Experiences recruiting Indian worksites for an integrated health protection and health promotion randomized control trial in Maharashtra, India

L. Shulman Cordeira1*, M. S. Pednekar2, E. M. Nagler1,3, J. Gautam, L. Wallace1, A. M. Stoddard4, P. C. Gupta2 and G. C. Sorensen1,3

1Center for Community Based-Research, Dana-Farber Cancer Institute, Boston, MA 02115, USA, 2Healis-Sekhsaria Institute for Public Health, Navi Mumbai 400614, India, 3Department of Social and Behavioral Sciences, Harvard T.H. Chan School of Public Health, Boston, MA 02115, USA and 4New England Research Institutes, Watertown, MA 02472, USA

*Correspondence to: L. Shulman Cordeira. E-mail: laura.shulmanMPH@gmail.com

Received on May 16, 2014; accepted on February 12, 2015

Abstract

This article provides an overview of the recruitment strategies utilized in the Mumbai Worksites Tobacco Control Study, a cluster randomized trial testing the effectiveness of an integrated tobacco control and occupational safety and health program in Indian manufacturing worksites. From June 2012 to June 2013, 20 companies were recruited. Companies were identified using association lists, referrals, internet searches and visits to industrial areas. Four hundred eighty companies were contacted to validate information, introduce the study and seek an in-person meeting with a company representative. Eighty-three company representatives agreed to meet. Of those 83 companies, 55 agreed to a formal ‘pitch meeting’ with key decision makers at the company. Seventy-seven recruitment ‘pitches’ were given, including multiple meetings in the same companies. If the company was interested, we obtained a letter of participation and employee roster. Based on this experience, recommendations are made that can help inform future researchers and practitioners wishing to recruit Indian worksites. and more assurances around confidentiality to allow occupational safety and health experts into their worksite.

Introduction

Worksite settings are emerging as a new venue for tobacco control in India, where more than one-third of the population uses tobacco in some form [1]. The large reach and ability to provide multiple points of contact with individuals make worksites ideal places for these efforts [2–6]. While national legislation prohibits smoking in public places, including worksites [7], and many companies have internal policies banning smoking, factory workers still report high rates of tobacco use [2, 8, 9]. Several studies have shown that worksite programs can be effective at reducing workers’ tobacco use and promoting cessation [3, 8, 10, 11], with the effect and participation rates enhanced when integrating it with a health protection component such as occupational safety and health (OSH) improvements [10, 12–16]. This type of integrated intervention is particularly promising in manufacturing industries, where the occupational hazards present at the worksite may interact synergistically with tobacco toxins, thus amplifying the harmful effects of tobacco use [14].

However, in order to conduct research to develop effective workplace intervention programs in India, an understanding is needed on how to recruit Indian
companies. Despite documented benefits to employers such as improved employee morale, increased productivity and decreased absenteeism, [6, 17, 18] the decision for a worksite to participate in a research study is complex, since some disruption to production is expected, administrative support may be costly, and buy-in from management is needed to permit employees to participate in research activities on work time [18]. Additionally, research studies pose their own barriers for participation such as randomization and the time commitment required of staff to complete assessments at several time points [18].

Common reasons influencing worksites’ decision on whether or not to participate in a research study in the United States include time commitment required, perceived disruptions caused by participation, cost, perceived value added, priorities related to health and safety and incentives for participating [19–21]. It is unknown whether or not these reasons hold true with Indian companies. Understanding effective strategies for recruitment and the reasons why Indian employers decide to participate in research studies has the potential to be valuable to others hoping to utilize the workplace as a venue for tobacco control and other health research in India.

This article is the first to explore the process of recruiting manufacturing worksites for the study. It describes the recruitment of companies for the Mumbai Worksites Tobacco Control Study, a cluster randomized trial testing the effectiveness of an integrated health promotion and health protection program [The Healthy, Safe, and Tobacco-Free Worksites (HSTFW) program] in 20 manufacturing companies in the Indian state of Maharashtra, where the worksite served as the unit of randomization and intervention.

