

Social Marketing Campaign Significantly Associated With Increases in Syphilis Testing Among Gay and Bisexual Men in San Francisco

JORGE A. MONTOYA, PhD,* CHARLOTTE K. KENT,† HARLAN ROTBLATT,* JACQUE McCRIGHT,† PETER R. KERNDT, MD, MPH,* AND JEFFREY D. KLAUSNER, MD, MPH†

Background: Between 1999 and 2002, San Francisco experienced a sharp increase in early syphilis among gay and bisexual men. In response, the San Francisco Department of Public Health launched a social marketing campaign to increase testing for syphilis, and awareness and knowledge about syphilis among gay and bisexual men.

Methods: A convenience sample of 244 gay and bisexual men (18–60 years of age) were surveyed to evaluate the effectiveness of the campaign. Respondents were interviewed to elicit unaided and aided awareness about the campaign, knowledge about syphilis, recent sexual behaviors, and syphilis testing behavior.

Results: After controlling for other potential confounders, unaided campaign awareness was a significant correlate of having a syphilis test in the last 6 months (odds ratio, 3.21; 95% confidence interval, 1.30–7.97) compared with no awareness of the campaign. A comparison of respondents aware of the campaign with those not aware also revealed significant increases in awareness and knowledge about syphilis.

Conclusions: The Healthy Penis 2002 campaign achieved its primary objective of increasing syphilis testing, and awareness and knowledge about syphilis among gay and bisexual men in San Francisco.

SAN FRANCISCO EXPERIENCED A sharp increase in early syphilis with the number of cases rising from 44 to 494 between 1999 and 2002.¹ Since 1999, more than 85% of early syphilis cases were among men who identified as gay or bisexual, and more than 60% were HIV-positive.² There was concomitant, but less sharp, increases in gonococcal and incident HIV infections among gay and bisexual men.^{1,3} Recent increases in sexually transmitted diseases (STDs) and incident HIV have been attributed to an increase in risky sexual behaviors since the widespread availability of antiretroviral therapy.^{3–5} Persons with HIV infection on antiretroviral therapy feel better and believe they are less likely to transmit HIV, and persons without HIV now believe that HIV is a treatable infection.^{6–8} Reducing the fear of HIV and the possible risk of HIV transmission decreased the impetus for many persons to practice safer sexual behav-

From *Los Angeles County Department of Health Services, Los Angeles, California; and †San Francisco Department of Public Health, San Francisco, California

iors, resulting in increases in STDs. In addition, since the late 1990s, the use of the Internet as a simple and fast means for persons to meet sexual partners has grown tremendously, and sexual “hookups” initiated online have been associated with an increase in risky sexual behaviors and STDs.^{2,9–11}

In response to the rapidly expanding syphilis epidemic, during late 2001, STD Prevention and Control Services in the San Francisco Department of Public Health (SFDPH) decided to support a social marketing campaign. Social marketing, like marketing in the private sector, is a consumer-centered and research-driven approach to raise awareness about a particular issue.¹² These 2 approaches share some basic components.

Five components that can make marketing programs a success include branding, segmentation, price, placement, and promotion.^{12–14} The first component, *branding*, focuses on the health behavior message so that the desired behavior, or product, appeals to the needs and values of the consumer through functional and emotional attributes. The second component is concerned with the *segmentation* of the intended audience based on variations in the needs and values of the target population to develop campaign messages that emphasize the target population’s values, attitudes, and beliefs or capitalize on their current stage of behavior change. Messages that are customized in this manner will ensure that the health behavior (product) is appealing and applicable to each subgroup. The third component is *price*. In social marketing, price is the social, psychologic, or physical costs the consumer associates with performing the health behavior. The fourth component is *product placement*. In the private sector, this involves delivering the product in places where consumers are likely to find it or search for it. In public health, this involves delivering the resources that make the desired health behavior possible at a time when it will most likely be sought out. The fifth component is the *promotion* of the health behavior by using mediums of communication like print, television, radio, outdoor advertising, or face-to-face techniques that are determined by the information-consumption habits of the consumer.

