

What types of worksites participate in weight loss trials?

Quais tipos de locais de trabalho participam de estudos para perda de peso?

Cuáles tipos de locales de trabajo participan de estudios para pérdida de peso?

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The goal of this paper is to describe the process and outcomes associated with adoption for the Worksite Weight Control Trial. This prospective study took place in Virginia, USA between the years 2007 and 2010. A total of 119 worksites were identified as potentially eligible, based on size, access to internet, and willingness to conduct a worksite wide brief health survey. Seventy-three were eligible, 28 (38.3%) enrolled, and 26 completed the 12 months of intervention (35.6%). These sites included four medical facilities (14.3%), six manufacturing and distribution centers (21.4%), five professional groups in law, advertising, engineering, sales, and information technology support (17.9%), two call centers (7.1%), 4 small colleges and universities (14.3%), and seven governmental agencies (25.0%). There were no statistically significant differences in adoption rates based on type. However, there were trends suggesting professional groups and small colleges were more likely to decline participation, and manufacturing sites and governmental agencies more likely to join. While

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these findings suggest the programs were acceptable to a variety of worksite types, internet-delivered programs may not be as attractive for professional groups and small colleges.

Descriptors: Health promotion; Weight reduction programs; Obesity; Workplace; Internet.

O objetivo deste artigo é descrever o processo e os resultados associados com a adoção no estudo *Worksite Weight Control* (Controle de Peso no Local de Trabalho). Este é um estudo quantitativo desenvolvido no Estado da Virgínia nos Estados Unidos entre os anos de 2007 e 2010. Um total de 119 locais de trabalho foram identificados como potencialmente elegíveis com base em tamanho, no acesso à internet e vontade de realizar um questionário breve de saúde no local de trabalho. Setenta e três foram elegíveis, 28 (38,3%) foram inscritos, e 26 completaram os 12 meses de intervenção (35,6%). Estes locais incluíram quatro instalações médicas (14,3%), seis centros de distribuição e produção (21,4%), cinco grupos profissionais das áreas de direito, publicidade, engenharia, vendas e suporte de tecnologia da informação (17,9%), dois centros de atendimento (7,1%), quatro faculdades e universidades pequenas (14,3%), e sete agências governamentais (25,0%). Não houve diferenças estatisticamente significativas nas taxas de adoção com base no tipo de local de trabalho. No entanto, houve tendências sugerindo que grupos profissionais e faculdades pequenas eram mais propensos a recusar a participação, sendo que as fábricas e agências governamentais eram mais aptos à participação. Os resultados sugerem que os programas foram aceitáveis para uma variedade de tipos de local de trabalho, mas programas aplicados pela internet podem não ser tão atraentes para grupos profissionais e faculdades de pequeno porte.

Descritores: Promoção da saúde; Programas de redução de peso; Obesidade; Local de trabalho; Internet.

El objetivo de este artículo es describir el proceso y los resultados asociados con la adopción en el estudio *Worksite Weight Control* (Control de Peso en el Local de Trabajo). Este es un estudio cuantitativo desarrollado en el Estado de Virginia en los Estados Unidos entre los años de 2007 y 2010. Un total de 119 locales de trabajo fueron identificados como potencialmente elegibles con base al tamaño, en el acceso a internet y voluntad de realizar unos cuestionarios breves de salud en el local de trabajo. Setenta y tres fueron elegibles, 28 (38,3%) fueron inscritos, y 26 completaron los 12 meses de intervención (35,6%). Estos locales incluyeron cuatro instalaciones médicas (14,3%), seis centros de distribución y producción (21,4%), cinco grupos profesionales de las clases de derecho, publicidad, ingeniería, ventas y soporte de tecnología de la información (17,9%), dos centros de atendimento (7,1%), cuatro facultades y universidades pequeñas (14,3%), y siete agencias gubernamentales (25,0%). No hubo diferencias estadística-mente significativa en las tasas de adopción con base al tipo de local de trabajo. Sin embargo, hubo tendencias sugiriendo que grupos profesionales y facultades pequeñas eran más propensos a recusar la participación, siendo que las fábricas y agencias gubernamentales eran más aptos a la participación. Los resultados sugieren que los programas fueron aceptables para una variedad de tipos de local de trabajo, pero programas aplicados por la internet pueden no ser tan atractivos para grupos profesionales y facultades de pequeño porte.

Descritores: Promoción de la salud; Programas de reducción de peso; Obesidad; Local de trabajo; Internet.

INTRODUCTION

Given the negative consequences of overweight and obesity, the current prevalence of these conditions is alarming^{1,2}. To address the growing obesity epidemic, worksite-based health promotion programs have been recommended due to their potential reach and social support impact³⁻⁵.

