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Healthy Workplaces? A Survey of Massachusetts Employers

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Abstract

Purpose—This study examines worksite health promotion (WHP) and occupational health and safety (OHS) activities by Massachusetts employers, and the extent to which workplaces with programming in one domain were more likely to have the other as well.

Design—In 2008, the Massachusetts Department of Public Health surveyed a stratified sample of Massachusetts worksites.

Setting—A mailed questionnaire to be completed by workplace representatives.

Subjects—Massachusetts worksites returning the questionnaire.

Measures—Questionnaire items about worksite characteristics, WHP, and some OHS practices.

Analysis—We scored levels of WHP and OHS activity; examined the relationship between activities in the two domains by employer characteristics; and assessed self-reported coordination between them.

Results—The 890 responding worksites had higher scores for OHS (mean = 48% of practices, SD = 24%) than WHP (mean = 20%, SD = 12%). The difference between these scores varied by a factor of two across industry sectors and was smallest for workforces of 100+ employees ($p = .001$). Employers with no unionized workers reported fewer activities in both domains ($p < .0001$). Only 28% of respondents reported always/often coordinating OHS and WHP efforts; these organizations had more activities overall in both domains.

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Conclusion—Larger and unionized workplaces in Massachusetts were more likely to offer both WHP and OHS programming. Self-reported coordination was somewhat associated with more activity in both domains, although levels of WHP activity varied widely.

Keywords

Worksite Wellness; Occupational Health; Worksite Health Promotion; Work Environment; Prevention Research; Manuscript format: research; Research purpose: descriptive; Study design: nonexperimental; Outcome measure: other; Setting: workplace; Health focus: fitness/physical activity; nutrition; smoking control; stress management; weight control; Strategy: culture change; Target population: adults; Target population circumstances: working population

Purpose

In the United States, worksite health promotion (WHP) is recognized as an important component of the national public health strategy. Healthy People 2010 called for increasing to 75% the proportion of worksites with comprehensive employee health promotion programs.[1] The recent Healthy People 2020 initiative similarly addresses this need (objective 8), although without a quantitative target.[2] U.S. businesses are far from meeting the goal: in 2004, only 7% of employers had a program incorporating all five key elements referenced in Healthy People 2010.[3] However, nationally most employers (58%) offering health insurance also offer some health promotion activity.[4] For example, 30% of worksites nationally reported environmental supports such as smoke-free worksites, healthy foods in the canteen, and safe walking conditions.[5] This is particularly true for larger firms, which have more staff and budget resources.

Recent health promotion research has demonstrated the importance of addressing underlying social and environmental factors that can negatively influence individuals' health behaviors.[5,6] Workplace programs aimed primarily at changing individual health behaviors typically overlook important features of work that may be root causes of poor health and/or obstacles to healthy behaviors.[7–10]

Chronic health conditions typically targeted by WHP programs (cardiovascular disease, musculoskeletal disorders, depression, etc.) are also influenced by many physical, organizational, and psychosocial stressors in the workplace (e.g., Levy et al.,[11] Belkic et al.,[12] and LaMontagne et al.[13]). Less widely recognized is the relationship between workplace stressors and health behaviors such as smoking and physical inactivity (e.g., Albertsen et al.,[14] Kouvonen and Kivimaki,[15] and Lallukka et al.[16,17]). This suggests that WHP might be more effective if linked to factors in the work environment that act as direct and/or indirect causes. Program coordination could also facilitate WHP initiatives' being customized to fit workers' needs across a range of jobs with different physical and psychosocial demands.

Occupational health and safety (OHS) and WHP programs are complementary in that they both seek to improve the health of employed persons. Unlike WHP programs, which are undertaken voluntarily by employers, some OHS activities are required by law in many U.S. workplaces. The core OHS goal is to reduce the risk of illness and injury by reducing hazard exposure through a hierarchy of controls. Prevention efforts directed at the source itself are

considered superior because they uniformly reduce or remove hazard risk for all workers and do not require continual behavioral effort by individuals to be effective. A somewhat parallel model has been described for the application of public health prevention strategies in WHP practice.[18] For example, interventions to improve the environment (e.g., smoke-free workplace policies) are considered most effective because they reduce risk for the entire workforce population, whereas interventions aimed at influencing health behavior of individual employees are considered less effective. Based on shared goals for population risk reduction, the parallel conceptual bases underlying the two domains of OHS and WPH could be represented as in Figure 1. However, there seems to be little overlap in practice because of differences in health targets, legal mandates, financial incentives, and training of the professionals involved.[8,19–23]

The Massachusetts Department of Public Health (MDPH) provides assistance to employers interested in developing comprehensive worksite health improvement initiatives. As part of this effort, MDPH surveyed a representative sample of Massachusetts employers in 2008 regarding their WHP programs and practices; some questions about OH programs were also included. This survey was intended to inform MDPH activities and provide baseline information for monitoring progress in promoting healthy work-sites.[24]

We have used these survey data to characterize the extent of WHP and OHS activities in Massachusetts workplaces. We were particularly interested in examining whether worksites with high levels of activity in one domain also had high activity in the other, whether common characteristics predicted each of these, and whether self-reported coordination between the two domains was consistent with higher frequency of reported activities.

