

Worksite Health Promotion Evaluations

A DESCRIPTION OF EVALUATION ACTIVITY
IN WORKSITE HEALTH PROMOTION PROGRAMS

Submitted by

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A DESCRIPTION OF EVALUATION ACTIVITY
IN WORKSITE HEALTH PROMOTION PROGRAMS

Health promotion programs at the worksite have been suggested as a way to improve the health of employees and to increase employer productivity while decreasing health-related costs. For this reason, there has been a rapid growth in the number and scope of worksite health promotion programs over the last 5 to 10 years (Fielding & Breslow, 1983). However, there are relatively few programs reported in the literature which adequately describe the extent to which the desired objectives are achieved.

Worksite Health Promotion Program Description

Worksite health promotion programs include a combination of educational, organizational, and environmental activities intended to assist employees to initiate and maintain healthier behaviors (Fielding & Breslow, 1983; Parkinson, 1982; Richard, 1984). Organizations offer a wide range of programs. Typically, most organizations include some component of fitness, stress management, smoking cessation, nutrition, weight control, and health assessment/screening (Davis, Rosenberg, Iverson, Vernon, & Bauer, 1984; Fielding & Breslow, 1983; Healthworks

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Northwest, 1984; McGill, Hubbard, & Shoffner, 1984).

Other components are employee assistance programs, safety education, disease education, medical self-care, and programs on cost effective use of health insurance (O'Donnell & Ainsworth, 1984; Parkinson, 1982).

Worksite programs are offered to benefit the individual employee as well as the organization. A primary goal of individuals participating in worksite health promotion programs is to improve risk status through lifestyle changes. The workplace provides a convenient location for participation in health promotion programs since the majority of adults work. In addition, many organizations allow participation during paid work time as well as during non-work hours. The workplace provides an opportunity for extended supervision to support and reinforce the new behavior until it becomes a habit. It also provides social support from coworkers in making and maintaining a change in health habits (Chadwick, 1982a, 1982b; Parkinson, 1982; Reed, 1984). Worksite health promotion can provide a mechanism for individual behavior change and maintenance that is more convenient and economical than most general community programs.

Organizations as well as individuals may benefit from the collective results of employee health behavior changes. When absenteeism and injuries decrease, productivity increases and the overhead costs decrease.

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Health care costs also may decrease when employees are healthier, since they are likely to use fewer health insurance benefits (Fielding, 1982; Parkinson, 1982). In addition, disability costs will decrease if employees are healthier and have fewer accidents. Many organizations offer health promotion programs for their employees because they feel that it is a positive benefit for their employees and that it enhances the company image as well as morale (Chadwick, 1982a; Fielding, 1985).

The Study Problem

In the literature, frequently evaluation is either not addressed or there are severe limitations in the evaluations described. The discussion of worksite health promotion programs in the literature may be divided into three general categories: 1) programs for whom no evaluation is reported, 2) programs for whom vague evaluation results are reported, or 3) programs which adequately report evaluation, but suggest problems. Such problems may include a lack of congruence between objectives and data collection and inadequate designs which limit the ability to generalize the results (Fielding, 1982; Flay & Best, 1982; Healthworks Northwest, 1984; Davis et al., 1984).

Many surveys on worksite health promotion programs did not address evaluation. Two statewide surveys, in Tennessee and Rhode Island, as well as a 1983 survey of

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Portland, Oregon programs simply described the programs which were offered. (Dorman, 1985; Portland BGH, 1983; Kelley et al, 1984). A national survey of hospitals found that one-third of the hospitals targeted their programs to businesses, but they did not mention program objectives, data collection, or evaluation methods (Ross et al., 1985).

When evaluation is reported, the details of the evaluation are frequently not included (Merwin & Northrop, 1982). A California survey by Fielding and Breslow (1983) found that two-thirds of the businesses routinely evaluated the effectiveness of their programs. Unfortunately, conclusions about the quality of the evaluations cannot be made since there was no discussion of the program objectives, data used in evaluation, or evaluation methods.

The literature suggests that programs which include an evaluation have objectives, but they tend to be broad and poorly documented. A national survey by Healthworks Northwest (1984) described the evaluation conducted by most companies as "informal, unresearched, and sporadic" (p.18). Davis, et al. (1984) found that while numerous benefits are perceived, few records are kept to document the outcomes. For example, more than half (52%) of the companies surveyed perceived improved employee health as a benefit, but only twenty percent actually measured changes in employee health practices before and after

the program (Davis et al., 1984). The literature describing specific health promotion programs including fitness (Gray, 1984; Iverson, Fielding, Crow, & Christenson, 1985), stress management (Schwartz, 1980), and weight control/nutrition (Foreyt, Scott, & Gotto, 1980) have identified the need for improved data collection in the evaluation process.

Studies in which program evaluation has been addressed have found that there are often problems with the match between the objectives and collected data and/or serious design weaknesses which compromise evaluation effectiveness. Even though random selection is essential for a basic program evaluation design, all programs reported in the literature which were reviewed indicated non-random participation. Participation was voluntary, creating a self-selected intervention group (See starred (*) programs in list of references). Many programs then compared the self-selected participants with the non-participants. In addition, there appears to be a trend in the use of summary data for all employees, rather than data for participants only. This was most common for organizational factors such as absenteeism, health care costs, and disability costs (Bowne et al., 1984; Fitzler & Berger, 1983; Reed, 1984).

In summary, the literature suggests that the objectives of worksite health promotion programs are not

explicit, that data are not collected to evaluate the objectives, and that there are inadequate evaluation designs. In addition, many organizations perceived their programs as successful without adequate program evaluation. However, since a number of the surveys did not address evaluation, it is difficult to know how extensive the problem is. There are no studies which address the particular question of the match between objectives, data, and evaluation design. Because of the lack of such data, it is difficult to know in what areas intervention may be needed to improve evaluation of worksite health promotion programs.

Conceptual Framework

The purpose of program evaluation is to find out more about the program, to ensure that it works, to keep track of program activities, and to provide reports on the program as needed (Veneny & Kaluzny, 1984).

Achievement of program outcomes, unintended consequences, and changes to make the program more efficient and cost-effective are all identified through program evaluation (Flay & Best, 1982; Hamburg, Elliott, & Parron, 1982; Parkinson, 1982). Dissemination of evaluation results also adds to the body of knowledge about worksite health promotion programs and assists in the decision-making regarding new programs.

Data must be collected at various points in the program in order to have information on which to base

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decisions. Data may be used for process or outcome evaluation. Each type of evaluation requires different types of data (Veney & Kaluzny, 1984). Process, or formative, evaluation occurs while the program is in progress and allows changes to be made as the program is evolving. Outcome, or summative, evaluation occurs at the end of the program, using pre-defined objectives, and determines whether the program had the desired effects.

Program Evaluation Models

Many models are available to provide guidelines for both process and outcome evaluation. Four models which appear applicable to worksite health promotion programs are the Health Education Model, the CIPP model, the Health Program Evaluation Model and Parkinson's objectives/data requirements matrix (see Tables 1 and 2).