Within worksite contexts, strategies to prevent and treat obesity have focused on educational programs delivered in person or to small groups which focus on knowledge acquisition strategies targeted at individuals to improve their dietary and physical activity practices.

These programs have been criticized because they typically reach a small percentage of workers (and seldom those who could benefit the most), are of short duration, and have generally small effects that are not sustained⁶⁻⁸. Additionally, many do not report on worksite size⁹, but those that do have generally been conducted in large worksites¹⁰⁻¹¹ making generalizations regarding their benefit to other worksites somewhat limited⁹.

Furthermore, these interventions seldom, if ever, report on important questions regarding the percent of settings and or intervention agents that were excluded, who participated and how representative they may have been^{4,12}. This lack of external validity reporting often makes it difficult for decision makers to evaluate what programs and or policies to adopt, and may explain the lack of translation of worksite-based health promotion programs into ongoing practice.

To help fill this gap in the literature we report on the *Adoption* dimension of the RE-AIM framework¹³ of two worksite-based health promotion programs as part of the Tailored Worksite Weight Control Programs (Worksite) project¹⁴. The objective of this paper is to describe the process and outcomes associated with adoption for the Worksite Weight Control Trial.

METHOD

This article were part of a two group cluster randomized controlled trial intended to investigate the reach and effectiveness of two worksite weight loss programs¹⁴.

The Worksite Project tested the utility of an individually-targeted internet-based intervention (INCENT), grounded on social ecological theory, to reduce the weight of overweight and obese employees when compared to a less-intensive enhanced quarterly newsletter program (Livin' My Weigh).

Participants in the INCENT program received frequent e-mail support that facilitated goal setting, regular assessments of body weight, and modest monetary incentives based on percent of original body weight lost at the end of each quarter over the 12-month program. Participants in the Livin' My Weigh (LMW) program received four quarterly newsletters with condensed versions of informational materials used in the INCENT program and were offered the opportunity to participate in four group resource sessions designed to complement the information included in the newsletters over a period of 12 months.

In order to be eligible to participate in the project, worksites had to: a) provide internet access to all employees, b) have between 100 and 600 employees, c) have employees physically located in one site with access to a central location for kiosk weigh-ins, and d) agree to conduct a brief health survey (BHS) of the entire employee population.

Recruitment of worksites began in 2007, and continued through of 2010. Potential worksites were identified through a variety of approaches including 1) contacting local Chambers of Commerce and business associations, 2) advertisement in major newspapers in area, 3) television news coverage, 4) contacting health insurance carriers, 5) using internet searches for websites devoted to economic development in local counties, and 6) going

through local phone books and identifying potential worksites.

Once worksites were identified, an initial phone call was made to gather information about the worksite and investigate potential interest in participating in the project. For all worksites that met initial eligibility requirements, an attempt was made to schedule a meeting between the investigators and key decision makers to present the project and its requirements.

After the initial presentation, interested worksites appointed a "site lead" to work with the research team to conduct the initial BHS of the entire worksite population. Following the completion of the BHS, those worksites that demonstrated continued support based on a strong response rate to the BHS (~70% on average) and interest from management were randomized to one of the two programs. Randomization was stratified based on size (100-300 and 301-600 employees) only. This study was approved by the Virginia Tech Institutional Review Board (protocol #07-296).

Adoption in this paper is defined as the number, participation rate among worksites meeting our inclusion criteria, and the representativeness of these worksites to the population of those that were contacted and eligible. Furthermore, the reasons for ineligibility and for declining participation are reported when available. Finally, we also describe the types of worksites in the final sample, and compare adoption rates based on worksite type.

RESULTS

Overall, 119 worksites were identified through our search. Figure 1 shows the flow diagram of worksite recruitment and retention at six and 12 months. Of these 46 were considered ineligible to participate in the project because of having too few employees (n=19), or too many employees (n=6), or no employee access to the internet

(n=11), or worksite being located in multiple locations (n=10).

A total of 73 worksites were considered eligible to participate in the study. These included nine worksites classified as medical facilities (12.3%), 13 as manufacturing and distribution centers (17.8%), 16 as professional groups in law, advertising, communications, engineering, sales, insurance, and information technology support (21.9%), four as call centers (5.5%), 14 as colleges and universities (19.2%), and 17 as governmental agencies (23.3%).

