeGuzmann & Ross, 1999); documented the prevalence and predictors of HIV risk among men who seek sex via the Internet or visit gay chat-rooms (Benotsch *et al.*, 2002; Elford *et al.*, 2001; Hospers *et al.*, 2002; McFarlane *et al.*, 2000; Reitmeijer *et al.*, 2003; Tikkanen & Ross, 2003); and compared the characteristics of Internet samples with conventional samples (Ross *et al.*, 2000);, as well as, chat-room samples with e-mail samples (Wang & Ross, 2002). Ongoing studies are developing and testing risk reduction interventions to be delivered through the Internet.

Because of its large volume of users from diverse backgrounds, the Internet could also be a powerful recruitment tool for HIV/STI research. The Internet's intermediary position between a mass medium and an interpersonal source of communication makes it an ideal venue for explaining a study, creating interest and even screening a large number of potential participants efficiently. The Internet could also facilitate recruitment of understudied, at-risk groups, such as Hispanic MSM (HMSM), who might be less willing to respond to more conventional approaches. Its viability for recruiting HMSM to participate in HIV studies is in its infancy.

In this paper, we report on the first 171 participants enrolled in an ongoing study examining use of the Internet to recruit at-risk HMSM living in Miami-Dade County, Florida to participate in community-based HIV prevention studies. We report our initial success with chat-room recruitment and describe the sexual and drug use practices of the initial set of participants who were recruited through the Internet. In addition, we describe the formative work conducted to develop the Internet recruitment procedures we are testing.

Methods

Formative research

Initially, we had conceptualized Internet recruitment as consisting of attractive banners advertising the study posted on targeted Internet sites and a study website that would provide additional information. Results from focus groups and qualitative interviews conducted

during formative work led us to question the efficacy of this strategy and to develop more interactive procedures for recruiting in chat-rooms that had been suggested by focus group participants. These men explained that they routinely ignored Internet banners and advertisements and recommended that we approach chatters directly. Informants also indicated that given the environmental features of Internet chat-rooms, gaining the attention of chatters would be challenging; they stressed that our initial approach must be ‘quick’, ‘witty’ and ‘engaging’. ‘*What you say*’ and ‘*how you say it*’ matters, they cautioned. Furthermore, they insisted that pictures were important; most adhered to the rule of: ‘no pic, no click’. Interestingly, there was less agreement regarding the relative importance of profiles in engaging chatters. Many men expressed skepticism regarding the concordance between information included in profiles and reality, which they derived from personal experience.

In consultation with our community partners and a representative from our Institutional Review Board (IRB), we used this information to write a model engagement dialogue, to draft three fictitious profiles of Hispanic men modeled after profiles posted on Internet sites, to generate a list of ten screen names (e.g., dragon, dancingqueen, lionkingtop, wapo, r-a-w) and to select six public domain pictures. Three of the pictures were color images of distinctive objects (i.e., futuristic landscapes and moonscapes, pop art pieces with attention-grabbing colors and designs) and the other three were non-sexually explicit, but appealing images of men.

During May of 2003, we conducted a pilot to explore: (1) the efficacy of our engagement dialogue; (2) the type of image which would be more appealing; and (3) the engagement potential of screen names and profiles generated. We systematically varied the time of day/night, the images, the profiles and the screen names that were used to enter the chat-rooms. For each chatter approached, we recorded: time of day/night; screen name, profile and picture used; whether or not engagement occurred; and any additional issue or information provided.

The results indicated that: (1) we could successfully engage chatters; (2) non-human images were more appealing than non-sexually explicit pictures of men; and (3) screen name or profile used did not impact engagement rates. We also learned that we needed to take additional steps (i.e., support a study website and refer chatters to it) to increase the credibility and legitimacy of our study. Based on these findings, we finalized the Internet recruitment procedures and obtained approval from our IRB to initiate the trial.

Participants

From October to December 2003, we recruited from select Internet chat-rooms 171 men who met the following criteria: (1) self-identified as being Hispanic or Latino; (2) had sex with a man in the last five years; (3) were 18 years of age or older; (4) resided in South Florida; (5) had been directly approached by our staff on the Internet or face-to-face; and (6) came to one of our two community assessment sites to complete an audio computer-assisted self-interview (ACASI). These participants were recruited during the first Internet cycle of an ongoing study supported by the National Institute on Drug Abuse that compares the effectiveness and cost of Internet versus face-to-face strategies for recruiting HSM who use drugs and have risky sex to participate in research studies. For the ongoing study, recruitment approaches are being implemented sequentially in four-month cycles, alternating between methods. Each cycle consists of two months of ‘active’ recruitment (when recruitment is being conducted), followed by two months of ‘passive’ recruitment (when no recruitment is being done but when men engaged during active recruitment can continue to present themselves at the community sites and complete the assessment).