Campaigns that strategically converge branding, price, placement, promotion, and information from audience segmentation produce a marketing mix that is likely to be successful. Associat-

The authors thank Better World Advertising for their role in developing the campaign, Jacque Siller for her role in developing and managing the campaign, Nathaniel Birjukow and David Bandy for data collection, Robert Kohn for data management, Armando Litiatico for data entry, Fabiola Quezada for data cleaning, and the survey participants for their contribution to our understanding of the campaign.

Correspondence: Jorge A. Montoya, PhD, STD Program, Department of Health Services, Los Angeles County, 2615 South Grand Avenue, Room 500, Los Angeles, CA 90007. E-mail: jamontoya@dhs.co.la.ca.us.

Received for publication September 2, 2004, and accepted December 13, 2004.

ing the health behavior with the right attributes and promoting it through the appropriate channels while making relevant resources available to the target population is a good marketing mix.¹² In what follows, we describe the development and evaluation of a social marketing campaign, Healthy Penis, to increase syphilis testing among gay and bisexual men in San Francisco.

Methods

Campaign Development and Implementation

The SFPDPH and Better World Advertising, a social marketing firm, used these basic marketing components to develop and implement a campaign to target the gay and bisexual community and used a coherent social marketing mix to promote syphilis testing. To achieve the appropriate branding of the campaign, they began by forming a community advisory board (CAB) with representatives from community-based organizations that provided services to gay and bisexual men. Members of the CAB stressed that it was critical for the campaign to be positive about sex, educational about syphilis, and not focus on changing sexual behavior to prevent syphilis transmission. Syphilis control is potentially amenable to widespread screening because it is curable, largely asymptomatic after the primary and secondary stage, and an inexpensive screening test is available. Based on input from the CAB, the natural history of syphilis infection, and the availability of syphilis testing, the SFPDPH determined that the primary campaign health behavior message (product) should be “get tested” with the objective of changing community norms around syphilis testing. Secondary objectives were to increase awareness about the syphilis epidemic in gay and bisexual men and to increase knowledge about syphilis (symptoms, routes of transmission, the link between syphilis and HIV transmission, and so on). With these objectives in mind, Better World Advertising drafted 3 campaign concepts that were tested in a series of focus groups composed of gay and bisexual men. The Healthy Penis campaign brand was overwhelmingly preferred by these focus groups because it had the attributes of being sex-positive, humorous, and informative.

After further development, the Healthy Penis campaign was launched in late June 2002 to coincide with the annual San Francisco Lesbian Gay Bisexual Transgender Parade. The Healthy Penis campaign was promoted in neighborhoods where the greatest concentration of gay or bisexual men lived and where there were businesses that catered to gay and bisexual men. The campaign included posters on the streets and in bars and commercial sex venues, bus shelters and bus advertising, palm cards, advertising in gay publications, banner advertisements on 1 of the most popular Internet sites for meeting sexual partners, and campaign-linked outreaches with the 7-foot Healthy Penis and Phil the Sore costumes, T-shirts, and Healthy Penis and Phil the Sore stress grips. The campaign incorporated the use of humorous cartoon strips that featured characters like Healthy Penis and Phil the Sore to provide information on syphilis transmission, symptoms, and prevention; to publicize the rise of syphilis among gay and bisexual men; to delineate the connection between syphilis and HIV; and to promote syphilis testing (“get tested”) (Figs. 1 and 2). In terms of placement, campaign sources also provided a web site and telephone hotline for the intended audience to get additional information, including hours and locations for testing and treatment sites in San Francisco.

To make testing more accessible (i.e., placement) and reduce the cost and inconvenience of testing (i.e., price), SFPDPH established alternative testing sites that expanded over time to include free testing at an HIV care clinic, a drug treatment program, a newly established gay men’s health clinic, and a newly established online testing pro-



Fig. 1. Syphilis sores are spreading throughout the gay community.

gram (persons can print out a lab slip online, take it to 1 of 5 designated sites for a blood draw, and receive their results online).

