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Development of a Wellness Committee Implementation Index for Workplace Health Promotion Programs in Small Businesses

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Abstract

Purpose: To construct a wellness committee (WC) implementation index and determine whether this index was associated with evidence-based intervention implementation in a workplace health promotion program.

Design: Secondary data analysis of the *HealthLinks* randomized controlled trial.

Setting: Small businesses assigned to the *HealthLinks* plus WC study arm.

Sample: Small businesses (20-200 employees, n = 23) from 6 low-wage industries in King County, Washington.

Measures: Wellness committee implementation index (0%-100%) and evidence-based intervention implementation (0%-100%).

Analysis: We used descriptive and bivariate statistics to describe worksites' organizational characteristics. For the primary analyses, we used generalized estimating equations with robust standard errors to assess the association between WC implementation index and evidence-based intervention implementation over time.

Results: Average WC implementation index scores were 60% at 15 months and 38% at 24 months. Evidence-based intervention scores among worksites with WCs were 27% points higher at 15 months (64% vs 37%, $P < .001$) and 36% points higher at 24 months (55% vs 18%, $P < .001$). Higher WC implementation index scores were positively associated with evidence-based intervention implementation scores over time ($P < .001$).

Conclusion: Wellness committees may play an essential role in supporting evidence-based intervention implementation among small businesses. Furthermore, the degree to which these WCs are engaged and have leadership support, a set plan or goals, and multilevel participation may influence evidence-based intervention implementation and maintenance over time.

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Keywords

workplace health promotion; worksite wellness; wellness committees; chronic disease prevention

Purpose

Six in 10 adults in the United States have at least 1 chronic condition, and many have 2 or more.[1–3] Even modest improvements in chronic disease risk behaviors such as physical inactivity, unhealthy eating, and tobacco use could result in substantial reductions or delays in the number of cases of chronic illness each year.[4] Workplaces are a practical and vital setting for implementing effective evidence-based interventions that can reduce chronic disease risk among adults.[5] Full-time employees spend many of their waking hours at work, and previous research has demonstrated that workplace environments and coworkers can shape employees' health behaviors.[6,7] Workplace health promotion programs (WHPPs), defined as employer sponsored initiatives that aim to improve the health of employees, are one approach to promoting health in this context.[8] Evidence suggests that well-designed, comprehensive, and evidence-based WHPPs can improve health outcomes among employees.[9]

Workplace wellness committees (WCs), a purposefully constructed group of employees who meet to plan strategies and activities that can promote health within an organization, are often recommended as a beneficial WHPP strategy.[10–12] Despite the fact that the Centers for Disease Control and Prevention Workplace Health Model identifies WCs as a recommended WHPP strategy, existing studies have only evaluated WCs as part of a comprehensive WHPP package.[10,13–15] To date, research has not explicitly explored the role WCs play in WHPP implementation or the underlying processes that may drive WC effectiveness. Understanding which WC implementation factors contribute to committee success is needed to develop evidence-based strategies for implementation in public health practice.

Current recommendations for worksite health and safety committees, including WCs, include meeting regularly; ensuring communication between the committee and leadership; and involving senior leadership.[10–13,16] Previous studies of health and safety committees have found associations between these factors and perceived committee effectiveness.[16,17] However, studies extending these outcomes to more objective measures of committee effectiveness or health and safety outcomes, such as reduced injury and illness, are limited and have mixed results.[16,18,19] These studies also evaluated implementation factors as distinct independent variables; we were unable to identify any previously developed indices that could provide insight into the summative impact of these factors. We were also unable to find studies specifically attempting to extend these health and safety committee implementation factors to WHPP WCs.

