Work 52 (2015) 169–176
DOI 10.3233/WOR-152038
IOS Press

Integrating health promotion and occupational safety and health in manufacturing worksites: Perspectives of leaders in small-to-medium sized businesses

Candace C. Nelson[a,*], Jennifer D. Allen[b], Deborah McLellan[c], Nico Pronk[d,e] and Kia L. Davis[c,e]
[a]*Department of Environmental Health, Harvard School of Public Health, Boston, MA, USA*
[b]*School of Arts and Sciences, Community Health Program, Tufts University, Medford, MA, USA*
[c]*Center for Community-Based Research, Dana-Farber Cancer Institute, Boston, MA, USA*
[d]*HealthPartners, HealthPartners Institute for Education and Research, Minneapolis, MN, USA*
[e]*Department of Behavioral and Social Sciences, Harvard School of Public Health, Boston, MA, USA*

Received 12 December 2013
Accepted 30 September 2014

Abstract.
BACKGROUND: Accumulating evidence suggests that worksite interventions integrating worksite health promotion (WHP) and occupational safety and health (OSH) may be more efficacious and have higher participation rates than health promotion programs offered alone. However, dissemination of integrated programs is complicated by lack of tools for implementation – particularly for small and medium-sized businesses (SMBs).
OBJECTIVE: The goal of this study is to describe perceptions of acceptability and feasibility of implementing an integrated approach to worker health that coordinates WHP and OSH in SMBs.
METHODS: In September to November 2012, decision-makers for employee health programming within SMBs ($<$ 750 employees) in greater Minneapolis were identified. Fourteen semi-structured interviews were conducted and analyzed to develop an understanding of perceived benefits and barriers, awareness, and capacity for implementing an integrated approach.
RESULTS: Worker health was widely valued by participants. They reported strong management support for improving employee health and safety. Most participants indicated that their company was open to making changes in their approach to worker health; however, cost and staffing considerations were frequently perceived as barriers.
CONCLUSIONS: There are opportunities for implementing integrated worksite health programs in SMBs with existing resources and values. However, challenges to implementation exist, as these worksites may lack the appropriate resources.

Keywords: Workplace, health promotion, occupational health, information dissemination

1. Introduction

The worksite is important in influencing the health and wellbeing of employees, and employers are increasingly interested in preventing conditions such as chronic disease, musculoskeletal injuries, sleep disorders, and stress among their employees [1]. While worker safety programming is well-established in the

*Corresponding author: Candace C. Nelson, Massachusetts Department of Public Health, Office of Data Management and Outcomes Assessment, 250 Washington Street, Boston, MA 02108, USA. Tel.: +1 617 768 7800; E-mail: candace.nelson@massmail.state.ma.us.

American workplace, largely due to the 1970 Occupational Safety and Health Act [2], workplace health promotion programs are a more recent addition. These programs have flourished in recent decades, and there is evidence that these programs are effective in improving employee health [3–5].

Although an armamentarium of research-tested worker health programs exist, the vast majority address either occupational safety and health (OSH) or worksite health promotion (WHP), separately [6–10]. Yet, accumulating data suggests that worksite interventions that integrate WHP and OSH may be more efficacious in promoting changes in risk-related behaviors, and importantly, the addition of OSH components may promote a higher level of worker participation than WHP programs offered alone [11–15]. In addition to worker health programs that integrate OSH and WHP, many others have begun to conceptualize worker health holistically by considering facets of work such as, the rewards of work and the functioning of the work team as workplace resources that contribute to individual worker health [16–18]. While there is much work to be done in worker health research, based on a synthesis of existing evidence, the National Institute for Occupational Safety and Health (NIOSH) and others have recommended this integrated approach to worker health [19–21] and have called for widespread dissemination of these policies.

