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WORKSITE HEALTH PROMOTION IN WESTERN NEW YORK: AN

EVALUATION STUDY OF PUBLIC HEALTH IMPACT

By

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Abstract

A study of worksite health promotion (WHP) in Western New York surveyed worksites using SurveyMonkey. It was designed and implemented in winter-early spring 2009 by the sponsoring agency. This study performed a secondary analysis of the existing data for the purpose of evaluating the public health impact of current programming. The RE-AIM framework was the theoretical framework within which the study was organized and the programs evaluated. To evaluate impact, the concepts of reach, adoption, and implementation were used within the RE-AIM framework. Reach was 13.6%, adoption was 85%, and implementation was 24%. Organizational characteristics were not related to adoption or implementation. Recommendations are for improvement in survey structure and increase in size and representativeness of accessible population.

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CHAPTER I

INTRODUCTION

Health promotion initiatives are being conducted without knowledge of capacity to improve population health. Initiatives done under controlled settings may prove to be successful in delivering desired outcomes, proving them efficacious. Efficacy is important, however, it does not translate into public health impact. The dissemination of efficacious initiatives has resulted in 4 decades of health promotion initiatives, and limited improvement in the total health of our population. Chronic disease rates are rising as well as healthcare spending for costs associated with chronic disease. In 2005, 133 million Americans had at least one chronic condition; 63 million had multiple (Wu & Green, 2000; Bodenheimer, Chen, & Bennett, 2009). By 2020, these numbers are expected to reach 157 million and 81 million (Wu & Green, 2000). Since 1960 when behavioral risk factors were recognized as predictors of chronic disease, research has supported the use of health promotion as an efficient and cost-effective means to prevent disease (National Heart Lung & Blood Institute, n.d.). Nonetheless, the United States chronic disease burden is increasing (Bodenheimer, et al., 2009). Cardiovascular disease is still the leading cause of death and disability in the United States (Eckel, Robertson, Kahn, & Rizza, 2006; Ignarro, Balestrieri, &

Napoli, 2007; Matson-Koffman, Brownstein, Neiner, & Greaney, 2005) and diabetes remains the sixth leading cause of death in the United States (Eckel et al., 2006). The cost burden of chronic illness in 2003 was 78% of total healthcare spending. Of that amount, \$132 billion was associated with diabetes and \$169 billion with heart disease (DeVol & Bedroussian, 2007.)

Despite vast research, health promotion has not made significant strides toward improving public health, nationwide or locally. In order to see change, there needs to be appropriate methods for evaluating the capacity of initiatives. This includes consensus on evaluation criteria.

Statement of Purpose

The purpose of this study was to evaluate the public health impact of worksite health promotion in Western New York and to investigate which corporate characteristics are associated with higher levels of public health impact.

Theoretical Framework

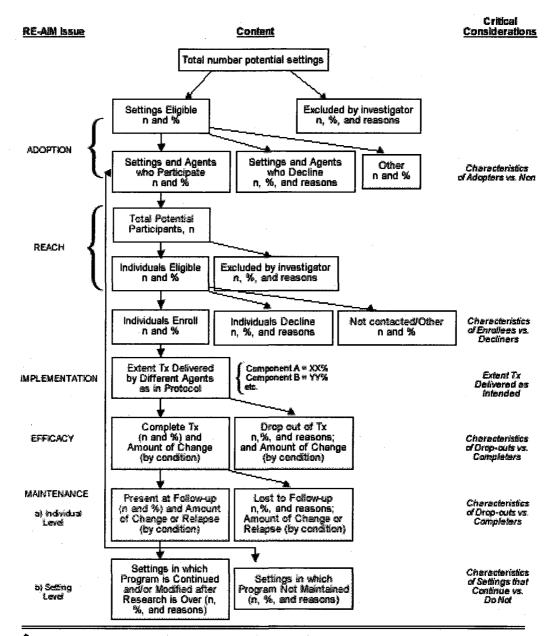
The RE-AIM framework was used for the study. RE-AIM is a systematic way for researchers, practitioners, and policy makers to evaluate health behavior interventions (www.re-aim.org.). RE-AIM provides a comprehensive evaluation framework appropriate for public health community-based programs (Glasgow, Vogt, & Boles, 1999). It consists of five elements: Reach, Efficacy/Effectiveness, Adoption, Implementation, and Maintenance. RE-AIM elements can occur at multiple levels including individual, clinic/organization, and community (Glasgow et al., 1999). The premise behind RE-AIM is that a health promotion

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initiative with a public health impact would have a large reach, be effective/efficacious, is adopted, is implemented appropriately, and is maintained long term (Gyurcsik & Brittain, 2006). Studies should apply these five elements as evaluation criteria to determine if an initiative will be successful if implemented for the total population (see Figure 1). Research states that practical studies should have representativeness, be conducted in multiple settings, and report on outcomes relevant to potential adopters (Bopp et al., 2007; Fortier et al., 2007; Fuzhong et al., 2008; Glasgow, 2006; Glasgow et al., 1999; Glasgow, Klesges, Dzewaltowski, Bull, & Estabrooks, 2004; Glasgow, Nutting, et al., 2004; Glasgow, Whitlock, Eakin, & Lichtenstein, 2000; Gyurcsik & Brittain, 2006; Hampson et al., 2000; Jilcott, Ammerman, Sommers, & Glasgow, 2007; Planas, 2008; Will, Farris, Sanders, Stockmyer, & Finkelstein, 2004). Although representativeness (Reach) is important at all levels, impact at the settings level is mainly determined by adoption and implementation. Glasgow (2006) proposed an equation for determining impact specifically at the settings level, called the summary setting level impact score. The equation multiplies Adoption x Implementation to equal the summary setting level impact score (Glasgow, 2006).

For this study, conducted at the settings level, reach, adoption, and implementation were applied. Reach is the number of settings/agents willing to participate in an initiative. Adoption is the number of settings/agents that are willing to initiate an intervention. Implementation is the consistency of settings/agents in delivering the initiative as intended (www.re-aim.org.).

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*At each step, record qualitative information on factors affecting each RE-AIM dimension and step in the flow chart.

Figure 1. Standard Reporting Issues to Enhance Representativeness and Translation. *Note.* From Re-aim.org website http://re-aim.org/2003/fig_1.htm. (Reprinted with permission.) (see Appendix A)

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Together these three elements assess the practicality of an initiative, or whether it will be successful to achieve public health impact if implemented among various settings population-wide.

Significance and Justification

This study provided the opportunity to test the RE-AIM model through a window within Western New York as part of the initiative underway by the sponsoring agency. The survey was conducted by the sponsoring agency to inventory Western New York for their worksite health promotion offerings along with the characteristics of these programs. The inventory, however, does not evaluate public health impact. This study evaluated the impact on public health that these offerings delivered. Literature on public health impact is scarce and in Western New York is virtually none.

Assumptions

The following assumptions pertained to this research study:

1. The worksite is an appropriate organizational setting for health promotion.

2. The workplace is an appropriate environment to accurately evaluate public health impact.

3. RE-AIM elements are appropriate criteria for evaluating public health impact in worksite health promotion, specifically reach and implementation.

4. Data is valid and was maintained by the sponsoring agency securing its integrity and its anonymous nature.

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Research Questions

There were four research questions posed in this study. They included:

1. What is the reach of study? (Response rate)

2. What is the percentage of worksites that have adopted worksite health promotion (proportion of adoption)?

3. What percentage of worksites meet implementation (75%) as set forth by Healthy People 2010? Implementation set by Healthy people 2010 is comprehensiveness defined as including minimal of smoking, nutrition, and physical activity.

4. Is there an association between organizational characteristics (size, business category, years, annual budget, and for-profit/not-for-profit) and public health impact (reach, adoption, and implementation).

Definition of Terms

The terms in this research study were defined theoretically and operationally.

1. *Adopt*--Theoretical definition: to make social change through interaction and information exchange (Rogers, 1995). Operational definition: proportion of adoption; proportion of worksite who have a worksite health promotion program to the total of worksites in this study.

2. *Comprehensiveness*--Theoretical definition: providing ongoing, integrated health promotion and disease management that integrates specific components into a coherent, ongoing program consistent with corporate

objectives and including program evaluation of clinical and/or cost outcomes (Pelletier, 2005). Operational definition: including a minimal of smoking, nutrition, and physical activity components within a health promotion program.