The HSTFW program aimed to increase tobacco use cessation and support among workers and promote the adoption, implementation, and enforcement of tobacco control policies and occupational health protections at the worksites. It is adapted from a similar program in the United States that was tested and found effective at increasing tobacco use cessation among production workers using an integrated health promotion (tobacco education) and health protection (OSH) model [13, 15].

The study began in July 2010 and will continue through June 2015. It is based on the Social Contextual Model of Behavior Change [13, 22] and contains free activities conducted over 7–12 months. At the organizational level, tobacco policy and OSH consultations were provided to management, and at the individual level, six health education events for workers were conducted. Control companies receive a shortened version of the program after the follow-up assessments and one health education event on a topic unrelated to the study outcomes (i.e. HIV/AIDS or stress management) in between assessments.

The objectives of this article are threefold: (i) to describe the process of recruiting manufacturing worksites for the study; (ii) to explore reasons why companies in India decided to participate in our study or not; and (iii) to articulate lessons learned and provide recommendations to inform recruitment methods for future Indian studies or programs, using experiences from the United States as a point of comparison.

Methods

The data presented in this article were collected from detailed tracking logs utilized by recruiters, meeting minutes from team calls and retroactive accounts from study staff. Recruiters were study staff (including safety consultants) trained on recruitment procedures, eligibility criteria, and study design and implementation.

Eligibility criteria

To be eligible for this study, a worksite needed to employ 200–500 workers. Additional inclusion criteria are outlined in Table I. We selected the three districts in Maharashtra (Thane, Mumbai and Raigad) based on their proximity to the study research offices in Navi Mumbai. The goal was to recruit companies with a large percentage of production workers, given that this population faces the largest health risks as a result of their tobacco use.
and exposure to occupational hazards on the job [13]. Eligible companies agreed to be randomly assigned, participate in all data collection activities, and participate in the HSTFW program if assigned to the intervention condition.

Study methods and materials were approved by institutional review boards at the Harvard School of Public Health in the United States and the Healis-Sekhsaria Institute for Public Health in India, as well as by the Indian Council of Medical Research. This study has been registered with ClinicalTrials.gov and the Clinical Trial Registry of India.

Recruitment process
A recruitment process was developed based on the investigators’ experience recruiting for a similar study in the United States [21], which suggested recruitment goals could be met by: (i) obtaining a sampling frame from industrial lists; (ii) making cold calls to determine eligibility of the company and describe the study; and (iii) setting up an in-person meeting if interest was expressed in learning more about the study. This strategy was reviewed and refined to fit the Indian context based on discussions with Indian OSH experts, company managers and human resource directors. We additionally convened an External Advisory Board (EAB) composed of OSH experts from national level organizations, scientists and physicians, and hosted a strategic planning meeting.

Based on input received, we revised our recruitment process to include six steps: (1) publicizing the study to key stakeholders and prospective participants; (2) identifying potential worksites; (3) communicating with a company representative to validate company information, introduce the study and schedule a ‘pitch meeting’ with company management; (4) conducting a ‘pitch meeting’ with key decision makers at the company to describe the study and what it would entail, build trust, address questions and concerns, and determine the company’s interest and eligibility; (5) if interested, obtaining a letter of participation from a company decision maker to formalize participation in the study and ensure the terms were clearly understood and accepted; and (6) acquiring the employee roster for assessment purposes. A company was considered recruited once an employee roster was obtained. Table II outlines the multiple strategies utilized at each step of the process.

In order to publicize the study to key stakeholders and prospective participants (Step 1), study staff and recruiters published press releases in occupational health newsletters and presented the study to the Directorate of Industrial Safety and Health (DISH), the Indian Association of Occupational Health, manufacturers’ associations, industry associations, human resource director associations and EAB members. Many of these individuals and organizations provided us with lists (including the DISH list) or contacts (Step 2) to help identify potential worksites. We also received referrals from companies already recruited, political contacts and recruiters’ personal contacts within the industry.

Though the DISH list was the most extensive source of information available, the contact information and number of employees had changed for many companies since its publication. To address this, the team attempted to validate information by cross-referencing it with directories given to us by manufacturers’ associations, federations and chambers, conducting internet searches and traveling to the identified industrial areas in the Mumbai, Thane and Raigad districts to collect information about
companies in person. Because there was not a single up-to-date list that provided eligibility information of worksites in India, we created a working list of companies from multiple sources, including the DISH list, manufacturers’ and industry association lists, referrals, internet searches, phone calls and visits to industrial areas, totaling 480 companies.