However, dissemination is complicated by the paucity of practical tools and programs for implementation and assessment – particularly for small and medium-sized businesses (SMB) [22]. For this study, SMBs have been defined as companies that have less than 750 employees, based on the U.S. Small Business Administration classification [23]. Small companies make up 99% of employers in the U.S. and employ more than half of private sector workers [23]. Very little research has targeted the application of evidence-based programs in SMBs [22,24–26]. This research, which has largely focused on WHP, has found that while there is interest in WHP as a cost containment strategy and method for improving employee morale and productivity, many employers are reticent to implement WHP because of privacy concerns, limited resources, lack of evidence for such programs, and lack of fit with their company culture [27]. In addition, small and medium-sized companies tend to be more motivated by success-related outcomes (productivity, absenteeism) than humanitarian motives in their decisions for adopting WHP [28]. Successful dissemination efforts will require an in-depth understanding of how and why organizations adopt integrated worker health initiatives, their capacity to deliver and sustain them, how programs are modified by management during implementation, and how this differs from the delivery of programs offering WHP or OSH separately [22,29]. This study is an effort to begin to fill that gap by gathering information to understand SMB leaders' perspectives regarding worker health, and the potential for adopting and implementing integrated OSH/WHP programs.

2. Methods

A qualitative approach was utilized to collect data in September through November of 2012. The study protocol was reviewed and approved by the Institutional Review Board of the Harvard School of Public Health. Informed consent was obtained from each participant.

2.1. Sample

The interviews were conducted with representatives from SMBs in the greater Minneapolis area. Participating companies were clients of a health system in Minnesota that operates separate lines of business for both OSH and WHP. Eligible companies (i.e., those having 750 employees or less, being in the manufacturing industry, and not part of a larger corporation) were identified from the health system's client database. Individual(s) identified as the highest-level manager/leader involved in making decisions related to worker safety and health were interviewed.

2.2. Data collection

Following verification of eligibility requirements, interest in study participation was determined via phone. After sending an introductory letter to the company representative, each potential participant was contacted by phone. Following agreement to participate, the interview was scheduled at the convenience of the participant. Each interview was conducted by telephone and lasted approximately 45 minutes. Interviews were audio-recorded and professionally transcribed.

A semi-structured interview guide was developed for the interviews. This guide was informed by existing literature [27,30–32], and was used to create a structured conversation during which the same topics were discussed, but not necessarily in the same order. See Table 1 for topics and example questions contained in the guide.

Table 1
Sample interview questions

Content area	Sample questions
Decision-making authority and processes	Tell me about how decisions are made related to employee health in your company. Is there any collaboration across departments in regards to decisions about worker health, wellness, safety? Can you give me an example?
Implementation climate and management support	Is your company open to making changes in policies and programs related to employee health? In what ways? Does the reward structure in your company support employee health? If so, how?
Organizational readiness	There is a new approach to worker health and well-being that incorporates both health promotion and occupational safety and health components. This approach coordinates and links environmental, health, and safety policies, practices, and programs at the organizational and individual levels to improve worker health. Have you ever heard of this type of approach? What do you think it would take to get leaders in your company to consider this type of approach? What types and amount of resources do you think it would take to make this approach work in your company?
Innovation-values fit	How would you describe your company's core values? How would your company define a 'successful' health promotion or safety program?
Presence of a champion	Can you tell me about a time when someone at your company advocated for employee health or safety?

2.3. Analysis

A content analysis [33] was conducted by intensive reading and group discussion of the full transcripts. The coding scheme was based upon the major categories used in the interview guide. Line-by-line coding was completed by a qualitative research specialist using N'Vivo© [34].

3. Results

Thirty-nine individuals were invited to participate in the study. Of these, 12 (31%) refused, largely due to concerns about time and 10 (26%) did not meet eligibility criteria once fully screened. The total number of interviews considered for analysis was 14, which was a participation rate of 36% (14/39) for those approached. The participants represented 11 companies, as 2 representatives were interviewed at 3 companies to obtain a more complete perspective. See Table 2 for additional participant and company characteristics.