The *HealthLinks* 3-arm randomized controlled trial aimed to disseminate evidence-based interventions to small worksites in low-wage industries.[20] Smaller worksites are less likely to offer WHPP than larger organizations, even though these businesses are more likely to report that the majority of their employees are low-wage workers, a population at increased risk of chronic diseases.[21–24] Additionally, smaller organizations often face unique WHPP

implementation challenges, including limited staff time or expertise to implement WHPPs, limited budgets, and limited ability to reach all employees.[25] In these small business contexts, WCs may be particularly beneficial, given their low cost of implementation (both in dollars spent and staff time) and their ability to facilitate the development of wellness champions within the organization.[26] Results from the *HealthLinks* trial suggest that although starting and maintaining a WC was challenging, small worksites that were able to sustain WCs were more effective at implementing and maintaining evidence-based interventions.[26]

Although these initial results are promising, we need to improve our understanding of how WCs may support evidence-based implementation in small worksites and the implementation factors that underlie WC success. The purpose of this study was to develop an index of WC implementation and use this index to assess the relationship between WC implementation processes and WHPP evidence-based intervention implementation outcomes throughout the *HealthLinks* intervention.

Methods

Design

Data for this study come from the *HealthLinks* randomized controlled trial. The goal of the *HealthLinks* trial was to test whether *HealthLinks* improves the adoption of evidence-based interventions among small worksites in low-wage industries and whether WCs increase evidence-based intervention adoption. Worksites were randomized to one of 3 study arms: standard *HealthLinks* intervention (*HealthLinks*), *HealthLinks* with the addition of WCs (*HealthLinks*+), or a delayed control that had the opportunity to participate in *HealthLinks*+ after completing the final follow-up assessment at 24 months. We blocked randomized worksites based on worksite size (20-49 employees vs 50-200 employees), interventionist (interventionist 1 vs interventionist 2), and industry (group 1: arts, entertainment, and recreation; education; and health care and social assistance vs group 2: accommodation and food services; other services excluding public administration; and retail trade). We grouped these industries to ensure industries typically underrepresented in WHPP research were evenly distributed across study arms.[25,27] A total of 78 worksites enrolled in the trial and provided baseline data. At 24 months, 68 employers completed the trial and provided follow-up data: 21 in the control arm, 24 in the *HealthLinks* arm, and 23 in the *HealthLinks* + arm. As the focus of the present study is WC implementation, we limited our scope to a secondary analysis of the *HealthLinks*+ worksites only.

Intervention

A detailed description of the *HealthLinks* intervention is published elsewhere.[20] Briefly, in both *HealthLinks* and *HealthLinks*+, worksites worked with an interventionist to assess whether evidence-based interventions addressing healthy eating, physical activity, tobacco cessation, and cancer screening were already in the workplace and identify additional evidence-based interventions to implement based on a tailored recommendations report. These worksites then received *implementation toolkits* and interventionist support to implement additional evidence-based interventions in the workplace. This initial period of

active interventionist support (active phase) lasted for the first 15 months of the study. In the *HealthLinks*+ study arm, worksites received WC implementation toolkits and additional interventionist support to assist them with forming a WC to support evidence-based intervention implementation efforts. Following the 15-month active phase, worksites could request support from the *HealthLinks/HealthLinks*+ interventionist, but the interventionist did not initiate contact with their worksite contact (maintenance phase).

Sample

Worksites' study eligibility criteria were as follows: had between 20 and 200 employees, belonged to one of 6 low-wage industries (accommodation and food services; arts, entertainment, recreation, education; health care and social assistance or other services excluding public administration; and retail), had at least 20% of employees reporting to a physical worksite at least once per week, were in business for at least 3 years, and did not have a WC at the time of recruitment.[20] The *HealthLinks* randomized controlled trial was approved by the University of Washington Human Subjects Review Committee (#45447-EJ). Participating worksites documented their consent to participate in the study by completing a memorandum of understanding that included an explanation of all study procedures.

Measures

Wellness committee implementation index.—We constructed a WC implementation index based on 8 WC implementation questions collected in the *HealthLinks* employer assessment. We collected responses to these items at 15 and 24 months (as 0 organizations had a WC at baseline) from a primary contact at the worksite via an in-person or telephone survey at each time point. Our team developed these items based on a combination of our years of experience working with small employers to implement WHPPs and WC implementation recommendations from existing WHPP studies at the time the employer assessment was developed.[28–32] To develop the WC index, our study team first reviewed all 18 WC questions collected on the employer assessment. We then narrowed this initial list of 18 down into the 9 items specifically focused on WC implementation. During analysis, we dropped 1 additional item that asked about the frequency of communication with senior leadership due to a high rate of nonresponse from worksites, leaving us with the final 8-item WC implementation index.