Upon visiting a worksite, recruiters spoke with the company security guards or whoever was the first line of contact at the worksite (i.e. administrative officer) to assess the number of employees and whether or not manufacturing is done. (Note: recruiters also inquired about other manufacturing companies nearby around the same size, which they could later approach). If eligible, recruiters requested the telephone numbers of appropriate company officials (i.e. human resources manager, medical officer or safety officer) to contact and introduce the study (Step 3). He or she served

<table>
<thead>
<tr>
<th>Recruitment steps</th>
<th>Strategies used</th>
</tr>
</thead>
</table>
| (1) Publicizing the study to key stakeholders and prospective participants | • Presented the study to:  
  ○ Directorate of Industrial Safety and Health (DISH)  
  ○ Indian Association of Occupational Health  
  ○ Manufacturers’, Industry, and Human Resource Director associations  
  ○ EAB members  
• Published press releases |
| (2) Identifying potential worksites | • Obtained lists or contacts from:  
  ○ DISH  
  ○ Indian Association of Occupational Health  
  ○ Manufacturers’, Industry, and Human Resource Director associations  
  ○ Internet searches  
  ○ External Advisory Board (EAB) members  
• Received referrals from:  
  ○ Companies already recruited  
  ○ Political contacts  
  ○ Recruiters’ personal contacts  
• Sent recruiters to visit worksites and industrial areas to collect information and identify appropriate company representative from security guard or other gatekeeper |
| (3) Communicating with a company representative to validate company information, introduce the study, and schedule a ‘pitch meeting’ | • Telephoned company representative  
• Scheduled in-person meeting with company representative, if needed |
| (4) Conducting a ‘pitch meeting’ with key decision makers at the company to describe the study and what it would entail, build trust, address questions and concerns, and determine company’s interest and eligibility | • Delivered a pre-developed, recruitment pitch outlined in a flipchart presentation  
• Addressed questions and concerns to overcome barriers to participation  
• Scheduled another meeting with additional stakeholders or decision makers, if needed |
| (5) If interested, obtaining a letter of participation from a company decision maker to formalize participation in the study and ensure the terms were clearly understood and accepted | • Called, e-mailed, or made an in-person visit to the company decision maker to obtain a letter of participation |
| (6) Acquiring the employee roster for assessment purposes | • Contacted the company multiple times via e-mail or phone to obtain the employee roster |
as an initial gatekeeper for the company. After speaking with the official, usually in person, s/he would determine whether a recruitment ‘pitch meeting’ (where recruiters could present the research project to key decision makers at the company) would be scheduled. If not, the recruitment process stopped here.

On the day of the recruitment ‘pitch meeting’ (Step 4), the recruiters visited the worksite to present the study to company management, during a highly structured 30-min meeting, utilizing a flipchart presentation to walk through major points, including an introduction to the international study team and the study and the business case for testing an integrated tobacco control and OSH program. Key ‘selling’ points emphasized included that production would not be interrupted, the survey and program activities would be scheduled at convenient times for the worksite (i.e. during break times or at management-determined timeslots), the program was free of charge, and information gathered during the study would be completely confidential and utilized for research purposes only. During these meetings, recruiters also explained what companies would receive if they were randomly assigned to the HSTFW intervention or the ‘delayed intervention’ control condition and what we were asking companies to provide in return (an employee roster, an appointed program liaison to help schedule research program activities, a willingness to review company’s tobacco policy with the study team, space to conduct research program activities and for intervention companies specifically—an openness to participate in all study components). At this time, company concerns were usually revealed, such as apprehensions about randomization or the study topic, time commitment and perceived program efficacy. If the recruiters were unable to adequately address concerns (usually due to resource constraints—such as the study’s inability to provide health education on a different topic, or the request to be assigned to a specific condition), the recruitment process would end. It was not uncommon to hold multiple ‘pitch meetings’ in order to accommodate the disparate schedules of the various decision makers.