Table 2
Participant and company characteristics

	Number (n)
Participant characteristics ($n = 14$)	
Job title	
HR manager/generalist	6
Occupational health	3
Health promotion	1
Upper-level management (e.g., CEO)	2
Other management	2
Gender	
Male	5
Female	9
Company characteristics ($n = 11$)	
Company size (# of insured employees)	
Less than 50	4
50–99	1
100–199	4
200–499	0
500	2
Unionized	
Yes	1
No	10
Self-insured	
Yes	5
No	3
Unknown/NA	3

3.1. Support for occupational safety and health and health promotion

The majority of participants indicated that their company values worker health and has a strong commitment to employees. They discussed their company's "dedication to taking care of our people", its "family-oriented" nature, and that their company does "what's right for people".

All participants cited the importance of leadership support in successful worker health programs. When asked how this was demonstrated, participants generally indicated that provision of work time for participation in programs was a visible sign of support, but was not universally enacted. Many participants indicated that employees were allowed to attend health programs during work-time because it maximized participation, while others indicated that work time release for participation depended on the activity. Examples of pro-

grams that employees could attend during work-time included biometrics testing, meeting with a wellness coach, and hearing and vision testing. Examples of programs that employees may attend outside of work-time included goal-setting activities, exercise tracking activities, classes, and walking clubs.

Although many participants' companies provided release time from work for participation in worker health programs, some participants spoke about the challenges of doing so. As one participant stated:

> "I think that [employees attending programs on work-time] would be difficult ... it's real difficult even when I have to have meetings with all employees... because I'm always fighting against the production schedule."
> ∼HR Manager

Most participants acknowledged the importance of participation of managers in health and safety initiatives. As one participant illustrated:

> "... I think when people see myself in there, or any of the HR people in there ... then they know it's being supported."
> ∼Safety Manager

However, for some, management participation varied, sometimes depending on the topic.

> "... a manager's not gonna sit in on forklift training, 'cause our managers don't drive forklifts. [However] our ... training [which] discusses bloodborne pathogens... managers are gonna sit in on those kind of sessions."
> ∼ Chief Financial Officer

When participants were asked if there was a person who had been a strong advocate for employee health and/or safety at their company, most nominated the Safety Manager, the owner/president, the HR Director or an HR staff member. Several participants also indicated that employees played a key role as 'champions.' For example, one participant reported that a group of production employees were currently advocating for an on-site fitness facility. Another discussed how one employee started a smoking ban in the office:

> "... we got smoking removed from the offices ... my secretary HATED smoking ... a lot of people up here [smoked], and SHE was the one that really started ... to make noise about it. Eventually, our president agreed to ban all smoking in the office ... then, ultimately, in the building."
> ∼ Chief Financial Officer

3.2. Implementation climate for health protection and health promotion

Implementation climate refers to the extent to which worker health programs are perceived as rewarded, supported, and expected by the company [35]. Most participants said that their company was open to making changes in policies and programs related to worker health. Some said that decisions about changes were based on worker safety and necessity. For instance, one participant mentioned that specific concerns that an immediate supervisor was not able to address were brought to the committee for resolution. Others suggested that employee input and feedback were important in determining company priorities.

> "...[if] an employee has an idea of either making things safer, or ... for a wellness program, we are very open to taking those ... into consideration and ... doing our best to accommodate [them]."
> ∼ HR Manager

Resources, both in terms of personnel and financial costs, were mentioned as vital considerations when selecting new programs and policies. Some participants mentioned the importance of adequate personnel to administer a wellness program, while others said implementing any changes would be dependent on financial factors, either having sufficient capital or adequate return on investment. Others mentioned specific financial considerations such as the cost that will be passed on to employees, return on investment, and employee co-pays.