Each individual item represents an implementation factor that can be implemented between 0% and 100%. For dichotomous items, we assigned a value of 1 or 0 based on whether the implementation factor was present or not (eg, the WC has a member of senior leadership on the committee or it does not). For items with multiple response options, we assigned higher values for response options that indicated a higher level of implementation (eg, worksites that indicated senior leadership always provides resources for the WC received a higher score compared to worksites that indicated senior leadership rarely provides resources for the WC).

The wellness committee implementation index is comprised of the summed average of 4 subindices (for full score calculation, see Table 1): committee composition (3 items),

leadership support (1 item), committee engagement (3 items), and planning and goal setting (1 item). We then divided each subindex score by its number of items to provide an overall index score that is the unweighted average of the 4 subindices. Although our study team considered various a priori options for weighting these items (eg, weighting all 8 items equally in the index), ultimately, we expected these 4 final domains to be of equal importance in predicting overall WC implementation. Each worksite received an implementation index score between 0% and 100%. Worksites assigned to the WC arm that did not implement a WC received a score of 0.

Evidence-based intervention implementation.—We calculated employer evidence-based intervention implementation using a weighted algorithm assessing the degree to which worksites implemented evidence-based intervention communications, programs, and policies promoting cancer screening; healthy eating; physical activity; and tobacco cessation at their worksite. We collected the data for this score during the same phone survey with a primary worksite contact described above at baseline, 15 months, and 24 months. Evidence-based intervention implementation was scored on a 0% to 100% scale.[20,33]

Analysis

We described key organizational and employee characteristics using means and standard deviations (SDs). We also compared the organizational and employee characteristics between worksites that implemented a WC at 15 months and those that did not (WC implementation score = 0) using *t* tests and χ^2 tests.

We assessed the primary relationship between WC implementation and evidence-based intervention implementation using generalized estimating equations (GEEs) regression models with an exchangeable correlation structure. We selected GEE models for our analysis to account for correlated data from the same worksites over the 3 time points. Additionally, we used robust standard errors to ensure proper inference in the event that we misspecified the working correlation structure. For selected models, we also included worksite baseline evidence-based intervention implementation score to adjust for the amount ofevidence-based intervention activity in the workplace before the *HealthLinks*+ intervention.

Results

Worksite Characteristics

Two worksites in the *HealthLinks*+ arm dropped out during the study period and are not included in this analysis. We present the organizational and employee characteristics of the 23 worksites that completed all 3 waves of data collection in Table 2. At baseline, worksites had an average of 77 employees (SD: 54), and the average annual salary was $43 867 (SD: $14 603). For comparison, the average annual salary in King County was $72 764 in 2015.[34] Most (59%) worksites were not-for-profit organizations, and nearly half (47%) were from the health care and social assistance industry.

At 15 months, the end of the active phase, 17 (74%) of the worksites had formed a WC. By the end of the maintenance phase (24 months), 12 (52% of the overall sample) of these 17

worksites were able to maintain an active WC. None of the worksites without a WC at 15 months started a WC during the *HealthLinks*+ maintenance phase.

Worksites that formed and maintained WCs throughout the study period did not significantly differ from those that did not by industry, number of employees, percent of employees working full time, nonprofit status, or baseline evidence-based intervention score. Worksites that formed and maintained WCs reported average annual salaries that were $13 602 higher than those that were either unable to form WCs or maintain them over the full 24-month study ($36 310 vs $49 912). However, this result was not significant ($P = .05$). Worksites with WCs had mean evidence-based intervention scores that were 27% points higher at 15 months (64% among those with WCs vs 37% without; $P < .001$). Although scores in both groups dropped during the maintenance phase, the gap in evidence-based intervention scores between those with WCs and those without grew to a 36% point difference at 24 months (55% vs 18%, $P < .001$).

