JOINT MARKETING AS A FRAMEWORK FOR TARGETING MEN WHO HAVE SEX WITH MEN IN CHINA:
A PILOT INTERVENTION STUDY

Jingguang Tan, Rui Cai, Zuxun Lu, Jinquan Cheng, Sake J. de Vlas, and Jan Hendrik Richardus

To apply the joint marketing principle as a new intervention approach for targeting men who have sex with men (MSM) who are often difficult to reach in societies with discrimination towards homosexuality and HIV/AIDS. A pilot intervention according to the principles of joint marketing was carried out by the CDC in Shenzhen, China, in MSM social venues. A self-designed questionnaire of HIV knowledge, condom use, and access to HIV-related services was used before and after the pilot intervention to evaluate its effectiveness. The CDC supported gatekeepers of MSM social venues in running their business and thereby increasing their respectability and income. In return, the gatekeepers cooperated with the CDC in reaching the MSM at the venues with health promotion messages and materials. Thus a win-win situation was created, bringing together two noncompetitive parties in reaching out to a shared customer, the MSM. The pilot intervention succeeded in demonstrating acceptability and feasibility of the joint marketing approach targeting MSM. HIV knowledge, the rate of condom use, and access to HIV-related services of participants in the pilot intervention increased significantly. The joint marketing intervention is an innovative way to create synergies between the gatekeepers of MSM social venues and public health officials for reaching and potentially changing HIV high-risk behaviors among MSM.

Jingguang Tan and Zuxun Lu are affiliated with Huazhong University of Science and Technology, Tongji Medical College, Hubei, China; Jingguang Tan, Rui Cai, and Jinquan Cheng are affiliated with Shenzhen Center for Disease Control and Prevention, Shenzhen, China; Rui Cai, Sake J. de Vlas, and Jan Hendrik Richardus are affiliated with the Department of Public Health, Erasmus MC, University Medical Center Rotterdam, The Netherlands.

This study was generously supported by China - Merck AIDS prevention and international cooperation in applied research projects, national major scientific and technological projects in the 11th five-year plan (2009ZX10001-018) and the municipal science and technology project in Shenzhen (200902089). We gratefully acknowledge Lin Chen, Dewen Cai, Xiangdong Shi, and other relevant staff at the Shenzhen Center for Disease Control and Prevention and the MSM volunteers to assist with the intervention. We also thank the gatekeepers of the eight selected venues for cooperating and supporting this intervention.

Address correspondence to Zuxun Lu, Department of Public Health, Huazhong University of Science and Technology, Tongji Medical College, Hong Kong Rd., no. 13, Wuhan, Hubei, China 430030; E-mail: luzuxun@hotmail.com, tanjg@szcdc.net, or c.rui@erasmusmc.nl
The HIV epidemic in China continues to expand and by the end of 2011 the cumulative number of HIV/AIDS cases was estimated at 780,000 (World Health Organization, Joint United Nations Program on HIV and AIDS, & Ministry of Health, 2011). Historically, injection drug users (IDUs) and former plasma donors (FPDs) were the two major groups affected by China’s HIV epidemic (Wu, Sullivan, Wang, Rotheram-Borus, & Detels, 2007). However, HIV prevalence has lately increased rapidly among men who have sex with men (MSM). Nationally, the prevalence of HIV among MSM increased from 1.5% in 2005 to 5.0% in 2009 (World health Organization et al., 2011). Accounting for only 2–4% of the Chinese adult male population (Zhang, Li, Shi, Yang, & Zhang, 2002b), MSM comprised approximately 30% of the new HIV cases in 2011 (World health Organization et al., 2011). Also, due to the traditional culture and values, a substantial proportion of Chinese MSM are married to females. It was estimated that 50–70% of MSM have had sex with females in their lifetime (Chow, Wilson, & Zhang, 2011). The common bisexual behavior among Chinese MSM may further bridge the HIV epidemic to the female population. Therefore, MSM have become a priority population for prevention and control of the HIV epidemic in China.

Several factors are associated with the ongoing HIV transmission among MSM in China, such as lack of HIV knowledge; high prevalence of sexually transmitted diseases and unprotected anal intercourse; illicit substances use; and unrecognized infections due to lack of HIV testing (Lau et al., 2008; Ruan et al., 2008; Ruan et al., 2009; Zhang & Chu, 2005). To curb the spread of HIV through MSM, several interventions have been implemented to reduce high-risk behaviors and to increase HIV testing in China. These interventions have consisted largely of distributing condoms and educational materials through MSM volunteers and often in MSM social venues such as gay bars (Shi et al, 2003; Zhang et al, 2002a; Zhang et al., 2010). These peer-driven behavioral interventions through MSM volunteers usually create a friendlier and culturally sensitive environment for MSM to seek information about HIV. The extent however, to which these volunteer-based interventions reach MSM depends on the social network of the volunteers and may thus have insufficient reach among the whole target population. Also, without a systematic structured framework for cooperation between public health officials and MSM volunteers, educational materials produced may not appeal to the target population. Finally, it is often difficult for MSM volunteers to provide professional consultation and education. All these factors may undermine the effectiveness of peer-driven behavioral interventions.