In terms of deciding whether to adopt a new program, policy or initiative, most participants indicated that while the initial research is usually done in human resources, decisions regarding health benefits are made by an executive team (e.g. owners, Chief Executive Officer, Directors), sometimes this process is informed by advice from external consultants/brokers. As one participant illustrated:

> "... you have a certain amount of money you can set aside... so... I shop around... [the president and vice-president] use a consultant broker to bring 'em the best price matched up with the best services that they can provide... and they review those and make their decision"
> ∼Director of Quality and Compliance

In some companies, upper-level management obtained feedback from a safety and/or wellness committee to aid decision-making. While only three compa-

nies involved committees in decision-making, nearly all participants indicated that their company had a safety committee. These committees were made up of management (usually the Safety Manager, but sometimes the HR Director or the Vice President) and included employees (usually either one member of each department or a rotating membership). Safety committees addressed safety issues, workplace injuries, safety goals, facility issues, and safety trainings. A few participants indicated their company had a wellness committee, which functioned to set up wellness programs and activities and discuss feedback on programs.

The top-down decision-making processes that most participants described was exemplified in budgetary arrangements. While some participants indicated that they have their own budgets, most participants indicated that they did not have specific budgets for either OSH or WHP, but received approval from managers higher up in the company hierarchy when costs arose. These costs were budgeted as a company expense.

3.3. Organizational readiness for implementing an integrated approach to worker health and wellbeing

Implementing complex interventions usually requires making a multitude of interconnected changes in organizational structures and pursuits [35]. After receiving a definition and examples of an integrated OSH/WHP approach, participants were asked questions about how prepared they perceive their organization is for implementing integrated approaches.

Seven participants said they had never heard of integrated OSH/WHP. Three others said that they had heard of this approach. One participant said that her company had implemented such a program, albeit in a limited fashion, by linking messages around stretching and ergonomics:

> "...[we] contract with a safety consultant who comes in and ...addresses ...more global safety, wellness and fitness things. So, as it relates to back safety, encouraging people to get their stomach strong – a stronger stomach is a stronger back and those kind of things?"
> ∼ President

Seven participants believed that an integrated approach could benefit their company, primarily due to the small size of their company. For example, participants mentioned that employees at their company are already very collaborative, know each other well, work in close physical proximity with one another, and/or individuals wear "many hats". Conversely, three other participants did not believe that this type of approach would suit their company due to its small size and lack of resources.

Respondents were asked what would be necessary in order for their company leaders to consider an integrated approach. Seven reported that demonstrating a benefit to the company would be necessary for their company leadership to consider an integrated approach (e.g., it saves the company money, is beneficial for employment branding, increases safety).

4. Discussion

There are a myriad of barriers to providing integrated OSH/WHP programs in SMBs. A recent national survey of small and midsize businesses (100–4999 employees) indicated that the implementation of worksite health promotion programs was relatively infrequent due in part to employer belief that they lacked implementation capacity [30]. Likewise, inadequate staff expertise in occupational hazards have been identified as an important barrier to disseminating OSH information to small companies [31]. This is consistent with our findings. In 2004, Linnan and colleagues [32] found that worksites that had a staff member dedicated to health promotion were 10 times more likely to have a comprehensive program, regardless of business size. Others have found similar results in qualitative studies [28]. Still others have reported that small and medium-sized companies often rely heavily on insurers for WHP, as they lack the resources and expertise to implement these programs internally [28]. Reviews have demonstrated that WHP programs that incorporate environmental and policy changes with individually targeted health behavior change strategies are more effective, more likely to be sustained and less costly compared to traditional, individually targeted interventions [3–5], while WHP provided by insurers tend to be individually-based and do not provide the opportunity to make lasting environmental and policy changes.

Our participants also mentioned cost as a major concern when considering worker health programming and this is similar to reports elsewhere [27,28,36,37]. Additionally, larger employers are generally able to offer more preventive interventions because they have greater purchasing power in the insurance and health promotion markets [1]. Finally, while SMBs certainly

value their workforce, larger employers have a greater financial investment in employee health, and are more likely to be self-insured and bear financial risk related to employee health and health care utilization [38].