Campaign Evaluation

Survey Recruitment and Eligibility

To evaluate the effectiveness of the campaign, a convenience sample of male respondents was surveyed from December 13, 2002, to February 23, 2003. Men were intercepted at coffee shops, bars, markets, laundromats, sex clubs, a clean and sober community center, on sidewalks, and in other venues located in campaign-targeted neighborhoods. Interviewers approached men and said they were “asking people in the area some questions about sexual health issues to improve health services in [their] community.” Respondents were informed that the interview was completely anonymous and that they would not be asked to provide any personal identifying information. Respondents were interviewed if the gender of their sex partners included males, if they were between the ages of 18 and 60, and if they resided in the San Francisco Bay area. Each interview took approximately 20 minutes to complete.

Data were collected during routine public health activities of disease control and analyzed for program evaluation. This activity was therefore designated as public health practice and nonresearch. In accordance with the Code of Federal Regulations, Title 45, Part 46, The Public Service Act, human subjects review is not required for public health nonresearch activities.

Survey Instrument

Respondents were asked basic demographic information, including age, income, education, occupation, and zip code. The interview

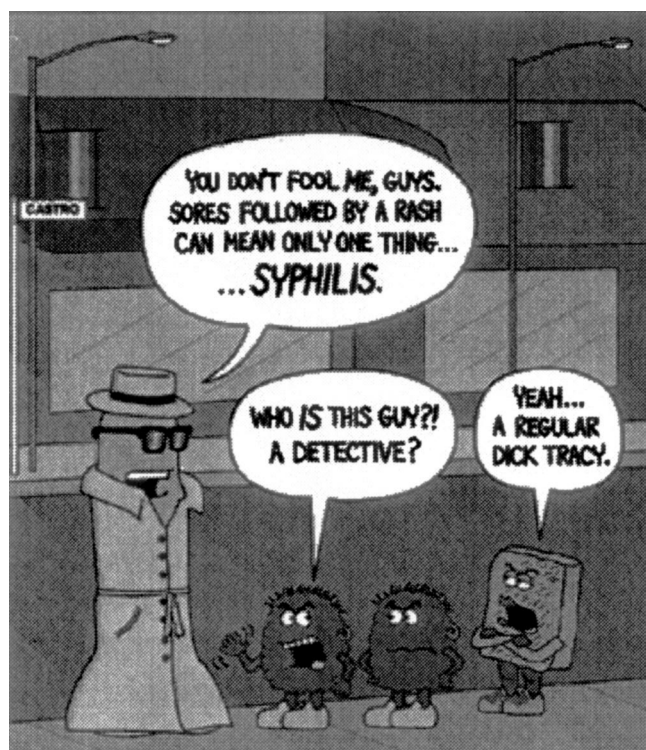


Fig. 2. Dick Tracy.

followed with a set of questions regarding the campaign that included unaided (e.g., spontaneous mention) and aided (e.g., prompted response) awareness of the Healthy Penis campaign, sources of awareness, frequency of exposure, perceived key messages, and ratings (on a 5-point scale) on campaign usefulness and appeal. These were followed by a series of open-ended questions to assess syphilis knowledge that included modes of transmission, groups most affected by the disease, symptoms of syphilis, risk reduction, and the connection between the syphilis and HIV. Respondents were also asked about sexual practices, including the number of casual sex partners, the number of sex club and bathhouse visits, and the number of sex partners met through the Internet in the past month. Casual partners were defined as those they considered casual acquaintances or people they had just met for the first time. Finally, respondents were asked about their concern for acquiring syphilis, how many times they were tested for syphilis in the past 6 months, reasons for not testing, and their HIV status.

Survey Analyses

Frequencies, chi-squared tests, *t* tests, and logistic regressions were performed using SPSS 11.5 for Windows. Data analysis was based on the number of respondents for each question; missing values were excluded.