The Health Education Evaluation Model, which has been used extensively with health education, consists of three evaluation levels: process, impact, and outcome (Green, 1979; Green et al., 1980). The process level requires collection of ongoing program data such as description of the program components, attendance, number of classes offered, and participant satisfaction. In this model, impact evaluation refers to short and long term change in knowledge, attitudes, behavior, and risk factors. Outcome refers to morbidity and mortality

Table 1

Components of Program Evaluation Models

Health Program Evaluation Model	Decision-Making Model (CIPP)	Health Education Evaluation Model
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Part I. Process Evaluation

Systems Resource Management	Context	Process
-Program description	-Identify needs	-Professional practice audit
-Goals identified	-Goals/objectives identified	
	Input	
	-Identify personnel, facilities, budget,	
Service Delivery	Process	
Identify program implementation problems	-Identify program implementation problems	
-Determine participant satisfaction	-Maintain record of events/activities	

Part II: Outcome Evaluation

Outcome of Implementation	Product	Impact
-Compare goals to outcome attained	-Relate outcome to objectives	-Short term-- change in knowledge, attitude, behavior, risk; impact on productivity, health care costs, absenteeism
-Detect ineffective activities and take action		
-Community impact -community risk factors -organization's image		-Long term-- morbidity and mortality

Table 2

Parkinson's Health Promotion Program Data
Requirements for Specified Program Objectives

Data Requirements	Program Objectives						
	Increase in Awareness	Increase in Knowledge	Change in Attitude	Change in Behavior	Reduction in Cost	Reduction in Risk	Reduction in Morbidity and Mortality
Health promotion activities							
currently offered	X	X	X	X	X	X	X
Effectiveness-current programs	X	X	X	X	X	X	X
Employees' perceived need for							
program	X	X	X	X	X	X	X
Employees' sociodemographics		X	X	X	X	X	X
Employees' health habits			X	X	X	X	X
Employee risk prevalence			X	X	X	X	X
Clinical risk indicators				X	X	X	X
Costs of medical services					X	X	X
Disability benefits/premiums					X	X	X
Absenteeism rates					X	X	X

Source: Parkinson, R.S.(Ed.). (1982). Health Promotion in the Workplace. Palo Alto, CA: Mayfield Pub. Co.

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measures one would expect to be affected by the program. The model is weak in process data with only one factor identified at the process level, audit of professional practice.

Stufflebeam's Decision-making, or CIPP model, has been used primarily in educational settings, but has useful application since education is a large component of health promotion programs (Ross & Mico, 1980; Scales, 1985). The model consists of context, input, process, and product categories. Context data describe the setting of the program, including needs and goals. Input refers to resources used in the program such as personnel, facilities, and budget. Process data describe the program implementation and include records of events and activities. The final CIPP category, product, refers to the evidence of the program effect and uses data to assess the extent to which the desired outcomes were achieved. The CIPP model is weak in the outcome evaluation, in that it relates outcome to objectives, but does not specify the range of objectives applicable to worksite health promotion programs.

The Health Program Evaluation Model has been used primarily in health service delivery programs. It consists of three dimensions: information capability, role of the evaluator, and evaluative activity. Information capability refers to the manner in which data are collected and processed within the

organization. Role of the evaluator refers to the managerial role of the evaluator: clinical, technical, or decision-making. There are four categories of data within evaluative activity. The first two categories are formative and the last two are summative. Resource management includes a description as well as goals for the program. Client utilization refers to process data collected during program implementation such as attendance and number of classes offered. The last two categories, outcome intervention and community impact, refer to the short and long term effect of the program. As with the CIPP model, the Health Program Evaluation Model is not explicit in addressing the range of program objectives applicable to worksite health promotion programs.

Parkinson (1982) has described a matrix for matching program objectives and data requirements in evaluating worksite health promotion programs. The objectives are first placed in a hierarchy from simple to complex (see Figure 1). The complexity refers to the challenge of producing a change (i.e., changing behavior is more complex than changing knowledge). The hierarchy of objectives is matched with data requirements in Parkinson's matrix (see Table 2). The matrix is complex and appears to be aimed primarily at describing data collection requirements for individual objectives. It

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is not explicit in describing organizational objectives or data requirements for process evaluation.

In addition to the four models, a method for organizing data collection is needed. Green (1980), a health education expert, has proposed six types of design for use in health education programs. They are: historical, inventory, comparative, controlled comparison, controlled experimental, and evaluative research (see Table 3). The designs are generally arranged from simple to complex in terms of evaluation rigor and resources required. In spite of wide use, there appears to be some limitations with Green's categories. They are not mutually exclusive and appear to mix data collection techniques with evaluation designs. In addition, two of the designs would be difficult to implement in a worksite health promotion program due to the dynamic nature of the setting and difficulty in controlling either the setting or subjects.

Three of the 18 evaluation designs described by Cook and Campbell (1979) appear to be most used for worksite health promotion programs. These categories have been labeled Design 1, Design 2, and Design 3, from least to most useful in terms of their value and scientific rigor (see Table 4). For a useful design, baseline values as well as post-program values specific to the program objectives must be measured and a

Table 3

Green's Evaluation Designs

Design A: Historical, Recordkeeping Approach

Data is collected on an ongoing basis. Periodically, the information is tabulated and reported, usually in table or graph form.

Design B: Inventory Approach

Data is collected only at predetermined intervals. The program determines how often the intervals are. Data collection is frequently in survey form.

Design C: Comparative Approach

Data which has been collected using either Design A or B is compared to a similar program in another company or to nation, standardized data.

Comparisons are made between the programs on a periodic basis.

Design D: Controlled Comparison Approach

A population similar to the target, but who do not receive the intervention, are used as a control group. Both the control and the target have data collected and the results are compared to see if there is a difference between the two groups.

Design E: Controlled, Experimental Approach

Random assignment of the population is made to two or more groups. It must be possible to deny the program to some people in the population. Baseline data may be collected.

Comparisons are made between the groups who receive the program and those who do not.

Design F: Evaluative Research Project

The employees are divided randomly into multiple groups. Baseline data is collected and multiple measures are used and compared over time. Steps are taken to control the implementation and evaluation as much as possible.

Table 4

Evaluation Designs For Worksite Health Promotion
Programs

Design 1: One-group posttest-only

Data collected only after program is completed.

Design 2: One-group pretest-posttest

Data collected both before and after the program, providing baseline data for comparison.

Design 3: Treatment group pretest-posttest with a

nonequivalent, untreated control group

Data collected before and after program and compared to a control or other comparison group

comparison group used. Without baseline values, the change in the values cannot be measured. Comparison groups are important in interpreting the findings of the program. They allow results from a program to be compared to results obtained without the program in a similar setting. They also assist in identifying threats to internal and validity, such as maturation or history effects. Examples of comparison groups often used in worksite health promotion programs are standardized test results (such as for health risk appraisal), comparison to published studies (such as for smoking cessation), and comparison to results obtained from other businesses of similar size and type of program.

Design 1 evaluations consist of data collection only at the completion of the program (One-group posttest-only). Design 2 evaluations involve baseline data collection as well as data collection after the program is completed (one-group pretest-posttest). Design 3 is an expansion of Design 2 and includes a control or comparison group in addition to pretest/posttest data collection (treatment group pretest-posttest with either a randomized (rare) or a "nonequivalent", untreated control group). Design 3 is the strongest with Designs 1 and 2 being less than adequate designs. These three designs appear to represent designs used in businesses, probably because

they require the fewest resources as well as limited control of setting and subjects.

The Worksite Health Promotion Evaluation Framework

For the present study, the four models were combined into one framework to provide a single evaluation model with three parts: process data, outcome data, and evaluation design (see Table 5). Process data is collected to evaluate the program implementation while outcome data is collected to describe the individual and organizational impact or of the program based on predetermined objectives. Evaluation design determines when and how data is collected.

Part I of the Worksite Health Promotion Evaluation Framework, Process Data, can be divided into program description and implementation (see Table 5). Program description data describe the components of the program. Included are identification of needs, goals, and objectives as well as personnel, facilities, budget, and timeline. This category combines system resource management of the Health Program Evaluation Model and items of the process elements in the Health Education Evaluation Model.

Program implementation data describe the program in operation. Data include number of services offered (classes, posters, screenings, etc.), participation rates, participant satisfaction, and factors affecting implementation (bad weather, labor disputes, etc.).