3. Organizational characteristics--Theoretical definition: industry sector, the pursuit of innovation as a competitive strategy, manufacturing technology, and organizational structure, organizational size, and unionization (Jackson, Schuler, & Rivero, 1989). Operational definition: As defined in the data collection tool, the worksite demographics. Organizational characteristics include: (a) *Worksite size*: how many full-time equivalents (FTEs) the company employs; (b) *Business category*: appropriate business category as defined by the New York State Department of Labor; (c) *Years in business*: how long the company has been in business categorized as 1-2 years, 3-5 years, 6-10 years, 11-25 years, 26-50 years, and 51+ years; (d) *Estimated annual budget*: estimated annual budget categorized as under \$500,000, \$500,000-\$1 million, \$1.5 million-\$5 million, and over \$5 million; and (e) *For-profit/not-for-profit status*: if the company is for-profit or not-for-profit.

4. *Public health impact*--Theoretical definition: a function of five elements--reach, efficacy, adoption, implementation, and maintenance-represented on a scale from 0% to 100%, probably the best overall representation of quality (Glasgow et al., 1999). Operational definition: measurement used to evaluate worksite health promotion.

5. *Reach*--Theoretical definition: individual-level measure (e.g., patient or employee) of participation. Refers to percentage and risk characteristics of persons who receive or are affected by a policy or program (Glasgow et al., 1999). Operational definition: response rate of submitted surveys.

6. *Worksite health promotion*--Theoretical definition: any combination of health education and related organizational, political, and economic interventions designed to facilitate behavioral and environmental changes (Green, 1979). Operational definition: As defined in the data collection tool, any program in which its participants proactively pursue a lifestyle that results in optimal health and happiness. Can include any of the following: Physical Activity (fitness classes, gym membership discounts); Overweight and Obesity Management (nutrition/dieting, weight management); Tobacco Use (smoking cessation, quit-line); Substance Abuse (alcohol and drug awareness, recovery counseling); Mental Health (depression management, ADHD management); Injury and Violence (injury prevention, family and children services, anger management.)

Variables

The variables in this study were public health impact, response rate, proportion of adoption, percentage of comprehensiveness, business category, for-profit/not-for-profit status, years in business, and estimated annual budget.

Limitations

The following were identified as limitations of the study design:

1. Survey was based on self-reported responses.

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2. The survey tool used had face validity.

Summary

Public health impact is critical in the evaluation of health promotion interventions. It is necessary in order to produce effective programs capable of improving health population-wide. Application of the RE-AIM framework to assess public health impact introduces a comprehensive set of criteria for evaluation. This set of criteria can be used on an individual, group, or policy level.

In chapter II, the researcher presents a review of pertinent literature on this topic. Chapter III, Procedures for Collection and Treatment of Data, outlines the study design by discussing setting, population and sample, data collection methods, human rights protection, tools, and treatment of data. Analysis of Data is the topic of chapter IV, and in this chapter the study results will be presented. In chapter V, entitled Findings, Implications, and Recommendations, a complete synopsis and reconnection of the theoretical framework, literature, research questions, and survey tool, will be provided. Concluding the fifth chapter will be implications and recommendations.

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CHAPTER II

REVIEW OF LITERATURE

Introduction

The origin of health promotion as a distinct field in health policy, dates back to 1974 (Poland, Green, & Rootman, 2000). The Lalonde Report, based on the existing framework of the health field concept, marked the first assertion of health promotion as a key strategy for health improvement (Lalonde, 1974). This marked global acceptance of health promotion, spawning enthusiasm for health planning (Poland et al., 2000).

Evolution of Health Promotion/Settings

The first international conference on health promotion (1986) which issued the Ottawa Charter for health promotion (World Health Organization, 1986) endorsed interest in health promotion nationally (Poland et al., 2000). From this, the Ottawa Charter reinforced the development of health promotion (Nutbeam, 1998) worldwide through a set of health promotion advances. These included identification of prerequisites for health, an all-encompassing definition of health promotion, and five key strategies for health promotion. The five key strategies for health promotion included (a) building healthy public policy, (b) creating supportive environments, (c) strengthening community action, (d)

developing personal skills, and (e) reorienting health services. After the Ottawa Charter came an introduction to environmental factors in health promotion, and then the origination of the settings approach (Nutbeam, 1998).

Development of the settings approach stemmed from the ecological model, which stemmed from Nutbeam's (1998) the five key strategies of health promotion and Stokols' (1996) health-promotive environment construct. Stokols' health-promotive environment construct argues that interventions in health promotion should alter environmental factors. Environmental factors, nonetheless, are just a piece of the over-arching framework for behavior change; the ecological model was developed as an all-inclusive approach. The ecological approach identifies multiple levels of influence where environmental factors can have an impact (McLeroy, Bibeau, Steckler, & Glanz, 1988). The five levels of influence for behavioral change are intrapersonal, interpersonal, institutional, community, and public policy. The levels of influence for behavior change can then occur within various domains or settings. Settings identify where the behavior change takes place or is influenced. Categorization of settings for health promotion constituents began with the organization of the U.S. Office of Health Information and Health Promotion (later named Office of Disease Prevention and Health Promotion) (Haglund, 1992). The third (Sundsvall, Sweden in 1991) and fourth (Jakarta, Indonesia in 1997) international conference on health promotion brought forth research on case studies and recommendations for use of settings approach in health promotion (Haglund, 1992). Categorizations of health promotion

settings included medical care settings, school settings, community, mass media, and the workplace (Green, 1980).

Worksite Health Promotion

Worksite health promotion has become a major field of study due to the increased need for health promotion initiatives and the feasibility of providing them at the worksite. Research has supported the worksite as an ideal setting for health promotion, hence the focus of this study. Following is an exploration into the rationale for worksite health promotion and its current state of practice.

The worksite has become one of the most common settings for health promotion due to higher results in participation rates (Dooner, 1990) and significant behavior influence by peers. Other rationale for workplace health promotion include potential for reduction in health care costs (Fries et al., 1993) and increased productivity and worker morale (Biener, DePue, Emmons, Linnan, & Abrams, 1994). Out of the total \$1.9 trillion the country spends on healthcare annually, U.S. employers pay 26%--\$450 billion a year (Benjamin, 2006). There are approximately 160 million employed in the U.S. workforce today, and most receive employer-sponsored health insurance (U.S. Department of Labor, n.d.). Health insurance costs are increasing 2-4 times greater than general inflation, (Chapman & Pelletier, 2004) and in 10 years it is predicted that health care costs will double, to consume 20% of the U.S. National Gross Domestic Product (Poisal et al., 2007).

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Numerous studies have also shown that effective worksite wellness programs can provide economic benefits to reduce the economic burdens of healthcare costs paid by employers. Over a 2-5 year period, investments in worksite health promotion programs can see a return of \$3-\$6 per dollar invested (Koffman et al., 2005). Also reported were 28% reductions in sick leave absenteeism, 26% reductions in use of healthcare benefits, and 30% reduced worker's comp claims and disability management, as a result of worksite wellness initiatives (Koffman et al., 2005).

Despite evidence for worksite health promotion, limitations are notable. Even in the worksite, one of the most leveraged settings for health promotion, research has not solidified standard criteria for evaluation. Current literature on effectiveness and evaluation in worksite health promotion is narrow. A framework for evaluation of worksite health promotion is lacking in conventional practice (O'Donnell, 2002; Fries et al., 1993; Biener et al., 1994). Evaluating the impact of worksite health promotion has been inconsistent due to the nature of conventional worksite health promotion which traditionally does not consider external factors (Poland et al., 2000). Without consideration for external factors, worksite health is unsuited for comprehensive evaluation criteria. Results from the 2004 National Worksite Health Promotion Survey report a variety of methods used for program evaluation, including employee feedback (reported use by 73% of respondents), employee participation (57.4% of respondents), workers compensation costs (57.1% of respondents), and healthcare claims costs (57.0%

of respondents), and absenteeism (43.9% of respondents) (U.S. Department of Health and Human Services [USDHHS], 2004). The flaw in using imprecise, indefinite evaluation methods was noted in this study. Only 6.9% of a sample size of 730 measured successful against Healthy People 2010 national guidelines (Linnan et al., 2008).

Translation of Research into Practice

The Committee on the Quality of Health Care in America, Institute of Medicine has reported a major gap between research and practice in health care. A gap that not only exists within behavioral medicine but in all aspects of health care (Committee on Healthcare in America, Institute of Medicine, 2001), across acute, chronic, and preventive care alike (McGlynn, Asch, Adams, et al., 2003). The problem with evidence-based medicine (EBM) in general is that best practice is not being fully operationalized (McGlynn et al., 2003). McGlynn et al. documented that, on average, patients in the United States receive only half of recommended best practice treatments, excluding recommendations for education and counseling which were only implemented 10% of the time. With evidence-based behavioral medicine (EBBM), the problem is more fundamental: best practice does not exist (Dzewaltowski et al., 2004). Despite decades of research on behavioral interventions, health promotion still faces a lack of consensus on effective, generalizable, and sustainable guides for practice (Glasgow, Klesges, et al., 2004; Glasgow, Lichtenstein, & Marctis, 2003; Glass, 2000; Institute of Medicine, 2000). There is insufficient implementation of health

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promotion in applied settings (Glasgow et al., 2003; Glasgow, Klesges, et al., 2004) and a lack of consensus on evaluation criteria in order to disseminate research into practice (Glasgow et al., 1999). Without a framework, study designs are limited in their application to population settings, something that is necessary to bridge the gap between research and practice.