Almost all of our participants believed that the leadership of their company valued and supported worker health. This type of value system and strong leadership support may be a strength of SMBs, as they tend to have visible, accessible leadership who can demonstrate good health practices [36]. There is some evidence that a manager's own health and well-being may be related to their ability to foster a work climate supportive of employee health [18]. However, leadership support does not always translate into worker participation, as participants expressed a range of opinions about employees attending training and programs during work time. Although allowing employees to participate during work time can increase engagement, worker participation tends to be lower in smaller companies. This may be because it is more difficult to get away from work when there are fewer staff on the floor [38]. Additionally, leaders at smaller organizations are more likely to communicate informally about such programming, which may be insufficient for reaching all employees [31].

There was judicious interest in integrated OSH/WHP programs. Many participants believed that their small size made them particularly well-suited to implement this approach, as many employees already wore 'multiple hats' and were used to working across departments. However, our participants chiefly wanted to learn about implementing such a program with limited staff and financial investment and indicated concerns about resources. The worksite health promotion industry has typically approached implementation in SMBs by using scaled-down versions of models developed for larger firms. This strategy does not take advantage of the unique strengths of SMBs, such as visible leadership, cross-department collaborations, and close-knit employees – and requires resources that are typically available in larger firms [31]. A more collaborative, participatory approach that involves external vendors, local Chambers of Commerce, or existing public health infrastructures may be more appropriate and feasible [39,40].

This study has important limitations, most of which are typical for small qualitative studies. The sample was small and not randomly chosen. While it would have been ideal to include multiple participants per worksite for a more comprehensive picture of the organization, this approach was not feasible given resource constraints for this study. Another challenge was the lack of familiarity with the term *integrated approach* among participants; although we provided participants with several examples, they may have had limited ability to give knowledgeable, in-depth responses. Also, a response rate of 36% leaves open the possibility of self-selection bias. If such a bias were present, one might expect that participants would be more interested in and familiar with integrated worker health and safety initiatives than non-participants, which would mean that these results overestimate the enthusiasm for such an approach.

Nonetheless, this study is one of few studies published to date that has sought to understand the resources and capacities of SMBs regarding integrated OSH/WHP programming. The results can contribute to the formation of new research questions, such as determining the types of worker health programs which can be implemented in SMBs given their limited resources, and the creation of quantitative measures assessing implementation of integrated approaches in SMBs. Future research should include larger, more representative samples that are comprised of multiple participants at each site to gain a more complete organizational perspective. Such data could yield critical insights into strategies for promoting the adoption, implementation and maintenance of integrated programs to enhance worker health among worksites and industries that employ the majority of U.S. workers.

Acknowledgements

This work was supported by a grant from the National Institute for Occupational Safety and Health (U19 OH008861) for the Harvard School of Public Health Center for Work, Health and Well-being. This study would not have been accomplished without the participation of Health Partners Inc. including Lesley Pereira. We would like to thank all the interviewees who took time to talk with us, and to Sharon O'Toole and Andrea Youngfert Davis for managing and conducting the interviews.

References

[1] Harris JR, Lichiello PA, Hannon PA. Workplace health promotion in Washington state. Prev Chronic Dis. 2009; 6: 1-10.

[2] United States Department of Labor, Occupational Safety and Health Administration. Occupational Safety and Health Act of 1970 [cited 2014 October 18]. Available from: https://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=OSHACT&p_id=2743.