Table 5

The Worksite Health Promotion Evaluation Framework

Part I: Process Data

A. Program Description

- Description of content/length of program
- Identified personnel, facilities, budget
- Desired outcome or goals identified

B. Program Implementation

- Description of implementation (e.g., number of classes, participation rates)
- Participant satisfaction with program
- Factors affecting implementation (e.g., weather)

Part II: Outcome Data

Data Requirements	Objectives					
	Increased Awareness	Increased Knowledge	Change in Attitude	Change in Behavior	Decreased Cost to Organization	Reduced Morbidity and Mortality
Awareness or Knowledge level -----	X	X	X			
Attitudes -----			X			
Health habits -----			X	X	X	X
Use of medical services-----					X	X
Disability costs or patterns -----					X	
Absenteeism costs and patterns ---					X	
Community morbidity/mortality-----						X

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Part II of the Worksite Health Promotion Evaluation Framework, Program Outcome data, measures the extent to which intended program objectives are achieved. This category borrows from all four models which emphasize the relationship of outcomes attained to program objectives. Using Parkinson's matrix as a basis, the objectives are subdivided into a range of individual and organizational objectives and data requirements for each.

Part III of the Worksite Health Promotion Evaluation Framework is the Evaluation Design, refers to the way in which data is collected. The designs describe three methods for data collection: 1) Design 1, Posttest Only (data collection after the program is completed), 2) Design 2, Pre/Posttest (data is collected before and after the program is completed), and 3) Design 3, Pre/posttest with Comparison Group (data is collected before and after the program, using a comparison group in evaluation of the results).

Purpose of this Study

This study describes the evaluation activity of Portland area worksite health promotion programs. The purpose is to find out which objectives are identified, what data are collected, the extent of the match between the data and objectives, and the evaluation designs employed in Portland area worksite health promotion programs. A secondary purpose is to determine the

perceived success of the programs in light of the evaluation activity. The information obtained will help to specify what evaluation data are actually being used in the Portland area. Areas in which the Business Group on Health (BGH) and the Kaiser Permanente Center for Health Research (CHR) could assist businesses in initiating or conducting more extensive evaluations may be identified. This assistance could take the form of educational programs, expert consultation, or other program evaluation support. The study may be useful to the research community by providing information on evaluation design and data collection in worksite health promotion programs.

Program evaluation for worksite health promotion has an indirect value for nursing practice. Nursing with a population focus involves collection and analysis of data to describe groups of employees, or organizations, and their interactions. The aim is to identify health needs of specific populations and to design, implement, and evaluate policies, programs, and service delivery systems. The nurse in practice might act to affect the health of the population through alterations of policies, programs, and service delivery systems that impinge upon the health of the population (Community Health Care Systems Department, 1983).

The occupational health nurse plays a major role in many worksite health promotion programs by incorporating wellness activities into ongoing employee health programs (Richard, 1984; Vojetecky, Kar, & Cox, 1985). Occupational health nurses must be concerned with design, implementation, and evaluation of these programs. This process provides information on the success of the program and assists in decision making about changes in the program, as well as nursing practice, to increase the effectiveness of both.

Research Questions

The research questions and hypotheses this study addressed were:

Research Question One

What is the distribution of stated objectives of worksite health promotion programs in businesses?

Hypothesis. The frequency of an objective varies inversely with the complexity of the objective.

(Complex objectives will occur less frequently.)

Research Question Two

What data are used to evaluate worksite health promotion programs in businesses?

Hypothesis. Businesses are more likely to collect process data rather than individual or organizational outcome data for use in evaluation.

Research Question Three

Is there congruence between the objectives stated and the data collected for use in evaluation?

Research Question Four

For each objective identified by businesses conducting worksite health promotion programs, what is the frequency of each evaluation design: 1) Design 1 (posttest only), Design 2 (pre/posttest) and Design 3 (pre/posttest with comparison group)?

Research Question Five

How successful do businesses consider their health promotion programs to be?

Hypothesis. There will be no significant difference in perceived program success between businesses which do and do not collect outcome data.

Methods

Study Design

This was a descriptive study using a nonexperimental design. A descriptive design was chosen in order to obtain baseline information and to describe the status of evaluation of worksite health promotion programs.

This study was part of a larger continuing worksite health promotion program evaluation project jointly funded by the Business Group on Health (BGH) and the Kaiser Permanente Center for Health Research (CHR). The purpose of that project is to design and conduct evaluations of a variety of worksite health promotion programs in order to: 1) improve evaluation efforts in local business settings and 2) expand those programs which are most likely to produce long term benefits.

Sample

The sample for this study was drawn from businesses with 100 or more employees who responded to a survey conducted by the BGH Health Education Task Force (see Appendix A). The businesses were surveyed to determine the number with health promotion programs and a break down on the type of programs offered. The Health Education Task Force prepared two mailings (July and August 1985). Of the 210 businesses who were sent surveys, 55 responded (26 percent response rate). Of those 55 businesses, 6 were eliminated because they

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were not offering health promotion programs. For this study, an attempt was made to contact the remaining 49 businesses. Out of these 49, 38 businesses participated in this study (78% response rate).

The participating businesses represented a variety of organizations, including banks, acute care hospitals, insurance companies, electronics firms, and light industry. Demographic data was obtained for the 38 businesses participating. Of these, (45%) were Business Group on Health members while 42% were nonmembers. An additional 13% were unsure of the membership status of the organization. The median number of employees per organization was 683, with a range of 113 to 4000. Roughly half (46%) of employees in the businesses interviewed were male and 32 percent were union members.

The collective health promotion programs offered by the 38 businesses included six broad categories: health education/behavior change, safety education, disease education, employee assistance, health screening/assessment, and physical fitness (see Table 6). The single programs for which the most information was available included fitness, smoking, nutrition, weight control (38%), CPR and safety education (23%), health and fitness screening (31%), and "other"(13%) categories.

Table 6

Types of Educational Programs Offered in Worksite HealthPromotion Programs

Program Name	Percent of Businesses (N = 38)
Health Education/Behavior Change	
Nutrition	55 %
Stop Smoking	66
Weight Control	42
Medical Consumerism	16
Safety Education	
Cardiopulmonary Resuscitation	87 %
Back Injury Prevention	50
First Aid	21
Hearing/Respiratory Protection	53
Safe Driving/Seatbelt Use	13
Disease Education	
Arthritis	16 %
Blood Pressure	26
Heart Disease and Strokes	26
Cancer	29
Employee Assistance *	
Stress Management	58 %
Substance Abuse Treatment	50
Counseling	39
Health Screening/Assessment	
Blood Pressure Screening	66 %
Glaucoma	8
Hearing/Respiratory Testing	63
Health Risk Assessment	42
Fitness Testing	34
Blood Screening	45
Physical Fitness	
Exercise/aerobics classes	50 %
Walking/running club	13
Weight Training	21
Exercise Breaks	18
Fitness Club Membership	24
Other Programs **	63 %

* Not all programs offered were onsite

** e.g., swimming, health fair, newsletter, self-defense

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Procedures

The time period for data collection for this study was November 4 to December 18, 1985. Attempts were made to contact the 49 businesses with health promotion programs. The contact person for the organization, who had been identified in the BGH survey, was the health promotion program coordinator or another individual who was knowledgeable about the programs. At least five attempts were made for telephone contact (varying attempts between morning and afternoon as well as days of the week). The final number of businesses with complete, usable data was 38 (78% response rate).

The telephone interviews lasted 10 to 12 minutes. Each respondent was informed about the purpose of the study, and the affiliation of the researcher. The respondent was requested to participate in the study by answering questions about their programs and informed of the approximate time commitment. A verbal agreement to answer the questions was deemed as consent to participate in the study. The questions on the interview schedule were asked in order using the prepared statements preceding each question (see Appendix B). At the end of the interview, respondents were given an opportunity to ask questions and provide any additional comments. They were also informed that the results would be available through the Business Group on Health Evaluation Project.