Wellness Committee Implementation Index Scores

The average WC implementation index scores were 60% at 15 months and 38% at 24 months for the entire sample. When restricted to the 12 worksites that maintained WCs, implementation index scores were 83% at 15 months and 73% at 24 months. Wellness committee implementation index score was significantly associated with evidence-based intervention score at both 15 months ($\beta = .49$, $P < .001$, 95% confidence interval [CI]: 0.42-0.57) and 24 months ($\beta = .47$, $P < .001$, 95% CI: 0.40-0.54). Controlling for baseline evidence-based intervention score, every 10-point increase in WC implementation index score was associated with a 4.78-point increase in evidence-based intervention score ($P < .001$, 95% CI: 3.98-5.58). At 24 months, controlling for baseline score, every 10-point increase in WC implementation index score was associated with a 4.55-point increase in evidence-based intervention score ($P < .001$, 95% CI: 3.75-5.35). Interestingly, although none of the worksites had at least 1 staff member with health promotion or wellness coordinator responsibilities as part of their job at baseline, worksites that formed WCs were significantly more likely to also have a staff member with WHPP responsibilities at 15 months (χ^2: 4.53, $P = .03$) and 24 months (χ^2: 7.44, $P = .01$). However, the presence of a staff member was not significantly associated with evidence-based intervention score when included in the GEE model with the WC implementation index.

We also tested the association of each subindex with evidence-based intervention score at 15 and 24 months. In these analyses, committee engagement had the strongest association with evidence-based intervention score at both 15 and 24 months ($P < .001$; Table 2). However, all 4 subindices were significantly associated with evidence-based intervention score at both 15 and 24 months, with increased implementation related to committee composition (number of various departments, nonmanagement, and senior leadership on the committee), planning and goal setting, and leadership support all contributing to higher evidence-based intervention scores ($P < .001$; Table 3). These results remained consistent and significant in sensitivity analyses restricting the sample to the 12 worksites that maintained WCs over the full 24-month study period ($P < .001$).

Discussion

The purpose of this study was to develop an index of WC implementation and assess its relationship with *HealthLinks*+ WHPP evidence-based intervention implementation outcomes. Our findings demonstrated that this summative index was strongly associated with evidence-based intervention score both at the end of the active *HealthLinks*+ implementation phase and the subsequent maintenance period. Furthermore, each of the subindex scores was significantly associated with evidence-based intervention score at both time points. Of these, committee engagement, which assessed the amount of time dedicated to wellness activities, the frequency of committee meetings, and the proportion of members who attend each meeting, was most strongly associated with evidence-based intervention score at both time points.

Although we asked all of the companies in the *HealthLinks*+ study arm to form a WC and provided them with resources and support to accomplish this goal, only 12 of the 23 worksites in this arm were able to maintain a WC for the full 24-month study period. Anecdotally, comments made during survey data collection indicated that worksites often struggled to start WCs. Even when worksites were able to start a committee, some were unable to capitalize on initial interest and engagement in the committee fizzled out over time. Given our finding that committee engagement was the implementation domain most strongly associated with evidence-based intervention implementation, we believe time and staff investment in the committee may play a critical role in facilitating long-term WC success.

The overall findings from this secondary analysis support those of the primary *HealthLinks* study: WCs may help both with initiating evidence-based intervention implementation during the active intervention period and maintaining implementation after formal *HealthLinks* support ends.[26] This study adds to that work by identifying 4 underlying mechanisms of WC implementation that predict worksite evidence-based intervention implementation success: committee composition, leadership support, committee engagement, and planning and goal setting. Understanding what characteristics of WCs drive success and the summative impact of these factors is critical to identifying actionable strategies that can support small worksites in implementing WCs as part of WHPPs.

Both the research and practice communities have recommended WCs as a beneficial implementation strategy; this recommendation may be primarily based on research on health and safety committees.[18] Those studies found that many implementation factors also found in our WC implementation index, such as meeting regularly, leadership support, and representation from multiple departments, were important for perceived health and safety committee effectiveness.[16,35] However, most of these studies did not assess objective indicators of success, such as policy implementation and health and safety outcomes.[16] Our results examining WC implementation corroborate these previous findings and extend them to more concrete measures of wellness evidence-based intervention implementation small worksites. Furthermore, in certain industries, legislation mandates the formation of health and safety committees. Implementation factors that drive success may differ between committees that are started to meet regulatory standards as opposed to those initiated to

promote employee health and well-being.[16] Our findings demonstrate that health and safety committee and WC implementation factors may be aligned despite differences in worksites' motivation.