If interest was expressed, recruiters requested that management sign and return a letter of participation (Step 5), which outlined expectations of what the company would provide and receive in return, to help ensure that this was clearly understood and accepted, a useful practice in recruitment [23]. Once the signed letter was returned and the employee roster was obtained (Step 6), the company was considered recruited. Occasionally, in-person visits to the worksite were required to complete these final steps.

To increase company recruitment, the study and recruitment processes were carefully designed (Table III). For example, by using highly trained, knowledgeable, professional study recruiters we were able to answer most recruitment questions immediately and ensure that our study had a professional image. We also emphasized to companies that all study activities conducted at the worksite were flexible and would be at times convenient to managers. Incentives were offered to management (free programming, materials, consultations by experts) and workers (participating employees were entered into daily drawings at each event and at survey administration to win prizes). As noted earlier, companies randomized to the control group also received incentives (health education events, materials and daily raffles for participating employees during survey administration).

Reasons for participation were extrapolated post-hoc utilizing standard qualitative and quantitative methods, in which a panel of researchers and recruiters read through recruiters’ internal logs and notes, which were not initially intended for analysis, and used their recollections from conversations with company management to collectively deduce common reasons. They are presented here to help provide contextual information about what may have contributed to recruitment successes and challenges, and should be interpreted accordingly.

**Results**

In total, 24 worksites were recruited for this study, including 20 companies that participated in the
study, 2 companies that served as pilot worksites and 2 that were recruited and then withdrew before baseline assessments. The pilot companies were recruited in September 2011, the first worksite was recruited for the full study in June 2012 and the last in June 2013. Survey administration for the first worksite began in June 2012 and was completed in the last worksite in November 2014. The first intervention company began the HSTFW program in October 2012 and the last company began in August 2013. Recruitment was done on a rolling basis, meaning that randomization of worksites, survey administration, intervention delivery and recruitment were being done concurrently over many months. Steps 1 and 2 (publicizing the study to key stakeholders and prospective participants and identifying potential worksites) began once the notice of funding was awarded, to set the groundwork for the rest of the recruitment process.

In order to accomplish our recruitment goal, 480 companies were contacted either over the telephone, through e-mail or personally through a visit to the worksite to seek an in-person meeting with a company official (Fig. 1, Recruitment flow diagram). Information on the full set of 480 worksites is not systematically available. Eighty-three companies agreed to schedule an in-person meeting with a company official (the gatekeeper to company decision makers). Of those 83 meetings with a company official, 55 agreed to a formal recruitment ‘pitch meeting’ with key decision makers at the company. Seventy-seven recruitment ‘pitches’ in 55 companies were given in total, including multiple meetings in the same companies. Once interest was expressed, it took on average 5–6 telephone calls and 2–3 visits (taking anywhere from 1 week to a few months) before a letter of participation was signed and a roster was provided.

**Reasons for participation**

Several themes emerged as reasons for accepting or declining participation in this research study, as recounted by recruiters. First, it was important for the company to understand how the study fit into their existing activities. Many companies have budgets and time allocated to providing employee welfare activities. If the study activities were able to fulfill that requirement, company management was more receptive to signing up. Certain features of the HSTFW program seemed to positively influence company decisions to participate in the study, including the opportunity to participate in an internationally collaborated study with reputable organizations, the perception that the study activities were flexible and free, and the potential for the

---

**Table III. Study features designed to increase participant recruitment**

<table>
<thead>
<tr>
<th>Recruiter characteristics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Recruiters were highly trained, knowledgeable, and professional</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Study setting</th>
</tr>
</thead>
<tbody>
<tr>
<td>All activities took place at the worksite and at sites convenient to the workers, thus not infringing on personal time</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Study operations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Companies were given the option to schedule surveys and worker activities at scheduled times (pre-determined by the worksite) or during lunch and tea breaks. Thus, the research activities were flexible</td>
</tr>
</tbody>
</table>

| Management-level activities were scheduled at convenient times for management and as short as possible to achieve the objectives |