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Data Collection Instrument

Description. A telephone interview instrument was developed for this study. The phone interview consisted of two sections with a total of 14 questions (see Appendix B).

The first section contains seven items designed to measure characteristics of the businesses and types of programs offered, as well as the objectives and data obtained for the collective health promotion programs. (The grouping of all health promotion programs offered in one business will be referred to as the collective programs offered by the business). Questions were asked about membership in BGH, number of employees, percent of males, and percent of unionization. The number of employees and types of programs conducted in the last 24 months was obtained from a structured question with 27 possible responses. The next two questions measured program outcomes and program data used to evaluate the collective health promotion programs. There were 11 possible responses for program outcomes (e.g., "decrease absenteeism") and 18 possible responses for program data (e.g., absenteeism rate). In addition, each question included "no answer" and "no outcome/data used" options.

Section two obtained data on a single health promotion program which was felt to be the best-organized and for which the most information was available. Six questions were asked about the program:

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name and description, desired objectives, primary objective, perceived success, data collected for evaluation and evaluation designs used. The respondent was asked about the program objectives for individuals and the organization as well as data collected for use in evaluation. There were 11 possible responses for program outcomes (e.g., "change in health behavior") and 23 possible responses for program data (e.g., measured change in a specific health behavior). The primary objective was measured by a forced response into one of ten categories. Perceived success was measured on a 5 point likert scale and evaluation design was determined for each program objective by asking about specific techniques and timing of data collection.

Reliability and Validity. The telephone instrument was developed for this study. Attempts were made to address reliability and validity. Reliability was addressed by using one rater for all interviews and by providing structured interview questions. Face validity was addressed through a review of the interview schedule by the BGH Task Force and an investigator at CHR, Dr. Jack Hollis, who is the director of the evaluation project. In addition, the interview schedule was pretested by an occupational health nurse and a health promotion expert.

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Analysis and Results

This study addressed five research questions and three hypotheses. The research questions were analyzed using descriptive statistics. Chi-square analysis, t-test, and frequencies were used for the hypotheses. Research questions one and two, as well as their related hypotheses, were answered for the collective as well as the single program organizations described. They addressed the objectives and data collected by the organizations. Research questions three, four, and five, as well as the hypothesis related to question five, were answered for the single program only.

Research Question 1

What is the distribution of stated objectives of worksite health promotion programs in businesses?

Hypothesis. The frequency of an objective varies inversely with the complexity of the outcome (complex objectives will occur less frequently).

This research question was addressed both for the collective programs offered as well as the single program described in depth. The question was answered for collective programs from interview question six (What goals or outcomes do you hope to achieve by offering worksite health promotion programs?). The question was answered for single programs using interview question ten (What is the objective of this program?) and eleven (Which outcome or objective do you

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consider to be the most important or primary?).

Frequency distributions were obtained for the objectives. The hypothesis was addressed through use of frequencies for the single program objectives, which were arranged in hierarchical order (e.g., increase in awareness/knowledge was least complex and decrease disability costs was the most complex) .

Collective programs. For the analysis of the collective programs, the objectives were subdivided into three categories: process, individual outcome, and organizational outcome objectives. At least 24% of the organizations identified one or more process objectives, (i.e., employee participation and satisfaction; see Table 7). Individual outcome objectives, primarily change in knowledge and change in health behavior, were mentioned by 26% of the organizations. More than half of the organizations (53%) identified one or more organizational outcome objectives (e.g., absenteeism). In addition, more than one-third of the organizations included "other" objectives such as "enrich life", "improve wellbeing", and "decrease the number of high risk employees".

Single programs. The single program objectives were divided into individual and organizational outcomes. (Respondents were not asked about process objectives for single programs.)

Table 7

Frequency of Objectives Reported for Collective Programs by Type of Objective and Category of Objective

Objectives (N=38)	Frequency of Objective	Category Frequency
Process objectives		9 (24 %)
Employee participation	8 (21 %)	
Employee satisfaction	2 (5 %)	
Individual outcome objectives		10 (26 %)
Increase knowledge and/or awareness	9 (24 %)	
Improve attitude	1 (3 %)	
Improve health behavior	6 (16 %)	
Organizational outcome objectives		20 (53 %)
Improve morale	6 (16 %)	
Decrease absenteeism	11 (29 %)	
Improve productivity	6 (16 %)	
Decrease healthcare costs	13 (34 %)	
Decrease disability costs	10 (26 %)	
Other objectives		14 (37 %)
No objectives		3 (8 %)

Note: Each of the 38 businesses were asked to identify all objectives which applied

Table 8

Frequency of Program Objectives for Single Programs
Ranging from Least to Most Complex

Objective	Frequency
-----------	-----------

(N=38)

Increase awareness/ knowledge	12
Improve attitude	2
Change health behavior	14
Improve morale	4
Decrease absenteeism	5
Improve productivity	1
Decrease healthcare costs	5
Decrease disability costs	6

The hypothesis that the complex objectives would occur with less frequency was not supported. There was no consistent gradient in the frequency of objectives, even when weighted averages were used. Examination of the frequencies in Table 8 suggests the lack of consistent trending. However, when the affirmative responses for the less complex objectives on the continuum (individual objectives) are compared to the affirmative responses for the more complex objectives, it appears that organizations were more likely to collect the less-complex objectives (especially increase in awareness/knowledge and change in health behavior). The Chi-Square of 8.64 (1 df) is significant at the $p < .01$ level (see Table 9).

At least 58% of the organizations identified one or more individual outcome objectives. The objectives, "change in awareness/knowledge" and "change in long term health behavior" were each identified for one-third of the programs (see Table 10). Organizational outcome objectives, mentioned at least once by 39% of the organizations, included decrease in disability costs, decreased absenteeism, improved productivity, decreased health care costs, and improved morale. The most frequent primary objective identified was "change in long term health behavior" (32%) followed by "increased awareness/knowledge" (21%).

Table 9

2 X 2 Chi-Square Comparing Less Complex With More
Complex Program Objectives in Single Programs

	Less Complex Objective	More Complex Objective
With Objective	28	21
Without Objective	86	169
Chi-Square 8.64, 1 df, p < .01		

Table 10

Frequency of Objectives Reported for Single Programs
by Type of Objective and Category of Objective

Type of Objective (N=38)	Frequency of Objective	Category Frequency
Individual outcome objective		22 (58 %)
Increase awareness and/or		
Knowledge	12 (32 %)	
Improve attitude	2 (5 %)	
Change health behavior	14 (37 %)	
Organizational outcome objective		15 (39 %)
Improve morale	4 (11 %)	
Decrease absenteeism	5 (13 %)	
Improve productivity	1 (3 %)	
Decrease healthcare costs	5 (13 %)	
Decrease disability costs	6 (16 %)	
Other objective		13 (34 %)
No objective		2 (5 %)

(Note: Each of the 38 businesses were asked to identify all objectives which applied)

Research Question 2

What data are used to evaluate worksite health promotion programs in businesses ?

Hypothesis. Businesses are more likely to collect process than individual or organizational outcome data.

Frequency distributions were used to address the research question on data used to evaluate both collective programs and single programs. The question was answered for collective programs with data from interview question seven (What kind of data or information do you collect for use in evaluating the outcome of your health promotion programs?). Data from interview question thirteen (Do you collect any data from the following list for use in evaluating the impact of the health promotion program?) was used to answer the research question for single programs. A 2 x 3 Chi-square analysis was used for both collective and single programs to determine if there was a significant difference in the proportion of companies collecting process, individual outcome, and organizational outcome data.