Methods

Study Population

The sampling frame for the survey consisted of a Dunn & Bradstreet database of 30,584 worksites with 11 or more employees representing all industries and geographic areas within Massachusetts in 2008. This cutoff was chosen for consistency with Massachusetts health reform law, which requires employers with 11 or more full-time equivalent employees to contribute to the costs of health care for the state's workforce.[25] A worksite was defined as an establishment at a single location engaged in one type of economic activity. A sample of 3000 worksites was selected by dividing the dataset into 30 cells based on the number of employees (six groups: 11–24, 25–49, 50–99, 100–249, 250–499, 500 or more) and regions (five) identified by MDPH for public health planning.[26] Worksites were selected in predetermined stratified samples based on the size of each cell. Over one-half of the worksites had 24 or fewer employees, so larger worksites were oversampled.

The questionnaire was mailed to each worksite under a cover letter, signed by the MDPH commissioner, which asked that the questionnaire be forwarded to the human resources staff. Respondents were to answer the questions for the worksite to which the questionnaire was delivered and were given the option of responding either by mail or online. Follow-up calls were made to nonresponding worksites. Acceptance of returns was closed approximately 10 weeks after the mailing. After compilation of results, MDPH sent participating employers a

copy of the survey report[24] summarizing findings and general recommendations and resources for workplace health improvement.

Survey Instrument

The survey was developed based on review of the literature of evidence-based practices in WHP,[27–36] review of other survey instruments,[37–40] and input from experts in the field.[41] The 11-page self-administered questionnaire was constructed in four sections: organizational and workforce characteristics, WHP, OHS, and emergency response.[42] Organizational information included number of employees at the worksite and industry sector, based on the North American Industry Classification System. Region within Massachusetts was coded from the worksite's zip code. Neither name nor position of the person completing the survey ("respondent") was obtained.

A majority of the questions (64/101) pertained to WHP. Questions elicited presence of program components by content area (e.g., employee health education, screenings, linkages with preventive health services), as well as administrative features likely to improve program participation and health impact (e.g., paid staff champion, wellness committee) (Table 1).

Program Scores

Three summary scores were constructed. A subscore for WHP-related activities (WHP-A) was calculated as the sum of "yes" responses to 17 survey items that represented individual health promotion offerings (Table 1). A subscore for WHP programs and policies (WHP-P) was the sum of "yes" responses to 15 survey questions on programmatic approach. The WHP-A and WHP-P scores were also summed to create an overall or combined WHP score. The OHS score was the sum of 13 "yes" responses to questions about policies and resources addressing workplace safety and health hazards. Each score was standardized to the number of items covered in that domain (i.e., expressed as a percentage of the possible range), for comparable scaling.

Statistical Analysis

Survey responses were weighted inversely to the probability of being selected for the survey (i.e., in a cell where 50% of companies were sampled, the weighting fraction would be 1/.5 = 2). Weighted response frequencies were compared by worksite size, region, industry sector, and percentage of workforce unionized. The scores were not normally distributed, so weighted Wilcoxon tests were used to compute p values comparing employer characteristics. The difference between domains of activity was defined as the OHS score minus the overall WHP score. All analyses were performed in SAS 9.2.

The survey included a question about the provision of incentives for periods of time with no workplace injuries reported by employees. This question was analyzed separately, because of increasing evidence that such incentives may result not in improved safety but rather in underreporting of work-related injuries.[43,44]

The question, "How often do those responsible for workplace health and safety at your worksite coordinate their efforts with managers responsible for health promotion or wellness

activities?" was hypothesized to predict a higher correlation between OHS and WHP scores. Coordination was coded as always/often, sometimes/never, and do not know/not applicable/ missing.

Results

Survey Response

Of the 3000 questionnaires mailed, 904 were returned, of which 14 were ineligible, giving a response rate of 30% (890/2986). Over one-half of the responding worksites had fewer than 50 employees; approximately 6% were worksites with 500 or more employees (Table 2). The response rate was lowest for the companies with 11 to 24 employees and highest for those with 250 or more. It also varied by region of the state, being lowest in the suburbs west of Boston and highest in western Massachusetts. The response rate was highest in education, public administration, agriculture/utilities/mining, and manufacturing. The lowest response rates were in administrative and support services, hotel and food service, information, and wholesale trade.

The largest numbers of worksites were in manufacturing, health care and social assistance, and professional services. Health care had the greatest representation among the large worksites; manufacturing, construction, and professional and other services together accounted for nearly half of the smallest worksites.