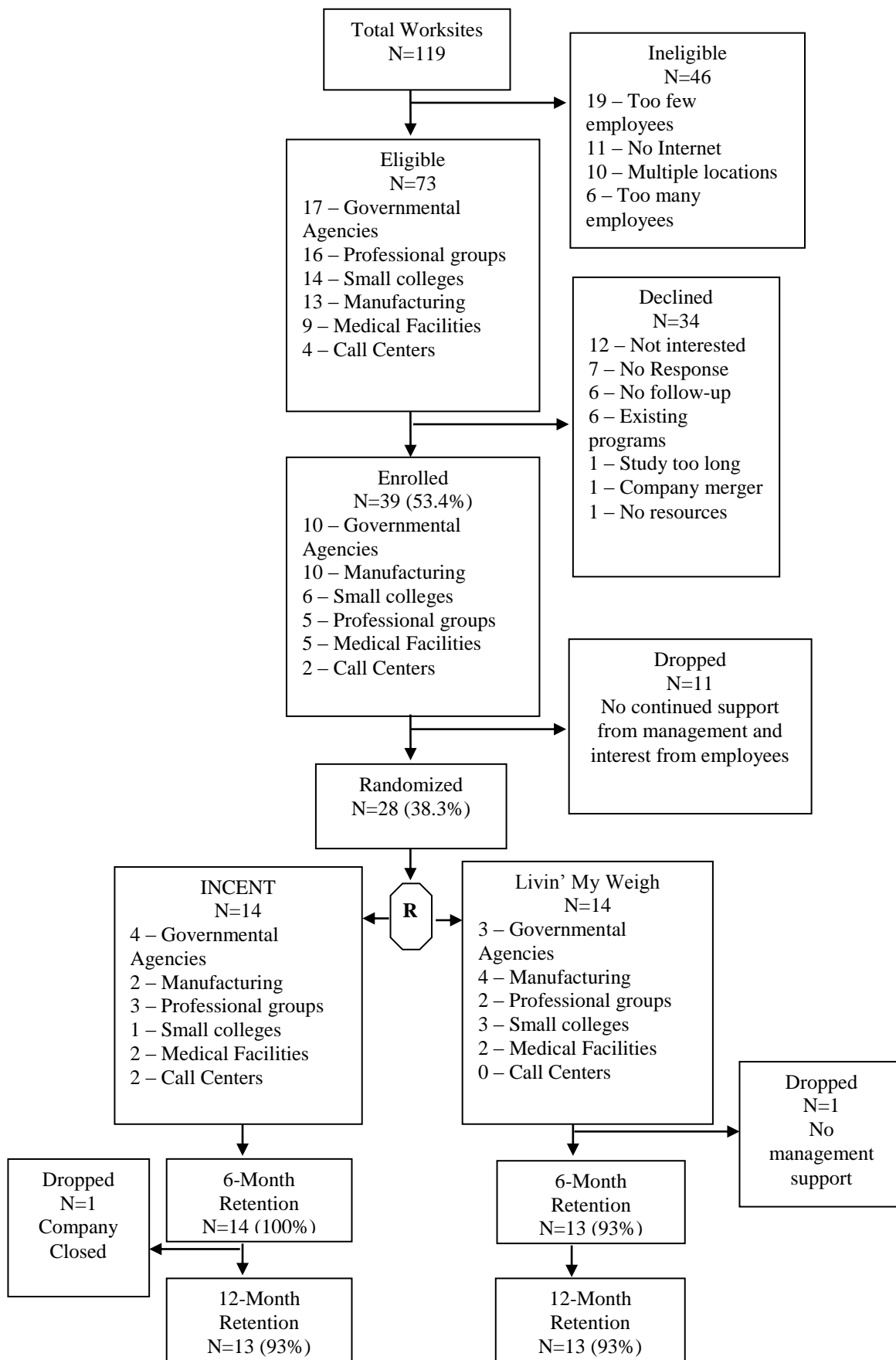
Of these 34 declined participation in the study. Reasons for non-participation included not being interested (n=12), study period too long (n=1), not enough resources available (n=1), would compete with existing programs (n=6), company merger (n=1), and not following through with planning (n=6). Additionally, seven worksites never answered our invitation to participate with a yes or no, but simply discontinued contact.

Furthermore, 39 eligible worksites (53.4%) agreed to participate in the study and took part in the BHS. Of these 11 discontinued participation at the end of the BHS due to lack of continued support from management and low response rates on the BHS.

A group of 28 worksites (38.3% adoption rate) were randomized to one of the two groups. These worksites included 4 medical facilities (14.3%), six manufacturing and distribution centers (21.4%), five professional groups in law, advertising, engineering, sales, and information technology support (17.9%), two call centers (7.1%), four colleges and universities (14.3%), and seven governmental agencies (25.0%).