Collective programs. The data used in evaluation of worksite health promotion programs were divided into three categories: process data, individual outcome data, and organizational outcome data. Chi-square analysis indicated that, when programs were considered

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collectively, there was no significant difference in between the proportions of those collecting versus not collecting process data, individual outcome, and organizational outcome data considered collectively ($X = 1.71, 2 \text{ df}, p < .05$).

As shown in Table 11, The category of data most often reported for collective programs was organizational outcome data (39%) which included health care costs/rates and disability costs/rates. The next most common category was process data, including participation rates (29%) and number of classes offered (11%). Of those who collected individual data (26%), long term changes in targeted employee health behaviors were the most common. Twenty-six percent of the organizations obtained no data for evaluation of their collective programs.

Single programs. For the single programs, the Chi-square analysis indicated that there was a significant difference in proportions of businesses collecting versus not collecting process data, individual outcome data, and organizational outcome data ($X^2 = 12.13, \text{ df} = 2, p < .01$). (See Table 12).

At least 63% of the organizations collected some type of process data including participation rates and the number of classes, screenings, or brochures which were offered (see Table 13). Less frequently collected (47%) were data on individual outcomes such as change in

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awareness/knowledge and change in long term health behavior. A smaller percentage of organizations (24%) reported collecting organizational data such as participant's absenteeism. Thirteen percent collected no data.

(Note: The following research questions and hypothesis are answered for single programs only.)

Research Question 3

Is there congruence between objectives stated and the type of data collected for use in evaluation?

This question was analyzed for single programs using data from interview questions ten (what are the objectives for this program?) and thirteen (what data is collected to evaluate the program?). The data were used to develop frequency distributions of the percent of congruence between each type or level of objective and data.

In order for objectives and data to be considered congruent, the data reported in question thirteen must have been measurable and specific to the objective(s) mentioned. The outcome objectives listed in interview question ten were matched with data listed in interview question thirteen. There was congruence in only 21 (44%) of the cases (see Table 14). Congruence was highest for the objective "change in health behavior" (64 %) followed by "change in morale" (50 %).

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Table 11

Data Collected by Businesses to Evaluate Collective
Worksite Health Promotion Programs

Type of Data (N=38 per element)	Within Category	Total
Process Data		11 (27 %)
Written program description	0	
Cost of the program	0	
Participation rates (n=11)	11 (29 %)	
Participant satisfaction	5 (13 %)	
Program implementation	4 (11 %)	
Implementation factors	0	
Individual Data		10 (26 %)
Degree of change in awareness and/or knowledge	4 (11 %)	
Degree of attitude change	1 (3 %)	
Change in specified long-term (> 6 months) behavior	5 (13 %)	
Organizational Data		15 (39 %)
Employee morale	1 (3 %)	
Absenteeism rates	8 (21 %)	
Productivity measure	1 (3 %)	
Healthcare costs	11 (29 %)	
Disability costs	11 (29 %)	
No data used		10 (26 %)

Table 12

2 X 3 Chi-Square Comparing Process Data, Individual Outcome Data, and Organizational Outcome Data in Single Worksite Health Promotion Programs

	Process Data	Individual Data	Organizational Data
With Data	24	18	9
Without Data	14	20	29

Chi-Square 12.13, df = 2, p < .01

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Table 13

Data Collected by Businesses to Evaluate Single
Worksite Health Promotion Programs

Type of Data (N=38 per data element)	Within Category	Total
Process Data		24 (63 %)
Written program description	12 (32 %)	
Cost of delivering the program	18 (47 %)	
Participation rates	31 (82 %)	
Participant satisfaction	6 (16 %)	
Program implementation	23 (61 %)	
Implementation factors	1 (3 %)	
Individual Data		18 (47 %)
Degree of change in awareness and/or knowledge	4 (11 %)	
Degree of attitude improvement	0	
Change in specified long-term (> 6 months) behavior	12 (32 %)	
Organizational Data		9 (24 %)
Employee morale	2 (5 %)	
Participant absenteeism rates	3 (8 %)	
Specific productivity measure	0	
Participant healthcare costs	2 (5 %)	
Participant disability costs	3 (8 %)	
No data used		5 (13 %)

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Table 14

Congruence Between Specified Objectives and Data
Collected in Single Worksite Health Promotion Programs

Specified Objective (N=48 total)	Objective N	Data N	Percent Congruence
Individual outcome objectives			
Change in awareness and/or knowledge	12	4	33 %
Change in attitude	2	0	0
Change in health behavior	14	9	64 %
Organizational outcome objectives			
Improve morale (participant)	4	2	50 %
Decrease participant absenteeism	5	2	40 %
Improved productivity	0	0	0
Decrease participant healthcare costs	5	2	40 %
Decrease participant disability costs	6	2	33 %
Total	48	21	44 %

Research Question 4

For each objective identified by businesses conducting worksite health promotion programs, what is the frequency of each evaluation design: Design 1 (posttest only), Design 2 (pre/posttest) and Design 3 (pre/posttest with comparison group)?

Data from interview question 14 (For each program objective, do you use any of the following techniques when you collect data and evaluate the program?) was used to answer this research question. This question was analyzed by computing the proportion of businesses using each of the three designs (for all objectives combined). Also, the proportion using each type of design was computed for each outcome objective. The information was obtained from interview question 14.

Table 15 shows that the most common design (used by 41 % of the businesses) was Design 3 (pre/posttest with comparison group) followed by Design 1 (posttest only). The Chi-square of 13.16 was highly significant at $p < .01$ (2 df), indicating a significant difference in the proportions of affirmative versus negative responses for each type of Design (see Table 16). Type of Design used, if any, was identified for each of the eight objectives (see Table 17). Of the 14 businesses with long term behavior change as an objective, 9 (64%) reported collecting data using a Pre-Posttest, comparison group design (Design 3). In contrast, of 12

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who mentioned "change in awareness/knowledge" as an objective, only 2 (17%) used Design 3.

Research Question 5

How successful do businesses consider their health promotion programs to be?

Hypothesis. There will be no significant difference in perceived program success between businesses which do and do not collect outcome data.

Data was obtained for the research question and hypothesis using interview question twelve (On a scale of 1 to 5 , with 5 being the most successful, how would you rate the success of this health promotion program?). The question was analyzed for single programs using mean perceived success based on a 5-point Likert scale. An F-test was used to analyze the hypothesis, comparing the mean score of organizations collecting and not collecting outcome data.

The majority of respondents rated their programs as either "highly" or "somewhat successful". Mixed success was reported for one-fifth of the programs (see Table 18).

The result of the F-test indicates that there was no statistical difference in the perceived success between programs which collected one or more type of outcome data and those programs which collected no outcome data. The mean success of those who did not

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collect outcome data was 3.89 while the mean of those with outcome data was 4.44. The F-value was 2.126 with 37 degrees of freedom ($p < .05$).

Additional analysis using the F-test indicated that there were differences in perceived success between those collecting and not collecting each type of data (see Table 13 for types of data). Organizations collecting no data perceived their programs to be less successful than those which collected some type of data, either process, outcome, or both. Comparison of perceived success between organizations which collected process data (of any type) versus those who collected no process data was not done.

There were significant differences ($p < .05$) for those organizations collecting versus not collecting the following data: program description (4.2 versus 3.5, $df=12$) knowledge data (4.8 versus 3.8, $df=4$), behavior change data (4.3 versus 3.7, $df=12$), and company-wide absenteeism data (4.6 versus 3.8, $df=7$).

No difference in perceived success was noted for companies which did and did not collect program cost, participation or satisfaction rates, change in attitude, participant absenteeism, as well as participant or company morale, productivity, medical costs, or disability costs. The numbers in these types of data were generally too small to carry out the statistical analysis.