<table>
<thead>
<tr>
<th>Incentives</th>
</tr>
</thead>
<tbody>
<tr>
<td>Companies were offered free health programming for their workers, materials, and consultations by OSH and tobacco experts if randomized to intervention</td>
</tr>
</tbody>
</table>

| Workers were entered into drawings at each health education event and daily during survey administration to win prizes |

| ‘Delayed intervention’ control companies were offered 2 free health education events (one tobacco-related after the follow-up survey; the other on HIV/AIDS or stress management between baseline and follow-up) and daily raffles for participating employees in surveys |

| Delayed intervention control companies were offered 2 free health education events (one tobacco-related after the follow-up survey; the other on HIV/AIDS or stress management between baseline and follow-up) and daily raffles for participating employees in surveys |

| Workers were entered into drawings at each health education event and daily during survey administration to win prizes |

| ‘Delayed intervention’ control companies were offered 2 free health education events (one tobacco-related after the follow-up survey; the other on HIV/AIDS or stress management between baseline and follow-up) and daily raffles for participating employees in surveys |

---
research to have long-term benefits for their organization and others.

There were also reasons that companies did not want to participate in the research study including, the time and resources required to participate (including the time it would take for workers to complete two assessments), the topic of tobacco (either they were tobacco users themselves, the company had existing tobacco policies in place due to the hazardous nature of the job site, or it was not viewed as a priority), and the failure of the scope of the program to fit into the company’s existing employee welfare activities. These reasons are in line with those cited in the US literature [19–21], implicating that there are universal reasons for participation for people running a business, regardless of locale.

**Discussion**

Our results showed that a six-step process was effective in recruiting 20 Indian companies to a study that tested an integrated health promotion/health protection intervention. Several themes emerged related to worksites’ willingness and lack of willingness to participate in our study. Based on this study team’s experiences with recruiting, we offer recommendations for future researchers and practitioners wishing to recruit Indian manufacturing worksites of a similar size.

**Allow for ample time and resources**

Reaching our recruitment goal took considerable time and resources, mostly due to the number of visits to the worksites that were needed. In the United States, lists such as the Dun and Bradstreet are more routinely updated than lists in India and provide an ideal sampling frame with adequate information to begin the screening process by telephone. Our experiences in India revealed that telephone screening was not practical, as company contact information changed at a much faster rate than industrial lists were updated. Therefore, traveling to the worksites was relied on for even the earliest stages of recruitment and many more personnel were needed for recruitment activities than anticipated. Over 160 worksite visits were conducted with interested companies alone [83 meetings with a company official (Step 3) and 77 recruitment ‘pitch meetings’(Step 4)]. This number is an
underestimate of what’s fully required, because it excludes the numerous visits required in Steps 1 and 2 to publicize the study and identify potential worksites. The three districts in our study were spread over an area of 16744 km² and travel to these worksites could take anywhere from one to three and a half hours to reach. Many of the worksites were inaccessible by public transportation, especially those based in the industrial belts developed by state governments. Therefore, a trip to a worksite took a full day to complete, and on average four visits were needed before a company was fully enrolled in the study. Taken together, a considerable amount of time and personnel is needed to reach recruitment goals.

Future researchers should account for these additional visits needed for recruitment by allocating an adequate portion of their budget for transportation to and from the worksites, hiring enough personnel to work on this task, and potentially focusing on recruiting worksites within the same industrial area(s) and/or accessible by public transit to alleviate some of the travel constraints. These findings are in line with those of Kidd et al. [19] who found that recruiting worksites was more resource-intensive than anticipated and recommended incorporating a line item for the recruitment and at least a 50% full-time equivalent recruiter, because the costs were significant.

Maximize the ‘pitch meeting’ and engage company decision makers as early as possible

‘Pitch meetings’ with management were a pivotal part of the recruitment process. Getting the key decision makers at the first possible ‘pitch meeting’ was essential. When this was not possible, more meetings were required, exemplified by the 77 pitches conducted in 55 companies. Key decision makers vary depending on the organizational structure at the company, but should be the individuals who can authorize a program and ensure program operations run smoothly.