Ninety-two percent of responding worksites offered employee health insurance. Only 122 (10%) of responding worksites reported any unionized employees. The highest prevalence of unionization was in public administration. Nine percent of the smallest worksites reported some union representation, compared with 32% of the largest worksites.

WHP Activities

Ninety-eight percent of worksites reported at least one WHP activity (WHP-A), and 94% had one or more administrative program elements (WHP-P) (Table 1). The activity items most commonly offered by responding employers were clean lunchroom (94%), subsidized gym memberships (63%), and support for breast-feeding (51%). Among the program and policy items, the highest affirmative responses were for a drug and alcohol policy (79%), support for new parents (51%), and soliciting employee feedback on wellness needs (28%).

The weighted mean subscores for WHP activities and program/policy items were very similar: 19.9 and 19.4, respectively, of the score ranges. Both were highly skewed towards the low end of the distribution. The correlation between them was $r = .577$ ($p < .0001$). The mean combined WHP score was 19.7 (SD 39.6), meaning that the average responding workplace had about 20% of all WHP items included in the questionnaire.

Both WHP practices and programs were more common in larger organizations; the scores increased from about 15 for the smallest worksites to over 40 at the largest ones (weighted Wilcoxon p value < .0001). They also varied about threefold by sector and were most prevalent in education, arts/ entertainment/recreation, public administration, finance and insurance, and health care and social assistance (Figure 2). There was no notable difference

among regions of Massachusetts. Workplaces with no unionized employees had fewer WHP programs and activities than those where at least some workers had union representation (Table 3).

OHS Activities

The weighted average OHS score was 47.5 (SD 79.2) of the specified activities or programs. The most common elements were an injury-reporting policy (87%), a reporting policy for unsafe working conditions (75%), and maintaining a log of work-related injuries (73%) (Table 1). However, 20% of worksites had neither an OHS committee nor a person designated as responsible for OHS, and only 45% had a process in place for soliciting employee input on OHS concerns.

The OHS score increased with organization size but within a narrower range than for WHP, varying from 44 to 65 (weighted Wilcoxon p value < .0001). Mean OHS score varied twofold by sector and was highest for health care, construction, and manufacturing (Figure 2). Worksites with at least some unionized employees had scores that were 10 points higher, on average (p < .0001) (Table 3). There was no difference in OHS score by region.

Eighty-eight workplaces (11%) reported offering incentives for periods of time with no reported injuries. These incentive programs were most common (35%) in utilities (n = 5, included in “all others”) and in manufacturing (16%), construction (13%), and wholesale trade (11%). These employers were more likely to have some unionized workers (17% of workplaces, vs. 10% of those without such programs) and had much higher OHS scores (weighted mean 73.5, SD 46.8) than those not offering incentives (mean 45.8, SD 77.1) (weighted Wilcoxon p value < .0001).

Relationship Between OHS and WHP Scores

The OHS and WHP scores were moderately correlated (weighted Pearson r =.366), somewhat more so for WHP-P (r =.358) than WHP-A (r = .294) (all p values < .0001). Almost all employers had more OHS than WHP activities. For example, 39% of worksites had a safety committee, whereas only 7% had a wellness committee. The difference between overall WHP and OHS scores was about 28 points in the total survey population but larger among smaller companies, reflecting their lower WHP activity.

The difference between OHS and WHP program scores also varied substantially by industry. Construction, manufacturing, health care, and wholesale trade had OHS scores that were more than 30 points higher, on average, than their WHP scores. Information, finance and insurance, public administration, education, and professional services had higher WHP than OHS and a gap between scores of 15% or less (Figure 2).

Regarding self-assessed coordination of WHP and OHS, 28% of employers answered “always” or “often” (Figure 3). This was more common (over 34%) among worksites with 100+ employees than among those with fewer than 50 employees (22%). Self-reported coordination was also more frequent among employers with some unionized workers (36%, vs. 22% for no unionization).

The extent of self-reported coordination between OHS and WHP varied markedly by industry. The sectors with highest responses of “always/often” were construction (41%), health care (33%), manufacturing (29%), and entertainment/recreation (29%).

WHP scores were fairly similar across strata of self-reported program coordination (Figure 3). However, OHS scores were higher for workplaces reporting coordination “always/often,” and the resulting narrower spread in OHS scores produced a slightly lower correlation coefficient with WHP (Figure 3b). More worksites had low scores in both domains in the “sometimes/never” stratum (Figure 3c), and many more in those settings where coordination was unknown or unreported (Figure 3d).

The industries most frequently responding “not applicable/do not know” included information (81%), real estate (78%), professional services (70%), and finance (69%). Except for finance, these sectors also had lower overall scores in both domains.