Table 15

Frequency of Use of Three Types of Evaluation Designs in Worksite Health Promotion Programs (N=49 objectives total)

Design 1--posttest only	8 (16 %)
Design 2--pre and posttest	6 (12 %)
Design 3--pre/posttest with comparison	20 (41 %)
No Design Identified	15 (31 %)

Table 16

2 X 3 Chi-square Comparing Evaluation Design 1, Design 2, and Design 3 in Single Worksite Health Promotion Programs

	Design 1	Design 2	Design 3
Using Design	8	6	20
Not Using Design	41	43	29

Chi-square 13.16, 2 df, $p < .01$

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Table 17

Evaluation Designs Used for Individual and Organizational Outcome Objectives in Single Worksite Health Promotion Programs (N=49 objectives total)

Objective	Design 1	Design 2	Design 3
Individual outcome objectives			
Change in awareness and/or knowledge (n=12)	4 (33%)	1 (8%)	2 (17%)
Change in attitude (n=2)	0	0	1 (50%)
Change in long-term health behavior (n=14)	2 (14%)	0	9 (64%)
Organizational outcome objectives			
Improve morale (n=4)	0	2 (50%)	1 (25%)
Decrease absenteeism (n=5)	0	2 (40%)	3 (60%)
Improve productivity (n=1)	0	0	0
Decrease healthcare costs (n=5)	0	1 (20%)	2 (40%)
Decrease disability costs (n=6)	2 (33%)	0	2 (33%)

Table 18

Perceived Success of Single Worksite Health Promotion Programs

Rating	Percent (N=38)
Highly successful	24 %
Somewhat successful	47
Mixed success	19
Somewhat unsuccessful	3
Highly unsuccessful	3
Don't know	5

Discussion

Five research questions were presented to determine the extent to which organizations in the Portland area had the elements necessary for evaluation of worksite health promotion programs. The components included objectives, data collection for use in evaluation, congruence between objectives and data, evaluation design, and perceived success of worksite health promotion programs.

Objectives and data were identified for two categories: the collective programs (all health promotion programs offered by a company) and single programs (one program which was the best organized or for which the most information was available). Congruence between objectives and data, the evaluation design, and perceived success were described for single programs only.

Objectives

There does not appear to be a pattern whereby the frequency of each objective decreased as the complexity of the objective increased. However, subsequent analysis indicated that there was a significant difference when the objectives were divided into two groups: the less complex (individual outcome objectives) and the more complex (organizational outcome objectives). The group of more complex objectives were chosen with lower frequency. This could be due to a

lack of resources or program evaluation experience on the part of the program managers.

There may be several reasons for the lack in consistent trending using complexity of the objective. First of all, the complexity can be conceptualized in different ways. This study uses the conceptualization that complexity increases as difficulty in creating a change increases. Another approach, such as difficulty in gathering data could have been used, creating a different ordering of the objectives. For example, among the individual objectives, it is often easier to gather data on behavior change than on change in knowledge. Data on change in behavior may be collected by simply asking the participant if their behavior changed, while measuring change in knowledge requires a more complex type of testing.

There was a discrepancy between the objectives of the collective programs and the single programs. When considering all programs combined, organizations tended to state organizational outcome objectives with the greatest frequency (53%). However, when describing one single program, organizations identified individual outcome objectives most frequently (58%). By far the most common individual outcome objectives were change in long term health behavior (37%) and increase in knowledge/awareness (32%). This discrepancy may be due

to the greater ease in recalling information about one specific program instead of summarizing for all health promotion programs offered. It may reflect the notion that the basis of all benefits related to health promotion programs rests with actual changes in individual health behavior.

Data

There was also a discrepancy between the type of data obtained for collective versus single programs. Organizational outcome data were the most frequent data obtained (39%) for collective programs while process data were the most frequent (63%) for single programs.

There may be several explanations for this discrepancy. It may be due to greater difficulty in recalling collective program information, which describes a broad range of programs. Responses to single programs could be more specific since only one program was being described.

The relatively low level of data collection on change in health behavior for both collective and single programs is of concern. Change in health behavior is one of the most important types of data to collect since individual behavior change is required before health risks can be reduced or the organizational impact realized. Collective programs in Portland obtained health behavior change data with a low frequency (13%) when compared to collective programs in Colorado (20%),

as reported by Davis, et al. (1984). Since Davis, et al. (1984) did not report behavior change data for single programs, they cannot be compared to single programs in Portland. However, considering that fewer than one-third of the single programs reported collection of behavior change data, it would appear that two-thirds of the organizations did not know the impact of their programs on health behavior.

Congruence

There is also a lack of congruence between the objectives and type of data collected to evaluate the objectives. The low level of congruence (44%) may reflect a need for more clearly defined objectives as well as improved data collection methods. Perhaps the objectives were too broad and general to be measured or were not identified with data requirements in mind. This would be consistent with results found in the Healthworks Northwest study (1984). In addition, the program managers may not have the resources or experience to measure some of the more complex objectives.

Evaluation Design

The evaluation design used in worksite health promotion programs varied from pre/posttest with comparison groups to no design identified. The most frequent design used to measure the objectives was pre/posttest, with a comparison group (41%). Almost

one-third of the organizations used no evaluation design.

The distribution of results for evaluation design is somewhat conflicting. The large percentage using comparison groups, while somewhat surprising, may actually reflect simple designs or the use of standardized tests for particular objectives. This study did not address the quality of the pre/posttest measures nor the appropriateness of the comparison groups. The large percentage of objectives with no evaluation design identified is of concern. It raises the question of how data was collected, if at all.

Perceived Success

The majority of organizations (71%) perceived their program to be "somewhat" or "highly successful". Perception of success was not related to whether or not outcome data (of any type) was collected. This may reflect a need to enlighten health promotion program managers to the benefits of collecting outcome data as well as specifying objectives. It may also be that only a few types of data actually influenced perceived success. When all data are grouped together as "outcome data", the dilution effect may be great enough that no difference is detected when compared to those who collect no outcome data. In addition, those types of data which did not influence perceived success were collected in very small numbers.

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It would appear that other factors besides data collection which were related to perceived success. It is possible that, due to political factors, some programs may be perceived to be successful regardless of the data obtained. Political factors may include the commitment from top level management or a perception by a program manager that his or her job depends on the success of the program. Some companies may offer health promotion as a morale booster or good public relations and use subjective measures of success, such as positive comments from employees or clients.

Implications

The results indicated that objectives were being identified and data collected, but there were several weaknesses within worksite health promotion evaluations in the Portland area businesses. There was a low level of congruence between objectives identified and data collected. One-third of the objectives had no design for data collection. Identifying objectives and collecting data, if they are not coordinated, does not provide adequate information with which to evaluate programs. In addition, a majority of organizations were able to determine the success for the program inspite of these evaluation weaknesses.

These findings are of some concern because the use of weak evaluations, which have little or no empirical basis, may result in poor program management decisions.

Successful programs may be terminated prematurely and ineffective programs may be allowed to continue. The organizational resources may be misallocated as a result.

Study Limitations

The use of a nonrandom sample and the use of one person within the organization to provide information may have limited the generalizability of the findings. While it is possible that some programs which were being evaluated with good designs were missed, it is probably more likely that the programs surveyed were the the "best-organized" or programs for which the "most information" was available. Likewise, onsite researcher observation, examination of program documents, or interviewing a variety of people involved in the programs might have provided additional data or improved response rates. However, attempts were made to overcome this limitation by interviewing the health promotion program manager. If there was no program manager, the person most knowledgeable about the program was interviewed. In addition, the person interviewed was asked if someone else might have additional information.