In this article, we present a pilot intervention study targeting MSM in Shenzhen, China. The intervention is innovative in that it applies the principal of joint marketing. Similar to social marketing (Maibach, Rothchild, & Novelli, 2002; Wei et al., 2011), the joint marketing approach is also based on commercial marketing techniques. In joint marketing, companies offering noncompetitive services work together to gain more customer exposure. The strength of a joint marketing intervention is that it can motivate gatekeepers (e.g., club owners) of MSM social venues to become involved and cooperate with public health officials. We hypothesized that the joint marketing approach can achieve a win-win situation for gatekeepers of MSM social venues and public health officials responsible for the control of HIV, to the benefit of MSM.
THE GUIDING THEORY

Joint marketing can be used naturally and effectively when products share a buyer persona (Revella, 2006). A buyer persona is a detailed profile of an example buyer that represents the real audience—an archetype of the target buyer. Marketers can use buyer personas to clarify the goals, concerns, preferences, and decision process that are most relevant to their prospective customers. A joint marketing approach includes the following steps: determine target audience and geographic area; formulate key messages and forms of delivery; agendas, timelines, and event logistics; establish staffing and expert resource requirements; secure costs and funding alternatives and follow-up processes (Neves, Castro, & Cônsoli, 2010). As both the gatekeepers of MSM social venues and the public health officials endeavor to attract and reach MSM, we assumed that the joint marketing approach can be applied to motivate the gatekeepers to be involved in an intervention targeting MSM. Following the components of the joint marketing approach, we designed and implemented this pilot intervention project.

STUDY LOCATION AND INTERVENTION DESIGN

The study was conducted from May 2009 to May 2010 in Shenzhen, China. As the first special economic zone in China, Shenzhen has substantial exposure to Western culture. There are between 50,000 to 100,000 MSM in Shenzhen (Chen et al., 2008). The prevalence of HIV infection among MSM increased from 0.2% in 2002 to about 10% in 2010 (Liu et al., 2010). Through continuous outreach efforts to MSM over the years, the local staff of the Center for Disease Control (CDC) gained insight into the local MSM networks and venues, providing a sound foundation for interventions.

The first step of a joint marketing strategy is to determine the target audience and geographic area. For the pilot intervention we targeted eight MSM social venues, including three gay bars, two saunas, and three gymnasiums in Shenzhen. Due to the strong stigma in the society, MSM venues often face difficulties in making profits due to frequent closure, suspension, and consolidation of the business ordered by various government agencies. To motive the MSM venues to become involved in our intervention study, the CDC helped to generate a supportive social environment for these venues through active dialogue between the CDC and other government agencies, including administrations for public security, culture, and industry and commerce. Through this strategy, all the available venues (48 venues) agreed to participate, but we only selected eight of these entertainment venues to implement this pilot intervention, due to the limited financial and human resources. The selection criteria were that the floor space of the venues should be larger than 200 m², and the average number of daily customers should be more than 150. Also, the gatekeepers of the venues should fully understand the importance of providing HIV prevention and control measures to MSM, and had experience in carrying out prevention activities. To guarantee the quality of the intervention, a governmental agreement was signed between Shenzhen CDC and the eight selected venues. The target audience included all MSM in the venues. To assess this pilot intervention, we also selected six entertainment venues as a control group, including two gay bars, two saunas, and two gymnasiums having a similar floor space and number of customers.
The key elements of our intervention were educational materials, together with the provision of condoms and lubricants, distributed by trained peer educators, CDC staff and also the gatekeepers themselves at the venues. The educational materials included handbooks, flyers and posters, which were developed with the active collaboration of MSM volunteers from a nongovernmental organization. The CDC has collaborated with this nongovernment organization for nearly ten years in conducting interventions targeting MSM. The handbooks and flyers were used throughout these interventions and showed to appeal to the MSM. For this pilot intervention, we continuously used these handbooks and flyers and we also specially developed new posters and brochures on HIV and STD testing and counseling. These specially developed posters and brochures were displayed at the venues by the gatekeepers as part of educational materials to raise the awareness of being tested. We also arranged monthly performances and lectures to educate MSM. To attract MSM to the intervention venues, the CDC helped the venues establish a positive social reputation by publicizing them on the official CDC website and granting them the status of demonstration units for health education by the government. With more clients visiting and profits increasing, the gatekeepers were more willing to follow the CDC’s instructions and cooperate with the CDC in the interventions. The timelines for the intervention was relatively flexible; the CDC staff distributed the educational materials and condoms regularly (at least once per month) and also on the request by these venues. At the control venues, the educational materials, including the specially developed new posters and brochures were offered, but often not used, because the gatekeepers were not motivated in the same way as at the intervention venues to participate. We also distributed the condoms and lubricants, but gatekeepers were not or only minimally involved. It was difficult to arrange performances and lectures at the control venues because of lack of support by the gatekeepers. Instead of motivating the gatekeepers to join together with the public health officials to the benefit of MSM, the inventions at the control venues were done mainly by the public health officials.