Several factors are documented to contribute to this gap. They include limited time, limited resources of practitioners, insufficient training, lack of feedback, lack of incentives for use of evidence-based practices, and inadequate infrastructure and system systems organization (Glasgow et al., 1999; Green, 1999; Ory, Jordan, & Bazzarre, 2002). The majority of efficacy-based clinical trials involve homogeneous, highly motivated individuals with low health risk and only one isolated health condition (Glasgow et al., 2003; Glasgow, Klesges, et al., 2004). Efficacy-based trials restrict participation to those individuals most prepared for change and therefore are unrepresentative of the population and settings to which interventions are targeted. While efficacy-based trials may be useful in creating internal validity of studies, they do nothing for the generalizability of results or external validity (Glasgow et al., 2003; Glasgow, Klesges, et al., 2004).

Reviews of studies on behavioral interventions show internal validity to be very consistent. However external validity is not (Glasgow, Klesges, et al., 2004; Oldenburg, Sallis, Ffrench, & Owen, 1999).

In order to see advancement in public health, there needs to be more focus on external validity and better methods to assess interventions for population-based impact. Dissemination of research then should be based on the assessment of public health impact. There are several factors that hinder an optimal translation of research to practice. The most noted is the efficacy-based paradigm. Effectiveness-based versus efficacy-based trials are needed in order to produce interventions of public health significance (Sorensen, Emmons, & Dobson, 1998). Effectiveness trials test programs "delivered under real-world conditions" (Glasgow et al., 2003, p. 1261), while efficacy trials test programs delivered under "optimal conditions" (Glasgow et al., 2003, p. 1261). The primary goal of effectiveness trials is to determine impact among a "broadly defined population" (Glasgow et al., 2003, p. 1261), exactly what is needed to translate health promotion research into public health practice. Many interventions that prove efficacious in randomized trials are much less effective in the general population (Glasgow et al., 1999). In this case, reality is oversimplified in the process of isolating efficacious interventions. This paradox, the efficacy paradigm, produces interventions that are nonapplicable to the general population (Glasgow et al., 1999). Two conclusions made from systematic literature reviews are that few data applications of behavioral medicine are representative of realworld settings, and, research reports focus predominantly on internal validity issues and neglect external validity concerns (Oldenburg et al., 1999). Glasgow et al. (1999) believe that there is a flaw in the basic model of research to

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dissemination, in that many characteristics that make an intervention efficacious, work against it being effective in noncontrolled settings. And vice versa, interventions that are less efficacious are yet more translatable to public health impact (Glasgow et al., 1999; Glasgow et al., 2003). Glasgow et al. (1999) defined the stages of research to dissemination. The stages are hypothesis generation, testing under controlled conditions, evaluations in defined populations, and dissemination. An intervention which is found to be efficacious then undergoes evaluation for effectiveness, and then is selected for research dissemination (Glasgow et al., 1999). In the stages described, it is illustrated how an efficacy-based evaluation can be noninclusive (Glasgow et al., 1999).

RE-AIM and Public Health Impact

Examining program reach, effectiveness/efficacy, adoption, implementation, and maintenance is a solid means for evaluating public health impact of interventions intended for wide-spread dissemination (Glasgow et al., 2003). The RE-AIM framework provides the method for doing this. The RE-AIM framework also increases emphasis on external validity while still addressing internal validity (Estabrooks, Dzewaltowski, Glasgow, & Klesges, 2003).

The RE-AIM framework is comprised of the elements Reach, Efficacy/Effectiveness, Adoption, Implementation, and Maintenance (Glasgow et al., 1999). The dimensions can occur at multiple levels including individual, clinic, organization, and community; nonetheless they combine to determine public health impact. The RE-AIM framework provides a comprehensive

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evaluation framework appropriate for public-health community based programs. It provides criteria for which to determine if an intervention is suitable for public health dissemination. The RE-AIM framework provides an assertive means for assessing the value of an intervention (Glasgow et al., 1999).

The first dimension of RE-AIM is Reach. Reach is an individual measure of participation (Glasgow et al., 1999). Program reach is the absolute number or proportion of individuals who are willing to participate in a given initiative, along with their representativeness to the total population (Jilcott et al., 2007). It is the question of how many people are impacted by an intervention and how representative they are of those most at risk (Jilcott et al., 2007). According to Glasgow et al. (1999), reach pertains to the percentage of individuals who participate in an intervention. Representativeness pertains to risk characteristics, including demographic, psychosocial, and medical information from participants as well as nonparticipants. There is difficulty in assessing representativeness, especially in obtaining information from nonparticipants. This difficulty is due to ethical and consent issues. This can pose a road-block when examining reach, in that nonparticipants may be the most representative group of the population, especially for high-risk populations (Glasgow et al., 1999)

The second dimension is Efficacy/effectiveness. This dimension deals with assessing positive and negative outcomes. Clinical research emphasizes focus on biologic outcomes such as disease risk factors (Glasgow et al., 1999); however public health evaluation merits the consideration of behavioral outcomes

and quality of life outcomes, in addition to biologic outcomes. Behavioral outcomes can be assessed for participants in regard to smoking cessation, eating patterns, and physical activity levels, as well as for staff, and payers, and vendors. Quality of life outcomes include functioning, mental health, and consumer satisfaction (Glasgow et al., 1999). Assessment of economic outcomes could also take place here (Jilcott et al., 2007).

The third dimension of the RE-AIM framework is Adoption. Adoption refers to the proportion of target settings and interventionists that are willing to deliver an initiative (Jilcott et al., 2007). It also includes their representativeness to the total population. Target settings include health departments, communities, and worksites (Glasgow et al., 1999; Jilcott et al., 2007). Interventionists include nurses and educators (Jilcott et al., 2007). Adoption patterns can follow the normal diffusion curve for innovations (Glasgow et al., 1999; Jilcott et al., 2007).

Implementation is the fourth dimension of RE-AIM. It is referenced as the fidelity by which an intervention's components are delivered as intended or required (Jilcott et al., 2007). It includes the consistency of delivery, level of enforcement, cost, and time-frame of an intervention (Jilcott et al., 2007). Implementation research is very important, as demonstrated by Stevens et al. (as cited in Glasgow et al., 1999). Glasgow et al. reported varying levels of protocol implementation can be the determining factor for success or failure of an intervention. Implementation is also important for its implications on efficacy. Implementation interacts with efficacy to determine effectiveness, from the

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equation (Efficacy * Implementation) = Effectiveness. This equation suggests an inverse relationship between efficacy and implementation, one of the implications of the RE-AIM framework. This inverse relationship illustrates how the efficacybased paradigm has conventionally hindered public health impact (Glasgow et al., 1999). The model emphasizes the necessity for evaluation of multiple dimensions, more than just efficacy alone (Glasgow et al., 1999; Glasgow et al., 2003).

Lastly, Maintenance is the extent to which an intervention becomes institutionalized (Jilcott et al., 2007). Maintenance includes long-term behavior change as well as establishment of health promotion practice or policy (Glasgow et al., 1999). Maintenance measures the extent to which an intervention becomes a "stable and enduring part of behavioral repertoire" (Glasgow et al., 1999, p. 1324).

The RE-AIM framework is well supported as an all-inclusive method for intervention evaluation (Glasgow et al., 1999). It has been applied frequently to interventions in various areas of health promotion and prevention and in various settings. These include diabetes, smoking cessation, heart disease, physical activity, nutrition, falls prevention, and pharmacy practice implemented in family medicine, community, worksite, and school settings (Bopp et al., 2007; Fortier et al., 2007; Fuzhong et al., 2008; Glasgow et al., 1999; Glasgow et al., 2000; Glasgow, Klesges, et al., 2004; Glasgow, Nutting, et al., 2004; Gyurcsik & Brittain, 2006; Hampson et al., 2000; Jilcott et al., 2007; Planas, 2008; Will et al., 2004).