Recommendations

The results indicated that there was interest in, and at least a short-term commitment to, worksite health promotion program evaluation. The information obtained represents the best of the programs and

evaluation efforts. Several weaknesses were identified, including a lack of congruence between objectives specified and data collected, lack of evaluation design in one-third of the organizations, and perceived program success not related to the collection of outcome data as a whole.

Several alternatives to overcome the evaluation weaknesses in Portland-area worksite health promotion programs are available. One option is to use the Business Group on Health to disseminate information about the components and implementation of effective program evaluation. This may be done through seminars, publications, or other formats. In addition, use of an expert consultant in program evaluation may be needed. This expert could assist health promotion program managers to identify measurable objectives, determine appropriate data and timing of data collection to meet the needs of the program within the context of a business setting. The cost of employing an expert consultant would likely be overcome by savings in time and resources that would occur as the result of more efficient and effective evaluations. Effective evaluations would provide data on which to base decisions about needed program improvements or deletions, resulting in more effective use of an organization's resources.

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Efforts taken to improve worksite health promotion evaluations would have a positive impact on the occupational health nurses involved in such programs. Effective evaluations would provide information about the employees who participate as well as the outcome of any nursing interventions related to the program. The extent of the impact of the evaluation on nursing practice would depend on the type of activities the nurse was involved in.

The need for continued and more extensive research in the areas of worksite health promotion program evaluation is evident. A larger sample for each type of single program topic (ie, fitness, nutrition, stress management) is needed to compare differences in evaluation of each type of program and to determine which program may be most effective in a worksite setting.

Specific, measurable objectives, as well as specific data elements necessary for evaluation must be determined, particularly for behavior change. Evaluation designs which are the most feasible for worksite programs need to be identified. A methodological issue which needs to be considered in future research is the tendency for organizations to identify organizational objectives when programs are described collectively and individual objectives when

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describing single programs. Future research should also address whether evaluation weaknesses are related to particular objectives, particular programs by topic, or particular organizations. Finally, the results of ongoing program evaluations currently being conducted need to be disseminated and added to the body of knowledge about worksite health promotion programs.

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Appendix A

Greater Portland Business Group on Health Survey

SURVEY
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	<u>Check Programs offered in last 24 months</u>	<u>Class length hours/weeks</u>	<u>Ongoing (yes/no)</u>	<u>Number of employees participating</u>	<u>Offered on site/off site</u>	<u>Incentives offered (yes/no)</u>	<u>Conducted by company/please name provider</u>
<u>Health Screening & Assessments</u>							
Hearing Tests	_____	_____	_____	_____	_____	_____	_____
Lung Function Tests	_____	_____	_____	_____	_____	_____	_____
Blood Pressure Screening	_____	_____	_____	_____	_____	_____	_____
Glaucoma Screening	_____	_____	_____	_____	_____	_____	_____
Blood Screening	_____	_____	_____	_____	_____	_____	_____
Fitness Testing	_____	_____	_____	_____	_____	_____	_____
Health Risk Appraisal	_____	_____	_____	_____	_____	_____	_____
Others _____	_____	_____	_____	_____	_____	_____	_____
<u>Fitness & Recreation Programs</u>							
Aerobic Classes	_____	_____	_____	_____	_____	_____	_____
Walking/Running Club	_____	_____	_____	_____	_____	_____	_____
Exercise Class	_____	_____	_____	_____	_____	_____	_____
Swimming	_____	_____	_____	_____	_____	_____	_____
Weight Training	_____	_____	_____	_____	_____	_____	_____
Excercise Breaks	_____	_____	_____	_____	_____	_____	_____
Fitness Club membership	_____	_____	_____	_____	_____	_____	_____
Others _____	_____	_____	_____	_____	_____	_____	_____

Additional Questions:

Did you redesign your benefits plan to encourage participation in the above programs? Yes__ No__

What is the intended outcome of your program (what must occur in order for the program to be considered a success)?

What data are you using to evaluate the outcome of your health promotion program? (ie, change in behavior, absenteeism, disability rate, health insurance utilization or premiums, employee survey on perception of the program, health screening--questionnaire or physical measures)?

Please return survey to: Greater Portland Business Group on Health, c/o Portland Chamber of Commerce, 221 NW Second Avenue, Portland, OR 97209, (503) 228-9411

Appendix B

Telephone Interview Instrument

A COLLECTION SHEET--WORKSITE HEALTH PROMOTION TELEPHONE INTERVIEWS

Name of Business:

Mailing Address:

Health Promotion Program Coordinator:

Name of Person Completing Mailed Survey:

Phone Number:

Introduction:

"My name is Debbie Hattan and I'm working with the Business Group on Health. I'm following-up on a recent health promotion questionnaire to which you responded.

This project is part of my Master's degree requirements at the Oregon Health Sciences University. I'm particularly interested in evaluation efforts various companies are engaged in.

I need your help to gather some information about local worksite health promotion programs. The questions I have should take about ten to twelve minutes. Is this a convenient time?"

- 1. Is your organization a member of the Portland Business Group on Health? 1
 - yes () 1
 - no () 2
 - don't know () 3

I'd like to ask you 3 questions about your employees:

- 2. How many employees do you have in the Portland Metropolitan area? 2
number _____
- 3. What percent of your workforce is male? 3
percent _____
- 4. What percent of your workforce is unionized? 4
percent _____

--indicates that information will be obtained from BGH mailed survey and verified during interview)

5. The survey you completed shows that you offered these programs in the last 24 months (read list of programs obtained from survey):

** Do you offer any other programs which I have not mentioned ?

Categories: (place responses into categories listed)

Health education/behavior change

(1) nutrition	[]	5
(2) stop smoking	[]	6
(3) weight control	[]	7
(4) medical consumerism	[]	8

Safety education

(5) CPR	[]	9
(6) back injury prevention	[]	10
(7) first aid	[]	11
(8) hearing/respiratory protection	[]	12
(9) safe driving/seat belt use	[]	13

Employee assistance

(10) stress management	[]	14
(11) substance abuse	[]	15
(12) counseling	[]	16

Disease education

(13) arthritis	[]	17
(14) hypertension	[]	18
(15) heart disease/stokes	[]	19
(16) cancer	[]	20

Health screening and assessment

(17) blood pressure	[]	21
(18) glaucoma screen	[]	22
(19) hearing/lung function	[]	23
(20) health risk appraisal	[]	24
(21) fitness testing	[]	25
(22) blood screening	[]	26

Fitness and recreation

(23) aerobic/exercise class	[]	27
(24) walking/running club	[]	28
(25) weight training	[]	29
(26) exercise breaks	[]	30
(27) fitness club membership	[]	33

Other: _____ [] 32

6. Program Outcomes (choose A or B)

(Choose question A or B using response to survey. Obtain answer from respondent and place categories listed.)

[] A. You did not list any outcomes for your health promotion programs. I'd like to know what criteria you use to determine whether or not the programs should continue to be offered:

--or--

[] B. You indicated that you hope to achieve (list from survey):

as outcomes or goals of offering worksite health promotion programs.

**Do you have any other outcomes which I have not mentioned?
(list example in each category)

Categories:

(process measures)

(1) employee participation [] 33
(2) employee satisfaction [] 34

(individual outcomes)

(3) increase in awareness or knowledge [] 35
(4) change in attitude [] 36
(5) change in health behavior [] 37

(organizational factors)

(6) reduced absenteeism [] 38
(7) improved morale [] 39
(8) improved productivity [] 40
(9) decreased health care costs [] 41
(10) decreased disability costs [] 42

(11) other _____ [] 43

(12) no answer [] 44
(13) no outcome or objective [] 45

7. Data used in evaluation (Choose A or B based on survey response)

[] A. You did not list any data used in evaluating the outcome of the health promotion programs. I'd like to know if you collect any of the following information about your overall program (Read category headings and items under each) :

-- or --

[] B. The data you indicated that you use to evaluate the outcome of your health promotion programs include (obtain from survey and check off item in red):

**In addition, I'd like to know if you collect any other kind of information to use in evaluation. I'll read a list of items and you tell me if you use them as part of your evaluation.