With regard to the staffing requirements, the CDC staff had experience with implementing interventions targeting MSM, and they trained MSM volunteers and gatekeepers how to participate in this pilot intervention project. The main costs of the intervention included the educational materials, condoms and lubricants, and the time and financial incentives for training the MSM peers to better equip them with knowledge and skills to cooperate with the CDC for implementing the intervention. In using joint marketing as a framework, the consumers’ cost should also be taken into account. Here the consumers referred to are MSM and the cost included are the social, psychological and physical cost associated with the propagated health-changing behaviors. By conducting the intervention in an MSM-friendly platform, we minimized the costs of our consumers.

EVALUATION OF THE INTERVENTION AND STATISTICAL ANALYSIS

To assess the effectiveness of this pilot intervention, we compared the results of our questionnaire-based interviews before and after the one-year intervention, and between the intervention venues and the control venues. The questionnaire included age, marital status, education, HIV-related knowledge, ever having sex with female or male partners in the past six months, condom use with female or male partners in the past six months and during the last sexual intercourse, and access to HIV services. There were eight core questions to evaluate HIV-related knowledge (China
TABLE 1. Percentage of Correct Answers on Knowledge Questions on HIV and Percentage of Participants with a High Knowledge Level at Baseline and After Completion of the Pilot Intervention.

<table>
<thead>
<tr>
<th>Questions</th>
<th>Intervention venues (%)</th>
<th>Control venues (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Is it possible to identify HIV positives from appearance?</td>
<td>64.9</td>
<td>64.8</td>
</tr>
<tr>
<td>Can HIV transmit through mosquito biting?</td>
<td>54.1</td>
<td>51.4</td>
</tr>
<tr>
<td>Can HIV transmit through sharing meals?</td>
<td>78.4</td>
<td>70.5</td>
</tr>
<tr>
<td>Can HIV transmit through blood transfusion and using blood products?</td>
<td>92.8</td>
<td>88.6</td>
</tr>
<tr>
<td>Can HIV transmit through sharing needles?</td>
<td>93.7</td>
<td>91.4</td>
</tr>
<tr>
<td>Can HIV transmit to children through breastfeeding?</td>
<td>94.6</td>
<td>90.5</td>
</tr>
<tr>
<td>Can condom use reduce the HIV transmission?</td>
<td>84.7</td>
<td>84.8</td>
</tr>
<tr>
<td>Can the HIV transmission probability be reduced by being constant in a certain sexual partner?</td>
<td>78.4</td>
<td>73.3</td>
</tr>
<tr>
<td>With a high knowledge level</td>
<td>73.0</td>
<td>66.7</td>
</tr>
</tbody>
</table>

*Difference in percentages at baseline (pre) and after completion of the pilot intervention (post): p value < 0.05.

State Council AIDS Working Committee Office, 2007). A high knowledge level was defined as having answered correctly six or more out of the eight core questions. Access to HIV services was defined as receiving any services including condom promotion, peer education, and HIV consulting and testing services in the past year. The CDC staff and the trained MSM volunteers explained the aims, significance, benefits, and other aspects of the study to all eligible MSM and obtained verbal informed consent. Confidentiality was strictly observed in this study. Eligibility criteria were age 18 years and above and self admitted ever having had sex with another man. Each participant completed the questionnaires with one CDC staff or trained MSM volunteer anonymously. Due to the limited timeframe and resources, we could not assess large samples of MSM. We therefore used a two-stage sampling method for recruiting participants. In the first stage we randomly selected four and three venues from the eight intervention and the six control venues, respectively. In the second stage we used a convenience sampling method to select MSM and restricted the number of participants to 30 at each of the intervention venues and 40 at each of the control venues. We implemented the survey consistently at baseline and after completing the 1-year study (cross-sectional study design).