A consensus of the literature reviewed from 1996-2000 was the need for greater focus on representativeness. Reporting on representativeness is necessary for external validity and generalizability of studies (Bull, Gillette, Glasgow, & Estabrooks, 2003; Estabrooks et al., 2003). Estabrooks et al. (2003) report that representativeness identifies if the characteristics of a study sample were representative of the target population. Higher levels of representativeness increase an intervention's potential to translate into practice.

One study used the RE-AIM framework to guide the development of best practices. This was developed for WISEWOMAN (Well-Integrated Screening and Evaluation for Women Across the Nation) programs (Besculides et al., 2008). WISEWOMAN are programs that screen middle-aged women with little or no health insurance for risk factors associated with cardiovascular disease and encourage behavior change. Mathematica Policy Research, Inc. worked with the Center for Disease Control to identify best practices to improve the program operations (Besculides et al., 2008). Thirty-one best practices were developed and were grouped by the RE-AIM element they were associated with. Implications for the study were that best practice findings could be easily adapted to other settings and also applied to diverse, at-risk populations (Besculides et al., 2008).

In this study, reach, adoption, and implementation were used to evaluate public health impact. These elements are the most appropriate for us in the worksite health promotion setting (Glasgow et al., 1999; Glasgow, Klesges, et al., 2004; Gyurcsik & Brittain, 2006; Jilcott et al., 2007). Reach was measured by the

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percentage of individuals participating in a program. Adoption was measured by the percentage of worksites that adopted a worksite health promotion program (Glasgow et al., 1999; Jilcott et al., 2007). Program implementation was measured by the extent to which worksite wellness programs were delivered as recommended by Healthy People 2010. This was according to Healthy People 2010 Objective 7-5 for 75% implementation of comprehensive health promotion (USDHHS, 2000). Public health impact was examined in relation to organization characteristics, size, business category, years in business, estimated annual budget, and profit/non-profit status.

Methodology

The methodology used was evaluation research. Literature talks about the applications, categories, and benefits of evaluation research. Evaluation research was the ideal method for this study due to its ability to be objective, generalizable, and influential. Evaluation is defined as "the systematic assessment of the operation and/or the outcomes of a program or policy, compared to a set of explicit or implicit standards, as a means of contributing to the improvement of the program or policy" (Powell, 2006, p. 103). Evaluation research can be viewed as a specific research methodology, as a type of study that uses standard social research methods for evaluative purposes, and as an assessment process employing special techniques unique to the evaluation of programs (Powell, 2006). Evaluative research is descriptive and experimental. It seeks to test and describe the effect of some manipulation or change (Brink & Wood, 1998).

There are several reasons why evaluation is important, especially regarding organizations' operations, resources, and services. Among those reasons are the need for organizations to (a) account for how they use their limited resources; (b) increase efficiency; (c) support planning activities; (d) provide legitimacy for decisions, (e) making decisions to continue, modify, or terminate programs; (f) test news ideas and choose best alternatives; (g) highlight goals; (h) express concern for their public; (i) support decision making; and (j) strengthen their political position (Powell, 2006).

Evaluation is becoming part of the political process in which the lines between nominal and real clients are more distinct (Khakee, 2003). Nominal clients include politicians or government officials or others with an official mandate. Real clients include all stakeholders, beneficiaries, as well as nonbeneficiaries. One major element of the evaluation process is greater attention to these stakeholders and more interactive efforts to include them in policy process (Khakee, 2003).

Evaluation research deals with real situations in their usual context. In its pure form, evaluation research may be seen as a political vehicle used to inform the decisions of policy makers (Powell, 2006; Tolson, 1999). Evaluative research can also be used as a management tool to determine whether individual programs are producing benefits that justify their costs (Brink & Wood, 1998). Evaluative research is primarily concerned with summative evaluation, done after the

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program is over, to assess how effective the program was in meeting its objectives (Brink & Wood, 1998).

Evaluation can be used to support accreditation reviews, needs assessments, new projects, personnel reviews, conflict resolution, and professional compliance reports (Powell, 2006). Quantitative evaluation is especially useful for this study, as well as the majority of evaluations conducted. Public agencies still, as they have traditionally, demand of their polity evaluators quantitative, aggregated, expert products (Khakee, 2003). The aim of evaluation research is to facilitate implementation. Although contemporary policy process points toward social inquiry, softening the value of evaluation research to politicians, policy makers/public sector managers (Khakee, 2003), evaluation research remains a necessary component of program/agency planning (Oetting, 1976). Well-designed evaluations have the potential to influence policy making at all levels and this feature makes them, in essence, a political vehicle (Tolson, 1999).

Summary

Chapter II reviewed the literature on the evolution of health promotion/ settings, worksite health promotion, translation of research to practice, and RE-AIM and public health impact. The review of the literature started with a history of health promotion and follows to public health impact. The review explained how health promotion has developed into a setting ideal for public health

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improvement. The literature also reviewed the methodology of the study. The evidence for evaluation research methodology was provided in the review.

CHAPTER III

PROCEDURE FOR COLLECTION AND TREATMENT OF DATA

Introduction

Prior to the research study, the sponsoring agency conducted a survey in anticipation of a community worksite-wellness initiative. The goal of the survey was to help the sponsoring agency to understand the breadth and scope of workplace wellness programs currently being offered, to determine how a community initiative might play an assistive role to worksite health promotion as a total.

For the research study, the survey data was imported into a coded Excel spreadsheet and released to the researcher. The researcher then conducted the research study by analyzing the data.

Setting

The setting for this study was worksites with health promotion within the western most area of New York State. The sponsoring agency is a not for profit agency with a mission to promote a healthy community by improving the health of people in Western New York.

Population and Sample

The target group was employer organizations and associations throughout the eight counties of Western New York. At the time of the survey distribution, the accessible population consisted of 875 contacts from target groups. The study sample was composed of 119 groups who returned completed and usable surveys, a response rate of 13.6%.

Data Collection

This study utilized existing data from the original worksite health promotion survey conducted by the sponsoring agency. Once approval was received from D'Youville College's Institutional Review Board (see Appendix B), permissions were then obtained from the executive director of the sponsoring agency (see Appendix C). With this completed, the de-identified dataset was released to this researcher for the purpose of conducting a secondary analysis of selected items from the original study.

Human Rights Protection

This study did not use human subjects but rather used existing data from the sponsoring agency's original dataset generated from survey responses from the study sample. The survey (see Appendix D) was an online format using SurveyMonkey.com. The agency executive director obtained the dataset from SurveyMonkey, Inc. in an electronic format. The agency executive director had agreed to release the dataset in its electronic format along with the codebook. Once the dataset was released to this researcher, a secondary analysis was

conducted to answer the research questions. An exempt review by the Institutional Review Board at D'Youville College was requested and approved for thesis study.

Tools

Once the survey data were released from the agency to the researcher, it was downloaded as an Excel spreadsheet. The de-identified raw survey data received from SurveyMonkey.com coded with numbers 001 through 120 was labeled as the study dataset. The Excel spreadsheet was prepared for exporting to SPSS for analysis.

Treatment of Data

Once the data were exported into SPSS, the research questions were answered using descriptive analysis. Percentages were used to determine the percent of worksites that adopted worksite health promotion (proportion of adoption), and for determining the percentage of worksites who met implementation guidelines for comprehensiveness (75%) as set forth by Healthy People 2010.

Frequency distributions will be calculated to report on the comprehensiveness of programs defined as those including minimal of smoking, nutrition, and physical activity. Correlation analysis will be used to determine the extent to which an association existed between organizational characteristics (size, business category, years, annual budget, and profit/not-for-profit) and public health impact (reach, adoption, and implementation).

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Summary

The study was performed with worksites throughout Western New York. The study sample included employer groups who returned completed and usable surveys. The data were collected by means of the survey and the dataset was received in a de-identified and coded Excel spreadsheet. The data were released to the researcher for secondary analysis. Analysis was done using the SPSS statistical program.

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CHAPTER IV

RESULTS

Introduction

The purpose of this study was to evaluate the public health impact of worksite health promotion in Western New York. The research questions asked about the reach, adoption, and implementation of worksite health promotion offerings and what relationship exists between offerings and organizational characteristics. The reach was determined by the response rate, adoption was determined by the rate of program existence, and implementation was determined by percentage of comprehensiveness. Organizational characteristics included business category, status, years in business, county, and estimated annual budget.