[3] Engbers LH, van Poppel MNM, Paw M, van Mechelen W. Worksite health promotion programs with environmental changes: A systematic review. Am J Prev Med. 2005; 19: 61-70.
[4] Pronk NP, Lowry M, Kottke TE, Austin E, Gallager J, Katz A. The association between optimal lifestyle adherence and chronic conditions among employees. Popul Health Manag. 2010; 13: 289-295.
[5] Kahn-Marshall JL, Gallant MP. Making healthy behaviors the easy choice for employees: A review of the literature on environmental and policy changes in Worksite Health Promotion. Health Educ Behav. 2012; 39: 752-776.
[6] Rongen A, Robroek SJW, van Lenthe FJ, Burdorf A. Workplace health promotion: A meta-analysis of effectiveness. Am J Prev Med. 2013; 44(4): 406-415.
[7] Malik SH, Blake H, Suggs LS. A systematic review of workplace health promotion interventions for increasing physical activity. British Journal of Health Psychology. 2014; 19: 149-180.
[8] Hoe VCW, Urquhart DM, Kelsall HL, Sim, MR. Ergonomic design and training for preventing work-related musculoskeletal disorders of the upper limb and neck in adults. Cochrane Database of Systematic Reviews. 2012; 8: 1-107.
[9] Robson LS, Stephenson CM, Schulte PA, Amick BC, Irvin EL, Eggerth DE, Chan S, Bielecky AR, Wang AM, Heidotting TL, Peters RH, Clarke JA, Cullen K, Rotunda CJ, Grubb PL. A systematic review of the effectiveness of occupational health and safety training. Scand J Work Environ Health. 2012; 38(3): 193-208.
[10] Kabaroff JL, Eys MA, Schinke RJ, Eger T. The analysis of a group-mediated cognitive-behavioral corporate physical activity intervention. Work. 2013; 44: 423-433.
[11] Sorensen G, Barbeau E, Stoddard A, Hunt MK, Kaphingst K, Wallace L. Promoting behavior change among working-class, multi-ethnic workers: Results of the Healthy Directions Small Business Study. Am J Public Health. 2005; 95: 1389-1395.
[12] Sorensen G, Stoddard A, Ockene JK, Hunt MK, Youngstrom R. Worker participation in an integrated health promotion/health protection program: Results from the WellWorks Project. Health Educ Q. 1996; 23: 191-203.
[13] Sorensen G, Stoddard A, Hammond SK, Hebert JR, Ocklene JK. Double jeopardy: Job and personal risks for craftspersons and laborers. Am J Health Promot. 1996; 10: 355-363.
[14] Sorensen G, Stoddard A, Hunt MK, et al. The effects of a health promotion-health protection intervention on behavior change: The WellWorks Study. Am J Public Health. 1998; 88: 1685-1690.
[15] Barbeau E, Roelofs C, Youngstrom R, Sorensen G, Stoddard AM, LaMontagne AD. Assessment of occupational safety and health programs in small businesses. Am J Ind Med. 2004; 45: 371-379.
[16] Bringsen A, Andersson HI, Ejlertsson G, Troein M. Exploring workplace related health resources from a salutogenic perspective: Results from a focus group study among healthcare workers in Sweden. Work. 2012; 42: 403-414.
[17] Falkenberg A, Nyfjall M, Hellgren C, Vingard E. Social support at work and leisure time and its association with self-rated health and sickness absence. Work. 2012; 43: 469-474.
[18] Lundqvist D, Eriksson AF, Ekberg K. Exploring the relationship between managers leadership and their health. Work. 2012; 42: 419-427.
[19] National Institute for Occupational Safety and Health. Total Worker Health™ [updated 2014 October 15; cited 2014 October 18]. Available from: http://www.cdc.gov/niosh/TWH/.
[20] Institute of Medicine, Committee to Assess Worksite Preventive Health Program Needs for NASA Employees, Food and Nutrition Board. Integrating employee health: A model program for NASA. Washington, DC: Institute of Medicine, 2005.
[21] World Health Organization. Jakarta Statement on Healthy Workplaces [cited 2014 October 18]. Available from: http://www.who.int/healthpromotion/conferences/previous/jakarta/statements/workplaces/en/index.html.