Discussion

Key Findings

In this large sample of Massachusetts employers, almost all reported at least some activities in both the WHP and OHS domains. However, of all practices and policies covered in the survey, very few were reported by a majority of workplaces, and these tended to be either required by law (e.g., reporting of occupational injuries and illnesses to the Bureau of Labor Statistics) or a standard expectation in most modern U.S. employment with fixed workplaces (e.g., clean lunch area). In general, certain economic sectors, larger workplace size, and unionization were associated with higher levels of both OHS and WHP activity. Individual sites with more WHP activities and policies also reported slightly more OHS activities, but a high WHP score did not necessarily predict a high OHS score.

The National Institute for Occupational Safety and Health (NIOSH) has recently called for more integration of OHS and WHP,[45] so we were especially interested in the extent to which programming in either of these domains (OHS and WHP) predicted more activity in the other. Just over one-fourth of employers reported coordination “always” or “often.” Self-reported coordination between OHS and WHP domains was seen more often in larger and unionized workplaces. There was a clear pattern of more activity (higher scores) in both domains among these worksites. However, we had no way to confirm what “coordination” meant to respondents; higher levels of activity do not necessarily represent a greater degree of coordination. It is important to recognize that many specific activities with clear OHS benefits—reduction of exposure to chemical, safety, biological, and/or ergonomic hazards—would not need to be carried out in coordination with WHP to be effective.

On the other hand, it could be hoped that employer attention to the impact of the work environment would also lead to more meaningful WHP programming that takes into account resource and time constraints, physical work patterns and fatigue, family-work imbalance, and other relevant factors.[10,46]

The score for OHS activities was generally higher and did not vary as much among worksites as did the WHP score. This is consistent with the federal legal mandates for employers with 11 or more employees. However, one-fifth of the surveyed worksites had neither an OHS committee nor a person designated as responsible for OHS. OHS scores were higher for those industry sectors, such as manufacturing, construction, and health care, which are more likely to be targeted by the federal Occupational Safety and Health Administration (OSHA) for enforcement of hazard-specific health and safety standards. These were also the sectors with higher reported OHS/WHP coordination, although still well below 50% of responding workplaces in each group. The industries with lower OHS scores were generally those with lower injury and illness rates[47] and with comparatively few specific applicable OSHA standards. Public administration (which includes firefighters and police) had a relatively low OHS score, which may be explained at least in part by the fact that, in Massachusetts, OSHA standards do not apply to state and municipal workplaces.

We had hypothesized that workers with union representation might enjoy more health-related programming than those in unorganized settings. Many unions offer health and safety information and other resources to their members and frequently offer a protected mechanism for addressing workplace hazards and other problems. Our results were consistent with this hypothesis, in that employers reported more OHS activities in particular, as well as more WHP-OHS coordination, in workplaces where at least some employees were unionized.

The proportion of employers (69%) offering some type of WHP was similar to that reported (58%) in a recent national sample of U.S. employers that also offered group health insurance benefits to employees.[4] Larger employers were more likely to report any WHP activity; this has previously been reported by others.[3,48] Similarly, larger firms reported more coordination between OHS and WHP activities. Lower attention to employee health by smaller employers remains an important challenge to public health. Smaller firms, which are less likely to offer health insurance coverage and WHP programs, also employ proportionately more low-wage nonunionized workers, who are at higher risk for chronic diseases.[49]

Study Strengths and Weaknesses

Strengths of this investigation include the systematic sampling of both private and public sector workplaces across the state, the known sampling fractions used to weight all analyses, and the moderately high number of respondents. Importantly, the inclusion of both WHP and OHS questions in the survey provides a rare opportunity to examine concurrent activity in both domains within the same workplaces.

Several weaknesses might affect the utility of this investigation for OHS and WHP researchers and practitioners. First, this was a cross-sectional study and thus associations cannot be assumed to be causal. Second, the survey response rate, although typical for surveys with no financial incentive, was somewhat low and differed by size and other worksite characteristics. This implies possible selection bias, especially toward larger businesses, and thus perhaps to favor companies with more OHS or WHP resources and/or

more likely to offer health insurance. We had no way to evaluate the magnitude or direction of this potential bias.

The third weakness relates to the possibility of measurement error, as the survey design did not permit any external confirmation of reported program activities. We did not determine the position or role of the responder for each worksite, so it was not possible to assess whether s/he had direct access to the information needed to respond accurately to all questions. The risk of reporting error would presumably be higher in firms where different personnel were responsible for OHS and for WHP. This might be the case more often in larger workplaces, but again we could not assess this; any future similar surveys should ask the title of the individual respondent. Finally, the survey design emphasized WHP over OHS, asking more questions and in greater detail within the WHP domain. Fewer questions related to OHS, which limited our assessment of the scope and intensity of program activity.