Overall, our study did not find major statistical differences in worksite characteristics between worksites with a WC and those that could not start or maintain one throughout the study. These findings may partially reflect our relatively homogeneous sample—nearly half of the sample came from the health care and social assistance industry, and 60% of employers were not-for-profit. We did find that neither accommodation nor food services industry worksites were able to form a WC. These industries may face particular contextual challenges when forming and maintaining WCs. Employee turnover rates are high in this industry, and additional industry-specific factors such as shift work schedules and younger employee populations may make forming WCs particularly challenging.[36,37] Similarly, although all worksites in the sample came from traditionally low-wage industries, worksites that were able to form and maintain WCs had employee salaries that were $13 602 higher compared to those that never started a WC. These results may indicate that even among low-wage industries, differences in financial resources may impact WHPP implementation success. Future research may need to explore intersections between industry and financial resources on WHPPs, WCs, and evidence-based intervention implementation.

Limitations

The primary limitation of this study is the small sample size. We chose to restrict this analysis to the 23 worksites assigned to the WC arm in order to isolate the sample to worksites asked to form a committee as part of their *HealthLinks* WHPP intervention. Even though we asked all worksites in this arm to form a committee, only 74% of worksites were able to start a committee at all, and just over half (52%) maintained them over the full 24-month study period. Although the results from those who were able to implement committees are promising, further studies of this WC implementation index with larger sample sizes are needed. Additionally, the WC implementation index has a relatively small number of items, including 2 subindices that are comprised of only 1 item. We constructed this measure to be an index of indicators we believe to be essential for understanding WCs and their implementation within a WHPP and developed the items based on relevant literature and years of experience working with small employers to implement WHPPs.[38] However, the index, and the single-item subindices in particular (leadership support and planning and goal setting), may not capture all essential activities and conditions that lead to a well-functioning WC—we may have missed other relevant indicators that may be equally or more important for WC implementation.[38]

Strengths

The primary strengths of this study include its ability to examine WC implementation factors as part of a larger WHPP and the longitudinal study design. Our study is the first to assess implementation factors that explain WCs' contributions to WHPP success. Our results indicate that the presence and degree of WC implementation may have an impact on WHPP evidence-based intervention implementation in small worksites. Future research should take into consideration not only the existence of WCs in WHPPs but also the degree to which a

committee is engaged, has a plan, has multiple levels of staff involvement, and has support from leadership. With further study, we also believe this WC implementation index has potential for use in both WHPP research and practice. In WHPP research, this index could be used as an assessment tool to compare WHPP implementation and outcomes across varying implementation contexts, particularly with larger samples comparing different industries or employer sizes. In public health practice, this index could be potentially converted into a checklist or scorecard for practitioners to use when implementing WCs as part of a WHPP.

Small worksites often have limited staff, time, and financial resources to put toward WHPP implementation. The results of this study indicate that WCs may be an effective approach to mitigating some of these constraints. The responsibilities of WHPP that might typically fall on one individual can be split among multiple individuals, and a coordinated plan developed by employees representing different organizational levels can support broader employee interest and engagement. Successful WC engagement can also facilitate the development of wellness champions who can further drive evidence-based intervention implementation. Considering that small worksites are more likely to report having a majority low-wage staff, implementing WCs as part of a comprehensive WHPP approach may be a particularly effective strategy for reducing chronic disease risk among vulnerable populations.

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So What

What is already known on this topic?

Both academic and practice health promotion literature often recommend wellness committees as a workplace health promotion program (WHPP) implementation strategy. However, previous research has not isolated the impact of wellness committees in WHPP or the underlying processes that may drive effectiveness.

What does this article add?

We constructed a wellness committee implementation index and tested its association with evidence-based intervention implementation in a WHPP over a 24-month period. Results demonstrate that the degree of wellness committee implementation was associated with evidence-based intervention implementation among small businesses in low-wage industries.

What are the implications for health promotion practice or research?