Based on recruiters’ impressions and logs, we believe that the following characteristics of the ‘pitch meeting’ contributed to its success: (i) the short length; (ii) a structured presentation outlined with a flipchart; (iii) highlighting the return on investment (namely productivity and company loyalty) that the company could see as a potential result of participating in the study (particularly if they are randomized to intervention) and (iv) the low costs (free program) associated with the study participation. Additionally, highlighting that study personnel (as opposed to company staff) would be conducting the study activities and that employees could participate during breaks or time slots predetermined by the management alleviated some concerns about disruptions to the workday, even despite the long duration of the study.

Leveraging existing employee welfare efforts was found to be an extremely effective selling point for companies, so identifying these early on was an obvious hook for company management. Ensuring that our recruiters were well trained and proactive in identifying perceived barriers to participation enabled them to address company concerns early on. Future researchers and practitioners should be prepared to utilize the initial gatekeeper to identify the key decision makers and ensure that as many as possible can be present at the ‘pitch meeting’ to expedite this process and maximize its full potential.

Networking is an important part of the process

While networking-based strategies such as presenting at industry association meetings, conferences and human resource director meetings, and utilizing referrals from already recruited companies, political contacts and EAB members did not directly lead to recruited companies, this was an integral part of our process. Because this is the first worksite-based tobacco cessation study that our study team has conducted in India, making these connections and speaking with these individuals helped us craft our recruitment pitch, gain credibility and understand the ‘lay of the land’ when working with company management in India. For researchers and practitioners who already have these connections, this step can be bypassed and efforts can be focused on
making visits to the companies to obtain contacts and pitch the project.

**Offer incentives for control companies to overcome randomization concerns**

One intrinsic characteristic of randomized control trials is that some groups will be randomly assigned to the control condition. Some of the Indian companies we encountered were resistant to this idea, which required them to provide employee time to be surveyed without anything in return for a long time. In order to help justify the time we were requesting to survey employees, we revised our incentive to include a health education event on a topic unrelated to our study outcomes in between baseline and follow-up assessments, which helped expedite our recruitment. Therefore, when randomization is involved it is important to offer a time appropriate incentive for control companies.

**Study topic must appeal to the target organizations**

In the study conducted in United States on which this study was based, free expert OSH consultations were viewed as a major incentive for participating in our research study, because failure to comply with the standards imposed by the US government’s Occupational Safety and Health Administration (OSHA) could result in large fines and problems [21]. However, Indian companies did not view the consultations in the same way. Many were hesitant to allow an external person to examine their OSH infrastructure. This could be due to Indian companies not being as accustomed to thinking about OSH to the same degree as US companies or that Indian OSH legislation (mainly the ‘Factories Act’) is not enforced to the same degree as OSHA regulations. In either case, we still maintain the importance of targeting health protection along with health promotion measures in worksite interventions and would encourage others to examine the receptivity to employers to receiving an intervention targeting OSH in more depth.

**Recruitment is an iterative process, so flexibility is important**

Lastly, it is important that researchers and practitioners look at recruitment as an iterative process. Building in opportunities for continuous review of the recruitment process to address any unexpected difficulties and consistently reevaluate methods to focus on those that are most effective is strongly encouraged.

**Limitations and strengths**

While interpreting these findings, there are important limitations that must be regarded. First, the information presented was not collected for the purposes of analysis. Instead, it was collected from researchers’ internal logs and notes post hoc as a way to help articulate lessons learned. Second, reasons for companies participating or not have been extrapolated from recruiter’s conversations with company management and a recall bias may be present.

**Conclusions**

The goal of this article was to describe strategies used to recruit manufacturing worksites to participate in a research study testing the effectiveness of an integrated tobacco control and OSH intervention, to explore the reasons companies decided to participate or not, and to make recommendations for practitioners in the future. It is meant to be exploratory and help others learn from our experiences. Further research should be done using standardized data collection to assess the reasons for Indian employers’ decisions to participate or decline participation in research testing health interventions and determining whether these recruitment strategies can be applied to other worksite studies or programs within India or in other low- and middle-income countries.

**Funding**

National Cancer Institute - R01 CA140304 - Mumbai Worksite Tobacco Control Study.
Recruiting Indian worksites for health programs

Conflict of interest statement

None declared.

References