

## EVALUATION OF THE HEARTMOBILE HEALTH PROMOTION PROGRAM

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**Abstract:** Transportable health promotion programs offer a wider reaching and less costly alternative to traditional on-site workplace programs. After operating for four years, the HeartMobile was subjected to both process and outcome evaluation. An on-site program that included many of the same activities was used as the comparison condition. Baseline and six-week follow-up questionnaires were used to assess knowledge and behavior change. Focus groups, formed one week after participation, were used to obtain more in-depth feedback concerning program recruitment, content, and delivery. Results from both the quantitative and the qualitative methods indicated that the HeartMobile was superior to its counterpart. The qualitative data were especially useful for recommending program modifications.

**Résumé:** Les programmes mobiles pour la promotion de la santé offrent une option plus répandue et moins chère que les programmes traditionnels menés en milieu de travail. À la suite de quatre ans d'opération, le programme HeartMobile a été évalué par moyen d'évaluation en cours d'exécution et des résultats. Un programme mené sur le lieu de travail incorporant plusieurs des mêmes activités a servi de comparaison. Des questionnaires de base et de suivi après six semaines ont été utilisés pour évaluer les connaissances et les changements de comportement. Une semaine après avoir participé, des groupes cibles ont été utilisés pour obtenir des informations plus approfondies sur les participants, le contenu et l'application du programme. Les résultats obtenus avec les méthodes quantitative et qualitative ont indiqué que le HeartMobile était supérieur à son homologue. Les données qualitatives ont été particulièrement utiles pour recommander des modifications aux programmes.

■ The worksite is a popular channel for health promotion. In the mid-1980s, two-thirds of worksites had at least one health

promotion activity (Fielding, 1989), with smoking being the most common focus. By the 1990s, over 80% of workplaces reportedly offered health promotion activities (U.S. Department of Health and Human Services, 1993), with added emphasis on exercise, weight control, and nutrition. Several large-scale randomized trials (e.g., Bly, Jones, & Richardson, 1986; Bruno, Arnold, Jacobson, Winick, & Wynder, 1983; Erfurt, Foote, & Heirich, 1991) have demonstrated the efficacy of such programs in terms of increased knowledge, behavioral change, and positive impacts on employee moral, absenteeism, and productivity. Apart from method variance, it is difficult to compare these studies given the variability of health promotion activities implemented at different worksites. Concerns have been raised that such programs may be duplicating the efforts of mass media public health education, and that participants tend to be more educated and health conscious than non-participants (Conrad, 1987; Frank, Winkleby, Fortmann, Rackhill, & Farquhar, 1992).

Owing to both government and corporate funding cuts, extensive, on-site health promotion is increasingly being replaced by scaled down on-site activities or transportable, "mobile" programs (Aldana, Jacobson, Harris, & Kelly, 1993). The latter offer a less costly alternative (no fixed expenses) and the opportunity for sharing resources. Unfortunately, the only published evaluation of such a program by Aldana et al. did not have a control or comparison group. The present evaluation examined the HeartMobile worksite program currently operating in south-central Ontario. For purposes of comparison, the Heart Health Check — similar to many scaled-down on-site health promotion efforts in Ontario workplaces — was also evaluated.

## DESCRIPTION OF THE PROGRAMS

The Region of Peel had previously offered a large-scale (12 staff), on-site heart health program to local companies employing more than 300 people. This effort was discontinued owing to operational costs and the fact that the majority of Peel businesses (approximately 90%) employ fewer than 100 people. In order to deliver the same information to more small businesses and industries in their region, Peel Health designed and implemented the HeartMobile (HM) program in 1992. A total of only six people — a staff coordinator, community health nurses, and volunteers — are required to operate HM at a given worksite. The Ontario Ministry of Health (OMH) provided a grant for the initial development and continues to provide 75% of program funding. Corporate donations helped to purchase some of the equipment, such as the cholesterol analyzer.

The HM is currently offered to companies and employees free of charge. The trailer visits approximately four worksites a month and operates on weekdays between 9 a.m. and 5 p.m. Participants are scheduled at five-minute intervals, allowing for a maximum of 12 people an hour. Program records indicate participation rates averaging 50% of employees in the 80 companies reached since 1992. The program routinely monitors user rates, but no other form of process or outcome evaluation had taken place in the four years of operation.