The degree to which small businesses implement wellness committees that are more engaged and have a clear plan or goals, leadership support, and participation from all levels of the organization may influence their ability to implement evidence-based interventions that can promote employee health and well-being.

Table 1.

Wellness Committee Implementation Index Items and Response Options[a].

Item	Response Options	Scoring
Committee composition		
Does a member of senior leadership serve on the wellness committee?	Yes/no	Yes = 1, no = 0
Are there nonmanagement members on the wellness committee?	Yes/no	Yes = 1, no = 0
How many various departments or work areas in your organization are represented on the wellness committee?	Less than half, about half, more than half, all or almost all	Less than half = 0.25, about half = 0.5, more than half = 0.75, all or almost all = 1
Leadership support		
Does senior leadership provide resources, such as supplies and staff time, for wellness committee activities when needed?	Rarely, sometimes, often, almost always	Rarely = 0.25, sometimes = 0.5, often = 0.75, almost always = 1
Committee engagement		
How often does the wellness committee meet?	Less than once per quarter, once per quarter, every other month, once per month, more than once per month	Less than once a quarter = 0.25, once a quarter = 0.25, every other month = 0.5, once a month = 0.75, more than once a month = 1
In an average month, how many hours does the wellness committee collectively spend planning wellness-related activities?	Less than 1 hour, 1-2 hours, 3-4 hours, 7-8 hours, 8 hours or more	Less than 1 hour = 0.25, 1-2 hours = 0.25, 3-4 hours = 0.5, 5-6 hours = 0.75, 7-8 hours = 1, 8 hours or more = 1
How many of the wellness committee members typically attend meetings?	Less than half, about half, more than half, all or almost all	Less than half = 25, about half = 0.5, more than half = 0.75, all or almost all = 1
Planning and goal setting		
Does the wellness committee have a written plan, work plan, or goals?	Yes/no	Yes = 1, no = 0

[a]Wellness committee implementation index = ([Committee Composition]/3) + (Leadership Support/1) + (Committee Engagement/3) + (Planning and Goal Setting/4) × 100.

Table 2.

Worksite and Employee Characteristics at Baseline[a].

Worksite Characteristics	Mean (SD)	Percentage (n)
Total number of employees	77 (54)	
Annual salary	$43 867 ($14 603)	
Proportion of employees full time		76
Proportion of employees in union		3
Tax status		
Not-for-profit		59 (41)
For-profit		41 (28)
Insurance to employees		
Self-insured		5 (3)
Proportion of employees eligible for health		83
Insurance		81
Proportion of employees enrolled in health insurance		
Industry[b]		
Accommodation and food services		9 (2)
Arts, entertainment, and recreation		9 (2)
Educational services		9 (2)
Health care and social assistance		48 (11)
Other services (except public administration)		13 (3)
Retail trade		13 (3)
Employee characteristics		
Race		
White		67
Black		10
Native American/Alaska Native		1
Asian—Pacific Islander		11
Multiracial		5
Other race		3
Missing		3
Ethnicity Hispanic or Latino		15
Age in years		
18-44		64
45-64		31
65+		5
Sex		
Male		35
Female		65

Abbreviation: SD, standard deviation.

[a] n = 23.

[b] Percentages add up to over 100% due to rounding.

Table 3.

Generalized Estimating Equations Results: Change in Worksite Evidence-Based Intervention Implementation Scores by Wellness Committee Implementation Index Subindex Score and Overall Wellness Committee Implementation Index Score.[a]

Subindex Item	β (15 Months)[b]	95% CI	β (24 Months)[b]	95% CI
Committee composition	.47	0.38-0.55	.43	0.36-0.49
Leadership support	.39	0.32-0.46	.37	0.32-0.43
Committee engagement	.55	0.49-0.62	.53	0.47-0.58
Planning and goal setting	.39	0.32-0.46	.36	0.30-0.42
Total wellness committee implementation score	.49	0.42-0.57	.47	0.40-0.54
Total wellness committee implementation score (adjusted model)[c]	.48	0.40-0.56	.46	0.38-0.54

Abbreviation: CI, confidence interval.

[a] n = 23.

[b] $P < .001$ for all results presented.

[c] Adjusted model includes baseline evidence-based intervention implementation score as a covariate.