Evaluation Results

Survey Population

Two hundred forty-four interviews were completed and included in the analyses. The sample of men was comprised of 97% males and 3% transgenders. Ninety percent of the sample included men who have sex with men (MSM) and the remaining 10% included men who have sex with men and women (MSM/W). The majority of participants were white (64%) followed by Latinos

TABLE 1. Syphilis Knowledge Compared Between Respondents Aware (aided and unaided combined) and Unaware of the Healthy Penis 2002 Campaign, San Francisco

Variable	Campaign Awareness		Chi-square	<i>P</i> Value
	Aware (%)	Unaware (%)		
Modes of transmission				
Oral sex	69	36	18.51	0.001
Skin-to-skin contact	31	4	15.20	0.001
Contact with sores	31	8	11.18	0.001
Through sex	30	54	9.69	0.002
Symptoms				
Rash on body	52	10	28.62	0.001
Painless sore	49	16	17.71	0.001
Sore on body	44	26	5.54	0.019
Risk-reduction strategies				
Fewer sex partners	31	6	12.89	0.001
Getting tested	22	0	13.07	0.001
Groups affected by syphilis				
Gay men	84	34	49.85	0.001
Bisexual men	18	4	6.09	0.014
Syphilis and HIV transmission				
Easier to get HIV	76	32	27.52	0.001
Easier to spread HIV	31	15	5.66	0.017

(18%), Asians (12%), blacks (4%), and other ethnicities (1%) with a median age of 34 years ranging from 19 to 58 years. The majority reported an HIV-negative status (71%) followed by 20% reporting an HIV-positive status, 4% unsure of their status, and 5% refusing to provide their status.

Campaign Awareness

A majority (80%) of the sample was aware of the Healthy Penis campaign; 33% spontaneously mentioned the Healthy Penis campaign (unaided awareness) when asked to recall advertisements or public events about sexual health issues, and an additional 47% recognized the campaign (aided awareness) when shown a campaign image. Among those aware of the campaign, 27% indicated being exposed to it during the first week after launch in June 2002 with a majority, 67%, having been exposed since September 2002. Respondents also reported being repeatedly exposed to the campaign an average of 32.3 times (median, 12) since June 2002.

Perceptions of key messages among respondents who were aware of the campaign included a variety of mentions with a plurality stating that it was about getting tested (42%). In addition, respondents mentioned that the campaign was about the syphilis increase among MSM (30%), syphilis in general (28%), practicing safer sex (23%), STDs in general (10%), using condoms (9%), syphilis being curable (5%), and the relationship between syphilis and HIV transmission (2%).

Syphilis Knowledge

Respondents who were aware of the campaign (i.e., spontaneous mention or recognition of the campaign) were significantly more likely to report specific modes of syphilis transmission, symptoms of syphilis, appropriate risk reduction strategies, the population most affected by syphilis in San Francisco, and to identify the link between syphilis and HIV transmission (see Table 1).

Respondents with unaided campaign awareness were significantly more likely to mention contact with sores (chi square_[1, 194] = 6.07, *P* < 0.05) and vaginal sex (chi square_[1, 194] = 5.92, *P* < 0.05)

TABLE 2. Multivariate Analysis of Correlates of Syphilis Testing in the Past 6 Months: Healthy Penis 2002 Campaign, San Francisco

Variable	OR	95% CI	
		Lower	Upper
Campaign Awareness			
Unaided	3.22	1.30	7.97
Aided	1.49	0.63	3.53
No awareness	REF	REF	REF
HIV-positive*	3.95	1.84	8.49
Casual partners	3.00	1.48	6.09
Age	1.01	0.97	1.05
Race			
White	REF	REF	REF
Asian/Pacific Islander	0.88	0.32	2.39
Black	2.22	0.45	10.91
Latino/Hispanic	0.45	0.19	1.05

*Cases with unknown HIV status excluded.
OR = odds ratio; CI = confidence interval.

as modes of transmission for syphilis and a painless sore (chi square_[1, 194] = 5.21, $P < 0.05$) as a common early symptom of syphilis.