The worksite characteristics of this study sample—and probably of the larger target population of Massachusetts employers—were correlated with each other in ways that limit conclusions about which ones were more important. Some sectors (manufacturing, construction, health care) have more recognized OHS hazards, higher reported rates of occupational injuries and illnesses, more unionized employees, and more OHS activities. This is not a function of bias in survey selection but rather a reflection of the social responses to risk that led historically on the one hand to unionization and on the other to OSHA and NIOSH focus on specific industries. Nevertheless, it does impede our ability to draw conclusions about which worksite characteristics were determinative. For example, it is not possible in this population to disentangle the effects of unionization from economic sector. More hazardous types of work, such as construction and manufacturing, are more likely to be unionized and to have more employer OHS activities precisely because of those hazards. Workforce gender mix may also be salient.

Generalizability of these findings to other jurisdictions depends on multiple factors. Industry mix varies by state in the United States and may in turn be related to unionization and to workforce size, demographics, and health needs. Federal OSHA does not have a specific requirement that workplaces have OHS programs; such a rule is currently under consideration or already implemented in some states, but not Massachusetts. Therefore, the OHS scores presented here might be lower than would be expected in states with more extensive regulations. Specifically, the low OHS score in education and public administration might not be generalizable to states that have OHS regulation of public sector workplaces.

The slightly higher prevalence of WHP in Massachusetts, compared to the rest of the country, may be partially explained by the state's historically high rates of employer-sponsored health insurance, which is often a vehicle for some preventive and wellness services for employees. Massachusetts employers have been more likely than emloyers nationally to offer insurance for at least a decade, and this trend has intensified since the implementation of the Massachusetts 2006 Health Reform Act. In 2009, 76% of the state's employers offered insurance, whereas only 60% of all U.S. employers did so.[50]

It is not clear how the higher rates of employer-sponsored health insurance in Massachusetts might impact the generalizability of these findings to other states. Although the Massachusetts Health Reform Act increases employer contributions to health insurance, and therefore might result in more WHP programs and services provided by benefits firms, the mandates for these contributions could also have unintentionally resulted in employer redirecting resources away from existing internally managed WHP to fund the employee insurance premiums. No such analysis of WHP program funding has been published to date.

Conclusion

What does this investigation say about the employee health practices of worksites in Massachusetts? Although the employer participants of this study reported a wide range of WHP and OHS activities designed to improve the health of their employees, the results also indicate significant opportunity for improvement. A fairly low proportion of WHP components were reported by most employers, and recommended best practices in WHP[3,6,51] (such as having a staff coordinator, leadership by committee, attention to work environment, and customization of strategies based on job demands) were not being followed. The finding that 20% of the workplaces have neither an OHS committee nor a designated person responsible for OHS highlights the need for improvements addressing workplace health and safety hazards as well, even though these are partially regulated by law. In fact, it was surprising that the OHS scores varied by workforce size, as all surveyed workplaces met the size criterion for OSHA compliance.

Coordination of WHP and OHS activities was reported by roughly one-fourth of participating organizations. This figure of 25% may be an overestimate for all Massachusetts worksites, given the possibility of selection bias discussed above. It is also not certain whether this proportion reflects the extent of truly integrated OHS/WHP program design, as promoted by NIOSH[46] and experts in workplace health improvement.[45]

Employer organizations that already have formal or well-developed health and safety programs presumably have structures in place that could support effective introduction of WHP activities with complementary goals. Resources such as program management personnel, record-keeping systems, training programs, and advisory committees are OHS program elements that are also needed for WHP. To our knowledge, there has been no research on methods for accomplishing this type of transdisciplinary program implementation.

A related question is under what circumstances an employer is motivated to introduce new programming; the answer may differ quite a bit for activities in a legally mandated area (OHS) than for WHP, where financial incentives play a primary role.[20,21] If an employer's WHP efforts primarily emphasize individual behavior change, that paradigm might not support OHS protections. In this survey, workplaces reporting lower OHS/WHP coordination tended to be those with less OHS activity and especially less WHP. These may represent a different type of intervention opportunity, where a new, integrated program design could be fashioned and implemented from the start. For instance, comprehensive obesity programs could be designed to address unhealthy work organization, hazard protection, healthy vending and catering policies, exercise and transportation, environmental

design, and disease management, all designed to prevent or reverse overweight among employees.

The scientific and conceptual basis for integrating OHS with public health practice, especially WHP, has been described previously[7,10,52,53] and there is some evidence—although still limited— for the benefits of coordinated interventions, especially regarding cardiovascular health.[19,51,54] Theoretically, by integrating primary prevention approaches to OHS and WHP, employers could more effectively support changes in health behaviors, reduce risk and prevalence of chronic diseases, and realize cost and productivity savings. Although specific programmatic recommendations have been published to promote integration,[45,51,55,56] in practice there is usually divergent professional orientation and minimal overlap in program content, personnel, or data sets used for surveillance and program evaluation.