(Read items not listed above; use category heading to screen for individual or organizational data before reading entire list.)

Categories:	(data used)		
(process data)			
	(1) written description of the program (content, length, instructors)	[]	46
	(2) cost of delivering the program	[]	47
	(3) participation rates	[]	48
	(4) participant satisfaction	[]	49
(5) program implementation-# of posters, classes, etc		[]	50
	(6) factors affecting implementation-- weather, labor dispute, etc.	[]	51
(individual data)			
	(7) change in awareness or knowledge	[]	52
	(8) change in attitude	[]	53
	(9) change in short term health behavior	[]	54
	(10) change in long term health behavior (> 6 months)	[]	55
(organizational data)			
	(11) absenteeism	[]	56
	(12) employee morale	[]	57
(13) productivity:specify _____		[]	58
	(14) medical/insurance costs	[]	59
(15) disability costs (workers compensation)		[]	60
	(16) organizational image	[]	61
(17) death/disability for specific diseases		[]	62
(18) other _____		[]	63
	(19) no answer	[]	64
	(20) No data used	[]	65

SECTION TWO--SINGLE PROGRAM

I'd like you to choose one of the health promotion programs you offer which you consider to be your best-organized and which you have the most information about.

8. Name of program:

9. Brief description:

PROGRAM CATEGORY NUMBER 66
(1-28)

10. Considering this program only, what is the objective of this program or what outcome do you hope to achieve for your organization and the employees?
(Place response into categories listed)

Categories:

- (individual outcomes)
- (1) increase in knowledge/awareness [] 67
 - (2) change attitude [] 68
 - (3) change in specific short term health-related behavior (less than 6 months) [] 69
 - (4) change in specific long term health-related behavior (6 months or more) [] 70
- (organizational outcomes)
- (5) reduced absenteeism [] 71
 - (6) improved morale [] 72
 - (7) improved productivity [] 73
 - (8) decreased health care costs [] 74
 - (9) decreased disability costs [] 75
 - (10) other _____ [] 76
 - (11) no answer [] 77
 - (12) no outcome or objective [] 78

11. Which outcome or objective do you consider to be the most important or primary one?

Primary Objective Number 79
(1-12)

12. On a scale of 1 to 5, with 5 being the most successful, how would you rate the success of this health promotion program?

highly unsuccessful	[]	1	80
somewhat unsuccessful	[]	2	
mixed success	[]	3	
somewhat successful	[]	4	
highly successful	[]	5	
don't know	[]	6	
refused	[]	7	

13. Do you collect any data from the following list for use in evaluating the impact of the health promotion program?

(Read each item under program description and implementation. If item is collected, ask what specifically is measured.)

(Describe category heading to screen for individual or outcome data before reading items in each category. For each outcome data used, ask questions to indicate evaluation technique employed.)

Data Category	Comments
---------------	----------

Program Description and Implementation:

(1) Written program description	<input type="checkbox"/> report <input type="checkbox"/> brochure	[] 81
(2) Cost of the program	<input type="checkbox"/> budget <input type="checkbox"/> cost per participant	[] 82
(3) participation rates		[] 83
(4) participant satisfaction		[] 84
(5) Program implementation (number of classes, screenings, etc.)		[] 85
(6) Factors affecting implementation (bad weather, labor dispute, layoff)		[] 86

Individual Outcome Effects

(7) change in awareness or knowledge		[]	87
(8) Change in attitude		[]	88
(9) Health behavior change	short term (< 6 mo)	[]	1 89
	long term (> 6 mo)	[]	2

Organizational Outcome Effects:

(10) Absenteeism	participants only	[]	90
	company-wide trends	[]	91
(11) Employee morale	survey employees	[]	92
	survey managers	[]	93
(12) Productivity (describe)		[]	94
(13) Medical/insurance costs	participants only	[]	95
	company-wide trends	[]	96
(14) Disability costs	participants only	[]	97
	company-wide trends	[]	98
(15) Organizational image	community survey	[]	1 99
	employee survey	[]	2
	other	[]	3
(16) Death/disability related to lifestyle factors	participant data	[]	1 100
	company-wide trends	[]	2
	community statistics	[]	3
(17) Other data used:		[]	101
(18) No data used in evaluation		[]	102

14. As I read each of the outcomes or objectives for this program, please tell me if you use any of the following techniques when you collect data and evaluate the program:

(Review all objectives stated for this one program; read list of techniques used and record for each type of objective)

- 1-Collect data before the program starts
- 2-Collect data after the program is completed
- 3-Compare your program results to a similar program or to standardized scores (such as a health risk appraisal)
- 4-Compare results within the group of participants
- 5-Compare company-wide trends
-
- 6-Other _____
- 7-None of techniques listed are used
- 8-Not an outcome or objective for this program

knowledge/ wareness	attitude	short-term behavior
[] 1 103	[] 1 111	[] 1 119
[] 2 104	[] 2 112	[] 2 120
[] 3 105	[] 3 113	[] 3 121
[] 4 106	[] 4 114	[] 4 122
[] 5 107	[] 5 115	[] 5 123
[] 6 108	[] 6 116	[] 6 124
[] 7 109	[] 7 117	[] 7 125
[] 8 110	[] 8 118	[] 8 126
long-term behavior	absenteeism	morale
[] 1 127	[] 1 135	[] 1 143
[] 2 128	[] 2 136	[] 2 144
[] 3 129	[] 3 137	[] 3 145
[] 4 130	[] 4 138	[] 4 146
[] 5 131	[] 5 139	[] 5 147
[] 6 132	[] 6 140	[] 6 148
[] 7 133	[] 7 141	[] 7 149
[] 8 134	[] 8 142	[] 8 150
productivity	healthcare costs	disability costs
[] 1 151	[] 1 159	[] 1 167
[] 2 152	[] 2 160	[] 2 168
[] 3 153	[] 3 161	[] 3 169
[] 4 154	[] 4 162	[] 4 170
[] 5 155	[] 5 163	[] 5 171
[] 6 156	[] 6 164	[] 6 172
[] 7 157	[] 7 165	[] 7 173
[] 8 158	[] 8 166	[] 8 174

* Do you have any comments you'd like to make about worksite health promotion programs or their evaluation?

Thank you for your participation in this interview. The results will be made available through the Business Group on Health Evaluation Project.

Do you have any questions?

THANKS, AGAIN!

0685

A DESCRIPTION OF EVALUATION ACTIVITY
IN WORKSITE HEALTH PROMOTION PROGRAMS

Deborah Glass Hattan, R.N., B.S.N.

A descriptive study of businesses in the Portland, Oregon area was undertaken to determine the objectives identified, data collected, congruence between the objectives and data, as well as the evaluation design employed. A secondary purpose was to determine perceived success in light of outcome data collection.

A telephone survey was conducted for 38 (78%) of 49 organizations offering worksite health promotion programs as identified by the Business Group on Health. The most frequent objectives were "increased knowledge" (32%) and "health behavior change" (37%). Most collected process data (e.g., participation rates), but few collected outcome data (e.g., behavior change, absenteeism). Fewer than half (44%) of the objectives had corresponding data collected for use in evaluation. The most frequent evaluation design was the use of pre/posttest with a comparison group, although one-third had no identifiable evaluation design. Most (71%) rated their programs as successful. Several types of specific outcome data collection were related to perceived success, although overall outcome data collection was not.

Intervention to improve the evaluations include disseminating information to program managers as well use of an expert consultant to identify measurable objectives, determine appropriate data and data collection methods appropriate for a business setting.