At six months follow-up one governmental agency withdrew from the study indicating lack of time and support from management. This lowered the adoption rate to approximately 37.0%. At 12 months follow-up one call center dropped from the INCENT program due to worksite closure (35.6%).

Figure 1. Flow diagram of worksite recruitment and retention across 12 months of program delivery. Virginia, USA. 2007-2010.



When comparing adoption rates across worksite types there were no significant differences ($\chi^2 (5) = 1.688, p = .890$). However, while the overall adoption rate for all sites was 38.3%, professional groups (31.0%) and small colleges (28.5%) tended to show lower adoption rates. On the other hand, manufacturing (46.0%) and governmental agencies (41.0%) tended to show higher adoption rates. Before, at six and 12 months there were no significant differences in adoption rates based on weight management program or worksite type.

DISCUSSION

Overall, our adoption rate (53.0%) was higher than what other worksite health promotion studies have reported¹⁵⁻¹⁷. However, once we add the 70.0% BHS completion requirement for continuing participation on the study, our final adoption rate (38.0%) was in line with current literature^{15,16}.

This decision had an important impact on our adoption rates, and it was made in order to ensure funder requirements were met. Future worksite-based health promotion studies focusing on translation should decrease participation requirements as much as possible in order to increase potential adoption decisions by decision-makers.

Further, while a variety of worksite types joined the programs, there were no differences in adoption rates based on worksite type. However, certain types of worksites showed a tendency to be more likely to decline than others. Additionally, at 12 months there were no differences based on group assignment, indicating that randomization and the differences in program intensity and offerings were not cause for worksites to discontinue participation.

This results begin to address important questions regarding adoption decisions made by worksite administrators, demonstrating that two internet-based

programs of different intensity may be acceptable to decision-makers in a variety of worksite types.

Additionally, it seems that internet-based weight control programs may be more attractive to administrators at manufacturing sites and governmental agencies. At first glance, this represents a curious finding given the fact that most manufacturing sites employ workers who have jobs away from the computer, while the governmental agencies (police departments, sheriffs, social services, water services, city management) included in this study also employed workers who were away from or had limited access to the computer and internet.

On the other hand, administrators from sites where employees are presumed to have easier access to the computer and Internet (professional groups and small colleges) were more likely to decline participation.

This finding could be due to a reluctance on the part of employers to support programs that encourage use of the internet for personal reasons during the workday or because employers in decision-making positions may perceive that employees who use computers heavily on the job are uninterested in accessing programs that require more screen time away from work.

These findings represent important considerations for future programs when taking into account what types of worksites to approach for possible inclusion in internet-based programs. It is clear from the literature that different approaches and intensities seem to produce different results regarding weight loss^{6,7,9,18}.

Furthermore, while internet-based programs have been suggested as a possibility to enhance the reach of interventions into the target population^{19,20}. The results suggest that this may not be true for every worksite setting. In fact, if decision-makers from certain types of worksites (professional groups and small colleges) are

more likely to decline participation in internet-based programs, it could potentially diminish the reach of said interventions.

Future research should further investigate reach and adoption, including adding questions to better understand the beliefs and motivations of decision-makers who serve as gate-keepers for employees about participation in these studies.

In fact, Witte¹⁹ has suggested that organizations with managers who have a more democratic management style are more likely to plan, adopt, and/or implement worksite health promotion programs than organizations with authoritarian management styles. This finding, however, has not been tested and/or replicated among worksites participating in internet-based weight loss programs.

CONCLUSION

While it found that adoption rates among certain types of organizations (professional groups and small colleges) were lower on our sample, we cannot be certain as to why they were lower, and there could be several reasons.

However, it do recognize that adoption decisions are typically made by one individual in an organization and so to maximize reach (and impact) it is important to work on ways to increase adoption by providing more information that will address potential concerns of decision-makers.

This findings further suggest that different types and amounts of information may be needed for administrators in different worksite settings being recruited for internet-based programs.

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CONTRIBUTIONS

Fabio Araújo Almeida conceptualized the study, participated in the study design and data collection, contributed to data analyses; participated in the interpretation of results, and led the manuscript writing;

Sarah Stacy Wall led data collection, participated in the interpretation of results and contributed to the manuscript drafts;

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Brenda Marie Davy participated in the study design and interpretation of results, and contributed to the manuscript drafts;

Jennie Linn Hill participated in the study design and interpretation of results, and contributed to the manuscript drafts;

Wendy You led data analyses, participated in the interpretation of results; and contributed to the manuscript drafts;

Paul Andrew Estabrooks participated in the study design and interpretation of results, contributed to data analyses and manuscript drafts.

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