

EXPANDING WORKPLACE HIV PREVENTION PROGRAMS FOR A HIGHLY MOBILE POPULATION IN HO CHI MINH CITY



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As HIV prevalence in Vietnam increases, promoting prevention behavior among vulnerable populations, such as migrant workers, becomes more critical. As of 31 December 2002, nearly sixty thousand cases of HIV infection had been reported in Vietnam's 61 provinces (National AIDS Standing Bureau 2002). Of the total, one-fifth of these cases were reported in Ho Chi Minh City (HCMC), where heterosexual intercourse is a significant and growing mode of transmission (Chung et al. 1998). In Ho Chi Minh City, efforts by the local government have been in place for several years to focus prevention activities on migrant workers. The principal activity uses volunteer health communicators to conduct HIV education activities at workplaces. Yet these prevention efforts have reached only a minority of migrant workers, and the effectiveness of the approach remains unclear. Local authorities want to expand their efforts but need more information about which activities are the most effective and least costly, as well as their potential for scale-up.

Male construction workers in peer education session.

The Horizons Program, in conjunction with the Population Council/Vietnam, the HCMC Labor Union, the HCMC AIDS Committee, and the College of Social Sciences and Humanities of HCMC National University, with additional support from the Ford Foundation, compared the existing workplace HIV prevention program for highly mobile construction workers with a new peer education (PE) program. Specifically, this operations research study examined the feasibility, impact, and cost of the two programs. Other important objectives of the study included exploring the role of the labor union in managing workplace HIV/AIDS programs, examining strategies to motivate management to support HIV/AIDS workplace programs in relatively low-prevalence environments, and demonstrating that a workplace program using peer educators can successfully follow a highly mobile work force from one site to another.

Program Activities

The health communicator (HC) program has several positive characteristics, including minimal costs for implementation and a large supply of motivated and knowledgeable educators who are college social work students. However, there were concerns about the substantial turnover of HCs and whether social work students, about half of whom are female, are the most effective HIV prevention educators for a largely male construction worker population. The new program uses construction worker peer educators to promote HIV risk reduction and fosters management involvement and support for the workplace program. While PE programs have been found to be effective in many settings, local authorities were concerned about whether construction workers could be capable educators and could be motivated to stick with the program.

During the study period, initial and refresher training on HIV/STI prevention, participatory teaching methods, and group facilitation skills were offered to both PEs and HCs. Labor union staff acted as liaison with company management and as coordinators of the workplace programs.

Methods

The research consists of an experimental design with two intervention arms and three rounds of data collection. Twenty-three construction sites were selected after a mapping exercise of large construction sites in 19 of 22 districts across Ho Chi Minh City. They were randomly assigned to the PE or HC intervention. Half of the companies in the PE arm agreed to participate (n = 6). The first six HC sites contacted also agreed; therefore, a total of 12 sites initially took part in the study. The number of sites expanded as PEs completed their work and moved on to new work sites; new sites were also added in the HC arm for purposes of comparability. Permission from management was sought for each new work site.

Horizons conducts global operations research to improve HIV/AIDS prevention, care, and support programs. Horizons is implemented by the Population Council in partnership with the International Center for Research on Women (ICRW), the Program for Appropriate Technology in Health (PATH), the International HIV/AIDS Alliance, Tulane University, Family Health International, and Johns Hopkins University.

The research included a formative phase to help develop the intervention activities. During the evaluation phase, a combination of qualitative and quantitative research methodologies was used to assess the process, cost, and impact of the different interventions. Monitoring forms were collected weekly from PEs and after each visit to the construction sites from HCs. Detailed information on indirect and direct costs was kept throughout the

project. All active peer educators and health communicators were surveyed at baseline (n = 68 PEs and 69 HCs, respectively), six months (n = 56 and 46, respectively), and 12 months (n = 45 and 45, respectively). Focus group discussions and in-depth interviews were also held with company managers, PEs, HCs, workers, and labor union staff.