EpiData 3.1 was used as the database software and SPSS 13.0 was used to analyze the data. \( \chi^2 \) tests were used to compare pre- and post-intervention indicators.

RESULTS

SOCIODEMOGRAPHIC CHARACTERISTICS

At baseline we included for analysis 111 and 105 valid questionnaires out of the total of 120 questionnaires taken at the intervention and control venues, respectively. Questionnaires were considered invalid if there were one or more missing answers. Of the participants at the intervention venues, the mean age was 28.0 years (SD = 5.7), the majority never married (67.6%), and 55.0% had completed at least college education. Of the participants at the control venues, the mean age was 26.8 years (SD = 8.4), the majority never married (64.8%), and 52.4% had completed at least a
college education. At the post-intervention survey we included for analysis 120 and 98 valid questionnaires at the intervention and control venues, respectively. Of the participants at the intervention venues, the mean age was 28.8 years (SD = 5.9), the percentage never married was 69.2%, and 57.6% had completed at least a college education. Of the participants at the control venues, the mean age was 27.3 years (SD = 7.9), the majority never married (66.3%), and 56.1% had completed at least a college education. With regard to age, marital status, and education, there were no statistically-significant differences between intervention and control venues and between baseline and post-intervention surveys.

HIV-RELATED KNOWLEDGE

At the baseline survey there was no statistically significant difference in HIV-related knowledge between intervention and control venues. There were significant increases at the intervention venues in the proportion of participants giving correct answers to most HIV knowledge related questions, with the exception of two questions: “Can HIV transmit through sharing needles?” and “Can HIV transmit to children through breastfeeding?” (Table 1). For both questions there was already a high percentage with a correct answer in the baseline survey. There was also a statistically-significant increase at the intervention venues in the proportion of participants holding a high knowledge level. No increase of HIV-related knowledge was identified at the control venues.

CONDOM USE

At the baseline survey there was no statistically-significant difference between intervention and control venues. Of the participants at the intervention venues, 91.9% (102/111) and 93.3% (112/120) reported having male sex partners, and 30.6% (34/111) and 34.2% (41/120) reported having female sex partners in the past six months at the baseline and post-intervention survey, respectively (p > 0.05). The proportion of participants indicating consistent condom use in the past six months and condom use during the last intercourse increased significantly with male partners (Table 2). However, no increase of consistent condom use in the past six months and condom use during the last intercourse was indicated with female partners (Table 3). Of the participants at the control venues, 92.4% (97/105) and 90.8% (89/98) reported having male sex partners, and 33.3% (35/105) and 33.7% (33/98) reported having female sex partners in the past six months at baseline and post-intervention.
No increase of the proportion of participants indicating consistent condom use in the past six months and condom use during the last intercourse was identified with male partners or female partners (Tables 2 and 3).

ACCESS TO HIV-RELATED SERVICES

The percentage of participants reporting having ever received condom promotion, peer education, and HIV consulting and testing services in the past year was higher at the intervention venues than at the control venues. The access to condom promotion, peer education, and HIV consulting and testing services increased significantly at the intervention venues but not at the control venues (Table 4).

DISCUSSION

Our joint marketing pilot intervention for reducing high-risk sexual behavior and increasing HIV-related knowledge and access to health services among MSM appears feasible and effective as a HIV prevention strategy, demonstrating that this joint marketing intervention is an innovative way to create synergies between the gatekeepers of MSM social venues and public health officials to reach MSM. In this joint marketing intervention, the CDC basically supported gatekeepers of MSM social venues in running their business with active dialogue towards other government agencies and thereby increasing their respectability and income. In return, they were asked to cooperate with the CDC public health staff in reaching the MSM at the venue with health promotion messages and materials. In this way a win-win situation was created, bringing together two noncompetitive parties in reaching out to a shared customer (buyer persona), the MSM. This approach is certainly appropriate in societies with strong stigma towards homosexuality and HIV/AIDS. Although homosexual activities became legal in China since 1997, Chinese MSM still experience social discrimination from family members, peers, and colleagues (Liu & Choi, 2006). Such environments lead many MSM to hide their sexual orientation and express their sexual behavior secretly where they cannot be reached by public health or other government officials (Xu, Zhang, & Zheng, 2007). MSM will tend to gather quietly and owners of bars and clubs for these men will distrust authorities and resist government interference. Breaking down these barriers with gatekeepers is an important step in reaching out to MSM for HIV prevention.