Sexual Behavior

Those aware of the campaign reported significantly more casual sex partners in the past month than those unaware of the campaign (mean of 3.43 partners vs. mean of 2.06 partners, respectively; $t_{[1, 103]} = 2.55$, $P = 0.012$). Similarly, those aware of the campaign reported significantly more visits to commercial sex venues in the past month (mean = 0.62 vs. 0.14; $t_{[1, 234]} = 3.42$, $P = 0.001$) and more Internet sex partners in the past month (mean = 1.83 vs. 0.76; $t_{[1, 169]} = 3.55$, $P < 0.001$) than their unaware counterparts.

Syphilis Testing in the Last 6 Months

Awareness of the campaign was significantly associated with having had a syphilis test in the past 6 months. Forty-six percent among those aware of the campaign were tested for syphilis in the past 6 months compared with 26% unaware of the campaign (chi square_[1, 244] = 6.77, $P = 0.009$). After controlling for potential confounders in a multivariate logistic regression model (Table 2), those who had unaided campaign awareness were 3.2 times more likely to have tested for syphilis than those unaware of the campaign. HIV-positive status (odds ratio [OR], 4.0) and having had casual partners (OR, 3.0) were also significant independent correlates of having tested recently.

Among the 102 men who saw the campaign but did not test, a plurality cited low or no risk as the reason (22%), followed by reasons such as being in a monogamous relationship (14%), having no symptoms or feeling healthy (12%), having no need to (12%), not getting around to it (9%), and having been tested or treated for syphilis more than 6 months ago (7%). Only 4% said it was not convenient to test for syphilis.

Discussion

The Healthy Penis 2002 campaign was associated with significant increases in syphilis awareness, knowledge, and testing. The evaluation showed that the campaign was effectively promoted because a majority (80%) of gay and bisexual men surveyed in the

target neighborhoods was aware of the campaign. The results also showed that those aware of the campaign had been repeatedly exposed to it since the launch in June 2002. More importantly, one third of the sample spontaneously mentioned (unaided awareness) the campaign when asked to "recall any ads or public events that provided information about sexual health issues." Analogously, when consumers recall a particular brand (e.g., Coke) when asked to consider a product class (e.g., soft drinks), that brand is much more likely to get on the shopping list.¹³ Similarly, the recall of Healthy Penis 2002 suggests the campaign had a strong presence in the San Francisco area among gay and bisexual men and that these men were likely to spontaneously consider campaign messages when thinking about sexual health issues. This is important because respondents who were exposed to the campaign mentioned that it was about getting tested for syphilis, syphilis among gay and bisexual men, something about syphilis in general, and practicing safer sex. Indeed, the testing behavior and syphilis knowledge among respondents who were aware of the campaign reflect this pattern of campaign perceptions.

Unaided campaign awareness was significantly related to syphilis testing after controlling for potential confounders in a multivariate logistic regression. Specifically, respondents who spontaneously mentioned the campaign (unaided awareness) were 3 times more likely to have been tested for syphilis in the past 6 months than respondents who were unaware of the campaign. These results suggest that the campaign played an augmenting role in syphilis testing among gay and bisexual men, and that the campaign achieved its primary goal of increasing syphilis testing.

Respondents who were aware of the campaign demonstrated more knowledge about syphilis in terms of modes of transmission, symptoms, risk-reduction strategies, groups most affected by the disease, and the relationship between the disease and HIV. These results suggest the campaign also achieved the secondary goal of increasing knowledge around syphilis among gay and bisexual men.

The Healthy Penis campaign was developed to target high-risk gay and bisexual men, and did so by being prominently displayed in sex clubs, bars, and banner ads on a popular web site for meeting sex partners. Higher-risk subgroups of this population appeared to have been reached because respondents who were aware of the campaign also reported significantly more anonymous sex partners, commercial sex venue visits, and Internet partners than their unaware counterparts. Hence, results strongly suggest that campaign materials reached and appealed to higher-risk segments of the gay and bisexual community in San Francisco.