Surveys were conducted with construction workers before the intervention, and six and twelve months later. A baseline survey was administered to all workers (i.e., a census sample) in each of the PE (n = 742) and HC (n = 502) sites. During the follow-up period the number of exposed workers increased, as PE sites increased to 15 due to the movement of PEs to new sites when their work was complete, and an additional 6 HC sites were selected. As a result, a sample instead of a census of workers was selected for the second (PE sites: n = 751 workers; HC sites: n = 505 workers) and third rounds (PE sites: n = 363; HC sites: n = 211).

Characteristics of the Study Populations

Survey findings show that the great majority of workers were male (~ 85 percent) and in their late 20s. Most had completed “lower secondary” school or less. About half were married, and half were single. Most had lived in Ho Chi Minh City for less than two years.

There are some noticeable differences between the characteristics of peer educators and health

communicators, and how they carried out their work. At baseline, most PEs indicated that they joined the program because their workplace or labor union had requested it, while HCs said their main reasons were for perceived personal benefit or to help workers. In addition, HCs were more likely than PEs to be younger and single, to have higher levels of education, and to have lived in HCMC for a shorter period of time.

More than 80 percent of the PEs, who came from a mostly male work force, were male, whereas about half of the HCs were male. While a small proportion of construction workers were female (~15 percent), and female PEs and HCs tended to work with female workers, there were also many female HCs who interacted regularly with male workers. But HCs were more limited in their interactions with workers than PEs, since HCs generally visited construction sites during break periods and held one-on-one or small group discussions outside the construction area because safety rules prevented them from entering most sites.

Many of these differences were expected, since PEs were drawn from the ranks of workers and HCs were students completing their social work degrees. However, some of these differences, particularly the sex of the educators and how they were able to interact with workers, may help to explain differences in effectiveness between the two programs.

Key Findings

PEs contacted more workers and were better at distributing condoms than HCs.

Among workers surveyed, a higher proportion of workers at PE sites were reached by the intervention than were workers at the HC sites. At six months follow-up, 73 percent of workers at PE sites compared to 57 percent at HC sites had direct experience with program activities, such as through group or one-on-one sessions. Exposure to the program reported at one year about the prior six months

declined to 61 percent of the workers at PE sites and 45 percent for the HC sites. The reduction in exposure to PE between rounds two and three likely reflects the dilution of the intervention as both PEs and workers moved on to new construction sites.

The PEs appeared to be more successful in distributing condoms to fellow workers than the HCs. At six months, 88 percent of workers at PE sites who had contact with PEs reported that they had received condoms from them, compared to 76 percent of workers who had contact with HCs ($p < .01$). At 12 months, 78 percent of workers at PE sites compared to 65 percent of workers at HC sites reported the same ($p < .01$). Reports from HCs reveal that they distributed fewer condoms than they were provided, and qualitative data from workers suggest they were more comfortable getting condoms from PEs than HCs.

Although turnover among both groups was a problem, PEs had better retention rates than HCs, and PEs continued program activities at new work sites.

An ongoing concern has been the high level of dropouts from the HC program and the need to keep recruiting and training new HCs. However, there was also a concern that many PEs would be lost when they moved to new work sites. The results indicate that there was significant turnover



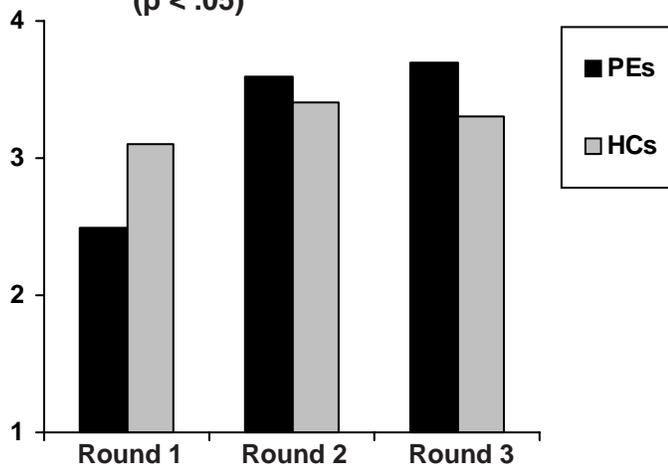
Training session.

with both groups, although the turnover was less among PEs than HCs. Approximately two-thirds of the PEs who started the program remained after six months, compared to 55 percent of the HCs. At 12 months, 52 percent of the PEs remained, compared to 43 percent of the HCs.