The primary objectives of the HM are to increase the awareness of risk factors for heart disease and to promote healthier lifestyles. The program takes 20 to 25 minutes to complete and involves eight modules relating to risk factors and prevention, including cholesterol, blood pressure, nutrition, active living, stress, smoking, healthy weight, and a computer-scored health risk assessment questionnaire. Each individual receives a blood test and has his or her weight, height, and blood pressure measured. At the end of the program, each participant receives a "Passport to Heart Health" — a resource booklet summarizing the information presented in the modules and the person's physiological results (blood pressure readings, total plasma cholesterol level, and body mass index zone).

For the purposes of this evaluation, the Heart Health Check (HHC) was used as a comparison. This program — developed by Peel Health but similar to ones offered in many worksites in Ontario — consists of a seven-to-ten-minute informational session, a visual display, and a computerized health risk assessment. The objectives of the program are the same as those of the HM. Sessions are held in a private room at the respective company with five to seven employees at a time. The program can accommodate 160 people a day. Each participant receives a "Passport to Heart Health," similar to the one provided in the HM. The cost of operating the HHC at one company is *less than half* the cost of operating the HM (including materials and staff time). In contrast to the HeartMobile, this program does not involve physiological assessments and only two staff members are required for operation.

## METHODS

For the evaluation study, 200 companies were randomly selected from the *Peel Business Directory* and randomly assigned to be offered either the HM or the HHC. Each company was contacted and

the nature of the program was described. Although both were offered free of charge, far fewer companies expressed interest in the Heart Health Check: 27 companies participated in the HM during the four-month study period, but only seven participated in the HHC. Participating companies were randomly assigned to receive either pre/post questionnaires or focus group assessments. The self-administered questionnaire — consisting of demographic information, awareness of worksite health promotion availability, perceptions of cardiovascular disease risk factors, knowledge, and related behaviors — was completed by 80% of employees who participated (total of 1,149). A similar questionnaire (minus the first two components) was mailed to respondents six weeks following the program (40% response rate). Detailed analysis of this data is reported elsewhere (Gray, 1996).

This report will concentrate primarily on the qualitative data obtained from eight focus groups from different companies — six with HM participants and two with HHC participants. Sessions were conducted two to five working days following program participation. Between six and eleven employees participated in each session for a total of 74 participants. Each group contained employees similar in occupational status — four groups consisted of white-collar (e.g., managerial level) employees and four others involved blue-collar (e.g., front-line) employees. All groups involved a mix of ethnic backgrounds, ages, and genders.

The same evaluator facilitated all eight of the focus groups. Each group was one hour in length, held during business hours in a private meeting room located at the respective worksites. All sessions were audiotaped (with permission), and detailed observations were made by a recorder. At the conclusion of each session, a brief demographic and health risk behavior questionnaire was administered. Finally, a form was distributed requesting permission to contact members at a later date in order to verify study findings. The majority (93%) granted such permission.

Discussion questions were formulated to solicit impressions of program activities and materials, perceptions of impact, and general experiences of going through the program itself. Procedures for analyzing focus group results were based on methods suggested by Knodel (1993), Krueger (1994), and Miles and Huberman (1994). QSR NUD IST 3.0.4 (Richards & Richards, 1991; Weitzman & Miles, 1995) was used as the indexing system. Categories and subcategories were clustered into themes using an interpretive model of analysis.

The findings were verified with one member from each focus group (randomly chosen and contacted by telephone approximately one week after the session). There was general agreement with the evaluator's synopsis and minimal new information was added.

## FINDINGS

### Sample Description

Four companies involved in the focus groups were located in the city of Brampton and four were in Mississauga. Company size ranged from 75 to 650 employees (mean size of 258). Five companies were involved in distribution and three were service oriented. One company did not offer any health promotion programs, most offered periodic workshops, and two regularly offered smoking cessation and blood pressure clinics.