Sampling and recruitment

We adapted time and space sampling procedures (Stueve *et al.*, 2001; Valleroy *et al.*, 2000) for use in Internet chat-rooms. We randomly selected Internet venues from the universe of potential venues that cater to HMSM. For each venue, we specified ‘peak’ and ‘off-peak’ periods and randomly selected sampling events (days and blocks of time when recruitment occurred) from these periods. Following the monthly schedule of sampling events, two experienced male researchers entered the pre-selected chat-room using the approved screen names, profiles and images. A line list of screen names present at the initiation of recruitment period is created and updated continuously as chatters enter and/or sign off.

Using systematic sampling methods, staff approached every fifth screen name on the line list and initiated the engagement dialogue. The recruitment script has five parts: (1) introduction (e.g., ‘Hi’ or ‘What’s up?’); (2) preliminary screen (e.g., ‘Are you Hispanic?’ ‘Do you live in Miami?’); (3) consent to proceed (e.g., ‘We are doing a study, would you like to learn more?’); (4) study description (e.g., ‘This is a study about gay Hispanic men . . .’); and (5) procedures for enrollment (e.g., ‘We have two sites where you can participate: South Beach and South Miami’). Interested chatters were referred to the project website and invited to visit either of our community sites for screening and enrollment. For each chatter engaged in an active dialogue, staff recorded: the chatter’s screen name; time of interaction; chat-room; screen name used by researcher; who initiated the approach (investigator or chatter); whether the chatter visited the project website while chatting; and general comments (e.g., ‘not Hispanic’ or ‘not interested’). As a quality assurance check, every twentieth chat was copied as an MS Word document and stored in a locked, password-protected electronic folder.

Procedures

Our community sites are located in South Beach, the area of Miami Beach with a high proportion of gay residents, and in south central Miami near freeways that provide excellent access to the greater Miami area and Hialeah. Our community sites are open from 12:00 to 10:00 pm, Wednesdays through Sundays and a minimum of two staff members are present at all times. Chatters who subsequently presented themselves at the community sites were screened for eligibility, and, if eligible, they were invited to participate after a full explanation of the study procedures. After providing informed consent, participants completed a computer-assisted self-interview in either English or Spanish, which lasted between 60 and 90 minutes. Men were given \$50 as compensation. The protocol was approved by the IRB at the University of Miami.

The following domains were assessed.

Demographic factors. Participants reported their age, country of birth, education level, employment status, monthly income and sexual self-identification (homosexual, gay, bisexual and other).

HIV testing history. Participants stated whether or not they had been tested for HIV. Those who had been tested reported their test results.

Alcohol and drug use in the last six months. We adapted the measure used by Stall *et al.* (2001) for the Urban Men’s Health Study to measure alcohol and drug use. Participants reported use of alcohol and the frequency of such use. They stated whether or not they had used each one of the following drugs and the frequency of its use: marijuana, cocaine, crystal methamph-

tamines, amphetamines, amyl nitrites (poppers), ecstasy, GHB, ketamine and Viagra. From this data, we calculated the proportion of men who had used club drugs (defined as cocaine, crystal, poppers, ecstasy, GHB, ketamine and Viagra) in the last six months and the proportion of poly-drug users (defined as using two or more club drugs).

Sexual behavior in the last six months. We used the measure developed by Diaz *et al.* (2002) to assess sexual behavior of HMSM. Participants reported the number of male sex partners, whether or not they engaged in anal insertive and anal receptive sex, and the frequency with which they had used a condom for each type of sex act.

Recruitment variables. From the research logs, we calculated the number of hours spent in chat-rooms and the number of chatters engaged in dialogue. Screening logs were used to calculate the number of eligible men who enroll in the study and complete the ACASI.

Analyses

Using the procedures described above, we calculated the recruitment variables. We then used descriptive statistics to tabulate the sample demographics and report their drug use and sexual risk practices. We used chi-square analyses to test the association between club drug use and unprotected anal sex. Insertive and receptive anal sex behaviors were tested independently.

Results

Recruitment variables

In the first Internet cycle, we spent 211 hours in chat-room dialogue and engaged 735 chatters. This yielded an average of 3.5 chatters engaged in active dialogue per hour. One hundred and seventy-six chatters (24% of those engaged) presented themselves at the community sites; 172 (98%) were eligible and enrolled in the study. One participant did not follow the ACASI instructions and his data were lost; therefore, we report on 171 participants.

Participant characteristics

As seen in Table 1, the average age of participants was 32.1 years ($SD = 6.5$, range = 19–46). Eighty-nine percent of the sample was born outside the US and almost 60% of these foreign-born participants had been in the US five years or less. The sample was relatively well educated. The majority was employed full-time; 45% had monthly incomes ranging between \$1001–2000. Forty-eight percent self-identified as being homosexual and 41.5% identified as gay. The majority (88.3%) of men had been tested for HIV, and 22.5% of those tested were HIV-positive.