Health care reform laws at both the Massachusetts and federal levels support preventive health programs in the workplace.[57,58] Successful implementation of effective programming relies on a shift from focusing solely on behavioral interventions (“healthy employees”) to addressing environmental and system changes (“healthy workplaces”) that support healthy behaviors and reduce physical and psychosocial hazards that lead to disease and injury.[9,10,52,53] With increasing recognition that working conditions present constraints and opportunities for addressing both of these areas, this study provides important baseline information to understand current practices in worksite health improvement in Massachusetts. For employers seeking to enhance workforce health and productivity, integrated health protection and health promotion programs might provide opportunities to streamline employee health program infrastructure, while perhaps also improving program effectiveness and quality. Design and evaluation of such programs will benefit by more investment in and dissemination of worksite intervention research that features integrated models and tools for implementation.

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SO WHAT? Implications for Health Promotion Practioners and Researchers

What is already known on this topic?

- Recent research suggests that linking worksite health promotion (WHP) programs to occupational health and safety (OHS) needs of the workforce might improve WHP program scope, representativeness, and effectiveness. There is little knowledge of the extent to which such linkages may be part of current employer practices.

What does this article add?

- Our analysis assessed the level of employer activity in both WHP and OHS simultaneously, and the extent of coordination between the two. The results demonstrate both relatively low prevalence of WHP practices and low coordination of OHS and WHP, indicating abundant opportunity for employers to elevate their employee health practices.

What are the implications for health promotion practice or research?

- Building upon their strengths, large organizations should augment existing OHS infrastructure with personal health promotion, whereas small organizations should build integrated OHS/WHP programs from the start that address unique features of the workplace and workforce. Research that tests the feasibility and impact of combined programs for midsized and small organizations will be particularly important.

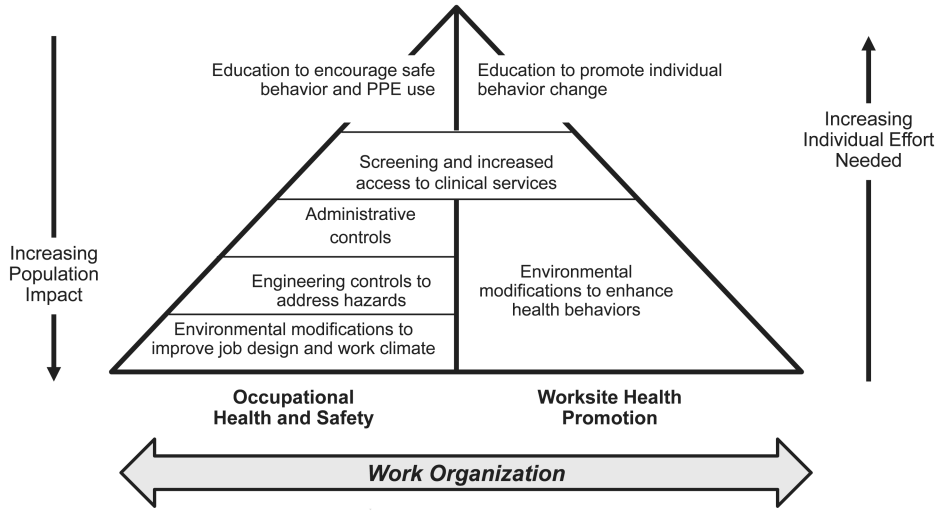

Figure 1. Models of Prevention as Applied in Occupational Health and Safety and in Worksite Health Promotion; PPE Indicates Personal Protective Equipment

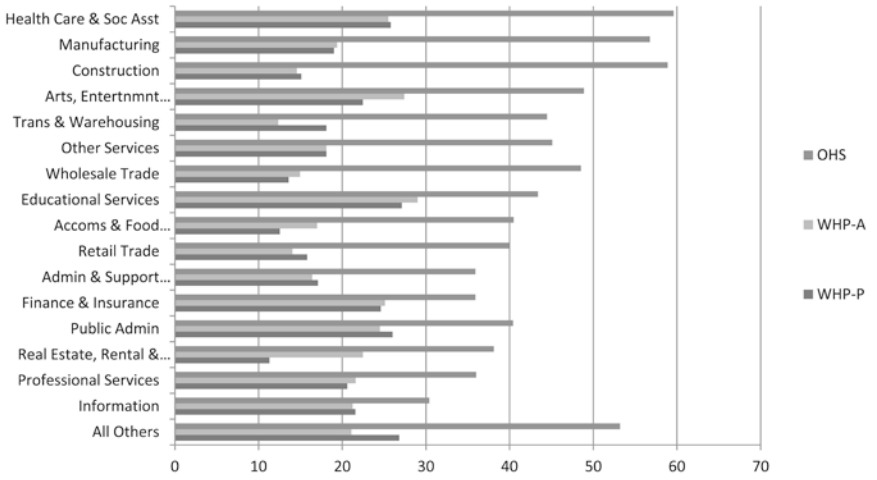

Figure 2. Weighted Occupational Health and Safety (OHS) and Worksite Health Promotion (WHP) Scores by Industry: Results From Massachusetts Worksite Health Improvement Survey, 2008