One factor that may have contributed to dropout among female HCs was teasing by male workers. A few female health communicators described embarrassing exchanges with male construction workers when discussing sensitive issues. According to one HC, “Some male construction workers asked these HCs to display how to use a condom. These people felt very embarrassed and consequently quit this work.” This raises the need to be sensitive to the appropriate match between educators and their audience, in particular with issues related to gender.

An important objective of the study was to explore whether PEs can continue education activities with their fellow workers as they move to different work sites, and therefore reach a highly mobile work force. Overall, peer education activities were conducted at 31 construction sites through the 12 months of the intervention, expanding from the original six sites. The great majority of PEs who moved from the original six construction sites went to work at other sites in Ho Chi Minh City managed by the companies participating in the study, and the project was able to follow up all of these peer educators.

Figure 1 Mean score on six-item index of comfort in discussing sexual topics with workers (p < .05)



Focus group discussions with PEs revealed that they generally wished to continue activities even after moving to new sites, and often did, but it was difficult to do this without the support of the labor union coordinators.

PEs’ comfort levels in discussing sexual topics and knowledge about HIV/AIDS greatly improved over time and equaled or surpassed those of HCs at follow-up.

An index of comfort in discussing sexual behavior was constructed out of six items. At baseline, HCs were significantly more comfortable discussing topics related to sexual behavior than were PEs (p < .001). After six months, PEs who remained in the program were more comfortable discussing sensitive topics with workers than were HCs. This gap widened further after one year for those who remained in the program (Figure 1).

Eight general questions about HIV/AIDS (e.g., “Can a person who looks healthy be infected with HIV?”) were combined into an index of HIV/AIDS knowledge. At baseline, levels of knowledge were higher among HCs than PEs (p < .05). This difference disappeared by the second round of data collection. Equivalent levels of knowledge were also found after one year.

Knowledge increased for both groups of workers, but diffusion of information to non-exposed workers was greater at the PE sites than the HC sites.

At baseline, the level of knowledge about HIV/AIDS and STIs among workers was high, with a mean of more than six of eight items correct for workers at both intervention sites. At six months, the mean knowledge score increased to 7.3 for workers at both the PE and the HC sites (p < .01).

Knowledge also increased significantly for workers in the PE sites who did not have direct exposure to activities with PEs (p < .01), but this increase was not found among workers in the HC sites who were not directly exposed to health

communicators (Figure 2). This is likely a result of increased communication about HIV/AIDS between exposed and unexposed workers at the PE sites.

At baseline, about two-thirds of workers at PE sites and HC sites knew where they could obtain a condom. At six months, a greater proportion of workers directly exposed to PE activities (94 percent) as well as non-exposed workers at the PE sites (75 percent) knew where to obtain a condom, and these differences were statistically significant ($p < .01$). At HC sites, the figure increased to only 75 percent of exposed workers who knew where to get a condom six months after the intervention began ($p < .01$), but for non-exposed workers there was little change.