Description of the Sample

The accessible population consisted of 875 contact persons from targeted employer organizations. The study sample consisted of 119 employer organizations that agreed to participate in the study by submitting a completed and usable survey. All submissions were complete and usable. The study sample was examined by their organizational characteristics. The distribution of characteristics among the study sample is presented in Table 1. The most frequent

Table 1

Characteristics of the Sample by Organizational Characteristics

Characteristic	Frequency	Percentage
Business category		
Professional	86	82
Business	7	7
Leisure/hospitality	2	2
Trade	1	1
Utilities	1	1
Manufacturing	8	2
Total	105	100
Business status		
For profit	21	18
Not-for-profit	93	82
Total	114	100
Years in business		
3-5	4	- 3
6-10	6	5
11-25	18	16
26-50	28	24
50+	69	51
Total	115	100

Characteristic	Frequency	Percentage
County		
Erie	46	42
Chautauqua	19	17
Niagara	10	9
Orleans	3	3
Genesee	2	2
Wyoming	1	1
Allegany	4	4
Cattaraugus	3	3
Total	109	100
Budget		
< \$500,000	16	16
\$500,000-\$1 M	11	11
\$1 M-\$5 M	20	21
\$5 M+	50	52
Total	97	100

characteristics among the sample were professional business category (81.9%), not-for-profit business status (81.58%), 50+ years in business (51.30%), location in Erie County (42.3%), and budget of \$5Mil+ (51.55%). To account for any blank responses, SPSS gave a count for missing responses. Blank responses were omitted from the total, and percentages were determined based on valid percentages from SPSS statistics.

Research Questions

Analysis of the data was done to answer the research questions asked in this study. SPSS analysis was performed using descriptive statistics and measures of association. Percentages and distribution tables were used to determine frequencies. Approximate significance (p) values were used to determine whether associations between variables were significant. Alpha was set at .05. Coefficient *R*-values were used to determine the strength of the association.

Distribution tables were used to determine the frequency (n) and percentage of the variables reach, adoption, and implementation. The findings showed that the reach of the study was 13.6% (n = 119) out of the total sample of 875. This represents a fairly low reach for this study, indicating that worksite health promotion in Western New York has not maximized in influence across the entire accessible population. Reach was then broken down by county. For reach by county, multiples responses were included. These finding are presented in Table 2.

Table 2

Reach of the Stu	dy and Response	e Rate Overall	l and by Coun	tv (N = 110)
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County	n	Percent
	Reach of the Study/Count	у
Overall (N)	119	13
	Response Rate by County	1
Erie	64	54
Niagara	25	21
Chautauqua	35	29
Orleans	13	11
Genesee	12	10
Wyoming	11	9
Allegany	13	11
Cattaraugus	17	14

The adoption for the study was 85% (n = 115) with 98 organizations indicating Yes for having adopted worksite health promotion. This represents high adoption, showing that intent is good. Responses were categorized as Yes/No based on the answers to items 13-21 of the survey tool. These questions were under the sections Program Management and Services Provided in the survey. Responses that were categorized as No had blank responses or clear indications of no wellness program (i.e., "we have no wellness program"). Responses categorized as Yes answered at least one of the questions in items 13-21 of the survey tool with a solid answer. Blank responses were omitted from n, and percentage was based on valid percentage from SPSS.

The implementation for the study was 24% (n = 115) with 28 organizations indicating Yes to having implemented a comprehensive program. This is well below the national goal of 75% as set by Healthy People 2010 (USDHHS, 2000). Responses were categorized based on the answers to item 19 on the survey tool. This was under the Services Provided section of the survey. Responses that were categorized as Yes selected Yes to having offered a minimum of physical activity, and nutrition and smoking components, collectively. It did not matter whether it was on/off site or subsidized whole/inpart. These findings are presented in Table 3.

Measures of association were used, including chi-square analysis and cross tabulation. No statistically significant association between organizational

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Table 3

Worksites Who Have Adopted Worksite Health Promotion and Have Met Healthy People 2010 Guidelines (N = 115)

Worksite Response	Ν	Percent			
Have adopted worksite					
health promotion	98	85			
Have met Healthy People					
2010 Guidelines	28	24			

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characteristics and public health impact (adoption and implementation) were found. The results revealed the variables were independent of one another. These findings are presented in Table 4.

Tools

Once the survey data were released from the agency to the researcher, they were downloaded as an Excel spreadsheet. The de-identified raw survey data received from SurveyMonkey coded with numbers 001 through 120 was labeled as the study dataset. The Excel spreadsheet was prepared for exporting to SPSS for analysis.

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Table 4

Summary of Organizational Characteristics Associated with Public Health Impact (adoption and implementation) Correlation Analysis

Characteristic	n	<i>r</i> value	p value
	Adoption		
County	109	0.10	0.28
Business category	104	0.09	0.70
Budget	97	-0.02	0.84
Business status	113	0.002	0.99
Years in service	114	0.05	0.57
	Implementat	ion	
County	109	0.05	0.57
Business category	113	-0.009	0.31
Budget	97	-0.0014	0.99
Business status	113	-0.04	0.67
Years in service	114	0.13	

CHAPTER V

DISCUSSION

Summary

This evaluation study was conducted using the theoretical framework of RE-AIM. Originally described by Glasgow et al. (1999), RE-AIM is a systematic way for researchers, practitioners, and policy makers to evaluate health behavior interventions and provide a comprehensive evaluation framework appropriate for public health community-based programs. The study sample was comprised of worksites, located in Western New York, with health promotion programs. The participants were invited to participate by completing an open-ended survey of 25 questions. Letters of invitation to participate included the link to SurveyMonkey.com where the original survey was posted. The study sample consisted of 119 employer organizations obtained from an accessible population of 875 targeted employer organizations. This was a 13.6% response rate for the original study.

This study used selected questions for a secondary analysis to answer the research questions posed. There were four research questions posed in this study:

1. What is the reach of study? (Response rate)

2. What is the percent of worksites that have adopted worksite health promotion (proportion of adoption)?

3. What percentage of worksites meet implementation (75%) as set forth by Healthy People 2010? Implementation set by Healthy people 2010 is comprehensiveness defined as including minimal of smoking, nutrition, and physical activity.

4. Is there an association between organizational characteristics (size, business category, years, annual budget, and for-profit/not-for-profit) and public health impact?

The limitations to this study included the use of open-ended questions which had to be interpreted for coding. Even with this limitation, this study offered new information about the extent to which health promotion efforts at worksites are aligned with the objectives of Healthy People 2010 and opportunities for improvement.

The study sample had the following characteristics. Nearly 82% of the responding worksites identified themselves as from the professional business category with a not-for-profit business status with 50+ years in business. Forty-two percent were located in Erie County and 52% reported a budget of \$5Mil+. The findings showed that the reach of the study was 13.6% (n = 119) from an accessible population of 875. This represented a fairly low reach for this study, indicating that worksite health promotion in Western New York has not maximized in influence and diffusion across the eight-county geographic area.

When reach was examined by county, results revealed that Erie County had the highest reach (42%), Chautauqua and Niagara counties had the second and third highest reach with 17% and 9%, respectively. The counties of Orleans, Genesee, Wyoming, Allegany, and Cattaraugus each had 3%, 2%, less than 1%, 4%, and 3%, respectively. The adoption rate for the study was high (85%), interpreted by this researcher as having intention to provide worksite health promotion. The implementation of a comprehensive health promotion program within the worksites was only 24%, well below the national goal of 75% as set by Healthy People 2010. Programs were labeled comprehensive when worksites answered Yes to having a minimum of physical activity, nutrition, and smoking cessation components.

Finally, this study revealed that there was no statistically significant association between organizational characteristics (type of business category, forprofit or not-for-profit business status, length of time in business, and size of operating budget) and public health impact (adoption and implementation).

Conclusions

Relationship of the Results to the Conceptual Framework

RE-AIM theory provided an appropriate conceptual framework for this study. RE-AIM describes a systematic way for researchers, practitioners, and policy makers to evaluate health promotion interventions and provides a comprehensive evaluation framework appropriate for public health communitybased programs. As intended by the theory, the results of this study identified just

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where the opportunities for improvement were needed. Reach revealed the need for better diffusion strategies. Adoption rates (proportion of worksites who have a worksite health promotion program to the total of worksites in this study) were high, possibly indicating the intention of worksites to provide health promotion. Implementation rates for this study were 24%. Implementation rates of 75% are the standard for Healthy People 2010. Implementation was defined as comprehensive programs including a minimal of smoking, nutrition, and physical activity. Use of RE-AIM clearly was functional in revealing this as an opportunity for improvement.

Relationship of the Results to the Literature

The results of this study indicated very limited public health impact in health promotion initiatives. This was consistent with the literature. In order to see improvement there needs to be more evaluation research, such as this study, which can identify areas of need. Literature stated that worksite health promotion initiatives are not being fully operationalized despite the evidence supporting them. The results of this study revealed the same. Low reach indicated lack of willingness to engage in worksite health promotion, and low implementation showed limitations in practice.