<table>
<thead>
<tr>
<th>Condom use in the past six months</th>
<th>Intervention venues (%)</th>
<th>Control venues (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Pre n/N</td>
<td>Post n/N</td>
</tr>
<tr>
<td>Never</td>
<td>12/34 (35.3)</td>
<td>14/41 (34.1)</td>
</tr>
<tr>
<td>Sometimes</td>
<td>8/34 (23.5)</td>
<td>10/41 (24.4)</td>
</tr>
<tr>
<td>Consistent</td>
<td>14/34 (41.2)</td>
<td>17/41 (41.5)</td>
</tr>
<tr>
<td>During the last intercourse</td>
<td>62/111 (55.9)</td>
<td>70/120 (58.3)</td>
</tr>
</tbody>
</table>

*For all percentages at baseline (pre) and after completion of the pilot intervention (post): p value > 0.05.
This pilot study succeeded in demonstrating acceptability and feasibility of the joint marketing approach targeting MSM. The evaluation of its effectiveness however, is limited by its design and sample size and the findings must therefore be interpreted with caution. The contribution of the individual components of the intervention (e.g., agreement with gatekeepers, educational materials and condom distribution, and lectures and performances) cannot be established in this study. The results can only be attributed to the entire package of the joint marketing approach. Also, our selection criterion of the intervention venues that gatekeepers should have experience in carrying out prevention activities may have introduced positive selection bias. The better access to HIV-related services among MSM at the intervention venues than MSM at the control venues at baseline most likely resulted from this bias. We had to select experienced gatekeepers to guarantee the process of the pilot intervention, due to the limited timeframe and resources. Furthermore, self-reported behavior is a less reliable outcome indicator than for instance counting new cases of HIV or other sexually-transmitted diseases. Future studies with more rigorous design are needed to confirm the effectiveness of the joint marketing intervention targeting MSM.

At the baseline survey, MSM were already highly aware that HIV can be transmitted through needle sharing and breastfeeding, but a significant increase in other HIV-related knowledge was shown at the post-intervention survey. It is also encouraging that our intervention appears to have increased condom use during penile-anal intercourse. As unprotected penile-anal intercourse is associated with a high rate of HIV transmission, reduction of unprotected penile-anal intercourse is crucial for the control of the HIV epidemic among MSM (Jin et al., 2010). From this point of view, our intervention may have positive implications for future HIV prevention efforts among MSM in China. At the post-intervention survey, however, there was no apparent increase in condom use with female partners. Traditional cultural and family values may play a role here, and highlights the need for effective interventions to halt HIV spreading through MSM to the female population.

Although HIV consulting and testing services are offered free in China, the HIV testing rates remain very low among Chinese MSM, only 30% of MSM report being ever tested (Choi, Lui, Guo, Han, & Mandel, 2006; He et al., 2009; Ruan et al., 2009). This intervention showed its potential to increase access to HIV consulting, testing and other related services. By placing posters advertising HIV consulting and testing services provided by CDC in the venues visited by MSM, their awareness for the need of being tested can be increased. Because the local CDC also posted advertisements of the participating venues on its website, the gatekeepers of these venues were motivated and willing to cooperate with CDC. With their cooperation it was much easier to distribute condoms, educational materials, and even offer face-to-

<table>
<thead>
<tr>
<th>HIV services</th>
<th>Intervention venues (%)</th>
<th>Control venues (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Condom promotion</td>
<td>70.3</td>
<td>60.0</td>
</tr>
<tr>
<td></td>
<td>85.0*</td>
<td>64.3</td>
</tr>
<tr>
<td>Peer education</td>
<td>10.8</td>
<td>4.8</td>
</tr>
<tr>
<td></td>
<td>24.2*</td>
<td>5.1</td>
</tr>
<tr>
<td>HIV consulting and testing</td>
<td>69.4</td>
<td>52.4</td>
</tr>
<tr>
<td></td>
<td>90.8*</td>
<td>56.1</td>
</tr>
</tbody>
</table>

*Difference in percentages at baseline (pre) and after completion of the pilot intervention (post): p value < 0.05.
face education. Moreover, with posting of advertisements for the venues on the CDC website and communicating with MSM in their social venues, the local CDC set an example to the public in respecting MSM.

Our joint marketing approach followed both the principals of customer-centeredness of commercial marketing and of equality and human care of public health. We consider both essential in targeting the often marginalized MSM and recommend that future intervention efforts apply these principles and target MSM in a discreet manner and respecting their privacy.

REFERENCES


This article has been cited by:


2. Jeffery Adams, Stephen Neville, Karl Parker, Taisia Huckle. 2017. Influencing Condom Use by Gay and Bisexual Men for Anal Sex Through Social Marketing. *Social Marketing Quarterly* **23**:1, 3-17. [Crossref]