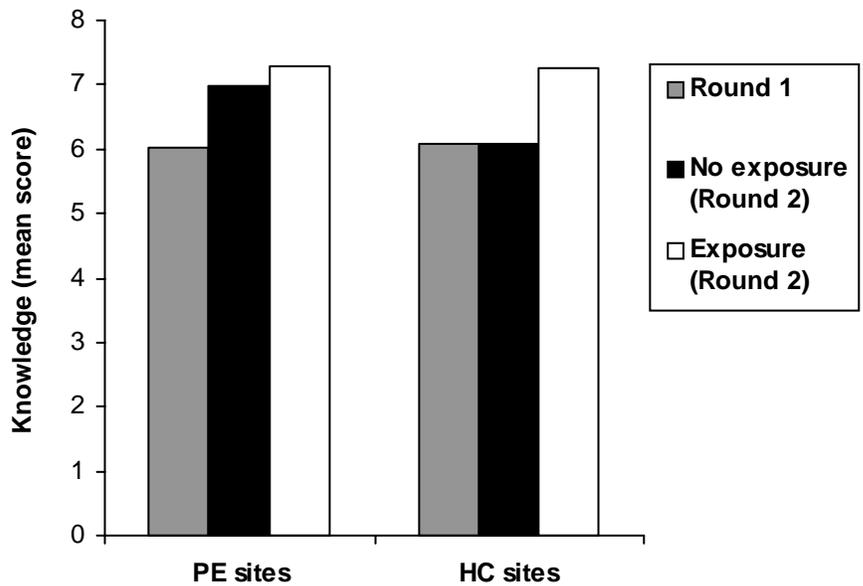
There were statistically significant improvements in key outcomes among exposed workers in both arms, although improvements on several variables were greater at PE sites.

Apart from knowledge, the HC and PE interventions aimed to increase workers' perception of risk, confidence to make risk-reduction decisions, and confidence to use condoms correctly. Findings show that there were significant, positive changes among workers exposed to both the PE and HC interventions ($p < .01$).

For an additional outcome—stigmatizing attitudes toward people living with HIV and AIDS—an index was constructed from five items. The survey results show that the interventions did have an impact on reducing negative attitudes among exposed workers in both groups ($p < .01$); however, significantly greater reductions were observed among workers at the PE sites.

Further analysis reveals that support for risk reduction norms increased significantly only among

Figure 2 Change in workers' HIV/AIDS related knowledge: diffusion effects



exposed workers in the PE group. To determine support for risk reduction norms, a 15-item index was constructed. The mean score increased significantly for exposed workers in the PE sites ($p < .01$), but there was no comparable improvement among exposed workers at the HC sites.

There is some evidence of increased condom use, although workers report low levels of sexual risk behavior.

In the surveys, reported levels of sexual risk behavior among workers were low. Averaged over the three rounds, only about half of workers reported sexual activity in the previous six months and, for the great majority, sex occurred with a spouse. Reported sex with non-marital partners varied across survey rounds but was still relatively low: In the second survey, 5 percent reported sex with a sex worker and 15 percent reported having sex with other partners in the previous six months.

HCs and PEs felt that more workers engage in risk behavior than was reported to the survey interviewers. This was corroborated by data from the in-depth interviews with workers. For example, one worker noted:

“I have a medium risk [of HIV] because I sometimes have sex with my girlfriend, and once in a while I visit sex workers. One time having sex with a sex worker, I did not use condoms.”

Male worker, 33, divorced,
PE site

Almost all of the workers who reported having sex with a sex worker at both survey rounds used a condom at last sex (12 of 14 workers at baseline, and 24 of 30 workers at six months follow-up).

Survey data show an increase in condom use with non-marital partners other than sex workers. At baseline, condom use at last sex was reported by about a third (n = 17/51) of workers, and this proportion increased to 49 percent (n = 42/86) at six months follow-up. This increase was greater among workers exposed to the PE program (71 percent; n = 17/24) than the HC program (45 percent; n = 15/33).

Findings from the qualitative data suggest a shift toward condom use among workers, particularly those reached by PEs. According to a married male worker from a PE site: “Mr. C. [PE] distributed condoms to us. As a man he understood our sexual desire. Therefore I am not embarrassed to ask him.” A male PE noted:

“Construction workers living far away from home used to drink a lot on the weekend, and then go to ‘karaoke bar’ to have ‘the second shift’ or ‘the third shift’ [visit sex workers], but never used a condom. After listening to us [PEs], they carry condoms whenever they go there.”

Cost per worker reached was lower for the PE program than the HC program.