Relationship of the Results to the Hypothesis or Research Question

The data depicted in chapter IV answered the research questions. This is easily transparent because RE-AIM as a conceptual framework served to delineate the research questions. Even though the examination of characteristics of the

worksites was not associated with public health impact, answers to the research questions clearly pointed to areas for future investigation.

Study Design and Data Collection Methods

Overall, the design of the study was appropriate for the purpose of the study. The study used existing data for conducting a secondary analysis directed specifically to the concepts of the RE-AIM framework. The study dataset was released to this researcher in a de-identified format and had been secured at the sponsoring agency.

Tools and/or Instruments Used

Surveys used to collect the original data by the sponsoring agency were open-ended questions and this researcher believes it was a limitation of the study. Once the original dataset was released to this researcher, the coding was examined for each question to ensure that the research questions could be answered.

Statistical and Data Analysis Methods

Frequency distributions were used and correlation statistical techniques were used to describe and analyze the study's data. Statistical significance was set at a p value of < .05. The statistical tests used were appropriate for the study.

Implications for Practice, Management, or Education

Improving the health of its population is a mutual responsibility of the population and its health care delivery systems. This study reinforced the need for using a systematic methodology to assess the public health impact of health

promotions designed to assist the United States population to maintain an improved health status. RE-AIM was a clear, user-friendly, theoretical framework to serve this purpose. Stakeholders in every level of health care delivery have a role and this theory clearly defines it. This researcher believes that the matter of translating research into practice has been made clearer as a result of this study. The study used existing data and performed a secondary analysis to obtain a profile of worksite health promotion programs in Western New York, where numerous studies on health promotion have been completed but none have used the RE-AIM theory. It may be beneficial to embrace one systematic method for assessing public health impact of select health promotion programs.

Recommendations for Future Research

Based on the review of the literature, this study may be the first of its kind to assess public health impact of health promotion programs in Western New York. Although the study did not reveal statistically significant findings, the results profiled areas for improvement in reach and implementation of worksite health promotion efforts. Further research is recommended with a more purposive sampling strategy for improved representation of all eight counties of Western New York.

References

Benjamin, G.C. (2006). Putting the public in public health: New approaches. Health Affairs, 25(4), 1040-1043.

Besculides, M., Zaveri, H., Hanson, C., Farris, R., Gregory-Mercado, K., & Will,
J. (2008). Best practices in implementing lifestyle interventions in the
WISEWOMAN program: Adaptable strategies for public health programs.
American Journal of Health Promotion, 22(5), 322-328.

Biener, L., DePue, J. D., Emmons, K. M., Linnan, L., & Abrams, D. B. (1994).
Recruitment of work sites to a health promotion research trial:
Implications for generalizability. *Journal of Occupational Medicine, 36*, 631-636.

- Bodenheimer, T., Chen, E., & Bennett, H. D. (2009). Confronting the growing
 burden of chronic disease: Can the U.S. health care workforce do the job? *Health Affairs, 28*(1), 64-74.
- Bopp, M., Wilcox, S., Laken, M., Hooker, S. P., Saunders, R., Parra-Medina, D., et al. (2007). Using the re-aim framework to evaluate a physical activity intervention in churches. *Preventing Chronic Disease*, 4(4), 1-9.
- Brink, P. J., & Wood, M. J. (1998). Advanced design in nursing research (2nd ed.). Thousand Oaks, CA: Sage.
- Bull, S. S., Gillette, C., Glasgow, R. E., & Estabrooks, P. (2003). Worksite health promotion research: To what extent can we generalize the results and what

is needed to translate research to practice? *Health Education & Behavior*, 30(5), 537-549.

Chapman, L. S., & Pelletier, K. R. (2004). Population health management as a strategy for creation of optimal healing environments in worksite and corporate settings. *Journal of Alternative Therapies in Health and Medicine*, 10(Suppl 1), S127-S140.

- Committee on the Quality of Health Care in America, Institute of Medicine. (2001). Crossing the quality chasm: A new health system for the 21st century. Washington, DC: National Academy Press.
- DeVol, R., & Bedroussian, A. (2007). An unhealthy America: The economic burden of chronic disease. Santa Monica, CA: Milken Institute.
- Dooner, B. (1990). Achieving a healthier workplace: Organizational and individual health. *Health Promotion*, 29(3), 2-6.
- Dzewaltowski, D. A., Glasgow, R. E., Klesges, L. M., Estabrooks, P. A., &
 Brock, E. (2004). RE-AIM: Evidence-based standards and a web resource to improve translation of research into practice. *Annals of Behavioral Medicine*, 28(2), 75-80.

Eckel, R. H., Robertson, R. M., Kahn, R., & Rizza, R. A. (2006). Preventing cardiovascular disease and diabetes. *Diabetes Care*, 29(7), 1697-1699.

Estabrooks, P., Dzewaltowski, D. A., Glasgow, R. E., & Klesges, L. M. (2003).
Reporting of validity from school health promotion studies published in 12 leading journals, 1996-2000. *Journal of School Health*, 73(1), 21-28.

Fortier, M. S., Hogg, W., O'Sullivan, T. L., Blanchard, C., Reid, R. D., Sigal, R. J., et al. (2007). The physical activity counselling (PAC) randomized controlled trial: Rationale, methods, and interventions. *Applied Physiology Nutrition and Metabolism*, 32, 1170-1185.

- Fries, J. F., Koop, C. E., Beadle, C. E., Cooper, P. P., Endland, M. J., Greaves, R.
 F., et al. (1993). Reducing health care costs by reducing the need and demand for medical services. *New England Journal of Medicine*, 329, 321-325.
- Fuzhong, L., Harmer, P., Glasgow, R., Mack, K. A., Sleet, D., Fisher, J., et al.
 (2008). Translation of an effective tai chi intervention into a communitybased falls-prevention program. *American Journal of Public Health*, 98(7), 1195-1198.
- Glasgow, R. E. (2006). RE-AIMing research for application: Ways to improve evidence for family medicine. *Journal of the American Board of Family Medicine, 19*(1), 11-19.

Glasgow, R. E., Klesges, L. M., Dzewaltowski, D. A., Bull, S. S., & Estabrooks,
P. (2004). The future of health behavior change research: What is needed to improve translation of research into health promotion practice? *Annals of Behavioral Medicine*, 27(1), 3-12.

- Glasgow, R. E., Lichtenstein, E., & Marctis, A. (2003). Why don't we see more translation of health promotion research to practice? Rethinking the efficacy to effectiveness transition. *American Journal of Public Health*, 93, 1261-1267.
- Glasgow, R. E., Nutting, P. A., King, D. K., Nelson, C. C., Cutter, G., Gaglio, B., et al. (2004). A practical randomized trial to improve diabetes care. *Journal of General Internal Medicine*, 19(12), 1167-1174.
- Glasgow, R. E., Vogt, T. M., & Boles, S. M. (1999). Evaluating the public health impact of health promotion interventions: The RE-AIM framework. *American Journal of Public Health*, 89, 1323-1327.
- Glasgow, R. E., Whitlock, E. P., Eakin, E.G., & Lichtenstein, E. (2000). A brief smoking cessation intervention for women in low-income planned parenthood clinics. *American Journal of Public Health*, 90, 786-789.
- Glass, T. (2000). Psychosocial intervention. In L. F. Berkman & I. Kawachi (Eds.), Social epidemiology (pp. 267-305). New York: Oxford University Press.
- Green, L. W. (1979). National policy in the promotion of health. International Journal of Health Education, 22(3), 161-168.
- Green, L. W. (1980, March/April). Current report: Office of health information, health promotion, physical fitness and sports medicine. *Health Education*, 11, 28.

- Green, L. W. (1999, May). Health education's contributions to public health in the twentieth century: A glimpse through health promotion's rear-view mirror. *Annual Review of Public Health*, 20, 67-68.
- Gyurcsik, N. C., & Brittain, D. R. (2006). Partial examination of the public health impact of the people with arthritis can exercise (PACE) program: Reach, adoption, and maintenance. *Public Health Nursing*, 23(6), 516-522.
- Haglund, B. (1992). We can do it! The Sundsvall handbook. Stockholm: Karolinska Institute.
- Hampson, S. E., Skinner, T. C., Hart, J., Storey, L., Gage, H., Foxcroft, D., et al.
 (2000). Behavioral interventions for adolescents with type 1 diabetes. *Diabetes Care, 23*, 1416-1422.
- Ignarro, L. J., Balestrieri, M. L., & Napoli, C. (2007). Nutrition, physical activity, and cardiovascular disease: An update. *Cardiovascular Research*, 73, 326-340.
- Institute of Medicine. (2000). Promoting health: Intervention strategies from social and behavioral research. Washington. DC: National Academy Press.
- Jackson, S. E., Schuler, R. S., & Rivero, J. C. (1989). Organization characteristics as predictors of personnel practices. *Personnel Psychology*, 42, 727-786.
- Jilcott, S., Ammerman, A., Sommers, J., & Glasgow, R. E. (2007). Applying the RE-AIM framework to assess the public health impact of policy change. *Annals of Behavioral Medicine*, *34*(2), 105-114.