Six focus groups were conducted with HM participants, involving a total of 54 participants (age range 22–65 years, average age = 40; 50% were female). Group sizes ranged from 6 to 11 members, with an average group size of 9 participants. Three focus groups consisted of blue-collar employees ( $n = 29$ ) with general labor and clerical positions; three groups involved white-collar workers ( $n = 25$ ) consisting of management and professional personnel. Two focus groups were conducted with HHC participants, involving a total of 20 participants (age range 21–52 years, average age = 38; 65% were female). One focus group included white-collar employees ( $n = 9$ ) consisting of management and clerical personnel; the other involved blue-collar workers ( $n = 11$ ) with general labor positions. About a third of this latter group had difficulty with English and required some translation assistance from their co-workers.

The results of the focus group analysis are summarized below under three categories: overall impressions, specific program activities, and perceived impact. The HeartMobile and Heart Health Check programs are compared in each section, and differences found between white- and blue-collar participants are outlined.

### Overall Impressions

The name “HeartMobile” misled some participants into thinking that diagnostic assessments for heart disease (such as angiocardiograms) would be involved. Focus group members said some of their co-work-

ers did not sign up for the program for this reason; others did not want to be “hassled” about smoking. Participants suggested clarifying program advertisement, as well as making the program more accessible to employees on shift work. The blue-collar workers raised the issue of a language barrier for co-workers not fluent in English and suggested the program recruit various ethnic groups more aggressively and provide translators.

General reactions to the HeartMobile were very positive. Participants were particularly impressed with the quick results from the physiological tests. In fact, several requested that the HM revisit their company so that they could see if their cholesterol, blood pressure, or body mass index changed over time.

All the HM focus groups produced lively discussions, particularly concerning dietary and exercise habits. Debates between smokers and nonsmokers were common. Another popular and controversial topic of discussion was whether the HM could act as a substitute for complete physical examinations conducted by doctors.

The six sessions conducted with HM participants reached saturation (Krueger, 1994) in that the information emerging during the latter groups became quite repetitive. This was not the case with the two sessions conducted with HHC participants, even though this program had fewer components. The Heart Health Check focus group participants engaged in minimal discussion and few debates. In general, the HHC participants were quite disappointed with their program, saying they “expected much more” and “did not learn anything new.” The most important finding is that several people commented it would have been useful to include actual measures; blood pressure, cholesterol, and triglycerides were specifically mentioned.

### Specific Program Activities

Recall that in contrast to the seven independent comprehensive modules of the HM, the HHC consisted of a ten-minute general verbal presentation and a table-top display briefly presenting each risk factor. Both groups completed an identical computer-scored health risk assessment questionnaire, received a passport at the end summarizing the risk factors, and had access to take-home pamphlets (e.g., blood cholesterol, smoking cessation). A key difference between the two programs was that physiological testing and personalized results were available only to HM participants.

Not surprisingly, much of the discussion in the HM focus groups centered on the physical testing component of the program. The needle used to draw blood for the cholesterol assessment created anxiety among some participants, and according to them deterred some of their co-workers from participating. They suggested repositioning blood drawing near the end of the program so that anxiety would not affect blood pressure (BP) readings. A criticism of the cholesterol test was that it measured total cholesterol and did not differentiate between types. Approximately half said their weight and height were actually measured whereas the other half simply told the staff their weight and height. Individual preferences — verbal reports versus actual measures — varied.

In general, HM participants identified personal physiological results as the most unusual and valuable feature of the program. Some were previously unaware of their actual blood pressure or did not know the difference between systolic and diastolic blood pressure, and many did not know the ranges for normal versus hypertensive readings. Many were also unaware of their blood cholesterol level and the relationship between cholesterol and heart disease. Some had never heard of body mass index prior to the program, and most like the index, as it provided a range that considered body build and age. Conversely, others were confused over the distinction between fat and lean body weight.

The modules on cholesterol, nutrition, active living, and stress were generally perceived as memorable and informative. The visual nature of the nutrition module — displaying two meals with accompanying charts on caloric and fat content — generated a lot of interest, as quite a few people did not realize that many foods contain so much invisible fat or that reducing dietary fat was important to heart health. The active living module — emphasizing the benefits of everyday activities such as climbing stairs — was perceived as both novel information and realistic for busy lifestyles. Suggestions on managing stress were also seen as informative and realistic. White-collar participants discussed the signs and symptoms and ways of managing stress in greater detail than the blue-collar groups, which focused on the benefits and similarities among physical labor performed at work and physical activities performed outside of work. Many people, particularly smokers, passed by the smoking module. Most commented that the dangers of smoking were well known, although some people acquired new information concerning second-hand smoke. Heart Health Check participants, in contrast, reported very little of the information they received as either memorable or new.