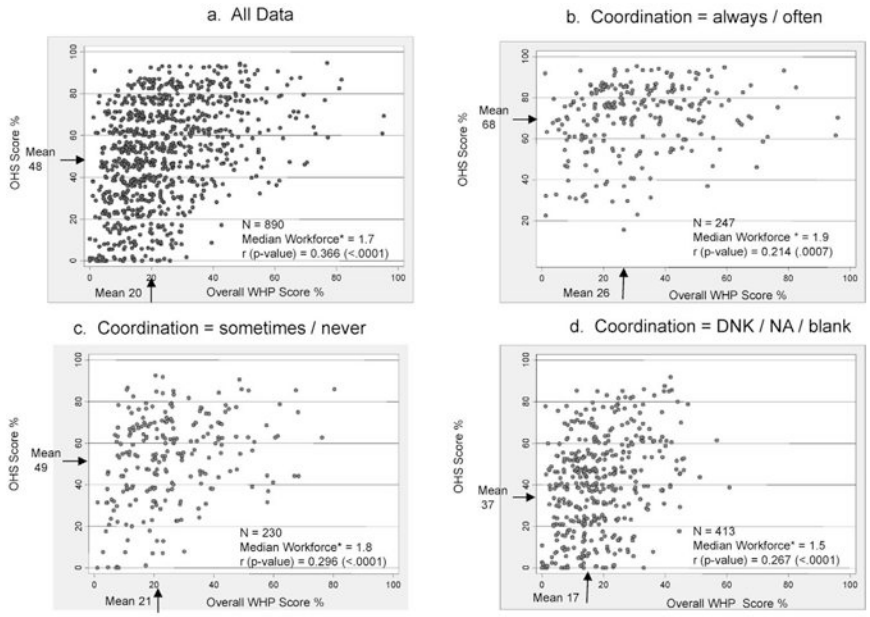

Figure 3. Joint Distributions of Occupational Health and Safety (OHS) and Worksite Health Promotion (WHP) Program Scores, Stratified by Self-Reported Coordination: Results From Massachusetts Worksite Health Improvement Survey, 2008

*Median workforce categories: 1=11–24; 2=25–49; 3=50–99; 4=100–249; 5=250–500; and 6=500 or more workers. DNK indicates Do Not Know; NA, Not Applicable.

Table 1

Questions and Weighted Response Frequencies on Worksite Health Promotion and Occupational Health and Safety: Massachusetts Worksite Health Improvement Survey, 2008*

Survey Question	"Yes" Response, %
Worksite health promotion activities subscale items	
In the past year, has your organization offered a health risk assessment?	5
If yes, is this service available to spouses/dependents?	56
In the past year, has your organization offered any of the following on-site screenings or preventative services?	14
In the past year, has your company offered on-site health education classes, workshops, lectures, or special events on any of the following topics?	14
Does your organization have an on-site exercise facility?	10
Is the facility open for all shifts? Free or discounted to employees? Can family members use the facility?	9
Are the facilities accessible to people with disabilities?	
Does your organization explicitly promote the use of stairs?	24
Does your organization subsidize memberships to off-site physical activity facilities directly or through a health plan, and if so is this offered to all employees?	63
Do employees have a clean place where they can eat meals with coworkers?	94
Does your organization provide point of purchase nutrition information at any of the following? (cafeteria, canteen truck, vending machines)†	6
Can you employees obtain any of the following healthy foods in the workplace?	33
Does your organization subsidize food items by charging more for high fat/high sugar items and less for healthier ones?	0
What type of assistance is offered to help people quit smoking? ("Yes" = any type specified)	35
Does your organization offer employees a convenient and private place (besides bathroom) to test blood sugar with a blood glucose monitor?	27
Does your organization have an on-site worksite-based health facility?	3
In the past year has your organization provided programs for stress reduction or related issues?	15
Worksite health promotion program policy subscale items	
In the past year, has your organization solicited feedback from employees on types of health promotion programs and services that would be beneficial to them?	28
If yes, are the employees surveyed annually to determine their needs?	60
Does your organization have a worksite wellness committee that is responsible for employee health promotion?	7
If yes, is that committee made up of individuals from different areas and levels of your workforce?	69
Do you have an annual budget for health promotion?	4
Does your organization calculate the ROI for worksite health?	2
If yes, are the results of on-site health screenings systematically tracked?	23
Through which of the following are health promotion programs offered at your worksite? ("Yes" = company-sponsored only)	11
Does your organization provide any of the following incentives to employees who engage in healthy behaviors? (insurance premiums, monetary, days off, other)†	7
Does your organization have a policy to ensure healthy food items are offered?	8
Does your organization have a written drug and alcohol free workplace policy?	79
Are employees allowed to use paid work time to participate in health promotion activities?	25
Does your organization have a formal written policy allowing flexible work schedules to accommodate personal/family needs?	37