- 50
- Khakee, A. (2003). The emerging gap between evaluation research and practice. Evaluation, 9(3), 340-352.

Koffman, D., Goetzel, R., Anwuri, V., Shore, K., Orenstein, D., & LaPier, T.

(2005). Heart healthy and stroke free: Successful business strategies to prevent cardiovascular disease. *American Journal of Preventive Medicine*, 29(5), 113-121.

- Lalonde, M. (1974). A new perspective on the health of Canadians. Ottawa: Ministry of Supply and Services.
- Linnan, L., Bowling, M., Childress, J., Lindsay, G., Blakey, C., Pronik, S., et al.
 (2008). Results of the 2004 national worksite health promotion survey.
 American Journal of Public Health, 98(8), 1503-1509.

Matson-Koffman, D. M., Brownstein, J. N., Neiner, J. A., & Greaney, M. L.
(2005). A site-specific literature review of policy and environmental interventions that promote physical activity and nutrition for cardiovascular health: What works? *American Journal of Health Promotion*, 19(3), 167-193.

McGlynn, E. A., Asch, S. M., Adams, J., Keesey, B. A., Hicks, J., DeCristofaro,
A., et al. (2003). The quality of health care delivered to adults in the
United States. *New England Journal of Medicine*, 348(26), 2635-2645.
McLeroy, K. R., Bibeau, D., Steckler, A., & Glanz, K. (1988). An ecological

perspective on health promotion programs. *Health Education Quarterly*, 15(4), 351-377.

National Heart Lung & Blood Institute. (n.d.). You changed America's heart.

- *Framingham heart study*. Retrieved March 31, 2009, from http://www.nhlbi.nih.gov/
- Nutbeam, D. (1998). Health promotion glossary. *Health Promotion International*, 13(4), 349-364.
- O'Donnell, M. P. (2002). *Health promotion in the workplace* (3rd ed.). New York: Thomson Learning Inc.
- Oetting, E. (1976). Planning and reporting evaluative research: Part II. *Personnel* & *Guidance Journal*, 55(2), 60. Retrieved March 12, 2009, from Health Source: Nursing/Academic Edition database.
- Oldenburg, B. F., Sallis, J. K., Ffrench, M. L., & Owen, N. (1999). Health promotion research and the diffusion and institutionalization of interventions. *Health Education Research*, 14, 121-130.
- Ory, M. G., Jordan, P. J., & Bazzarre, T. (2002). The behavior change consortium: Setting the stage for a new century of health behavior-change research. *Health Education Research*, 17, 500-511.
- Pelletier, K. (2005). A review and analysis of the clinical and cost-effectiveness studies of comprehensive health promotion and disease management programs at the worksite: Update VI 2000-2004. *Journal of Occupational Environmental Medicine*, 47, 1051-1058.

Planas, L. G. (2008). Intervention design, implementation and evaluation. American Journal of Health-System Pharmacy, 65(19), 1854-1863.

- Poisal, J. A., Truffer, C., Smith, S., Sisko, A., Cowan, C., Keehan, S., et al.
 (2007). Health spending projections through 2016: Modest changes obscure part D's impact. *Health Affairs*, 26(2), 242-253.
- Poland, B., Green, L. W., & Rootman, I. (2000). Settings for health promotion: Linking theory and practice (2nd ed.). Thousand Oaks, CA: Sage
- Powell, R. R. (2006). Evaluation research: An overview. *Library Trends*, 55(1), 102-210.
- Rogers, E. M. (1995). *Diffusion of innovations* (4th ed.). New York: Simon and Schuster.
- Sorensen, G., Emmons, K. M., & Dobson, A. J. (1998). The implications of the results of community intervention trials. *Annual Review of Public Health*, 19, 379-416.
- Stokols, D. (1996). Translating social ecological theory into guidelines for community health promotion. *American Journal of Health Promotion*, 10(4), 282-298.
- Tolson, D. (1999). Practice innovation: A methodological maze. *Journal of* Advanced Nursing, 30(2), 381-390.
- U.S. Department of Health and Human Services. (2000, November). *Healthy People 2010: Understanding and improving health* (2nd ed.). Washington,
 DC: U.S. Government Printing Office.

- U.S. Department of Health and Human Services. (2004). National survey of worksite health promotion activities: Summary report. Washington, DC: U.S. Government Printing Office.
- U.S. DFepartment of Labor. (n.d.). U.S. Bureau of Labor Statistics, Employment and Earning. Retrieved May 2, 2009, from available at http://www.bls.gov
- Will, J. C., Farris, R. P., Sanders, C. G., Stockmyer, C. K., & Finkelstein, E. A.
 (2004). Health promotion interventions for disadvantaged women:
 Overview of the WISEWOMAN projects. *Journal of Women's Health*, 13, 484-502.
- World Health Organization. (1986). Ottawa charter for health promotion. *Health Promotion, 1*(4), i-v.
- Wu, S. Y., & Green, A. (2000). Projection of chronic illness prevalence and cost inflation. Santa Monica, CA: Rand.

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Appendix A

Permission to Reprint Figure

-----Original Message-----From: Russell Glasgow [mailto:russg@re-aim.net] Sent: Sat 5/2/2009 7:41 PM To: Bush,Kelly Subject: Re: Urgent request for permission to re-print RE-AIM table

Yes- You have permission to reprint the table from our website noted below.

Sincerely,

Russell Glasgow, Ph.D. Institute for Health Research Kaiser Permanente Colorado 335 Road Runner Road Penrose, CO 81240

Phone: 719 372-3165 Fax: 719 372-6395 NEW EMAIL: russg@re-aim.net

On May 2, 2009, at 9:45 AM, Bush, Kelly wrote:

> Dr. Glasgow, I know you are very busy, please take a moment to
> review my request for permission to re-print the 'Standard Reporting
> Issues to Enhance Representativeness and Translation' table for my
> thesis..Thank you greatly

> > ·

> My name is Kelly Bush, I am a graduate candidate for Masters of
> Health Service Administration at D'Youville College in Buffalo, NY.
> I have chosen to use the RE-AIM framework as the framework of my
> study. I found the re-aim.org website to be very useful to me. I
> would like permission to reprint one of the tables from the website
> to use as a table in my thesis. The table is entitled 'Standard
> Reporting Issues to Enhance Representativeness and Translation.' If
> you need it, the link address is http://www.re-aim.org/2003/fig_1.htm

> Thank you sincerely,

> Kelly Bush

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Appendix B

D'Youville College Institutional Review Board

Letter of Approval



D'Youville

(716) 829-8000 FAX: (716) 829-7790

TO: Kelly Bush

FROM: Dr. Catherine Lalonde Institutional Review Board

DATE: April 14, 2009

SUBJECT: IRB FULL APPROVAL

I am pleased to inform you that your application to the D'Youville College Institutional Review Board entitled: "Workside Health Promotion In WNY: Public Health Impact" has been granted FULL APPROVAL with respect to the protection of human subjects. This means that you may now begin your research unless you must first apply to the IRB at the institution where you plan to conduct the research.

Please note that you are required to report back to this IRB for further review of your research should any of the following occur:

- 1. a major change in the method of data collection
- 2. unanticipated adverse effects on the human subjects
- 3. unanticipated difficulties in obtaining informed consent or maintaining confidentiality
- 4. the research has not been completed one year from the date of this letter

Congratulations and good luck on your research!

jg

cc: Director of Graduate Studies Dr Judith Schiffert file

Celebrating 100 Years_

Appendix C

Agency Approval

Roard of Directors Michael W. Cropp, ND President & CLO Independent Realth Chair Kevik Denovak Mortheast District Energy Corporation **Chair Elect** Donald K. Boswell President & Chief Executive Officer UNED-TV Chemist IT Socretary May 6, 2008 Jay Pornerantz, MD Source Wke Presklont & Chort Mestical Officer Breatthing Treasurer Memo To: Kelly Bush Maitmen Bannister Sorial Vice President Amoricon Heart Asociation/ Amoricon Strake Association **Shelley Hirshberg** From: Stephen & Edge, MD, FACS Chew, Greast & Self, Those Surgery Research Park Cancer Institute Subject: Wellness Survey Data George I. Ceilman Charman The Benchmark Group You have permission of the P² Collaborative of Western New York to use the survey results as part of your masters program work at D'Youville College. Richard D. Haqua It. Pástor Pourit Stie Bogilal Charth Yvonne Minus Ragan, PhD Principal Westminister Community Charles School #68 Town Rosenthek MD Professor & Chairman Department of Family Medicine University of Baffelo Dentel J. Scusty Crief Annouting Officer Duffiels Meckat Ocpus. PC Arthur Wingerten Pranidona Univera Acalificioce Shelley Hirshberg Executive Director

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Appendix D

Data Collection Tool

September 12, 2008

Dear Workplace Wellness Coordinator:

The P^2 Collaborative of Western New York invites you to help us create an inventory of **employer-based wellness programs** in the eight counties of Western New York. Your participation will: (1) help us understand the breadth and scope of workplace wellness programs currently being offered; (2) determine how we might play an assistive role to you; and (3) eventually, create and publish a data base of all wellness programs—including those offered to the general community by providers in the public and private sector.