## Perceived Impact

The last topic presented with the focus groups concerned lifestyle modifications undertaken or being considered since participation in the respective program (about one week earlier). Neither program provided the “magic ingredient” to help smokers quit, and many said they have tried to quit in the past and/or want to quit. Participants of both programs mentioned they were now more conscious of their dietary intake and daily physical activity patterns. HeartMobile participants gave more specific details concerning both increased activity levels and dietary changes. Persons who felt they were already physically active or conscientious about their diets said the HM program provided information that was reinforcing.

## DISCUSSION

Although reduced-scale programs like the Heart Health Check are less expensive than extensive on-site heart health promotion in the workplace, our results clearly indicate that consumer needs and preferences are not being met through such programs. Physiological measures are costly, but were consistently identified as one of the most important components of the HeartMobile, and were spontaneously requested by Heart Health Check participants. The interactive, comprehensive, and modular nature of the HeartMobile, together with the physiological assessments, resulted in a much more favorable impression of this program. The fact that, despite identical recruitment procedures, fewer companies were interested in offering the HHC provides further evidence that this program is less desirable, especially given that the HHC requires less time away from work and can accommodate more employees.

Without a catalyst for behavior change — such as follow-up counselling or programming (Erfurt, Foote, & Heirich, 1991), most health education programs can only expect to increase awareness and, perhaps, to foster some positive intentions for lifestyle change. At best, short-term follow-ups will reveal attempts to change behavior but not maintenance of lifestyle changes. What is noteworthy in the present study is that both the six-week pre/post questionnaires and the focus groups that occurred less than a week following program participation revealed consistent findings (Gray, 1996). Both data sources pinpointed the same areas in which baseline knowledge was already high (such as with smoking); areas in which novel information — at least for some participants — was being presented by the

programs (such as with stress, nutrition, and active living); and areas in which participants were attempting some lifestyle changes (such as being more active and changing their eating patterns). The focus groups further revealed that these changes were being made very soon after program participation.

The majority of published evaluations of worksite health promotion programs have used only quantitative methods: self-report questionnaires and physical measures. Questionnaires will reveal areas where baseline knowledge is already quite high in the target population, but will not reveal reactions to the presentation of educational material or provide concrete directions for modification of such materials. The focus groups in this evaluation provided both types of data, which were directly useful in making recommendations about the programs. Each module was scrutinized regarding level of perceived interest, comprehension, and impact.

Participant suggestions such as accommodating shift-work schedules, advertising to prevent misconceptions about the program, and providing translators for workplaces with a high concentration of non-English speaking workers, were all incorporated into the final report. Our readability analysis of the printed program materials, including the Passport and the HRA summary, similarly indicated that the required Grade 9 to 11 equivalent (Gray, 1996) was too high for many blue-collar employees.

An issue with all health promotion programs is balancing the disadvantages of a “blanketing” approach (or one set of program materials for all participants) against the costs involved with audience segmentation. We found white- and blue-collar employees to have quite different concerns regarding the stress and active living modules. However, offering the program separately to even these two groups must be weighed in terms of additional program costs and employee morale (integration provides an opportunity for camaraderie). Balancing time for adequate program delivery against opportunity costs (lost work time) is another dilemma.

The health promotion literature clearly suggests that a comprehensive, multifaceted approach including assessment, education, counselling, on-site programming, and follow-up is most efficacious in changing health behaviors (Erfurt, Foote, & Heirich, 1991). Worksite policies (e.g., smoking bans, offerings in cafeterias and vending machines) are also important (Henrikus & Jeffery, 1996). Especially

in times of cutbacks, fairly low cost mobile programs such as the HeartMobile may be a desirable way for workplaces and health units alike to provide basic heart health education to employees.

## ACKNOWLEDGEMENTS

The authors gratefully acknowledge project funding from the Region of Peel Health, the contributions of the health promotion personnel at Peel Health, and the feedback provided by Paul Favaro and Roy Cameron.

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