This evaluation had some limitations. Although we attempted to recruit a diverse sample of gay and bisexual men in the San Francisco area, our convenience sample may not be representative of this population and our results may not be fully generalized. The evaluation used a cross-sectional design. Therefore, the results only report association and cause-effect relationships cannot be inferred. However, despite these limitations, all data were gathered through face-to-face interviews and the interviewer recorded responses without providing participants with a list of possible response sets. This method of collecting data eliminates the possibility that respondents made "best-guess" responses on campaign awareness and syphilis knowledge items. Additionally, as a result of the cross-sectional study design, it was possible to compare respondents who were exposed to the campaign with those who were not.

Overall, the results strongly suggest that the Healthy Penis 2002 social marketing campaign was effective in increasing syphilis awareness, increasing knowledge around syphilis, and augmenting

syphilis testing in the San Francisco gay and bisexual community. The high recall and recognition of Healthy Penis indicates it has a strong brand presence in the gay and bisexual community that presents an opportunity to incorporate or shift to other health messages as public health needs change for the target audience. For instance, future campaigns with the Healthy Penis brand can focus on health behavior messages related to herpes simplex virus, hepatitis C, or human papillomavirus.

References

1. STD Prevention and Control Services. San Francisco Sexually Transmitted Disease Annual Summary, 2002. San Francisco: San Francisco Department of Public Health, 2003.
2. Kent CK, Wolf W, Nieri G, Wong W, Klausner J, Peterman T. Internet use and early syphilis infection among men who have sex with men: San Francisco, California, 1999–2003. *MMWR Morb Mortal Wkly Rep* 2003; 52:1229–1232.
3. Katz M, Schwarcz SK, Kellogg T, et al.. Impact of highly active antiretroviral treatment on HIV seroincidence among men who have sex with men: San Francisco. *Am J Public Health* 2002; 92:388–394.
4. Scheer S, Chu P, Klausner J, Katz M, Schwarcz SK. Effect of highly active antiretroviral therapy on diagnoses of sexually transmitted diseases in people with AIDS. *Lancet* 2001; 357:432–453.
5. Chen S, Gibson S, Katz M, et al.. Continuing increases in sexual risk behavior and sexually transmitted diseases among men who have sex with men: San Francisco, 1999–2001. *Am J Public Health* 2002; 92:1387–1388.
6. Ostrow D, Fox K, Chmiel J, et al.. Attitudes towards highly active antiretroviral therapy are associated with sexual risk taking among HIV-infected and uninfected homosexual men. *AIDS* 2002; 16:775–780.
7. Vanable P, Ostrow D, McKirnan D, Taywaditep K, Hope B. Impact of combination therapies on HIV risk perceptions and sexual risk among HIV-positive and HIV-negative gay and bisexual men. *Health Psychol* 2000; 19:134–145.
8. Vanable P, Ostrow D, McKirnan D. Viral load and HIV treatment attitudes as correlates of sexual risk behavior among HIV-positive gay men. *J Psychosom Res* 2003; 54:263–269.
9. Klausner J, Wolf W, Fischer-Ponce L, Zolt I, Katz M. Tracing a syphilis epidemic through cyberspace. *JAMA* 2000; 284:485–487.
10. Elford J, Bolding G, Sherr L. Seeking sex on the Internet and sexual risk behaviors among gay men using London gyms. *AIDS* 2001; 15:1409–1415.
11. Kim A, Kent CK, McFarland W, Klausner J. Cruising on the Internet highway. *J Acquir Immun Defic Syndr* 2001; 28:89–93.
12. Lamtey PR, Price JE. Social marketing sexually transmitted disease and HIV prevention: A consumer-centered approach to achieving behavior change. *AIDS* 1998; 12(suppl 2):S1–S9.
13. Aaker DA. *Building Strong Brands*. New York: The Free Press, 1996.
14. Andreasen AR, Marketing Social Change. *Changing Behavior to Promote Health, Social Development, and the Environment*. San Francisco: Jossey-Bass Publishers, 1995.