Why get involved?

By filling out this brief online survey, your company will benefit in a number of ways:

- Be included in a raffle to win 1 of 3 American Red Cross First Aid Kits (\$100.00 each value) or 1 of 10 employee incentive fun packages (\$100.00 each value) featuring car washes, gift certificates, movie passes, gas cards, and more.
- Given a chance to be identified as a *Top 25 Best Places to Workout at Work* employer. The most comprehensive and/or creative wellness programs will be ranked and publicized.
- Showcased and honored as an employee-wellness innovator. Selected programs will be interviewed and their stories shared with the media.

Who is P^2 ?

The P^2 (Pursuing Perfection) Collaborative of Western New York is a not-for-profit organization dedicated to improving the health of all people living in WNY. The P^2 Collaborative has been successful in bringing together more than 190 area partners, all dedicated to obtaining measurable improvement in our health and health care delivery system. Our stakeholders include a large and diverse group of representatives consisting of labor organizations, public and private employers of all sizes, healthcare providers and plans, hospitals, faith-based organizations, and consumers.

How to participate in this important survey.

Please click on this link XXXX to take the short, confidential survey. All data will be presented in aggregate so that no specific identifiers will reflect your company. You will have an opportunity to request and receive an executive summary of the findings.

Thank you for taking time to share information about your employee wellness program. If you have questions about this project, the survey, or P^2 , please contact me at shelley@p2wny.org.

Sincerely,

Shelley Hirshberg Executive Director P² Collaborative of Western New York

2008 WNY Workplace Wellness

Program Inventory

Definition:

For purposes of this inventory, a workplace wellness program is one in which its participants proactively pursue a lifestyle that results in optimal health and happiness.

As an example, a wellness program could include *any* or all of the following:

- Physical Activity
 - Fitness classes, gym membership discounts
- Overweight and Obesity Management
 - Nutrition/dieting, weight management
- Tobacco Use
 - Smoking cessation, quit-line
- Substance Abuse
 - Alcohol and drug awareness, recovery counseling
- Mental Health
 - o Depression management, ADHD management
- Injury and Violence
- Injury prevention, family and children services, anger management

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Demographics:

What does your company do?

Please check your appropriate business category as designated by The New York State Department of Labor.

- ____ professional services
- ____ business services
- ____ leisure and hospitality
- ____ financial activities
- ____ trade
- ____ transportation
- ____ utilities
- ____ natural resources
- ____ mining
- ____ manufacturing

Are you: For profit _____ or Not-for-Profit _____?

How long has your company been in business?

- ____ 1-2 years
- 3-5 years
- ____ 6-10 years
- _____ 11-25 years
- 26 50 years
- ____ 51+ years

What county(ies) is your wellness program located in?

__Erie

- ___Chautauqua
- __Niagara
- _Orleans
- __Genesee
- ___Wyoming
- __Allegany
- __Cattaraugus

About how many FTEs (Full Time Equivalents) do you employ?

Please share your estimated annual budget.

- ____under \$500,000
- ____\$500,000 \$1 million

____\$1.5 - \$5 million

___over \$5 million

How would you classify your wellness program target?

- ____ For employees only
- ____ For employees and retirees
- ____ For employees and family members
- ____ For employees, retirees and family members
- ____ Other: _____

What do you think are your target population's health risks? (Check all that apply.)

- High blood pressure
- Lack of exercise
- Cholesterol
- Nutrition
- Overweight
- Smoking
- Diabetes
- Cardiovascular disease
- Cancer
- Asthma
- Depression or other mental health issues
- High cholesterol

What are the goals of your wellness program?

1.	
2.	
2	

Do you provide incentives to increase participation and motivation?

___ No

Yes If yes, what types of incentives do you offer?

Estimate the percentage of **employee (only employees)** participation in your wellness program at any given time. ______%

Program management:

What department manages your wellness program?

Does the program have a designated coordinator? Yes Does a work group or committee provide input to the coordinator? Yes No
No If no, does a work group or committee manage the program? Yes No If no, describe how the program is managed:
Have you hired professionally trained or licensed staff to manage your wellness program? Yes What is their educational/ career background?
 No Do you outsource program management? Who assists with your program?

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What is your wellness program's annual operating budget?

How is it supported? (check all that apply and give percentage of program budget)

Company budget	% of program budget
Employee fees	% of program budget
Grants	% of program budget
Health plans	% of program budget

Services provided:

What specific types of programs are offered? (Check all applicable boxes)

- **On-site**: Employer sponsored programs that take place on institution owned or operated premises.
- Off-site: Off-site programs occur on premises other than institution owned or operated.

Subsidized: Institution pays for the program in whole or in part

	On- site	Subsidized		Off- Subsid		dized	
· · · · · · · · · · · · · · · · · · ·		Whole	Part		Whole	Part	
Preventive Care (Injury Prevention, Self-care)							
Family Health (Adolescent, young adult, maternal & infant, senior's, women)							
Back Care		,					
Nutrition							
Physical Activity & Fitness							
Smoking-Cessation				· · · · · · · · · · · · · · · · · · ·			
Stress Management							

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Arthritis					
Asthma & Respiratory Education					
A sullina & Respiratory Education					
Cancer					
Diabotos Management					
Diabetes Management					
			-		
Heart Health					
					1
Weight Management	<u> </u>				
weight Mahagement					
Mental Wellness (alcohol &					
substance abuse, violent & abusive					
behavior, support groups, stress					
management)					
Sexual Health (AIDS/HIV, STDs)					
Acupuncture & Massage Therapy					
One-on-one with Health Coach					
L	I	L			

What other types of general services/resources do you provide in your wellness program? (Check all that apply)

Educational resources
Such as:
Classes
Such as:
Screenings
Such as:
Counseling
Such as:
HRA (Health Risk Assessment)
Such as:
Other (please specify):

Do you monitor and evaluate outcomes?

____ Individual ____ Program

Would you be willing to share your data if confidentiality was assured?

____ Yes ____ No

Let's talk about it.

Gaps and Needs:

What seems to be your biggest obstacle in initiating or operating a wellness program? Check all that apply.

- Finding funding
- Proving program worth/measuring effectiveness
- Senior management support
- Lack of time
- Lack of staff
- Employee motivation/participation
- Raising awareness of program
- Not convinced it will save the company money
- Other

If you selected "other" for the previous question, please cite the obstacle here.

What is your greatest area of need with regard to your wellness programming right now? Within the next 2 years?

Today:____

Within 2 years:

What is your greatest strength with regard to your wellness programming right now? Today:

Communication:

What publications or communications do you depend on for your wellness program marketing needs?

- ____ messages with payroll checks
- ____ email
- ____ newsletter
- ____ new employee orientation
- ____ annual physical
- ____ annual review
- ____ bulletin boards
- ____ community events such as philanthropic runs/walks
- ____ Other: _____

Does your program operate through or in partnership with a Health Plan?

- ___ No
- Yes What Health Plan?_____

Do you presently partner with P2 Collaborative of WNY, Inc.?

- Yes
- No. If no, would you like information on how to become a member?
 - ____ Yes _ No

Would you be willing to respond to additional questions about your wellness program in a telephone interview?

- Yes
- No

Are you interested in receiving an executive summary of the survey results?

____ Yes ____ No

Contact Information:

Contact Information:
Name
Title
Company
Street
Address
City
State
Zip Code
Phone
Number
Fax
Number
E-Mail
Web site address

Thank you for your time and patience in filling out this important survey.

Questions? Email Gina Fedele at gina@p2wny.org.

(psurvey9-08)

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Appendix E

IRB Certificate of Completion