[22] Harris JR, Hannon PA, Beresford SAA, Linnan LA, McLellan DL. Health promotion in smaller workplaces in the United States. Annual Review of Public Health. 2014; 35: 327-342.
[23] U.S. Small Business Adminstration. Table of Small Business Size Standards Matched to North American Industry Classification System Codes [cited 2014 October 18]. Available from: http://www.sba.gov/category/navigation-structure/contracting/contracting-officials/small-business-size-standards.
[24] Sorensen G, Thompson B, Basen-Engquist K, Abrams D, Kuniyuki A, et al. Durability, dissemination, and institutionalization of worksite tobacco control programs: Results from the WorkingWell Trial. Int. J. Behav. Med. 1998; 5: 335-51.
[25] Hannon PA, Harris JR, Sopher CJ, Kuniyuki A, Ghosh DL, et al. Improving low-wage, midsized employers' health promotion practices: A randomized controlled trial. Am. J. Prev. Med. 2012; 43: 125-33.
[26] Laing SS, Hannon PA, Talburt A, Kimpe S, Williams B, Harris JR. Increasing evidence-based workplace health promotion best practices in small and low-wage companies, Mason County, Washington, 2009. Prev. Chronic Dis. 2012; 9: 110186.
[27] Hannon PA, Hammerback K, Garson G, Harris JR, Sopher CJ. Stakeholder perspectives on Workplace Health Promotion: A qualitative study of mid-sized employers in low-wage industries. Am J Health Promotion. 2012; 27(2): 103-110.
[28] Hughes MC, Patrick DL, Hannon PA, Harris JR, Ghosh DL. Understanding the decision-making process for health promotion programming at small to midsized businesses. Health Promot Pract. 2011; 12(4): 512-521.
[29] Olsen K, Legg S, Hasle P. How to use programme theory to evaluate the effectiveness of schemes designed to improve the work environment in small businesses Work. 2012; 4: 5999-6006.
[30] Hannon PA, Garsen G, Harris JR, Hammerback K, Sopher CJ, Clegg-Thorp C. Workplace health promotion implementation, readiness, and capacity among mid-size employers in low-wage industries: A national survey. J Occup Environ Med. 2012; 54: 1337-1343.
[31] Schulte PA, Okun A, Stephenson CM, Colligan M, Ahlers H, Gjessing C, Loos G, Niemeier RW, Sweeney MH. Information dissemination and use: Critical components in occupational safety and health. Am J Ind Med. 2003; 44: 515-531.
[32] Linnan L, Bowling M, Childress J, et al. Results of the 2004 National Worksite Health Promotion Survey. Am J Public Health. 2008; 98: 1503-1509.
[33] Weber R. Basic content analysis. 2nd edition ed. Newbury Park, CA: Sage Publications, 1990.
[34] NVivo® Qualitative data analysis software [cited 2014 October 18]. Available from: http://www.qsrinternational.com/default.aspx.
[35] Weiner BJ, Lewis MA, Linnan LA. Using organization theory to understand the determinants of effective implementation of worksite health promotion programs. Health Educ Res. 2009; 24: 292-305.
[36] Goetzel RZ, Liss-Levinson RC, Goodman N, Kennedy JX.

Development of a community-wide cardiovascular risk reduction assessment tool for small rural employers in upstate New York. Prev Chronic Dis. 2009; 6: 1-7.

[37] Karsh BT, Newenhouse AC, Chapman LJ. Barriers to the adoption of ergonomic innovations to control musculoskeletal disorders and improve performance. Appl Ergon. 2013; 44: 161-167.

[38] Bureau of Labor Statistics. Medical plan type, fee arrangement, and financial intermediaries, 2006 [updated 2007 February 27; cited 2014 October 18]. Available from: http://www.bls.gov/opub/mlr/cwc/medical-plan-type-fee-arrangement-and-financial-intermediaries-2006.pdf.

[39] McPeck W, Ryan M, Chapman LS. Bringing wellness to the small employer. Am J Health Promot. 2009; 23: 1-10, iii.

[40] Shannon HS, Robson LS, Sale JEM. Creating safer and healthier workplaces: Role of organizational factors and job characteristics. Am J Ind Med. 2001; 40: 319-334.