Rates of drug use in the last six months

Table 2 summarizes the proportion of men who used each substance and their frequency of use in the last six months. Rates of cocaine, crystal methamphetamine, amyl nitrites, ecstasy and Viagra, the most popular club drugs used in Miami, were 15.8, 11.7, 31.6, 14 and 19.3%, respectively. Rates for other club drugs were not as high; 3.5% of men used other amphetamines, 3.5% used GHB and 5.3% used ketamine. Forty-nine percent of men

Table 1. *Sample characteristics*

Variables	(<i>N</i> = 171)
Mean age	32.1 (SD = 6.5, 19–46)
Region of birth (%)	
USA	11.1
Central America	4.7
South America	48.5
Spanish Caribbean	32.2
Other (México, Canada, Europe)	3.5
Education level (%)	
< High school	8.2
High school diploma/GED	14.6
Some college/vocational degree	33.9
College degree or greater	42.1
Other	1.2
Employment status (%)	
Full-time employment	53.2
Part-time employment	25.1
Unemployed	15.2
Other	6.5
Net monthly income (%)	
< \$1000	15.2
\$1001–2000	45.0
\$2001–3000	15.8
\$3001 +	21.1
Refused	2.9
Sexual self-identification (%)	
Homosexual	48.0
Gay	41.5
Bisexual	9.4
Other	1.2
Ever HIV tested (%)	
Yes	88.3
HIV serostatus (<i>n</i> = 151) (%)	
Positive	22.5
Negative	75.5
Undetermined	2.0

reported using at least one club drug. Among club drug users, 50.6% used two or more club drugs and 25.3% used three or more club drugs in combinations.

Sexual activity in the last six months

Participants had an average of 13.3 (SD = 29.2, 1–300) sex partners, with a median of five partners in the last six months. The majority of men reported having had anal sex in the last six months. The proportion of men who reported never using condoms or using them

Table 2. Rates of drug use in last six months

Type of drug	Percent using (N=171)	Frequency of use	(%)
Alcohol	59.1	Every day or nearly every day	6.0
		3–4 times a week	5.0
		1–2 times a week	34.7
		2–3 times a month	24.8
		Once a month	29.5
Marijuana	40.4	Daily	10.1
		A few times a week (not daily)	21.7
		A few times a month (not weekly)	17.4
		Less than once a month	50.7
Amyl nitrites/poppers	31.6	Daily	3.7
		A few times a week (not daily)	11.1
		A few times a month (not weekly)	29.7
		Less than once a month	55.6
Viagra	19.3	Daily	0.0
		A few times a week (not daily)	6.1
		A few times a month (not weekly)	39.4
		Less than once a month	54.5
Cocaine	15.8	Daily	3.7
		A few times a week (not daily)	11.1
		A few times a month (not weekly)	40.7
		Less than once a month	44.4
Ecstasy	14.0	Daily	0.0
		A few times a week (not daily)	4.2
		A few times a month (not weekly)	25.0
		Less than once a month	70.8
Crystal meth	11.7	Daily	5.0
		A few times a week (not daily)	10.0
		A few times a month (not weekly)	35.0
		Less than once a month	50.0
Ketamine	5.3	Daily	0.0
		A few times a week (not daily)	22.2
		A few times a month (not weekly)	0.0
		Less than once a month	77.8
Amphetamines	3.5	Daily	0.0
		A few times a week (not daily)	66.7
		A few times a month (not weekly)	16.7
		Less than once a month	16.7
GHB	3.5	Daily	0.0
		A few times a week (not daily)	0.0
		A few times a month (not weekly)	33.4
		Less than once a month	66.6
Any club drug	48.5		
Number of club drugs used			
1	49.4% (41)		
2	25.3% (21)		
3 or more	25.3% (21)		

Table 3. *Sexual activity in last six months*

Variables	Percent	(N=171)
Number of male sexual partners		
1 partner	18.1	
2–3 partners	22.2	
4–5 partners	14.1	
6 or more	45.6	
Any type of anal sex		
100% condom use	51.2	(83/162)
Less than 100% condom use	41.9	(68/162)
No condom use	6.8	(11/162)
Both insertive and receptive		
100% condom use	43.3	(39/90)
Less than 100% condom use	51.1	(46/90)
No condom use	5.6	(5/90)
Insertive anal sex with a man		
100% condom use	56.3	(76/135)
Less than 100% condom use	37.7	(51/135)
No condom use	5.9	(8/135)
Receptive anal sex with a man		
100% condom use	54.7	(64/117)
Less than 100% condom use	31.6	(37/117)
No condom use	13.7	(16/117)

inconsistently was 43.6% for insertive anal sex, 45.3% for receptive anal sex and 48.7% for or any type of anal sex (see Table 3).