Survey Question	"Yes" Response, %
In which of the following ways does your organization support new parents? (maternity/paternity policy, flexible options for parents, lactation consultant)†	51
Does your organization have written policies designed to prevent/ minimize stress?	23
Occupational health and safety score items	
Does your organization have a worksite committee that is responsible for dealing with workplace health and safety hazards?	39
If yes, is that committee made up of individuals from different areas and levels of your workforce?	84
If no, does your organization have at least one designated person who is responsible for addressing workplace safety hazards?	58
Does your organization have a written policy or procedure for reporting work-related injuries?	87
Does your organization have a written policy or procedure for reporting unsafe working conditions?	75
Does your organization have a written policy or procedure for investigating how work-related injuries happen?	73
Does your organization conduct audits or inspections to identify worksite health and safety hazards on a regular basis?	66
Does health and safety count in supervisors' and managers' promotions, pay raises, or bonuses?	17
Does your organization maintain a log of work-related illnesses and injuries (OSHA log)?	73
Do company managers analyze workers' compensation claims data and/or injury log data to plan workplace health and safety activities?	52
Are specific means, such as forms or suggestion boxes, available for employees to report health and safety hazards, problems, or concerns to senior management?	45
Are efforts usually made to seek input/ideas from affected employees before supervisors or management make decisions about new work processes, work schedules, etc?‡	56
Does your organization have a written seatbelt policy that ensures employees wear seatbelts when on company business or when operating company equipment?	30

*ROI indicates return on investment; OSHA, Occupational Safety and Health Administration.

†One point awarded if any one or more of the choices selected.

‡One point awarded if "always" or "often" selected.

Table 2

Organizational and Workforce Characteristics of Workplaces Responding to Massachusetts Worksite Health Improvement Survey, 2008*

	Unweighted No.	Weighted Prevalence, %	95% Confidence Interval, %
No. of employees:			
11–24	320	61	57–64
25–49	178	22	19–25
50–99	150	10	8–12
100–249	127	5	4–6
250–499	58	1	0.8–1.5
500 or more	56	1	0.8–1.5
Industry (NAICS code range)			
Construction (23)	73	11	8–13
Manufacturing (31)	173	16	13–19
Wholesale trade (42)	33	5	3–7
Retail trade (44)	57	7	5–9
Transportation and warehouse (48)	26	3	2–4
Information (51)	12	1	0.5–2
Finance and insurance (52)	41	4	2–5
Real estate and rental (53)	18	3	1–5
Professional services (54)	94	12	9–15
Administrative and support services (56)	13	1	0.5–2
Education (61)	72	6	5–8
Health care (62)	121	10	8–13
Arts, entertainment, and recreation (71)	23	2	1–3
Accommodations and food services (72)	36	6	4–8
Other services (81)	63	9	6–11
Public administration (92)	19	1	0.6–2
All others†	16	2	1–4
No. of shifts			
1	548	74	71–77
2	152	14	12–17
3	151	9	7–11
Other	39	3	1–3
Union			
None	749	88	85–90
Some or all	122	10	8–13
Unknown	19	2	1–3
Gender, mean (SD)			
% Women	43 (30)		
Schedule, mean (SD)			
% Full time	78 (28)		

	Unweighted No.	Weighted Prevalence, %	95% Confidence Interval, %
% Part time	22 (28)		
Ethnicity and race, mean (SD)			
% Hispanic/Latino	9 (17)		
% White	84 (24)		
% African-American	4 (12)		

*NAICS indicates North American Industry Classification System.

†Includes utilities; agriculture, forestry, and fishing; and “unknown.”

Table 3

Workforce Unionization and Workplace Program Scores: Massachusetts Worksite Health Improvement Survey, 2008*

Employees Covered by Collective Bargaining	Weighted % of Respondents (No.)	Activities Score %, Mean (SD)	Programs and Policies Score %, Mean (SD)	Combined Wellness Score %, Mean (SD)	OHS Score %, Mean (SD)
Any	10.4 (122)	23.6 (43.4)	20.7 (36.0)	22.2 (36.7)	56.3 (69.4)
None	87.6 (749)	19.6 (43.1)	19.4 (47.5)	19.5 (40.0)	46.7 (79.9)
Unknown	2.0 (19)	15.6 (51.2)	13.1 (32.7)	14.4 (37.6)	34.8 (75.0)
Overall $p^{\dagger}$		<0.0001	<0.0001	<0.0001	<0.0001

*OHS indicates occupational health and safety.

†From weighted Wilcoxon test.