The total costs over one year were greater for the PE program (US\$14,638) than for the HC program (US\$11,374), due to greater training



Male construction workers in peer education session.

costs and more supervision. However, the productivity analysis, which takes into account that a greater percentage of workers at the PE sites reported being contacted (61 vs. 45 percent), shows that the cost per worker reached was lower for the PE program than the HC program. The cost per worker reached for the PE program was US\$30.37 and for the HC program was US\$34.16, a 16 percent lower cost per worker reached.

Support of management was key, and management became involved for varied reasons.

An important part of the PE program was involving company management, since PE programs require permission from authorities to train their workers and to allow them time to engage in PE activities. Interviews with program coordinators indicate that the most successful way to motivate management was to work with both top management and site management. Findings from construction company managers indicate that their support of workplace HIV/AIDS programs was motivated by multiple factors. These range from concerns about the wellbeing of their workers to the desire to reduce stigma in the workplace. Having a reputable organization like the labor union address concerns about costs and time spent on the intervention appears to be an important part of a successful strategy to get management on board.

Conclusions and Recommendations

Findings about the impact of the program on workers indicate that the peer education program reached a higher proportion of the workers than the health communicator program. There were also greater improvements in such impact variables as knowledge on where to get a condom and support for risk reduction norms, and greater declines in stigmatizing attitudes toward people living with HIV and AIDS. Evidence also suggests a diffusion effect in the PE intervention sites, given that workers at the PE sites who were not directly exposed to PE activities also reported positive change in HIV-related knowledge.

Reported risky sexual behavior in the surveys was quite low in this population, so conclusions about the impact of the programs on sexual risk behavior are limited. There is some evidence—such as an increase in condom use with a non-marital sexual partner—that suggests an impact in that area. Furthermore, the qualitative data suggest that there was both more HIV risk behavior on the part of workers than what was found in the close-ended surveys, and that reductions in risk behavior and increases in safer sex practices occurred, particularly among workers exposed to the peer education intervention. These findings highlight the importance of triangulating information gathered on sensitive issues from multiple sources and with varied methodologies.

Although at baseline PEs had poorer knowledge of HIV/AIDS than HCs and were less comfortable discussing sensitive topics, after training and six months of experience in the field, PEs were more comfortable discussing sensitive topics than were HCs and had equivalent levels of knowledge. A somewhat lower proportion of PEs than HCs dropped out of the program. Therefore, many of the potential disadvantages of using PEs expressed at the beginning of the intervention, such as concern that the construction workers might not be capable PEs or might drop out in greater numbers, were not supported by the data. Moreover, study findings indicate that the peer educators continued to implement activities after moving from their original site to other work sites, which supports the original supposition that a peer education strategy might be advantageous for a mobile workforce.

The cost per worker reached by the PE program was lower than that of the HC program, and it would be substantially less expensive to replicate the PE intervention in additional sites. This finding is of great relevance both for local authorities who are determining which program to take forward and scale up, and for construction companies that are considering implementing a peer education program with their own funds.

Given these findings, local authorities have determined that they will focus their efforts on



Female construction workers in peer education session.

the peer education program, while maintaining a cadre of health communicators for companies that are unable or unwilling to implement a peer education program. To strengthen the PE program, peer educators should be trained regularly when new sites are added to maintain an appropriate ratio between peer educators and workers. Also, the role of the peer coordinator was an important one and should be continued in order to support the peer educators and foster good relations with the management. Finally, the role that gender dynamics may have played in the ability of the HCs to do their jobs successfully and remain in the program should be further investigated.

Gaining the support of management is key. Since an important difference between the two interventions may have been the outreach made to engage management for the PE program, a management motivation component should be included in the HC program as well. Management endorsement of their work could potentially increase the effectiveness of HCs. Local authorities indicated that the management motivation component was deemed sufficiently successful to recommend its use in all types of local workplace programs.

While both the PE and HC programs had a positive impact on workers, the PE program appears to have a number of advantages over the HC program for this type of work environment. These findings should help inform future efforts to scale up and improve the sustainability of these programs in Vietnam, as well as provide global lessons regarding workplace HIV/AIDS interventions. 

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