Association between club drug use and unprotected anal sex in the last six months

Use of club drugs was significantly associated with unprotected insertive anal sex ($X^2 = 7.18$ $df = 1$, $p = 0.007$) and unprotected receptive anal sex ($X^2 = 4.5$ $df = 1$, $p = 0.03$). Fifty-five percent of club drug users and 32.4% of non-club drug users had unprotected insertive anal sex, while 53.7% of club drug users and 34% of non-club drug users had unprotected receptive anal sex.

Discussion

Results from our first Internet recruitment cycle indicate that at-risk Hispanic MSM can be recruited through chat-room dialogues to participate in community-based HIV studies. More than 98% of the men who came to the sites were eligible. This suggests that the preliminary screening questions that were skillfully woven into the engagement dialogue helped to steer research staff towards engaging chatters likely to meet at least the age, ethnicity and residency eligibility criteria. Because we have not initiated the first face-to-face recruitment cycle at this time, we cannot yet compare the efficiency and cost of the two methods.

Our data also demonstrate that a high proportion of the participants recruited through Internet chat-rooms are using drugs and engaging in unprotected insertive and/or unprotected receptive anal sex. Six-month use rates of poppers (31.6%), cocaine (15.8%), ecstasy (14%) and crystal methamphetamines (11.7%) are either comparable or slightly

higher than the 19.8% for poppers, 15.2% for cocaine, 11.7% for ecstasy and 9.5% for speed (not exclusively crystal methamphetamines) reported by a probability-based sample of MSM from Los Angeles, New York City, Chicago and San Francisco (Stall *et al.*, 2001). We also found a significant association between use of club drugs and unprotected insertive and unprotected receptive anal sex. What is even more concerning is that almost 23% of the men in the sample who had been tested were HIV-positive, a rate which is almost twice what we found in a previous sample of Hispanic MSM in Miami recruited through face-to-face methods (Fernandez *et al.*, 2003). It could be that men who are HIV-positive visit chat-rooms more often than those who are not and therefore are more likely to be engaged by our recruiters. However, speculation on this difference must be done with caution because these results were obtained from two different studies. In future papers we will be able to make more direct comparisons on HIV status between men recruited through the Internet and those recruited face-to-face.

One of the most important aspects of our recruitment figures is that our data were not collected online. Unlike other studies that successfully recruited chatters to respond to questionnaires on the Internet (Bull *et al.*, 2001; Hospers *et al.*, 2002; Ross *et al.*, 2000), our participants had to make a concerted effort and present themselves to one of our community sites for screening, enrollment and data collection. This suggests that Internet recruitment may be a viable option through which to recruit Hispanic MSM to participate in community-based studies.

Because of the positive response and higher than anticipated recruitment rates, we are exploring, through in-depth qualitative interviews, what actually motivates men to come to the sites. Although the compensation is mentioned late in the recruitment script and staff are trained not to use it as a 'carrot' in order to avoid coercion, we were concerned that the incentive might be playing a role in the process. Interestingly, our qualitative findings to date suggest that many participants were motivated by curiosity or altruism and that the role of the incentive was minimal. Only one respondent thus far has said that he came for the compensation. To some, a \$50 incentive might seem high, but this rate is comparable with participant compensation given for other research studies in the area. It is also important to note that we do not provide additional resources to cover the cost of transportation to or parking at either of our community sites. Parking at South Beach, the site where the majority (65%) of participants completed the ACASI, is expensive and difficult to find. Future studies should examine the effect of different incentive structures on recruitment rates. Nonetheless, our participation rate points to the promise of the Internet for recruiting at-risk Hispanic MSM to participate in community-based studies.

In developing our Internet recruitment protocol and implementing this first Internet cycle we learned valuable lessons that could assist future researchers in this emerging area. First, formative research with members of the target community is essential. Researchers should apply community psychology's tenet of fostering active participation of community members in all phases of the research process (Fairweather & Tornatzky, 1977). Had we not conducted focus groups and in-depth qualitative interviews, it is likely that our Internet recruitment procedures would not have been successful. Without the recommendation of these participants, we might have erroneously concluded that recruitment through the Internet was not viable for this population. Second, researchers should forge collaborative relationships with IRB representatives and seek advice from them during the protocol development period. More than ever, researchers and IRBs must strive to understand each other's needs and responsibilities and creatively develop strategies for conducting research in this new medium. In our case, working *a priori* with the committee's co-chair was pivotal to our protocol's approval.

In conclusion, our findings to date indicate that at-risk Hispanic MSM recruited in predominantly gay chat-rooms will present themselves at community sites for screening and enrollment in HIV studies. These initial findings heighten the potential of the Internet as a recruitment tool. The alarmingly high rates of unprotected anal sex and use of club drugs point to the need to develop effective, culturally sensitive interventions for this at-risk, understudied population.

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